

Maine School of Science and Mathematics

Maine's nationally ranked STEM Academy

Today's Agenda

- Introductions All 10 minutes
- Status of Maine & MSSM Coit 10 minutes
- Business Planning Committee Coit 10 minutes
- discussion ---
- Research findings Hart 20 minutes
- Vision for successful MSSM Chalmers 20 minutes
- discussion ---
- Partnership opportunities Coit 20 minutes
- discussion ---

Underlying Thesis

Intellectual Assets have replaced
Physical Assets as the underlying
driver of socio-economic progress.

MSSM Business Planning Committee

Maine is Falling Behind

“States like Maine (smaller and mostly rural) are doing well now with budget surpluses and record low unemployment, but they are falling farther and farther behind in overall economic performance.”

Paraphrase of remarks by Joseph E. Aoun, president of Northeastern University
Roux Center announcement, January 27, 2020

Maine's STEM Deficit

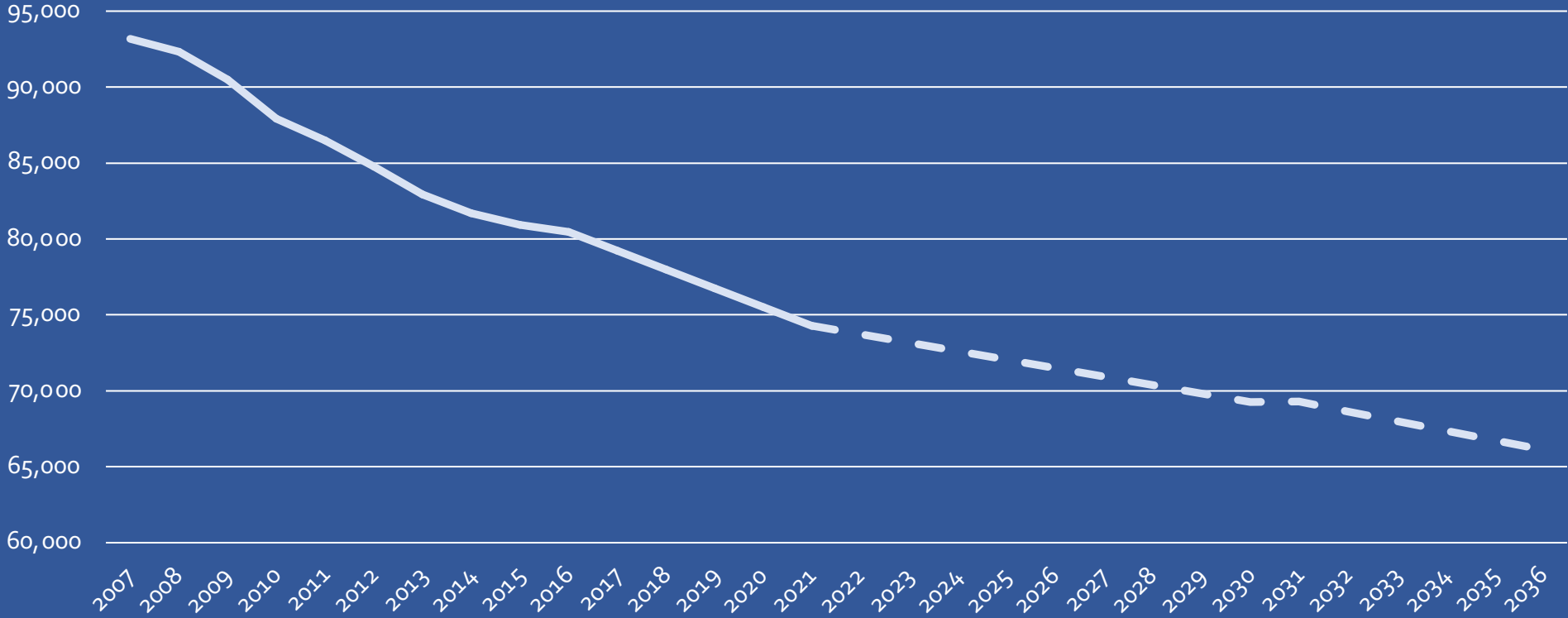
- Annual R&D spending *
 - Percentage of US GDP 2.80 %
 - Percentage of Maine economy .84 %
- Science & Engineering jobs **
 - Percentage of US jobs 4.89 %
 - Percentage of Maine jobs 3.57 %
- New PhD's per 1,000 employed STEM PhD's *
 - US average 50.9
 - Maine (ranked 50th) 18.1

* National Science Foundation, 2017 data

** National Science Foundation, 2018 data

Worker Pipeline is Shrinking

Maine's population of 15-19 year olds is expected to fall another 11% from 2021 to 2036



Source: State of Maine, Department of Administrative and Financial Services

Why STEM Matters

- US Domestic projected job growth 2019 to 2029 *

STEM jobs	8.0 %
Non-STEM jobs	3.0 %

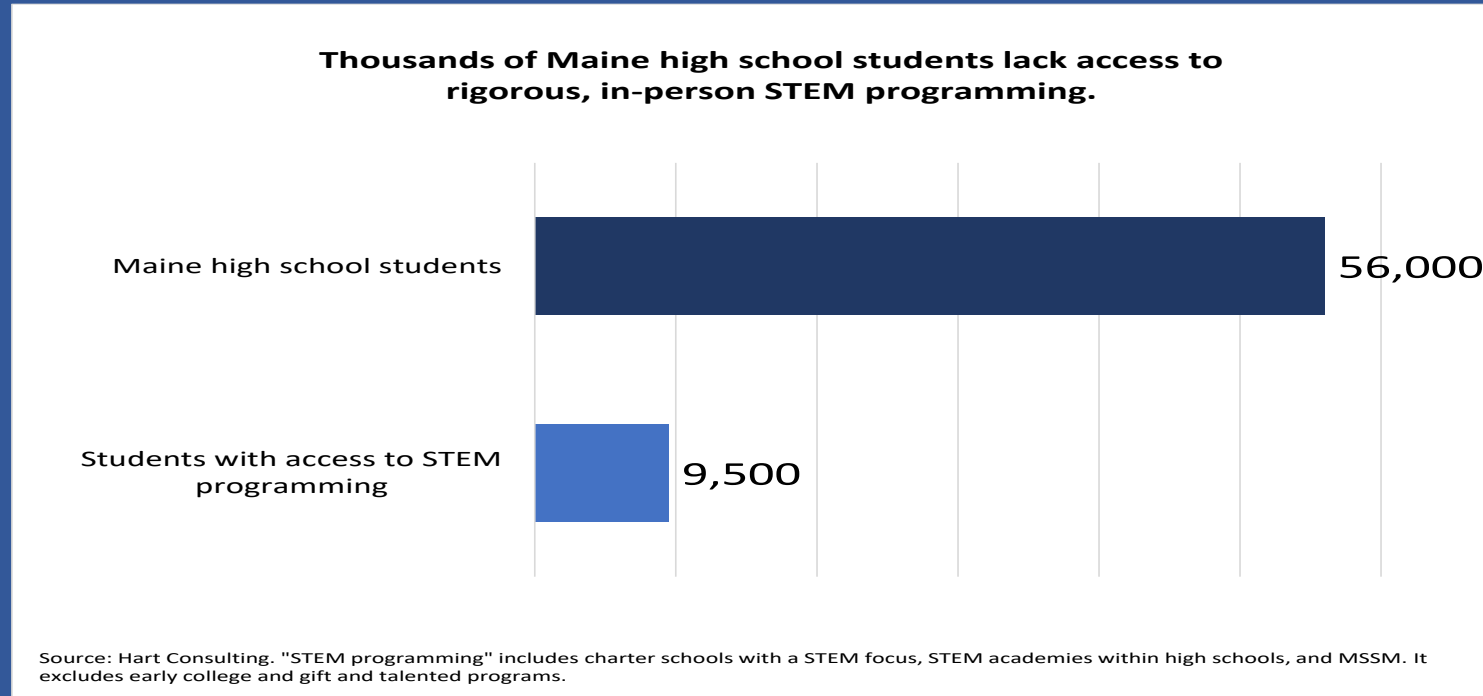
- 2019 US median salaries *

STEM jobs	\$84,880
Non-STEM jobs	\$37,020

Talent migrates toward job markets
where there is more growth and better pay

* Bureau of Labor Statistics

Limited Student Access to STEM



Only 17% of Maine High School Students have access to rigorous in-person STEM Programming

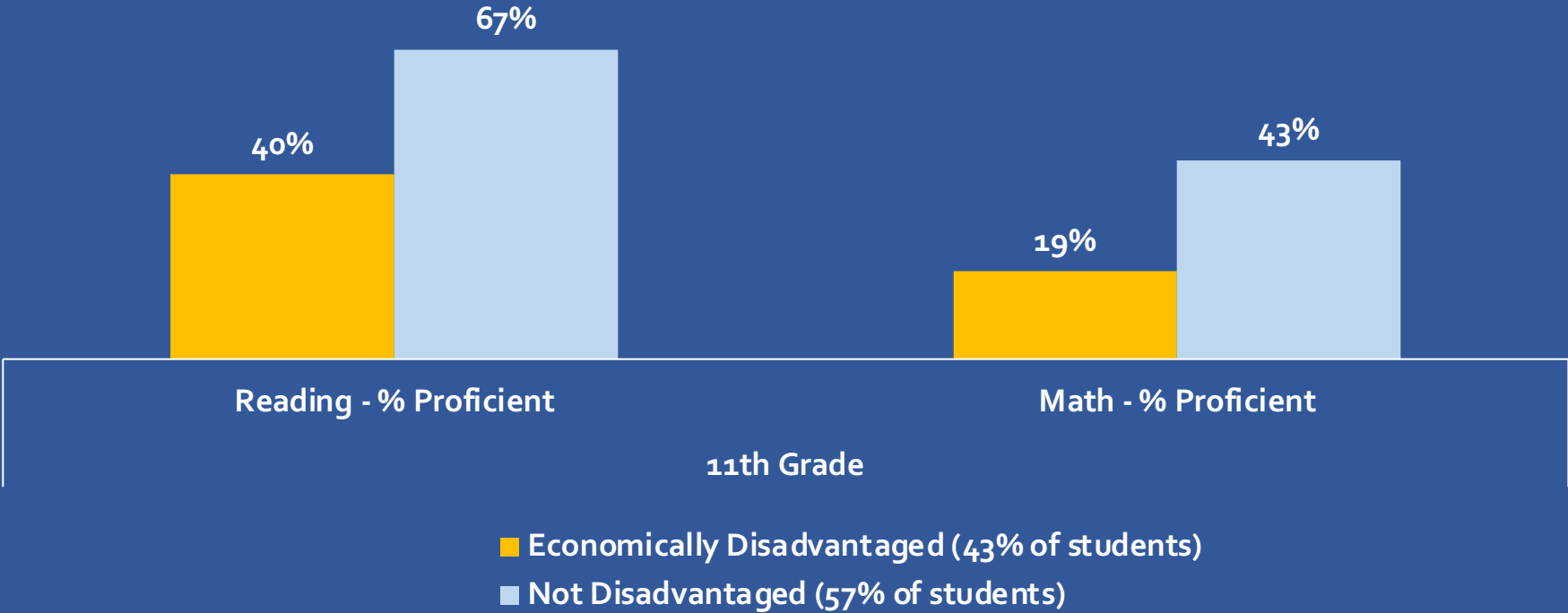
Access Limited by Geography

STEM Education
Access is concentrated
in more urban and
wealthier communities
along the I-95 corridor



Disparity of Performance

Maine Public School Student Proficiency in Reading and Math
2018



SOURCE: Maine Assessment and Accountability Reporting System (MAARS)

Maine's Opportunity is NOW!

- Existing Institutions of Intellectual Excellence
 - Jackson Labs, Bigelow Labs, Roux Institute, WEX, IDEXX, Maine Health, etc.
 - Bates, Bowdoin, Colby, UMaine Engineering School
- \$1 Billion Investment in Education and Research
 - \$500 million Alford Foundation commitment to Maine Institutions
 - required match by receiving institutions
- Call to Action for the State of Maine
 - Investment in K-12 STEM education is an essential foundation for success
 - North Carolina example with Research Triangle and first ever STEM Academy
 - Requires visionary leadership and action for Maine's future

Vision for MSSM

A residential high school providing a nationally recognized academic experience in a safe and supportive environment for many of Maine's highest achieving students, while also actively sharing its expertise and resources with other schools around the State of Maine.

This is not a Board approved vision, but guidance for the Business Planning process

Federal Recognition of Need

According to the No Child Left Behind Act, “gifted and talented” refers to students “who give evidence of high achievement capabilities in such areas as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities.”

No Child Left Behind Act P.L. 107-110 (Title IX, Part A, Definition 22) (2002); 20 USC 7801(22) (2004)

Current State of the School

- Ranked #2 nationally among all public high schools by USN&WR in 2019
- Identified challenges by Board of Trustees
 - 2018/2019 - Strategic Planning Committee
 - Need to fund room & board, aging and shared facilities that MSSM does not control
 - 2019 – established Student Welfare Committee
 - Need to invest in Social and Emotional Learning (“SEL”)
- Financial struggles and potential cuts in state funding
 - Years of flat funding left some legislative mandates unaddressed (e.g. outreach programs)
 - \$830 thousand (14%) reduction in MSSM 2020/21 budget following the decline in intl. students
 - \$528 million (13%) projected shortfall in State of Maine 2020/21 budget due to Covid-19
 - Concerns over state budget cuts in the next biennium

Business Planning Committee

- Business Plan concept introduced at BOT workshop in March 2020
- Business Planning Committee Charter approved by BOT in May 2020
- Objective to assess MSSM viability, value to Maine and a path forward
- Multi-phased project
 - Phase 1: Discovery & Concept - research-based program review
 - Phase 2: Authorization - Legislative changes and state funding
 - Phase 3: Business Plan - based on new Legislative mandate
 - Phase 4: Implementation

Purpose

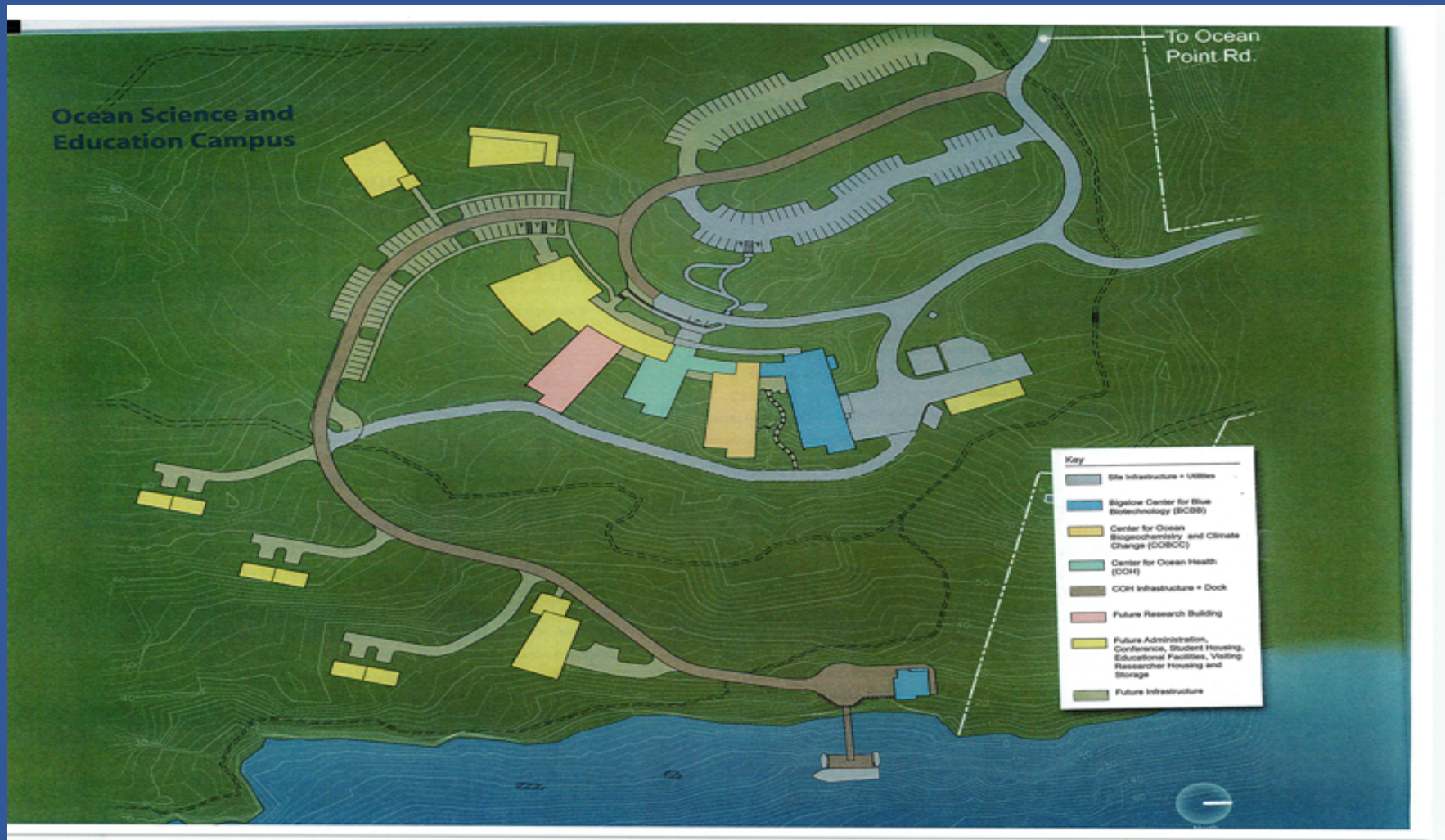
Complete a thorough review of the current state of MSSM and the effectiveness of the school in meeting the needs of its students and achieving fundamental value for the State of Maine.

Business Planning Committee

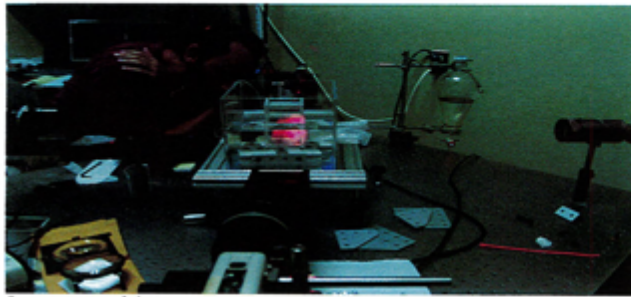
Business Plan – What and Why



Business Plan – Facilities



Business Plan – Partnerships



Summer research intern.

Academic Affiliations

Bigelow Laboratory has always embraced education as part of its mission, a priority mandated in federal research awards. The new Academic Affiliations Program formalizes several academic relationships in order to enhance resources and opportunities available to support the Laboratory's basic research mission.

Two such partnerships were formally established in 2010:



From left to right: Bigelow Executive Director Graham Shimmiel, Colby College President Bro Adams, and Bigelow Board of Trustees Chairman David Coit, July 23, 2010 at the formal signing of the Bigelow-Colby Strategic Partnership Agreement.

Colby College.

In 2009, Bigelow Laboratory and Colby College in Waterville, Maine, began exploring the potential for a collaborative relationship on academic and research programs of mutual interest. Since January 2010, Bigelow Laboratory scientists have taught courses during the College's "Jan Plan" semester, a five-week period of intensive single course offerings between the fall and spring academic terms. The success of the Jan Plan program subsequently led to the development of a full semester-in-residence program for Colby students, beginning in the fall of 2012.

Business Plan – Numbers

Statement of Activities and Changes in Net Assets (For fiscal years ended June 30)								
	Actual 2010	Actual 2011	Actual 2012	Budget 2013	Forecast 2014	Forecast 2015	Forecast 2016	Forecast 2017
Operating Activities								
Operating Revenue and Support								
Research Grants	4,505,832	5,005,790	3,846,296	5,030,819	6,114,928	7,870,801	9,162,412	10,870,226
Research Subawards	932,646	364,950	60,241	60,514	100,000	100,000	100,000	100,000
CATT Industry Sponsored Research	0	0	0	197,885	880,000	1,440,000	2,080,000	2,600,000
Other CATT Revenue	0	0	1,500	66,500	151,500	206,500	321,500	350,000
Education Program	348,841	310,327	196,792	366,914	393,343	403,884	413,333	423,894
Contributions to Capital Campaign	1,514,844	886,180	2,271,849	2,500,000	3,500,000	4,000,000	5,000,000	5,000,000
Contributions to Annual Fund	338,326	356,138	328,616	325,000	350,000	375,000	400,000	425,000
Core Facility Revenue	766,217	971,773	955,493	1,633,412	2,197,142	2,364,842	2,612,512	2,614,639
Other revenue	249,700	31,314	132,917	60,000	61,800	63,654	65,564	67,531
Total Operating Revenue and Support	8,656,406	7,926,472	7,793,704	10,241,044	13,748,713	16,824,681	20,155,321	22,451,289
Operating Expenses								
Research and Education	6,152,336	6,682,033	5,931,801	6,008,808	9,636,895	12,285,883	14,409,009	15,613,800
Research Subawards	932,646	364,950	60,241	60,514	100,000	100,000	100,000	100,000
Development	368,396	722,512	770,571	951,337	1,127,837	1,161,672	1,196,522	1,232,418
Unallocated management and general	449,404	621,673	1,640,350	4,955,044	3,791,479	2,909,730	2,399,990	2,133,468
Total Operating Expenses	7,902,782	8,391,168	8,402,963	11,975,704	14,656,211	16,457,285	18,105,521	19,079,686
Change in Net Assets from Operating Activities	753,624	-464,696	-609,259	-1,734,660	-907,497	367,396	2,049,799	3,371,604
Non-Operating Revenue and Support								
Working Capital Funds (Sale of Intellectual Property)	0	0	0	1,000,000	0	0	0	0
Grants and Gifts for PPE	788,806	4,836,557	10,885,498	3,935,428	400,000	300,000	500,000	500,000
Change in Net Assets from Non-Operating Activities	788,806	4,836,557	10,885,498	4,935,428	400,000	300,000	500,000	500,000
Total Change in Net Assets	1,542,430	4,371,861	10,276,239	3,200,768	-507,497	667,396	2,549,799	3,871,604
Statement of Financial Position (At June 30)								
	2010	2011	2012	2013	2014	2015	2016	2017
Assets								
Cash	350,481	747,540	1,429,296	594,889	641,954	400,000	500,000	525,000
Cash restricted for construction	0	859,086	1,137,595	0	0	0	0	0
Investments	1,614,537	1,277,693	1,003,373	0	0	754,832	2,560,791	5,616,715
PPE Reserve	0	0	0	0	0	183,724	364,196	539,540
Pledges Receivable	0	990,414	1,543,316	2,176,500	3,310,667	3,977,333	4,810,667	5,144,000
Property and Equipment, Net	6,542,677	15,261,099	33,803,853	38,345,945	37,595,417	36,744,888	36,094,360	35,068,832
Other	2,267,809	1,486,675	1,451,872	789,735	601,536	695,189	791,653	891,010
Total Assets	10,775,504	20,622,507	40,369,305	41,907,069	42,149,573	42,755,968	45,121,667	47,785,097
Liabilities and Net Assets								
Liabilities, short term	1,094,214	1,040,972	2,106,850	1,250,000	1,000,000	1,030,000	1,060,900	1,092,727
Liabilities, short-term, construction	0	2,523,772	2,545,814	0	0	0	0	0
Mortgage Loan	0	3,004,612	11,456,488	13,156,911	13,156,911	13,065,911	12,850,911	12,610,911
PRI Loan	0	0	0	0	1,000,000	1,000,000	1,000,000	0
Net Assets	6,102,203	5,759,150	5,352,074	6,876,754	8,402,283	9,927,811	11,453,339	12,978,867
Unrestricted	3,376,943	8,091,857	18,705,936	20,421,260	18,388,235	17,530,102	18,554,373	20,900,448
Temporarily Restricted	202,144	202,144	202,144	202,144	202,144	202,144	202,144	202,144
Permanently Restricted	0	0	0	0	0	0	0	0
Total Net Assets	6,881,290	14,053,151	24,260,154	27,500,158	26,992,662	27,660,057	30,209,856	34,081,459
Total Liabilities and Net Assets	10,775,504	20,622,507	40,369,305	41,907,069	42,149,573	42,755,968	45,121,667	47,785,097

Notes: CATT Industry Sponsored Research: CATT stands for the Office of Corporate Alliances and Technology Transfer. Other CATT Revenue: Includes Corporate Alliance Subscriptions and license fees.

Membership & Organization

- 12 members representing all key constituencies
 - Unable to fill Legislative member position
- Three sub-committees:
 - Partnership: Brainstorm with Maine leaders in academia, research, industry, etc.
Identify partner institutions willing to share resources
 - Discovery: Funded research of 15 sister schools - \$30K from MCF donor
 - Vision: What an enduring and successful MSSM would look like

Committee Membership

Designation	Member
Chair of the MSSM Board of Trustees	David Ferguson, lawyer & former parent
Executive Director of MSSM	David Pearson, Executive Director
Treasurer of the Board of Trustees	Peter Orne, Business Manager-Rockland schools
Chair of the Governance Committee	Josh Chalmers, co-chair, Texas Instruments Manager
At-large member of the Board of Trustees	David Coit, co-chair, founder North Atlantic Capital
Representative of the Maine Dept. of Education	Dan Chuhta, Deputy Commissioner of DOE
Representative of Maine Legislature	Not Filled
Faculty Representative	Anthony Scott , English teacher
Student Representative	William Tun, MSSM senior & student leader
Parent Representative	Cris Alverado, parent of current student
Alumni Representative	Kate Reilly-deLutio, alum and former Maine State Economist
MSSM Foundation Representative	Jeremy Shute, alum and Google executive
At-large Member	Ruth Kermish-Allen, MMSA Executive Director

Partnership Subcommittee

Brainstorm with leaders in academia, research, industry, etc.

Higher Ed:	Bates, Bowdoin, Colby, UMaine System, UMO, UMPI, USM, Maine Maritime, Thomas College, Unity College, others
Research:	Bigelow Laboratory, Jackson Laboratory, Roux Institute
Industry:	IDEXX, WEX, Maine Health
Foundations:	MCF, BSB Foundation, MSSM Foundation, Alfond Foundation (pending)
State:	DOE (various), Office of Innovation
Other:	MMSA, Educate Maine, MEA

Discussion

Status of Maine and MSSM
Business Planning Committee

Discovery Subcommittee

Funded research of 15 sister schools

Pat Hart

Hart Consulting

Discovery Subcommittee

“The successful schools provide an accelerated course of study to high achieving students in STEM fields, producing STEM graduates which fuels economic development.”

Todd Mann, National Consortium of Specialized STEM Schools

Peer School Community

Web Research and In-depth Interviews

- Arkansas School for Math, Sciences, and the Arts
- Illinois Mathematics and Science Academy
- Louisiana School for Math, Science, and the Arts
- **Maine School of Science and Mathematics**
- Mississippi School for Mathematics and Science
- North Carolina School of Science and Mathematics
- South Carolina Governor's School for Science and Mathematics

Web Research Only

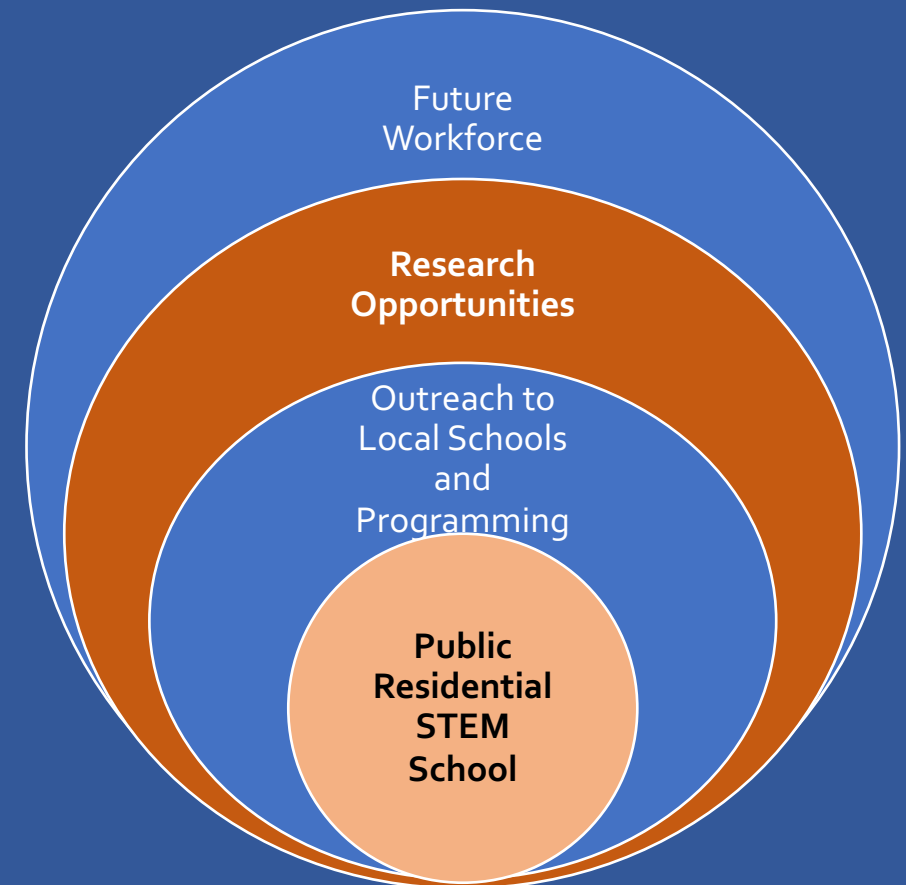
- Alabama School of Mathematics and Science
- Gatton Academy of Mathematics and Science in Kentucky
- Georgia Academy of the Arts, Mathematics, Engineering and Science (GA)
- Indiana Academy for Science, Math and Humanities
- Kansas Academy of Mathematics and Science
- Missouri Academy of Science, Mathematics and Computing-CLOSED
- Oklahoma School of Science and Mathematics
- Texas Academy of Mathematics and Science

Peer School Commonalities

Share Common Mission

- Core program and mission is residential
- All have programs to serve broader state needs
- All have student research & intern programs
- Short-term objective: support STEM education
- Long-term objective: build a STEM workforce to strengthen their state economy

Multi-level Mission



Peer School Operating Models

Operating Models	Stand-alone Campus	Located on College Campus	Campus of State's University System	Co-located with Local Grade School
State STEM Schools	SC, IL	MS, LA	NC, AR	ME
Faculty Applicant Pool	Good	Very Good	Best	Limited
Residential Life Workforce Pool	Good	Best	Good	Limited
Dual Enrollment	Multiple Agreements	Host Campus	Across the University System	Recently changed to UMaine System
Ties to Research University	Good	Good	Best	Limited
Ties to Private Industry & Labs	Very Good	Varies	Varies	Limited

Research Offerings

School	Research Required for Graduation	Placements off Campus with University Faculty	International Opportunities
Arkansas School for Math, Sciences, and the Arts	✓		✓
Illinois Mathematics and Science Academy	✓	✓	✓
Louisiana School for Math, Science, and the Arts		✓	
Maine School of Science and Mathematics			
Mississippi School for Mathematics and Science		✓	
North Carolina School of Science and Mathematics	✓	✓	
South Carolina School for Science and Mathematics	✓	✓	✓

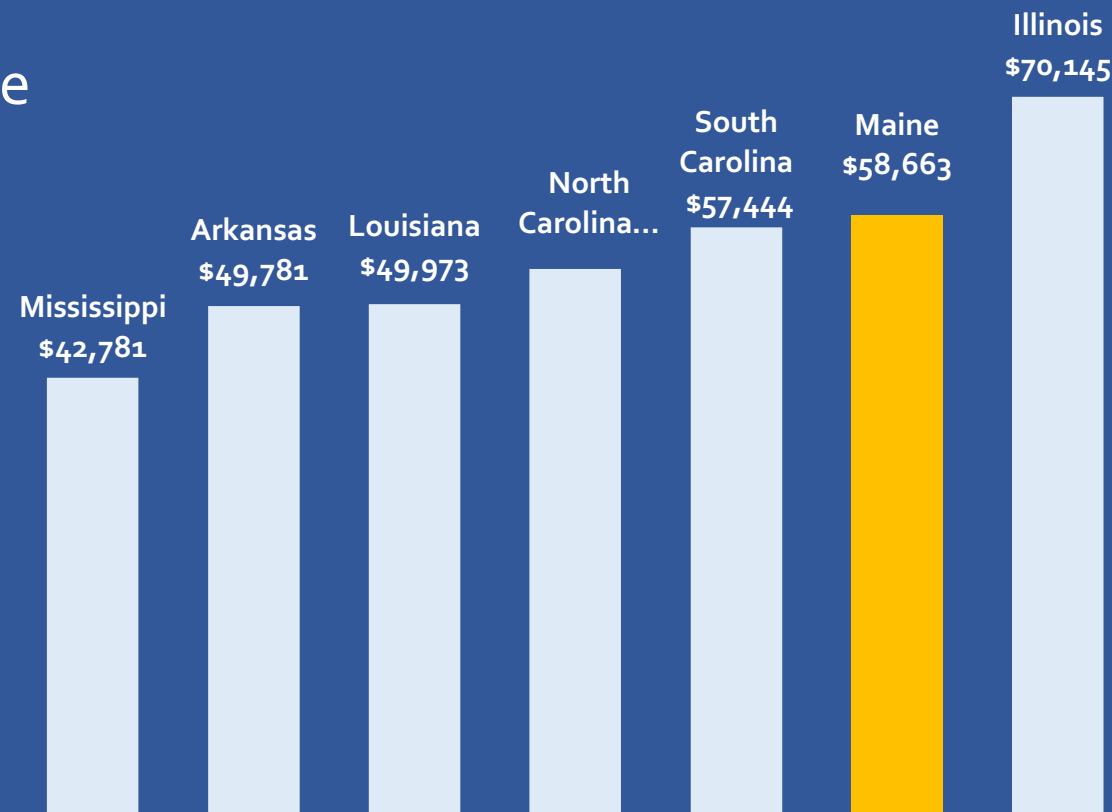
MSSM's research programs fall well short of those of its peer schools

Peer School State Comparison

State Profiles

- Median incomes mostly below national average of \$60,293 (2018)
- IL is an outlier with above median income
- All other states are small rural states
- Other than ME & IL, all are southern states
- Many do not have a meaningful technology industrial base (exceptions are NC, IL)

Median Household Income in 2018

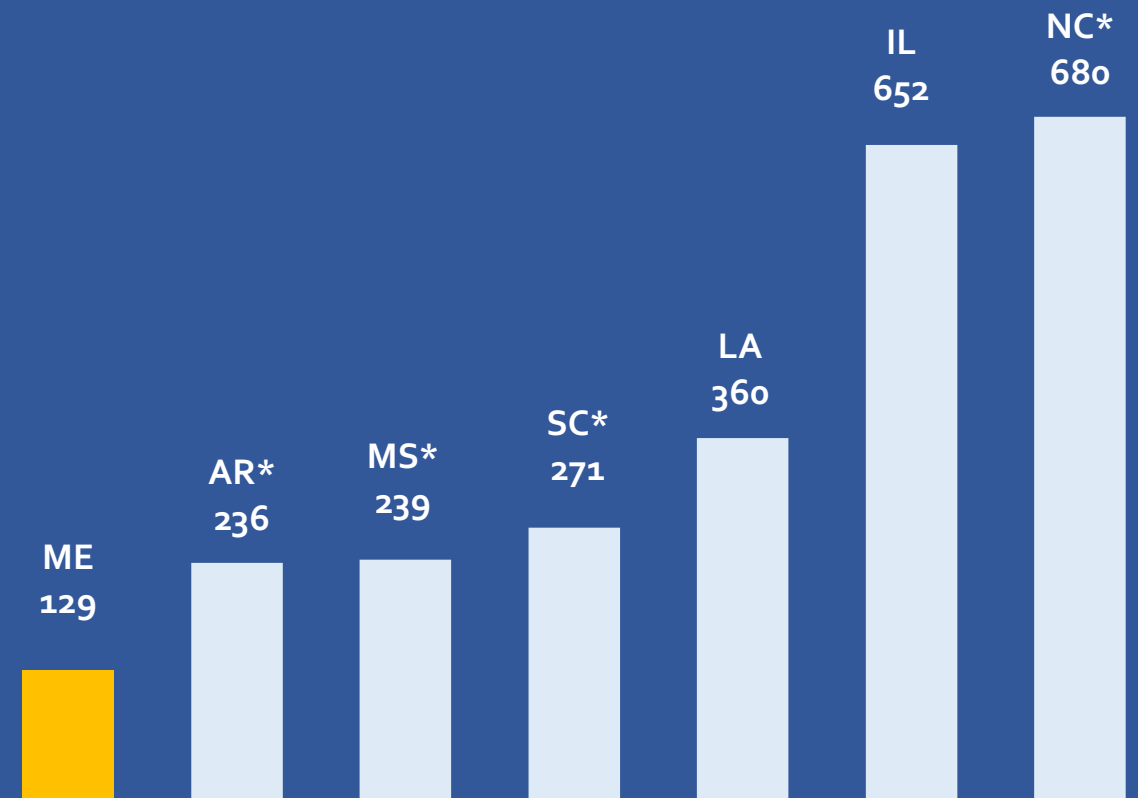


Peer School Size

School Sizes & Profiles

- MSSM is only school with 9th grade
- 4 schools support 11th and 12th grades only
- 2 schools support 10th, 11th & 12th grades
- Peer schools focus on annual number of graduates

Number of Students Enrolled



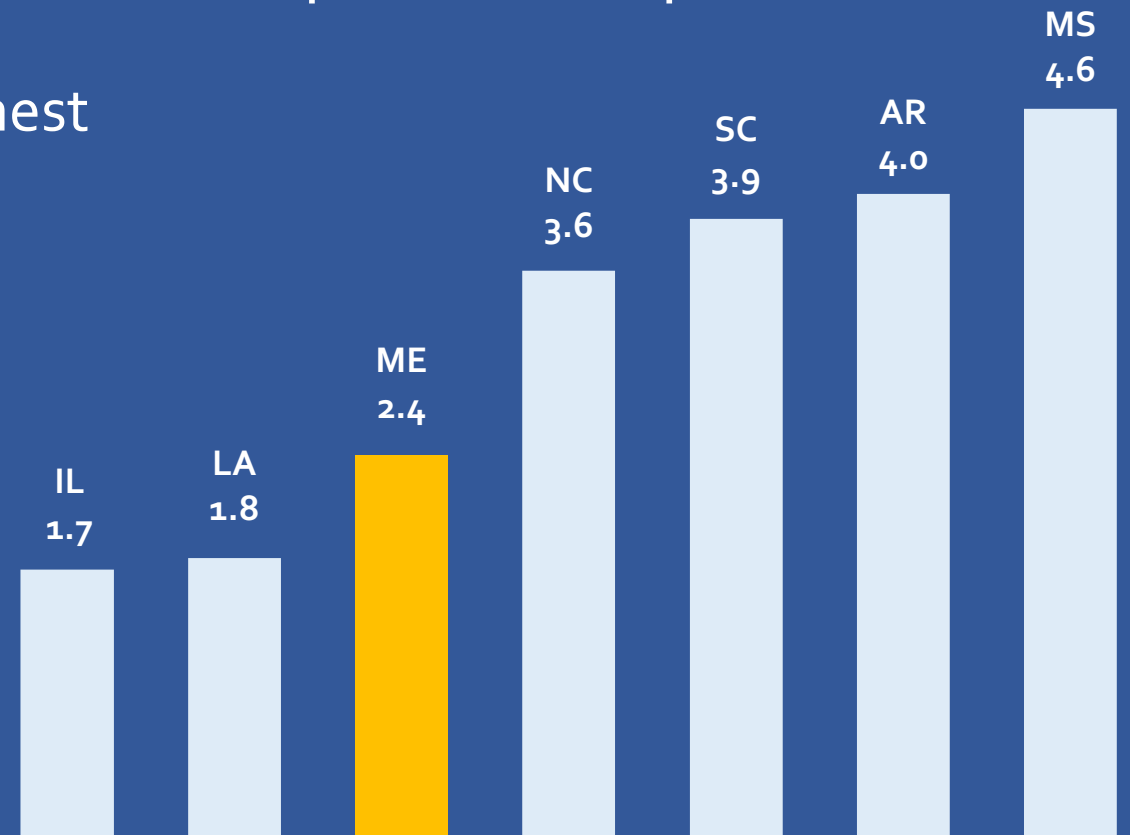
* 11th & 12th grades only

Peer School Graduates

Per Capita Graduate Profiles

- Poorer, rural and southern schools rank highest
- MSSM per capital graduates rank slightly below average of peer schools
- IL ranks lowest and continues to be an outlier as a richer northern state

Graduates per 100k Population

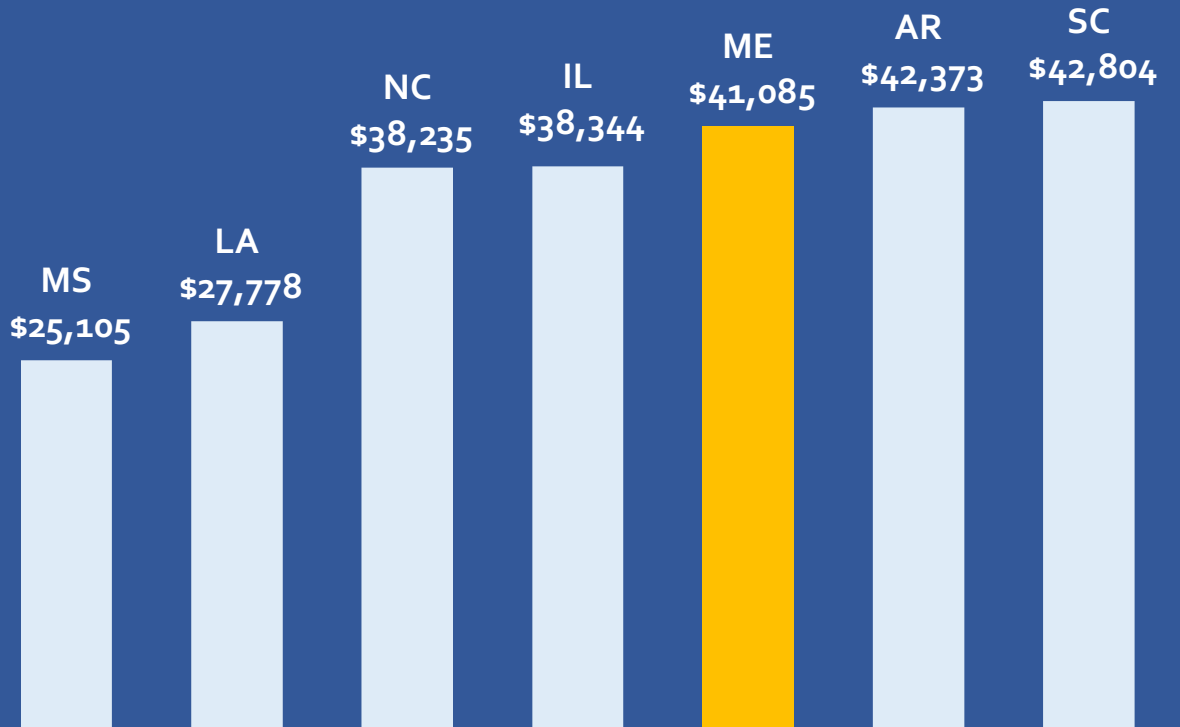


Annual Costs Per Student

Cost Comparisons

- MSSM is consistent with most peer schools
- LA and MS are lowest due to shared costs with host college campuses
- Costs include parent fees, where MSSM is highest

Estimated Annual Student Cost

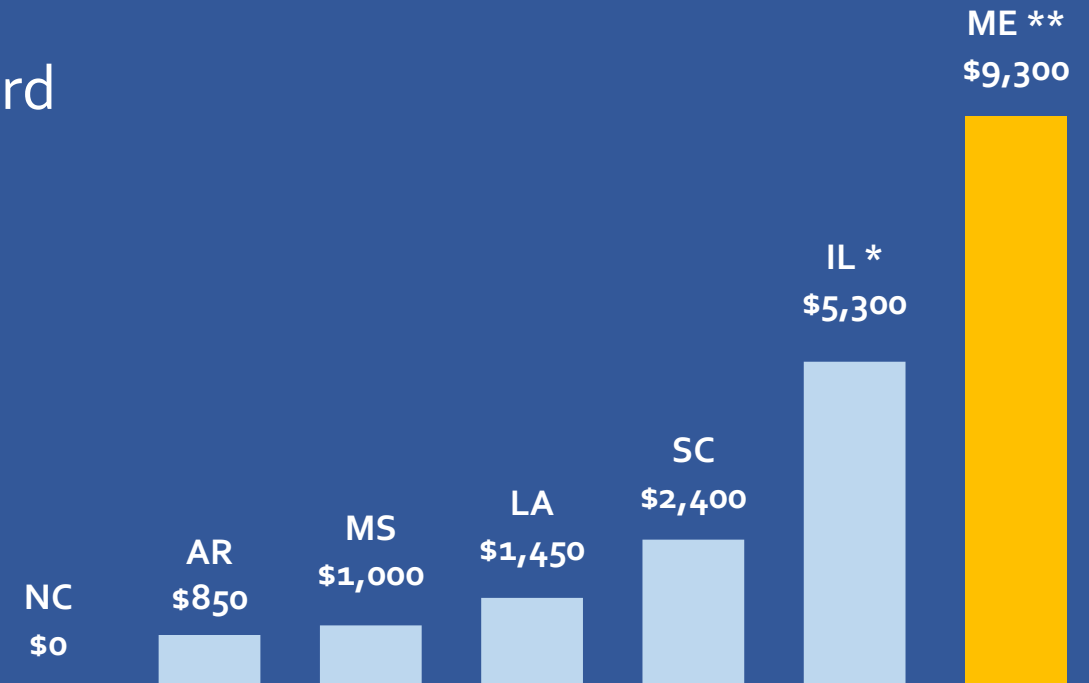


Sending Family Costs

Family Funding Models

- Maine is only school charging full room & board
- Most states require small family contribution
- Small, rural, southern states charge the least
- Meal fees are the largest family contribution
- All schools provide support to low income students to reduce costs

Family Contributions in 2020



* fees scale down based on family income

** financial aid is available

State Funding Support

State Funding Models

- Four schools get 95% or more of budget support
- Schools at 100% are in higher education budget
- MSSM is only school in the PK- 12 state budget
- Well-funded schools are either in Governor's budget or higher education budget

State Share of School Budget

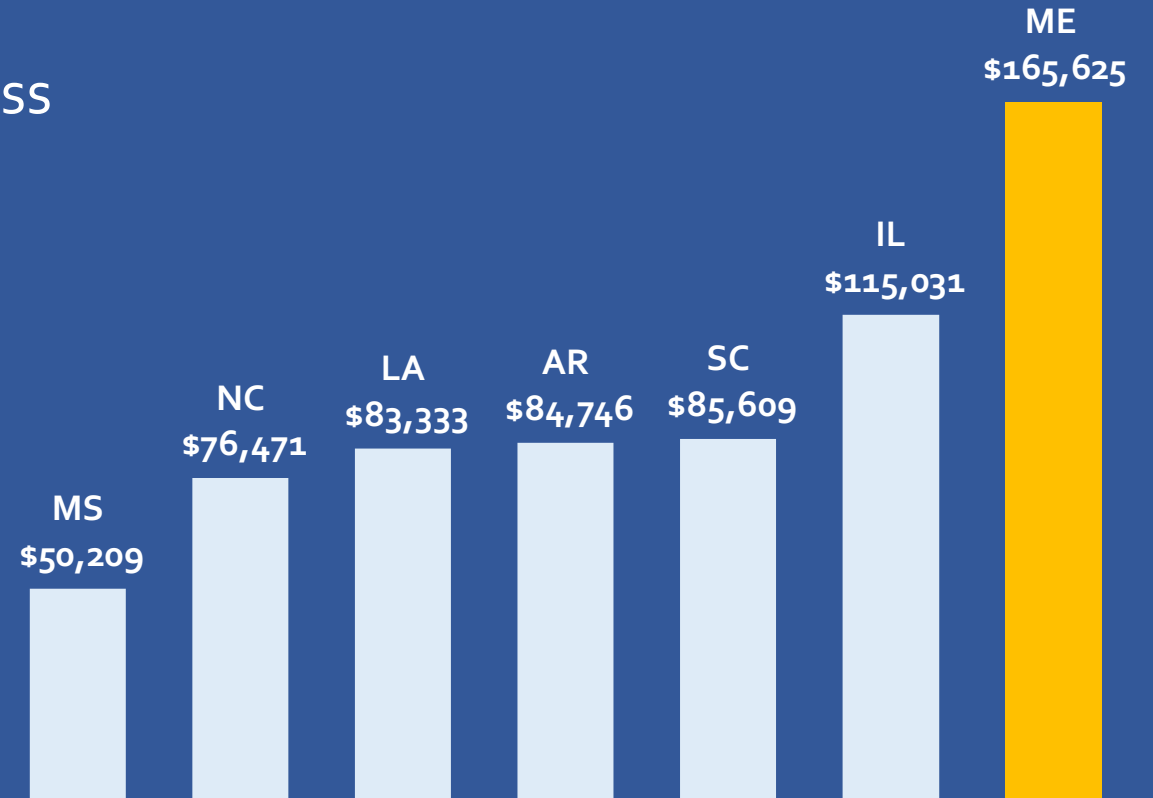


Cost* Per Graduate

Per Capital Cost Comparison

- MSSM costs are highest due to 9th grade class
- IL and NC support 10th grade class
- NC is the largest school, benefiting from significant economies of scale

Estimated Cost Per Graduate *



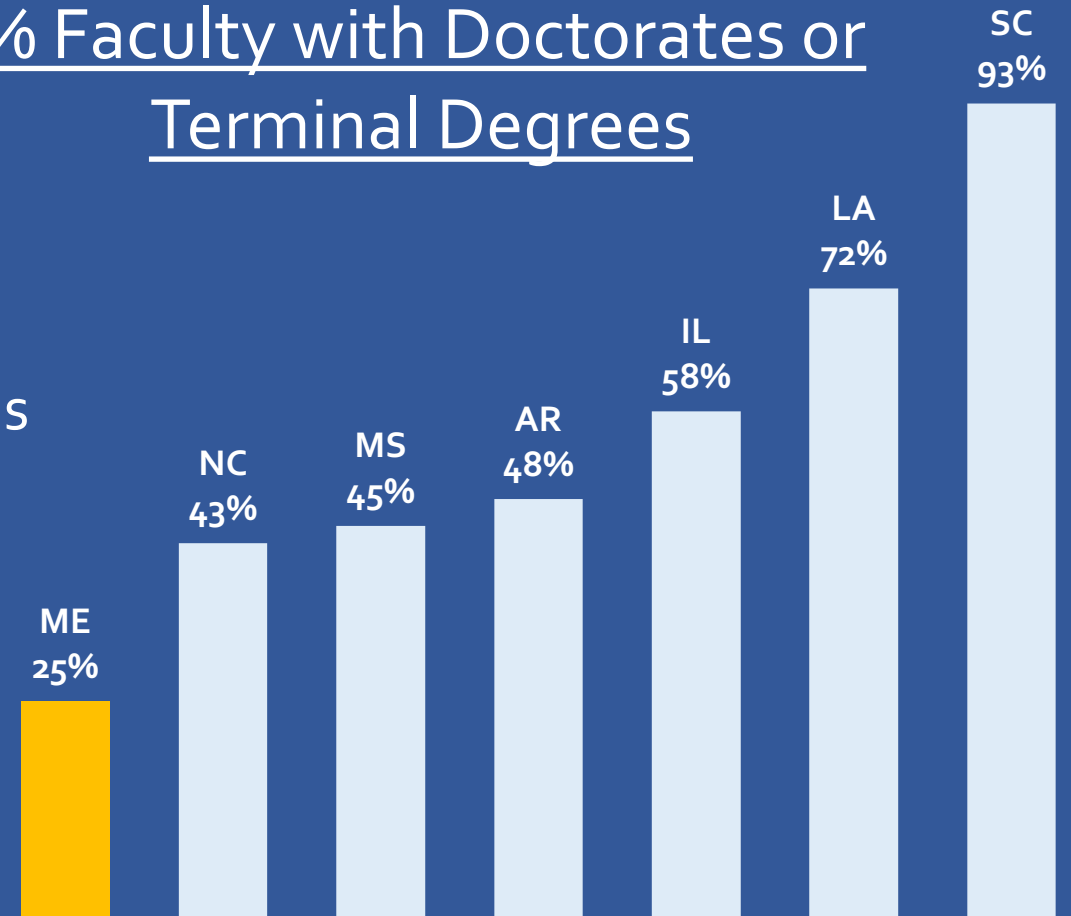
* Costs include parent fees

Peer School Faculty Profile

School Faculty Profiles

- MSSM is well below the average
- AR and NC are part of state university system
- LA and MS are located on host college campus
- IL and SC are stand alone campuses

% Faculty with Doctorates or Terminal Degrees



Common Themes

- Student safety and welfare is a fundamental priority
- Strong higher-ed partnerships central to achieving the mission
- Mission appropriate facilities support student welfare and academic success
- Remote location is an inhibitor to outreach and partnerships
- Outreach and distance learning opportunities exist, especially for rural schools

Common Challenges

- **Social and Emotional Health of Students**

Social and emotional health is a nationally recognized challenge for high-achieving students

- **Relationships with Sending School**

Sending schools are often unhappy to give up their high-achieving students

- **Faculty Recruiting for Some Courses**

Recruiting faculty for high level math and physics is challenging, esp. in rural communities

- **Advocating for State Funding/Telling Their Stories**

Importance of advocating for budget and the school's value in front of the legislature

Discovery Conclusions

- **Maine's Economic Plan calls for investment in STEM talent**
 - Need more STEM graduates to grow a stronger knowledge-based economy
- **MSSM's 25 year "pilot" has been successful - time to reinvest**
 - Ranked #2 in the country based on strength of instruction and student achievement
 - Facilities are outdated for modern instruction and support of student safety and welfare
- **Best practices can be implemented successfully in Maine**
 - Strong partnerships with higher ed. and industry provide economic & educational benefits
 - Mission appropriate facilities are important for student wellness, attraction and success
 - Full state funding is needed to fulfill the two-part residential and outreach mission, reaching more rural and economically disadvantaged students

Vision Subcommittee

- Combine findings of Partnership & Discovery Committees
- Identify and Match to Maine's Unique Needs
- Establish an MSSM Vision for the next 25 Years
- Prioritize within both Residential and Outreach Programs
- Establish Best ROI against Scarce Financial Resources

Maine's Unique Needs

- Grow Maine's Intellectual Assets
- Provide STEM Workers for Knowledge Based Economy
- K-12 Participation in Education & Research Investment
- Path for Rural Maine's Youth to Tomorrow's Opportunities

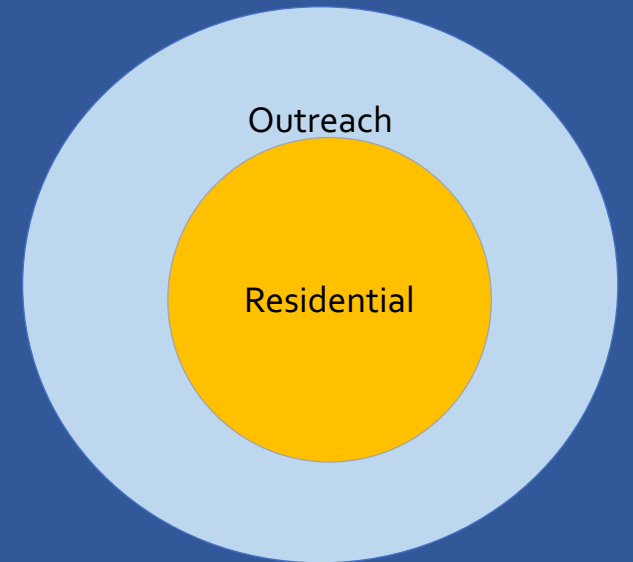
High Level MSSM Objectives

- Safer and More Productive Residential Program
 - Safer, healthier learning environment that grows the whole student
 - 2.5 times number of graduates at a lower cost per graduate
 - Strengthen Higher Ed affiliation(s) and grow industry and research partnerships
 - Become Maine's Laboratory for best practices in STEM education
- Outreach Program tailored to Maine's Unique Needs
 - Early age identification and support of high-achieving students throughout Maine
 - Support rural schools: teacher training, curriculum design and remote learning
 - Build a state-wide community of MSSMers: both residential and remote students
 - Become Maine's knowledge resource on best practices for STEM instruction
 - Increased partnerships with existing Maine STEM and education organizations

Residential Feeds Outreach

"I have found my people"

MSSM's Residential Program is a Community of like-minded, high-achieving students that comes together to create an incredible culture for learning, camaraderie and personal growth. It is the Core strength of MSSM, providing the experience and talent pool to support an informed Outreach Program



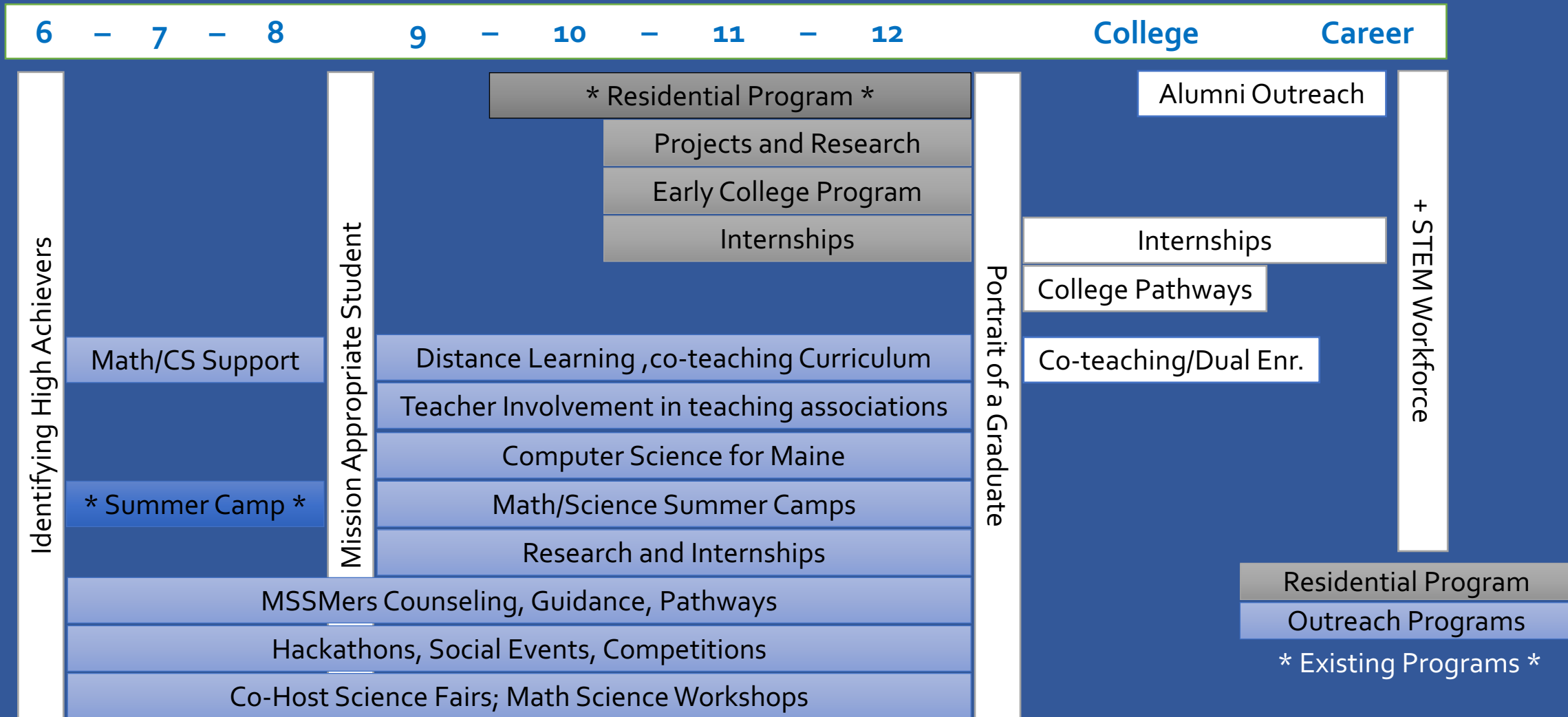
Residential Vision

- **Student Safety and Welfare**
 - Increase investment in Social & Emotional Learning (“SEL”)
 - Mission Appropriate Facilities - Residential, Academic, Social & Recreational
 - **Improve Maine’s Return on Investment**
 - Increase average annual number of graduates by 150% from 32 to 80
 - Lower annual cost per student from \$41,000 to \$38,000 *
 - **Strengthen Partnerships**
 - Establish a host College or University relationship to enhance learning opportunities
 - Build partnerships with Research and Industry to stimulate research and career considerations
 - **Cultural Commitment to Constant Improvement**
 - Maintain a mind-set and program to constantly assess best practices outside MSSM
 - Implement tools to measure and manage effectiveness of academic and welfare programs
- * placeholder, analysis in process

Outreach Vision

- Engagement with more of Maine's high-achieving students
 - summer camps for grades 8 thru high school
 - counselling, especially for first generation college students and their families
- Support Maine's rural students and schools
 - teacher training in STEM instruction
 - remote instruction in math, computer science, etc. to supplement local instruction
- Build a state-wide community of MSSMers
 - create opportunities for residential and non-residential STEM students to gather
 - summer camps, online events
- Become Maine's resource on best practices for STEM instruction
 - health & welfare program experience and advice for high achieving students
 - share programs, tools and experiences for enhanced STEM instruction

Vision - Opportunities



Identified Investments

■ Safety and Welfare

- Invest more resources in services and programs to ensure student safety & welfare
- Institutional emphasis on SEL as the primary responsibility of a residential school

■ New Mission Appropriate Facilities

- Larger school w/o 9th grade could serve more graduates at a lower cost per student
- Facilities designed to enhance student welfare and academic outcomes

■ Increase Student Applicant Pool and School Size

- Identify source(s) of funding for student room & board expenses
- New facilities and host college/university partnership will enhance program offerings

■ Outreach

- Fund and staff Office of Outreach
- Provide support for underserved students & under-resourced schools, esp. in rural communities
- Build more research and intern partnership opportunities

Vision – Annual Budget

2020/21 Annual Budget

\$ 3,290,347

flat funding in DOE budget

\$ 325,000

current State of Maine financial aid

\$ 34,300

out-of-state tuition

\$ 1,136,000

resident room & board fees

\$ 511,886

grants & other

\$ 5,297,533

total current budget (2020/21)

Needed Investments

▪ Increase student body to 240

\$ 1,500,000*

minimum size to achieve economies of scale

▪ Student welfare

\$ 500,000*

social and emotional learning (SEL) programs

▪ Facilities

\$ 1,500,000*

rent/debt service for new facilities

▪ Outreach

\$ 500,000*

to meet legislative mandate

\$ 9,297,533

total budget to meet the Vision

** placeholders, analysis still in process*

Discussion

Residential Vision

Outreach Vision

Partnership Subcommittee

Four institutions expressed Partnership interest

University of Maine at Orono

University of Maine at Presque Isle

Colby College

Unity College

Partnership Criteria

- Student Safety & Welfare
 - culture and environment
- Enhancement of Learning
 - incremental resources
- Student Access
 - distance from home
- MSSM Faculty & Staff
 - regional talent pool
- Residential Facilities
 - mission appropriate
- Academic Facilities
 - mission appropriate
- Event Hosting
 - facilities and experience
- State Funding
 - amount and form

MSSM - Limestone

Prioritized Criteria	Influencing Factors
Student safety & welfare	Increased focus on Student Welfare, need for new facilities
Enhancement of learning	Good relationship with UMPI, limited STEM curriculum
Student access	Distance from most sending families, 204 miles avg. distance
MSSM faculty & staff	Small market, limited opportunities for trailing partners
Residential facilities	Need for new mission appropriate dormitories
Academic facilities	No host partner, continuation of UMPI relationship
Hosting facilities	Adequate facilities, would improve with new dormitory
State funding - capital	State bond needed for new residential and academic facilities

UMaine - Orono

Prioritized Criteria	Influencing Factors
Student safety & welfare	<u>On-campus</u> dorm, culture, medical support, Ed. Department
Enhancement of learning	Breadth of curriculum and instruction, especially engineering
Student access	Central location, visitor support services, 86 miles avg. distance
MSSM faculty & staff	Large pool of faculty talent, career enhancement opportunities
Residential facilities	Existing on-campus dorms provide little social separation
Academic facilities	Considerable resources, how much available to MSSM?
Hosting facilities	Considerable facilities for camps and education programs
State funding - capital	Improvements to existing dorms, no other investments

UMaine – Presque Isle

Prioritized Criteria	Influencing Factors
Student safety & welfare	<u>On-campus</u> dorm, AMHC access, Ed. Dpt., shared health services
Enhancement of learning	Variety of science & research opportunities, computer science
Student access	Small improvement for most students, 186 miles avg. distance
MSSM faculty & staff	Modest improvement, better career opportunities, spouse options
Residential facilities	New <u>mission-appropriate</u> dorm, academic spaces, share cafeteria
Academic facilities	More and better resources, scheduling access challenges, esp. labs
Hosting facilities	Very good hosting facilities for camps and education programs
State funding - capital	Privately funded dorms, long term lease obligation

Colby College - Waterville

Prioritized Criteria	Influencing Factors
Student safety & welfare	<u>Off-campus</u> dormitory, near hospital & student rec. center
Enhancement of learning	Strong sciences, growing computer science, no engineering
Student access	Central location, visitor support services, 61 miles avg. distance
MSSM faculty & staff	Good pool of teacher talent, career enhancement opportunities
Residential facilities	<u>New mission-appropriate</u> dormitory, academic and social spaces
Academic facilities	Considerable resources, how much available to MSSM?
Hosting facilities	Good hosting facilities for camps and education programs
State funding - capital	Shared 50-50 with the State of Maine, \$25 million each

Unity College - Unity

Prioritized Criteria	Influencing Factors
Student safety & welfare	<u>On-campus</u> dormitory, shared medical & other services
Enhancement of learning	Science oriented curriculum & facilities, no engineering
Student access	Central location, visitor support services, 65 miles avg. distance
MSSM faculty & staff	Good pool of teacher talent, career enhancement opportunities
Residential facilities	Existing <u>dedicated</u> dorms, cafeteria, classrooms & other spaces
Academic facilities	Turnkey <u>dedicated</u> modern classrooms and lab spaces
Hosting facilities	Excellent hosting facilities for camps and education programs
State funding - capital	Immediate occupancy, no capital cost, long term capital lease

Comparison

Prioritized Criteria	MSSM	UMO	UMPI	Colby	Unity
Student safety & welfare	Good	Fair	Good	Very Good	Good
Enhancement of learning	n.a.	Significant	Modest	Significant	Modest
Student access	Distant	Central	Distant	Central	Central
MSSM faculty & staff	Limited	Large	Moderate	Large	Large
Residential facilities	New *	Existing	New	New	Turnkey
Academic facilities	n.a	Extensive	Good	Extensive	Very Good
Hosting facilities	Good	Very Good	Very Good	Very Good	Very Good
State funding - capital	Bond *	Budget	LT Lease	Shared	Lease

* assumption without a specific proposal

Qualitative Rankings

Primary Criteria	MSSM	UMO	UMPI	Colby	Unity
Student safety & welfare	4	5	3	1	2
Learning opportunity	5	1	3	2	4
Residential facilities	4*	5	3	1	2
Academic facilities	5	2	4	1	3
Cost **	3*	2	4	5	1

* assumes new build, but without a specific proposal

** assumptions need to be explored further with prospective partners

Maine's Opportunity is NOW!

- Existing Institutions of Intellectual Excellence
 - Jackson Labs, Bigelow Labs, Roux Institute, WEX, IDEXX, Maine Health, etc.
 - Bates, Bowdoin, Colby, UMaine Engineering School
- \$1 Billion Investment in Education and Research
 - \$500 million Alford Foundation commitment to Maine Institutions
 - required match by receiving institutions
- Call to Action for the State of Maine
 - Investment in K-12 STEM education is an essential foundation for success
 - North Carolina example with Research Triangle and first ever STEM Academy
 - Requires visionary leadership and action for Maine's future

Call to Action

- Acknowledge Maine's Structural Challenge
 - Falling dangerously behind in the race for economic progress
- Seize the Opportunity for Substantive Change
 - The time for a meaningful commitment to STEM education is NOW!
 - Alfond and Roux are showing visionary leadership
- Commit to a Program that supports MSSM
 - Decide on the direction of the MSSM Vision and a Partnership
 - Participate in a Business Planning Process with MSSM and its partner
 - Authorize long-term financial support for STEM education in Maine

Phase 2 Decisions to be Made

- Approval of the Vision
 - School size, annual budget, changes to legislation
 - Scope and size of Outreach Programs
- Direction on Partnership Options
 - Evaluate criteria for fit with MSSM Vision
 - Provide guidance for Partnership discussions
- Next steps to moving forward
 - Within the Administration
 - With the Legislature

Discussion

Partnership Criteria

Partnership Options