August 2026

Board of Trustees Meeting

Wednesday, August 19, 2026 – 9:30 a.m.
Room 414 or via Webex

Teachers Retirement Association of Minnesota
60 Empire Drive, Suite 400, St. Paul, MN 55103

Board of Trustees Meeting Agenda

Wednesday, August 19, 2026 — 9:30 a.m.
Retirement Systems of Minnesota Building, Room 414 // Hybrid via Webex

1. **Call to Order**
2. **Approval of Minutes**
   a. Minutes of June 10, 2026 board meeting [ACTION] – p. 1
3. **Presentation by the Minnesota State Demographic Center** — 9:30–10:30 a.m.
   Presenter: Jeff Howison – p. 5

   >> Break — 10:30–10:45 a.m.

4. **Presentations by Actuarial Consultants** — 10:45 a.m.–12:15 p.m.
   Presenter: Brent Banister and Ben Mobley, CavMac
   a. Preliminary estimated results of July 1, 2026 funding valuation – p. 35
   b. Education – p. 46

   >> Break for Lunch — 12:15–1:00 p.m.

5. **Strategic Planning** — 1:00–3:30 p.m.
   Presenters: Amy McDuffee, Christie Nolan, Natasha Smith, and David Maurek, Mosaic Governance Advisors – p. 67

6. **Upcoming Meetings**

Board of Trustees Meetings, 9:30 a.m., Room 414	
September 23, 2026	March 10, 2027
November 18, 2026	May 12, 2027
January 6, 2027	June 10, 2027

7. **Adjourn**

Board members may participate by telephone or virtually pursuant to Minn. Stat., § 13D.015.

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TRA | TEACHERS RETIREMENT ASSOCIATION

MINNESOTA TEACHERS RETIREMENT ASSOCIATION
MINUTES OF THE BOARD OF TRUSTEES MEETING
JUNE 10, 2026 – 9:30 A.M.
HYBRID MEETING HELD VIA WEBEX AND IN ROOM 414
(PURSUANT TO MINN. STAT., § 13D.015)

Trustees in person:

Mary Broderick
Thomas Carr
Patty Hand
Kevin Lindstrom
Kathy Oellerich
Jim Olson
David Rondestvedt, Vice President
Joel Stencel, President

Presenters:

Julie Becker, AON
Benita Falls Harper, AON
Amy McDuffee, Mosaic Governance Advisors
Christie Nolan, Mosaic Governance Advisors
Natasha Smith, Mosaic Governance Advisors

Legal representative in person:

Joseph Weiner, Assistant Attorney General

Staff in person:

Rachel Barth
Holly Dayton
Tracy Gebhard
Tim Maurer
Jessica Mount

Public via Webex:

Approximately three registered attendees

MINUTES

1. **Call to Order**
   Stencel called the meeting to order at 9:30 a.m. All trustees were present at the meeting location.

2. **Approval of Minutes**

a. **Minutes of May 13, 2026 Board Meeting**
Carr moved, seconded by Rondestvedt, to approve the May 13, 2026, meeting minutes. The motion passed unanimously.

3. **Old Business**
Stencel confirmed there was no old business.

4. **New Business**

a. **Reappointment of Executive Director**
Carr moved, seconded by Hand, to reappoint Tim Maurer as the executive director. The motion passed unanimously.

b. **Finalize August 2027 Retreat Topics**
Maurer reviewed the proposed August board retreat meeting agenda.

c. **Fiscal Year 2027 Budget Amendment**
Gebhard presented the fiscal year 2027 (FY27) Minnesota State Board of Investment (SBI) annual expenses TRA is statutorily obligated to pay. The expenses increased from fiscal year 2026, requiring an amendment to TRA's FY27 administrative budget. Broderick moved, seconded by Carr, to approve the proposed fiscal year 2027 administrative budget of $37,669,591, a budget amendment increase of $315,000 for SBI administrative costs. The motion passed unanimously.

d. **Board Self-Evaluation**
Stencel reviewed the board's self-evaluation ratings and comments.

e. **Updated Optional Form Factors**
Maurer discussed the recent legislative change that now allows the retirement systems to use either the statutory 6.5% investment return assumption for computing joint and survivor annuities or propose a different assumption. A proposed assumption will be effective either upon approval by the Legislative Commission on Pensions and Retirement (LCPR) or one year after submitting the proposal to the LCPR. CavMac recommended that TRA use a 7% assumption. Stencel moved, seconded by Carr, to approve CavMac's recommendation to change TRA's investment return assumption used to compute joint and survivor annuities. The motion passed unanimously.

f. **Teacher Retirement System Comparison Data**
Dayton reviewed a compilation of benefit provision and financial data comparing TRA to other states' teacher pension plans.

g. **Facilities Management Committee Report**
Stencel provided a summary of the April 14, 2026, Facilities Management Committee (FMC) meeting.

h. **Approval of Retirement Systems Building Co-Tenancy Agreement Amendment**
Stencel reviewed the proposed changes (Amendment No. 6) to the Retirement Systems Building Co-Tenancy Agreement. Carr moved, seconded by Olson, to approve Amendment No. 6 to the Retirement Systems Building Co-Tenancy Agreement. The motion passed unanimously.

j. **Election of Officers and Selection of Facilities Management Committee Representatives**
Stencel explained the board annually elects a president and vice president for one-year terms at the June meeting. Those elected also serve as TRA representatives on the FMC. Hand nominated Stencel for a one-year term as the TRA board president. The nomination passed unanimously. Oellerich nominated Rondestvedt for a one-year term as the TRA board vice president. The nomination passed unanimously.

Stencel announced a 15-minute break at 10:15 a.m.

i. **Board Strategic Planning Presentations**
Becker and Falls Harper from AON and McDuffee, Nolan, and Smith from Mosaic Governance Advisors (Mosaic) presented how their respective organizations can assist the board in developing a strategic plan that focuses on strengthening the board's governance and financial policies in alignment with its fiduciary duties.

Trustees discussed the purpose and goals of the strategic plan, timelines, and cost. Broderick moved, seconded by Oellerich, to recommend TRA staff start the contract process with Mosaic. A roll call vote was taken. Broderick, Carr, Lindstrom, Oellerich, and Stencel voted yes. Olson and Rondestvedt voted no. Hand was absent during the vote. The motion passed.

Stencel announced an eight-minute break at 12:16 p.m.

5. **Reports**

a. **Report from President**
Stencel noted he had no update.

b. **Report from Executive Director**
Maurer noted the actuarial advisor to the board was selected through the RFP process and contract negotiations commenced.

c. **Financial Update**
Gebhard provided a summary of the May 27, 2026, Investment Advisory Council meeting.

d. **Operational Update**

Barth discussed the implementation of recently enacted legislative changes and provided staffing updates.

e. Legislative Update

Dayton noted the retirements of legislators serving on the Legislative Commission on Pensions and Retirement.

f. Assistant Attorney General Update

Weiner noted he had no update.

6. Public Comments

No public comments.

7. Upcoming Meetings

Stencel confirmed the upcoming meetings for 2026: August 19, September 23, and November 18. Meetings in 2027 will be January 6, March 10, May 12, and June 10.

8. Adjourn

Rondestvedt moved, seconded by Carr, to adjourn the meeting at 12:32 p.m. A roll call vote was taken. All members present voted yes. The motion passed.

Attest:

Tim Maurer Executive Director	Joel Stencel President

MINNESOTA STATE DEMOGRAPHIC CENTER
DEPARTMENT OF ADMINISTRATION

Demographic Trends in Minnesota

Prepared for the Teachers Retirement Association
August 19, 2026, meeting
By Jeff Howison, PhD

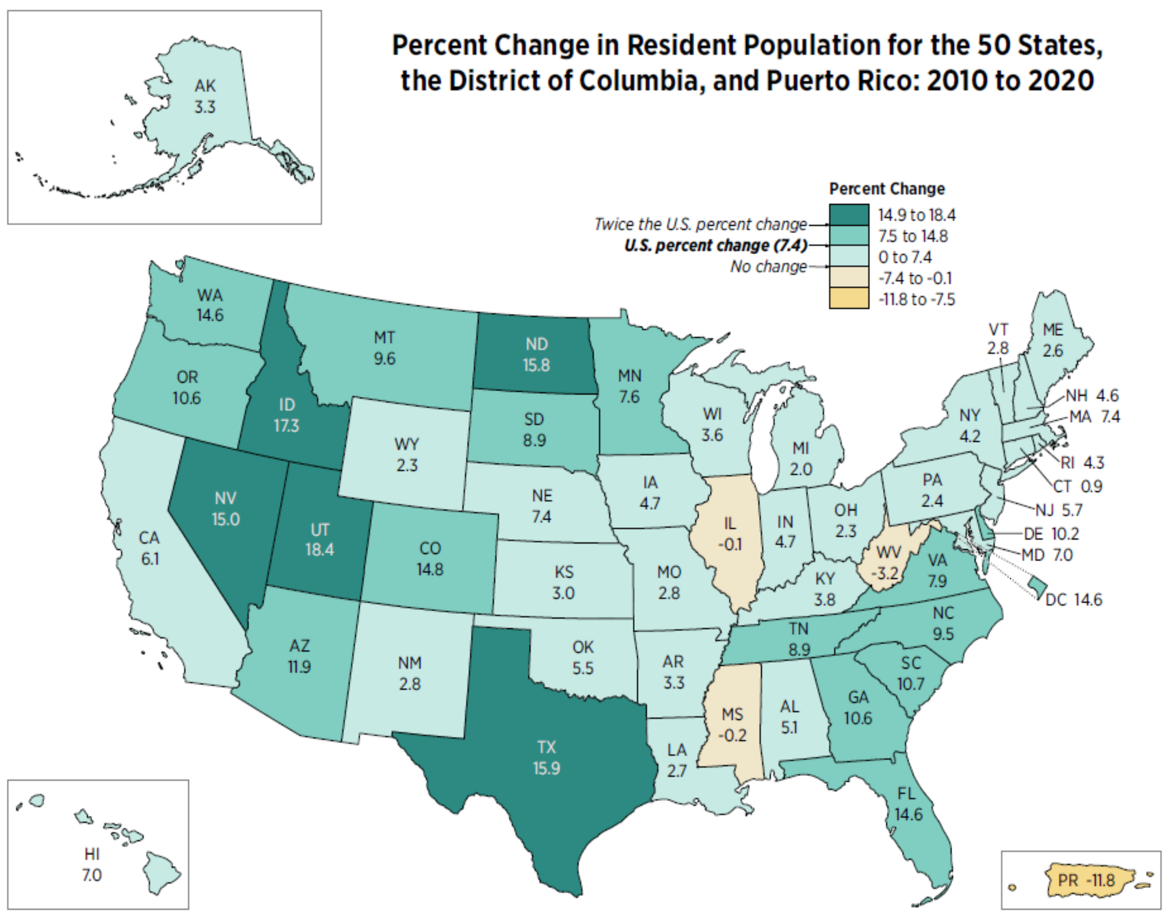
Demographic Data Sources, Topics Covered Today

- Census Bureau
  - Decennial census, population estimates and projections
  - American Community Survey
- MN State Demographic Center
- Federal data uncertainties – the shutdown and beyond
  - Future of race data, downsizing of fed statistical agencies, survey response rates

Topics

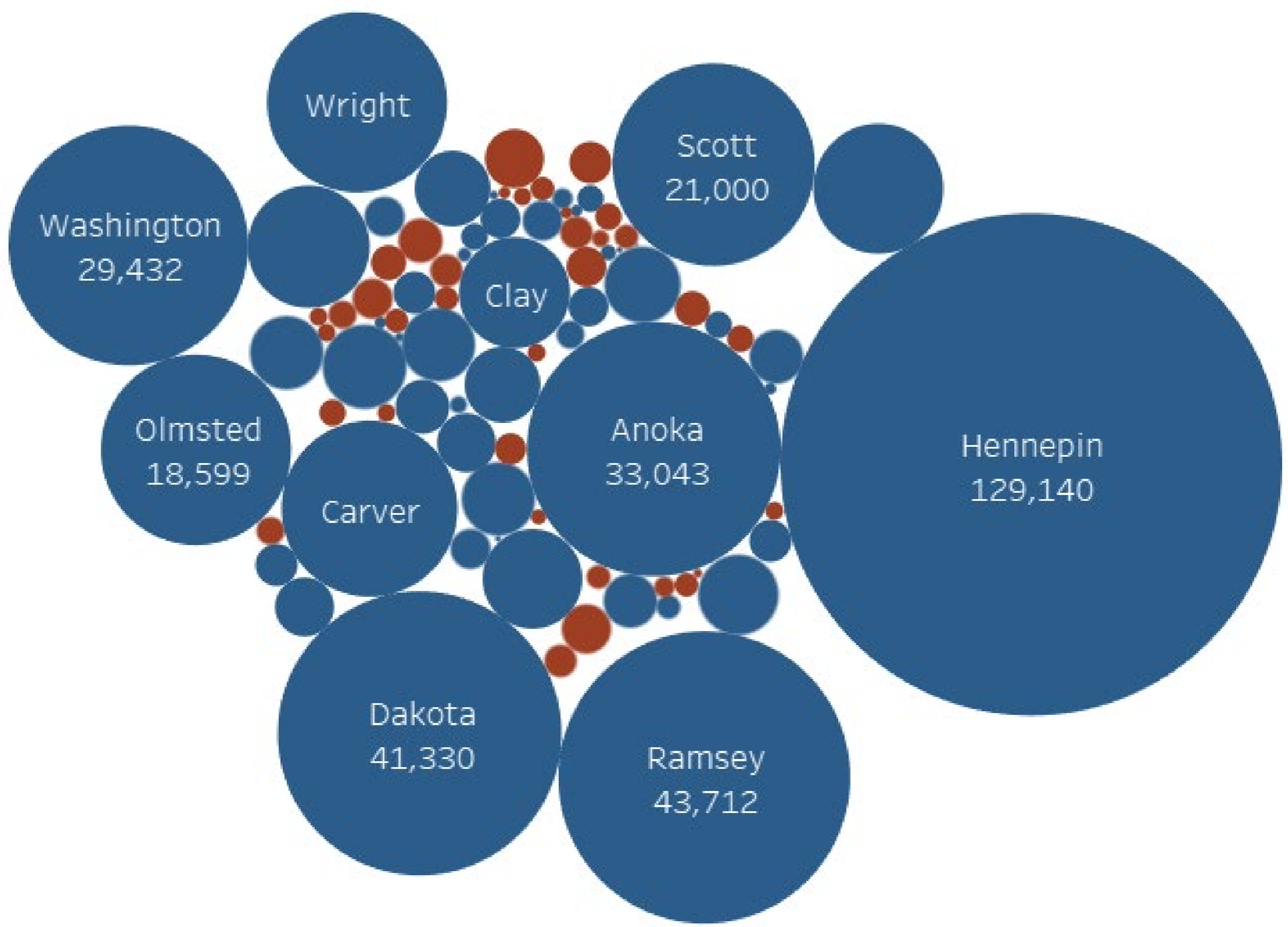
- MN demographic trends
- Demographics of the school-age population
- Projections

2010 to 2020: Population change overview



- Minnesota 2020: 5,706,494
  - 7.6% growth (+402,569)
- Twin Cities 2020: 3,163,104
  - About 55% of state population
  - 11% growth (+313,537)
  - 78% of all statewide pop growth

Numeric population change by county, 2010-2020



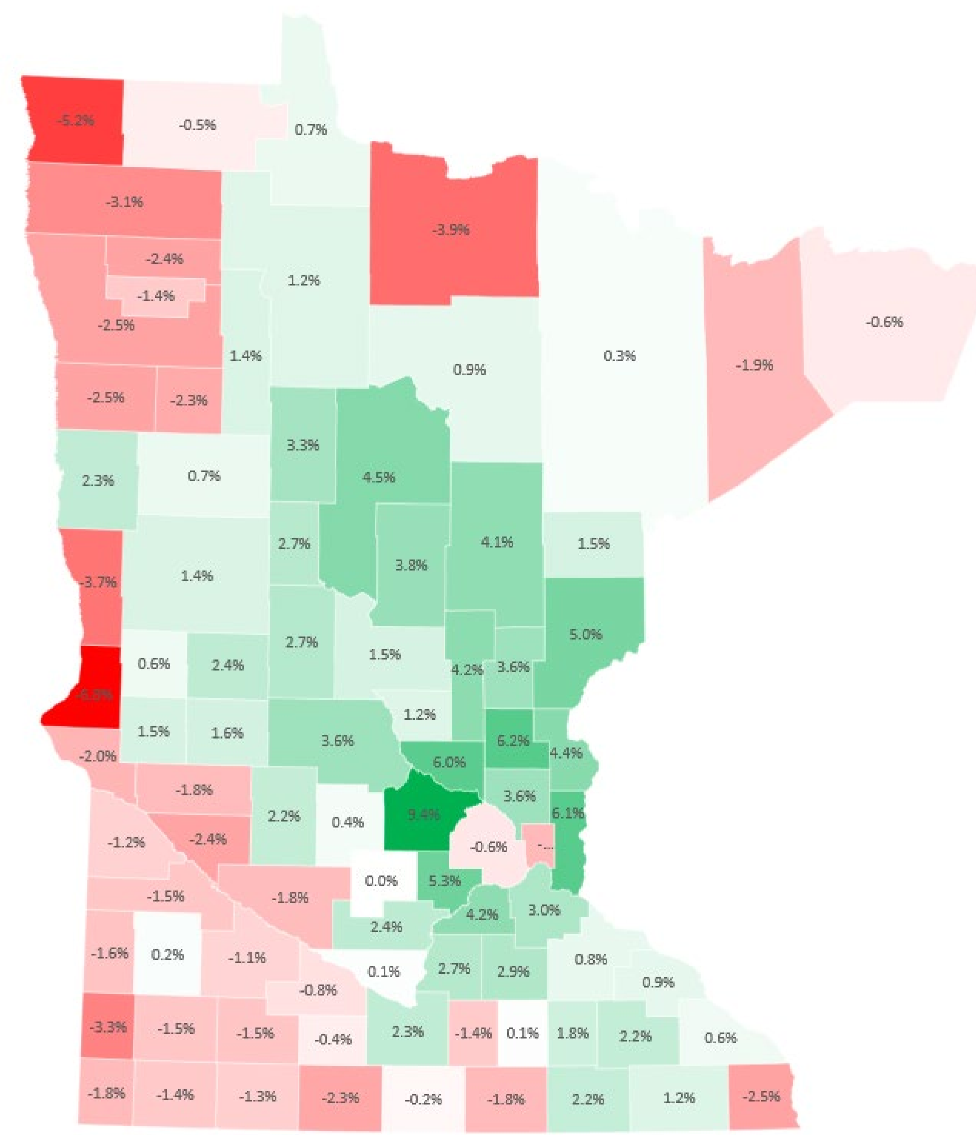
- 51 counties gained population; 36 counties lost population
- The 7-county Twin Cities metro added 313,537 people, 78% of the state's growth
- Ramsey Co accounted for 13% of state pop growth

County Percent Population Change, 2020 to 2024

Growth patterns have changed since 2020

Current growth is concentrated primarily in the suburban metro-area counties. This is a national trend. Is it a post-pandemic "blip" or a longer-term trend?

Top 5 County Growth (%)	
Wright County	9.4%
Isanti County	6.2%
Washington County	6.1%
Sherburne County	6.0%
Carver County	5.3%

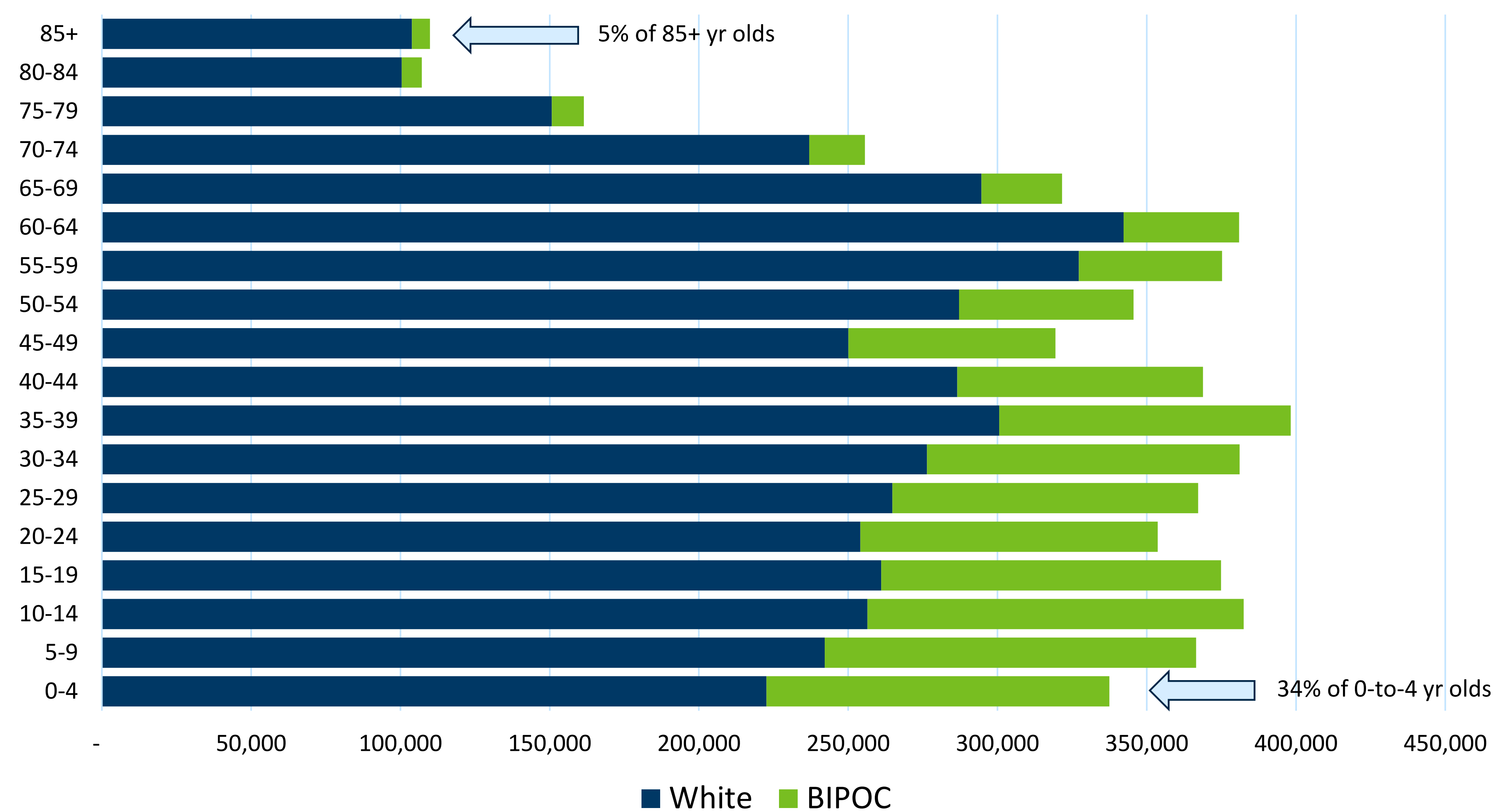


Percent Change -6.8% 0.0% 9.4%

Census 2020: MN Population by Other Characteristics

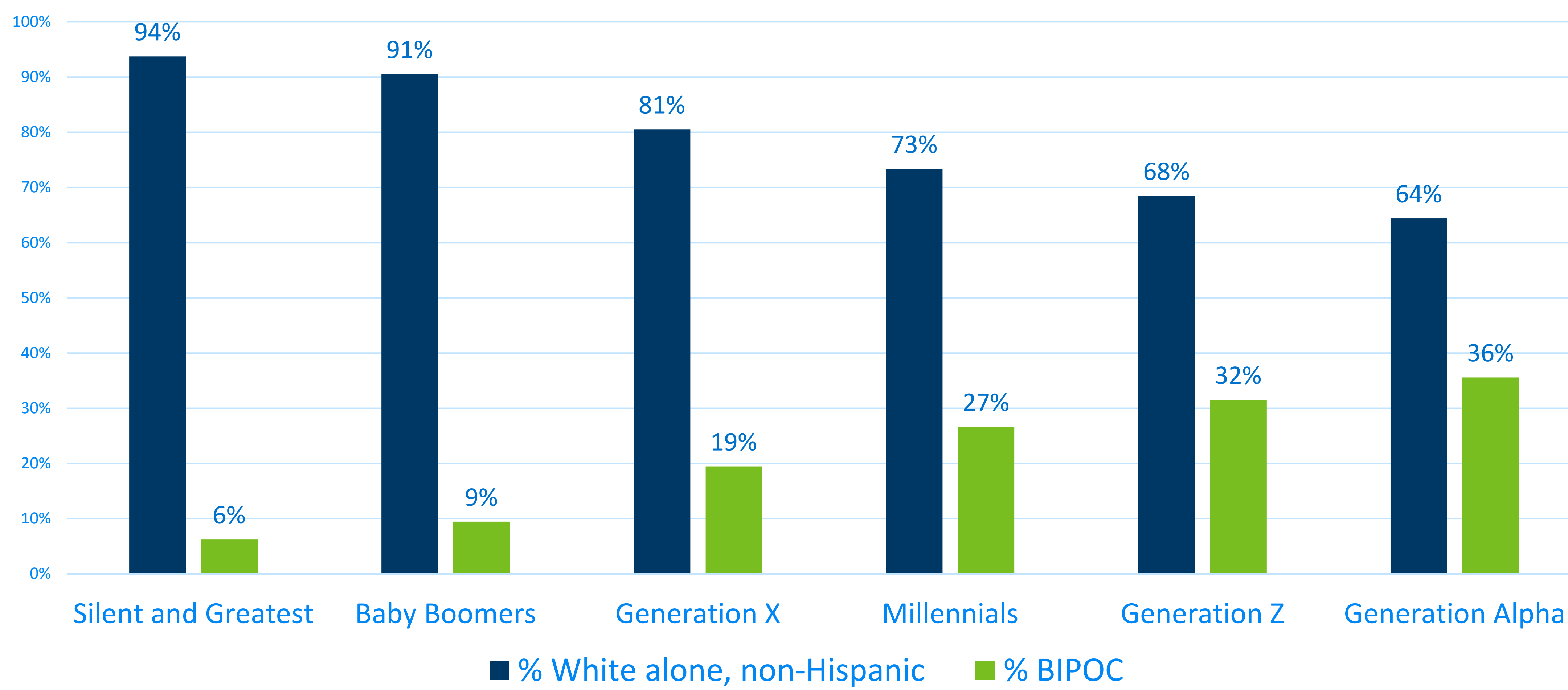
	Total population	White	Black or African American	Asian/ Pacific Islander	Hispanic or Latino	AIAN	Other / Multiracial
Percent under age 18	23.0%	18.0%	34.2%	28.5%	35.3%	27.0%	38.4%
Percent age 65+	14.7%	18.8%	6.3%	6.4%	3.8%	7.8%	4.4%
Median age	39	42.8	28.6	32.4	25.8	31	27.9
Household type							
Percent of households – families	62.5%	61.2%	62.8%	74.0%	71.0%	63.0%	66.9%
Percent of households – only one person	28.9%	30.2%	30.8%	17.6%	19.0%	27.3%	22.6%

Minnesota's population will become increasingly diverse

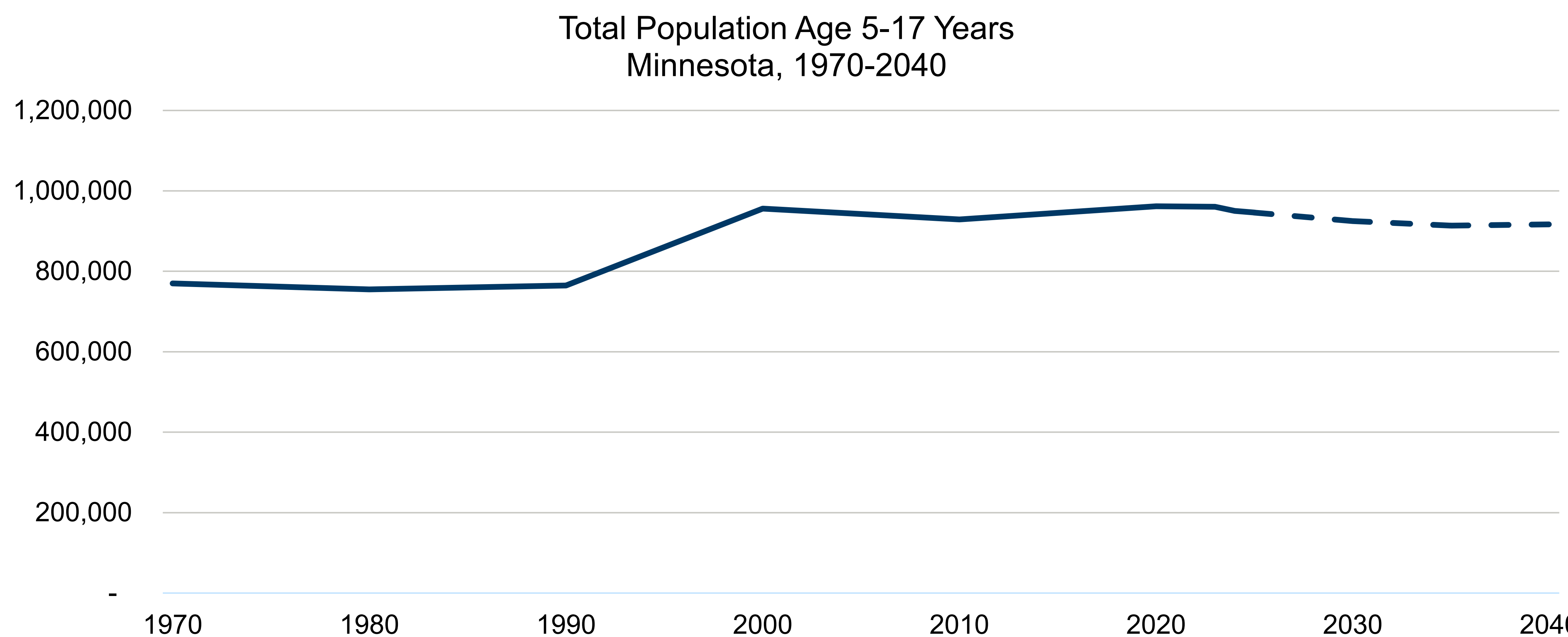


Source: U.S. Census Bureau, Population Estimates Program

Minnesota Generational Diversity



Minnesota's school-age population is projected to decline by about 5% over the next 15 years.



Sources: 1970-2023 ipums.org from U.S. Census Bureau data. 2024-2040 Minnesota State Demographic Center Projections

The components of population change

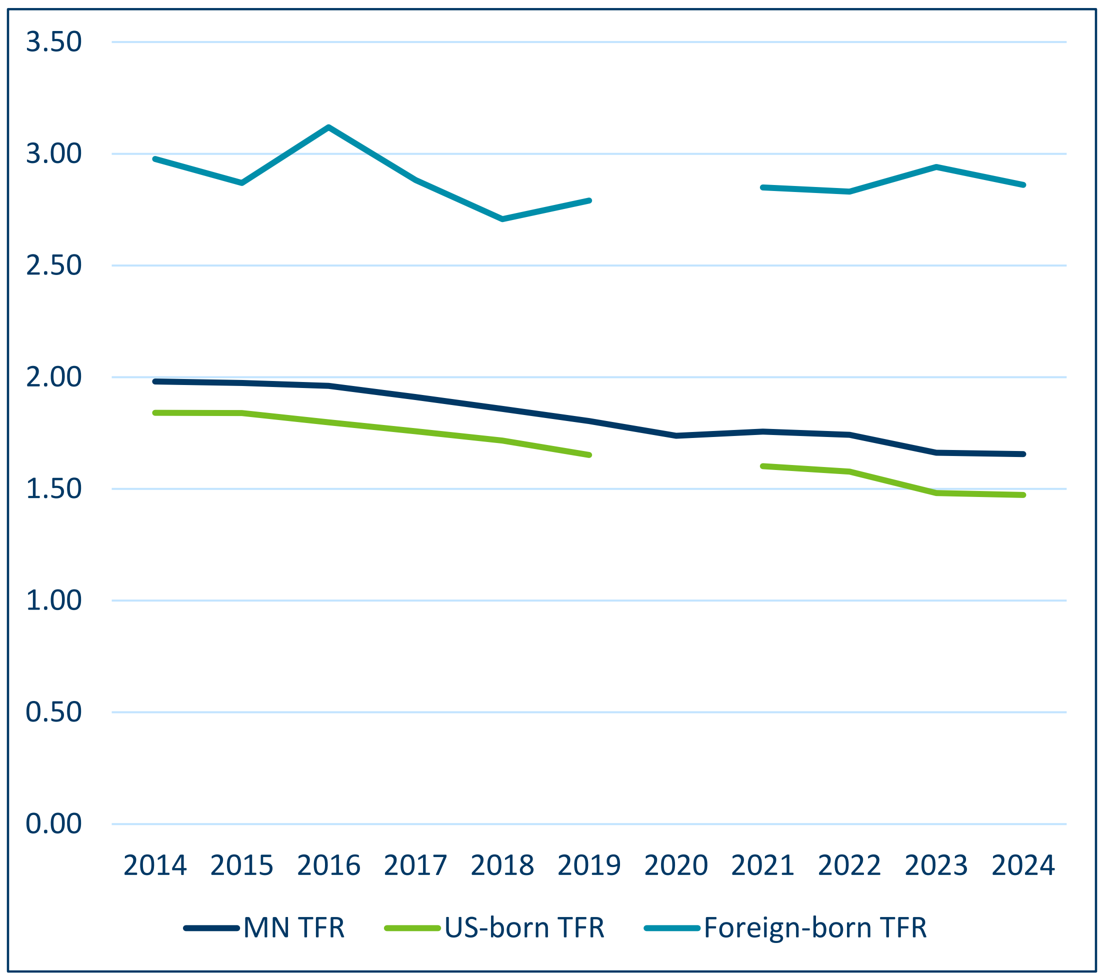
(Births – Deaths) +/- Migration

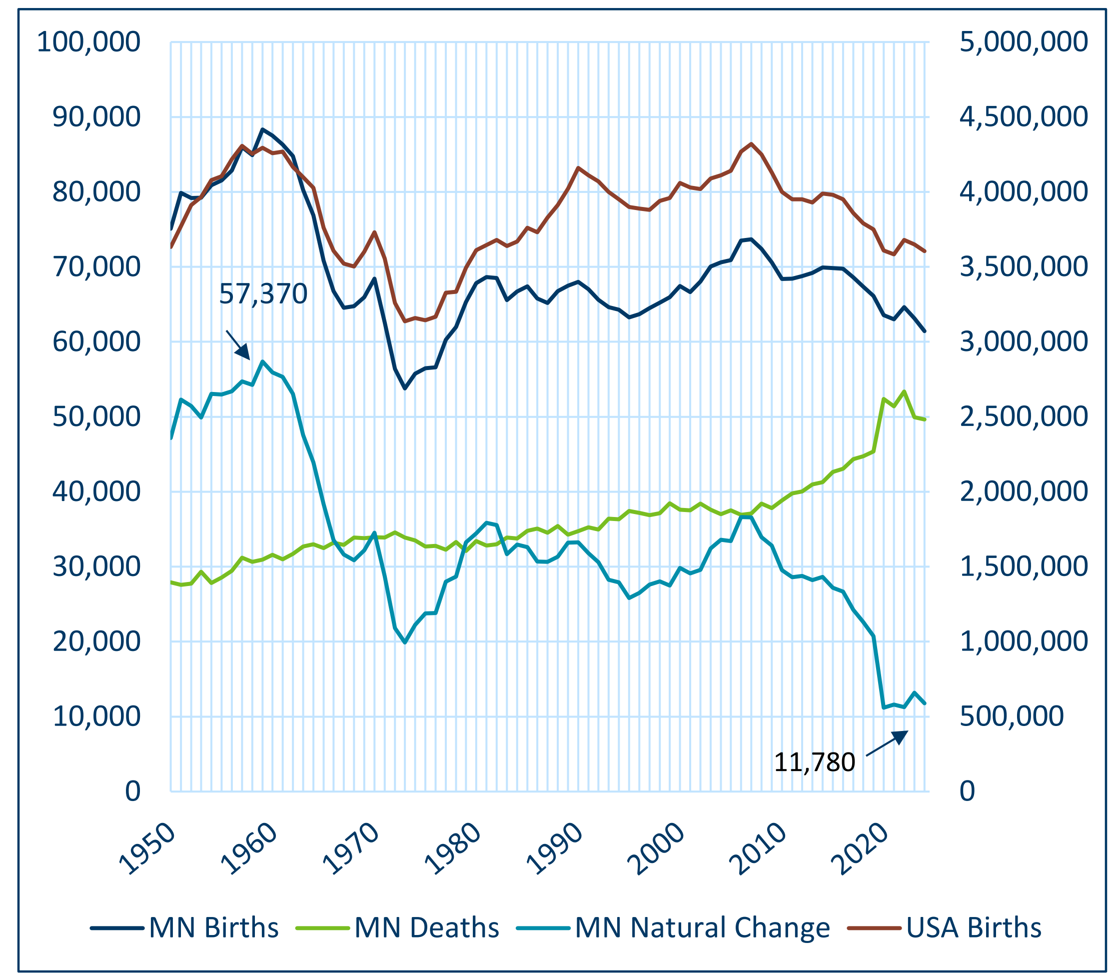
This "natural change" is the internal momentum of population growth or decline

International and domestic

An aging population deters population growth in two ways: reduced fertility and higher mortality

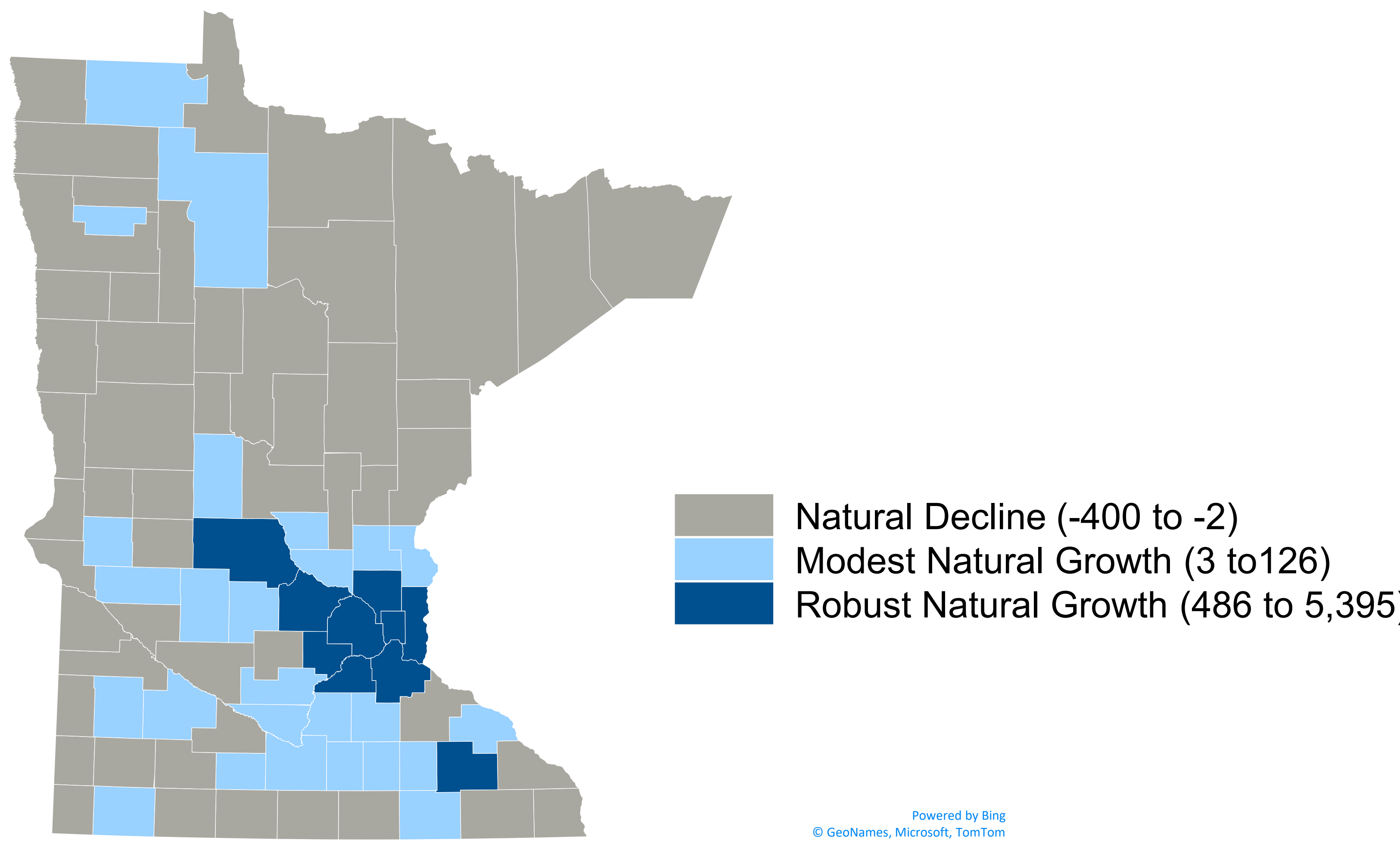
Falling fertility means slower “natural change” 1950 to 2024





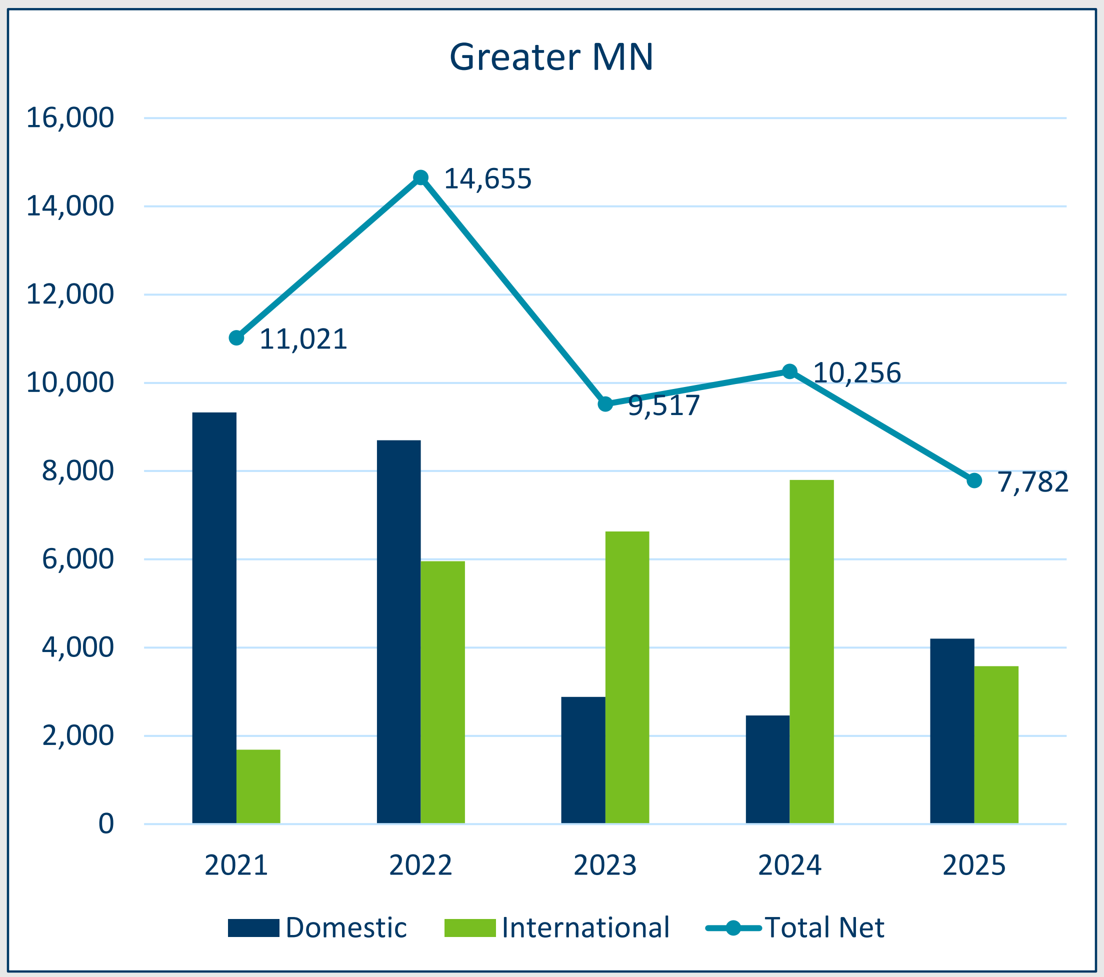
Natural Change 2023

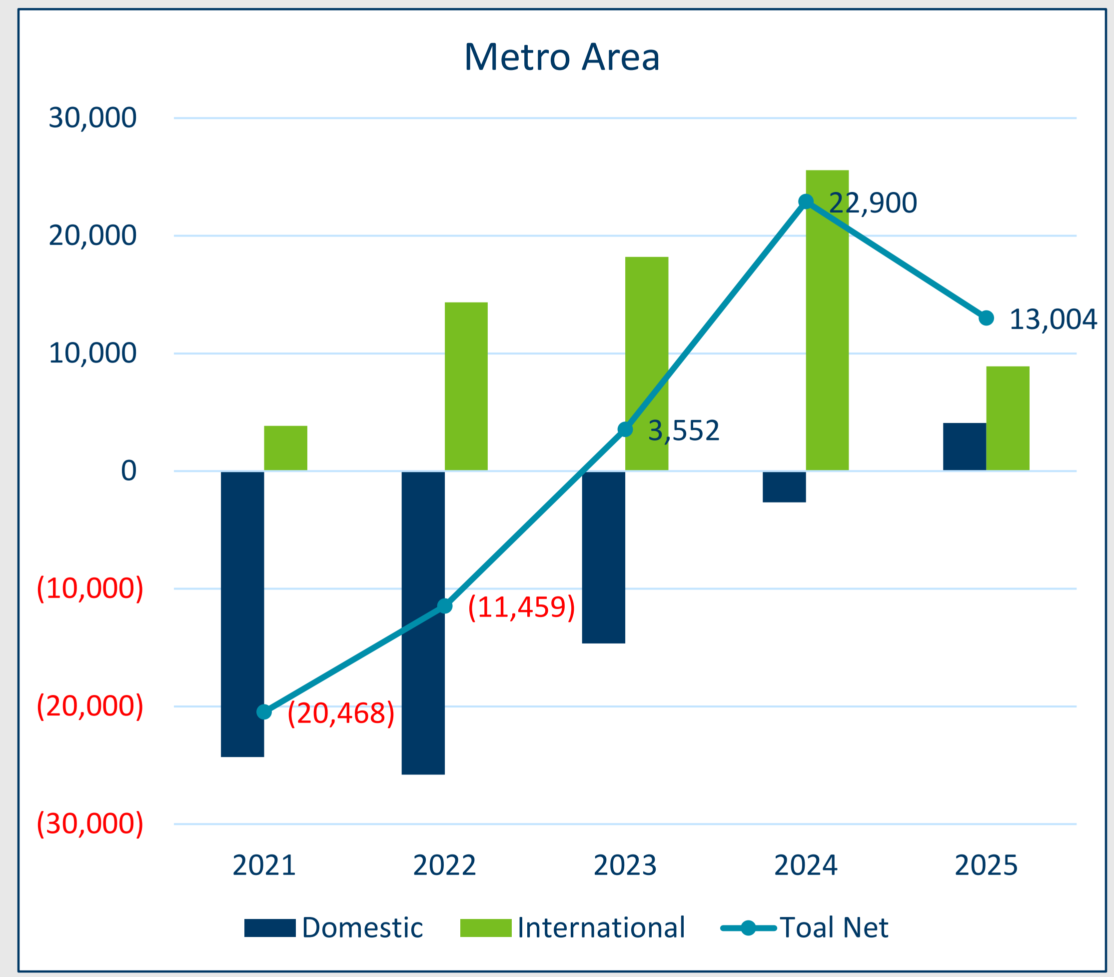
51 Minnesota counties are in "natural decline"



Source: U.S. Census Bureau, Population Estimates Program

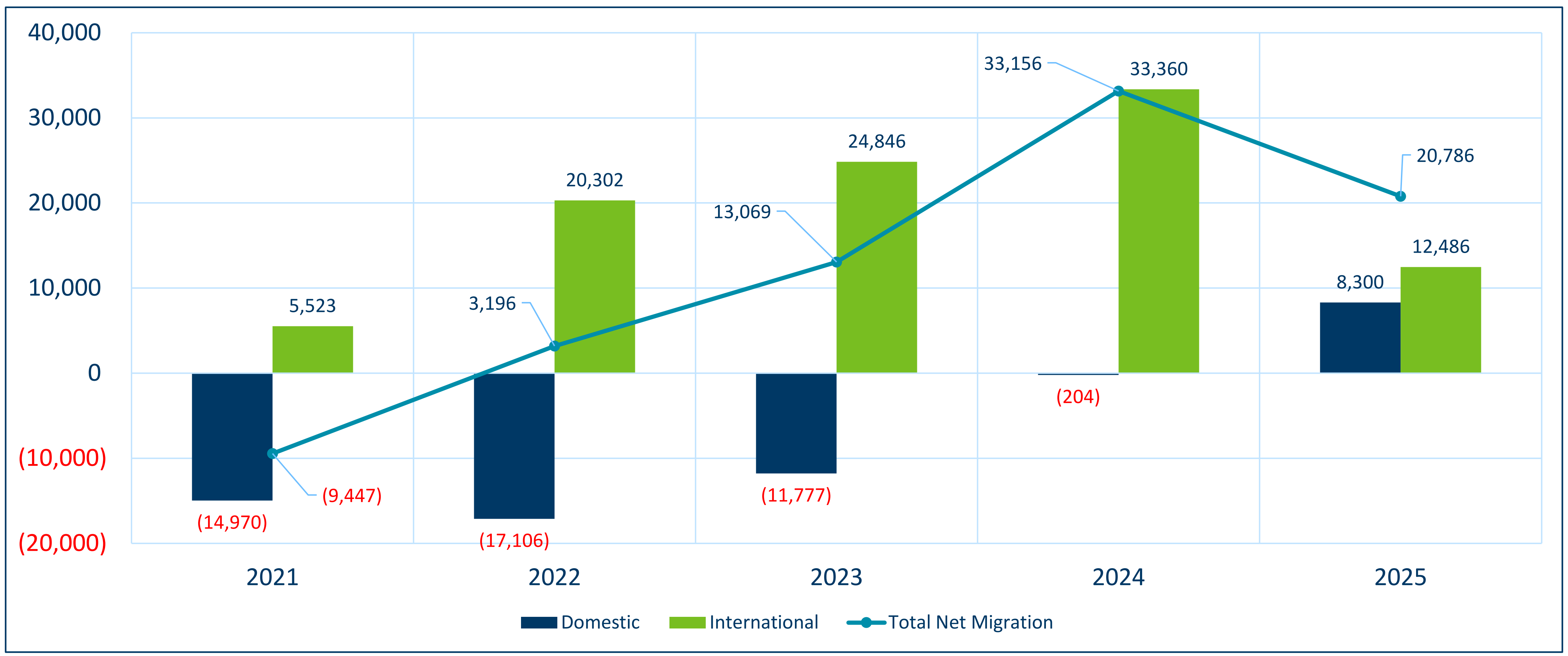
Greater MN and Twin Cities Metro Area Migration





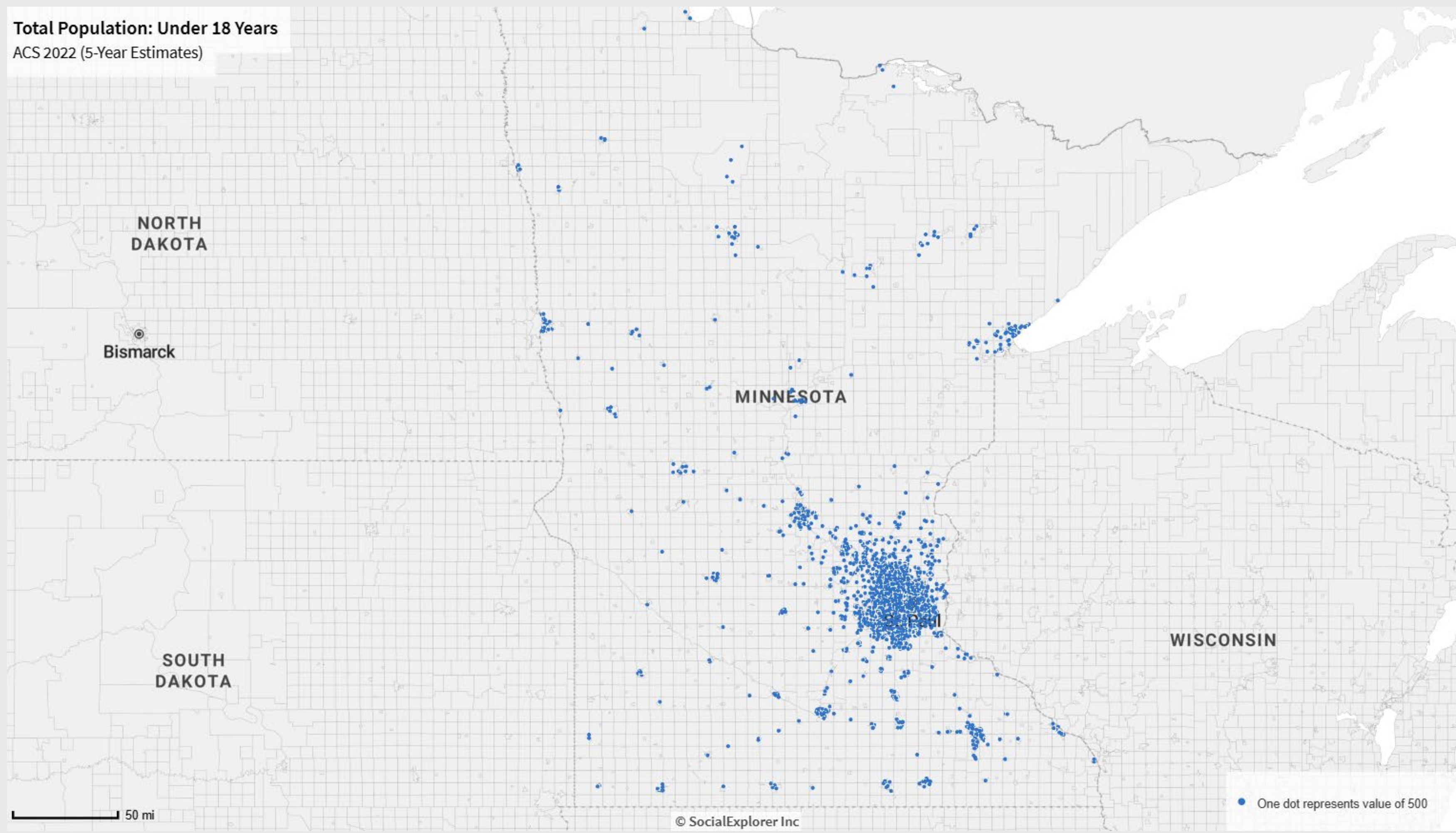
Source: CO-EST2025-ALLDATA, County Population Estimates, U.S. Census Bureau, Population Division

Minnesota Domestic, International, and Total Net Migration



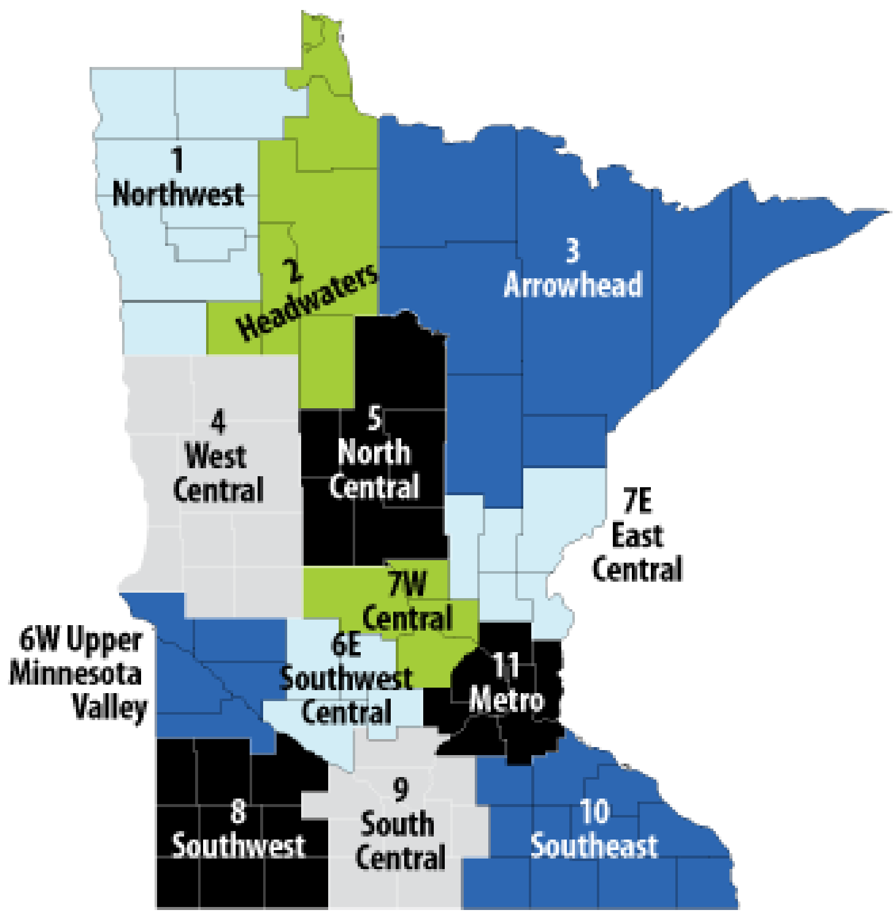
Source: CO-EST2025-ALLDATA, County Population Estimates, U.S. Census Bureau, Population Division

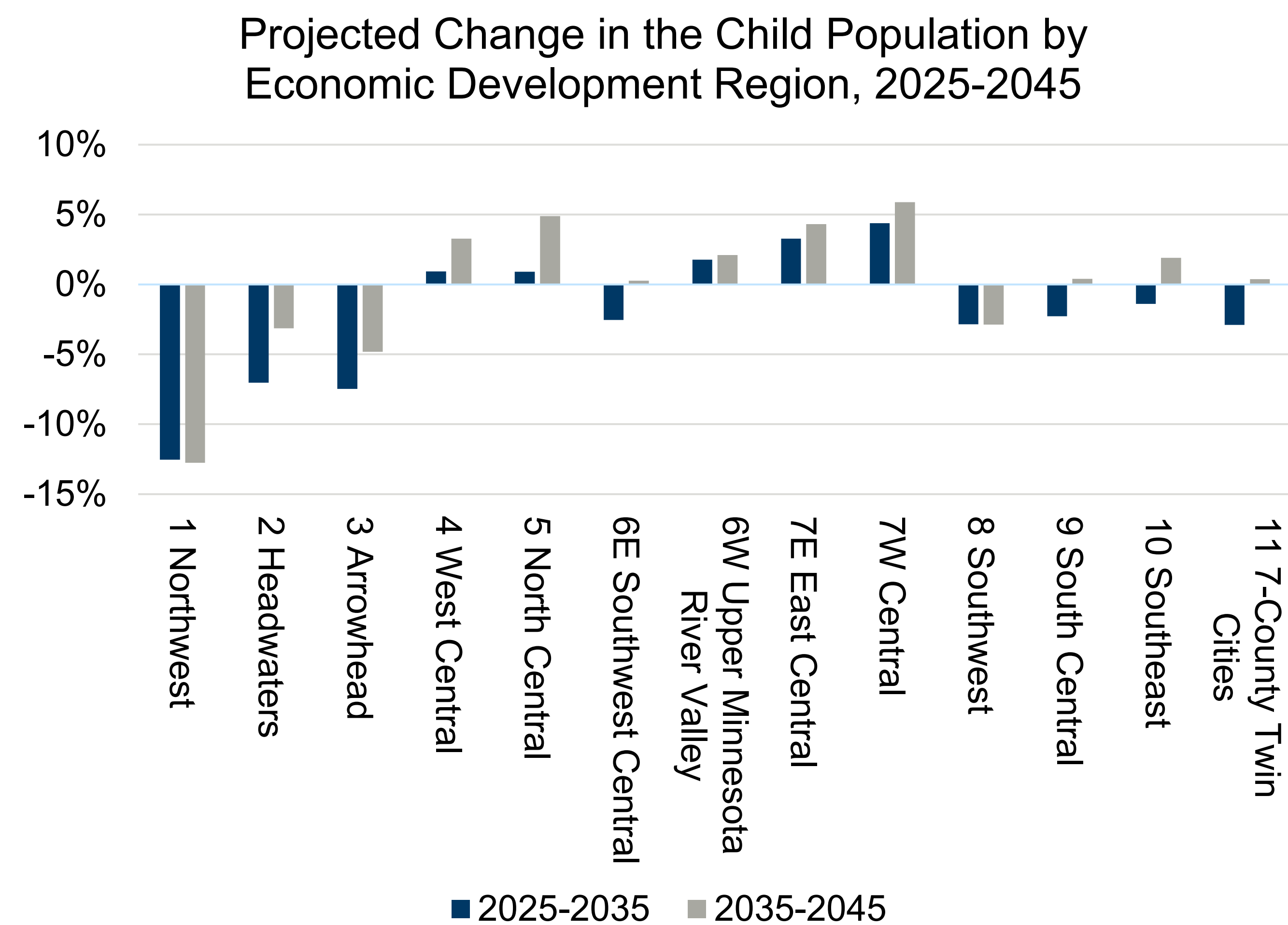
In 2023, there were 972,504 school-age children in Minnesota.



Sources. School-age population (5 to 17 years). U.S. Census Bureau, 2023 Population Estimates Program
Map data: Child population (0-17 years). U.S. Census Bureau, American Community Survey

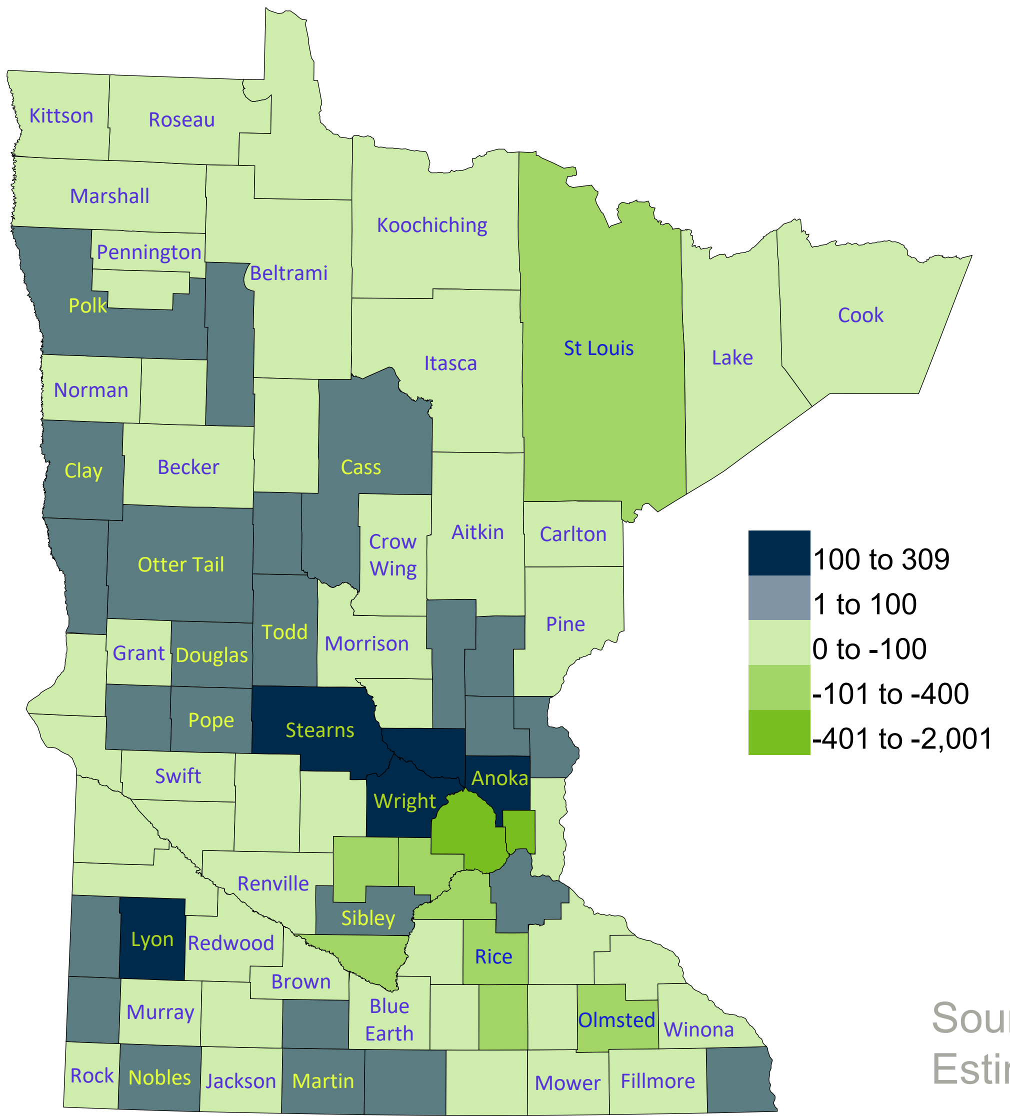
The child population will decline more in some regions of the state than in other regions.





Source: Minnesota State Demographic Center Population Projections (May 2024)

Average Annual Numeric Change in Population 5 to 17 Years by County 2021-2023

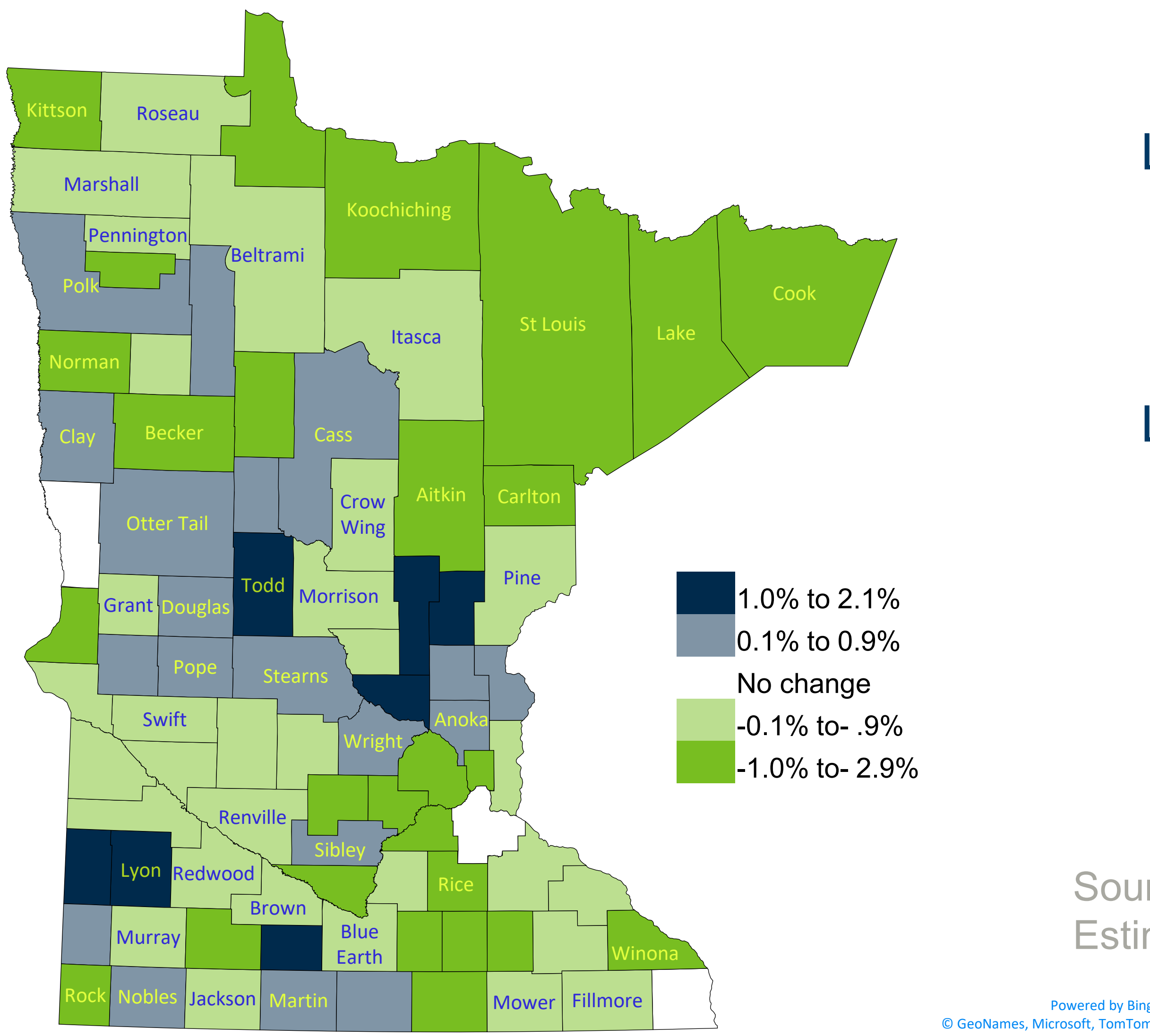


Largest annual gains:
- Anoka (+309)
- Stearns (+256)
- Sherburne (+220)

Largest annual losses:
- Ramsey (-1,049)
- Hennepin (-2,001)

Source: 2023 U.S. Census Bureau Population Estimates Program

Average Annual Percentage Change in Population 5 to 17 Years by County 2021-2023



Largest annual gains:
- Lyon (+2.1%)
- Todd (+1.8%)
- Kanabec (+1.8%)

Largest annual losses:
- Kittson (-2.8%)
- Rock (-2.8%)
- Aitkin (-2.9%)

Source: 2023 U.S. Census Bureau Population Estimates Program

School districts with the largest numeric gains in resident population (Age 5 to 17 years)

School District	Population added 2020-2023	Percent change 2020-2023
Wayzata	2,586	20.5%
St. Cloud	2,024	14.4%
Rosemount-Apple Valley-Eagan	1,894	6.4%
South Washington County	1,777	8.6%
Anoka-Hennepin	1,693	3.8%
Elk River	1,690	11.2%
Moorhead	977	12.8%
Mounds View	972	7.9%
Spring Lake Park Public Schools	949	18.1%
Osseo	794	2.9%
Mankato	760	8.1%
Lakeville	685	5.4%
Prior Lake-Savage Area Schools	656	7.3%
Columbia Heights	602	16.0%
Rochester	539	2.4%

Note that population changes shown are attributable to school district boundary changes between 2020 and 2023 in addition to changes that are attributable to demographic changes (births and migration of families).
Source: U.S. Census Bureau, Small Area Income and Poverty Estimates Program

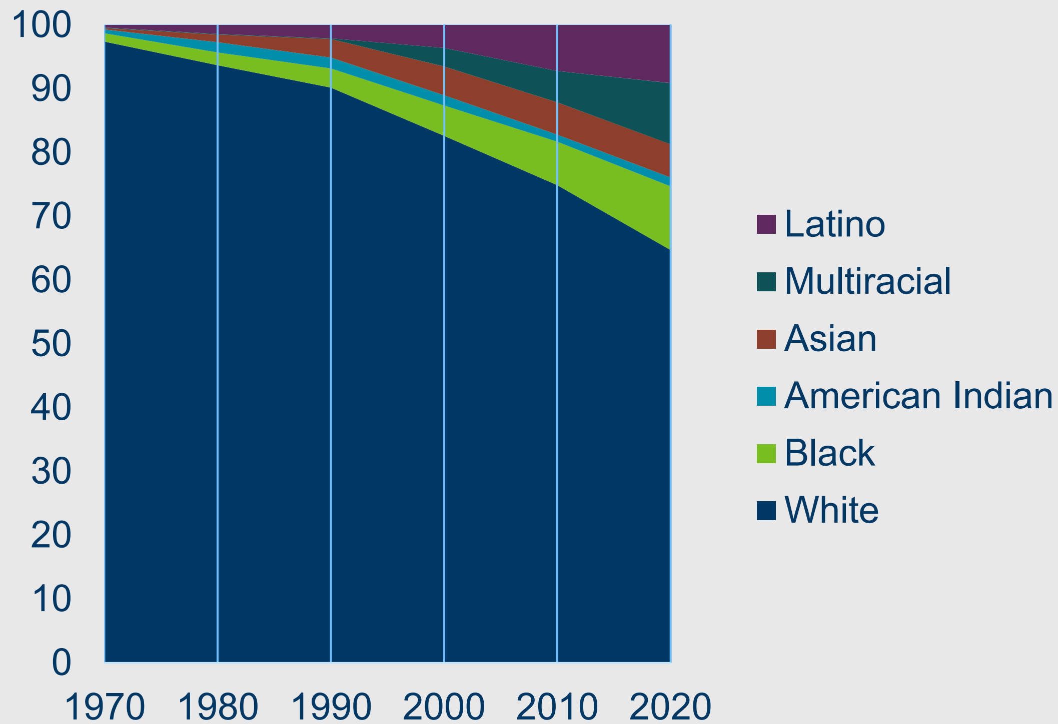
School districts with the largest numeric declines in resident population (Age 5 to 17 years)

District	Population decline 2020-2023	Percent change 2020-2023
St. Paul	(1,470)	-2.7%
Eden Prairie	(1,218)	-10.1%
Robbinsdale	(852)	-5.3%
White Bear Lake	(620)	-5.7%
Minnetonka	(602)	-6.6%
Inver Grove Heights Schools	(399)	-8.3%
Hastings	(393)	-6.8%
Rocori	(350)	-12.8%
Hopkins	(341)	-3.7%
St. Francis	(311)	-4.8%
Dilworth-Glyndon-Felton	(260)	-16.1%
Maple River	(238)	-19.4%
Burnsville	(234)	-2.0%
Melrose	(204)	-11.0%
New Prague Area Schools	(202)	-4.6%

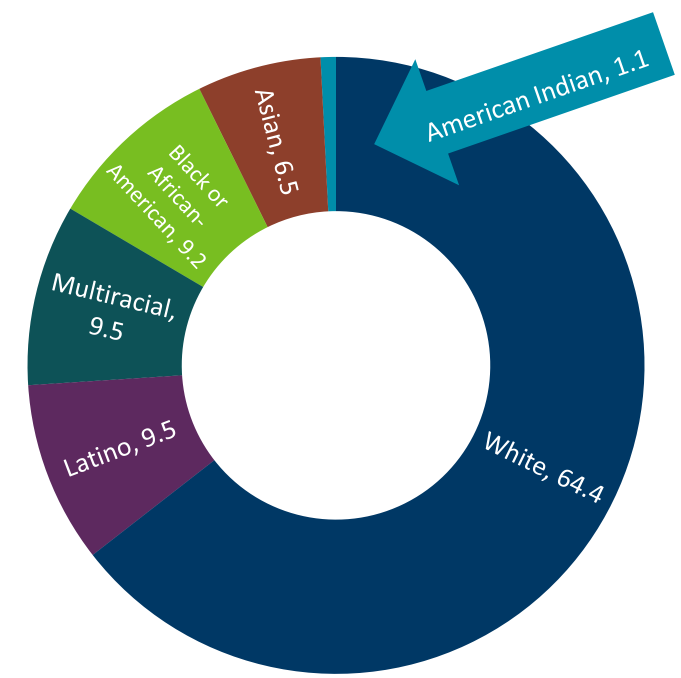
Note that population changes shown are attributable to school district boundary changes between 2020 and 2023 in addition to changes that are attributable to demographic changes (births and migration of families).
Source: U.S. Census Bureau, Small Area Income and Poverty Estimates Program

The racial and ethnic diversity of Minnesota's school-age population continues to increase.

Racial and Ethnic Composition of Minnesota's School-Age Population 1970-2020



Population Ages 5 to 17 Years by Race Minnesota, 2023



Source: ipums.org from U.S. Census Bureau data

Detailed Race of Minnesota's Children (Ages 0 to 17), 2020

American Indian and Alaska Native		White	
Chippewa	8,907	German	431,183
American Indian, not specified	7,094	Irish	198,339
American Indian and Alaska Native, not specified	9,962	Norwegian	166,308
Asian		English	148,258
Hmong	36,943	Swedish	99,370
Asian Indian	15,669	Polish	63,033
Chinese, except Taiwanese	11,097	French	52,979
Vietnamese	9,415	Italian	41,640
Korean	9,393	Scandinavian	34,548
Filipino	7,877	Scottish	30,228
Burmese (including Karen)	7,594	Dutch	28,040
Black or African American		Finnish	26,101
African American	68,831	Czech	23,909
Somali	42,112	Danish	18,112
Ethiopian	9,322	Russian	10,789
Other Black or African American, not specified	43,956	French Canadian	8,424
Latino		Welsh	8,056
Mexican	82,176	Swiss	5,936
Puerto Rican	6,001	Other White, not specified	314,397
Guatemalan	5,289	Other	
		Other Some Other Race, not specified	9,273

Source: 2020 Census, DHC-A. Because these groups include children with multiple racial, ethnic, or cultural identities, some children will be counted in more than one group and the categories will not sum to the total number of children in Minnesota. Only groups with 5,000 or more children are shown.

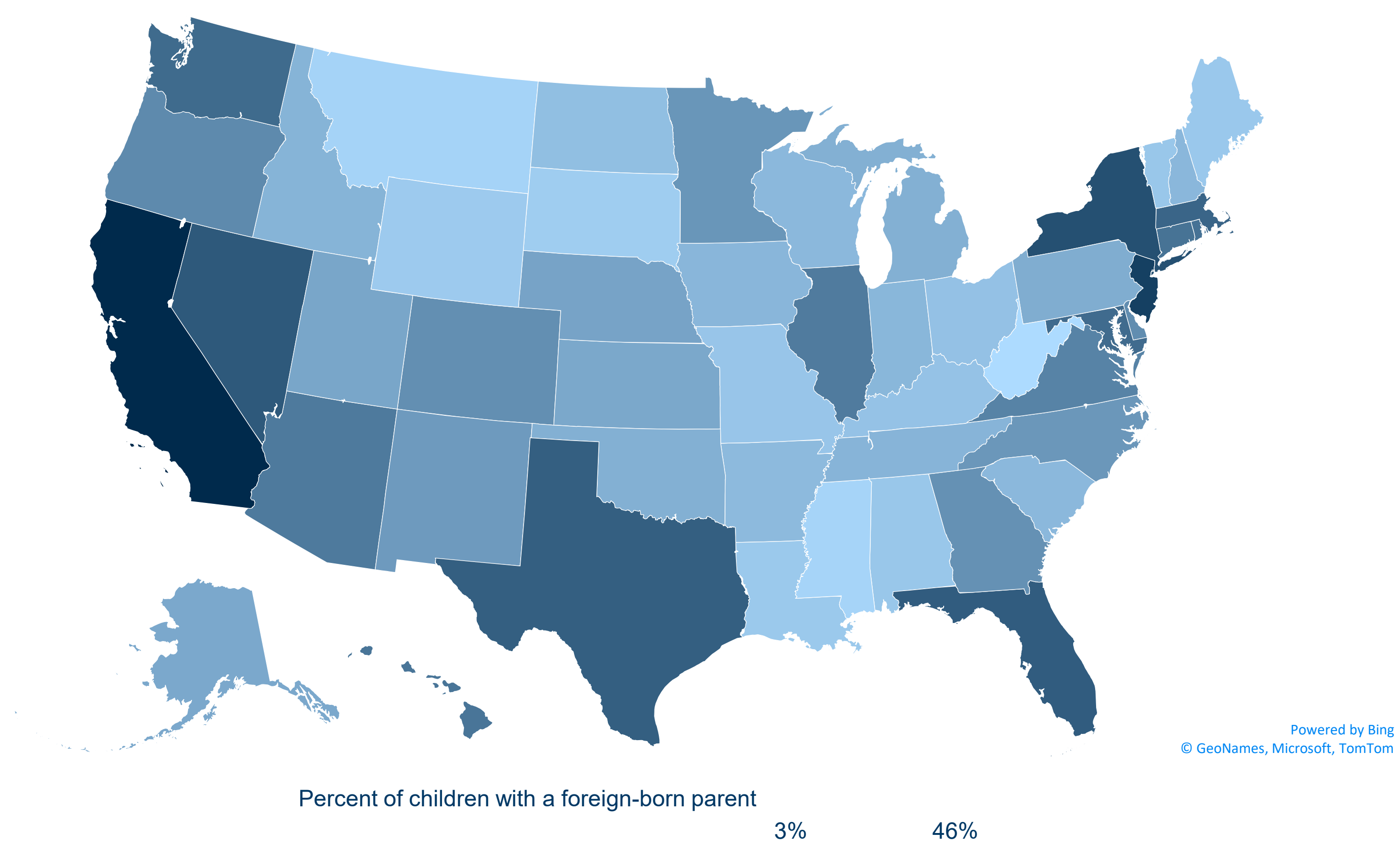
In Minnesota, 20% of children have a foreign-born parent.

Minnesota Children (0-17 Years) by Nativity of Parent(s) and Presence of Parent(s) in the Household, 2018-2022

	Two Parents Present	One Parent Present	No parent present	All living arrangements	Percent of all children
All parents in household are U.S.-born	813,163	199,432		1,012,595	78%
All parents in household are foreign-born	135,650	49,474		185,124	14%
One parent foreign-born, One parent U.S.-born	73,332			73,332	6%
All Children Ages 0 to 17 Years	1,022,145	248,906	35,094	1,306,145	100%

Source: ipums.org from 2018-2022 U.S. Census Bureau data
Note: Includes only children living in households, not those living in group quarters.

20% of Minnesota children have a foreign-born parent, compared with 25% nationally.



Source: ipums.org from 2018-2022 U.S. Census Bureau data

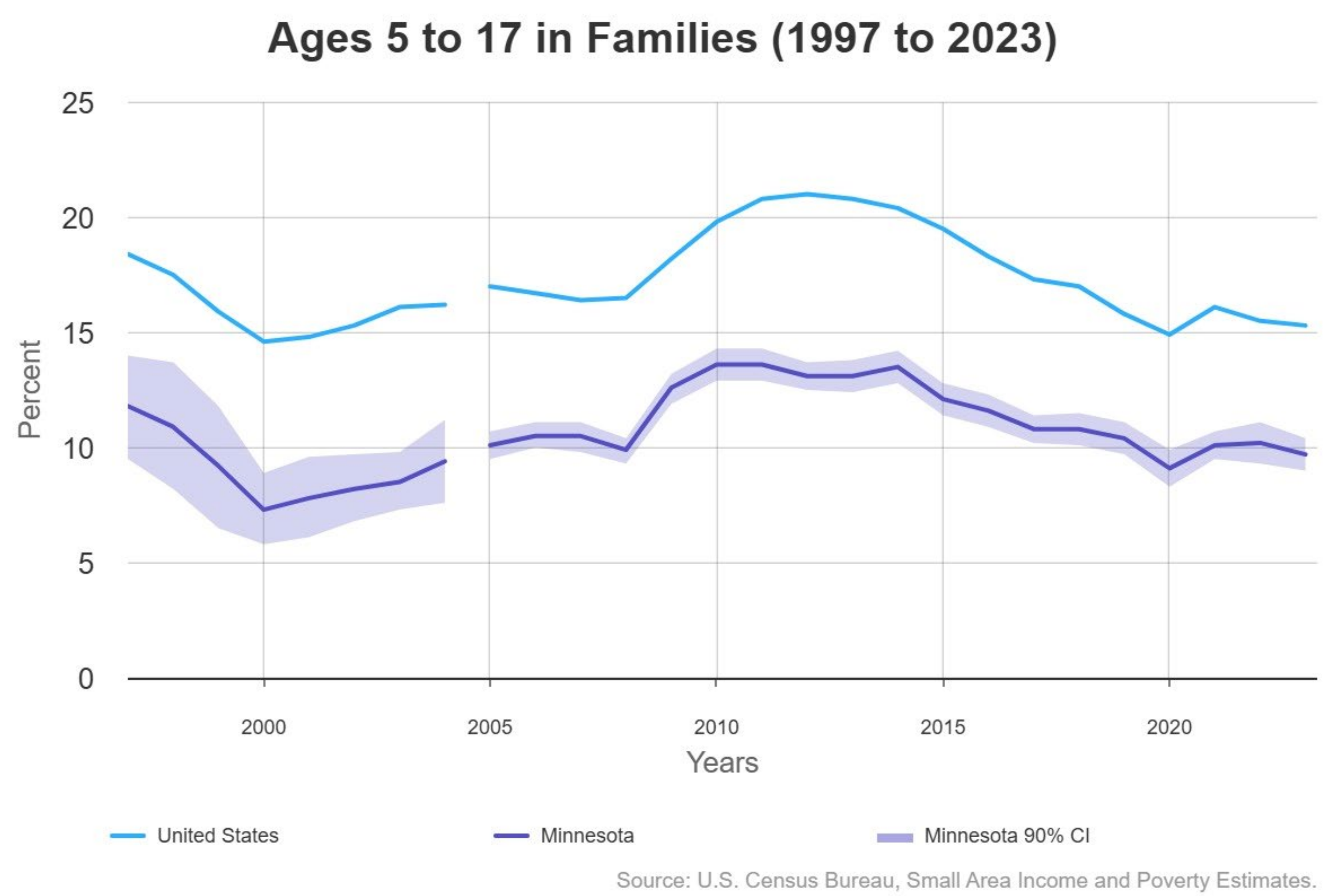
Nearly 1 in 5 Minnesota public school students speak a language other than English at home (152,500).

Primary Home Language by School District Type, Minnesota Public School Students, 2023-2024

	Languages Spoken	Total number of students	Students Speaking English	Students Speaking Languages Other than English	Percent of Students Speaking Languages Other than English
Minneapolis and Saint Paul	129	59,336	37,443	21,893	37%
Balance of 7-county Metro	330	410,734	315,339	95,395	23%
Greater Minnesota - Enrollment 2000 or more	199	196,420	171,925	24,495	12%
Greater Minnesota - Enrollment between 1000 and 1999	99	78,322	73,430	4,892	6%
Greater Minnesota - Enrollment between 500 and 999	83	70,411	67,004	3,407	5%
Greater Minnesota - Enrollment less than 500	54	36,045	33,668	2,377	7%
Minnesota (all)	348	851,268	698,809	152,459	18%

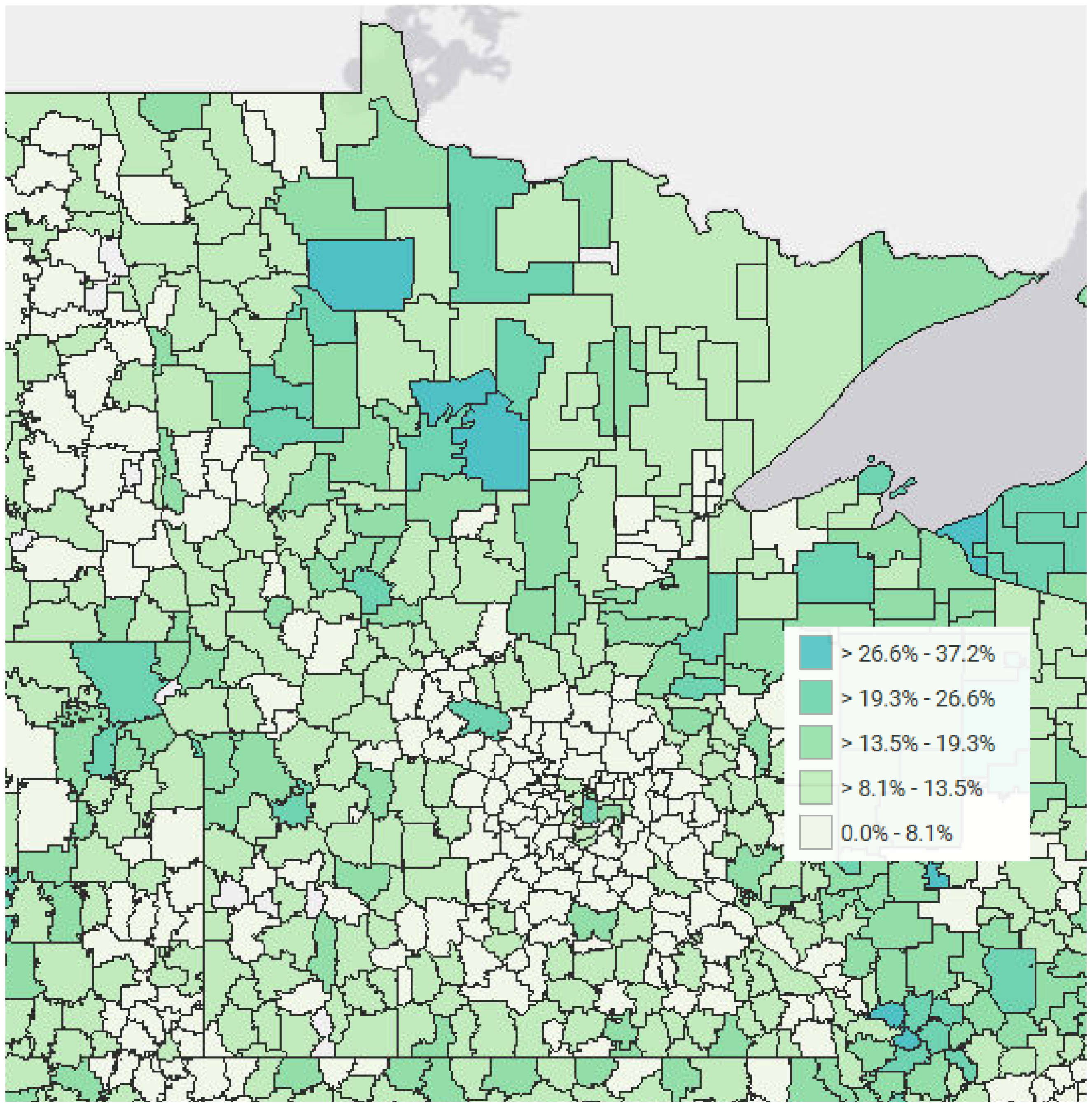
Source: Minnesota Department of Education, Student Language Data

Poverty among school-age children declined in 2023, after year-over-year following the pandemic.



In 2023, 9.7% of Minnesota school-age children live in poverty, compared to 15.3% of school-age children nationally.

Source: 2024 U.S. Census Bureau, Small Area Income and Poverty Estimates



Poverty rate by school district, 2023

Districts with highest rates of poverty

- Red Lake Public School District, 34.5%
- Cass Lake-Bena Public Schools, 30.7%
- Northland Community Schools, 26.9%

For data on individual school districts, see: https://www.census.gov/data-tools/demo/saipe/#/

Source: 2024 U.S. Census Bureau, Small Area Income and Poverty Estimates

Minnesota Population Projections 2025 to 2055
Slower growth, increasing diversity in MN

Twin Cities Metro

	2025	2055	# Change	% Change
0 to 19	785,461	759,111	-26,350	-3.4%
20 to 64	1,874,741	1,961,961	87,220	4.7%
65 to 74	315,113	328,521	13,408	4.3%
75+	231,054	350,225	119,171	51.6%
85+	61,799	135,881	74,082	119.9%

White	2,216,652	1,919,235	-297,417	-13.4%
Black	366,634	579,145	212,511	58.0%
AIAN	17,294	15,310	-1,984	-11.5%
Asian	280,933	411,859	130,926	46.6%
NHPI	1,499	2,000	501	33.4%
2+	98,732	151,284	52,552	53.2%
Hispanic	224,625	320,985	96,360	42.9%

2025: White, non-Hispanic = 69.1%
2055: White, non-Hispanic = 56.4%

Greater MN (non-Twin Cities metro)

	2025	2055	# Change	% Change
0 to 19	645,732	643,437	-2,295	-0.4%
20 to 64	1,415,323	1,518,645	103,322	7.3%
65 to 74	306,893	296,846	-10,047	-3.3%
75+	230,083	287,845	57,762	25.1%
85+	65,308	100,892	35,584	54.5%

White	2,228,236	2,062,557	-165,679	-7.4%
Black	86,174	206,493	120,319	139.6%
AIAN	43,904	50,212	6,308	14.4%
Asian	49,256	86,809	37,553	76.2%
NHPI	2,195	5,179	2,984	135.9%
2+	53,521	96,178	42,657	79.7%
Hispanic	134,745	239,345	104,600	77.6%

2025: White, non-Hispanic = 85.8%
2055: White, non-Hispanic = 75.1%

Minnesota Population Projections 2025 to 2055
Slower growth, increasing diversity in MN

Twin Cities Metro

2025: White, non-Hispanic = 69.1%
2055: White, non-Hispanic = 56.4%

Greater MN (non-Twin Cities metro)

2025: White, non-Hispanic = 85.8%
2055: White, non-Hispanic = 75.1%

In terms of racial and ethnic diversity, by 2055 the Twin Cities will resemble today's United States, and Greater Minnesota will resemble today's Twin Cities

MINNESOTA STATE DEMOGRAPHIC CENTER
DEPARTMENT OF ADMINISTRATION

Thank you

For questions, please email Jeff Howison

jeff.howison@state.mn.us

Minnesota Teachers Retirement Association

Estimated July 1, 2026 Valuation Results

Presented on August 19, 2026

Brent Banister, Ph.D., FSA, EA, FCA, MAAA
Ben Mobley, ASA, FCA, MAAA

Recap of Last Year's Valuation
Actuarial Value of Assets Basis

CavMac Actuarial Consulting Services

	July 1, 2025
Unfunded Actuarial Accrued Liability (UAAL)	$6.8 billion
Funding Ratio	81.6%

	As % of Pay
Normal Cost (with expenses)	11.64%
Amortization of UAAL	6.41%
Total Required Contribution	18.05%
Member and Employer Contributions	18.49%
Contribution Sufficiency/(Deficiency)	0.44%

Changes Since Last Year's Valuation

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- Passage of the 2026 Omnibus Pension and Retirement Bill (HF 4074).
  - Starting in July 2026, participating employers will contribute 9.81% on salary earned by reemployed annuitants working in TRA-eligible positions. Reemployed annuitants will not pay any contribution amount to TRA, and therefore will not earn additional benefits.
  - Lowered the minimum age to enter into a return-to-work agreement from 62 to 59 ½.
  - Other minor changes.

- Market value of assets at 6/30/2026 is $35.2 billion (about +16% return for FY 2026).

- Contributions and benefit payments for FY 2026 were estimated from the 2025 valuation since actual amounts are unknown at this time.

Actuarial Value of Assets

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- Valuation utilizes an asset smoothing method which results in the “actuarial value of assets” for valuation measurements.

- As of July 1, 2026, the preliminary deferred experience gain (difference between market and actuarial value of assets) yet to be recognized totals $3.34 billion:

FY Ending:	**2026**	**2025**	**2024**	**2023**
Millions $:	**2,069**	**665**	**543**	**67**

The net deferred gain of $1.07 billion in the 2025 valuation has increased to $3.34 billion.

Estimating 2026 Valuation Results

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- All actuarial assumptions, other than investment return, are assumed to be met for FY 2026 (no actuarial gain/loss from actual demographic experience).

- Total covered payroll, used in estimating the July 1, 2026 valuation results, is based on the payroll growth assumption used in the 2025 valuation.

Estimated Actuarial Status – July 1, 2026

Actuarial Value of Assets Basis

CavMac Actuarial Consulting Services

$ in Billions, Contributions as % of pay	July 1, 2025	July 1, 2026
Actuarial Accrued Liability	37.0	38.1
Asset Value	30.2	31.8
Unfunded Actuarial Accrued Liability (UAAL)	6.8	6.3
Funded Ratio	**81.6%**	**83.4%**
Normal Cost (with expenses)	11.64%	11.64%
Amortization of UAAL	6.41%	5.74%
Total Required Contribution	**18.05%**	**17.38%**
Member plus Employer Contributions	18.49%	18.47%
Contribution Surplus/(Deficiency)	**0.44%**	**1.09%**

Note: Numbers may not add due to rounding

Estimated Actuarial Status – July 1, 2026

Market Value of Assets Basis

$ in Billions, Contributions as % of pay	July 1, 2025	July 1, 2026
Actuarial Accrued Liability	37.0	38.1
Asset Value	31.3	35.2
Unfunded Actuarial Accrued Liability (UAAL)	5.7	2.9
Funded Ratio	**84.5%**	**92.2%**
Normal Cost (with expenses)	11.64%	11.64%
Amortization of UAAL	5.26%	1.49%
Total Required Contribution	**16.90%**	**13.13%**
Member plus Employer Contributions	18.49%	18.47%
Contribution Surplus/(Deficiency)	**1.59%**	**5.34%**

Note: Numbers may not add due to rounding

Projection of Future Funding Results

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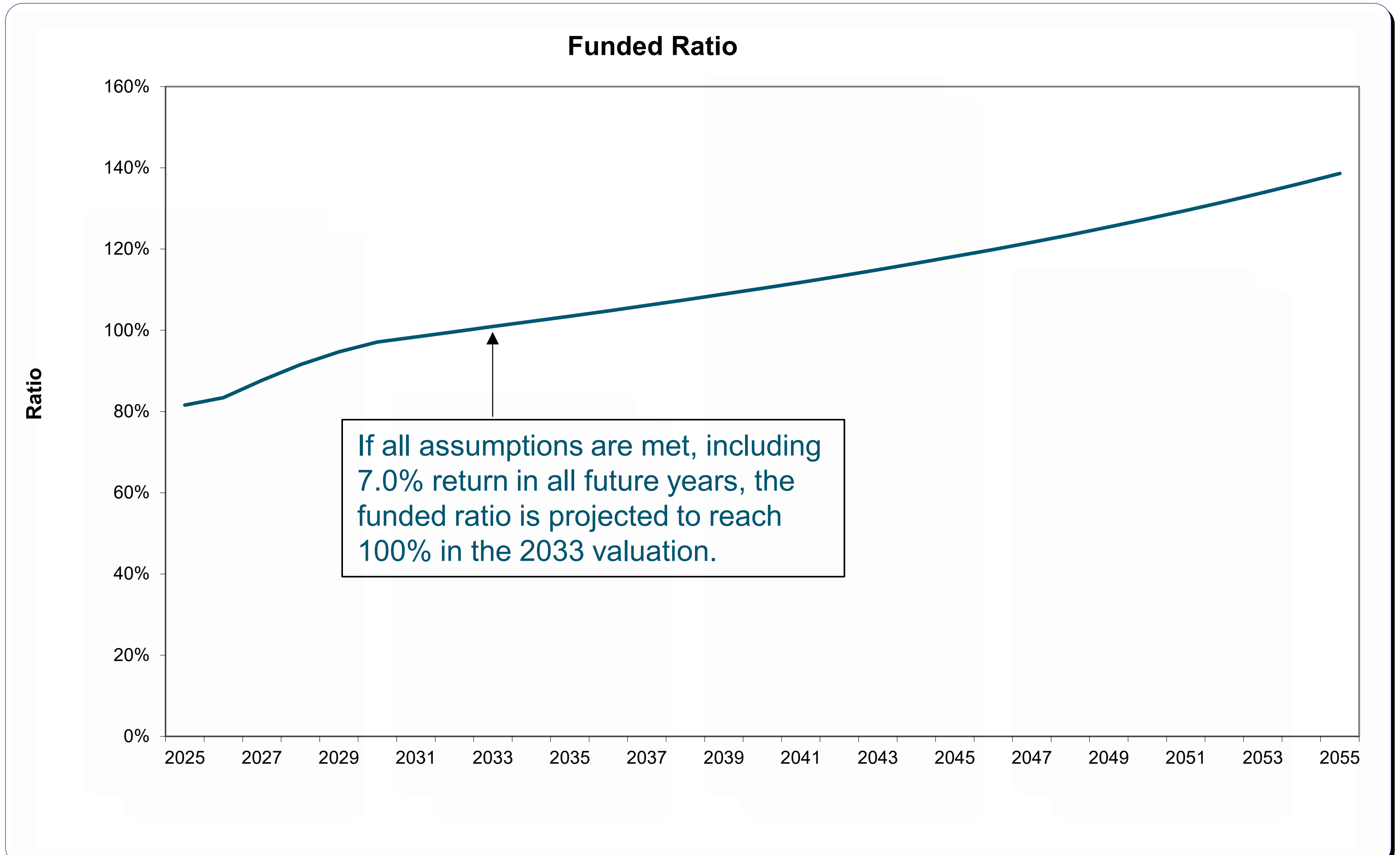
- Uses the 2025 valuation projection model, reflecting actual FY 2026 asset return and 7% thereafter (unless noted otherwise).
  - Results reflect actuarial (smoothed) value of assets.

- Reflects changes passed under the 2026 Omnibus Pension and Retirement Bill.

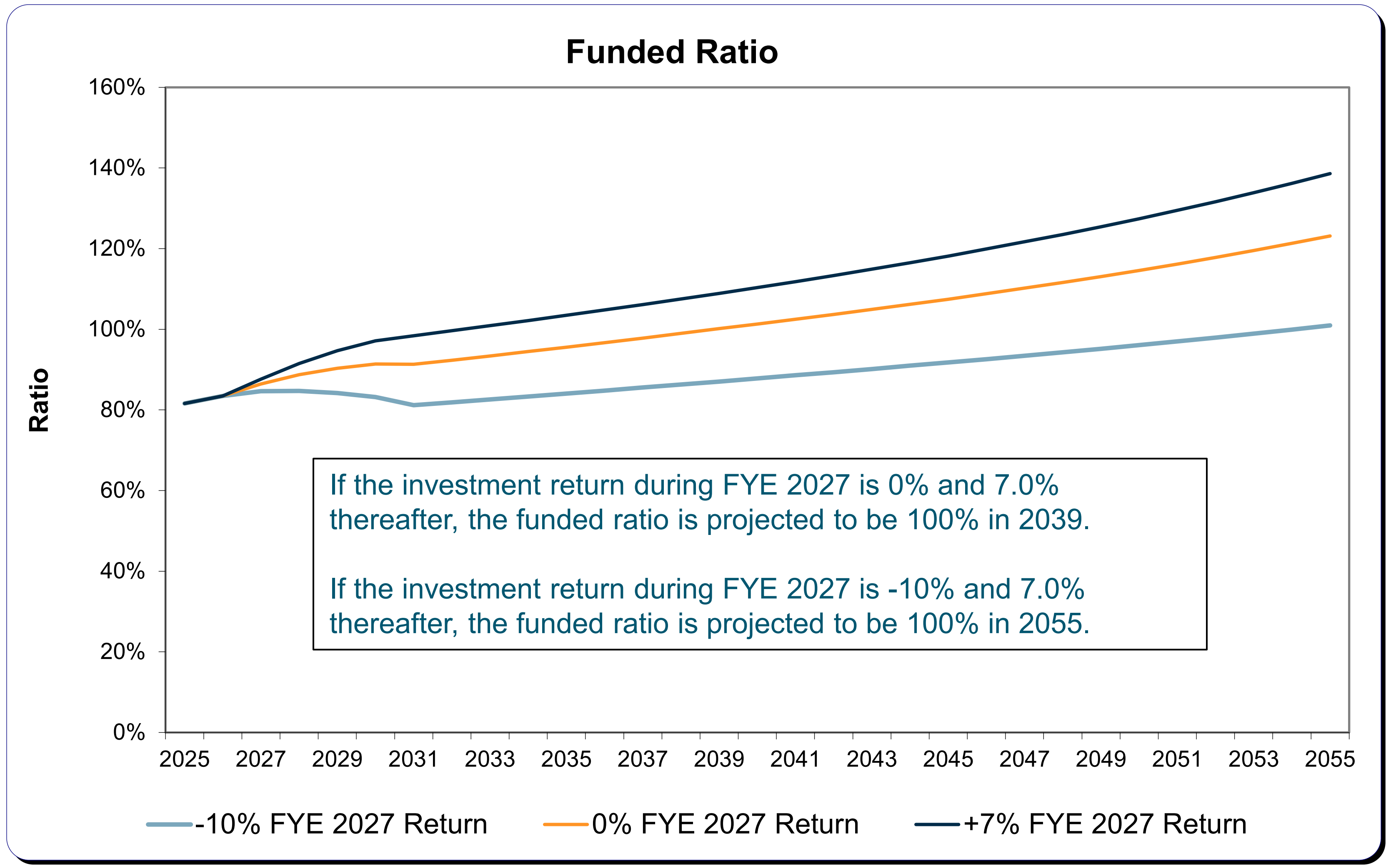
- Expected results assume:
  - All actuarial assumptions are met in future years.
  - No future changes to the scheduled contribution rates.
  - No future changes to the benefit provisions.
  - No future changes to actuarial assumptions or methods.

Projected Funded Ratio



Note: the funded ratio uses the actuarial value of assets.

Projected Funded Ratio Sensitivity Analysis



Note: the funded ratio uses the actuarial value of assets.

Caveats and Disclaimers

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- These results reflect the preliminary asset return information for FY 2026, as provided by TRA.
- Estimated results were based on the 2025 valuation data and assumptions – **the actual 7/1/2026 valuation results will be different.**
- Projections are based on many assumptions. To the extent these are not met, results could vary dramatically, especially over time.
- Future projections are developed to compare and evaluate outcomes under various scenarios and are not intended to predict future valuation results.
- The actuaries who prepared these results, Brent Banister, FSA, EA, MAAA, FCA, and Ben Mobley, ASA, MAAA, FCA are members of the American Academy of Actuaries and are qualified to render the actuarial opinions presented herein.

Minnesota Teachers Retirement Association

Funding Approach Considerations

Presented by:
Brent Banister, Ph.D., FSA, EA, FCA, MAAA
Ben Mobley, ASA, FCA, MAAA

August 19, 2026

Topics for Discussion

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- Funding Approach
- Time Perspective for Decisions
- Plan Maturity
- Funding Benefit Improvements when Approaching Pension Surplus

Basic Retirement Funding Formula

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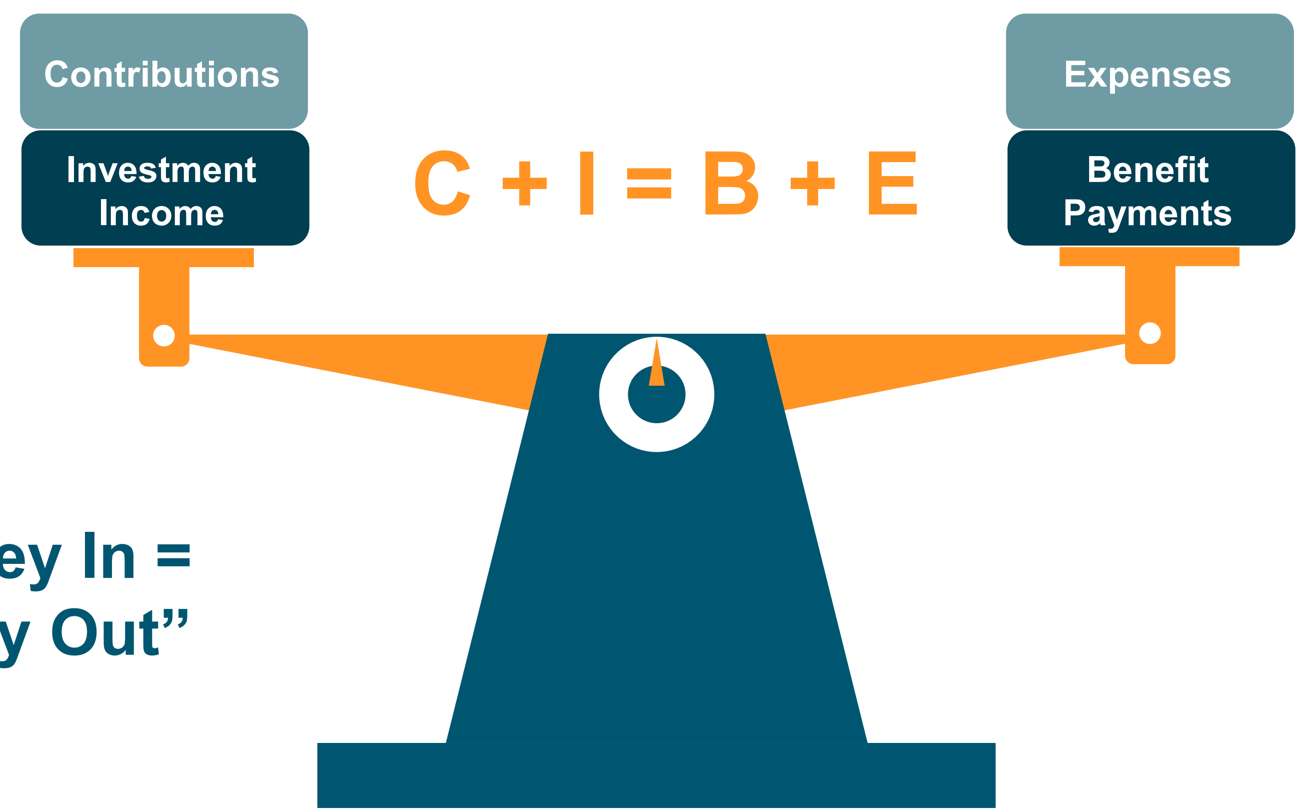

"Money In = Money Out"

General Funding Approach

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- Normal Cost
- Amortization of the UAAL
- Expenses (if not embedded elsewhere)
- The sum of these is often called the Actuarially Determined Contribution

TRA Funding Approach

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- TRA is funded based on contribution rates set in statute
  - Employer rate
  - Member rate
  - Additional sources
- Comparison of the statutory amounts to the Actuarially Determined Contribution indicates the deficiency or sufficiency amount
- Deficiency/Sufficiency indicates how on/off target TRA is to reaching full funding according to the funding plan

TRA Funding Approach

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- Additional sources include Supplemental Contributions
  - 1993 Legislation ($5,000,000 – annual amount fixed in statute)
  - 1996 Legislation ($3,256,410 – annual amount is variable)
  - 1997 Legislation ($12,954,000 – annual amount fixed in statute)
  - 2014 Legislation ($14,377,000 – annual amount fixed in statute)
- Supplemental Contributions in total compose 0.52% of total 18.49% Statutory Contributions as of the July 1, 2025 Valuation
- Assumed to be made until June 30, 2048 or when TRA is 100% funded for three consecutive fiscal years, whichever is earlier
  - Risk of falling back below 100% funded and some or all of supplemental contributions not being reinstated

Implications of TRA's Funding Approach

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- Adjustments to funding may be legislated when:
  - Funding or contribution level is low – as determined by legislature and stakeholders
  - Benefits are improved
  - State budget must usually accommodate
- At times, benefit reductions have been used to adjust funding policy needs
- Historically have not reduced contributions when funding progress was strong

Implications of TRA's Funding Approach

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- Potential risk of fixed rate funding
  - When contributions are too low, the contribution rate is increased
  - When contributions are more than needed, benefits are increased
  - With market volatility, this can lead to both contributions and benefits increasing over time
- TRA has had some benefit reductions in the past to help counter this
  - COLAs have been the most common mechanism

Time Perspective for Decisions

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- Determination of funding needs is usually made based on the most recent valuation
- To reduce volatility, the Actuarial Value of Assets is developed by smoothing the investment gains or losses (as measured against the assumed rate of return) over five years

Time Perspective for Decisions

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- Consider projected valuation results over time which reflect
  - Changes in membership demographics
  - Recognition of deferred asset gains and losses
  - Impact of layered amortization which may influence deficiency/sufficiency but not necessarily funded ratio or unfunded actuarial accrued liability
- Consider the excess of the statutory contribution rate over the normal cost and expense rates over time

Pension Plan Maturity

- As Plans mature, benefits increase and accumulate, the population ages, and Plan obligations become larger **relative to the source of contributions (payroll)**
  - Key dynamic is plan's size (assets and liabilities) compared to its contribution or revenue base (payroll)
  - Asset volatility ratio (AVR): market value of assets divided by payroll
- A Plan's maturity can impact its ability to recover from a negative shock in market returns and tends to result in more contribution volatility.
  - For TRA, the volatility does not impact the contribution rate since fixed rates apply. However, it can dramatically impact the sufficiency of the fixed contribution rates.

Market Value of Assets vs Covered Payroll

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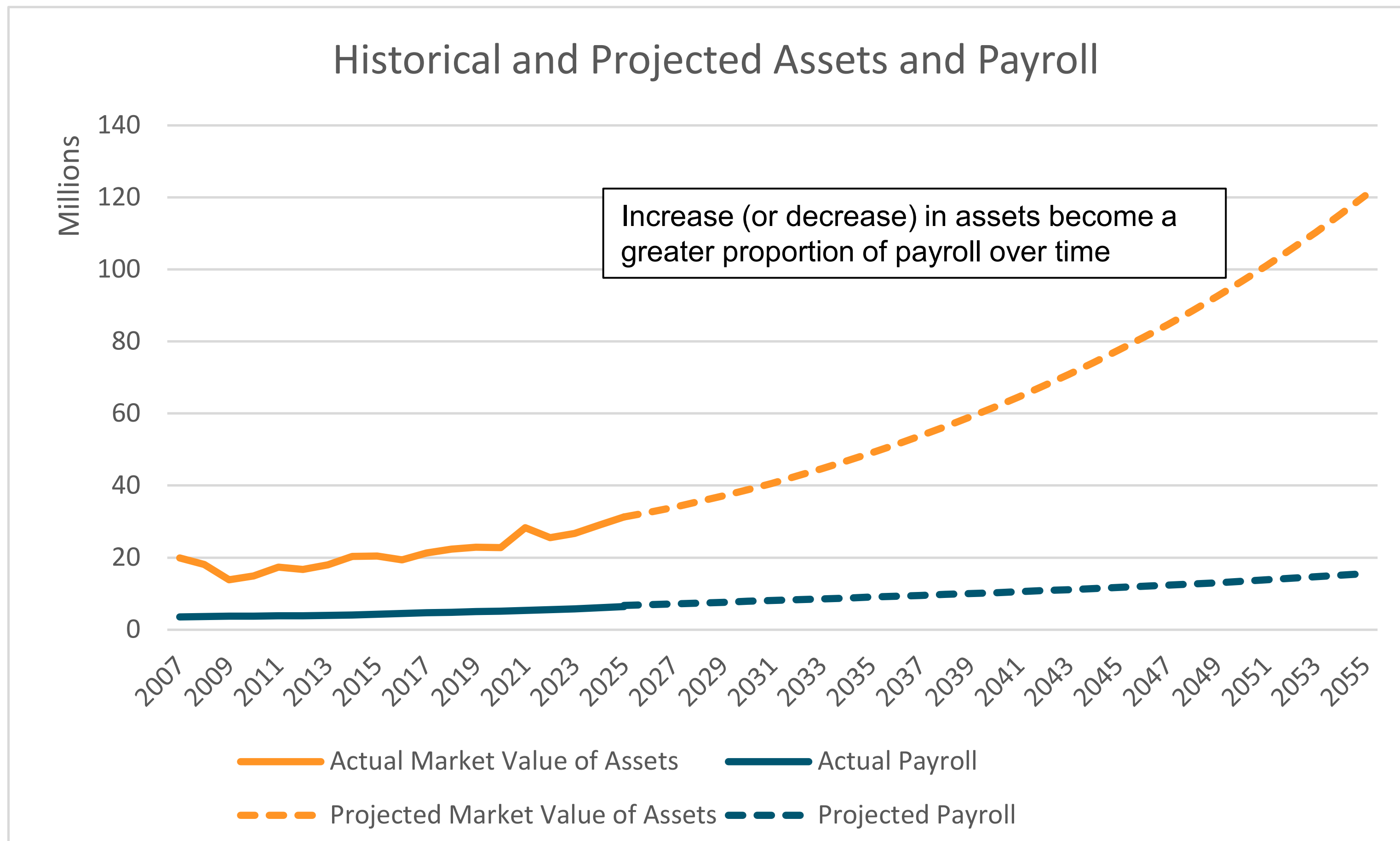
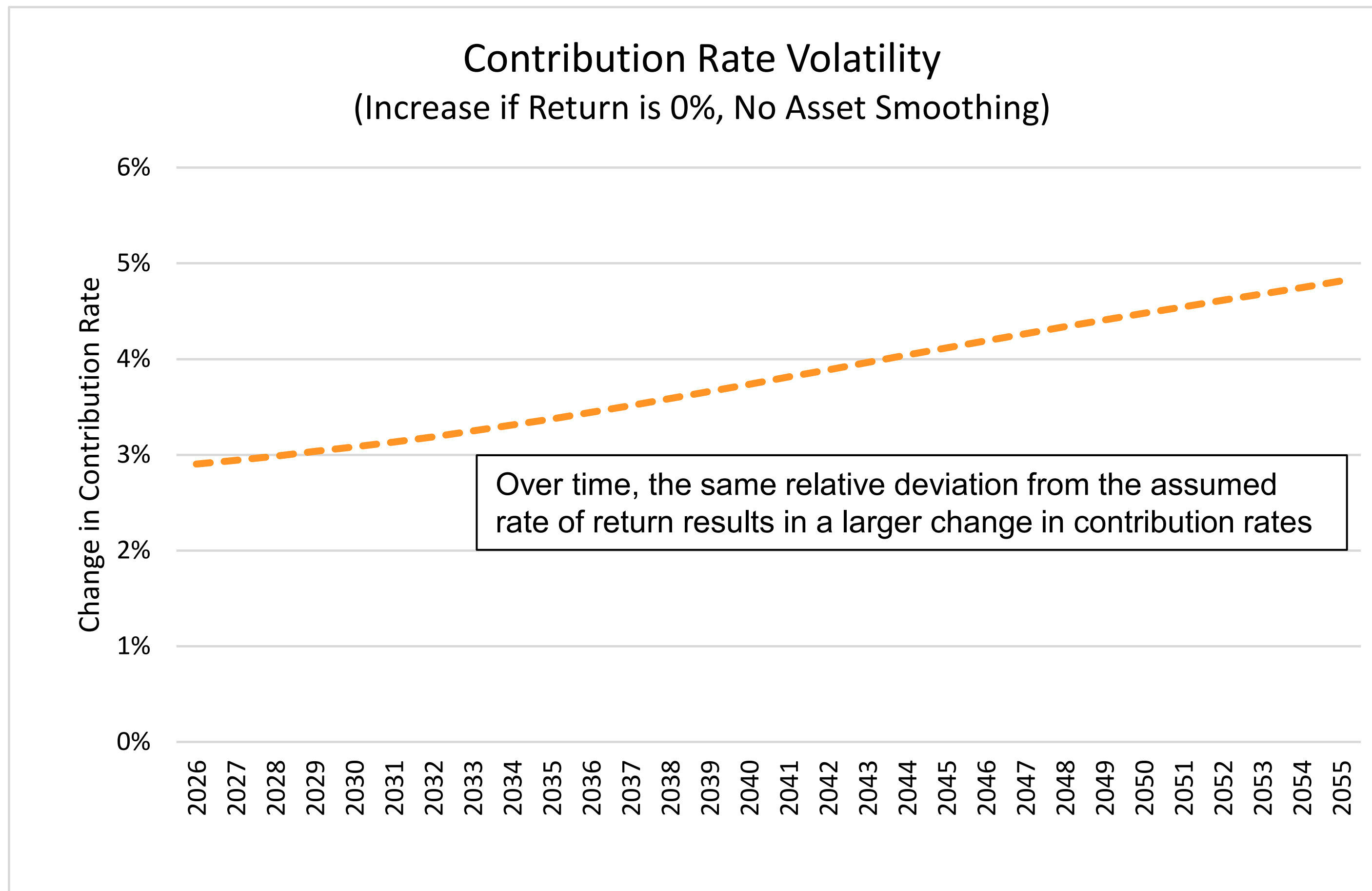


Projected results assume all assumptions are met in the future

Impact of Actual vs Expected Return on Contribution Rates



Managing Pension Surplus

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What is an Actuarial Surplus?

- Definition
  - A surplus exists when a plan's Actuarial Value of Assets (AVA) exceeds its Actuarial Accrued Liability (AAL), producing a funded ratio above 100%
  - Surplus = AVA – AAL
- Key Measurement Considerations
  - Surplus is measured on an actuarial basis using smoothed asset values – not market value
  - Actuarial asset smoothing methods can mask the true market-value funded status
- Common Drivers of Surplus
  - Investment returns that persistently exceed the assumed rate of return
    Favorable demographic experience: higher mortality, fewer disabilities, or higher turnover than assumed
  - Employer or employee contributions paid in excess of the actuarially required amount
  - *A surplus is not permanent – a single adverse market year or assumption change can erode it quickly*

Funded Ratio Under Different Actual FY 2027 Investment Returns

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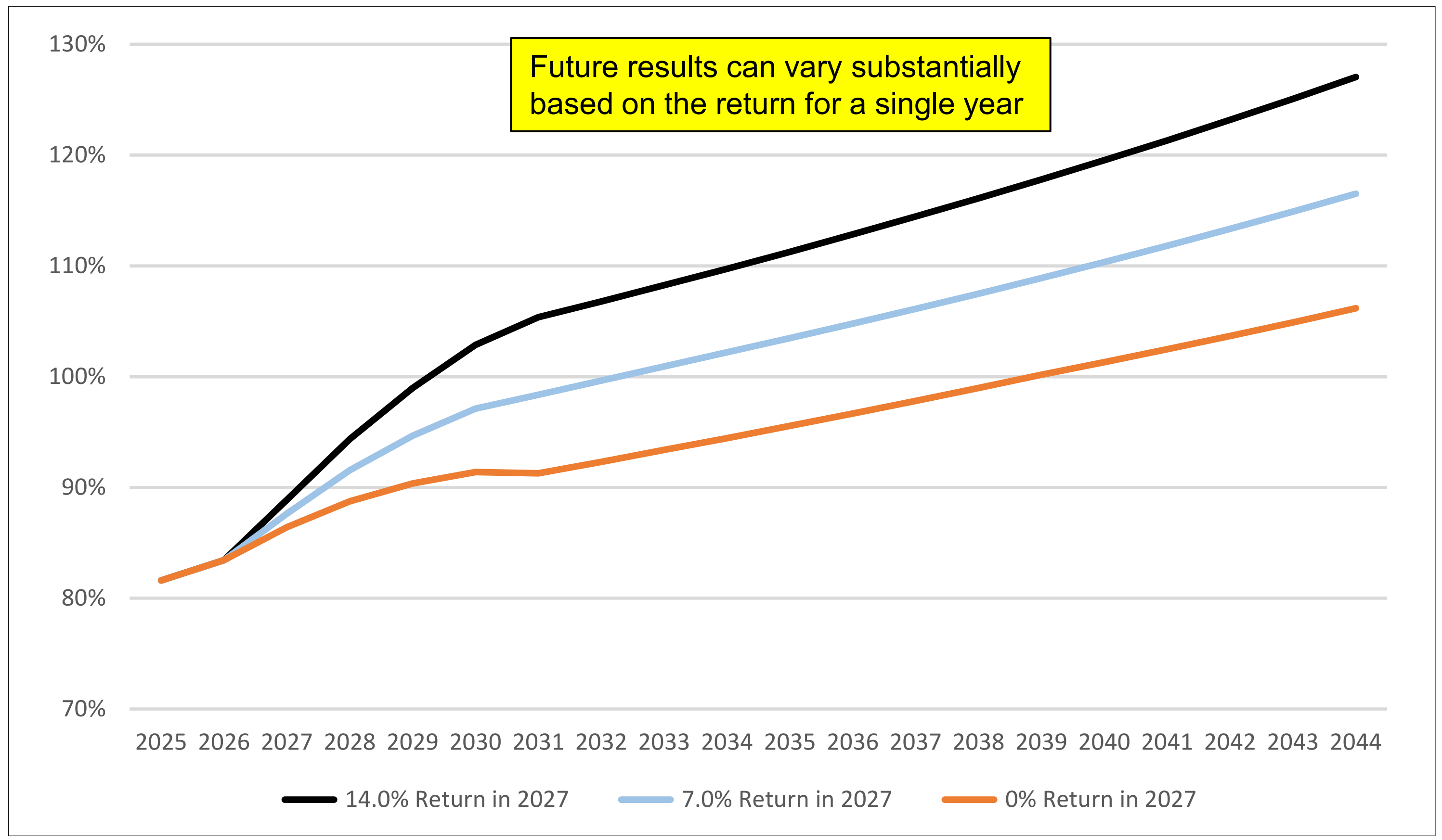

Funded ratio = Actuarial value of assets divided by Actuarial Accrued Liability. For projections, the investment return assumption remains 7.0% for all scenarios unless stated otherwise. Projections are based on the 2025 valuation model using actual 2026 return.

Risk of Benefit Improvements

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- Because TRA is funded with fixed contribution rates, if the contribution rate sufficiency is used to improve benefits and assumptions are not met in the future, the funded status of the plan is negatively impacted.

- If the contribution sufficiency is used to improve benefits, funded status is expected to be lower over time and the probability that benefits will need to be reduced at some time in the future increases.

- Depending on how improvements are structured, teachers closer to retirement may benefit sooner without contributing as much to the improvements as teachers further away from retirement.

Using Pension Surplus for Benefit Improvements

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Considerations

1. Is the surplus material?
   - A funded ratio marginally above 100% provides little room for actual experience being less favorable than assumed
2. Does the surplus appear to be sustainable?
   - Consecutive valuation cycles above a minimum surplus threshold
3. What do stress tests show?
   - The funded ratio should show some resilience under adverse return and demographic scenarios
4. What are appropriate levels of improvement?
   - Match improvements to the funded status: modest improvements for modest surpluses, larger improvements only for strong, sustained surpluses

Key Conclusions

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- Surplus May Not Be Permanent
  - Actuarial surplus can erode rapidly from market corrections, assumption changes, or unexpected demographic experience
- Reversible or Non-Permanent Actions
  - Benefit improvements using part of a surplus that create permanent changes create obligations that may outlast the surplus itself
  - An example of a non-permanent action is granting "13th checks" instead of a Cost-of-Living Adjustment

Actuarial Certification

We, Brent Banister, FSA, and Ben Mobley, ASA, are consulting actuaries with Cavanaugh Macdonald Consulting, LLC. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. We are available to answer any questions or provide additional information as needed.

Sincerely,

Brent A. Banister

Brent A. Banister, Ph.D., FSA, EA, FCA, MAAA
Chief Actuary

Ben Mobley

Ben Mobley, ASA, FCA, MAAA
Consulting Actuary


THANK
YOU

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TRA Board of Trustees: Strategic Development Project

Building the Board's Decision-Making Foundation

Project Kickoff & Governance Framework Discussion | August 19, 2026

Christie Nolan, Amy McDuffee, Natasha Smith

MOSAIC
Governance Advisors

Agenda

- Today's Objectives
- Mosaic's Approach
- Governance Framework
- Funding Policy
- Next Steps

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Today’s Objectives

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Today's Objectives

- Align on project roadmap and priorities
- Establish a shared picture of the board's role, responsibilities, and authority
- Gather initial board input on Funding Policy enhancements

Mosaic's Approach

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Mosaic's Key Activities to Date

Built Our Familiarity with TRA through Document Review

Interviewed Board & Executive Leadership

Created a Draft Governance Map

Reviewed the TRA Funding Policy (in consultation with CavMac)

Your Needs:
What We Heard (So Far)

- A clear, shared long-term vision for TRA
- Robust decision-making tools and strengthened board governance policies
- Board ownership of strategy and Funding Policy
- An independent facilitator can be valuable in navigating competing priorities
- What else? (open for board discussion)

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Our Approach

- Encourage thoughtful deliberation now to enable stronger decisions in the future
- Ground recommendations in direct stakeholder feedback
- Productively partner with the board's actuary and TRA leadership, as appropriate
- Create meaningful board ownership through active engagement and shared decision-making
- Focus on strengthening governance practices and structures that support long-term organizational success

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Initial Project Plan (July 2026 – July 2027)

July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July

Phase 1:
Discovery and Governance Baseline

Phase 2:
Stakeholder Engagement and Research Insights

Phase 4:
Governance Alignment and Policy Development

Phase 3:
Funding Policy Application and Decision Framework

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Key Dates for Board Involvement

Phase 2: Stakeholder Engagement and Research Insights

- **October:** Launch surveys & begin interviews
- **January:** Research synthesis report presented

Phase 3: Funding Policy Application and Decision Framework

- **September – December:** Continued discovery & board discussions
- **March:** Funding Policy Working Session
- **May:** First reading of Funding Policy and supporting framework

Phase 4: Governance Alignment and Policy Development

- **March:** Governance Improvement Roadmap presented
- **June:** First reading of new governance policies
- **July:** Second reading of new governance policies

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Discussion

- What feedback do you have on this initial project plan?

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Governance Framework

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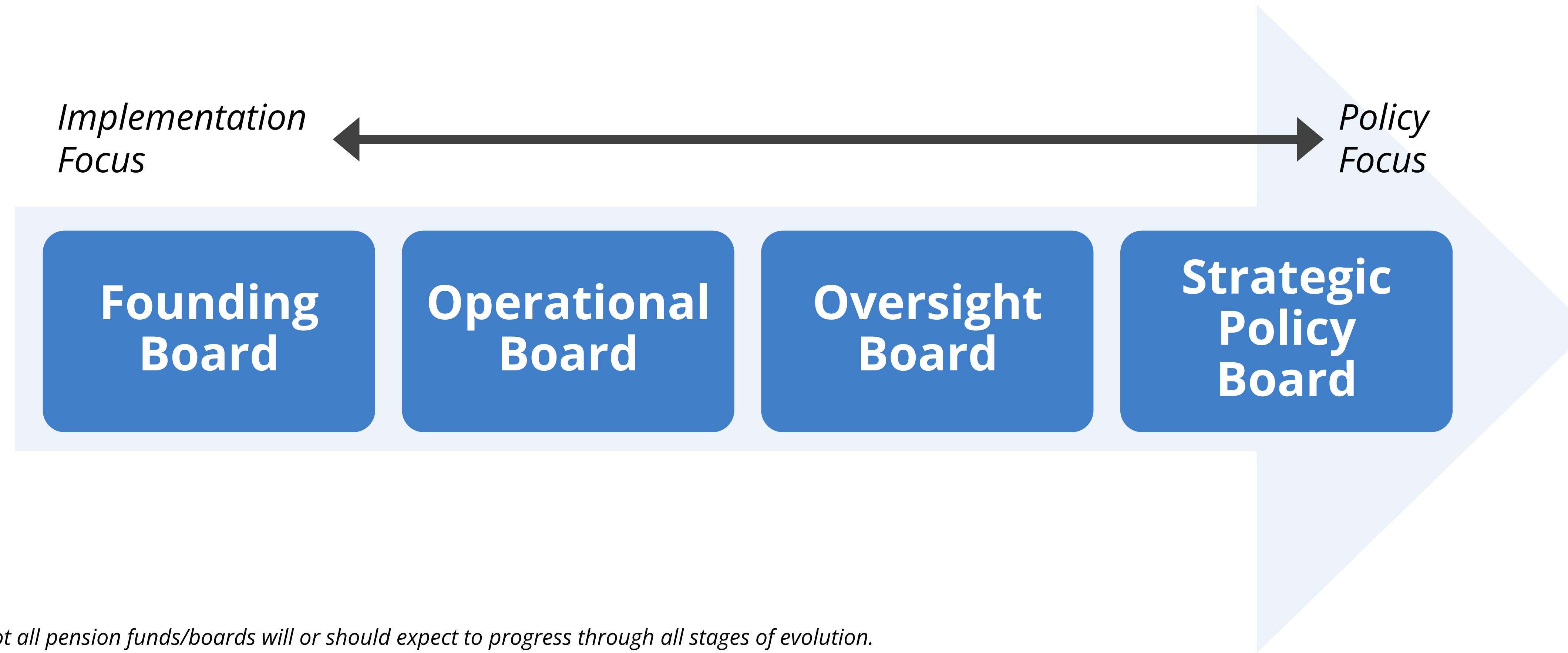
Why Governance Matters

- Governance ensures:
  - fiduciary responsibilities are met,
  - strategic goals are advanced, and
  - risks are managed.
- The quality of public pension fund governance is correlated with organizational performance.*

**The Pension Governance Deficit: Still With Us. By Ambachtsheer, Capelle, and Lum. Published Fall 2008 in the Rotman International Journal of Pension Management.*

Public Pension Board Evolution



**Not all pension funds/boards will or should expect to progress through all stages of evolution.*

The Role of a Strategic Policy Board

- **Strategy:** Shape mission and strategic direction
- **Risk:** Set appetite on key risks for the system and monitor/mitigate emerging risks
- **Performance:** Monitor organizational outcomes and identify opportunities for improvement
- **People:** Ensure proper leadership, talent, and resources

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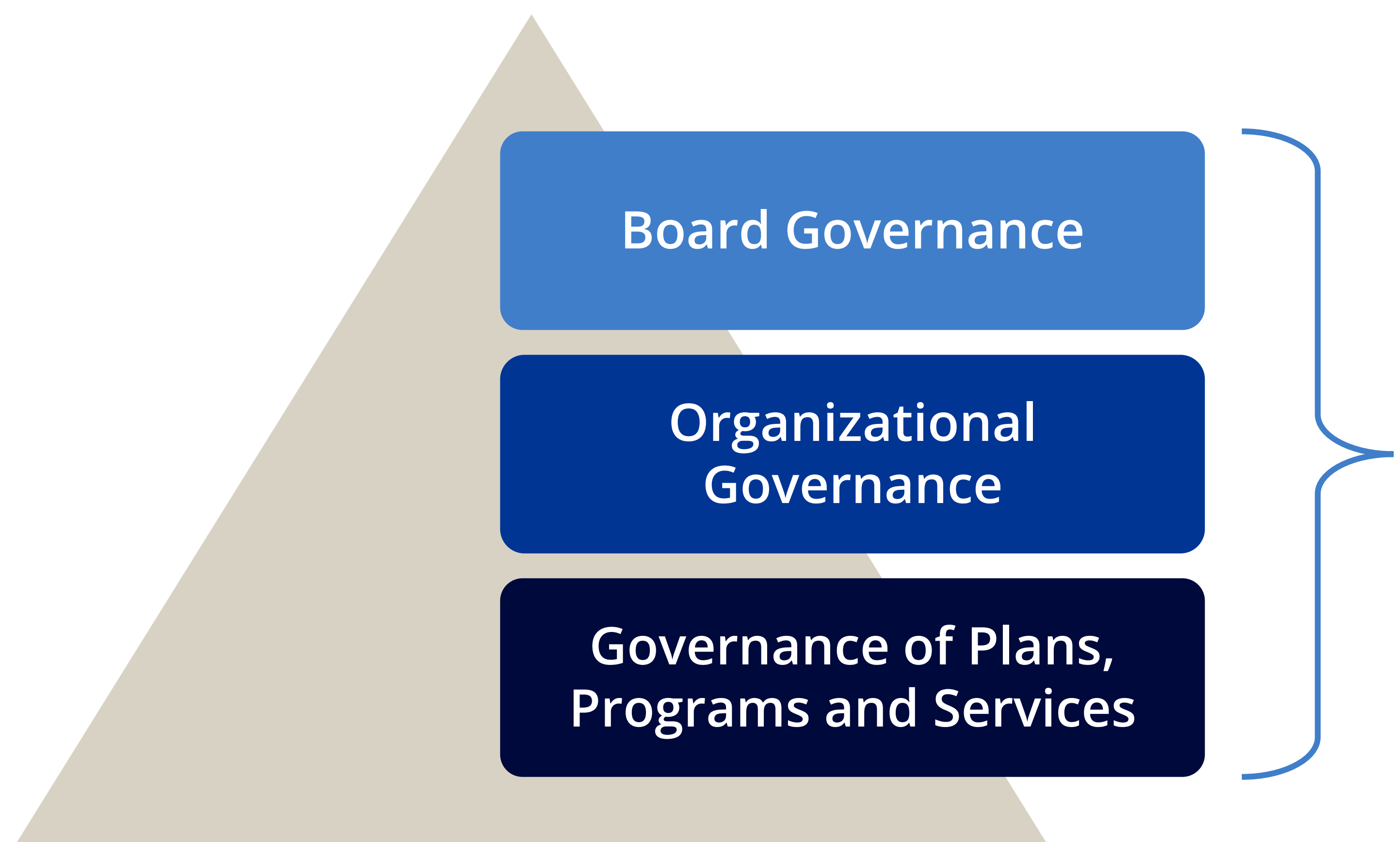
Common Scopes of Board Decision-Making



Statutory authority assigned to the board impacts what responsibilities exist within each scope

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Key Board Responsibilities: What is the TRA Board's "Lane"?*

	Board Governance	Organizational Governance	Plans, Programs, and Services
Strategy	1. Adopt board meeting calendar and annual workplan 2. Establish and oversee board committee structure 3. Define and periodically evaluate trustee continuing fiduciary education program 4. Establish and maintain board governance practices, policies and procedures 5. Approve board election procedures and results 6. Determine TRA's position on key legislation	1. Approve the organization-wide strategic plan 2. Approve the annual operating budget 3. Approve actions on certain litigation matters 4. Set and resource the internal audit plan 5. Determine TRA's position on key legislation	1. Review long-term funded status, actuarial valuations, actuarial assumptions, and emerging actuarial trends 2. Oversee customer service trends 3. Determine TRA's position on key legislation
Risk	7. Establish board operating practices and meeting procedures (consistent with Minnesota Open Law) to optimize board effectiveness 8. Ensure compliance with fiduciary duties 9. Ensure access to legal, actuarial and fiduciary advice 10. Approve changes/additions to board governance policies 11. Determine insurance for/indemnification of trustees 12. Engage in succession planning for the board	6. Oversee compliance with applicable laws, regulations, board policies, & fiduciary requirements 7. Monitor internal audit activities and the effectiveness of internal controls 8. Review annual financial reporting and audit results 9. Plan for Executive Director (Ex. Dir.) succession 10. Ensure Ex. Dir. has a succession framework for staff 11. Ensure management has a disaster recovery/business continuity plan	5. Oversee compliance with applicable laws, regulations, board policies, & fiduciary requirements 6. Determine membership and benefit eligibility matters assigned to the board by law 7. Monitor funded status, contribution sufficiency/deficiency, and actuarial funding risks 8. Ensure TRA has framework to keep member and organizational data secure and to address and monitor cyber risk
Performance	13. Conduct annual review of board effectiveness 14. Obtain knowledge and skills necessary to fulfill fiduciary responsibilities	12. Monitor and evaluate Ex. Dir. annually 13. Monitor strategic plan progress 14. Monitor operating budget performance and review financial reporting and audit results 15. Monitor progress of key projects 16. Monitor organization-wide risk 17. Monitor and evaluate key service providers	9. Oversee administrative performance and expenses 10. Review actuarial reports 11. Review investment information provided by the SBI and the IAC 12. Review customer service performance
People	16. Elect board President and Vice President; determine appropriate responsibilities/authority 17. Fill trustee vacancies when required 18. Periodically identify trustee development needs 19. Approve board travel and reimbursement 20. Nurture positive board culture	18. Appoint Ex. Dir.; approve Ex. Dir. compensation within legal limits 19. Approve certain executive-level appointments where required, based on Ex. Dir.'s recommendation 20. Select key service providers 21. Oversee organizational culture	13. Hear and take action on member appeals; monitor trends in member appeals 14. Monitor changes in legislators and LCPR composition

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This list is not intended to be exhaustive.

Discussion

- What are your initial reactions and impressions of the TRA Governance Map?
- Are any responsibilities missing or misplaced? Do any responsibilities need to be clarified?

Board Authority & Decision-Making

Area	Description of Board Authority
Operational Budget	**Full.** The board reviews and approves the annual operating budget consistent with applicable law.
Personnel & Staffing	**Full.** The board appoints, annually evaluates, and reappoints the Executive Director and approves certain executive-level appointments. The board has authority to employ all employees necessary to properly administer TRA.
Compensation	**Limited.** The board establishes and reviews Executive Director compensation, subject to applicable law. TRA staff are considered state employees.
Procurement, Contracting & External Vendors	**Partial.** The board approves actuarial contracts and other consulting arrangements where board approval is required by law. TRA is required to use the state's procurement system for most other contracts. Office of the Legislative Auditor conducts an external financial statement audit. GASB audit is conducted by an external private sector firm. LCPR may contract with an actuarial consulting firm for audits. TRA uses the AG's office for legal counsel, but it can use internal counsel and/or outside counsel for specialty matters.

Board Authority & Decision-Making

Area	Description of Board Authority
Funding	**No Authority.** The board monitors actuarial valuations, funded status, contribution sufficiency or deficiency, and funding risks. Contribution rates and funding changes are statutory or legislative matters. The board may take positions or make recommendations where appropriate.
Investments	**No Authority.** The board does not approve investment policy, investment beliefs, strategic asset allocation, or manager selection. Those authorities are assigned to the SBI and the IAC. The TRA Executive Director serves on the IAC. The board's role is to monitor performance, receive investment information, and ensure trustee understanding.
Benefits Design	**No Authority.** Retirement benefit structures, formulas, COLAs, and contribution rates are established in state law. The board may evaluate and take positions on legislation that affects the plan, consistent with its fiduciary duties, but it does not independently design retirement benefits.

Funding Policy

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Defining a Funding Policy

- **Conventional Definition*:** A policy that describes how the cost of the promised benefits will be funded in an equitable and sustainable manner.
- **What this means for TRA:**
  - Compilation of statutes to define contours of the board's funding authority
  - Establishment of a funding goal
  - Expression of guiding principles for funding-related decisions
- **Purpose & Value**
  - Provides structure to board discussions of TRA's legislative positions
  - Educational tool for trustees
  - Communication tool for stakeholders

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*Sources: GFOA; Segal Marco; Texas Pension Review Board

Our Approach

- Observe board's preparation for 2027 legislative session to identify opportunities for greater clarity
- Gather and incorporate staff, stakeholder, and actuarial perspectives
- Refine the policy and develop a tool to provide clearer guidance for determining TRA's positions on key legislation
- Document the process to support continuity through turnover

Our Initial Observations

- **Mosaic reviewed TRA's Guiding Principles and Funding Policy**

- **Initial Observations**
  - Funding Policy addresses most of the best-practice core elements (as defined by GFOA)
  - Potential for confusion between guiding principles and funding goals
  - No single, clearly stated funding goal

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Current Guiding Principles *(from Trustee Handbook)*

- **Shared Commitment:** All stakeholders—members, retirees, employers and state, share in solution.
- **Intergenerational Equity:** Avoid creating or exacerbating imbalances among generations of members and retirees.
- **Long-Term Financial Stability:** Achieve full funding in 30 years in order to preserve the defined-benefit pension for future generations.
- **Maintain Recruitment/Retention Value of TRA Pension:** Experienced teachers benefit students and create high quality education system; need to avoid large cuts in basic pension that would reduce recruitment/retention value of pension.

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Current Funding Policy Components

1. TRA Funding Goals
2. Funding Benchmarks
3. Actuarial Methods and Procedures*
4. Actuarial Assumptions*
5. Post-retirement Benefit Adjustments Mechanism (COLAs)*
6. Contribution Rate Philosophy and Rate-Setting Process
7. Funding Analysis Reports
8. Consolidation Principles

**Sections largely derived from Minnesota statutes;*

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Current Funding Goals

(lightly edited & shortened from Funding Policy)

The overall financial objective of TRA in funding its defined benefit plan is to accumulate sufficient assets during members' employment to fully fund the benefits that will be provided to them in retirement.

- **Pre-fund benefits** in a manner sufficient to maintain adequate asset levels so that investment earnings are the primary source of revenue to pay benefits.
- **Achieve inter-generational contribution equity** by maintaining relatively stable employee and employer contribution rates that systematically fund the benefit costs & UAAL.
- Develop a pattern of **relatively stable and sufficient contribution rates** that allow reasonable income predictability for members and budget predictability for employers.
- **Target a 100 percent funded ratio** to be achieved over a reasonable period of time.

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Discussion

- How do you use your Funding Policy and Guiding Principles today?
- In what ways do they help the board determine positions on legislation, and in what ways do they impede or cause confusion?
- What would make them more useful or clearer?

Next Steps

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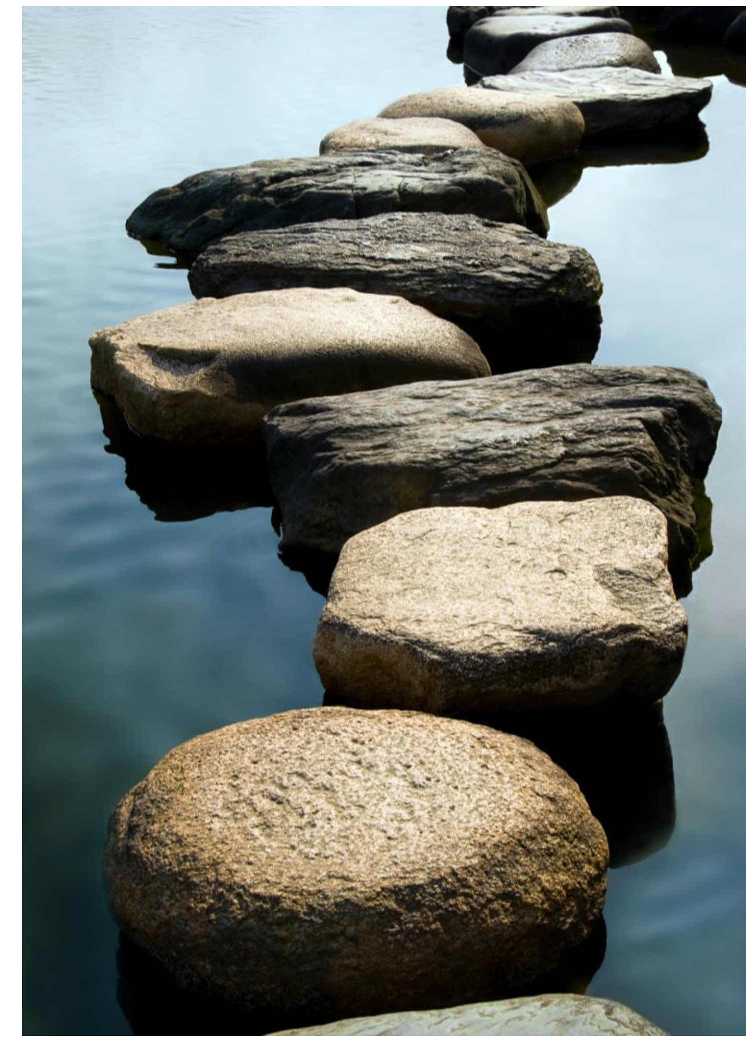
Next Steps

- **Ongoing**
  - Bi-weekly project check-ins with TRA leadership
  - Pre-board meeting briefings with board leadership
  - Conversations with the board about Funding Policy
- **October:** Individual trustee interviews
- **October:** Research efforts with additional stakeholders
- **January:** Synthesis of themes and priorities from stakeholder research



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Thank You

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Appendix

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Coverage of Best Practice Elements

Analysis based on the Government Finance Officers Association's recommendations

Minimum Requirements: Principles & Objectives	TRA's Funding Policy
Obtain a reasonable actuarial determined contribution (ADC) at least every 2 years to serve as the basis for contributions to the plan	✓ Addressed
ADC should fully fund the long-term costs of promised benefits while balancing contribution stability and the equitable allocation of costs over the employees' period of active service	✓ Addressed
Make a commitment to fund the full amount of ADC each period	✓ Addressed
Transparently communicate all information necessary for assessing progress toward the funding objectives	✓ Addressed

Source: https://www.gfoa.org/materials/pension-and-opeb-plan-funding

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Coverage of Best Practice Elements

Analysis based on the Government Finance Officers Association's recommendations

Core Elements	TRA's Funding Policy
Actuarial Audits	Addressed
Actuarial Experience Studies	Addressed
Asset Smoothing	Addressed
Amortization	Addressed
Managing Liability Growth	Partially Addressed
Portfolio Diversification	N/A
Reasonable Actuarially Determined Contribution (ADC)	Addressed
Surplus Management	Not Addressed

Source: https://www.gfoa.org/materials/pension-and-opeb-plan-funding

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Key Board Responsibilities: What is the TRA Board's "Lane"?*

	Board Governance	Organizational Governance	Plans, Programs, and Services
Strategy	1. Adopt board meeting calendar and annual workplan 2. Establish and oversee board committee structure 3. Define and periodically evaluate trustee continuing fiduciary education program 4. Establish & maintain board governance practices, policies and procedures 5. Approve board election procedures and results 6. Determine TRA's position on key legislation	1. Approve the organization-wide strategic plan 2. Approve the annual operating budget 3. Approve actions on certain litigation matters 4. Set and resource the internal audit plan 5. Determine TRA's position on key legislation	1. Review long-term funded status, actuarial valuations, actuarial assumptions, and emerging actuarial trends 2. Oversee customer service trends 3. Determine TRA's position on key legislation
Risk	7. Establish board operating practices and meeting procedures (consistent with Minnesota Open Law) to optimize board effectiveness 8. Ensure compliance with fiduciary duties 9. Ensure access to legal, actuarial and fiduciary advice 10. Approve changes/additions to board governance policies 11. Determine insurance for/indemnification of trustees 12. Engage in succession planning for the board	6. Oversee compliance with applicable laws, regulations, board policies, & fiduciary requirements 7. Monitor internal audit activities and the effectiveness of internal controls 8. Review annual financial reporting and audit results 9. Plan for Executive Director (Ex. Dir.) succession 10. Ensure Ex. Dir. has a succession framework for staff 11. Ensure management has a disaster recovery/business continuity plan	5. Oversee compliance with applicable laws, regulations, board policies, & fiduciary requirements 6. Determine membership and benefit eligibility matters assigned to the board by law 7. Monitor funded status, contribution sufficiency/deficiency, and actuarial funding risks 8. Ensure TRA has framework to keep member and organizational data secure and to address and monitor cyber risk

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Key Board Responsibilities: What is the TRA Board's "Lane"?*

	Board Governance	Organizational Governance	Plans, Programs, and Services
Performance	1. Conduct annual review of board effectiveness 2. Obtain knowledge and skills necessary to fulfill fiduciary responsibilities	1. Monitor and evaluate Ex. Dir. annually 2. Monitor strategic plan progress 3. Monitor operating budget performance and review financial reporting and audit results 4. Monitor progress of key projects 5. Monitor organization-wide risk 6. Monitor and evaluate key service providers	1. Oversee administrative performance and expenses 2. Review actuarial reports 3. Review investment information provided by the SBI and the IAC 4. Review customer service performance
People	1. Elect board President and Vice President; determine appropriate responsibilities/authority 2. Fill trustee vacancies when required 3. Periodically identify trustee development needs 4. Approve board travel and reimbursement 5. Nurture positive board culture	1. Appoint Ex. Dir.; approve Ex. Dir. compensation within legal limits 2. Approve certain executive-level appointments where required, based on Ex. Dir.'s recommendation 3. Select key service providers 4. Oversee organizational culture	1. Hear and take action on member appeals; monitor trends in member appeals 2. Monitor changes in legislators and LCPR composition

**This list is not intended to be exhaustive.*

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Board Authority & Decision-Making

Area	Description of Board Authority
Operational Budget	**Full.** The board reviews and approves the annual operating budget consistent with applicable law.
Personnel & Staffing	**Full.** The board appoints, annually evaluates, and reappoints the Executive Director and approves certain executive-level appointments. The board has authority to employ all employees necessary to properly administer TRA.
Compensation	**Limited.** The board establishes and reviews Executive Director compensation, subject to applicable law. TRA staff are considered state employees.
Procurement, Contracting & External Vendors	**Partial.** The board approves actuarial contracts and other consulting arrangements where board approval is required by law. TRA is required to use the state's procurement system for most other contracts. Office of the Legislative Auditor conducts an external financial statement audit. GASB audit is conducted by an external private sector firm. LCPR may contract with an actuarial consulting firm for audits. TRA uses the AG's office for legal counsel, but it can use internal counsel and/or outside counsel for specialty matters.
Funding	**No Authority.** The board monitors actuarial valuations, funded status, contribution sufficiency or deficiency, and funding risks. Contribution rates and funding changes are statutory or legislative matters. The board may take positions or make recommendations where appropriate.
Investments	**No Authority.** The board does not approve investment policy, investment beliefs, strategic asset allocation, or manager selection. Those authorities are assigned to the SBI and the IAC. The TRA Executive Director serves on the IAC. The board's role is to monitor performance, receive investment information, and ensure trustee understanding.
Benefits Design	**No Authority.** Retirement benefit structures, formulas, COLAs, and contribution rates are established in state law. The board may evaluate and take positions on legislation that affects the plan, consistent with its fiduciary duties, but it does not independently design retirement benefits.

Legislative Proposals

Consistent with its fiduciary duties, the board's primary focus when it takes positions or makes recommendations on legislative proposals is to ensure the financial stability and viability of the fund. For example, the TRA board has consistently only supported benefit improvements or changes when there are sufficient financial resources either already available in the fund or made available through additional contributions in order to fund the changes without incurring a contribution deficiency.

Should a significant contribution deficiency develop and persist, the board should bring this to the attention of the legislature and advocate for corrective action to address the deficiency. In addition, with respect to benefit changes, the board strives to support provisions that are applicable to broad segments of the membership rather than narrowly-defined sub-groups.

The board adopted a set of Guiding Principles to be considered and influential in the decision-making process.

Shared Commitment

All stakeholders—members, retirees, employers and state, share in solution.

Intergenerational Equity

Avoid creating or exacerbating imbalances among generations of members and retirees.

Long-Term Financial Stability

Achieve full funding in 30 years in order to preserve the defined-benefit pension for future generations.

Maintain Recruitment/Retention Value of TRA Pension

Experienced teachers benefit students and create high quality education system; need to avoid large cuts in basic pension that would reduce recruitment/retention value of pension.

TRA Funding Policy (adopted by TRA Board of Trustees on 9/16/15)

Preamble

The Board of Trustees of the Minnesota Teachers Retirement Association (TRA) establishes this funding policy in accordance with its fiduciary responsibilities under Minnesota Statutes Chapter 356A. The Government Finance Officers Association (GFOA) recommends that every state and local government offering a defined benefit pension formally adopt a funding policy that provides reasonable assurance that the costs of benefits will be funded in an equitable and sustainable manner.

The overriding financial objective of TRA is to assure the long-term financial stability of its defined benefit plan so that it will continue to be an important contributor to the retirement security of Minnesota's public school educators. This funding policy is intended to ensure that the long-term costs of members' benefits will be financed over their lifetimes through the systematic and disciplined accumulation of financial resources.

This funding policy provides guidance to the TRA board and staff in decision making for TRA's defined benefit plan. The policy also provides a valuable communication tool for TRA in working with active member, retiree and employer stakeholder groups and with state government policy makers in the legislative and executive branches.

This funding policy differs in purpose and content from the accounting and financial reporting standards promulgated by the Government Accounting Standards Board (GASB) in Statements 67 and 68. GASB standards in some cases use different actuarial assumptions and methods. Minnesota laws (356.22 and 356.23), however, permit the TRA board to provide additional data and actuarial calculations that are alternatives to GASB standards and conform to the assumptions and methods set out in state statute and this policy.

The purpose of this TRA Funding Policy is to describe:

1. **Overall funding goals of TRA.**
2. **Benchmarks or indicators used to measure progress toward attaining those funding goals.**
3. **Underlying actuarial methods, procedures used to calculate funding benchmarks.**
4. **Underlying actuarial assumptions used to calculate funding benchmarks.**
5. **TRA's post-retirement benefit adjustment mechanism (COLAs)**
6. **Contribution rate philosophy and rate-setting process of TRA.**
7. **Reports and tools TRA uses to monitor funding.**
8. **Consolidation principles.**

1 TRA FUNDING GOALS

The overall financial objective of TRA in funding its defined benefit plan is to accumulate sufficient assets during members' employment to fully fund the benefits that will be provided to them in retirement. This includes benefits for current retirees/beneficiaries, benefits already earned by current active members and future benefits to be earned by current members. In pursuing this financial objective, TRA establishes the following funding goals:

a. **Pre-fund benefits** in a manner sufficient to maintain adequate asset levels so that investment earnings are the primary source of revenue to pay benefits. Attaining this objective assures that benefits are financed in a cost-efficient manner, lessening the need to rely on employer or employee contributions.

b. **Achieve inter-generational contribution equity** by maintaining employee and employer contribution rates that are relatively stable over long periods of time and systematically fund the benefit costs during members' working careers and the unfunded actuarial accrued liability (UAAL) over a reasonable time period.

c. Develop a pattern of **relatively stable and sufficient contribution rates** that allow reasonable income predictability for members and budget predictability for employers.

d. **Target a 100 percent funded ratio** to be achieved over a reasonable period of time. Rely upon the actuary's periodic actuarial funding projections as well as the annual calculation of the fund's contribution sufficiency/deficiency to determine whether the fund is on track to achieve the 100 percent funded goal. If the fund is projected to fall significantly below attaining its 100 percent funding target, the TRA board will evaluate the cause and magnitude of underfunding and may assess options including benefit changes, contribution rate increases, and increases in other sources of revenue that could put the fund back on track to attain full funding in a reasonable period of time.

2 FUNDING BENCHMARKS

To measure progress in achieving TRA's funding goals, the following funding benchmarks will be used:

a. **Funded ratio.** TRA will monitor the system's funded ratio, as reported annually by the actuary in the actuarial valuation report. TRA will monitor and evaluate the fund's funded ratio based on both the market and actuarial value of assets.

b. **Deficiency/Sufficiency.** TRA will monitor the fund's contribution deficiency/sufficiency which is reported annually in the actuarial valuation and reflects the degree to which TRA is on track to attain full funding by a target date. TRA will monitor and evaluate the fund's deficiency/sufficiency based on both market value and actuarial value of assets.

c. **Actuarial projections.** Recognizing the many moving parts of funding the plan, actuarial projections will be completed, as needed to assist the board in evaluating the system's progress toward reaching TRA's funding goals. These projections are required to be produced under the LCPR's Standards of Actuarial Practice every two years but will be produced more frequently when needed.

3 ACTUARIAL METHODS AND PROCEDURES

The following actuarial methods and procedures will be used in calculating funding benchmarks:

a. **Actuarial cost method.** The actuarial cost method used to allocate benefit liabilities is the entry age normal (EAN) cost method, as provided in state statute [356.215 Subd. 1(f)]. This method is preferred because it accumulates assets more quickly so that they can be invested earlier to help offset the need for future contributions. This better assures pre-funding of benefits, intergenerational equity and a more stable cost pattern over time.

b. **Asset valuation method.** The actuarial value of assets is determined by smoothing asset gains and losses over a five-year period as stipulated in state statute [356.215 Subd. 1(b)]. This technique helps smooth out short-term volatility, particularly in required contribution rates.

c. **Amortization period.** The period for amortizing unfunded actuarial accrued liabilities is a closed, fixed period that should be no more than 30 years. The board will periodically evaluate the appropriate length of the amortization period and take into consideration the competing needs for contribution rate stability and intergenerational equity. Currently TRA's fixed amortization date is July 1, 2048 and is set in statute [356.215 Subd. 11].

d. **Level-percent-of-pay amortization.** The method for calculating the additional contribution needed to amortize the unfunded actuarial accrued liabilities amortizes those costs as a level percent of covered payroll, as stipulated in state statute [356.215 Subd. 11]. Using the level-percent-of-pay approach is consistent with the pay-related structure of benefits and consistent with how normal costs are determined.

e. **Costs of post-retirement adjustments.** The costs of automatic post-retirement benefit adjustments (COLAs) shall be anticipated and funded on an actuarial basis as part of the actuarial requirements and contribution structure reported in annual valuations. State statute [356.215 Subd. 8 (b) (1) and (2)] defines how future COLA costs shall be actuarially valued and included in liabilities with the objectives of identifying and financing the full cost of expected benefits including COLAs.

4 ACTUARIAL ASSUMPTIONS

The actuarial assumptions used in calculating funding benchmarks are described below. Funding for a defined benefit plan is a very long-term endeavor. Therefore, actuarial assumptions should focus on long-term trends, avoiding short-term, frequent shifts in assumptions. Assumptions should be evaluated and changed if long-term expectations have fundamentally changed or if current assumptions are no longer reasonable. Economic and demographic assumptions should be changed only after completion of an experience study.

The process followed by the board to change assumptions is outlined in statute [356.215 Subd. 8 (e) and Subd. 18] and can be summarized as follows: Upon completion of an experience study, the board may recommend changes in assumptions based on recommendations of the actuary and will transmit those recommendations to the LCPR for review. If the LCPR takes no action, the board's recommendations with respect to the revised assumptions, except for the interest rate assumption, become effective one year after transmission of the recommendations to the LCPR.

a. The **interest rate** or investment return assumption used to discount future liabilities shall reasonably reflect the long-term (30 year to 50 year) investment return expectations of the State Board of Investment (SBI). The actuary evaluates this rate as part of periodic experience studies and, when necessary, makes recommendations for changing it. The interest rate is set in statute [356.215 Subd. 8 (a)(1)]. The board may make recommendations to change this assumption, but legislative action is required in order to effect any change.

b. **Other economic assumptions** (payroll/salary growth and inflation) are recommended by the actuary based on results from periodic experience studies and reasonable long-term expectations. The board evaluates those recommendations and recommends any necessary changes to the LCPR upon completion of the experience study.

c. **Demographic assumptions** (mortality, termination, retirement ages, disability, etc.) are recommended by the actuary based on periodic experience studies and long-term expectations. Statute requires the assumptions be set at levels consistent with those determined in the most recent experience study [356.215 Subd. 9]. The board evaluates the actuary's recommendations and transmits recommendations to the LCPR when necessary.

5 POST-RETIREMENT BENEFIT ADJUSTMENTS MECHANISM (COLAS)

Current Minnesota statutes provide benefit recipients with annual post-retirement adjustments (COLAs). The overall purpose of these adjustments is to provide some measure of inflation protection.

Under current law [356.415 Subd. 1d], a 1 percent compound COLA is paid annually on Jan. 1, effective Jan. 1, 2019 through Dec. 31, 2023. As of Jan. 1, 2024, the COLA will increase 0.1 percent over the next five years. On Jan. 1, 2028 and thereafter, the COLA will be 1.5 percent.

6 CONTRIBUTION RATE PHILOSOPHY AND RATE-SETTING PROCESS

When establishing contribution rates, the overall goal is to develop a pattern of relatively stable and sufficient contribution rates that allow reasonable income predictability for members and budget predictability for employers. If contribution rates need to be increased to compensate for adverse economic or demographic experience, such rate increases should be phased in gradually.

The board will also consider the potential impact contribution rate adjustments may have on future COLAs and the potential impact COLA adjustments will have on contribution rates. The board will be mindful of balancing the needs of contributing members/employers with the needs of benefit recipients.

The actuarial cost of benefits should be financed on a shared basis between employees and employers using the following guiding principles:

a. Employees and employers should share in making contributions to finance the normal costs of benefits and administrative expenses. (Normal cost is the annual cost of benefits earned each year by active members and does not include costs for paying down unfunded liabilities.)

b. Both employees and employers, including the state, may be required to share some financial responsibility for funding the plan's amortization payment for unfunded actuarial accrued liabilities. Decisions about financing unfunded actuarial accrued liabilities should balance the need for paying off unfunded actuarial accrued liabilities with concerns for maintaining inter-generational contribution equity.

7 FUNDING ANALYSIS REPORTS

The main reports and tools which the TRA board and staff use to monitor funded status and ascertain whether funding goals are being achieved are described below. These reports are also used to help decide whether adjustments to plan benefits or revenue are needed. As stated under the funding goals described above, if the fund is projected to fall significantly below attaining its 100 percent funding target, the TRA board will evaluate the cause and magnitude of underfunding and may assess options that could put the fund back on track to attain full funding within a reasonable time period.

a. **Annual actuarial valuations** are prepared in accordance with state statute [356.20, 356.214 and 356.215] and in accordance with the Standards for Actuarial Work established by the Minnesota Legislative Commission on Pensions and Retirement (LCPR). Annual valuations identify funded ratios, contribution deficiencies/ sufficiencies, and actuarial gains/losses which are monitored to identify significant deviations from expected experience. Annual valuations are periodically audited and replicated by the LCPR-retained actuary in a rigorous process that helps assure accuracy of financial reporting and reasonableness of actuarial methods and assumptions.

b. **30-year funding projection reports** are prepared by TRA's actuary at least every two years using varying scenarios of future investment returns as stipulated in the LCPR Standards for Actuarial Work. The TRA board requests more frequent periodic projections or alternate investment return scenarios when needed.

c. **Experience studies** are typically prepared every four years by TRA's actuary in accordance with statute [356.215] to test the accuracy of underlying actuarial assumptions and verify the reasonableness of actuarial methods, ensuring that plan assumptions reflect the best estimate of future experience.

d. **Investment return reports** from the SBI are regularly monitored to anticipate the impact of investment gains or losses on funded status.

e. **Actuarial cost estimates** are prepared by the TRA actuary and reviewed by the board and staff to evaluate the impact of potential changes to benefits, funding or actuarial assumptions. These actuarial cost estimates are prepared in accordance with the LCPR Standards of Actuarial Work.

8 CONSOLIDATION PRINCIPLES

Two retirement funds have consolidated with TRA in recent years. In 2006, the Minneapolis Teachers Retirement Fund Association merged into TRA and in 2015, the Duluth Teachers Retirement Fund Association consolidated with TRA.

Below are principles which the board intends to follow in formulating its legislative positions and recommendations for potential consolidations:

a. Merger should be contingent upon approval of the TRA board and the board and membership of the merging entity. TRA will not promote the merger of another fund unless the merger is supported or requested by the outside fund.

b. TRA would accept a proposed consolidation with the condition that sufficient financial assistance is provided to assure that TRA assets are protected, that TRA is not subsidizing the merging fund and that the consolidating fund is merged into TRA at a fully (100 percent) funded level. Specifically, TRA would accept a consolidation only if a revenue stream is provided, through a combination of dedicated state aid and/or consolidating employer contribution revenue sufficient to cover 100 percent of the liabilities of the merging fund. In calculating the required revenue stream, the full funding of the merging fund's liabilities must occur by TRA's statutory target amortization date, using TRA's actuarial assumptions. Consideration can be given to using different actuarial assumptions and methods if warranted by the specific demographic and economic conditions of the merging fund.

c. The dedicated aid and/or extra employer revenue must continue until TRA attains 100 percent funding and has a sufficiency. Maintaining the dedicated aid/revenue is necessary because adverse experience with investment returns or other factors could cause TRA subsequently to drop below 100 percent and experience a contribution deficiency.

TRA incurs a number of risks with any merger:

- The risk that the financial assistance pledged upon consolidation is subsequently interrupted, not continued, or re-calculated in a manner that makes it insufficient.
- The risk that future investment performance or adverse experience with other actuarial assumptions (mortality, salary/payroll growth, etc.) deviates from expectations and subsequently increases the costs of consolidation.
- The risk that key actuarial assumptions, such as the interest / investment return assumption is subsequently lowered by the Legislature, an action that increases liabilities substantially.