WATER FOR TEXAS

2017 State Water Plan

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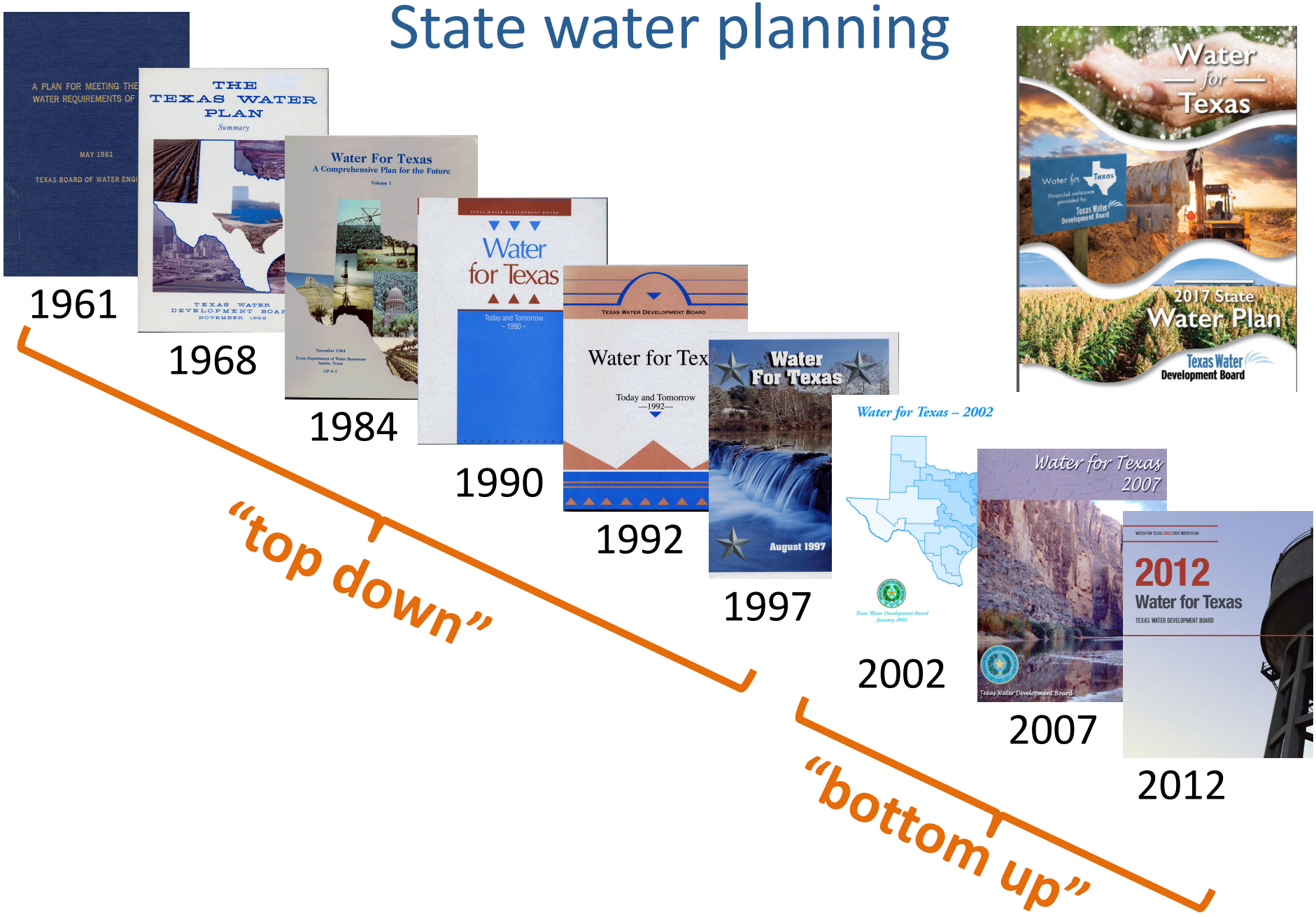
Texas Water Development Board

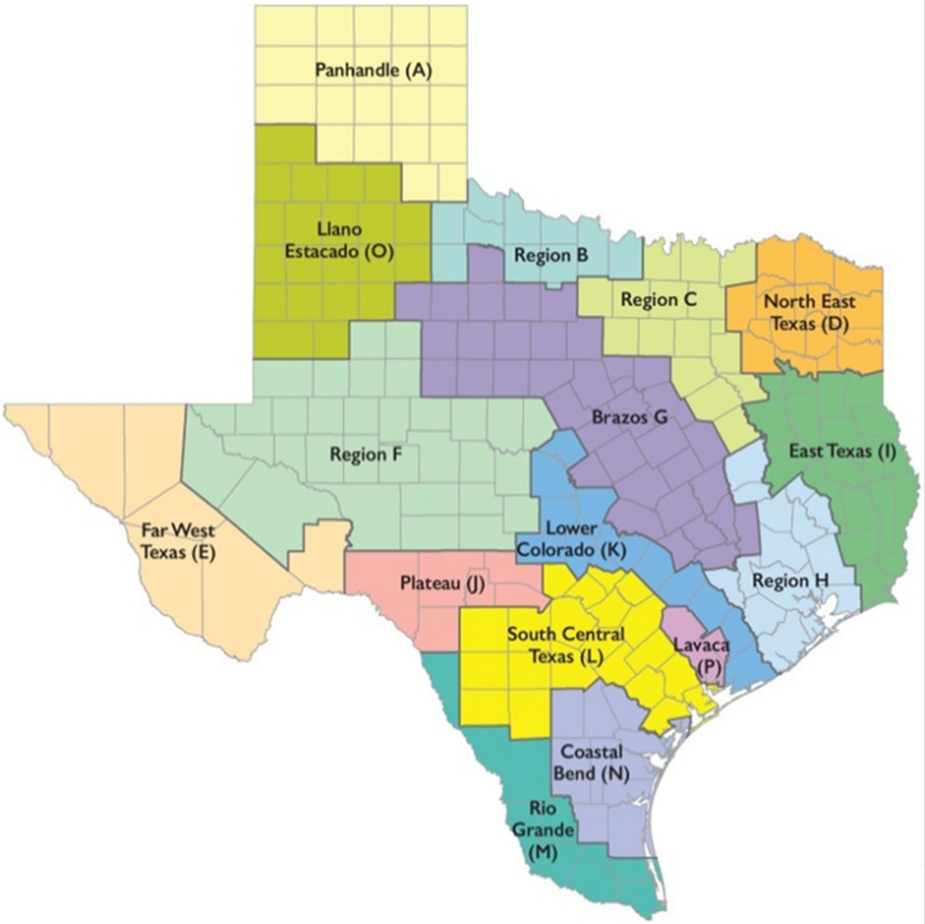
PURPOSE OF STATE WATER PLAN

- provide for the orderly development, management, and conservation of water resources,
- prepare for and respond to drought conditions, and
- make sufficient water available at a reasonable cost to ensure public health, safety, and welfare and further economic development while protecting the ag and natural resources of the entire state.

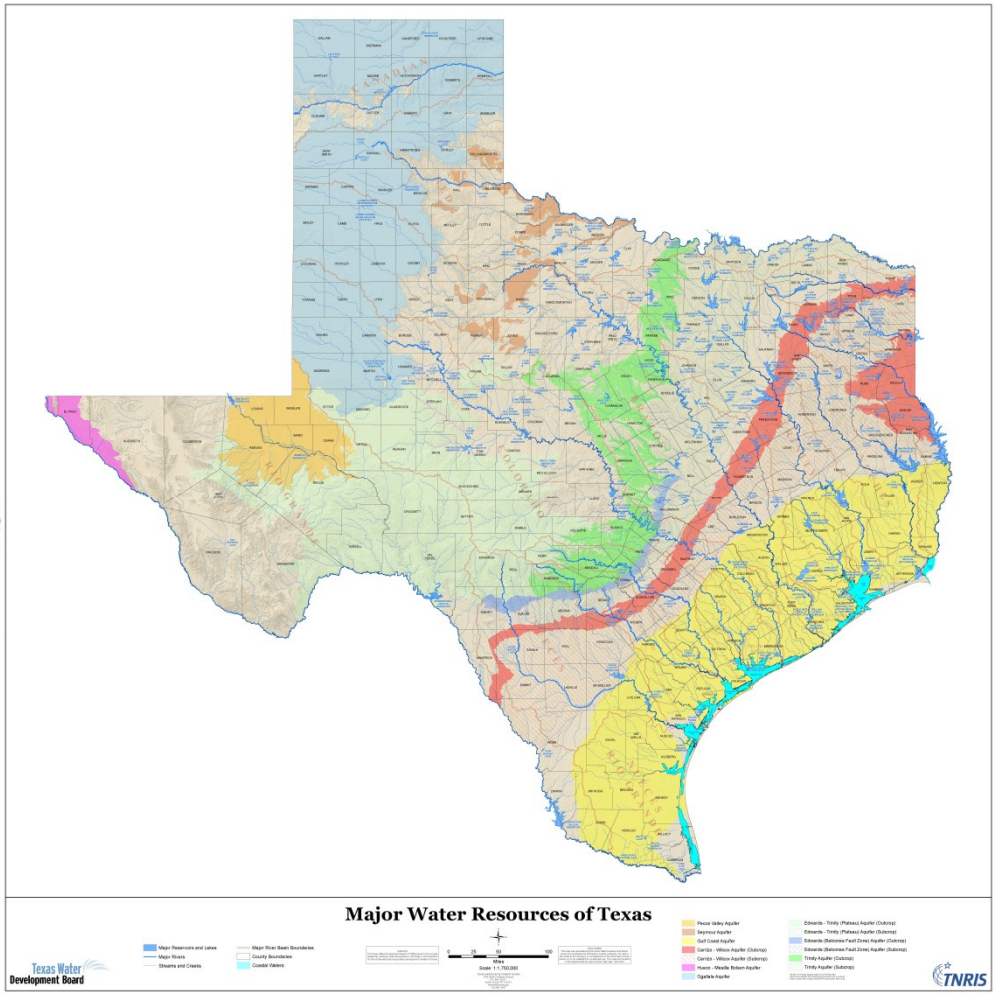
State water planning



254 counties

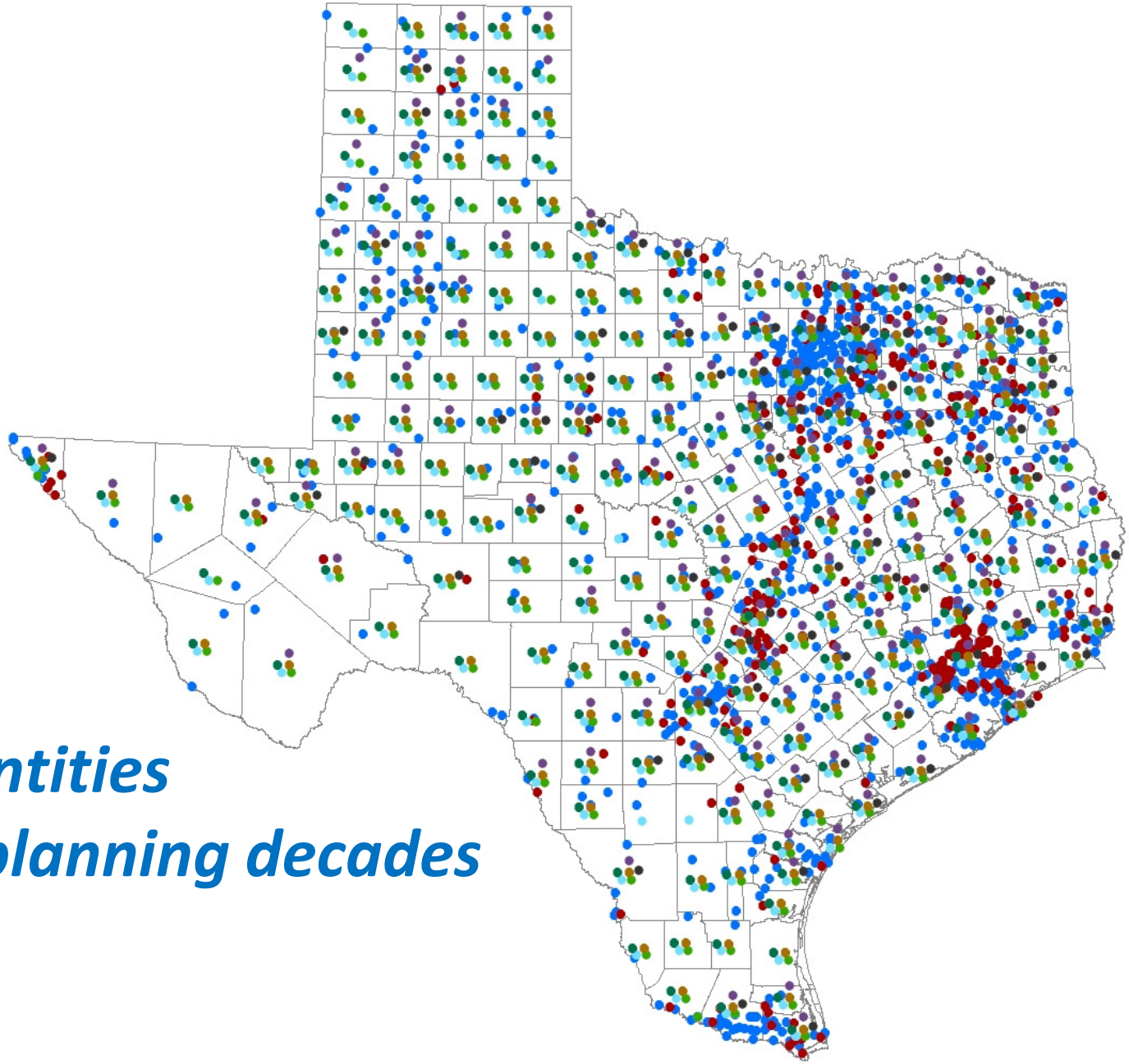


23 river basins



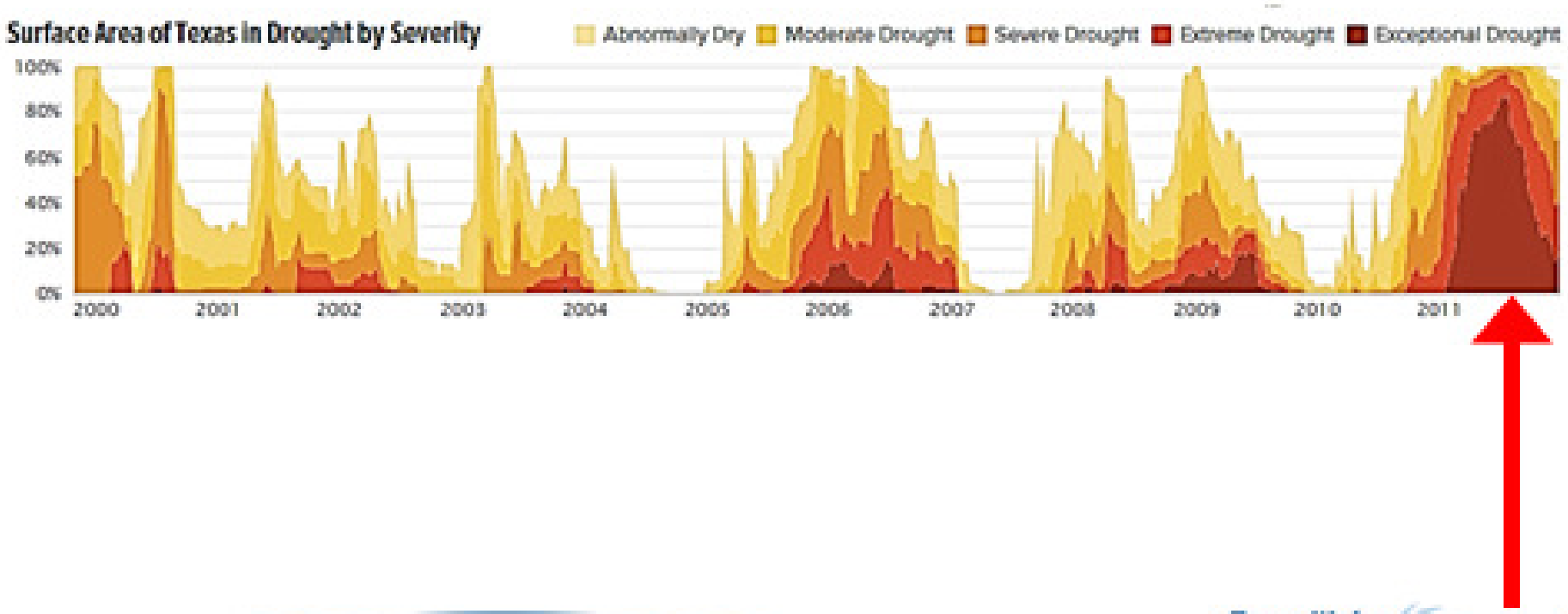
16 water planning areas

30 aquifers

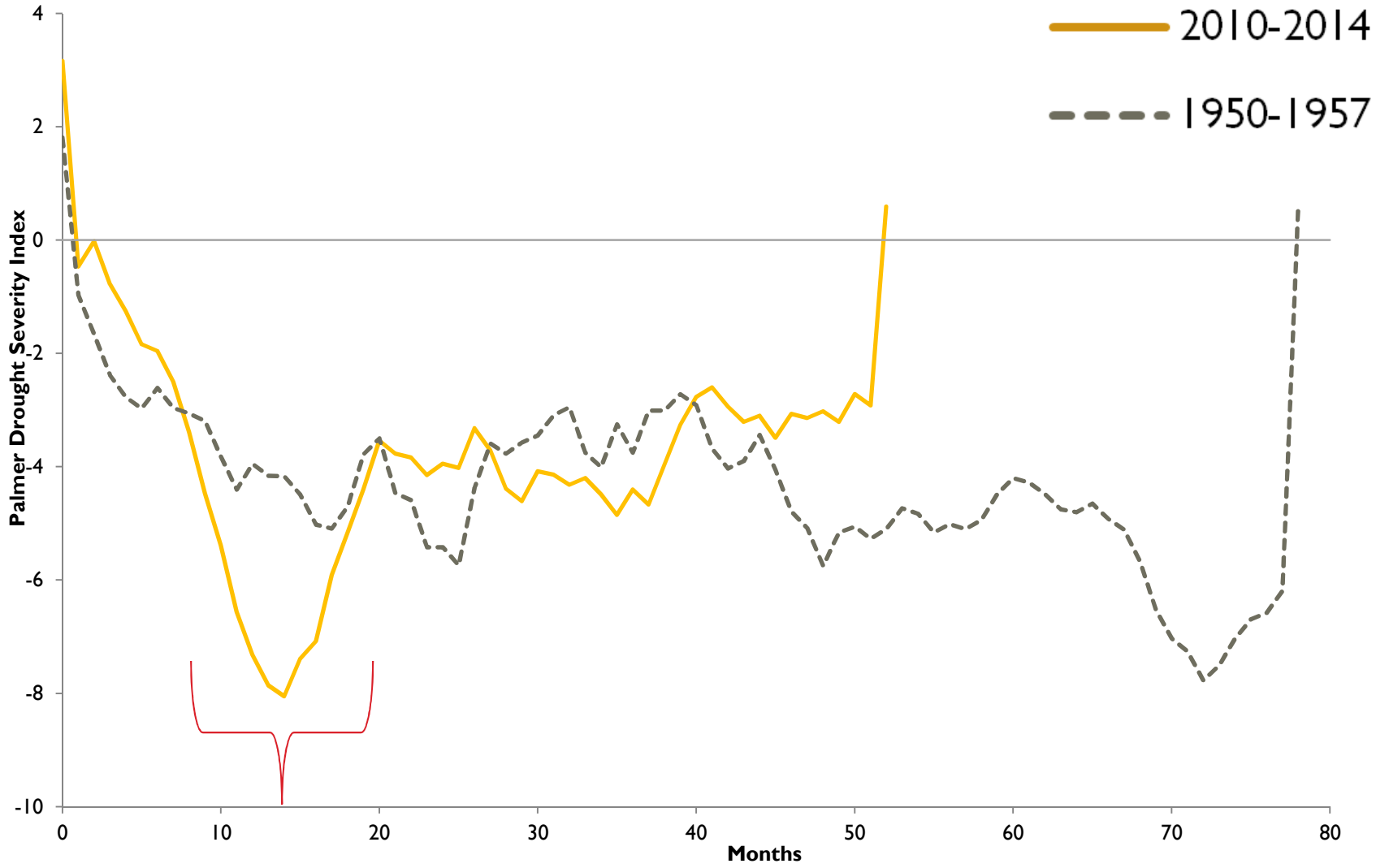


- *2,600 entities*
- *over 6 planning decades*

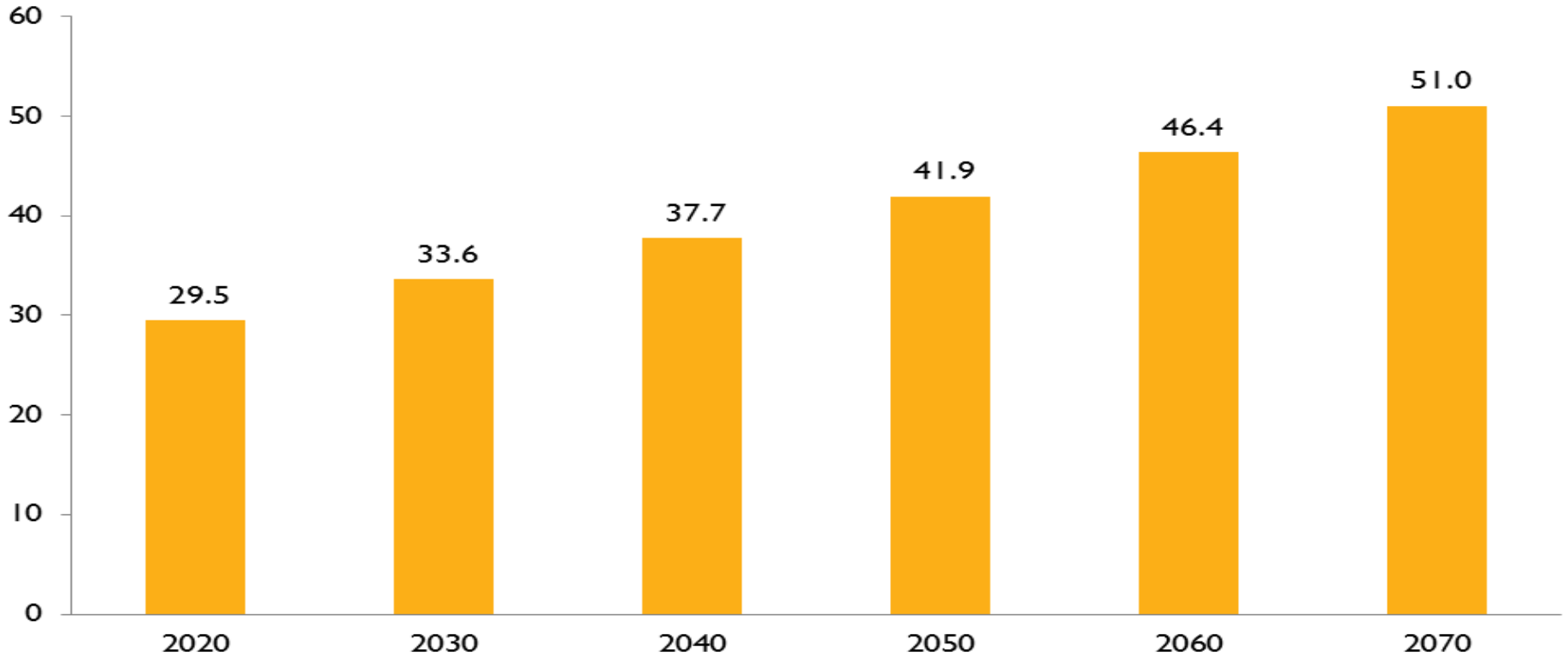
Why do we plan?



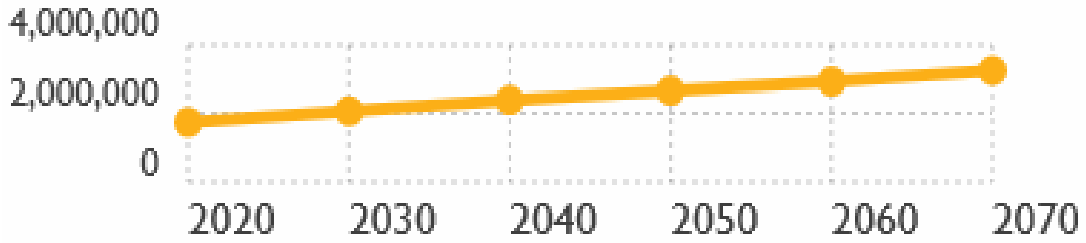
WORST STATEWIDE TEXAS DROUGHTS



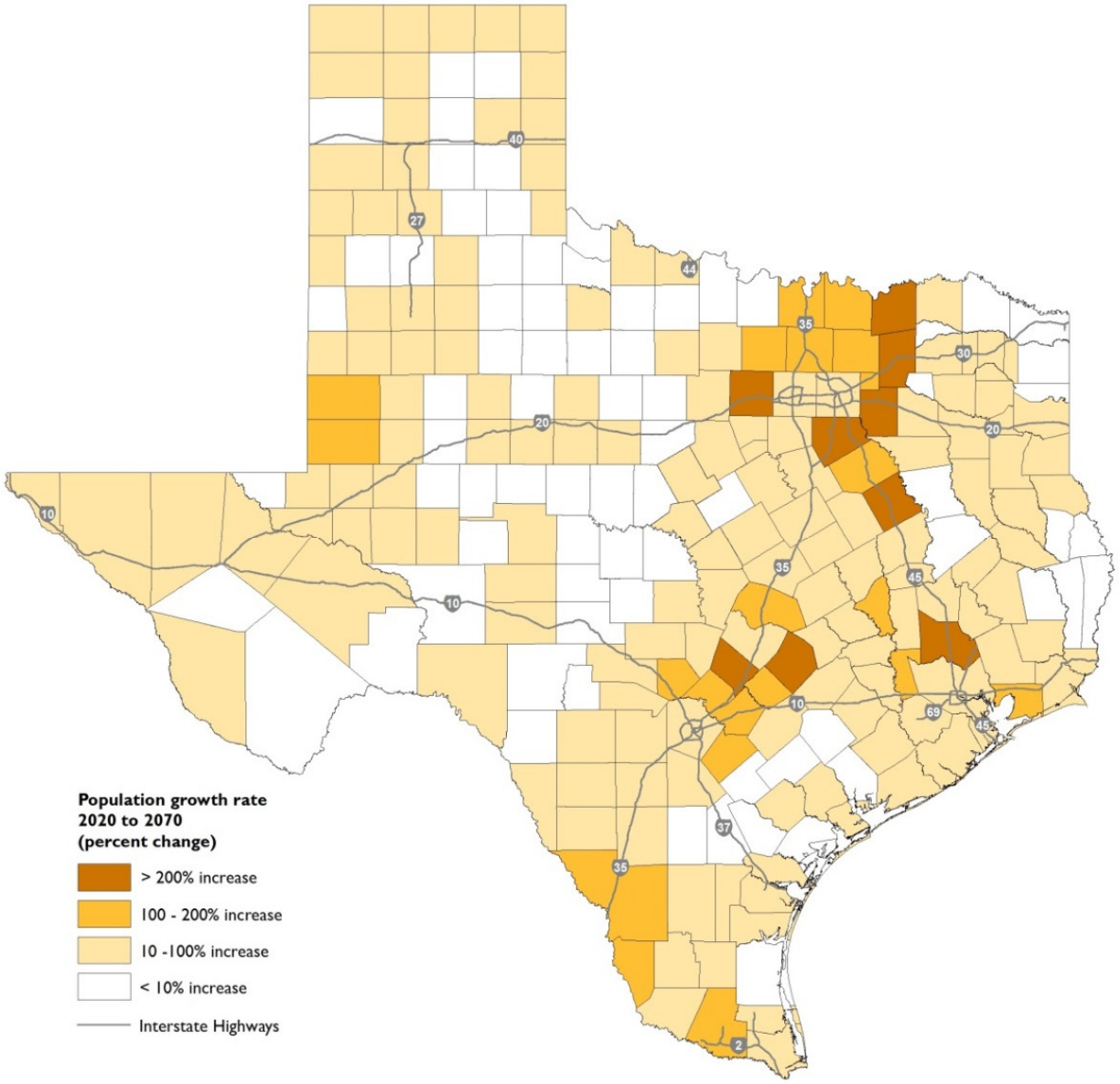
PROJECTED **TEXAS** POPULATION GROWTH



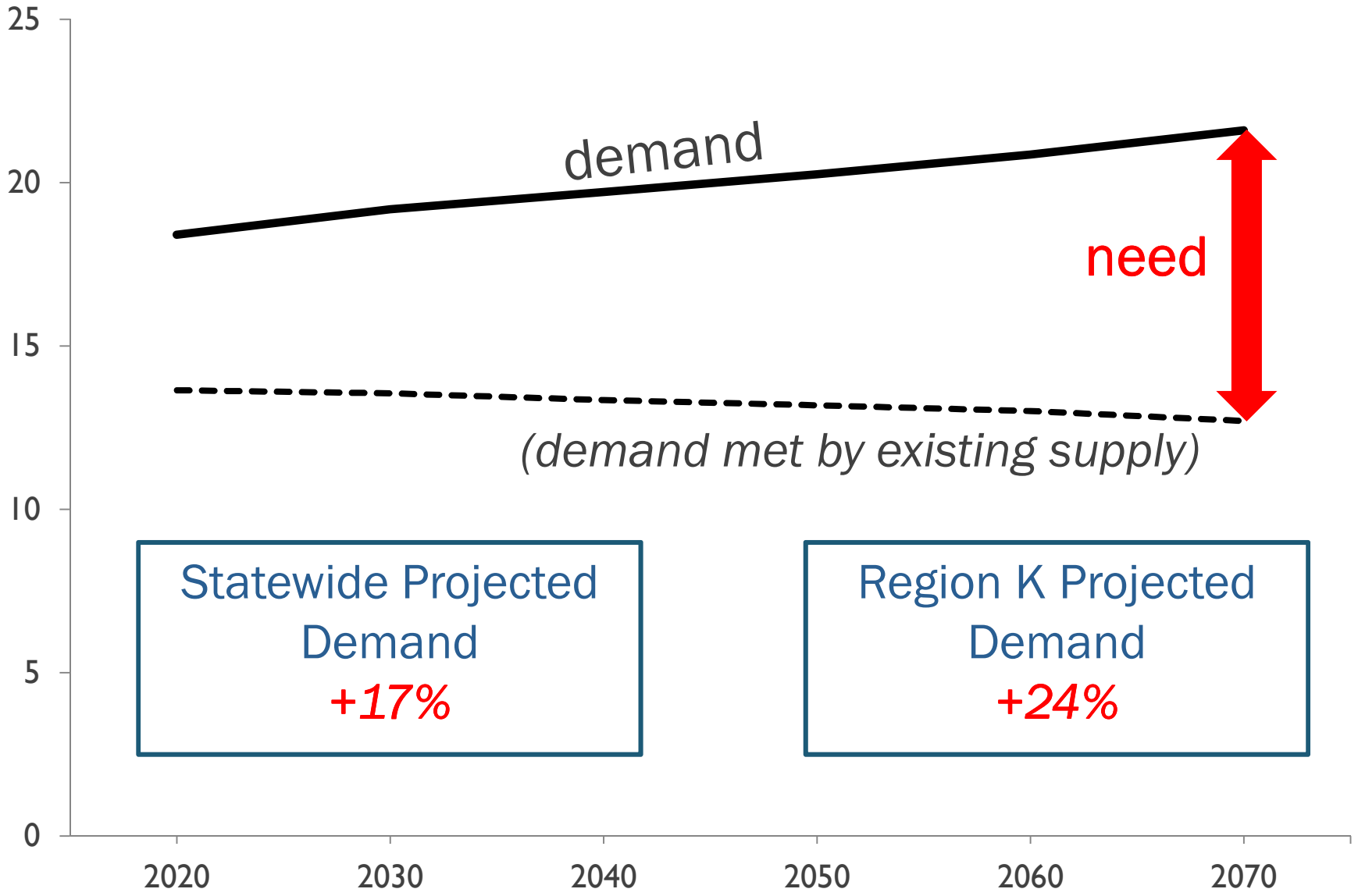
Region K: +87%



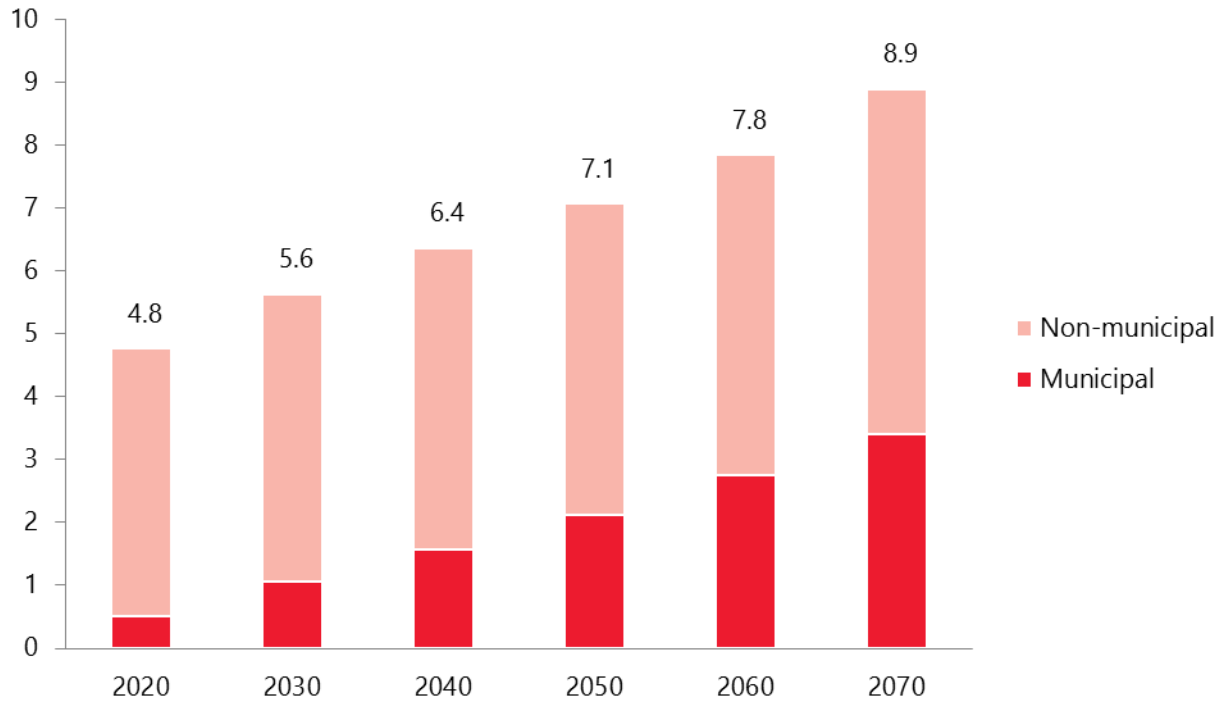
PROJECTED GROWTH RATE IN TEXAS COUNTIES



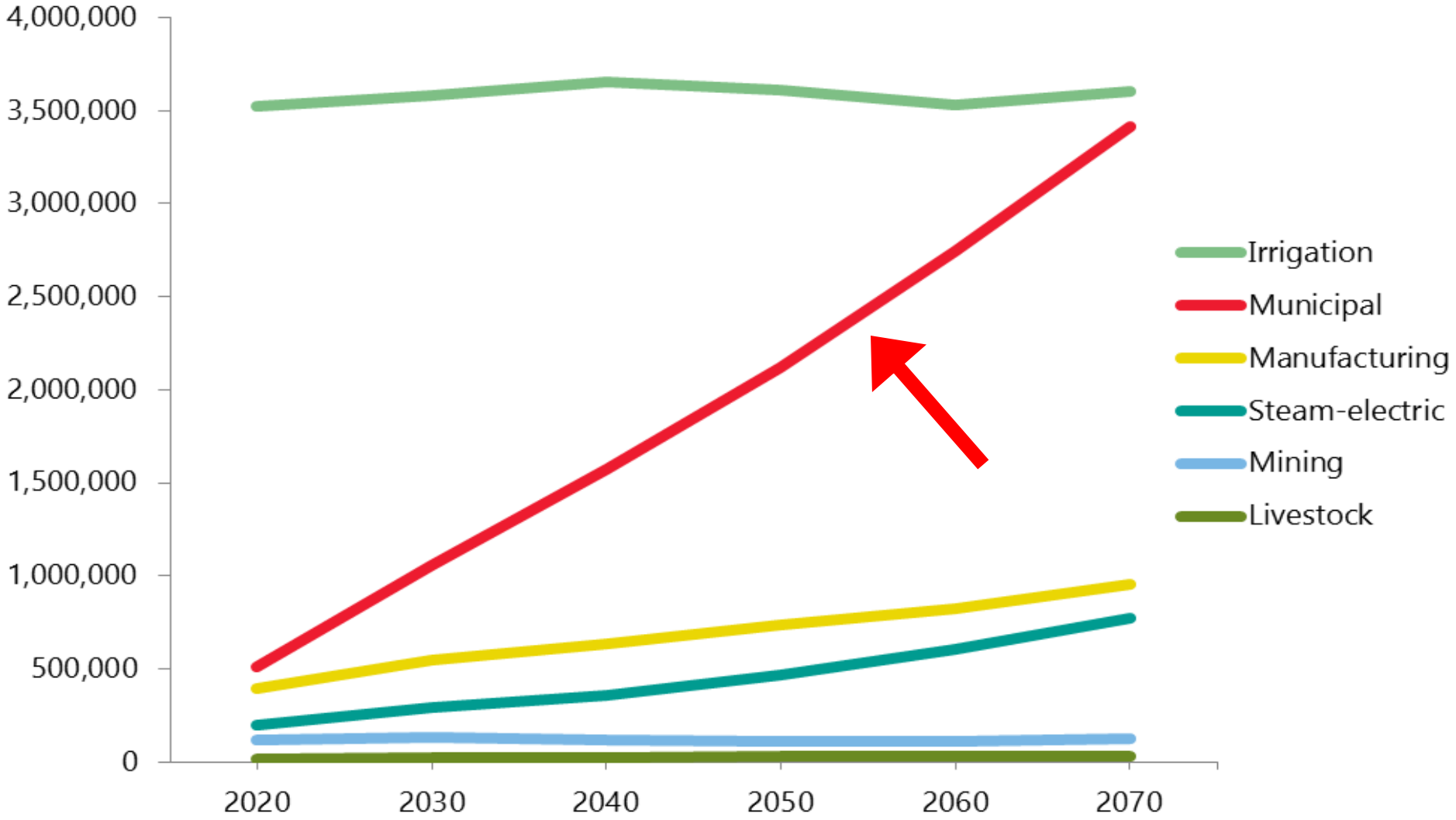
PROJECTED WATER NEED



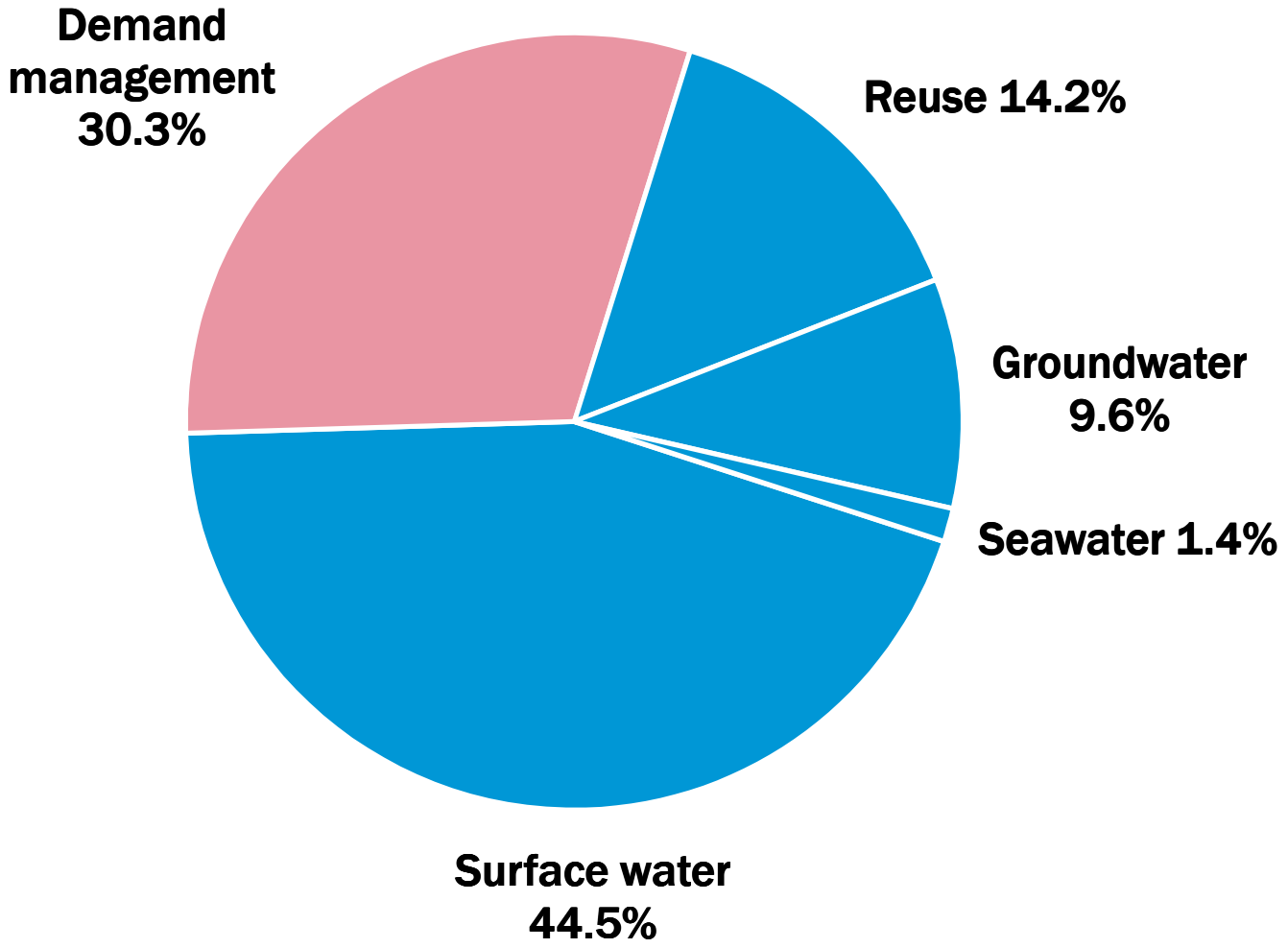
PROJECTED ANNUAL WATER NEEDS IN TEXAS



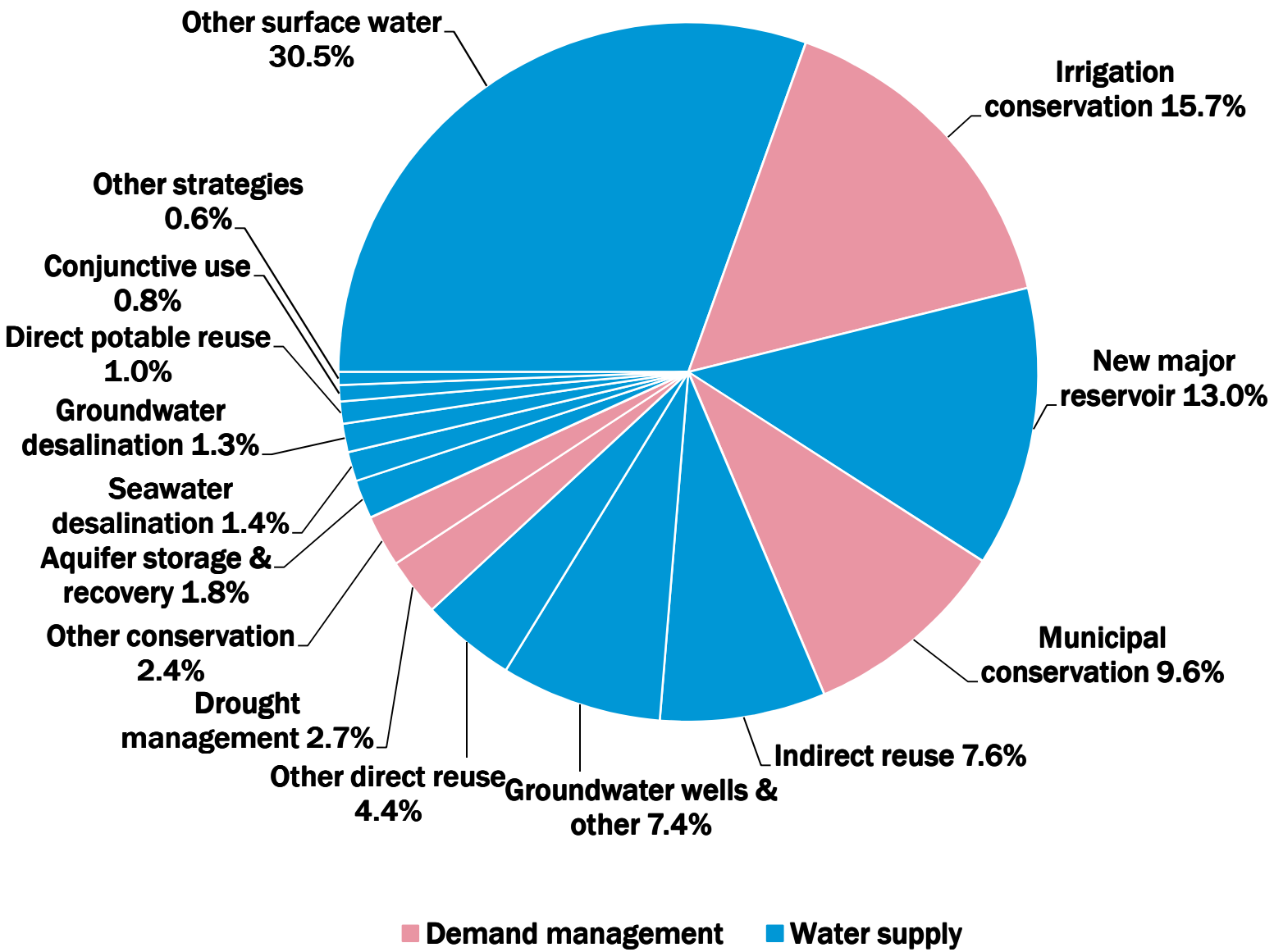
STATE-WIDE WATER NEEDS BY WATER USE CATEGORY



STRATEGIES BY WATER RESOURCE IN 2070



STRATEGIES BY TYPE IN 2070



TOP THREE STRATEGIES

	2020	2070
Statewide	- *Other Surface Water* - *Irrigation Conservation* - Groundwater Wells & Other	- *Other Surface Water* - *Irrigation Conservation* - *New Major Reservoir*
Region K	- *Drought Management* - Other Surface Water - Indirect Reuse	- *Drought Management* - *Irrigation Conservation* - *New Major Reservoir*

CONSERVATION - 2017 STATE WATER PLAN

- Conservation makes up over one quarter of strategy supplies in 2070
- Most frequently recommended strategy in the 2017 Plan
- More than $4 billion in capital costs
- Demand management (long-term conservation and temporary drought management restrictions) and reuse combined make up 45% of total strategy volumes.

NOTABLE CHANGES IN STRATEGIES

Conservation

Over 25% of all strategies

Aquifer Storage and Recovery

350% Increase

Direct Potable Reuse

Recommended 7x as much!

TURNING PLANNING INTO PROJECTS

5,500 strategies

2,400 projects

Capital cost of $63 billion

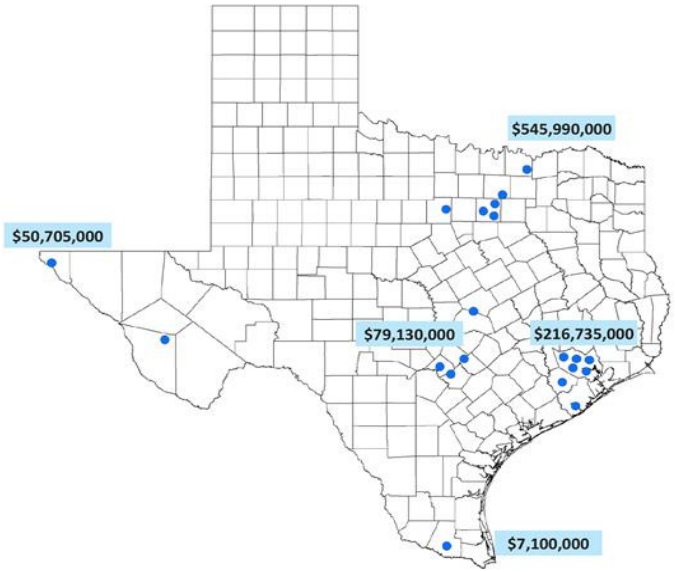
PROGRAM YEAR 2015

- $900 million in financial assistance in 2015 (approximately)
- $3.9 billion in financial assistance over the next decade (approximately)
- 20 project sponsors
- 30 projects
- $106 million in projected savings
- AAA rating

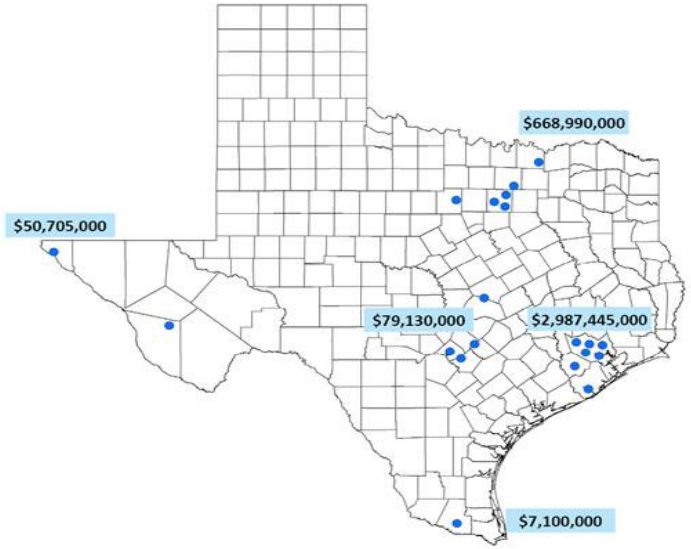
Turns Planning into Projects

COMMUNITIES SERVED

2015 SWIRFT Financial Assistance

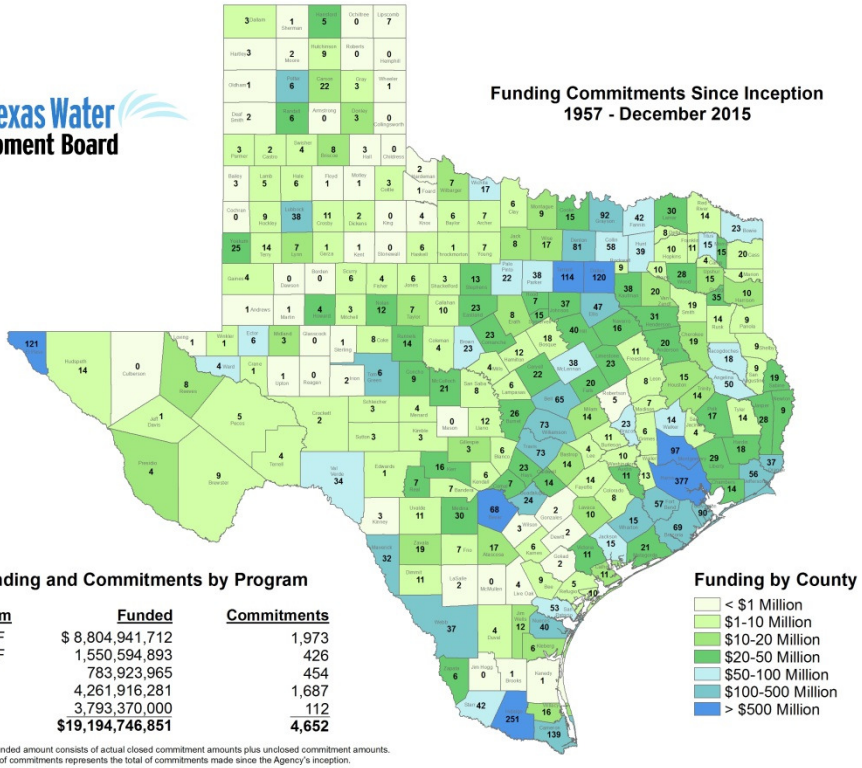


Multi-Year Financial Assistance Request*



Total Funding Commitments*
(Loans and Grants)
Post-SWIRFT 1957 – December 2015

Texas Water Development Board



Funding and Commitments by Program

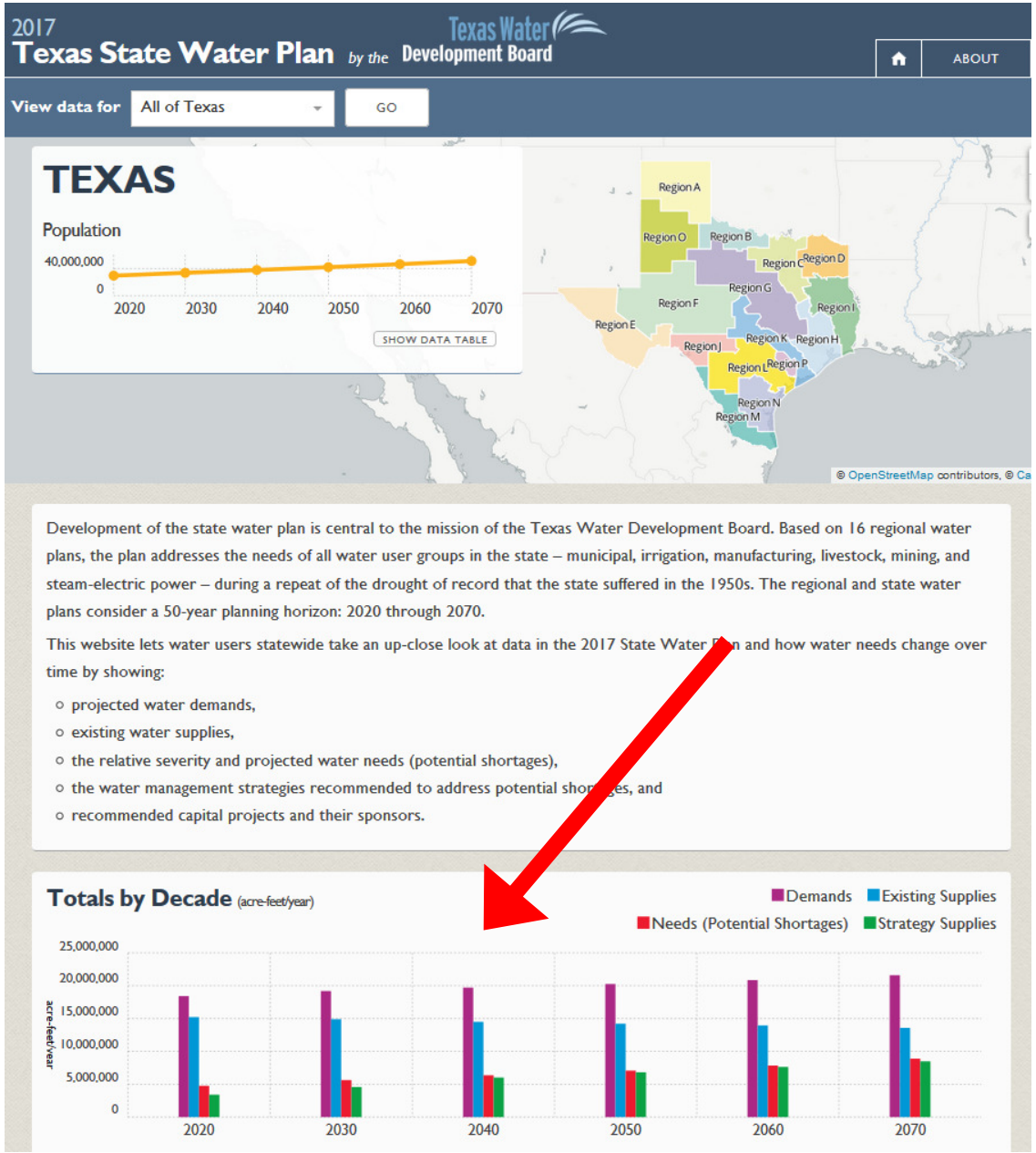
Program	Funded	Commitments
CWSRF	$ 8,804,941,712	1,973
DWSRF	1,550,594,893	426
EDAP	783,923,965	454
STATE	4,261,916,281	1,687
SWIFT	3,793,370,000	112
Total	**$19,194,746,851**	**4,652**

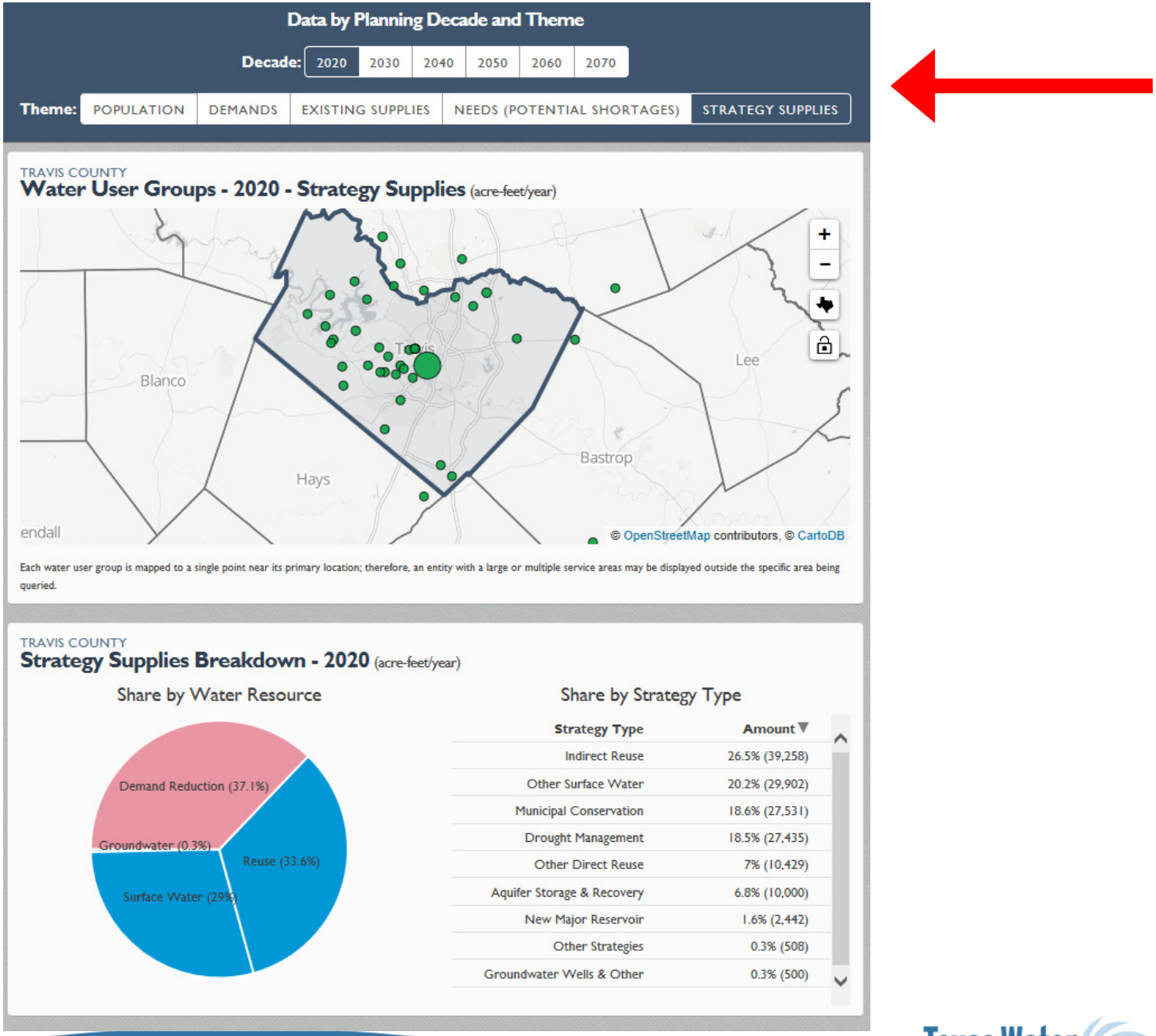
Note: The Funded amount consists of actual closed commitment amounts plus unclosed commitment amounts. The number of commitments represents the total of commitments made since the Agency's inception.

* Preliminary, subject to change

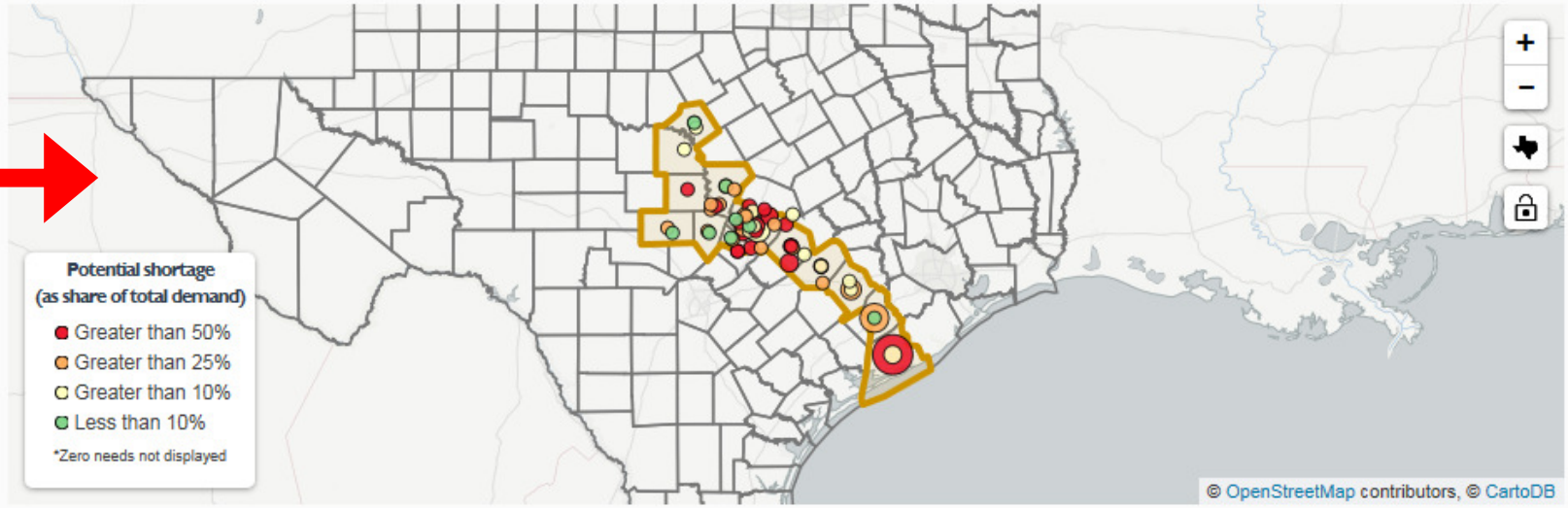
** Multi-year commitments include the 2015 financial assistance requests

State water plan database and the interactive state water plan website




Data by Planning Decade and Theme
Decade: 2020 2030 2040 2050 2060 2070
Theme: POPULATION DEMANDS EXISTING SUPPLIES NEEDS (POTENTIAL SHORTAGES) STRATEGY SUPPLIES
TRAVIS COUNTY
Water User Groups - 2020 - Strategy Supplies (acre-feet/year)
Blanco
Hays
Lee
Bastrop
© OpenStreetMap contributors, © CartoDB
Each water user group is mapped to a single point near its primary location; therefore, an entity with a large or multiple service areas may be displayed outside the specific area being queried.
TRAVIS COUNTY
Strategy Supplies Breakdown - 2020 (acre-feet/year)
Share by Water Resource
Demand Reduction (37.1%)
Groundwater (0.3%)
Reuse (33.6%)
Surface Water (29%)
Share by Strategy Type
Strategy Type Amount
Indirect Reuse 26.5% (39,258)
Other Surface Water 20.2% (29,902)
Municipal Conservation 18.6% (27,531)
Drought Management 18.5% (27,435)
Other Direct Reuse 7% (10,429)
Aquifer Storage & Recovery 6.8% (10,000)
New Major Reservoir 1.6% (2,442)
Other Strategies 0.3% (508)
Groundwater Wells & Other 0.3% (500)

Water User Groups - 2070 - Needs (Potential Shortages) (acre-feet/year)



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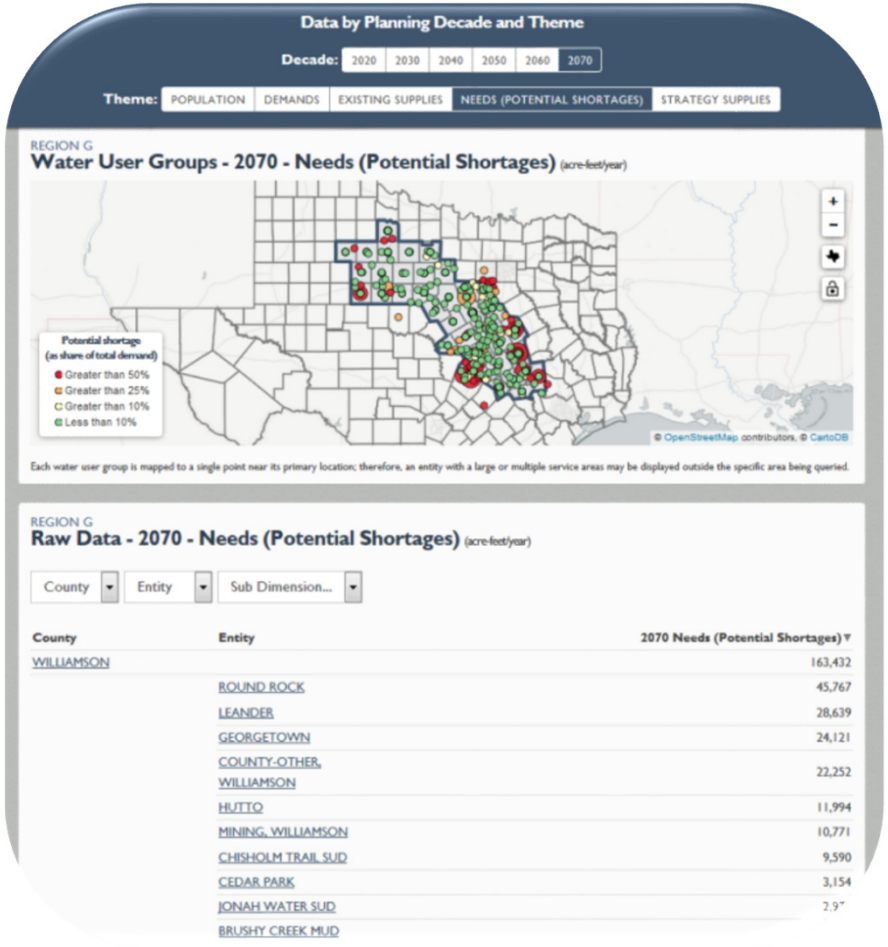
REGION K

Raw Data - 2070 - Needs (Potential Shortages) (acre-feet/year)

County | Entity | Sub Dimension...

County	Entity ▲	2070 Needs (Potential Shortages)
BASTROP		47,187
	AQUA WSC	26,269
	BASTROP	6,390
	BASTROP COUNTY WCID #2	644
	COUNTY-OTHER, BASTROP	1,490



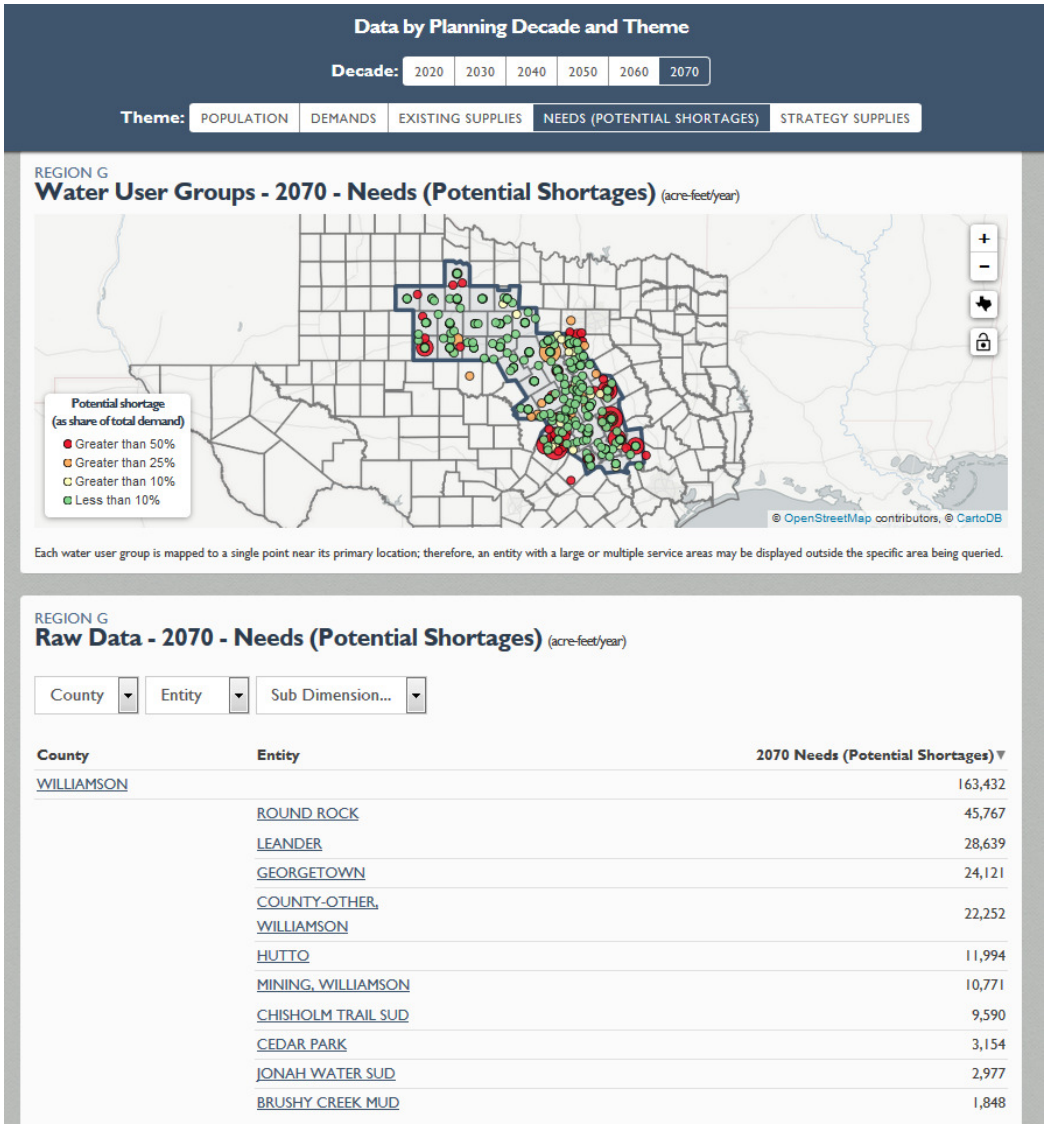
Online State Water Plan

"Geo-enables" information from the Draft 2017 State Water Plan

- Transparent
- Interactive
- Integrated

texasstatewaterplan.org

Water Needs


Data by Planning Decade and Theme
Decade: 2020 2030 2040 2050 2060 2070
Theme: POPULATION DEMANDS EXISTING SUPPLIES NEEDS (POTENTIAL SHORTAGES) STRATEGY SUPPLIES
REGION G
Water User Groups - 2070 - Needs (Potential Shortages) (acre-feet/year)
Potential shortage (as share of total demand)
Greater than 50%
Greater than 25%
Greater than 10%
Less than 10%
© OpenStreetMap contributors, © CartoDB
Each water user group is mapped to a single point near its primary location; therefore, an entity with a large or multiple service areas may be displayed outside the specific area being queried.
REGION G
Raw Data - 2070 - Needs (Potential Shortages) (acre-feet/year)
County Entity Sub Dimension...
County | Entity | 2070 Needs (Potential Shortages)
WILLIAMSON | | 163,432
| ROUND ROCK | 45,767
| LEANDER | 28,639
| GEORGETOWN | 24,121
| COUNTY-OTHER, WILLIAMSON | 22,252
| HUTTO | 11,994
| MINING, WILLIAMSON | 10,771
| CHISHOLM TRAIL SUD | 9,590
| CEDAR PARK | 3,154
| JONAH WATER SUD | 2,977
| BRUSHY CREEK MUD | 1,848

Water Management Strategies

REGION G

Recommended Projects

Total capital cost of recommended projects: **$3,926,014,878.**

Type to filter table

Project	Decade Online	Sponsor	Capital Cost
LAKE GRANGER AUGMENTATION-PHASE 2-BRA	2020	BRAZOS RIVER AUTHORITY	$637,057,000
LITTLE RIVER OCR-BRA	2030	BRAZOS RIVER AUTHORITY	$487,611,000
BRUSHY CREEK RUA WATER SUPPLY	2020	CEDAR PARK; ROUND ROCK; LIBERTY HILL; LEANDER	$318,401,660
CEDAR RIDGE RESERVOIR	2020	ABILENE	$290,868,000
CHLORIDE CONTROL PROJECT-BRA	2020	BRAZOS RIVER AUTHORITY	$172,652,000
BRA SYSTEM OPS INFRASTRUCTURE- SOMERVELL SE	2020	STEAM ELECTRIC POWER (SOMERVELL)	$128,162,000
CARRIZO AQUIFER DEVELOPMENT-ROBERTSON COUNTY IRRIGATION	2020	IRRIGATION (ROBERTSON)	$128,018,000
CARRIZO AQUIFER DEVELOPMENT-HUTTO (HEART OF TEXAS-LEE CO.)	2020	HEART OF TEXAS WATER SUPPLIERS LLC	$127,086,000
LAKE GRANGER ASR	2020	BRAZOS RIVER AUTHORITY	$99,820,000
LAKE GRANGER AUGMENTATION-PHASE 1-BRA	2020	BRAZOS RIVER AUTHORITY	$85,170,000

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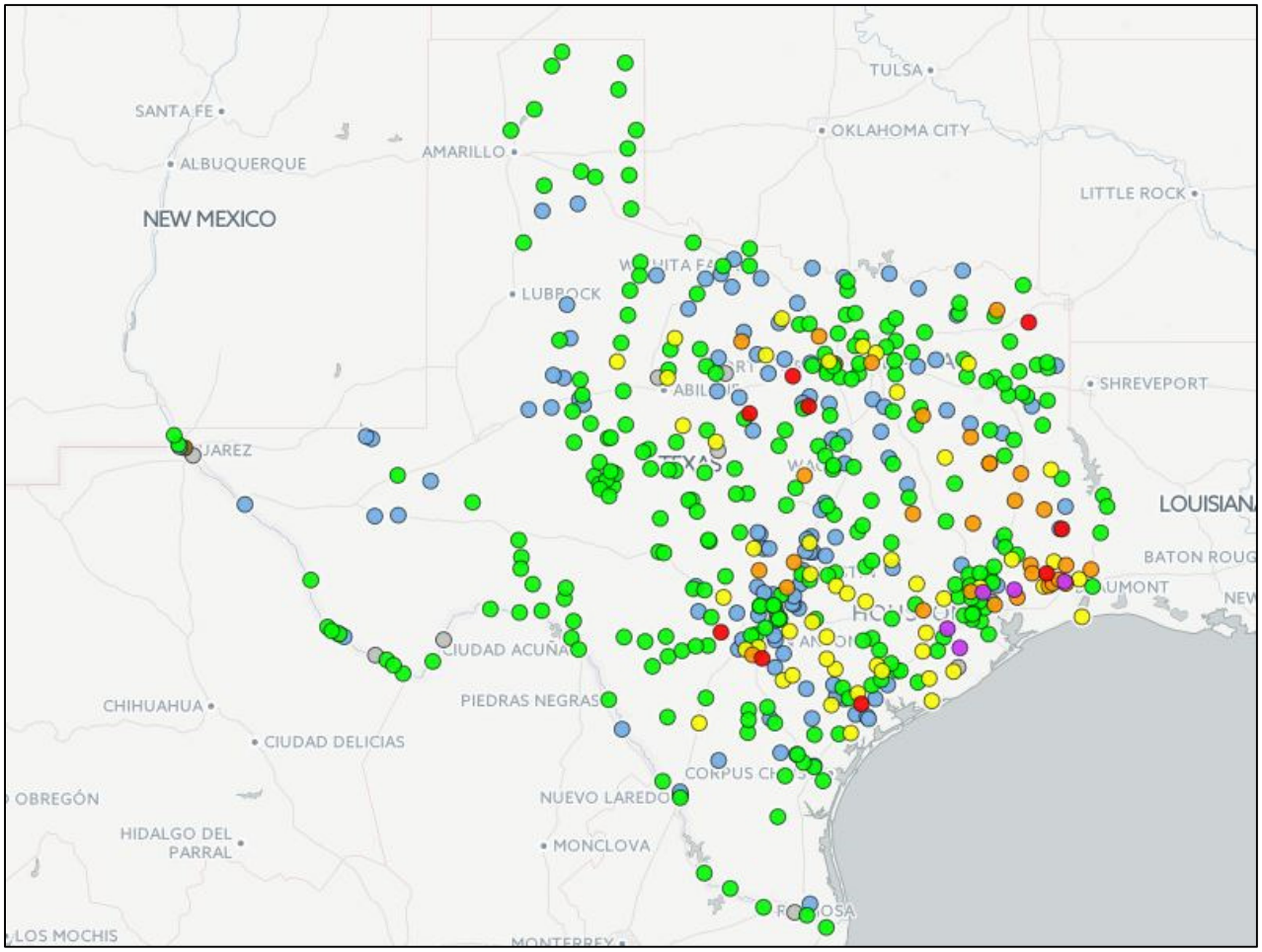
TEXASFLOOD.ORG



TEXASFLOOD.org

Tools for Texans to track flood conditions

HOW TO CONTACT ME

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www.twdb.texas.gov

Table K.2 – Ten recommended water management strategy projects with largest capital cost

Recommended water management strategy project	Online decade	Sponsor(s)	Associated capital cost
City of Austin - Rainwater Harvesting	2020	Austin	$690,167,000
City of Austin - Direct Reuse	2020	Austin	$536,176,000
LCRA - Prairie Site Off-Channel Reservoir	2030	Lower Colorado River Authority	$376,000,000
City of Austin - Aquifer Storage and Recovery	2020	Austin	$312,316,000
LCRA - Mid-Basin Off-Channel Reservoir	2020	Lower Colorado River Authority	$298,000,000
LCRA - Excess Flows Permit Off-Channel Reservoir	2020	Lower Colorado River Authority	$298,000,000
LCRA - Lane City Off-Channel Reservoir	2020	Lower Colorado River Authority	$218,593,000
Irrigation Operations Conveyance Improvements	2020	Irrigation, Colorado	$22,582,000
Irrigation Operations Conveyance Improvements	2020	Irrigation, Matagorda	$83,311,000
Irrigation Operations Conveyance Improvements	2020	Irrigation, Wharton	$49,164,000
New Surface Water Infrastructure - Aqua WSC	2040	Heart of Texas Water Suppliers LLC	$127,538,000
Irrigation Conservation - On Farm	2020	Irrigation, Colorado	$14,211,000
Irrigation Conservation - On Farm	2020	Irrigation, Matagorda	$52,428,000
Irrigation Conservation - On Farm	2020	Irrigation, Wharton	$30,939,000
Other recommended projects	*various*	*113 various*	*$663,282,000*
		Total capital cost	**$3,772,707,000**

Table K.3 – Ten recommended water management strategies with largest supply volume

Recommended water management strategy name	Population served by strategy*	Number of water user groups served	Supply in acre-feet per year in 2070
Drought Management	3,189,000	90	157,000
LCRA - Lane City Reservoir	581,000	20	76,000
Irrigation Conservation - Operation Conveyance Improvements	na	3	64,000
City Of Austin Return Flows	1,596,000	5	57,000
City Of Austin - Aquifer Storage And Recovery	1,596,000	1	50,000
Irrigation Conservation - On Farm	na	3	50,000
City Of Austin - Direct Reuse	1,596,000	2	38,000
City Of Austin - Conservation	1,596,000	1	37,000
City Of Austin - Lake Long Enhanced Storage	1,596,000	2	22,000
City Of Austin - Indirect Potable Reuse Through Lady Bird Lake	1,596,000	1	20,000
Other recommended strategies		*161*	*172,000*
		Total annual water volume	**743,000**

* *Multiple strategies may serve portions of the same population*

Table K4. Population, existing supplies, demands, needs & strategies 2020-2070 in acft year

	Decade	2020	2030	2040	2050	2060	2070	change
	Population	**1,737,000**	**2,065,000**	**2,382,000**	**2,658,000**	**2,928,000**	**3,243,000**	***87%***
Existing supplies	Surface water	736,000	737,000	737,000	732,000	726,000	721,000	***-2%***
	Groundwater	254,000	256,000	259,000	261,000	262,000	263,000	***4%***
	Reuse	8,000	8,000	8,000	8,000	8,000	8,000	***0%***
	Total water supplies	**999,000**	**1,001,000**	**1,004,000**	**1,002,000**	**997,000**	**992,000**	***-1%***
Demands	Municipal	277,000	328,000	379,000	425,000	470,000	523,000	***89%***
	County-other	30,000	32,000	32,000	34,000	35,000	36,000	***20%***
	Manufacturing	56,000	70,000	86,000	96,000	106,000	118,000	***111%***
	Mining	21,000	26,000	28,000	30,000	32,000	35,000	***67%***
	Irrigation	607,000	591,000	575,000	559,000	544,000	529,000	***-13%***
	Steam-electric	178,000	185,000	187,000	195,000	200,000	207,000	***16%***
	Livestock	14,000	14,000	14,000	14,000	14,000	14,000	***0%***
	Total water demand	**1,183,000**	**1,245,000**	**1,302,000**	**1,352,000**	**1,401,000**	**1,462,000**	***24%***
Needs	Municipal	7,000	27,000	44,000	64,000	115,000	176,000	***2414%***
	County-other	1,000	1,000	2,000	3,000	5,000	6,000	***500%***
	Manufacturing	1,000	1,000	1,000	1,000	1,000	1,000	***0%***
	Mining	4,000	9,000	10,000	11,000	12,000	14,000	***250%***
	Irrigation	335,000	320,000	304,000	289,000	274,000	260,000	***-22%***
	Steam-electric	25,000	27,000	27,000	32,000	42,000	55,000	***120%***
	Total water needs	**374,000**	**384,000**	**387,000**	**400,000**	**450,000**	**512,000**	***37%***
Strategy supplies	Municipal	165,000	225,000	274,000	331,000	373,000	411,000	***149%***
	County-other	9,000	14,000	14,000	15,000	15,000	16,000	***78%***
	Manufacturing	1,000	1,000	1,000	1,000	1,000	1,000	***0%***
	Mining	4,000	5,000	6,000	6,000	7,000	7,000	***75%***
	Irrigation	215,000	207,000	204,000	215,000	223,000	241,000	***12%***
	Steam-electric	41,000	46,000	48,000	51,000	59,000	69,000	***68%***
	Total strategy supplies	**436,000**	**498,000**	**547,000**	**619,000**	**678,000**	**745,000**	***71%***