THE UNIVERSITY OF TEXAS SYSTEM

Capital Planning Task Force: Assessing the Need for Capital Required to Close the Gaps at U. T. System Academic Institutions

March 11, 2004

Membership

- The Capital Planning Task Force was established in September by Chairman Miller and is co-chaired by Vice-Chairman Hunt, Chairman of the Finance and Planning Committee, and Vice-Chairman Krier, Chairman of the Academic Affairs Committee.

- Support Staff:
  - Steve Murdock, State Demographer of Texas
  - U. T. System representatives: Joe Stafford, Vice Provost, U. T. San Antonio; Terry Sullivan; Pedro Reyes; Philip Aldridge; Sid Sanders; Ashley Smith; Francie Frederick; Terry Hull; Geri Malandra

Purpose

The purpose of the Capital Planning Task Force is to:

- Assess the need for capital funding at the U. T. System academic institutions through Fiscal Year (FY) 2030, in light of record enrollment growth and the statewide “Closing the Gaps” initiative.

- Identify strategies to fund the needed infrastructure to accommodate expected enrollment growth at the U. T. System academic institutions.

Closing the Gaps

- "Closing the Gaps" is the Texas Higher Education Coordinating Board's (THECB) statewide master plan that established goals of closing the gaps in higher education by 2015 for 1) participation; 2) success; 3) educational excellence; and 4) funded research.

- For the purpose of this analysis, the "gaps are closed" when enrollment rates for African-American and Hispanic students equal the enrollment rate for Anglos on a county-by-county basis.

Closing the Gaps, cont.

- This task force is focused on capital needed to close the gaps for participation and success.
- Capital necessary to close the gaps for excellence and research is not included in this analysis.
- Additional costs such as faculty salaries, utilities, and other general operating expenses needed to support increased enrollment are not included.
- For the purposes of this study, U. T. Austin' enrollment is assumed to be capped at year 2000 levels. Therefore, U. T. Austin's cost to close the gaps for participation and success is "limited" to capital renewal of existing space and capital required to account for its space deficit (based on the THECB's space formula).

Methodology for Enrollment Projections

- Four enrollment scenarios were initially developed based on two population forecasts and two participation rates from the Texas State Data Center. Population was forecast using standard birth and death rates. The scenarios are:

  - **"0.5 w/Closure 2015"** -- Migration rate of ½ the rate for the 1990's and a full closing of the gap in enrollment rates by 2015
  - **"1.0 w/Closure 2015" –** Migration rate equal to the rate for the 1990's and a full closing of the gap in enrollment rates by 2015
  - **"0.5 w/Closure 2030"** -- Migration rate of ½ the rate for the 1990's and a full closing of the gap in enrollment rates by 2030
  - **"1.0 w/Closure 2030" –** Migration rate equal to the rate for the 1990's and a full closing of the gap in enrollment rates by 2030

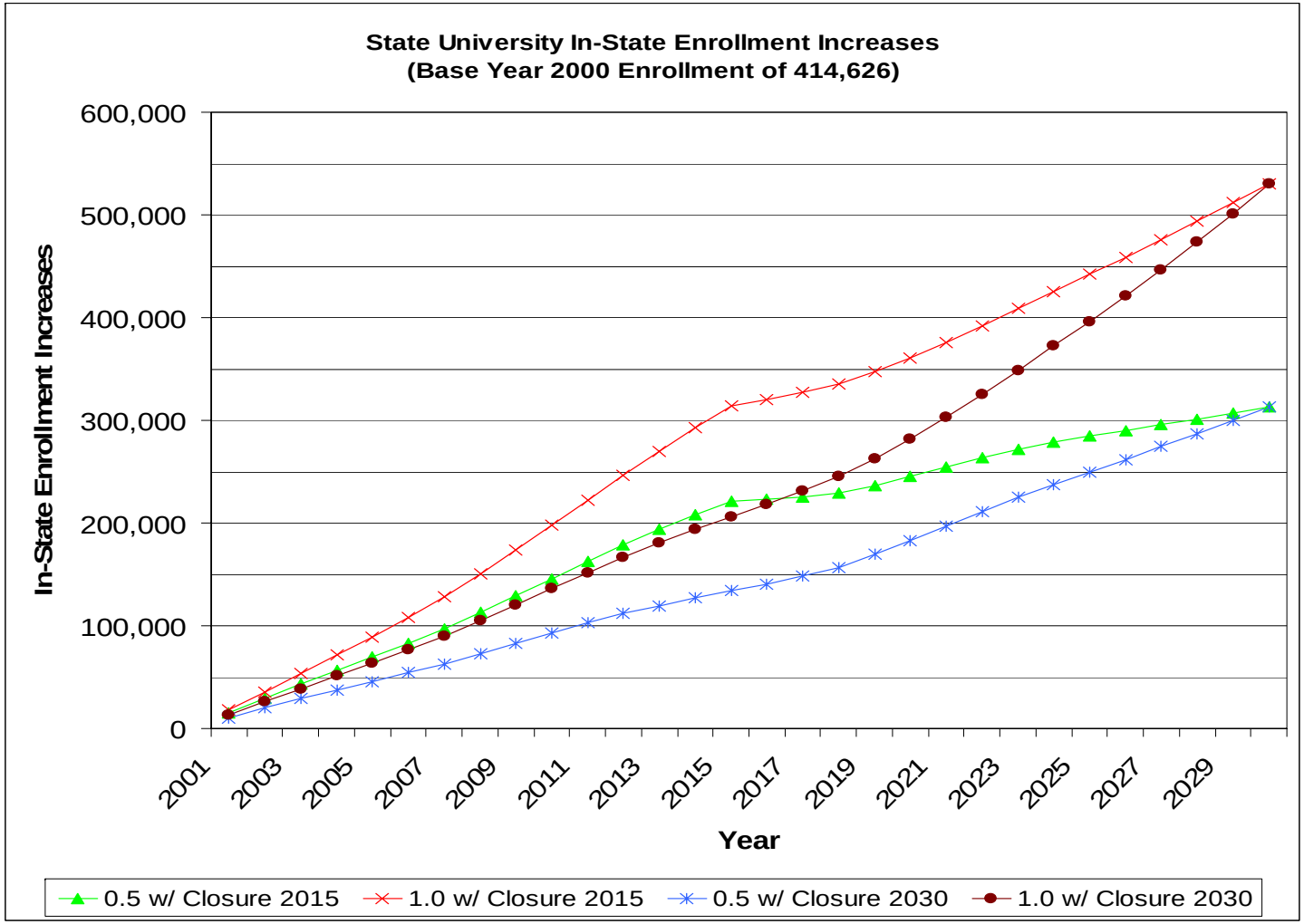
* Migration rate is the net increase in population from movement into and out of the state.

Methodology for Enrollment Projections, Cont.

- Enrollments of out-of-state or nonresident students are not included in any of the scenarios.
- Each state university's market share by county is held constant (at 2000 levels) throughout the projection period.*
- The U. T. System projections assume capped enrollment at U. T. Austin and Texas A&M College Station.
- No change in admissions requirements are included.

* For example, U. T. El Paso enrolled 82.5% of the students from El Paso County that attended a four-year Texas public university in 2000. The model assumes that it will maintain that 82.5% market share through 2030.

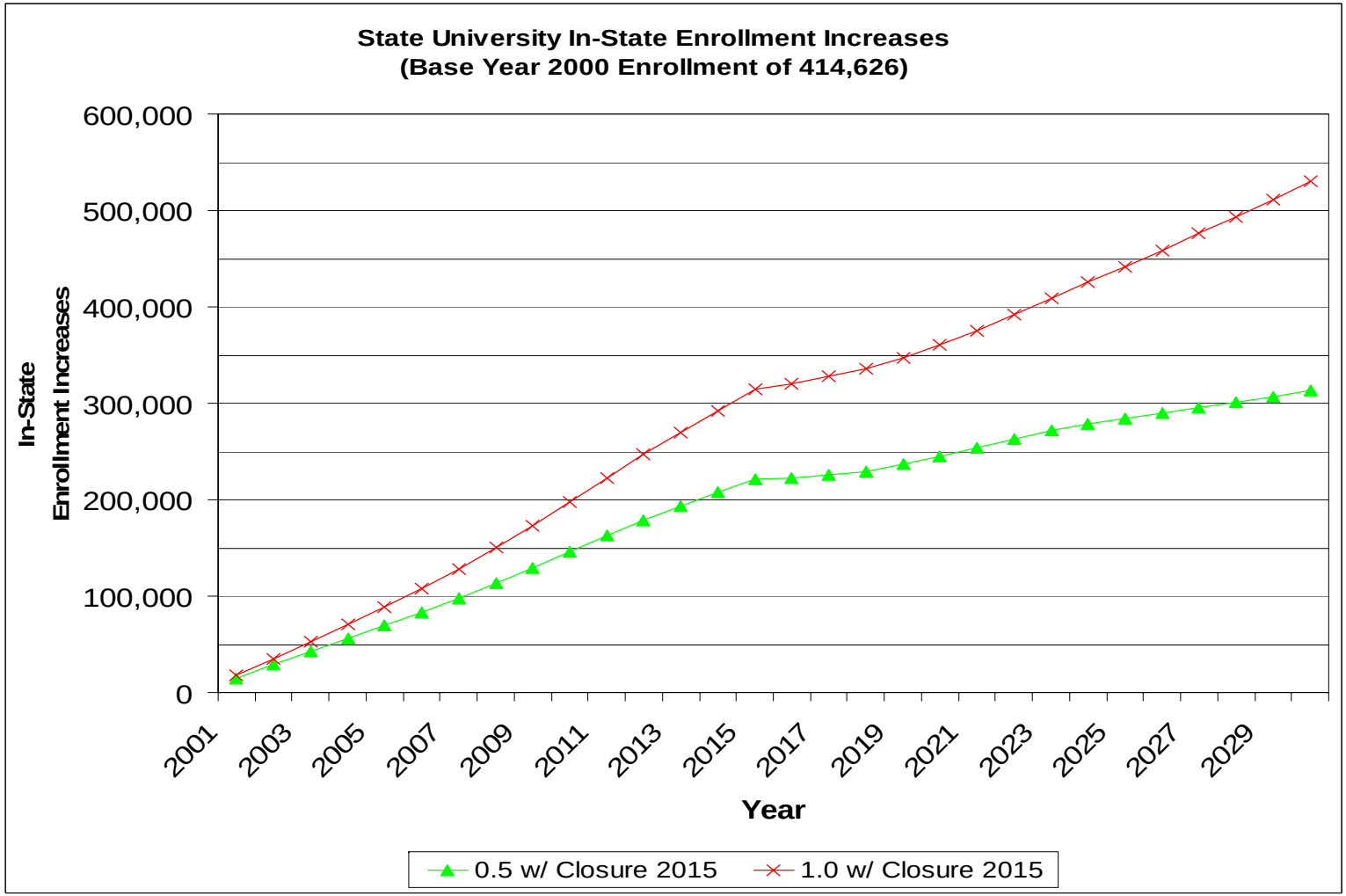
Four Statewide Enrollment Scenarios



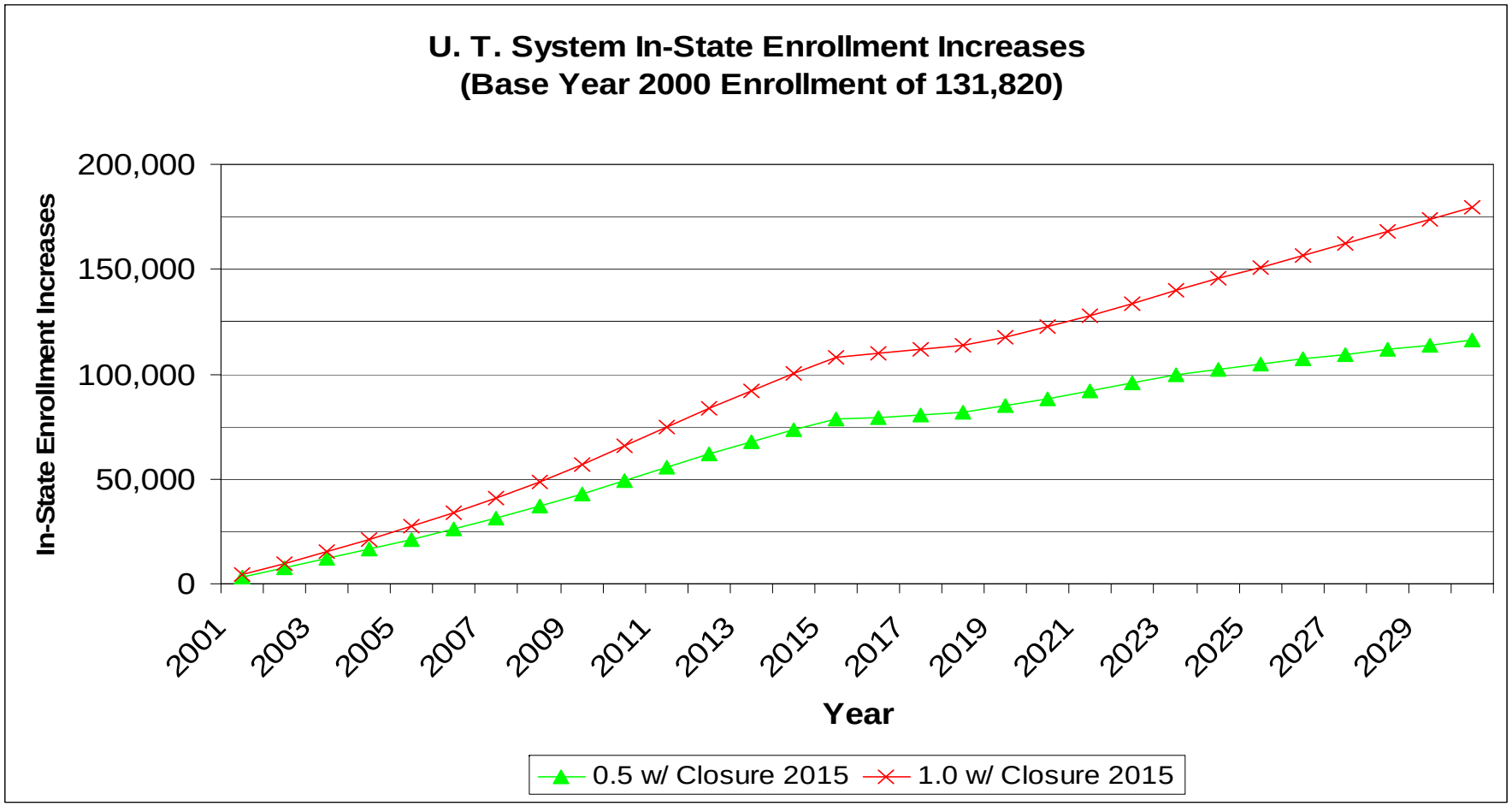
Two Enrollment Scenarios: Most Likely and Aggressive

- Four enrollment scenarios were narrowed to two:
  - The current trend in statewide enrollment growth most closely tracks with the "1.0 w/closure 2030" enrollment scenario; however, net migration is not expected to continue at the high 1990's rate of growth.
  - Therefore, "0.5 w/closure 2015" has been deemed to be the most likely scenario for enrollment growth.
  - The "1.0 w/closure 2015" scenario represents an aggressive high growth case.

Two Statewide Enrollment Projections



Enrollment Projections for U.T. System Academic Institutions



Base In-State Enrollment for 2000 and Projected Increases by U. T. System Institution for Most Likely Scenario

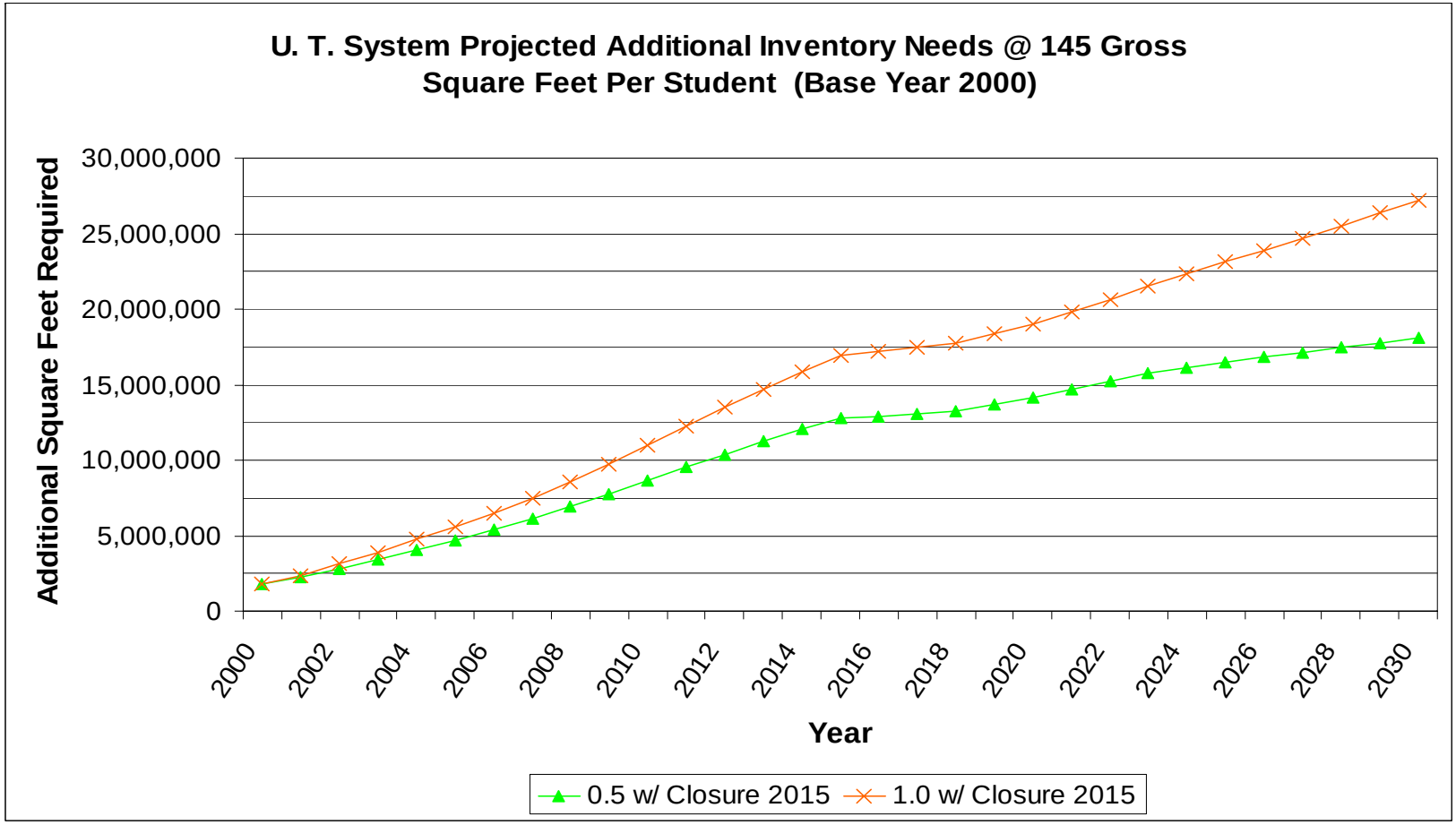
	Base Enrollment	Enrollment Increase					
Projected Increases	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
U. T. Arlington	20,544	3,724	8,922	15,106	18,114	21,233	23,407
U. T. Austin *	48,008	0	0	0	0	0	0
U. T. Brownsville	2,623	1,371	3,042	4,586	5,043	6,321	7,099
U. T. Dallas	9,378	1,359	3,532	6,171	7,790	8,954	9,319
U. T. El Paso	15,386	1,698	4,148	6,324	6,817	8,603	9,968
U. T. San Antonio	17,547	5,879	12,590	19,275	20,706	23,290	25,304
U. T. Tyler	3,459	625	976	1,287	1,413	1,681	1,874
U. T. Pan American	12,682	5,835	14,659	24,245	26,656	32,480	36,811
U. T. Permian Basin	2,193	812	1,335	1,784	1,815	2,152	2,402
U. T. System Total	**131,820**	**21,303**	**49,204**	**78,778**	**88,354**	**104,714**	**116,184**

* For the purposes of this analysis, U. T. Austin's enrollment is capped at Year 2000 levels.

Assumptions for Capital Inventory Needs

- The model includes the conservative assumption that, on average, each new student will require 145 gross square feet of educational and general (E&G) space:
  - The statewide average and the U. T. System average for Fall 2002 was 151 square feet per student and 147 square feet per student, respectively.
  - The THECB has informally determined that each student needs 160 square feet.
- The calculations also include a closing of the space deficit based on the THECB's space formula.

Capital Inventory Projections for U. T. System Academic Institutions (w/o U. T. Austin)



Assumptions for Capital Cost Requirements

- New E&G space is assumed to cost an average of $264 per square foot.* The average cost per square foot is based on a constant mix of E&G space as surveyed at UTARL, UTD, UTEP, and UTSA.

- The $264 per E&G square foot cost is derived as follows:
  - Classrooms – 34.9% of total space @ $245 per square foot
  - Dry Lab – 15.4% of total space @ $260 per square foot
  - Wet Lab – 12.3% of total space @ $380 per square foot
  - General Use** – 37.4% of total space @ $245 per square foot
  - Plus, an additional $30 per square foot for related infrastructure

* Construction costs vary by region with a range of about 15% around the $264 average.

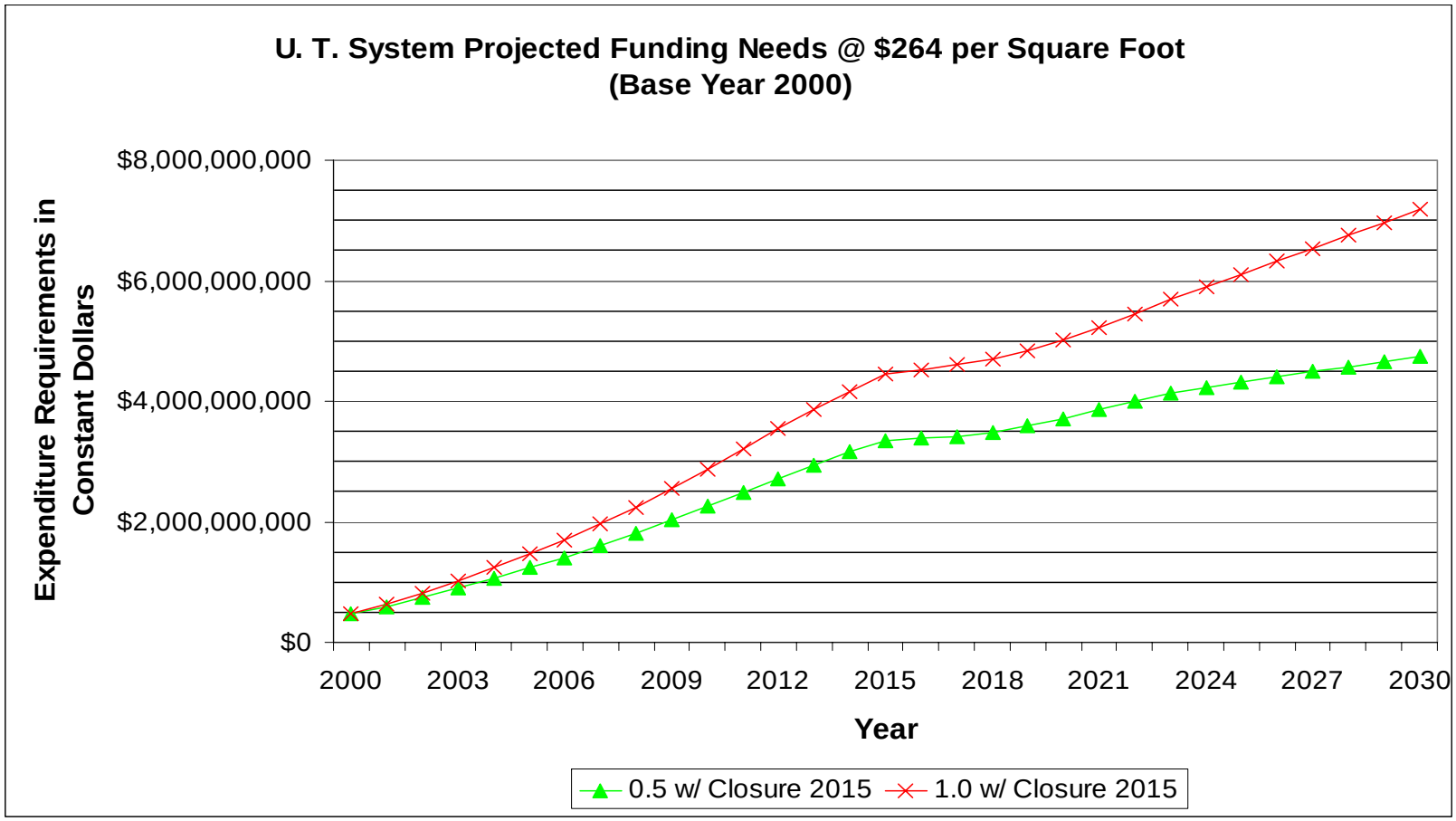
** General Use space includes faculty and TA office space, support space, libraries, etc.

Assumptions for Capital Cost Requirements, cont.

- The capital cost requirement is assumed to average $264 per square foot. The cost varies by U. T. System academic institution based on regional construction cost differences:

Category / Campus	Arlington and Dallas	Brownsville and Pan Am	El Paso	Permian Basin	San Antonio	Tyler
Classrooms	$260	$228	$238	$238	$250	$243
Dry Lab	$276	$242	$252	$252	$265	$257
Wet Lab	$403	$353	$369	$369	$388	$376
General Use	$260	$228	$238	$238	$250	$243
Weighted Avg.	$280	$246	$256	$256	$269	$261

Capital Cost Projections for U. T. System Academic Institutions (w/o U. T. Austin)



Implications for the U. T. System – Closing the Gap for Participation and Success

- Based on projections from the Texas State Data Center, the U. T. System academic institutions will need to add 116,000 to 180,000 new students by 2030 in order to close the gap. None of this growth is projected to occur at U. T. Austin.

- Without benefit of greater space utilization, the U. T. System would need to add 18.1 million to 27.2 million square feet of new E&G space to close the gap by 2030 and eliminate the current space deficit.

- By 2030, the total capital cost for the U. T. System to accommodate projected enrollment growth and the current space deficit could range from $4.7 billion to as high as $7.2 billion.

Additional Issues to be Addressed by the U. T. System

What do we know?

- The cost to construct new E&G space to close the gap by 2030 at U. T. System academic institutions is conservatively estimated to be $4.7 billion.

What else do we need to know?

- What is the cost to repair and renovate existing academic E&G space (capital renewal)?
- What can be done to reduce the projected need for space per student while meeting the needs of enrollment growth?

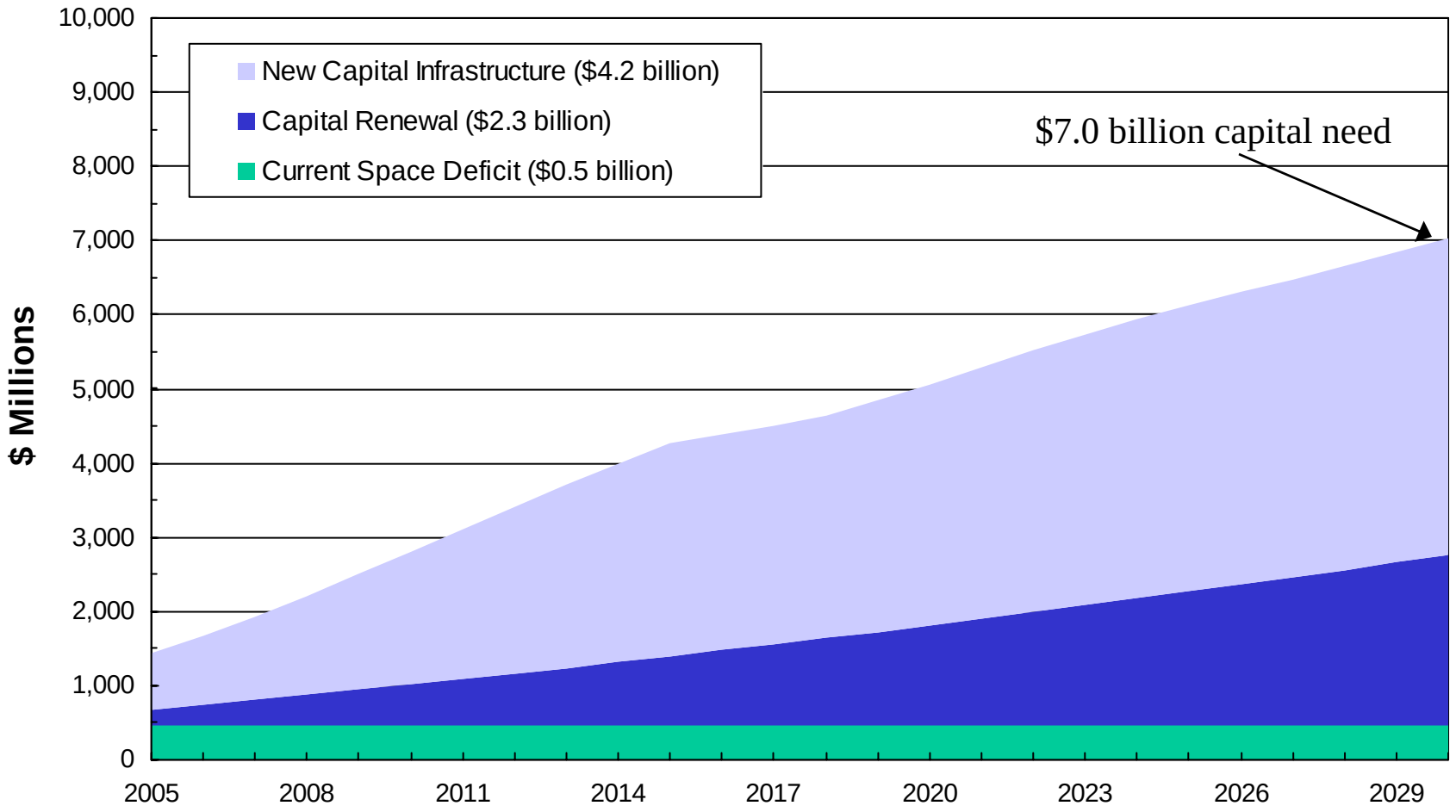
Cost for Capital Renewal for U. T. System Academic Institutions

- The $4.7 billion of capital needed for new infrastructure to close the gap by 2030 does not include repair and renovation of existing E&G space, expected to total $2.3 billion through 2030. *

- Therefore, the total capital need for the academic institutions, including capital renewal, would be $7.0 billion.

* The cost for capital renewal is estimated at $3.43 per square foot per year based on data provided by the U. T. System Office of Facilities Planning and Construction.

Total Capital Needs with Capital Renewal for U. T. System Academic Institutions (w/o U. T. Austin)



Strategies to Reduce Capital Need at U. T. System Academic Institutions

- What can be done to reduce this $7.0 billion capital need?

1. Capitalize on tuition flexibility to improve space utilization at the academic institutions. This could include a change in the way that classrooms are scheduled at our academic institutions.

2. Increase utilization of space through distance learning, thereby reducing the need for capital.

Greater Space Utilization

- The model includes a conservative assumption that, on average, each new student will require 145 gross square feet of E&G space.

- This is below the FY 2002 statewide average of 151 square feet and the generally accepted THECB planning factor of 160 square feet.

- For U. T. System academic institutions, an aggressive alternative space utilization scenario would use 118 square feet per student.*

* Calculated for Fall 2002 based on weighted average for U. T. System academic institutions excluding U. T. Austin (at 242 square feet per student due to significant research space), U. T. San Antonio (at 78 square feet per student, the lowest in the state), and U. T. Brownsville (that shares space with Texas Southmost College).

More Aggressive Space Utilization

U. T. System Institution	Fall 2002 Actual E&G Square Footage per Student
U. T. Arlington	123
U. T. Dallas	113
U. T. El Paso	117
U. T. Pan American	115
U. T. Permian Basin	132
U. T. Tyler	118
Weighted Average	**118**

Increased Use of Distance Learning - UT TeleCampus

- The UT TeleCampus has been successful in working with U. T. System institutions to develop and deploy high-quality web-based courses and programs.

- The UT TeleCampus has experienced average enrollment growth of 40% per year since 1999 and is projecting 10,000 enrollments in FY 2004 and 12,500 enrollments in FY 2005.

- The UT TeleCampus infrastructure is scalable to support anticipated growth.

Technology Mediated Course Facility Model – UT TeleCampus

- Although as many as 75% of the UT TeleCampus students may never attend a class on campus, predicting the impact of technology-mediated course redesign on future construction needs is difficult.

- One possible scenario is a “hybrid replacement model”:

  - A standard course with three class meetings per week would be reduced to one per week (with two classes online).
  - The majority of coursework would be performed online.
  - Would require integration into the curriculum.

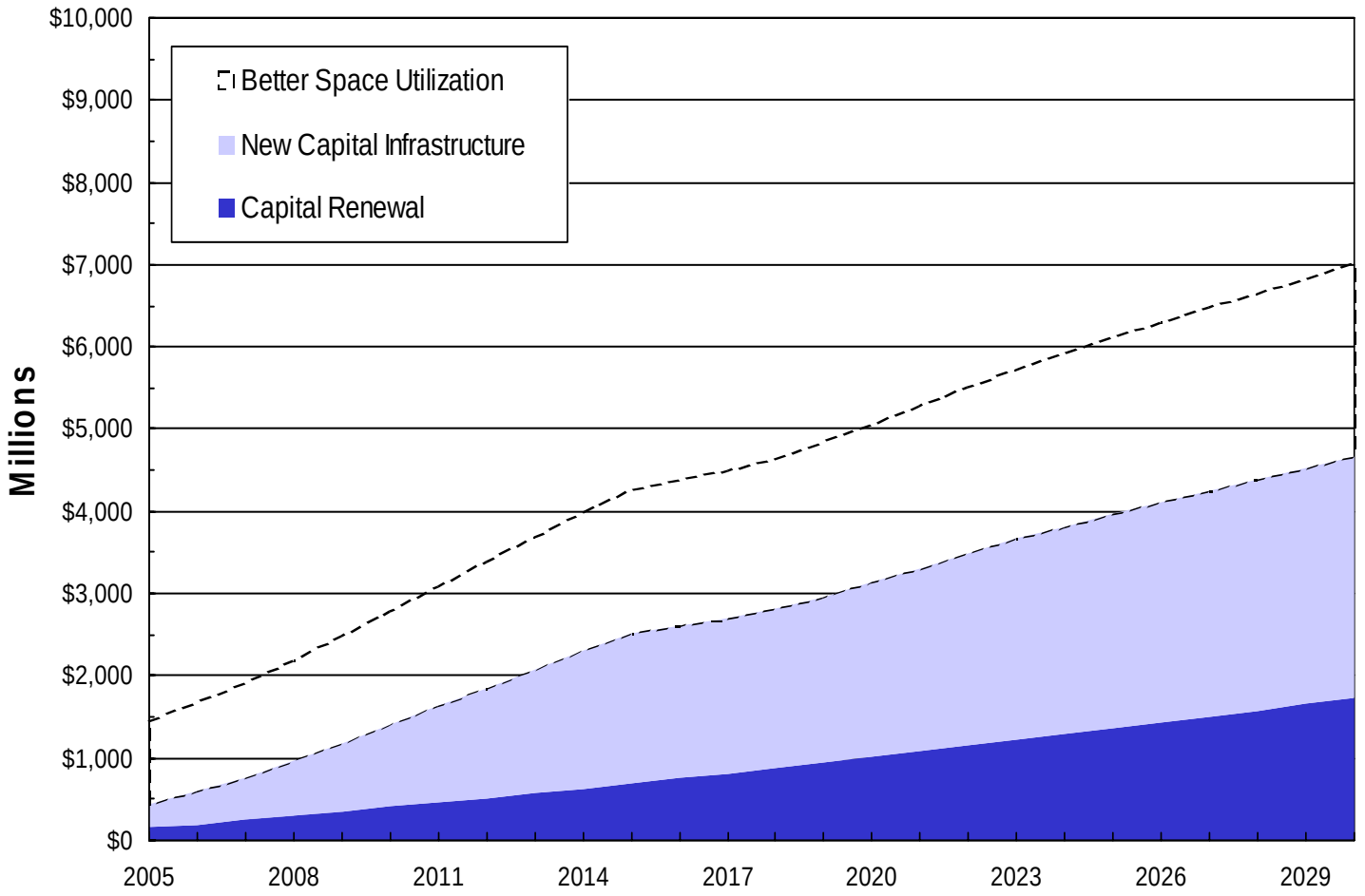
Impact of Hybrid Replacement Model on Capital Needs – UT TeleCampus

- A 22.5% adoption rate of the hybrid replacement model, for undergraduates only, would produce a 3.8% reduction in E&G capital needs. *

- This improvement in capital efficiency, if achieved, could further reduce the required E&G space for new students from 118 square feet to 113.5 square feet. This is an aggressive scenario.

* Assumes a 14.9% reduction in future classroom space, a 2.3% reduction in future assembly space, and a 4.5% reduction in future library space. The model assumes no reductions in required lab space or general use space.

Breakdown of Capital Needs at 113.5 Square Feet per Student

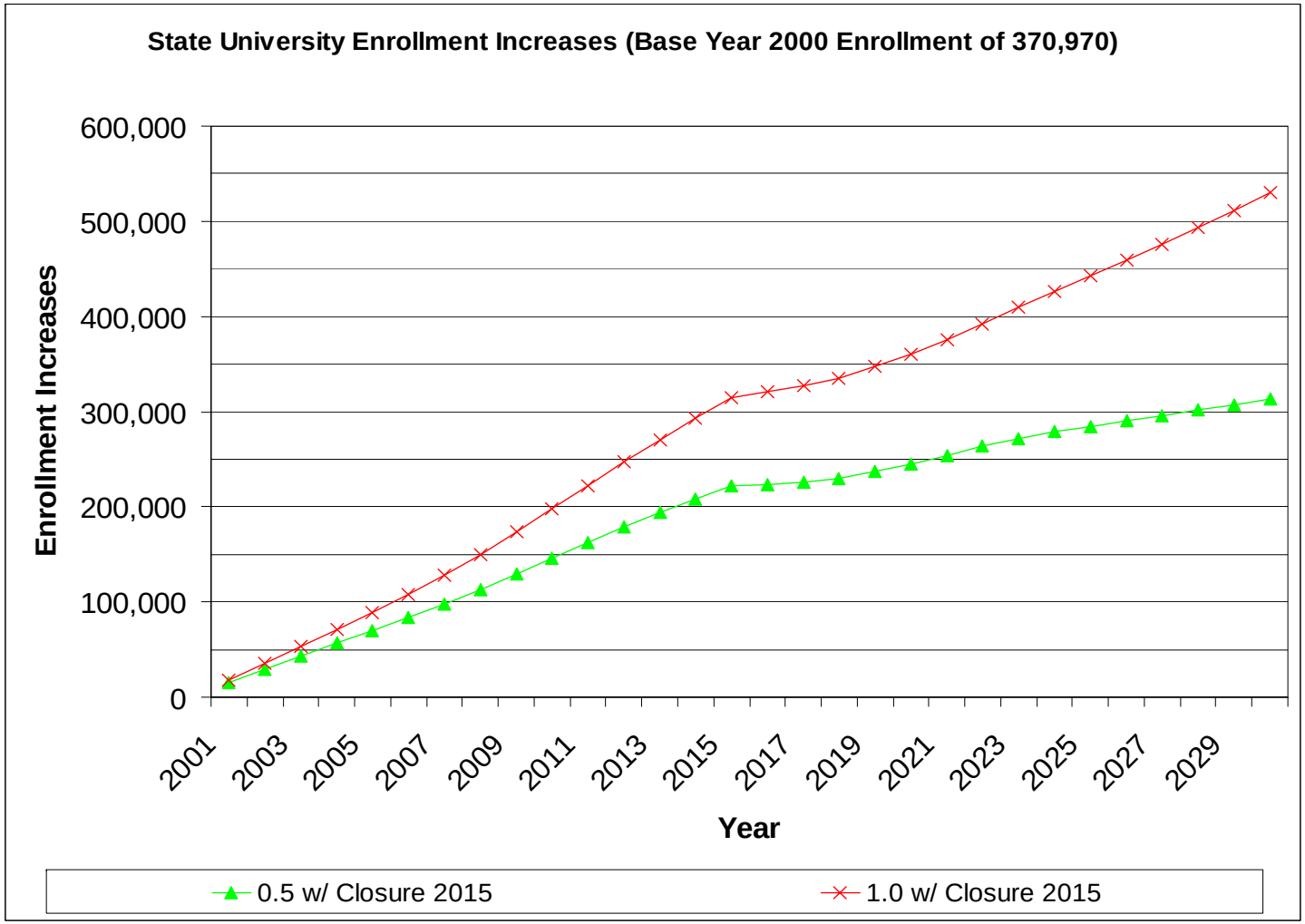


Better space utilization (113.5 sq. ft. rather than 145 sq. ft.) could reduce the capital need by $2.4 billion.

Appendix A

Statewide Data and Implications
(All Public Universities in Texas)

Statewide Enrollment Projections

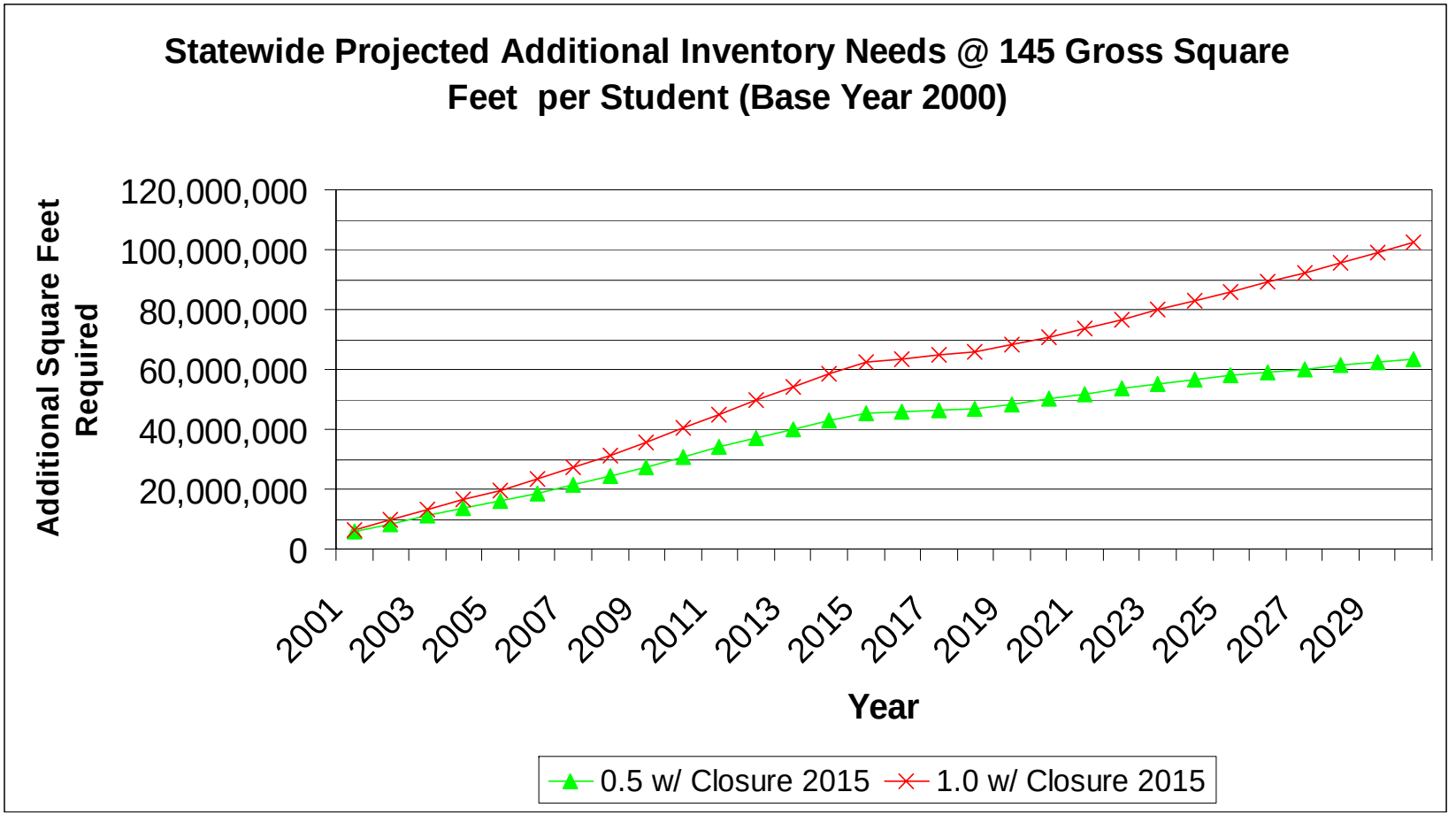


Projected Increases in In-State Enrollment for Selected State Universities (Main Campuses)

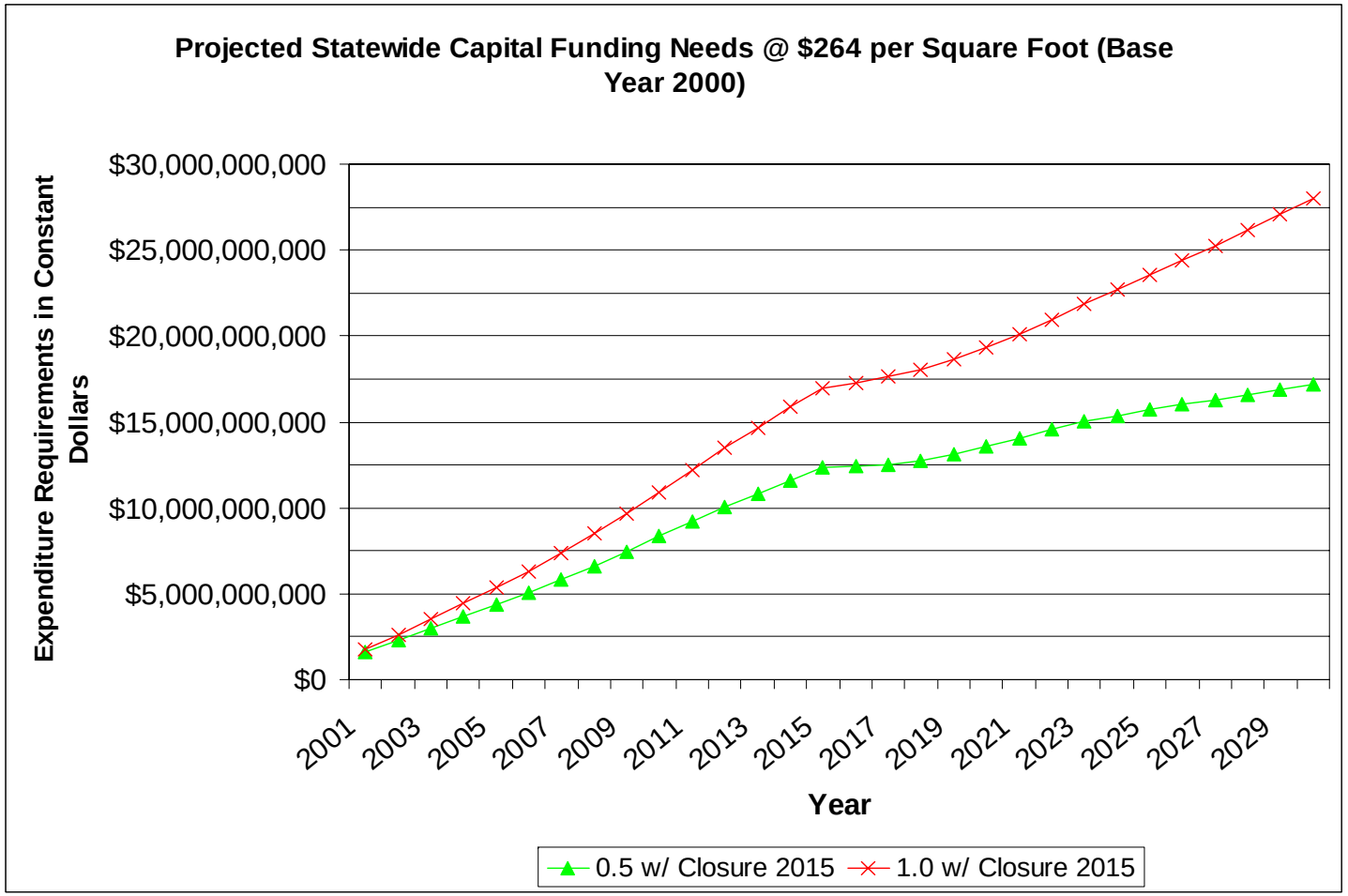
	Base Enrollment	Enrollment Increase					
Projected Increases *	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
Texas Tech University	24,717	4,744	7,157	8,947	9,448	10,836	11,553
Texas A&M Universtiy	38,650	0	0	0	0	0	0
University of Houston	30,774	6,142	14,662	24,092	27,598	32,745	36,173
University of North Texas	24,957	3,766	8,795	14,055	16,721	19,154	20,737
Texas State University	20,776	5,071	10,018	14,560	16,444	19,073	21,129

* Increases are for main campuses only.

Capital Inventory Needs for all State Universities in Texas



Capital Cost Requirements for all State Universities in Texas



Implications for the State of Texas – Closing the Gap for Participation and Success

- Based on projections from the Texas State Data Center, Texas academic institutions will need to add 313,000 to 530,000 new students by 2030 in order to close the gap for participation and success.

- Without benefit of greater space utilization, Texas academic institutions will need to add 63.6 million to 102.3 million square feet of new E&G space to close the gap by 2030.

- By 2030, the total capital cost for the Texas academic institutions to accommodate projected enrollment growth and the current space deficit could range from $17.2 billion to $28.0 billion.

Appendix B

U. T. Austin Data

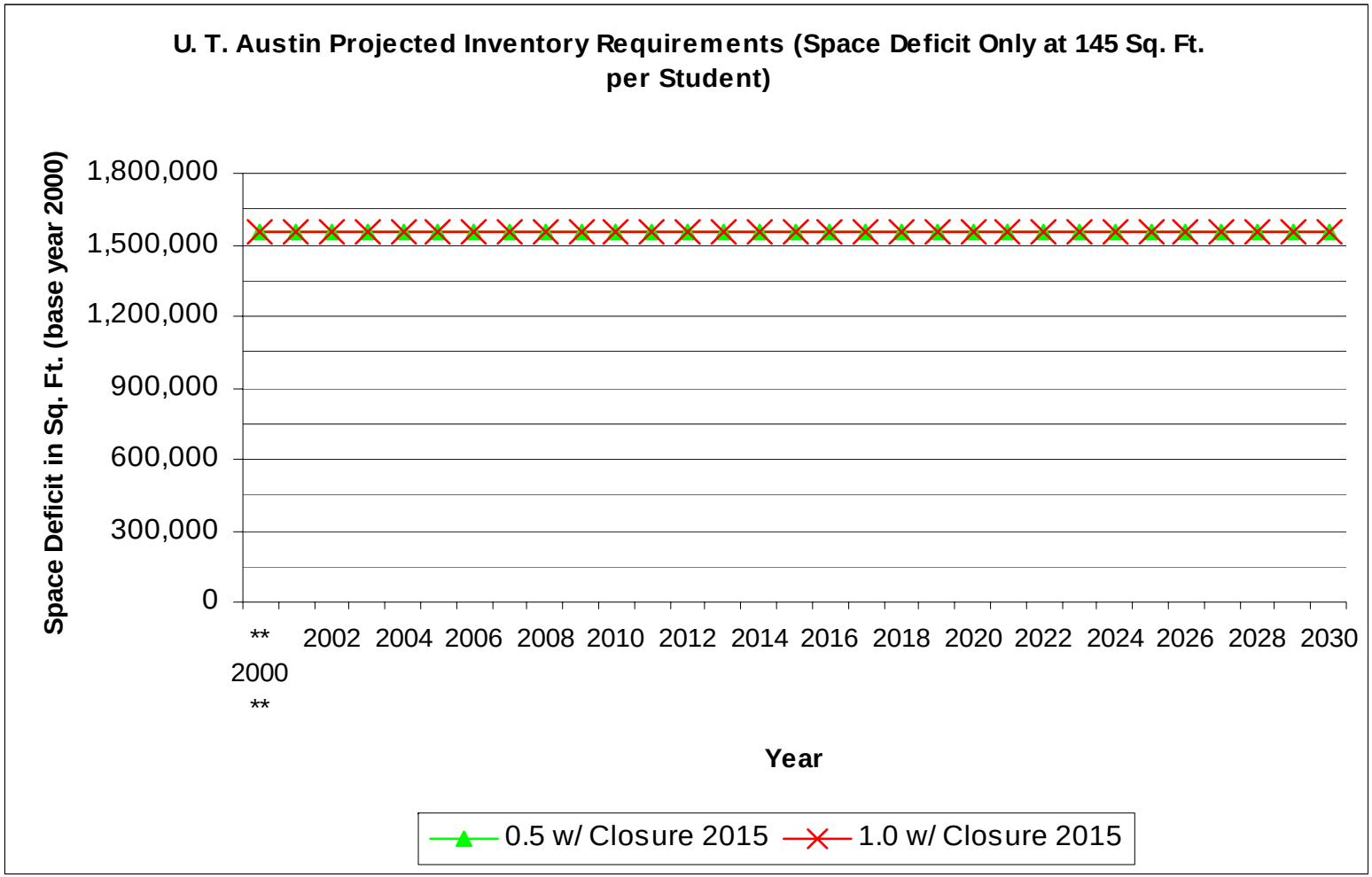
U. T. Austin – Closing the Gaps

- For the purposes of this study, U. T. Austin's enrollment is assumed to be capped at Year 2000 levels.

- Therefore, U. T. Austin's cost to close the gaps for participation and success is "limited" to $2.0 billion through 2030 -- $1.5 billion for capital renewal of existing space and $0.5 billion to account for its space deficit (based on the THECB's space formula).

- In addition, U. T. Austin will bear a significant cost to fulfill the THECB's goals of closing the gaps in excellence and research. This is not a part of the scope of this study.

Capital Inventory Projections for U. T. Austin (Space Deficit Only)



Capital Cost Requirements for U. T. Austin (Capital Renewal and Space Deficit Only)