

Accountability Report Transmittal Form

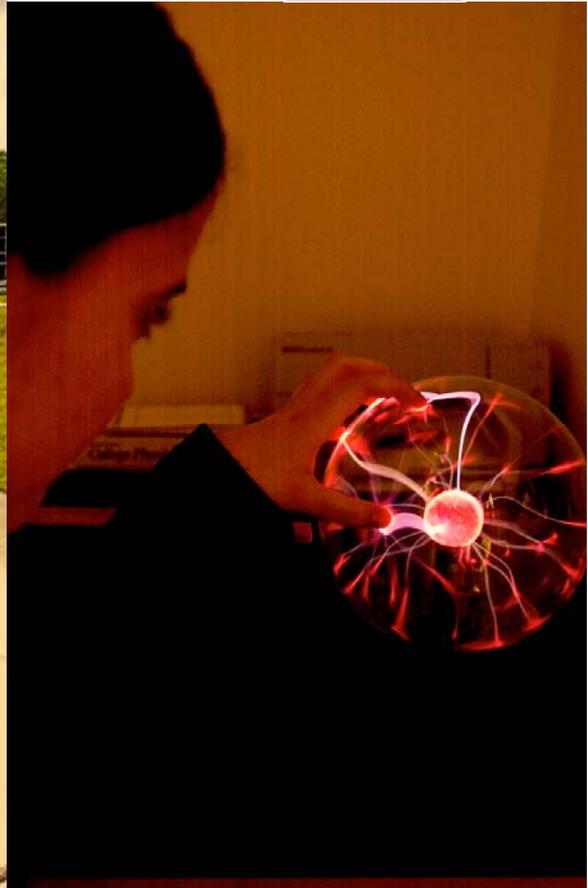
Agency Name S.C. Governor's School for Science & Mathematics

Date of Submission September 21, 2007

Agency Director Dr. Murray Brockman, President

Agency Contact Person: Mr. Ernie Boyd, VP for Finance & Operations

Agency Contact's Telephone Number (843) 383-3906 Email: Boyd@gssm.k12.sc.us



**S.C. Governor's School for Science & Mathematics  
2006-2007 Accountability Report**

**Continuing Excellence in Unfinished Facilities:  
Building Toward Growth**

September 21, 2007

Mr. Les Boles, Director  
Office of State Budget, Budget & Control Board  
1201 Main Street, Suite 950  
Columbia, SC 29201

Re: 2006-2007 Accountability Report

Dear Mr. Boles:

It is a pleasure to submit the 2006-2007 Accountability Report for the South Carolina Governor's School for Science and Mathematics (GSSM).

This report covers another extraordinary year:

- ◆ Named one of the top twenty high schools in the nation by *Newsweek Magazine*
- ◆ Completion of funding needed to finish our building and allow growth in 2010
- ◆ Record % of graduates attending in-state Universities

To maximize the benefit from every dollar we spend to educate our students, GSSM is dedicated to incorporating quality management principles and innovation along with public-private partnerships into every facet of our operation. Through the support of hundreds of South Carolina businesses, the GSSM Foundation has provided funds for the second straight year (for this report period) from an endowment designed to add to the excellence of our programs through state-of-the-art equipment and support. We have come a long way in striving toward and reaching ever-higher standards for student achievement during the past sixteen years. We are looking forward to forging additional opportunities for bright, hard-working South Carolina students through expansion once our school building is complete. We are deeply grateful for this display of continued support from the General Assembly and the Governor, and we look forward to completing the funding and expanding residential and outreach opportunities beginning in 2010.

As a small agency, we at GSSM regularly use internal staff work, Board reviews, and customer (parent, student and business) input to review and refine our vision and our mission. We set goals, define metrics, and reassess programs, policies and procedures. In order to best deploy our resources to meet our goals, we use a collegial committee structure involving both internal and external organizations, public and private. GSSM designs programs based on a challenging standards-based curriculum to meet identified needs.

The quality management principles detailed in this report have led to GSSM being nationally recognized as one of the premier schools in the nation two years in a row as measured by the success of graduates of our programs.

These long-term successes have arisen from a compelling vision coupled with annual objectives and associated performance indicators. These indicators include: test scores and other academic measures; scholarships offered and accepted; comparisons with benchmark residential schools in other states; the extremely high recruiting priority universities place on our graduates; demand for our outreach services; and the support of business and industry in helping GSSM provide advanced educational opportunities. The steady increase in stature of the school has created the need to expand our student body into purpose-built facilities.

GSSM is also now into its seventh year of integrating information developed in conjunction with the Education Oversight Committee (EOC) – the school report card system. We proudly report that GSSM continues to maintain excellence in all categories.

Thank you for your time regarding this report and I will be happy to provide additional information and ask that if you have any questions, please call me.

Sincerely,

Dr. Murray W. Brockman  
President

## **Section I – Executive Summary**

### **1. Mission and Values**

#### **Mission and Values Statement**

#### **South Carolina Governor’s School for Science & Mathematics**

The purpose of the South Carolina Governor’s School for Science and Mathematics (GSSM) is to offer the most academically able students of this state a learning environment that strengthens their ability to think critically, stimulates the joy of learning, and fosters the excitement of discovery through scientific research.

GSSM broadens the horizons of the mind, expands intellectual and personal growth, and cultivates the uniqueness of each student. The School builds a strong sense of community among students, faculty and staff in a residential setting.

Emphasizing science, mathematics, and technology, the Governor’s School for Science and Mathematics is an educational resource, which serves the State of South Carolina as a model for academic excellence and provides a diverse range of outreach programs and partnerships.

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## I.2. Major Achievements from past year

### Major Achievements, Status: FY 2006-2007 Accountability Report SC Governor's School for Science & Mathematics (GSSM)

Repeatedly recognized nationally for excellence, GSSM advances academic achievement throughout South Carolina by offering comprehensive residential and exemplary outreach programs for students and teachers.

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#### *S.C. Governor's School for Science & Mathematics: Metrics, Benchmarks & Highlights*

##### GSSM RESIDENTIAL PROGRAM

- GSSM residential students are 50% male, 50% female, and 22% minority, and represent 33 of South Carolina's 46 counties and 81 high schools across the state. They are selected on merit, including academic talent, interest in science and mathematics, and strong character.
- GSSM has earned Palmetto Gold with an "Excellent" rating on the SC Annual School Report Card.
- 67% of recent graduates attend college in S.C. – a new record for GSSM in-state participation. Historically, about 50% of GSSM alumni seek careers in S.C., working as teachers, doctors, scientists, engineers, computer scientists, and lawyers.
- Strong academic performance is a hallmark of GSSM students. In 2007, seniors led the state again with an average **SAT score of 1397** (The SC average was 984, and the national average was 1017). Twenty-one students have been recognized by the Advanced Placement program with distinctions ranging from Scholars with Distinction to National Scholars – while not official as of August, GSSM predicts at least seven such recognitions.
- **Fourteen seniors were National Merit Finalists in 2007** and 18 have been identified as eligible for the 2008 competition. There are **51 Palmetto Fellows**, and all seniors qualified for the Life Scholarship offered by the state. **The Class of 2007 received over \$9,200,000 in scholarship monies.**
- Our nationally recognized mentored research program (SPRI) for rising seniors, which is open to all South Carolina students and required for GSSM students, continues to establish new benchmarks. Several **students had their research published in peer-reviewed journals**. One student represented South Carolina in the Southeast Regional competition of the International BioGENEius Challenge where he was selected as a finalist for the International BioGENEius Challenge. Another student researcher was selected to present his research at the Council on Undergraduate Research annual Posters on the Hill in Washington, DC.
- **Dr. Hemant Pendharkar** has been named as GSSM's **new Vice President for Academics**, bringing a wealth of credentials to help lead GSSM to growth, plus **research expertise** in such areas as **Pure Mathematics, Theoretical Physics and Computer Science**. Dr. Pendharkar, along with his student, recently won the first prize in student research at the CCSCE06 conference for their

“Cross platform 3-D video game engine.” Dr. Pendharkar was formerly Professor of Mathematics and Student Development Fellow at Worcester State College.

- Extracurricular activities continue to shine. Students did a fantastic production of *The Odd Couple* and **three students earned chairs in the All-Region Band, one in All-state Orchestra**. The soccer team finished fourth in the state’s Division I, while the tennis team finished 2<sup>nd</sup> in the region. The volleyball team finished second in the region. Niles Brinton, Class of ’08, placed third at the state cross-country, as well as did the GSSM team.
- GSSM alumni continue to demonstrate excellence in both academics and leadership at the college level. **Six GSSM alumni were named Goldwater Scholars** over the past 4 years at Clemson, USC, Furman, and the University of Georgia. Currently, the Student Government President (Stephen Gosnell, ’02) at Clemson University and NC State (Will Quick, ’06) are GSSM alums. For the past three years, a GSSM Alum has been named as a prestigious Rhodes Scholar. This year, two GSSM Alum were nationally recognized as Rhodes Scholars and another as a Gates Scholar, allowing them to pursue, at no cost, a graduate degree at Cambridge University.
- GSSM Faculty, all holding advanced degrees, continue to receive significant recognition. Physics Instructor Dr. Mark Godwin was selected for a research and teaching fellowship at the prestigious European Center for Nuclear Research in Geneva. Mr. Randy LaCross, Director of the GSSM Center for Excellence, presented results from GSSM’s Team GEAR Up program to the National Council for Community and Educational Partnerships. Mr. Coleman’s poetry appeared in Windhover and Dr. Flannagan’s essays appeared in the Dictionary of Literary Biography. French Instructor, Dr. Lollie Eykyn was one of five French teachers in S.C. to review examinations required for state certification for new French teachers. Mathematics Instructor, Dr. Murray Siegel, serving as Associate Editor of the Statistics Teachers’ Network, presented papers to scholarly conferences in Charleston, Phoenix, San Antonio, and Toronto, not to mention leading workshops for AP statistics teachers in St. Louis, MO, Dallas, TX, and Norman, OK.

#### GSSM CENTER FOR EXCELLENCE – STATEWIDE OUTREACH

- The **Summer Science Program** completed its 18<sup>th</sup> **successful year** bringing 310 rising 8th, 9th and 10<sup>th</sup> graders from around the state together to study robotics, digital animation, physics, forensics, plant ecology, entomology, etc. The number of students **supported by scholarships** continues at nearly **30%**, thanks to generous support from businesses through the GSSM Foundation and the S.C. Junior Scholars program. Through its SC GEAR UP partnership, GSSM is beginning to deliver inquiry-based science instructional units for teachers and students in the 18 SC GEAR UP schools located along SC’s I-95 corridor. Over 5,000 middle and elementary students will academically benefit from the above activities each year.

#### GSSM FOUNDATION

- ◆ Our strong and active Foundation organizes the support of hundreds of businesses from all across the state in support of sustaining excellence at GSSM.

### **I.3. Key Strategic Goals for Present and Future Years**

This report reflects the goals of GSSM's programs and operations providing for the following:

- Maintain the excellence that is the hallmark of each GSSM program – see above
- Use funds efficiently and effectively -
- Complete GSSM's facilities: Fund Phase II construction & outfitting through capital appropriation (s) – accomplished

#### **Strategic Goals**

1. Continue and strengthen residential and outreach programs, enhancing excellence and meeting opportunities statewide
2. Complete and occupy new stand-alone facilities. Phase I Opened in August 2003 - Accomplished.
  - a. Finalize Phase 2 Funding - Capital Appropriation Approved for 2007-08
  - b. Finalize Furniture, Fixtures & Equipment requirements and support appropriations request - Accomplished for Phase I
3. Plan for and double the size of the student body and faculty while maintaining or improving quality and minority enrollment - Underway
  - a. Visit school districts – present the opportunity, hear feedback - Underway
  - b. Analyze alternatives – AP, IB, private schools, other. How are we unique?
  - c. Evaluate 10<sup>th</sup> grade admission – completed.
  - d. Use the expansion opportunity to review and upgrade curriculum
    - i. Created Robotics/Engineering Course – underway
    - ii. Detailing Finance & Economic Course Offering Possibilities
    - iii. Define enhanced math/computer science & technology offering(s)
  - e. Expand Open House days for recruitment information – Doubled.
4. Spearhead efforts toward leadership in South Carolina science and math education via our outreach programs - Underway
  - a. Uncover grant opportunities – especially in teacher training -- ongoing
  - b. Obtained new five-year Federal GearUP Grant through CHE partnership
  - c. Expand summer research coordination with higher ed partners: Continue expanded partnerships with addition of College of Charleston & MUSC
5. Enhance the profile of GSSM across the state - Underway
  - a. Establish role in SC initiatives to improve science and math education
  - b. Approval of course articulation agreements where GSSM students earn credit for specified courses at USC and Clemson – validates quality of GSSM curriculum and offers benefits to students and parents
  - c. Create targeted communications plan for internal and professional implementation – underway & ongoing: articles in business journals, radio efforts, newspaper articles under common branding focusing on excellence of students

6. Continue to focus on the development of high character and exceptional skills in our students – Accomplished/Ongoing
  - d. Evaluate honor codes at other schools - underway
  - e. Review handbook and emphasize principles – completed
  - f. Plan Early Orientation days for Juniors – ethics/character training

**I.4. Opportunities and barriers** that may affect the agency’s success in fulfilling its mission and achieving its strategic goals (This establishes the basis for the agency’s budget request).

**I.4.a Opportunities:**

1. By providing advanced facilities equal to the quality of the faculty and students, GSSM can keep our programs on the cutting edge of science and technology to enhance the growing knowledge economy in partnership with the research universities
  - a. Now that Phase II is funded, we will build state-of-the-art laboratory facilities for instruction and expand residential out outreach programs beginning in 2010 when complete building opens
  - b. Advanced laboratories will enhance our student’s preparation to compete globally in scientific research.
2. Maintain and extend quality GSSM programs’ reach and depth to a “critical mass” of students and teachers, both residential and outreach.
  - a. When Phase II is completed in 2010, GSSM’s new campus will have space for up to 300 of the state’s brightest and most-motivated students to participate in the intensive full immersion of our leading-edge residential program. This larger number will provide opportunities for even more students from every corner of South Carolina to participate. Today, we turn away two out of every three applicants.
  - b. When completed, the campus will also be able to host educational conferences impacting thousands of additional students (grades 7-12) annually through workshops, teach-training, seminars and course-work.
  - c. Grant requests are researched and submitted to fund high-quality courses to enhance academic achievement statewide. GSSM developed and obtained (with partners) a Federal Grant (GearUP) to help teach middle school teachers in the sciences. Following our philosophy of building partnerships in order to leverage resources, this grant is part of the larger program involving CHE, school districts, and the business community through the State Chamber of Commerce. Other grant opportunities are being developed.
3. Grow the knowledge economy and enhance quality of life throughout South Carolina by providing a larger homegrown supply of high-quality engineers, scientists, doctors, and other professionals who have a strong predilection to seek higher education and then employment in South Carolina Develop curriculum in Finance & Economics to support the knowledge economy.
4. Raise the pride and awareness South Carolinians have in their young scholars – by more extensively communicating the national and world-level achievements our students are producing through challenging GSSM programs – both residential and outreach. Awareness campaign begun in 2005 is underway & expanding – articles appeared in business journals and newspapers.

#### **I.4.b. Barriers 2006-2007:**

1. Unfinished campus puts growth on “hold” until building can be completed. GSSM now operates without dedicated classrooms or labs and no assembly, gymnasium, presentation or project assembly spaces. These un-built facilities are at the “heart” of GSSM’s academic programs. (See diagram on next page.)

Answer: Capital construction funds approved (\$14,926,031) to build the quality laboratories, classrooms and factitively/presentation areas for the new campus. Construction set to begin in early 2008, completion in 2010.

- a. Incomplete campus puts programs on “hold” until building is complete.
    - i. No presentation space limits educational conferences, teacher training
    - ii. No gymnasium harms recruitment, reduces effectiveness of wellness model
    - iii. Opportunities for exceptional students in science/math are stunted
    - iv. Electives and new curriculum initiatives limited at current faculty/student size
    - v. Recruitment and retention of stellar faculty more difficult without complete facilities
    - vi. Design and assembly of large-scale engineering projects in prevented
  - b. Our current small size inhibits expansion of the curriculum into critical areas we want to introduce into advanced high school instruction
    - i. Finance and economics, hands-on engineering, Asian language instruction and computer science must be developed as national models for early instruction
    - ii. With business and university partners, we must explore international research partnerships
2. Misperception that science and mathematics are not a state education priority – that South Carolina’s economic future does not rest on a highly sophisticated knowledge economy. Also, a misperception that GSSM is a local school, not a statewide resource that helps students from every corner of South Carolina – and therefore an institution that deserves statewide support.

**I.5 How the accountability report is used to improve organizational performance.** Review and compilation by senior staff challenges assumptions about current and future priorities, services, allocation of resources, necessity for measurement and testing validity of data.

## Section II – Organizational Profile

### II.1 Description of major products and services

Increase academic achievement by providing advanced and challenging academic courses and experiences, with an emphasis on science, mathematics and technology, to students and teachers in South Carolina. GSSM features two distinct, yet complimentary, program areas:

- a full-time Residential Program for 11<sup>th</sup> and 12<sup>th</sup> graders and
- statewide outreach programs from elementary through high school.

### II.2 Key Customers

| <b>“CUSTOMER”</b>   | <b>“PRODUCT”<br/>CONSUMED</b>  | <b>KEY NEEDS</b>   | <b>METRICS</b>   |
|---|--|--|--|
| Residential Students,<br>Grades 11-12                                     | Advanced coursework,<br>Full-immersion<br>residential program  | Advanced curriculum,<br>Flexible offerings,<br>College preparation,<br>Faculty w. adv. degrees   | College admissions,<br>Adv. placement,<br>Scholarship offers,<br>Subject mastery   |
| Middle & High School<br>Students (7 <sup>th</sup> grade, 9/10 &<br>11/12) | GearUP Teacher<br>Training (I-95 corridor)<br>-Summer Science<br>Program<br>-Summer Program for<br>Research Interns<br>(Mentored Research)   | Advanced curriculum,<br>broad-based offerings,<br>capable and flexible<br>instructors  | Number of students,<br>number of schools<br>served, number of<br>disadvantaged<br>schools served                             |
| Parents   | Students’ education and<br>character development,<br>Student safety and well-<br>being, support  | Adv. Curriculum,<br>Student Community<br>service, security   | College placement,<br>scholarship offers,<br>safety/security<br>metrics.<br>Articulation<br>agreements with<br>USC/Clemson   |
| South Carolina Science and<br>Math teachers                               | -Support of academic<br>achievement, standards,<br>menu of opportunities in<br>science & math for<br>students<br>Non-standard<br>certification, Re-<br>certification, content<br>development | Advanced course<br>content, student content<br>programs, certified<br>courses, instruction<br>assistance                               | Number of teachers<br>and students<br>participating and<br>supported through<br>Outreach efforts,<br>results.                |
| South Carolina school<br>principals and<br>superintendents                | -Enhance & advance<br>interest and achievement<br>in science/math tracks,<br>-Opportunities for<br>teachers & students<br>-Comparative benchmark<br>for curriculum offerings                 | -Recognition of their<br>essential role in a<br>student’s development<br>and achievement<br>-Data to enhance<br>reporting requirements | Return of SAT<br>scores, other<br>tracking indicators,<br>inclusion in<br>announcements,<br>inclusion in<br>Outreach efforts |
| South Carolina colleges   | Advanced students  | Highly prepared, able  | Attendance in SC   |

|                       |   |  |   |
|-----------------------|---|--|---|
| and universities      |   | and motivated students                         | universities.   |
| SC business community | -Advanced college grads<br>-Enhanced State reputation for academics to help recruit/retain professionals. | In-state grads                                 | Graduates conducting their profession in state                  |
| SC general public     | -Advanced college grads<br>-Pride in academic success of our high school students                         | -Advancing economy<br>-Enhance quality of life | -Enhance knowledge economy<br>-Perception of pride in education |

### II.3 Key Stakeholders:

1. S.C. Schools and School Districts provide students, teachers, partnerships and support.
2. S.C. Universities rely on GSSM for talented science and mathematics students
3. S.C. parents provide students and form a key partnership for success
4. S.C. businesses rely on GSSM to develop science and engineering talent

### II.4 Key Suppliers (viewed also as partners & stakeholders)

1. S.C. Schools and School Districts provide students, teachers, partnerships and support.
2. S.C. Universities provide GSSM with instructors, mentors, and other resources.
3. Coker College: Provides majority of leased facilities (chemistry labs, limited athletic fields/courts, gymnasium)
4. S.C. parents provide students and form a key partnership for success
5. State Engineer's office provides expertise for capital construction
6. State offices available to us and other state agencies, e.g. State Budget and Control Board for management support (procurement, capital projects), State Department of Education for personnel/finance administration, etc.

### II.5 Operations location(s)

Primary facilities: GSSM's partially completed new campus, Phase I – opened August 2003. Even in the face of severe and ongoing budget reductions, GSSM successfully re-located - lock, stock and barrel - from previous all-leased facilities to our new "purpose-built" Campus.

- Student support and office space
- Temporary classrooms
- Temporary laboratories (except chemistry, see below)
- Dormitory facilities
- Dining facilities

Secondary Facilities: Leased chemistry laboratories from Coker College and athletic gym/courts not available in Phase I: \$55,000 per year lease.

Outreach Sites: Various around state including: 20+ schools along I-95 corridor (GearUP project). State Research Universities and labs for advanced mentored research (SPRI)

GSSM in 2006-07 continued successful operations of Phase I facility – following its opening in 2003. After years of planning, GSSM successfully completed construction and outfitting of Phase I: detailing and purchasing all new systems including phone, fiber-optic network, cabling, dining hall equipment, dormitory furniture, trash cans, alarm systems, computerized zoned door locks using magnetic swipe cards, security including camera systems, maintenance, laboratory furniture and equipment, IT, packing and moving.

Future Facilities Required, now with funding appropriated in 2006-2007 to construct: Complete Master Campus Plan by building Phase II Phase II contains specialized laboratories, classrooms and student activity space. Timeline for opening Phase II: 2010! Expansion of student body cannot occur until Phase II is built. Student body growth cannot occur until Phase II is built and operational.

The complete master campus (shown in rendering next page) includes both Phase I and Phase II.

## S. C. Governor's School for Science & Math: Master Campus Plan - Phase I & II

### Phase I: Opened in August 2003

- Residential Space for up to 300 Students
- Dining Facilities
- Counseling, Arts, Student Support Facilities - Temporary Classrooms
- Faculty and Support Staff Offices

### Phase II: Opening in 2010!

- Academic Center:
  - Advanced Classrooms
  - Advanced Laboratories
- Student Activities Center



II.6 Number of Employees: Full-Time State: 31.00  
Classified: 12 (FTE)  
Unclassified: 19 (FTE-mostly faculty)

For efficiency and cost containment, GSSM uses contractual services when appropriate. Examples include dining services, security guards and janitorial services.

## II.7 Regulatory environment under which organization operates.

As a state agency, GSSM operates under the laws and regulations of the state of South Carolina, and within Federal regulations pertaining to student information.

## II.8 Key strategic challenges:

- ◆ Maintain excellence in programs
- ◆ Enhance value of our programs to parents, students and teachers
- ◆ Complete construction of building by 2010 followed by...
- ◆ Implementation of planned growth of student body and outreach programs.

## II.9.A Performance Improvement System:

- a. Customer needs and expectations: Identification (parents, students, teachers, educational partners, prospective candidates for programs), data gathering and review (interviews, surveys, and review of metric benchmarks including applications, test scores, scholarship awards and growth into further advanced educational settings).
- b. Financial, regulatory, societal and other potential risks: GSSM conducts comparative analysis of similar institutions on a regular basis.
- c. Human resource capabilities and needs. GSSM conducts formal and informal comparative analysis of similar institutions on a regular and ongoing basis, including compensation and staffing models.
- d. Operational capabilities and needs. GSSM conducts formal and informal comparative analysis of similar institutions on a regular and ongoing basis and weekly reviews short term results and needs. Consult with other agencies and supervisory agencies regularly.
- e. Supplier/contractor/partner capabilities and needs. GSSM collects and reviews feedback from suppliers and partners on quality of current and potential for future improvements and programs.

Administration conducts detailed strategic planning process involving all functional areas and input/direction from GSSM Board of Trustees, reviews data and takes initiatives to improve results.

What are your key strategic objectives? (Address in Strategic Planning Chart). See Section III, Category 2 and Strategic Planning Chart.

II.9.B GSSM develops and implements priorities on an ongoing basis with regular internal meetings and a formal process with our Board of Trustees. Metrics are identified, tracked and reviewed. (See EOC Report Card, page 33, Section 7.)

- a. What are your key action plans/initiatives? See Section III, Category 2 and Strategic Planning Chart.
- b. How do you communicate and deploy your strategic objectives, action plans and performance measures?

Through Board reports, monthly reports to all Faculty/Staff and administrative reports such as the State Budget Request, State Activity Inventory and this report.

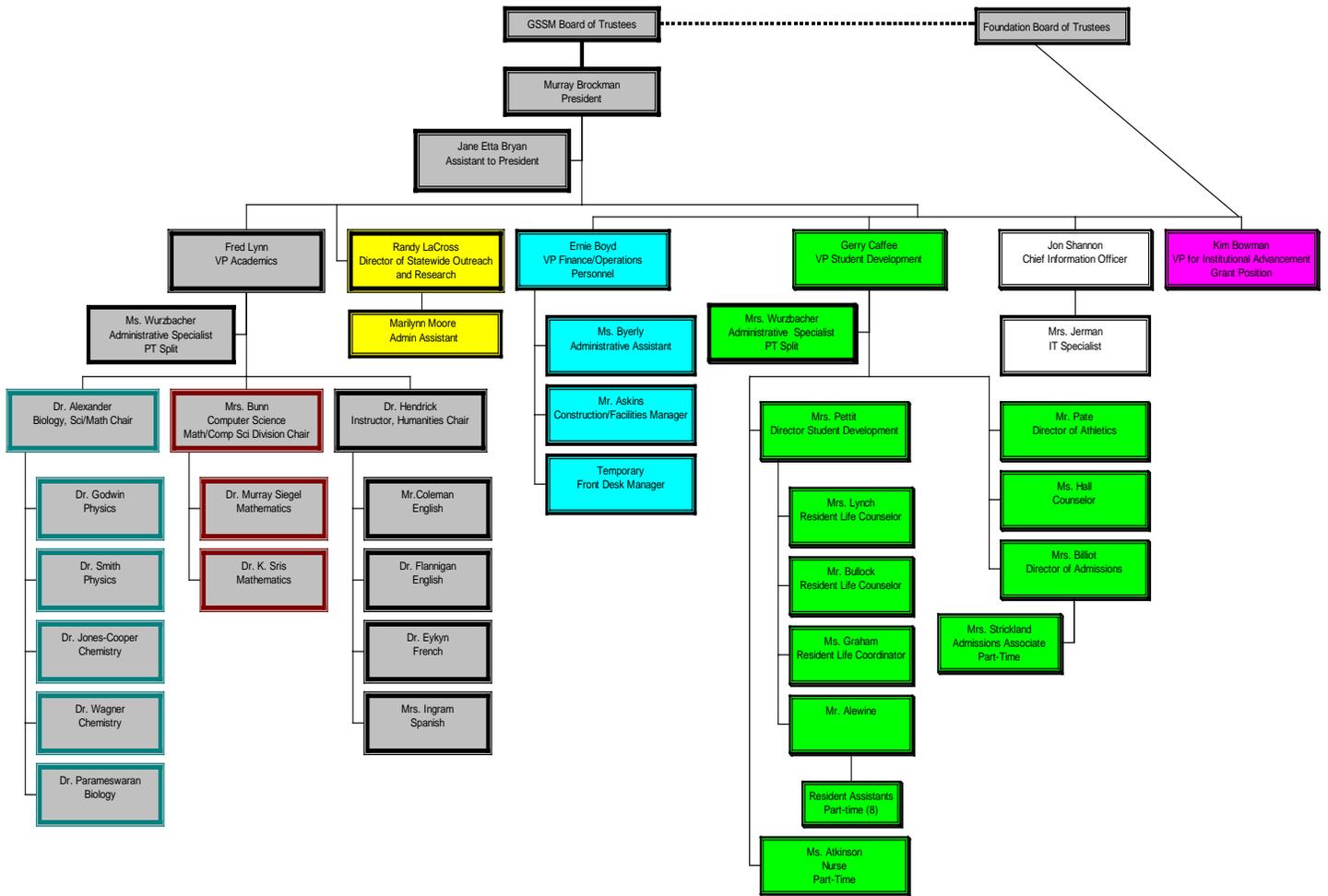
## II.10 Organizational Structure

GSSM utilizes a “tiered” organization structure, but with open communication between all levels. (See attached organizational chart.) Our governing Board of Trustees, with a school president and four vice-presidents responsible for primary functional areas, lead GSSM’s structure. Resource responsibility and authority (both personnel and financial) is placed in the hands of those working most closely with our key customers.

To leverage resources and results, GSSM focuses on a “partnership” model; designing and building programs based on identified needs and shared resources.

On the following page is GSSM’s organizational Chart as of January 2007. It shows the creation of both a Computer Science/Mathematics Division within academics and the addition of a Chief Information Officer position.

S.C. Governor's School for Science & Mathematics - January, 2007



II.11 Expenditures/appropriations chart

**Accountability Report Appropriations/Expenditures Chart**

**Base Budget Expenditures and Appropriations**

| Major Budget Categories       | FY 05-06 Actual Expenditures |                     | FY 06-07 Actual Expenditures |                     | FY 07-08 Appropriations Act |                     |
|-------------------------------|------------------------------|---------------------|------------------------------|---------------------|-----------------------------|---------------------|
|                               | Total Funds                  | General Funds*      | Total Funds                  | General Funds*      | Total Funds                 | General Funds*      |
| Personal Service              | \$ 1,616,365                 | \$ 1,520,365        | \$ 1,851,566                 | \$ 1,639,066        | \$ 1,898,638                | \$ 1,686,138        |
| Other Operating               | \$ 2,066,719                 | \$ 1,479,020        | \$ 1,985,536                 | \$ 1,506,536        | \$ 2,163,610                | \$ 1,684,610        |
| Special Items                 |                              |                     |                              |                     |                             |                     |
| Permanent Improvements        | \$ 34,000                    |                     |                              |                     |                             |                     |
| Case Services                 |                              |                     |                              |                     |                             |                     |
| Distributions to Subdivisions |                              |                     | \$ 13,200                    |                     | \$ 13,200                   |                     |
| Fringe Benefits               | \$ 484,910                   | \$ 456,109          | \$ 432,378                   | \$ 390,578          | \$ 441,416                  | \$ 399,616          |
| Non-recurring                 |                              |                     |                              |                     |                             |                     |
| <b>Total</b>                  | <b>\$ 4,201,994</b>          | <b>\$ 3,455,494</b> | <b>\$ 4,282,680</b>          | <b>\$ 3,536,180</b> | <b>\$ 4,516,864</b>         | <b>\$ 3,770,364</b> |

\*Includes \$150,000 earmarked & required for Master Lease re-payment for campus Furniture, Fixtures & Equipment. Tracks Activity Inventory report data

**Other Expenditures**

| Sources of Funds      | FY 05-06 Actual Expenditures | FY 06-07 Actual Expenditures |
|-----------------------|------------------------------|------------------------------|
| Supplemental Bills    |                              | \$352,811                    |
| Capital Reserve Funds | \$ 92,000                    |                              |
| Bonds                 |                              |                              |

|  |  |
|--|--|
| \$553,000 was encumbered through Campus A-1 process to: Add two classrooms, upgrade security/fencing/landscaping/lighting, upgrade security camera systems. \$222,000 for deferred maintenance items | \$2,500,000 encumbered through A-1 process for Campus Completion: Prepare D&D documents toward bid set; bring Phase II plans up to code, review & make revisions, cost estimates |
|--|--|

## II.12 Major Program Areas Chart

| Program Number and Title | Major Program Area Purpose (Brief) | FY 05-06 Budget Expenditures  | FY 06-07 Budget Expenditures   | Key Cross References for Financial Results*   |
|--------------------------|------------------------------------|---|--|---|
| #1 (813)                 | Academic Instruction               | State: 1,539,606.00<br>Federal:<br>Other: 57,400.00<br>Total: 1,597,006.00<br>% of Total Budget: 38%  | State: \$ 1,542,850.00<br>Federal:<br>Other: \$ 57,429.00<br>Total: \$ 1,600,279.00<br>% of Total Budget: 37%  | EOC Report Card (III.7.1a, page 32). SAT Averages (III.7.2, p. 31) Faculty Qualifications: Report Card, p. 30 |
| #2 (814)                 | Life in Residence                  | State: 1,306,155.00<br>Federal:<br>Other: 155,140.00<br>Total: 1,461,295.00<br>% of Total Budget: 35% | State: \$ 1,366,038.00<br>Federal:<br>Other: \$ 142,782.00<br>Total: \$ 1,508,820.00<br>% of Total Budget: 35% | EOC Report Card (III.7.1a, p32) Major Achievements p.6-7. Program Demand, p.35.                               |
| #3 (815)                 | Statewide Outreach/Research        | State: 322,704.00<br>Federal:<br>Other: 520,260.00<br>Total: 842,964.00<br>% of Total Budget: 20%     | State: \$ 352,045.00<br>Federal:<br>Other: \$ 532,589.00<br>Total: \$ 884,634.00<br>% of Total Budget: 21%     | Major Achievements p6-7. Program Demand, p. 36. Partnerships, p 35-37.  |
|                          |                                    | State:<br>Federal:<br>Other:<br>Total:<br>% of Total Budget:  | State:<br>Federal:<br>Other:<br>Total:<br>% of Total Budget:   |   |
|                          |                                    | State:<br>Federal:<br>Other:<br>Total:<br>% of Total Budget:  | State:<br>Federal:<br>Other:<br>Total:<br>% of Total Budget:   |   |

**Below: List any programs not included above and show the remainder of expenditures by source of funds.**

a) Administrative support (detail through Activity Inventory Loads to match categories (816)

|                                   |                    |            |                    |               |
|-----------------------------------|--------------------|------------|--------------------|---------------|
| <b>Remainder of Expenditures:</b> | State:             | 287,028.00 | State:             | \$ 275,247.00 |
|                                   | Federal:           |            | Federal:           |               |
|                                   | Other:             | 13,700.00  | Other:             | \$ 13,700.00  |
|                                   | Total:             | 300,728.00 | Total:             | \$ 288,947.00 |
|                                   | % of Total Budget: | 7%         | % of Total Budget: | 7%            |

\* Key Cross-References are a link to the Category 7 - Business Results. These References provide a Chart number that is included in the 7th section of this document.

\*\* Excludes unclaimed lottery funds received late in FY

## **Section III – Elements of Malcolm Baldrige Award Criteria**

### **III.1 Category 1 – Leadership**

How do senior leaders set, deploy and communicate:

a) Short and long term direction?

GSSM takes advantage of the small size of the organization to involve all members of faculty and staff in setting long and short-term direction. The Board of Trustees and key customers, including students and parents, are also critical components of the decision-making process.

Faculty and staff are consulted monthly via a “President’s Report.” Senior staff participates in ongoing strategic planning efforts and meet weekly to discuss management and policy issues. The Board receives regular updates in writing, and Board committees take an active role in review and setting direction for specific areas of school administration, including Facilities, Personnel, Organizational Enhancement, and Distance Learning. Parents are consulted through GSSM’s Parents Advisory Council (PAC). The PAC provides regular updates on school issues, accomplishments, and changes. Students participate in direction setting via weekly Student Council meetings. The Chair of the Student Council meets regularly with the President and attends Board of Trustee meetings when held in Hartsville at the school. All parents and legislators receive the annual School Report Card, which indicates strategic direction as well as results.

b) Performance expectations

GSSM uses ongoing informal and formal assessments and a specialized evaluation instrument for faculty. In addition, specific expectations are set with teaching faculty regarding student achievement via one-on-one discussions with the Academic Vice President.

c) Organizational Values

Values are communicated by our Vision and Mission statements, which are reviewed annually. In addition, faculty, staff and students regularly meet in a context where values are emphasized and openly discussed.

d) Empowerment and Innovation

Because of the small size of the agency, the President and all senior administrators maintain an effective open door policy, encouraging the free flow of ideas and empowering all staff and students to implement ideas with minimal barriers and appropriate oversight.

e) Organizational and employee learning

All faculty members belong to at least one professional organization, and several are or have been officers of national organizations. All faculty members undertake professional development annually. Staff personnel receive training whenever new programs or technology are researched and/or implemented.

#### f) Ethical behavior and quality character development

Faculty, staff, and students participate in annual reviews of the Student Handbook. Faculty and students participate in the Honor Council. Faculty and staff participate in the Judicial Council. Awareness and instruction into “ethics” is a focal point for all of GSSM, with presentations, readings and discussions conducted throughout the school year incorporated into activities and school seminars.

#### III.1.2 How do senior leaders establish and promote a focus on customers?

All senior staff members serve as advisors, club or sport sponsors or teach at some point during the school year. In addition, they work directly with GSSM program partners and participants.

Gauging satisfaction for customers involves demand for GSSM programs and demonstrable achievements during their participation. Examples include: scholarships offered, continued academic participation and success measurements such as SAT scores, acceptance rates into future quality academic programs and being implemented this school year an internet-based student satisfaction survey. For teachers, development of and participation in programs, and use of improved skills and knowledge in the classroom to enhance student achievement measure satisfaction.

#### III.1.3 How does the organization address the current and potential impact of its products, programs, services, facilities, and operations, including associated risks?

We survey parents and students annually, collect achievement data (test scores, scholarships) and track alumni. We also identify and obtain possible local, regional and national benchmarks for comparison.

#### III.1.4 How do senior leaders maintain fiscal, legal and regulatory accountability?

GSSM leadership maintains fiscal, legal and regulatory accountability through a series of authorization chains, reviews, checks and balances. These include:

- Oversight and advice from an active Board of Trustees
- Annual audit through State Department of Education (SDE), which serves as GSSM’s fiscal agent (payroll, purchasing, personnel, benefits, state chart of accounts).
- Ongoing authorization, reporting protocols and review from supervisory agencies including:
  - State Engineer’s Office (New Campus Planning & construction)
  - SDE’s School Planning and Construction (New Campus Planning/construction)
  - State and local Fire Marshall’s and safety inspections
  - BCB Materials Management (Procurement, bids, contracts)
  - BCB Capital Projects (Permanent Improvements, Bond)
  - BCB Budget Office (Reports, Legislative Allocations)
  - State Activity Inventory report
  - State Treasurer’s Office (Master Lease Program)
  - Hiring legal support on an “as-needed” basis
  - Internal priority identification and requisition systems.
  - Ongoing reviews of priorities, actions and results

III.1.5 Leadership cont.: What key performance measures are regularly reviewed by your senior leaders?

Performance metrics are listed in section 7 and include application information, demographic and grade data, test results, discipline and program participation results. Customer surveys are taken and the results analyzed. Survey instruments are now internet-based for higher returns and ease of compilation.

III.1.6 How do senior leaders use organizational performance review findings and employee feedback to improve their own leadership effectiveness and the effectiveness of management throughout the organization? How do their personal actions reflect a commitment to organizational values?

The small size of the agency permits regular informal and formal feedback at and around all levels of the organization. Students fill out feedback forms at the end of each semester, and classes are regularly audited. Each senior leader sponsors a club, has student advisees and/or teaches.

III.1.7 How do senior leaders promote and personally participate in succession planning and the development of future organizational leaders?

Because our staff is so small, opportunities for internal succession are minimal. Still, we conduct ongoing formal and informal meetings to assist in evaluations and suggestions for improvement. Ethics and shared values are consistently reinforced and refined during small meetings. GSSM supports close review of internal candidates for advancement. Senior staff chair personnel recommendation committees (committees make a recommendation for employment to the President) in which every staff member will participate over time. Senior staff also serves as support resources for Board of Trustee committees, providing input on all issues, including succession planning.

III.1.8 How do senior leaders create an environment for performance improvement, accomplishment of strategic objectives and innovation?

In addition to communication structure described in III.7 above, GSSM senior leaders review, discuss and set or revise priorities on an ongoing basis. This process identifies improvement areas and goals, focuses resources and reinforces the need for innovation.

III.1.9 How does senior leadership and the agency actively support and strengthen the community?

Senior staff are all members of key civic organizations and regularly interact with local elected officials. Staff and faculty are encouraged and serve on community committees serving local non-profits and economic development areas. Students must each provide 83 hours of work service annually, of which about 25% is outside the school in the community.

## III.2 Category 2 – Strategic Planning

Strategic Planning at GSSM is an on-going process with formal committee structures created within and between divisions (and Board of Trustees) and informal discussions and recommendations solicited and welcomed at any time. Formal review and planning sessions are scheduled at the beginning and end of each school year.

III.2.1 What is your Strategic Planning process, including KEY participants, KEY process steps, and how does it address:

- a) Organization’s strengths, weaknesses, opportunities and threats (SWOT). Key participants: the GSSM Board of Trustees, the GSSM Foundation Board of Trustees, faculty, staff, students and parents. Process steps include regular meetings, input and update along with periodic strategic review and planning (one previous strategic review actually followed the “SWOT” model of strengths, weaknesses, opportunities and threats). Key process steps include regular meetings, surveys and other inputs from these and other constituencies which inform our strategic planning. Our strategic plan addresses the above through decisions concerning staffing and expenditure priorities plus requests for resources from public and private entities.
- b) Financial, regulatory, societal and other potential risks: GSSM conducts comparative analysis of similar institutions on a regular and ongoing basis.
- c) Shifts in technology or the regulatory environment: Process identified need for discreet senior staff position of Chief Information Manager to review, assess and plan integration of technology effectively among GSSM’s academic, residential and outreach components.
- d) Human resource capabilities and needs. GSSM conducts formal and informal comparative analysis of similar institutions on a regular and ongoing basis.
- e) Opportunities and barriers. Strategic planning identified the need for GSSM’s growth and priorities for expanding the student body housed in quality facilities. The planning instructs budget requests and guides business partnerships in supporting GSSM results. Negatives resulting from years-long delays in completing the building were addressed strategically by promoting strengths identified as excellence in faculty, additional residential programs (ethics, athletics, activities) for students within available facilities and addressing ongoing construction inflation until appropriation by tracking inflation rates and adjusting plans and resource requests to meet changes.
- f) Business continuity in emergencies. Safety is a key block in strategic planning and daily operations at GSSM. We have a number of safety and security systems and procedures, practiced and evaluated regularly. GSSM has recently implemented an Armed Intruder Lockdown procedure, joining our full school evacuation plans. We have data storage backup systems to restore operations efficiently in case of emergency. We have a back-up generator and food supplies necessary in case of prolonged power outages.
- g) Your ability to execute the strategic plan. Plan matches resources with goals and requires senior staff to assess existing capabilities to achieve results or define and seek additional resources.

Administration conducts detailed strategic planning process involving all functional areas and input/direction from GSSM Board of Trustees.

Key strategic objectives (goals) and related key action plans/initiatives:

### Strategic Planning Chart

| <b>Program Number and Title</b>                    | <b>Supported Agency Strategic Planning Goal/Objective</b>   | <b>Related FY 06-07 Key Agency Action Plan/Initiative(s)</b>  | <b>Key Cross References for Performance Measures*</b>  |
|--|---|---|--|
| 1) Academic /Instruction (813)                     | Improve academic achievement for our students and participants. Maintain Excellence - Operate effectively in partially completed facilities   | Faculty/Student Ratio, Highly Qualified Teachers, Test Score Results, AP Test Results, SAT Averages. National benchmarks in publications and comparisons with like institutions.  | EOC Report Card (7.1a, p33) -SAT Average (7.2a p. 32) -Faculty qualifications EOC Report Card (7.1a, p33)  |
| 2) Life in Residence (814)                         | Maintain Excellence: including quality of College applications and acceptances, support social learning and adjustments, support ethics and good citizenship and -operate effectively in partially completed facilities | -Conduct College application process<br>-Plan expanded orientation/ethics training at beginning of school year for incoming class<br>-Expand Open House events for prospective students & parents.<br>-Enhance PSAT student test training and support   | In-state College Attendance by Graduates, (7.2b, p36.) -Program Demand (application range), (7.2b, p. 36) - EOC report Card Data and metrics EOC Report Card (7.1a, p32) |
| 3) Statewide Outreach - Academic Advancement (815) | Provide Advanced Science Opportunities for 7th, 8th, 9th, 10th, 11th and 12 graders. Support Professional Development for teachers. -Operate effectively under reduced budgets and in partially completed facilities    | -Leverage partnerships for effectiveness<br>-Obtained grant and conduct teacher training through partnership schools along I-95 corridor -Conduct Summer Science Program for 9th & 10th graders at GSSM's New Campus. Continue acclaimed SPRI advanced mentored research program for rising 12th graders. - | SSP Attendance (7.2d, p. 37) -SPRI Mentor Partners, ( p 37) GearUp Participation (p. 38)   |
| 4) Administrative (816)                            | -Maintain excellence through result metrics, Operate efficiently and in partially completed   | -Operate new partially complete faculties to support program missions. -Monitor costs carefully.  | EOC report Card EOC Report Card (7.1a, p27. -Systems specified, procured and operational.  |

|   |  |                     |
|---|--|---------------------|
| <p>facilities. Complete Unfinished Master Campus Plan: Obtain funds necessary to complete building: (Academic Center &amp; Student Activity Center).</p> <p>-Seek additional grants and partnerships top leverage results</p> | <p>-Validate all operational systems, identify and correct problem areas.</p> <p>-Refine growth plans, options and work to implement. Maintain quality in core programs.</p> <p>-Obtained funding to complete building</p> <p>-Obtained new five-year federal grant to provide Professional Development to teachers in science &amp; math.</p> | <p>(7.2.e, p38)</p> |
|---|--|---------------------|

III. Category 2.2 How do you develop and track action plans that address your key strategic objectives? Note: Include how you allocate resources to ensure accomplishment of your action plans. GSSM develops priorities and budgets on an ongoing basis with regular internal meetings and a formal process with our Board of Trustees. Metrics are identified, tracked and reviewed. See EOC Report Card.

III.2.3 How do you communicate and deploy your strategic objectives, action plans and related performance measures? Through Board reports, monthly reports to all Faculty/Staff and administrative reports such as the State Budget Request, State Activity Inventory and this report and evaluations

III.2.4 How do you measure progress on your action plans? GSSM develops priorities and budgets on an ongoing basis with regular internal meetings and a formal process with our Board of Trustees. Metrics are identified, tracked and reviewed. See EOC Report Card.

III.2.5 How do your strategic objectives address the strategic challenges you identified in your Organizational Profile? Resources, budget and staffing are based on strategic priorities.

III.2.6 How do you evaluate and improve your strategic planning process? Review and input of metrics compared to strategic goals by key participants (including the GSSM Board of Trustees, the GSSM Foundation Board of Trustees, GSSM's senior staff Executive Leadership Team, faculty, staff, students and parents) result in evaluation of strategic process and changes as warranted.

III.2.7 If agency's strategic plan is available to the public through the agency's internet homepage, please provide address. Not available at this time. The school's mission statement, report card and much more programmatic and involvement information are available online through our home webpage at [www.scgssm.org](http://www.scgssm.org)

### **III.3 Category 3 – Customer Focus**

GSSM key “customers” are the students and teachers of South Carolina – and our partners in education and industry. GSSM concentrates on “raising the bar” of academic achievement: challenging and motivating students to take advanced courses and put in the hard work necessary to successfully complete the curriculum. There is no grade inflation, but merit based on achievement. We believe South Carolina's future economic prosperity requires students well versed in science and mathematics supported by an excellent foundation in the humanities. These are the courses necessary for entry and success into higher education and professional success in growing the “knowledge-based” economy. GSSM is a leader in both setting achievement standards and integrating “education standards” into modules for students and teachers.

1. How do you determine who your customers are and what their key requirements are?

Our mission directs us toward defining specific customer groups. Ongoing communication, formal and informal, with stakeholders, educational partners and current participants identifies key requirements.

2. How do you keep your listening and learning methods current with changing customer/business needs?

Ongoing communication, formal and informal, with stakeholders, educational partners and current participants informs our methods. Our change to email communication with Parents is one example – both an internal, technological and societal change.

3. How do you use information from customers/stakeholders to keep services or programs relevant and provide for continuous improvement?

Weekly, monthly and annual formal reviews and resulting changes in practices and/or policy are ongoing, plus staged planning.

4. How do you measure customer/stakeholder satisfaction?

Personal conversations, surveys, test scores, graduation rates, scholarships offered and accepted, applications, drop-out rates are all included. Please see EOC School Report Card for additional categories.

5. How do you build positive relationships with customers and stakeholders? Indicate key distinctions between different customer groups.

Set and achieve high expectations for GSSM involvement based on highest ethical standards. Key customers all share the desire to improve academics in South Carolina, but each group has distinct needs and outcomes. For example, some customers (businesses) need to have available and hire quality employees, others (schools/universities) to bolster student body quality and students through offering challenging academic and residential paths to achieve their goal of academic excellence. For parents, the value and credibility of a GSSM diploma is important in getting their child into the proper University – and recent articulation agreements between GSSM, USC and Clemson add-value for parents and students.

### **III.4 Category 4 – Measurement, Analysis and Knowledge Management**

- III.4.1. How do you decide which operations, processes and systems to measure?

The decision on which operations, processes and systems to measure comes from internal and external review and recommendations. Internally, GSSM tracks student achievement on many levels including scholarships earned and recruitment by colleges and universities. Externally, GSSM works with educational organizations setting “report card” standards, individual course or student expectations/metrics and other criteria.

- III.4.2 How do you use data/information analysis to provide effective support for decision-making?

In addition to the required statewide reporting under educational accountability (report cards), GSSM uses internal data collections to both identify possible measurements and to collect the data. GSSM also regularly collects and compares data with similar programs in the state, region, and nation.

- III.4.3. What are your key measures: These include: test scores, graduation rates, scholarships offered and accepted, applications, dropout rates, faculty retention and turnover. Please see Section III, Category 7 – Business Results portion of this report for a comprehensive list.

#### III.4.4 How do you select and use comparative data and information?

Internal discussions on the type, source, validity and applicability of data lead to selection, rejection or a process to collect additional data or change methodology of collection. Budget decisions are based on directing appropriate resources to priority areas.

#### III.4.5 How do you ensure data quality, reliability, completeness and availability for decision-making?

GSSM reviews and assesses the validity of both data collection devices (standardized tests, internal tests) and the results based on comparisons with other states and comparative institution results (such as class work, class test results vs. standardized tests, etc.).

#### III.4.6 How do you translate organizational performance review findings into priorities for continuous improvement?

GSSM staff, during formal and informal weekly, monthly and annual meetings share relevant issues, data, results and plans between departments. This includes sharing comprehensive Board reports between functional areas with each administrative director.

#### III.4.7 How do you collect, transfer and maintain organization and employee knowledge?

GSSM staff, during formal and informal weekly, monthly and annual meetings share relevant issues, data, results and plans between departments. This includes sharing comprehensive Board reports between functional areas with each administrative director.

### **III.5 Category 5 – Workforce Focus**

#### III.5.1. How do you organize and manage your work?

GSSM implements a collegial process of high expectations for employees, bolstered by on-going communications both formal (assigned committees on topics, evaluations, weekly functional meetings) and informal meetings.

#### III.5.2 How do you evaluate and improve your organization's human resource related processes?

Review turnover rates and reasons. Conduct and assess exit interviews. Assess ability to hire top identified candidates to fill critical positions (emphasis on faculty). Assess market competitiveness in salaries, benefits and work satisfaction.

#### III.5.3. How do you identify and address key developmental and training needs, including job skills training, performance excellence training, diversity training, management/leadership development, new employee orientation and safety training?

GSSM supports continuing education for employees and has implemented a grant-supported Professional Staff Training and Development program for faculty. GSSM holds training sessions at the beginning of every semester and wrap-up sessions at the end of the school year. Safety training occurs at the beginning of the school year with drills and follow-up sessions scheduled monthly or as needed.

#### III.5.4. How does employee training contribute to the achievement of your action plans?

Individual departments control line-item budgets and can review and provide training as identified. If there is a skill or new process necessary to meet our achievement goals, we identify and provide the training necessary to be successful. One example was our implementation of SASI school software and identification and training of key staff in the process. We encourage consideration of internal promotion.

#### III.5.5 How does your employee performance management system, including feedback to and from employees, support high performance and contribute to your action plans?

GSSM utilizes ongoing daily communications, informal and formal interviews and written reports along with supervisor interviews and internal teacher evaluation systems to formalize communications and both identify priority work issues and also clarify results and expectations.

#### III.5.6 How do you motivate employees to develop and utilize their full potential?

GSSM implements a collegial process of high expectations for employees, bolstered by on-going communications both formal (assigned committees on topics, evaluations, weekly functional meetings) and informal meetings. Individual departments control line-item budgets and can review and provide training as needed. We encourage consideration of internal promotion.

#### III.5.7 What formal and/or informal assessment methods and measures do you use to determine employee well being, satisfaction and motivation?

Being a small agency with open lines of communication, GSSM staff is in constant communication with one another, so problems are quickly identified. Formally, we also use regular meetings and reviews along with our teacher evaluation system, and monitor items such as turnover rates, which have been low, compared to similar schools by position.

#### III.5.8 How do you maintain a safe and healthy work environment?

Constant communication is foremost method with immediate follow-up to any safety issue, plus formal reviews, scheduled training and practice drills conducted as required or needed. A number of safety procedures are also in place and practiced, including: Fire Alarm drills and system testing, visitor sign-in procedures, swipe-card area zones, "Go to a Safe Place" procedure and drills and "Evacuation" procedures and drills. GSSM employs a part-time nurse and has a faculty member designated as science safety officer. During 2006-07 we have coordinated local police training in our facility and finalized our Armed Intruder Lockdown policy.

### **III.6 Category 6 – Process Management**

III.6.1 How do you determine, and what are your key support processes that produce, create or add value for your customers and your organization? How do you ensure that these processes are used?

GSSM sets clear and high expectations and provides the time and quality support necessary for achievement.

GSSM focuses on providing highly qualified instructors the time, materials and support they need to spend time teaching motivated and qualified students. The result is demonstrable achievement in academics, which is the key to future success of our students and participants.

For Life in Residence, there is an emphasis on the “wellness model” for student support services – a comprehensive approach to allocate departmental and institutional resources - was developed through our strategic planning processes.

In statewide outreach programs, including our GearUP middle school initiative, Summer Science program for 9<sup>th</sup> and 10<sup>th</sup> graders and our research and development of new campus plans for GSSM and what resources are needed to properly serve the students and teachers throughout South Carolina.

GSSM’s state budget requests and private fund-raising activities are based on strategic goals, measurement of current programs and customer demand.

III.6.2 How do you incorporate organizational knowledge, new technology...into process design and delivery?

Informal and formal (committee) communications processes are another key support process. GSSM during 2006-07 implemented a full-time Chief Information Officer position (begun in third quarter of previous year) to assess and design internal data collection systems allowing efficient collection and assessment of data. Data is collected and analyzed annually, as part of our accountability report process.

Strategic planning, as discussed above, results in GSSM focusing programmatic dollars and time (personnel) resources to accomplish specific results.

The nature of our product is the inherent human trait of students and teachers to desire to know more about the world around them, and develop this natural inquisitiveness into academic and scientific rigor. Our products and services, from classroom to residential, outreach to expectations, are designed to encourage disciplined exploration and discovery, while incorporating skills of communications and citizenship. This creates a learning community, which challenges individuals but rewards participation and results.

The “process” is based on teaming an “expert” with content knowledge and communication expertise in a specific area (discipline) with students in an environment where expectations are high. Technology is sought to enhance communication, feedback, streamline repetitive tasks and offer alternative learning methods. Novel advances in technology are themselves subject to inclusion in the curriculum and are regularly sought out by faculty members in consultation with our industry and university partners.

III.6.3. How does your day-to-day operations of key production/delivery processes ensure meeting key performance requirements?

Daily interaction allows review of short and long-term goal accomplishment (or delays). For example, we keep class and dormitory attendance rolls and quickly follow-up any absences by students.

III.6.4 How do you systematically evaluate and improve your key product and service related processes? Measurement and assessment of benchmarks as indicated through our Strategic Plan and specific indicators listed through the school report card and highlights page (i.e., SAT scores, national merit awards, AP test results, demand for program entry, etc.).

III.6.5 What are your key support processes? Unique to GSSM is the highly specialized knowledge of a scientist-instructor being conveyed to a motivated student by ensuring ample quality time for instruction. For example, GSSM has lab periods of several hours in length regularly scheduled as necessary to complete advanced experiments.

Support processes emphasize such interaction where learning occurs and seeks to eliminate extraneous and burdensome activities, which detract from quality time, spent teaching. For example, streamlined purchasing request processes and ongoing prioritization of needs.

III.6.6 How does your organization determine the resources needed to meet current and projected budget and financial obligations?

The planning process identifies scope of services and specific requirements. The Division Director or Department Chair originating the activity works with the Business Office to clarify time commitments required by staff, faculty and any operating costs (teaching materials, room/board, certification, etc.) or facility resources and identifies specific costs associated with each item. Funding sources are identified as available within existing departmental budgets or outside resources must be sought to conduct the activity. Project proposals are presented for review and approval to the Executive Leadership Team and to the GSSM Board for review & approval is within the scope of a major change.

### **III. Category 7 –Results**

III.7.1 What are your performance levels and trends for the key measures of mission accomplishment and organizational effectiveness?

#### **Two sides of One Coin: GSSM’s Residential and Statewide Outreach**

GSSM designs and operates all programs to support one another and offer “steps” of greater involvement and learning appropriate to the individual student or organization. All staff and faculty at GSSM participate in and support both the residential and outreach programs of the school.

It is difficult to differentiate our “Life in Residence” program area from that of Statewide Outreach or Academic Enrichment when acceptance as a residential student is a source of pride and feedback to the home school the student originally attended. The availability of GSSM programs encourages students, teachers and schools to participate in and develop challenging courses.

The GSSM residential program, for report purposes, can be subdivided into two equally supportive branches: Academic and Life in Residence. Both areas are critical to success at GSSM and are therefore interdependent.

### **III.7.2 Performance levels and trends for key measures**

III.7.2.a A primary measure of GSSM customer satisfaction is reflected in the school’s ongoing School Report Card rating, NOTE: THE 2007 School Report Card has not yet been formally approved in time for inclusion in this report. If major changes or assessments are made, then a revised report will be forwarded when formally adopted by the Education Oversight Committee. GSSM does not anticipate any lowering of previous years’ all-excellent ratings, both Absolute and Improvement. Below is the preliminary Report Card for 2007:



**South Carolina Governor's School for Science and Mathematics**

401 Railroad Avenue, Hartsville, SC 29550

Website: [www.scgssm.org](http://www.scgssm.org)

Grades 11-12  
Enrollment 128 Students  
School Lead Instructor Dr. Murray W. Brockman 843-383-3900  
Board Chair Dr. Raymond S. Greenberg 843-792-2211

THE STATE OF SOUTH CAROLINA  
**2007** ANNUAL SCHOOL  
REPORT CARD

**RATINGS OVER 5-YEAR PERIOD**

| Year | Absolute Rating | Improvement Rating |
|------|-----------------|--------------------|
| 2007 | Excellent       | Excellent          |
| 2006 | Excellent       | Excellent          |
| 2005 | Excellent       | Excellent          |
| 2004 | Excellent       | Excellent          |
| 2003 | Excellent       | Excellent          |

**DEFINITIONS OF SCHOOL RATING TERMS**

- Excellent - School performance substantially exceeds the standards for progress toward the 2010 SC Performance Goal
- Good - School performance exceeds the standards for progress toward the 2010 SC Performance Goal
- Average - School performance meets the standards for progress toward the 2010 SC Performance Goal
- Below Average - School is in jeopardy of not meeting the standards for progress toward the 2010 SC Performance Goal
- Unsatisfactory - School performance fails to meet the standards for progress toward the 2010 SC Performance Goal

**SOUTH CAROLINA PERFORMANCE GOAL**

By 2010, South Carolina's student achievement will be ranked in the top half of the states nationally. To achieve this goal, we must become one of the fastest improving systems in the country.

<http://ed.sc.gov>  
<http://www.sceoc.org>

| PERFORMANCE CRITERIA                                | DATA  |
|---|-------|
| Advanced Placement (AP) Pass Rate                   | 88.9% |
| Graduates' College Freshman GPA (In-state Colleges) | 3.70  |
| SAT Average (High Critical Reading/High Math)       | 1364  |

| AP TEST SCORE DISTRIBUTION |    |     |    |     |    |     |    |    |   |    |       |      |
|----------------------------|----|-----|----|-----|----|-----|----|----|---|----|-------|------|
| Score                      | 5  |     | 4  |     | 3  |     | 2  |    | 1 |    | Total |      |
|                            | #  | %   | #  | %   | #  | %   | #  | %  | # | %  | #     | %    |
| Students                   | 55 | 28% | 76 | 38% | 46 | 23% | 18 | 9% | 4 | 2% | 199   | 100% |

| COLLEGE FRESHMAN GPA |         |     |         |    |         |    |         |    |      |     |       |      |
|----------------------|---------|-----|---------|----|---------|----|---------|----|------|-----|-------|------|
| GPA                  | 3.5-4.0 |     | 3.3-3.5 |    | 3.1-3.3 |    | 2.9-3.1 |    | <2.9 |     | Total |      |
|                      | #       | %   | #       | %  | #       | %  | #       | %  | #    | %   | #     | %    |
| Students             | 28      | 72% | 1       | 3% | 3       | 8% | 2       | 5% | 5    | 13% | 39    | 100% |

| SAT SCORES           |            |      |      |      |       |      |
|----------------------|------------|------|------|------|-------|------|
|                      | Middle 50% |      |      |      | Range |      |
|                      | 25th       | 50th | 75th | 90th | Low   | High |
| SAT Critical Reading | 610        | 730  | 730  | 800  | 530   | 800  |
| SAT Math             | 660        | 740  | 740  | 800  | 500   | 800  |

### A Special Note on Performance

Every student at Governor's School completes a research course requirement that is a distinctive learning and maturing experience. Senior research begins with at least six full weeks of research in the summer following the junior year. Most of the students conduct their research at university or industrial research facilities under the mentorship of professional scientists or engineers. Students work with their research mentors and Governor's School advisors during the senior year to compile and analyze their research findings, prepare formal research papers, and present their work at a school-sponsored colloquium and at the SC Junior Academy of Science annual meeting.

|                     |     |
|---------------------|-----|
| END OF COURSE TESTS | N/A |
|---------------------|-----|

#### Abbreviations for Missing Data

N/A–Not Applicable N/AV–Not Available N/C–Not Collected N/R–Not Reported I/S–Insufficient Sample

**SCHOOL PROFILE**

|  | Our School            | Change from Last Year |
|--|-----------------------|-----------------------|
| <b>STUDENTS (n 128)</b>  |                       |                       |
| Retention rate   | 0                     | Same                  |
| Attendance rate  | 97.3%                 | Down from 98.3%       |
| With disabilities other than speech  | 0                     | Same                  |
| Older than usual for grade   | 0                     | Same                  |
| Out-of-school suspensions or expulsions for violent &/or criminal offenses | N/A                   | Same                  |
| Annual dropout rate  | N/A                   | Same                  |
| Students in residence  | 128                   | Same                  |
| National Achievement Semifinalists/Finalists                               | 14% / 14%             | Up from 0% / 0%       |
| Seniors Completing Science Research Project                                | 100%                  | Same                  |
| Community Service-hr./student  | 83                    | Same                  |
| Graduating attending college   | 100%                  | Same                  |
| Seniors eligible for LIFE Scholarship                                      | 100%                  | Same                  |
| Total scholarship offered  | \$9,212,314           | Up from \$7,920,170   |
| Number of seniors  | 58                    | Down from 60          |
| National Merit Semifinalists/Finalists                                     | 22% / 22%             | Up from 7% / 7%       |
| <b>TEACHERS (n=14)</b>   |                       |                       |
| Teachers with advanced degrees   | 100%                  | Same                  |
| Percent of classes not taught by highly qualified teachers                 | N/R                   |                       |
| Teachers with emergency or provisional certificates                        | N/A                   | N/C                   |
| Teachers returning from previous year                                      | 100%                  | Same                  |
| Teacher attendance rate  | 98.5%                 | Down from 98.6%       |
| Average salary   | \$58,879              | Up from \$57,564      |
| Professional development days per teacher                                  | 6                     | Same                  |
| Teachers with Doctorates   | 79%                   | Same                  |
| Years teaching experience-middle 50%                                       | 15 to 33              | Up from 14 to 32      |
| <b>SCHOOL</b>  |                       |                       |
| President's years at the school  | 6                     | Up from 5             |
| Student-teacher ratio in core subjects                                     | 10 to 1               | Same                  |
| Prime instructional time   | 95.6%                 | Down from 96.2%       |
| Percent of expenditures for instruction                                    | N/R                   |                       |
| Dollars spent per pupil  | \$15,136 <sup>a</sup> | Down from \$15,186    |
| Percent of expenditures for teacher salaries                               | 60.8%                 | Up from 59.1%         |
| Opportunities in the arts  | N/A                   | Same                  |
| Parents attending conferences  | 63.1%                 | Up from 55.1%         |
| SACS accreditation   | N/A                   | Same                  |
| University/Industrial Partners in Research Mentor Program                  | 14                    | Up from 12            |
| Mentors in Research Program  | 66                    | Down from 67          |
| Student clubs and organizations  | 39                    | Same                  |
| Students active in clubs/societies   | 98%                   | Same                  |
| Varsity sports teams   | 9                     | Same                  |
| Students participating in varsity sports                                   | 82%                   | Same                  |
| Students returning to home high school                                     | 7.0%                  | Up from 3.9%          |
| Outreach to other schools:   |                       |                       |
| Students in Summer Science Program (SSP)                                   | 310                   | Up from 278           |
| University Partners in SSP   | 8                     | Down from 10          |
| 6 week summer research positions for other HS                              | 12                    | Same                  |

<sup>a</sup> Costs for academic program including summer research, but not residential life.

Abbreviations for Missing Data

N/A–Not Applicable N/AV–Not Available N/C–Not Collected N/R–Not Reported I/S–Insufficient Sample

**REPORT OF PRESIDENT**

From its founding in 1988 by a visionary Act of the General Assembly, GSSM has served as a portal through which talented students from throughout South Carolina have embarked on a lifetime of exploration, discovery and growth. The mission of this unique school emphasizes developing the scientifically astute and ethically aware leaders needed for our expanding knowledge-based economy. Nationally ranked by *Newsweek* and by the College Board, GSSM is now concentrating on national prominence as we prepare for expansion.

At our founding, GSSM shared facilities with Coker College, and private donors provided all funds for construction. As our successes mounted and our reputation grew, the Board of Trustees approached the General Assembly with plans for a stand-alone campus to support growth. The General Assembly concurred with funding for initial facilities, completed in 2003, and this year provided funds for completion. When finished in 2010, this campus will support expansion in both scope and scale to build on our current remarkable record of accomplishment.

GSSM's curriculum is second to none in the state in its depth and challenge, most notably in science and math, but also in the humanities. Our students continue to perform at the highest levels in both our Residential and Outreach programs, reflecting the individual talents of these remarkable young people. The significant achievements of the students in residence in Hartsville (1364 average SAT, highest in the state; \$9.2 million in scholarship offers to 58 seniors, including 22% who were National Merit Scholars) are crowned by their completion of a mentored individual research project at one of South Carolina's research universities or industrial laboratories. This year, GSSM signed agreements with both Clemson University and the University of South Carolina enabling our graduates to automatically receive college credits for selected courses at either university, supplementing their top performance in AP testing.

Appropriate emphasis on extracurricular activities for all students continues to build strong school spirit. With 84% of students participating in varsity athletics, the soccer, volleyball, swimming, tennis, and track teams advanced to the state playoffs, as did cross-country, which finished third in the state. In addition, students lead and direct more than 35 clubs and societies, involving 98% of students.

Students serve their community and school by working 83 hours each year, supplementing instruction on ethics and character development. Perhaps best of all, students report great satisfaction from forming "friendships for life".

GSSM's Outreach shares exemplary programs statewide to improve science achievement. Building on the just-completed federal GEAR UP program, we opened a new partnership with ScienceSouth to provide standards-based science instruction for disadvantaged middle-schoolers. Our Summer Science Program encouraged 9<sup>th</sup> and 10<sup>th</sup> graders to explore "real" science, math and computer science.

We are eagerly planning to enhance this remarkable record. When the new campus is completed, we will more than double the students served in both the Outreach and Residential programs. In Residence, we plan to add advanced studies in finance and economics to better meet needs for leadership in the knowledge-based economy. We will pursue opportunities for our students to carry out scientific research globally, and support that effort with enhanced instruction in foreign languages. GSSM will continue to be a flagship for education in South Carolina and, increasingly, the nation.

Murray W. Brockman, President

**EVALUATIONS BY STUDENTS, TEACHERS, AND PARENTS**

|  | Students | Teachers | Parents |
|--|----------|----------|---------|
| Number of surveys returned                     | 62       | 15       | 44      |
| Satisfied with learning environment            | 95.1%    | 100%     | 97.7%   |
| Satisfied with social and physical environment | 91.9%    | 100%     | 95.4%   |
| Satisfied with school-home relations           | 86.9%    | 100%     | 93.2%   |

*\*11<sup>th</sup> grade students and parents were surveyed.*

Note: This Report Card captures a wide-range of data and comparatives and was designed in conjunction with the Education Oversight Committee. The 2006-2007 report card data listed above is a final draft submitted to EOC, but minor changes and that group's assessment will be forwarded after its release if significant changes are made.

**III.7.2b continued: Key Performance Measures: Academic Residential School:**

Quality of Academic Program: •Average SAT score for class of 2008 = **1364**. Trend over time – consistent with minor variations (2005=1365). (Benchmark Comparison: State HS Average, Higher Education Freshman SAT averages.)

- ◆ 17 National Merit Semifinalists (27% of Seniors)
- ◆ 5 National Achievement Semifinalists
- ◆ Graduates earned \$9,200,000 in scholarship offers

Program Demand: •Qualified applicants continue to outnumber openings in the range of **3** applications for every **1** opening.

GSSM Graduates Attending In-State/Out-of-State Colleges & Universities. GSSM encourages students to attend in-state universities by promoting campus visits, conducting visits to in-state major educational institutions and inviting/encouraging seminars, classes and courses taught by in-state university faculty members. We are encouraged by the efforts in-state schools are making to recruit our graduates. Trend over time - about 50/50, with some annual fluctuations.

**Year                      In-State%      Out-of-State%: Benchmark: exceeds similar school's in-state rate.**

| <b><u>Year</u></b>      | <b><u>In-State%</u></b> | <b><u>Out-of-State%</u></b> |
|-------------------------|-------------------------|-----------------------------|
| <b><u>2006-2007</u></b> | <b><u>67%</u></b>       | <b><u>33%</u></b>           |
| <u>2005-2006</u>        | <u>66%</u>              | <u>34%</u>                  |
| <u>2004-2005</u>        | <u>51%</u>              | <u>49%</u>                  |
| <u>2003-2004</u>        | <u>51%</u>              | <u>49%</u>                  |
| <u>2002-2003</u>        | <u>50%</u>              | <u>50%</u>                  |
| <u>2001-2002</u>        | <u>63%</u>              | <u>37%</u>                  |
| <u>2000-2001</u>        | <u>50%</u>              | <u>50%</u>                  |
| <u>1999-2000</u>        | <u>39%</u>              | <u>61%</u>                  |
| <u>1998-99</u>          | <u>55%</u>              | <u>45%</u>                  |
| <u>1997-98</u>          | <u>55%</u>              | <u>45%</u>                  |
| <u>1996-97</u>          | <u>41%</u>              | <u>59%</u>                  |
| <u>1995-96</u>          | <u>47%</u>              | <u>53%</u>                  |

### **III.7.2c Performance Indicators Outreach: Research Intern Program (SPRI Mentored Research)**

- Demand By Students: Almost 100 student (non-GSSM) inquiries, with 36 applications for the 15 available summer placements. Trend over time - fluctuates, dependent on funding availability for both recruitment and # of positions available.
- Quality: Academic Honors: At both the S.C. Junior Academy of Science Annual Conference and professional national conferences such as sanofi-aventis International BioGENEius Challenge, participants in the Summer Program for Research Interns, a mentored research program, continue to win honors and recognition for their research - including publication in peer-reviewed scientific journals like the Biophysical Journal or the Journal of Forestry. Trend over time: growing recognition. Five or six publications in peer-reviewed scientific journals are expected citing GSSM students as co-authors. (Benchmark comparison: Off-the-scale at this level of involvement – we are still searching for a comparison.)
- Number of Participants - 75. Trend over time – steady with a little fluctuation, lower as funding is reduced. Placements will contract if additional budget reductions are made, increase as additional funding and contributors come on-line.
- Mentor Partners: 68 scientists from the three major SC research universities and other SC college and universities participated this year, at 13 partner research sites. Business partners have included the Savannah River National Laboratory, DuPont, Michelin, Roche Carolina, Westvaco, and Sonoco. Trend over time - growing, participation depends largely on student scholarship availability and the availability of scientist to serve as mentors. (Benchmark comparison: Higher Education’s Performance Indicators IV B and VIII C.)

### **III.7.2d Performance Indicators Outreach: Summer Science Program:**

Attendance: 310 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> graders. Trend over time: Variable 220 to 320 maximum.

- Number of SSP Sections Offered - 19. Trend over time – Varies upon demand/availability.
- Number of S.C. Higher Education Partners, offering Ph.D. instructors: 8. Trend: varies on availability (last report = 10).
- Grants/In-Kind. Value of donated time of Ph.D. instructors estimated at over \$39,000. \$58,630.00 in donated scholarship support helped students participate. Trend over time – variable dependent upon grant sources. – Future increases sought.

### III.7.2e **Program Area: GSSM Partnerships for Statewide Academic Improvements.**

Strategic Goal: Leverage resources to improve science and mathematics achievement throughout South Carolina by creating efficient and effective partnerships.

- 1) GearUP – Gaining Early Awareness for Undergraduate Programs. (a partnership of higher education, CHE, Businesses, SDE, ETV and schools and teachers).

GSSM is part of a six-year grant, to develop and deliver professional development for science teachers in the 22 S.C. GearUP cohort (low SES) schools, beginning in 2006-2007.

# of Middle school Teachers and Students taught annually through new partnership initiatives:

- ◆ 9 eighth grade teachers and 505 students

- 2) ScienceSouth partnership: to conduct Saturday Academies for teacher and student participants on GSSM campus and other educational sites around state.

- ◆ 6 events for approximately 1360 sixth, seventh, and eighth grade students

- 3) Local Partnership grant with the Citadel (GearUP grant). Conduct hands-on science for 90 middle school students and their parents.

- 4) USC partner in improving teacher quality (through CHE funding). GSSM provided direct instruction for 21 teachers during the summer: impacting an estimated 2,100 students.

### **III.7.2.f Support Services and Administration Performance Indicators:**

#### **Maintain Quality of Program: See Program area Indicators including:**

- Faculty Qualifications: Maintain minimum Masters with over half of faculty having terminal degrees.
- Demand for Participation in GSSM Programs (3 to 1 ratio for residential openings)
- Manage budget while maintaining programs and quality.

•New Facilities: Operation continues in partially completed facilities, opened in 2003. Maintaining system functions tracking operational costs and trends. Implemented computerized facility tracking system. \$14.9M appropriated in 2007 General Assembly to complete building. Once facility is complete, expanding the student body (beginning in 2010) will require operational increases for faculty/staff and student support.

Current (but soon to be added) unfinished buildings include classrooms, laboratories and Student Activity areas (see diagram on next page). GSSM has made every effort to maintain program quality without full facilities. This includes teaching physics in the music room, history in one lobby area and mathematics in the other lobby. Without Phase II's science labs and classrooms, additional leased costs are required in addition to outfitting charges.

Private funds of over \$6,000,000 toward a private endowment goal designed for future programmatic enrichment have been obtained from business and individual donors through the GSSM Foundation. The land for GSSM's new campus in Hartsville was donated, along with landscaping assistance including an irrigation system.

## S. C. Governor's School for Science & Math: Master Campus Plan - Phase I & II

### Phase I: Opened in August 2003

- Residential Space for up to 300 Students
- Dining Facilities
- Counseling, Arts, Student Support Facilities - Temporary Classrooms
- Faculty and Support Staff Offices

### Phase II: Opening in 2010!

- Academic Center:
  - Advanced Classrooms
  - Advanced Laboratories
- Student Activities Center



### III.7.3 What are your performance levels for the key measures of financial performance?

2006-07 is a transition year, due to an increase in base operating appropriations after several years of state budget reductions - moving GSSM toward a reliable base of program funding. Grant support is increasing. A private foundation endowment campaign – designed to support GSSM’s margin of excellence in our programs - now has more than \$6,000,000 committed in pledges for future programmatic support. Hundreds of S.C. companies have joined us as partners through the GSSM Foundation’s Business Advisory Council.

Through previous years of state budget reductions, GSSM has been able to maintain all functional areas as reflected in our performance statistics. However, all options for expansion of programs had been delayed.

- No lawsuits against agency (ever).
- GSSM works with and meets EOC reporting requirements (Report Card, EIA).
- GSSM works with and complies with BCB reporting requirements (Budgeting, Activity Inventory, Permanent Improvement Project process, etc.)
- GSSM has addressed recent budget cuts while maintaining quality and in 2006-2007 received the capital funds necessary to complete our building and, beginning in 2010, grow the program.

Partnerships with Business and Industry have dramatically increased: GSSM, through its Foundation, has recruited hundreds of “Business Advisory Council” partners to support the school both financially and with program support such as communication enhancement, research sites and providing mentor opportunities. This increase reflects the awareness that the results GSSM is achieving in advanced education directly impact the economic competitiveness of South Carolina. Trend over time: growing.

The overall trend for future state funding requires continued frugality, but with the investment to complete our building in 2010, GSSM seeks the operating support over a three-year period to fund more than doubling the size of the residential program and greatly expanding educational outreach participation.

### III.7.4 What are your performance levels and trends for the key measures of Human Resource Results?

Staff turnover rates – consistently low over time. No injuries on-the-job – consistent over time. While all employees at GSSM serve critical functions, teacher turnover rates are particularly telling – because faculty are the key to quality academic results and there is a general teacher shortage both in South Carolina and in the nation. GSSM meets or exceeds turnover rates at similar residential specialized schools.

7.5. What are your performance levels and trends for the key measures of regulatory/legal compliance and community support? Trends: consistent over time for positive meeting of reporting requirements.

- No lawsuits against agency (ever).
- GSSM works with and meets EOC & SDE reporting requirements (SHAC, Report Card, EIA).
- GSSM works with and complies with BCB reporting requirements (Budgeting, Activity Inventory, Permanent Improvement Project)