CALFORNIA-TEXAS MIGRATION AND THE RISE OF THE TEXAS TRIANGLE

with updated data & with references to why the Texas Triangle model succeeds & the unfamiliar challenges the megaregion will face in the 2020s & beyond

Cullum Clark

NAIOP Presentation
Dallas, November 2023

GEORGE W. BUSH
PRESIDENTIAL CENTER

SMU

OUTLINE

❑ George W. Bush Institute-SMU Economic Growth Initiative

❑ California-to-Texas migration & the rise of the Texas Triangle: Data

❑ Why the Texas Triangle succeeds

❑ Long-term challenges to the Texas Triangle
❑ Housing supply & affordability
❑ Physical form & congestion
❑ Water
❑ Demographics
❑ Education
❑ Social cohesion & governance

ABOUT FORECASTS …

❑ What happened when Nobel Prize-winning economist Ken Arrow pointed out that his long-term weather forecasts before the Normandy Invasion were no better than random chance:

"The Commanding General is well aware that the forecasts are no good. However, he needs them for planning purposes."
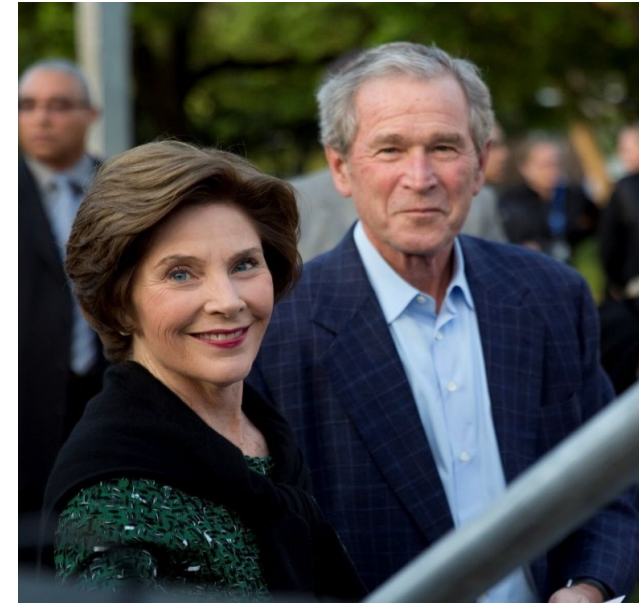
GEORGE W. BUSH INSTITUTE

WHAT DRIVES US

We celebrate the goodness of our Nation and pursue with optimism the timeless values of:

- Freedom
- Opportunity
- Accountability
- Compassion

"We believe in open societies ordered by moral conviction. We believe in private markets humanized by compassionate government. We believe in economies that reward effort, communities that protect the weak, and the duty of nations to respect the dignity and the rights of all."

- President George W. Bush
November 13, 2003
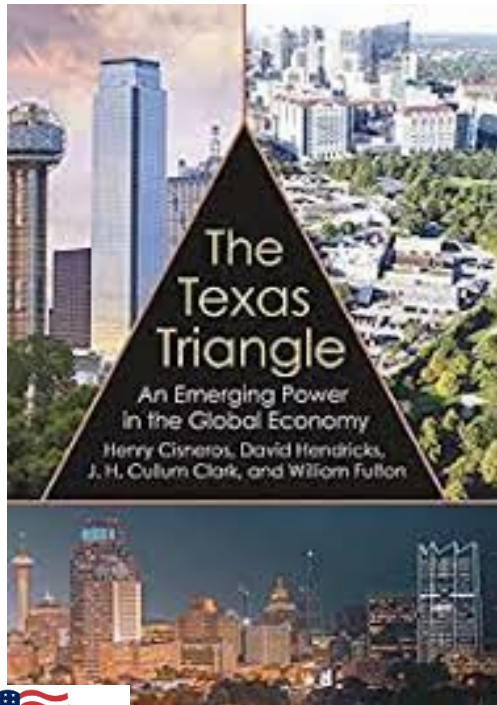
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MISSION

Through policy solutions and public engagement, the George W. Bush Presidential Center ensures opportunity for all, strengthens democracy, and advances free societies. We combine ideas and action to improve the lives of people at home and around the world.

BLUEPRINT FOR OPPORTUNITY ───

*Challenge: How to create inclusively prosperous, opportunity-rich cities in 21st century America?*

The secret sauce of North Texas suburban growth

Bush Institute published work:
"Cities and opportunity in 21st century America"
"The new geography of opportunity"
"The innovation impact of U.S. universities"
"Engines of opportunity: How Eds & Meds institutions can become more powerful drivers of prosperity in America's cities"
"Immigrants & opportunity in America's cities"
"How to make urban growth more inclusive: The Dallas experience"

"Big D Is a Big Deal
Dallas–Fort Worth is becoming the de facto capital of America's Heartland."
City Journal

DOMESTIC MIGRATION, 2010-20
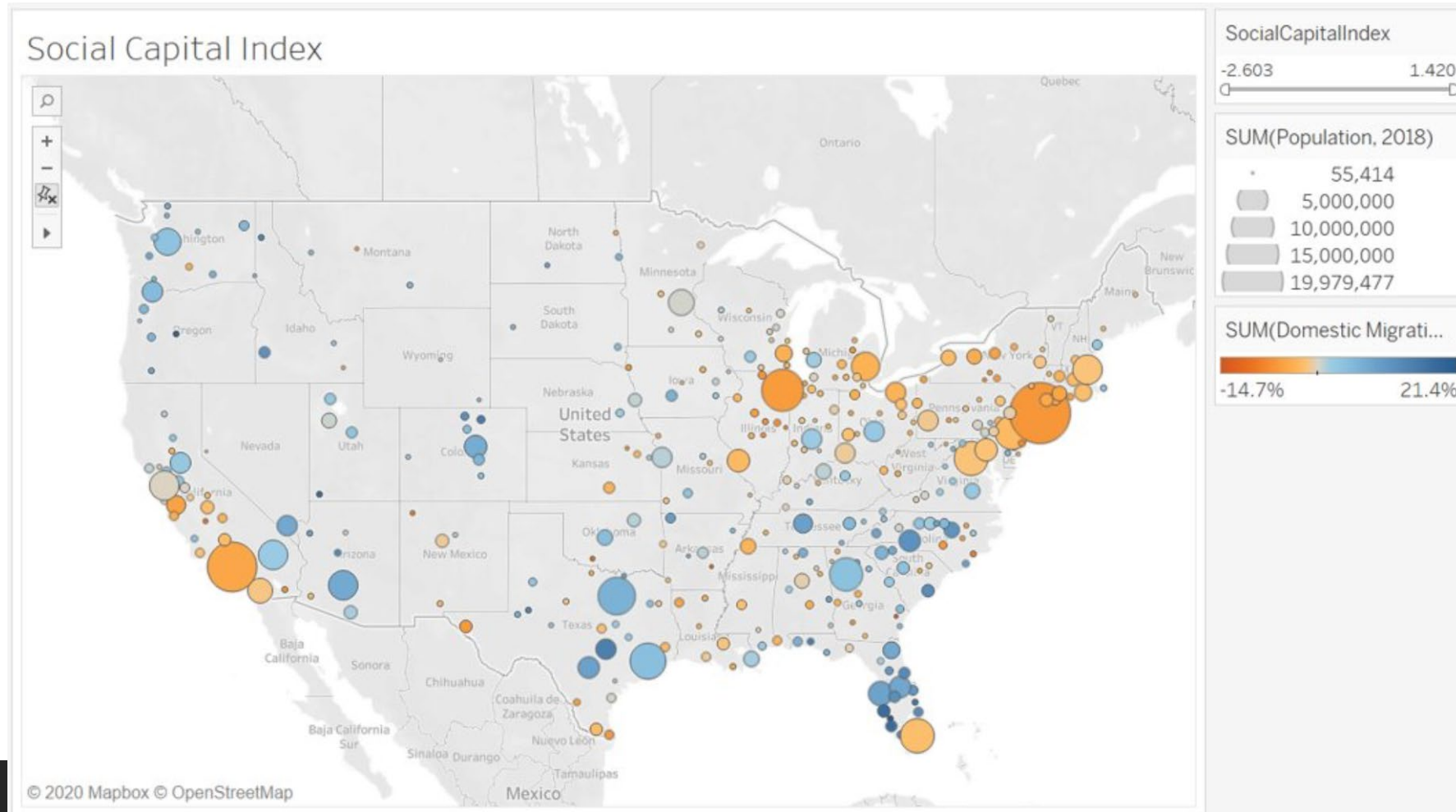
THE TEXAS TRIANGLE TRIUMPHANT

America's fastest-growing megaregion:

• DFW & Houston metros: 1st & 2nd of all metros for absolute growth, 2010-21

• San Antonio & Austin: Would rank 3rd if combined; 1st for growth rate

• DFW & Houston: 1st & 2nd for net domestic inbound migration

• Top destination for relocating or expanding businesses: Jacobs, McKesson, CBRE, Schwab, Toyota, Caterpillar; Hewlett Packard; Oracle, Tesla

Leading positions:

• Top tech center between the coasts

• #3 financial center

• Top national centers for oil & gas, space, IT services, engineering, & inland logistics

• Largest medical complex in the world
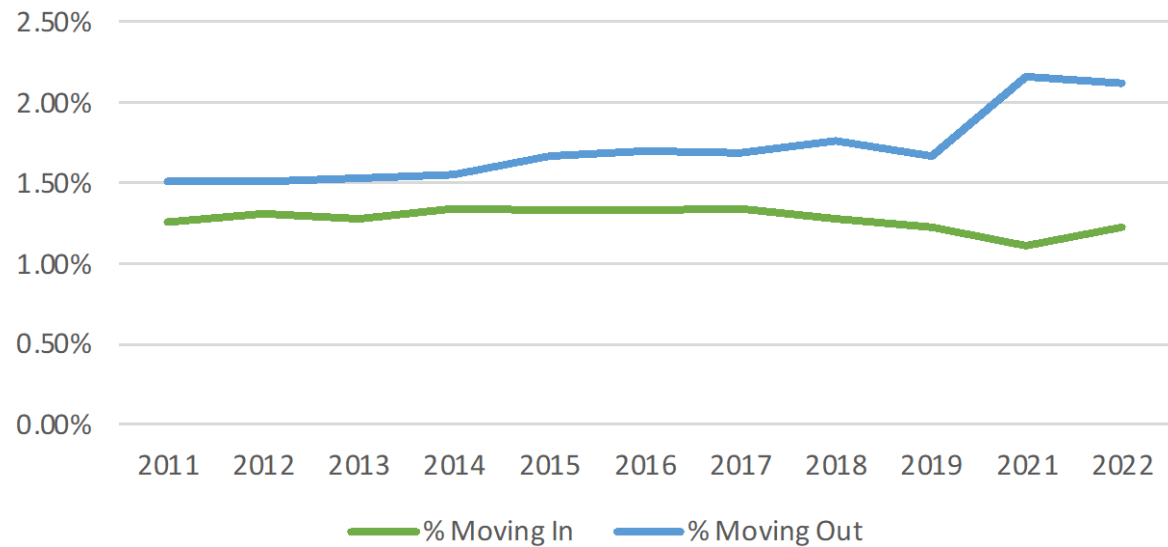
CALIFIORNIA-TO-TEXAS, I

Net California-to-Texas Flows
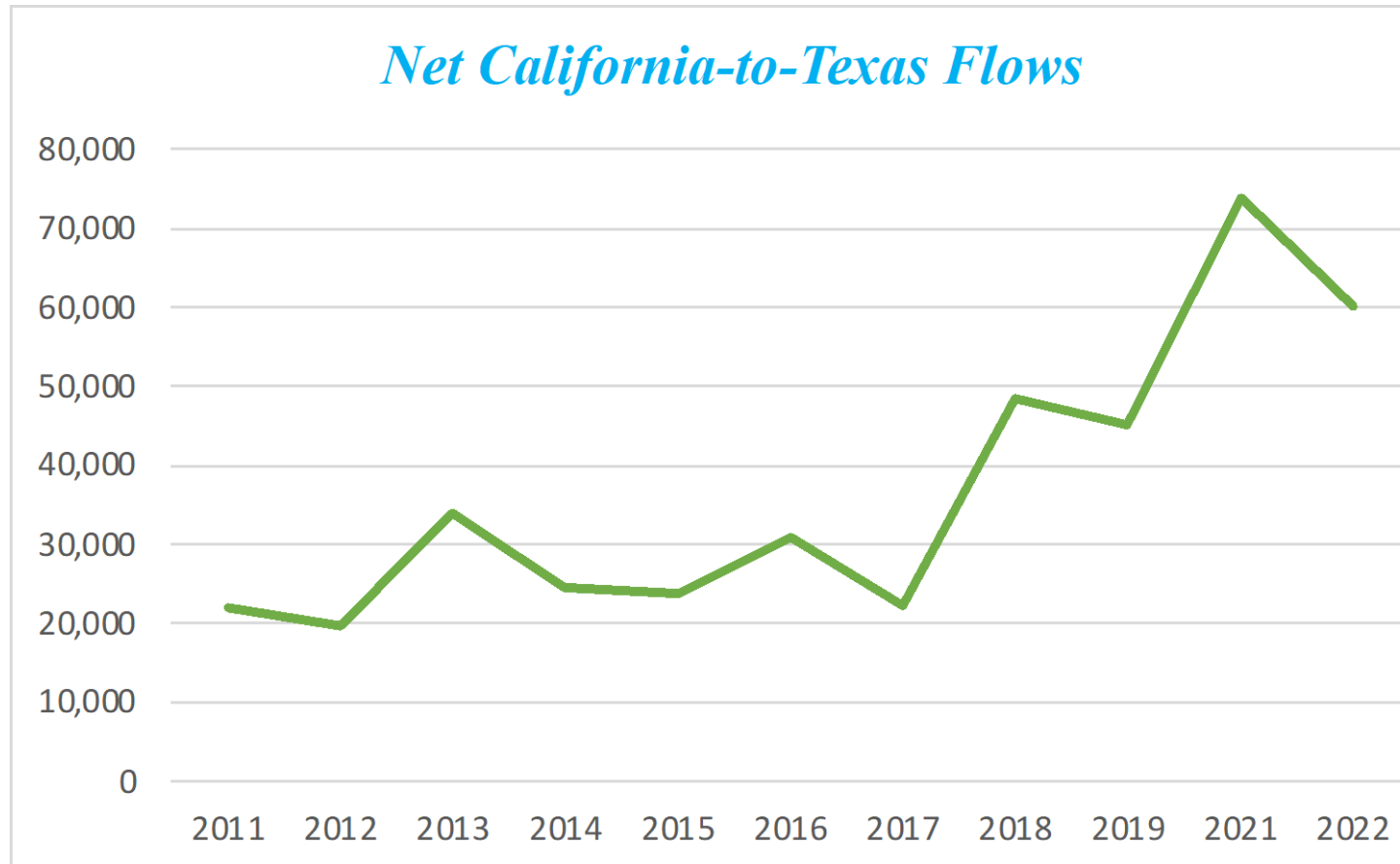
CALIFIORNIA-TO-TEXAS, II

In- and Out-Migration as % of Population: California

In- and Out-Migration as % of Population: Texas
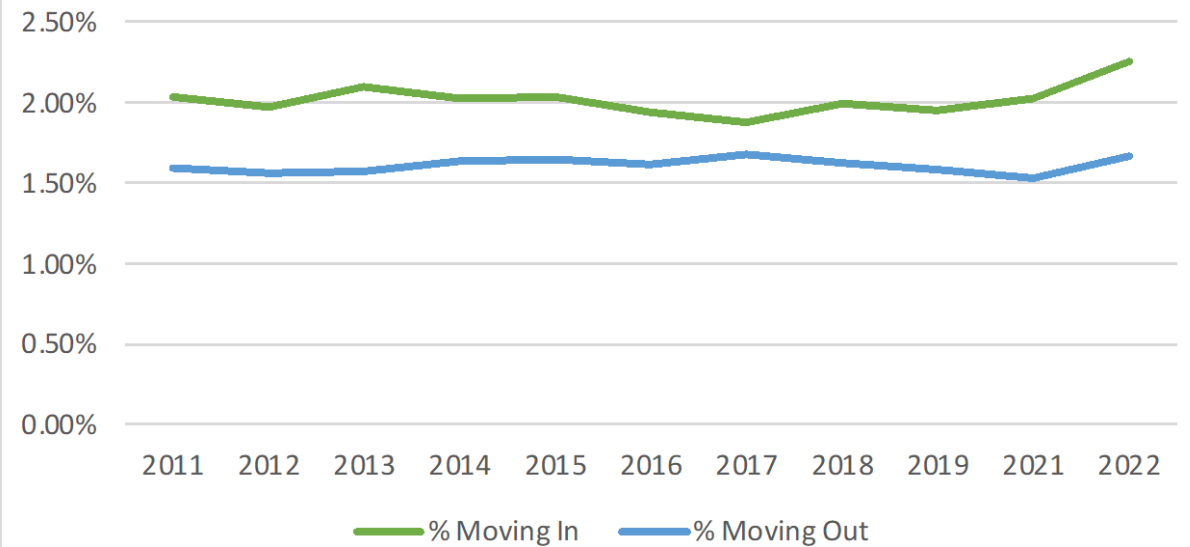
CALIFIORNIA-TO-TEXAS, III

Texas as % of California In- and Out-Migration
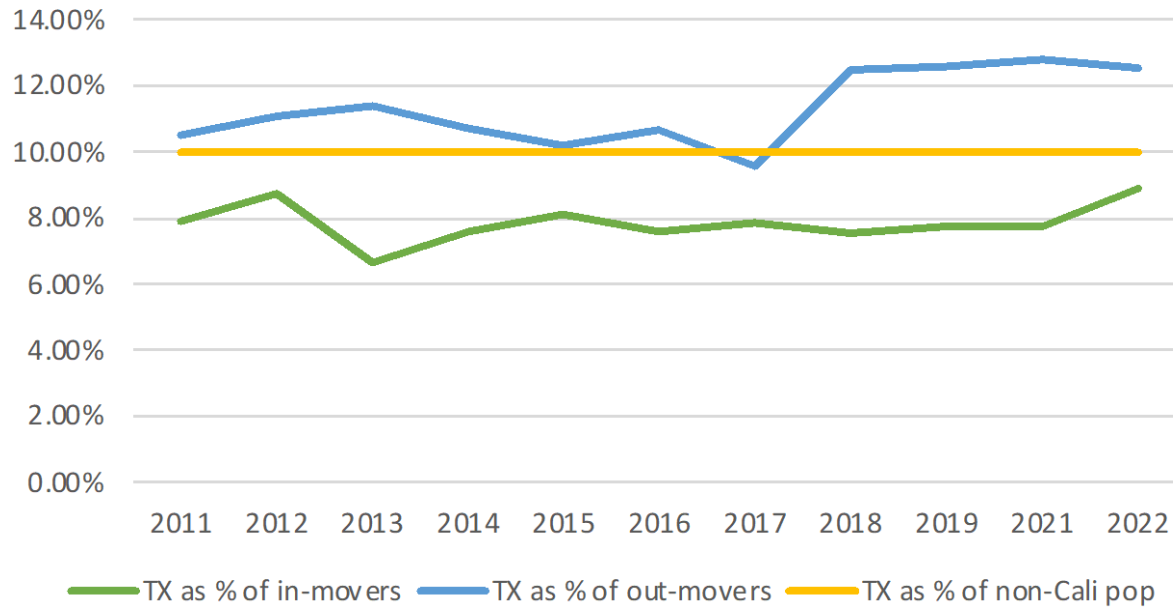
California as % of Texas In- and Out-Migration
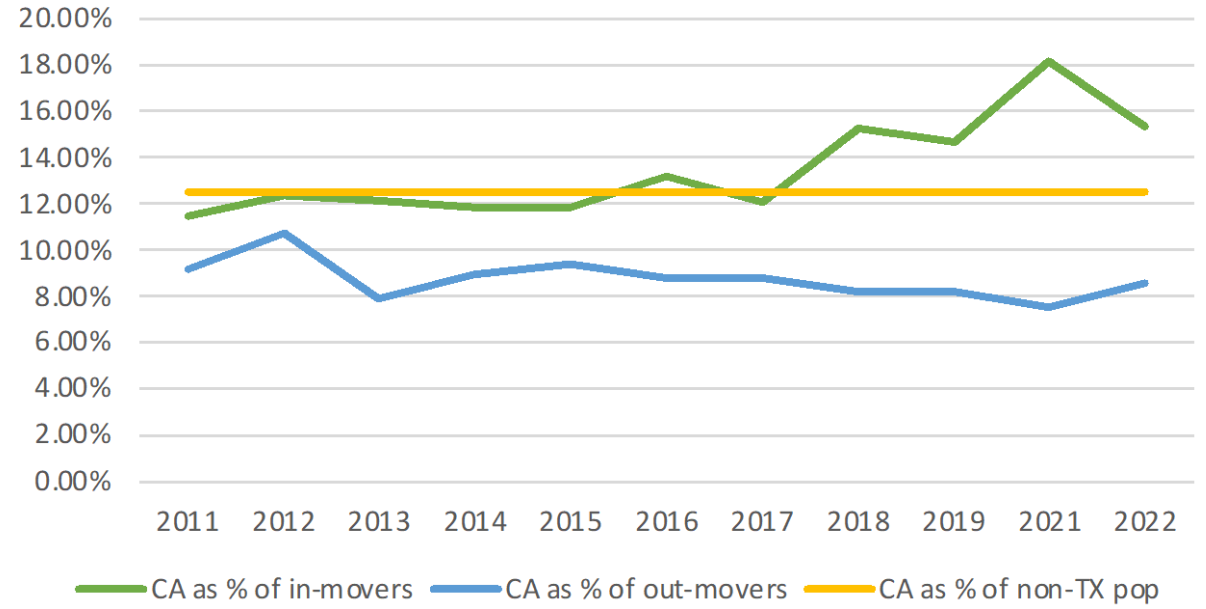
ADDITIONAL COLOR

- Stickiness: Tendency of people born in state to be there today:
  - TX: 19th ranked state – 3% better than expected
  - CA: 45th ranked state – 8% worse than expected

- Magnet for people born in other states:
  - TX: 13% better than expected
  - CA: 16% worse than expected

- Income migration (IRS data):
  - TX: Greater in-migration of income than tax returns
  - CA: Even more out-migration of income than tax returns

PLUS A LONG-RANGE TREND… ────

- Women of childbearing age as % of population:
Falling everywhere since 2010, but –
  - DFW, Houston, San Antonio, Austin falling more slowly
  - LA, San Francisco, San Jose falling more rapidly

- Birth rate per woman of childbearing age:
  - 4-10% above U.S. average in DFW, Houston, San Antonio
  - 11-18% below U.S. average in LA, San Francisco, & San Jose

- Considerable evidence that people are sorting based on childbearing preferences

PROJECTED GROWTH, I

Leading Metro Areas: Projected Growth
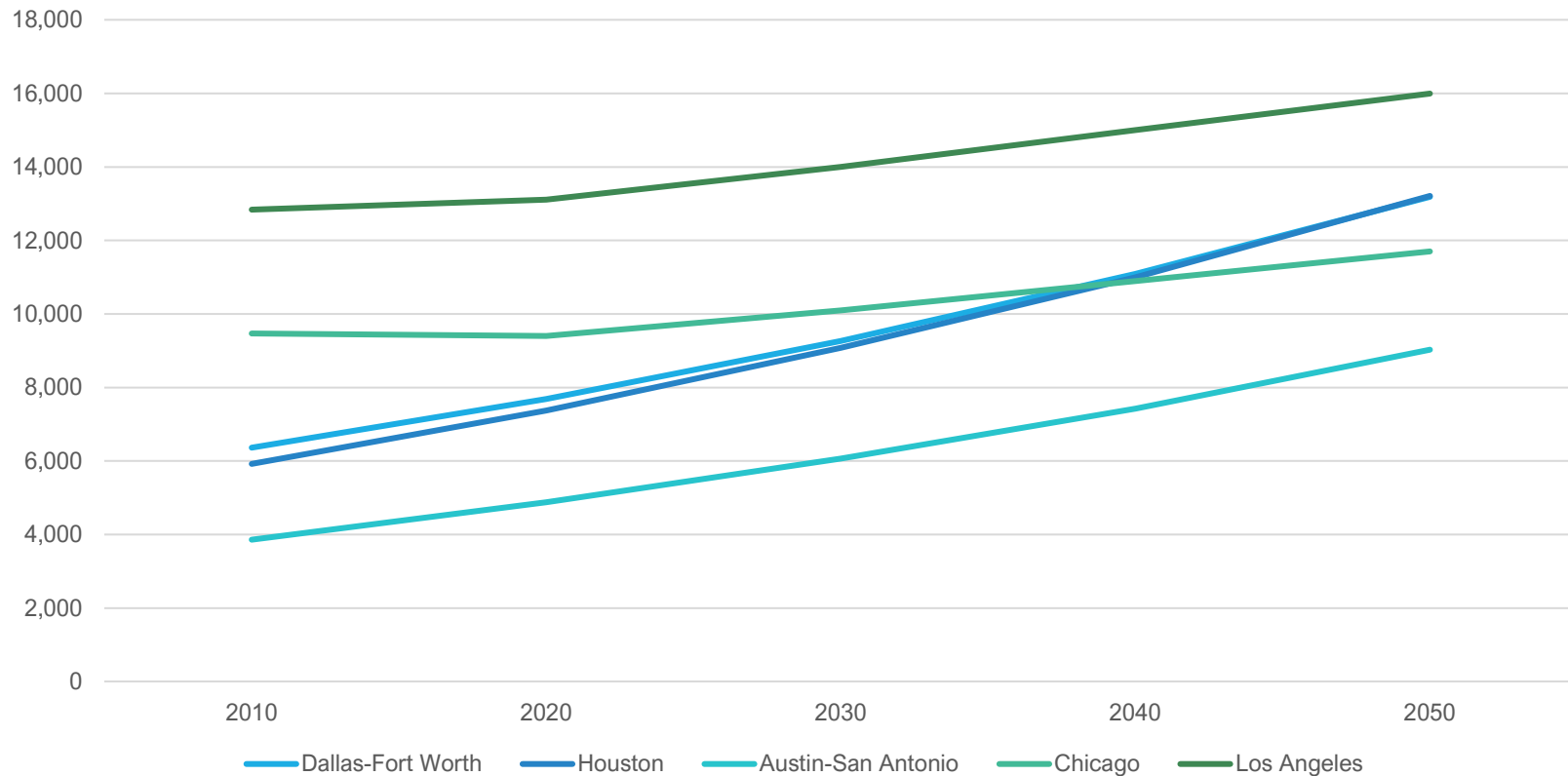
PROJECTED GROWTH, II

Megaregions: Projected Growth

Legend: Texas Triangle, Southern California, Northern California, Upper Midwest
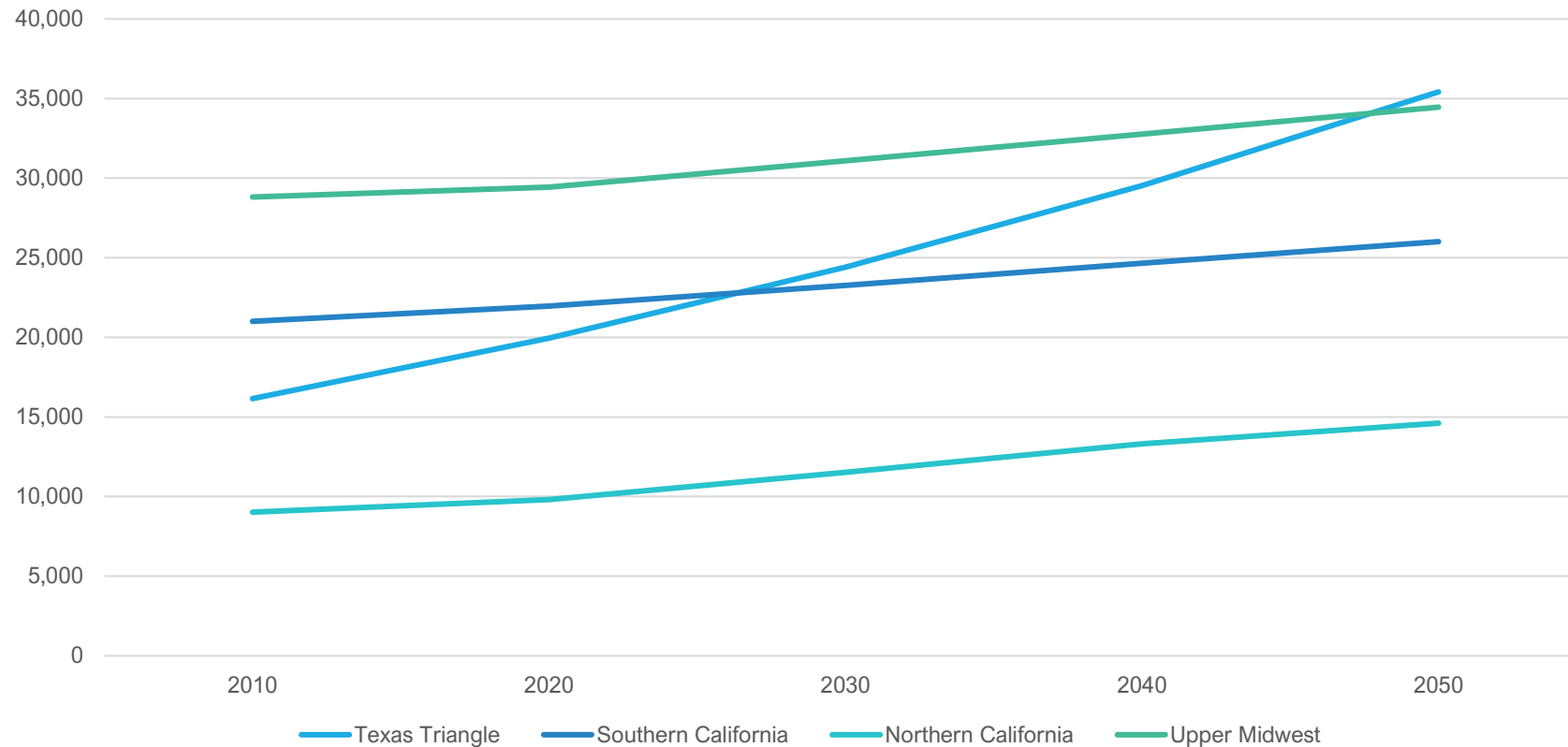
TEXAS GROWTH PATTERN, 2010-21

	Total Pop	Pop Growth
Dallas-Fort Worth	7,759,615	21.5%
Houston	7,206,841	21.1%
San Antonio	2,601,788	20.8%
Austin	2,352,426	36.2%
Next 12 TX Metros	5,182,147	9.0%
Metro USA	286,472,775	9.2%

WHO'S COMING?

- Young families with kids
  - Houston & DFW: Highest under-18 population share of all Top 40 MSAs

- Immigrants
  - Arrivals since 2010: 44.6% Hispanic; 30.1% Asian; 45.4% have Bachelor's or higher (vs. 31.8% for TX native-born pop)

- Houston & DFW: Now 1st & 3rd most demographically diverse metros; San Antonio: 66th out of 500 largest
  - (based on Hirschman-Herfindahl Index, cited by WalletHub 2017)

MIGRATION DRIVERS

- Housing supply & affordability
  - New building permits: DFW, Houston, San Antonio 4-10X higher than LA, San Francisco, San Jose
  - Price-to-income gap grew, despite big price increases in Texas

- Public safety, order, & quality of life

- Schools

- Business & tax environment

THE TRIANGLE MODEL

4 distinctive features:

- Growth-oriented policies

- Horizontal expansiveness

- Polycentric geography:
 built environment & jurisdictions

- Diversity of industries & people

And these features reinforce each other

 - e.g. 1st three ➡ affordability ➡ diversity

BENEFITS & CHALLENGES

Why the Triangle model works:

- Common features of great prosperous, opportunity-rich cities:
  - Education & innovation
  - Affordable quality of life
  - Growth-friendly policies
  - Welcoming newcomers
  - Strong social capital

- Why the Triangle model outperforms:
  - Geography: medium density + connected polycentricity
  - Diversity fosters innovation & productivity

- NOTE: It's NOT just low taxes (!)

Challenges:

- Distance from left-behind communities to booming job centers – e.g. South Dallas. ⟺ Frisco

- Sustainability of core cities

- Ecological sustainability
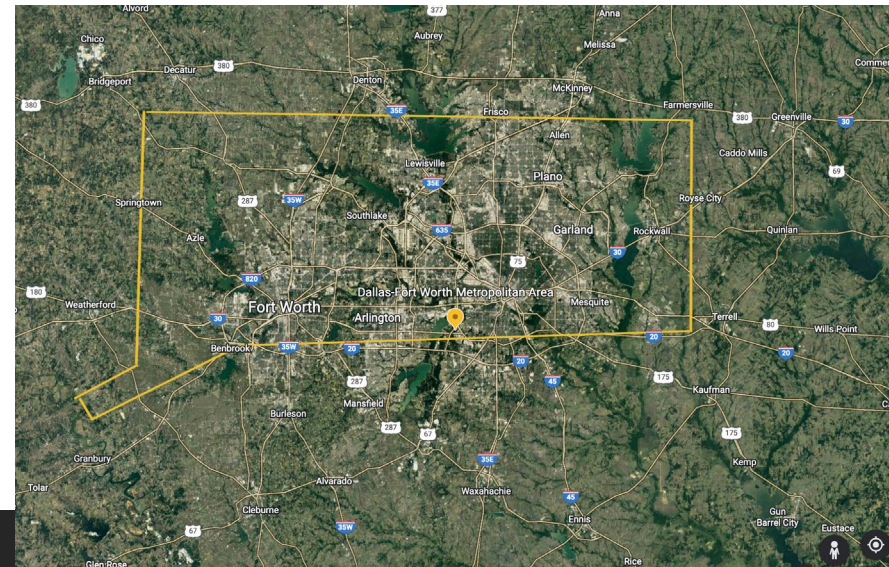
BUT WHERE ARE PEOPLE MOVING?—

Population growth, 2010-21:

- Bexar County   22.9% (now 2.0m)
- Travis County   33.2% (now 1.3m)
- Dallas County   11.4% (now 2.6m)
- Hays County   74.4% (now 255k)
- Fort Bend County   58.4% (now 859k)
- Collin County   36.2% (now 1.1m)

Net domestic in-migration rate, 2010-20:

- Bexar County   7.6%
- Travis County   11.5%
- Dallas County   -3.7%
- Hays County   51.0%
- Fort Bend County   29.8%
- Collin County.   21.9%

URBANIZING SUBURBS

TX Triangle suburbs defy stereotypes:

- Disproportionate share of WalkUPs (Leinberger)

- Pressure from employers to build more

- Rapidly growing quality-of-life amenities

- Diverse set of high-value employers

- More tech companies per capita than core counties & almost as many "creative" businesses

- Daytime working population ~ 90-100% of working resident pop

- Shorter median commute times than MSAs & core cities

CORE CITIES vs SUBURBS

- Income migration:
  - Counties with income in-migration far ahead of tax return migration: Tarrant + DFW, Austin, SA suburbs
  - Counties with income out-migration worse than tax return migration: LA, San Francisco, Santa Clara

- Birth rate per woman of childbearing age:
  - 4-10% above U.S. average in suburban counties in DFW, Houston, San Antonio metros
  - 11-18% below U.S. average in cities of LA, San Francisco, & San Jose

CHALLENGE 1:
HOUSING SUPPLY & AFFORDABILITY

	METRO AREAS									
	Med Price / Med Inc			SF Perms	Wharton	Inferred	Pop	Growth	Pop Dens	Mean
	2010	2022	Chg	2015-19	Score	Pol Score	2020	2010-20	per sq mi	Commute
Dallas-Fort Worth	2.8	4.8	2.0	0.0041	0.78	0.84	7,694	20.4%	722	28.5
Houston	2.6	4.5	1.9	0.0056	0.82	0.87	7,154	20.3%	616	30.0
San Antonio	2.6	4.8	2.2	0.0030	0.80	0.75	2,591	20.3%	304	26.6
Austin	3.4	6.1	2.7	0.0069	na	0.67	2,295	32.9%	429	27.4
Atlanta	3.3	4.5	1.2	0.0033	0.69	0.93	6,088	14.8%	643	32.5
Phoenix	3.4	6.3	2.9	0.0037	0.43	0.59	5,060	20.4%	297	26.7
Tampa	3.5	5.9	2.4	0.0033	0.77	0.72	3,244	16.3%	856	27.6
Oklahoma City	2.8	3.3	0.5	0.0041	na	0.88	1,425	13.3%	233	22.9
Chicago	4.1	4.5	0.4	0.0007	0.68	0.97	9,407	-0.7%	994	32.2
Minneapolis-St. Paul	3.6	4.3	0.7	0.0021	0.57	0.85	3,657	9.5%	538	25.5
Pittsburgh	2.6	2.7	0.1	0.0013	0.68	1.00	2,309	-2.0%	442	26.8
Kansas City	3.0	4.0	1.0	0.0021	na	0.79	2,173	7.9%	257	23.5
Cincinatti	3.0	3.8	0.8	0.0016	0.92	0.86	2,233	4.3%	477	24.9
Columbus	3.2	4.3	1.1	0.0020	na	0.81	2,139	12.2%	485	23.8
Indianapolis	2.9	4.3	1.4	0.0028	1.00	0.81	2,091	10.5%	497	25.4
Grand Rapids	2.9	4.2	1.3	0.0028	na	0.76	1,081	8.8%	349	22.1
New York	6.8	7.1	0.3	0.0005	0.47	0.97	19,124	1.1%	2,157	37.6
Washington DC	4.5	5.2	0.7	0.0022	0.57	0.96	6,325	11.4%	972	34.9
Boston	5.4	7.0	1.6	0.0010	0.10	0.72	4,878	6.8%	1,031	32.2
Los Angeles	8.0	10.7	2.7	0.0006	0.50	0.48	13,110	2.1%	2,251	31.3
San Francisco	8.1	11.8	3.7	0.0009	0.44	0.28	4,697	8.1%	1,304	34.7
San Jose	7.5	12.6	5.1	0.0010	na	0.00	1,971	7.0%	705	29.8

HOUSING QUESTIONS

- **Will core cities address dysfunctional policies & processes?**
  - Especially severe problems in Austin & Dallas

- **Will pro-growth cities & suburbs turn against new development?**
  - Growth depends heavily on expanding outer edge of metro-area development

CHALLENGE 2: PHYSICAL FORM & CONGESTION

- **Questions:**

  - Will infrastructure keep up with projected growth? AND will physically vast metro areas keep functioning well?

    - How to invest $33bn projected surplus?

  - Texas Triangle metros:
    notable outperformers on commuting times

- **Some facts:**

  - Density likely won't increase much

    - Evidence from Shlomo Angel & from analysis of U.S. metro densities

  - BUT people mostly won't tolerate commutes > 30 mins

  - Diseconomies of scale for largest metros?

    - Evidence from NYC, LA, Chicago

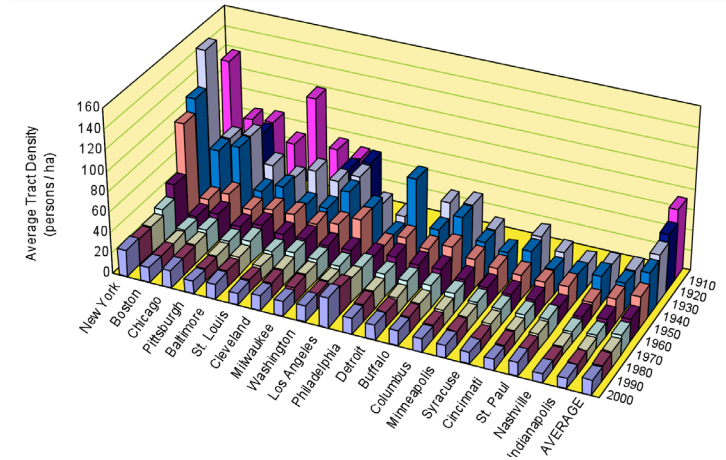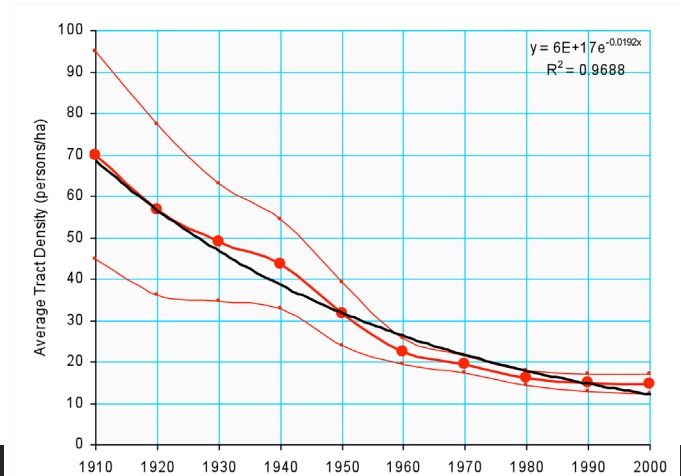Figure 6.1: Average tract densities in 20 U.S. cities, 1910-2000

Figure 6.2: The decline in average tract density in 20 U.S. cities, 1910-2000

$$y = 6E+17e^{-0.0192x}$$
$$R^2 = 0.9688$$

CHALLENGE 3: WATER

- **Demand:**
  - TX Water Development Board projections: from 17.7 MAF in 2020 to 19.2 MAF in 2070, based on 52m pop in 2070 – just 9% increase, based on conservation & reduced ag demand
  - Almost all growth in Texas Triangle + RGV Valley metros

- **Supply from existing sources:**
  - TWDB: from 15.8 MAF to 13.8 MAF – mostly bc of managed decline in Ogallala & Gulf Coast aquifers
  - Surface water changes: Has increased in East but declined to the SW – all sources decline over next 50 years
  - Means: Negative balance in major drought from 3 MAF shortfall in 2020 to 7 MAF in 2070

- **Plan: 30% conservation; 70% new projects (surface water, reuse)**
  - Where the "unused" water is: Trinity, Sabine, Neches – debate: Marvin Nichols reservoir proposal
  - Total cost: ~ $100bn in 2023 USD

2022 State Water Plan

WATER FOR TEXAS

Texas Water Development Board
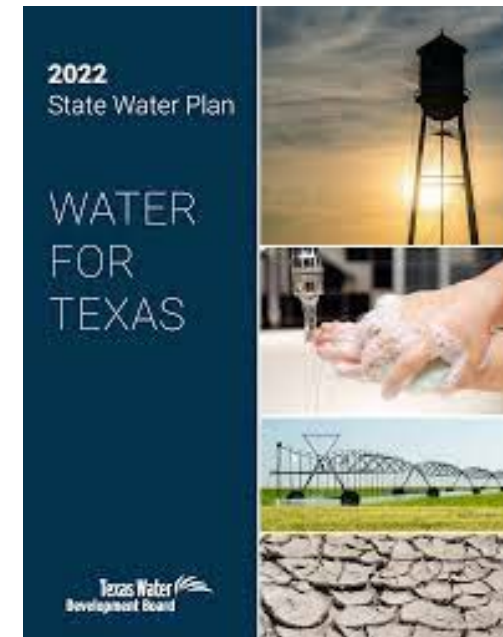
CHALLENGE 4: EDUCATION

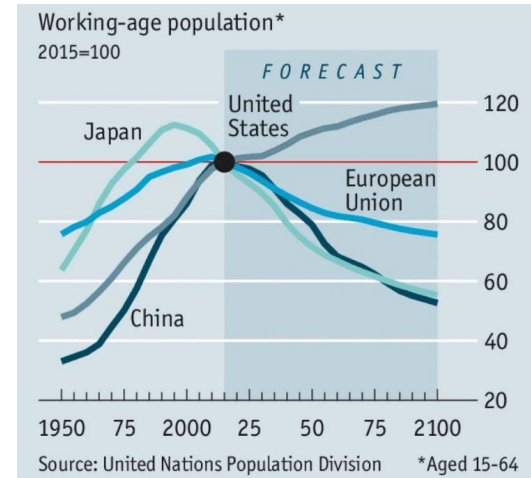|	18-24 Year Olds			25+ Attainment			Bach+ by Age Bracket			Bach+ by Race/Ethnicity					
	A/SC	Bach+	A/SC/ B+	Bach+	Grad/ Prof	ASC % non-B	25-34	35-44	45-64	White	Black	Hisp	Asian	Nat Amer	Pop 2020
Dallas-Fort Worth	41.0%	12.0%	53.0%	36.0%	12.6%	48.6%	37.7%	39.1%	35.1%	44.1%	28.4%	15.5%	62.0%	21.2%	7,759,615
Houston	41.0%	10.6%	51.7%	33.6%	12.3%	45.9%	34.9%	36.5%	32.4%	44.6%	28.9%	16.0%	56.8%	20.6%	7,206,841
San Antonio	40.5%	8.8%	49.3%	28.8%	10.5%	39.2%	28.5%	31.6%	28.4%	41.4%	29.1%	17.9%	52.3%	20.0%	2,601,788
Austin	45.7%	15.0%	60.7%	46.0%	16.6%	62.6%	49.1%	48.7%	43.9%	55.1%	30.6%	25.0%	72.1%	31.7%	2,352,426
Texas Triangle weighted avg	**41.5%**	**11.5%**	**52.9%**	**35.4%**	**12.7%**	**48.0%**	**36.8%**	**38.3%**	**34.3%**	**45.2%**	**28.9%**	**17.1%**	**60.1%**	**22.1%**	
Texas Triangle unweighted avg	**42.1%**	**11.6%**	**53.7%**	**36.1%**	**13.0%**	**49.1%**	**37.5%**	**39.0%**	**34.9%**	**46.3%**	**29.3%**	**18.6%**	**60.8%**	**23.4%**	
McAllen-Edinburgh	46.2%	6.1%	52.2%	19.3%	5.9%	25.2%	20.9%	20.9%	19.9%	32.9%	13.8%	17.5%	64.2%	14.9%	880,356
Laredo	43.1%	4.8%	47.9%	18.8%	5.4%	24.1%	18.0%	22.6%	19.3%	34.9%	32.2%	17.6%	62.5%	27.6%	267,945
El Paso	50.7%	7.4%	58.1%	23.9%	7.9%	31.9%	25.9%	30.4%	23.5%	41.6%	29.8%	20.1%	51.8%	19.8%	871,234
New York City	42.8%	19.9%	62.7%	41.4%	17.5%	58.9%	51.0%	47.7%	38.8%	52.2%	26.5%	20.8%	55.6%	20.6%	19,768,458
Los Angeles	48.6%	12.5%	61.1%	35.4%	12.5%	47.9%	40.3%	39.0%	32.6%	51.0%	28.9%	14.4%	53.9%	16.9%	12,997,353
Chicago	41.6%	16.0%	57.6%	39.0%	15.4%	54.4%	46.7%	44.0%	37.1%	47.0%	24.0%	16.0%	66.4%	23.3%	9,509,934
Washington DC	40.8%	19.8%	60.6%	51.7%	25.6%	77.3%	55.4%	55.8%	50.3%	63.4%	36.2%	27.2%	65.1%	29.9%	6,356,434
Atlanta	40.5%	12.7%	53.3%	39.5%	15.0%	54.5%	41.5%	43.4%	39.8%	45.1%	31.6%	22.1%	59.1%	19.2%	6,144,050
Boston	41.6%	22.3%	63.9%	48.9%	22.3%	71.3%	60.0%	56.1%	46.1%	52.8%	27.9%	23.9%	63.1%	22.7%	4,899,932
San Francisco	43.2%	20.7%	63.8%	50.7%	20.9%	71.6%	58.9%	57.9%	47.1%	62.0%	30.9%	23.0%	56.6%	19.6%	4,623,264
Seattle	39.8%	17.2%	57.0%	43.6%	16.8%	60.4%	48.7%	48.5%	40.5%	45.0%	27.6%	24.5%	56.9%	17.0%	4,011,553
Minneapolis-St. Paul	41.9%	17.6%	59.4%	42.7%	14.8%	57.5%	48.2%	48.1%	41.3%	45.5%	23.2%	22.6%	46.5%	19.9%	3,690,512
Denver	37.8%	15.3%	53.1%	44.7%	16.3%	61.0%	47.8%	48.0%	42.8%	52.9%	28.3%	17.9%	51.2%	21.0%	2,972,566
Rivals weighted avg	**42.8%**	**17.3%**	**60.1%**	**42.2%**	**17.2%**	**59.3%**	**48.9%**	**47.3%**	**39.9%**	**51.7%**	**28.2%**	**20.2%**	**57.8%**	**20.9%**	
Rivals unweighted avg	**41.8%**	**17.4%**	**59.2%**	**43.8%**	**17.7%**	**61.5%**	**49.9%**	**48.8%**	**41.6%**	**51.7%**	**28.5%**	**21.2%**	**57.5%**	**21.0%**	

CHALLENGE 5: DEMOGRAPHICS

- **U.S. demographics:**

  Tight labor markets as far as the eye can see

  - Huge slowdown in working age population

  - Increasing dependency ratios – including in Texas

 - Underreported story: Falling long-term projections

- **Implications:**

  - Shift away from labor-intensive activities
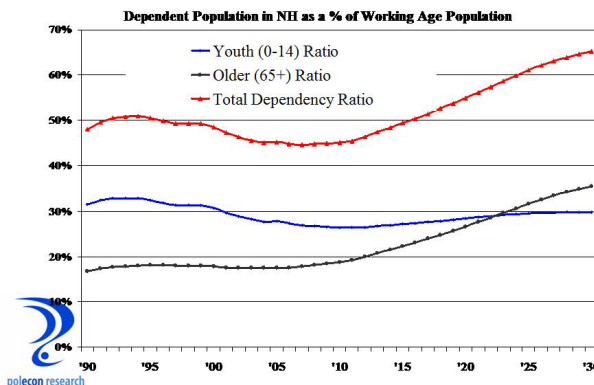
  - Automation

  - And maybe: Inflation

Working-age population*
2015=100

FORECAST

Japan
United States
European Union
China

1950 75 2000 25 50 75 2100

Source: United Nations Population Division   *Aged 15-64

U.S. Population Projections Fall

Projected size of the U.S. population in 2046 from each projection year (in millions)

400

375

350

2016   2020

374
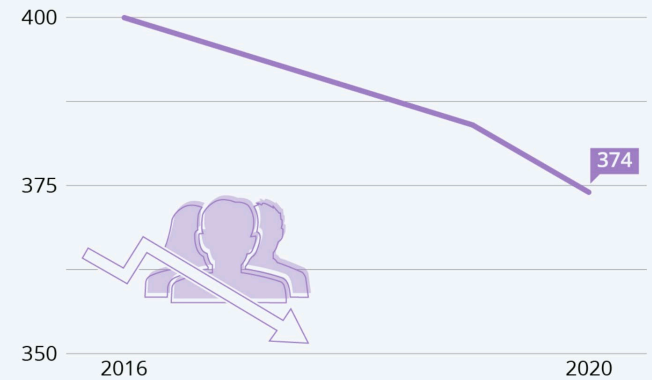
Congressional Budget Office, Wall Street Journal

The "Dependency Ratio" Is a Good Indicator of Spending Pressures as Well as the Size of the Population to Support Them

Dependent Population in NH as a % of Working Age Population

— Youth (0-14) Ratio
— Older (65+) Ratio
— Total Dependency Ratio

'90 '95 '00 '05 '10 '15 '20 '25 '30

polecon research

CHALLENGE 6:
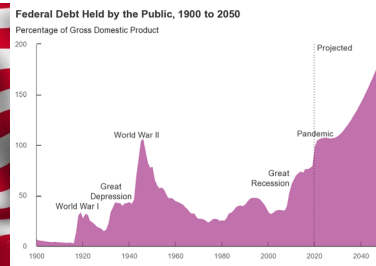# SOCIAL COHESION & GOVERNANCE

- **Texas:**
  - Can state government & local governments figure out how to work together?
  - Can state build stronger trust & social capital as demographics change?
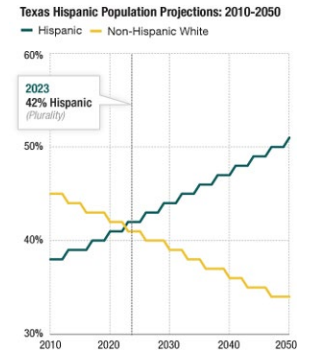
- **America:**
  - Does polarization paralyze efforts to address challenges –
    or does our rowdy democracy prevail?
  - Do we underinvest in education, R&D, & other priorities -
    or do we experience a new golden age of American innovation?
  - Do we fail to address the spiraling national debt until there's a crisis -
    or do we reset national priorities & choose a sustainable path?
  - Does the U.S. continue its geopolitical retreat -
    or does it lead a resurgent league of democracies?

Texas Hispanic Population Projections: 2010-2050
— Hispanic — Non-Hispanic White
2023
42% Hispanic
(Plurality)

Federal Debt Held by the Public, 1900 to 2050
Percentage of Gross Domestic Product

The choice is ours.

THANK YOU!