



**S.C. Governor's School for Science & Mathematics  
2002-2003 Accountability Report**

**Maintain Quality with Reduced Budget:  
Transition to New Campus!**

September 26, 2003

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

Re: 2002-2003 Accountability Report

Dear Mr. Boles:

It is a pleasure to submit the 2002-2003 Accountability Report for the 15<sup>th</sup> year of the Governor's School for Science and Mathematics (GSSM).

This report covers an extraordinary year - the toughest budget climate in our history combined with completion and transition into Phase One of our new campus! We have committed ourselves to a level of frugality sufficient to permit moving into a partially built and furnished building while simultaneously upholding the highest standards of operation. GSSM is committed to maintaining the quality of our programs above all. To maintain high quality and meet budget reductions we have cut over 50% from program budgets, eliminated positions and completely stopped our two-way video distance learning outreach program. We are seeking grants to fund replacing these high-level courses that are so important to our state's rural schools and students.

To maximize the benefit from every dollar we spend to educate our students, GSSM is dedicated to incorporating quality management principles into every facet of our operation. We have come a long way in striving toward and reaching ever-higher standards for student achievement during the past fourteen years. We are looking forward to forging additional opportunities for bright, hard-working South Carolina students through our new campus which is under construction. With on-going budget reductions, we are focusing every effort to maintain the excellence of GSSM programs as we occupy Phase I of our new campus, which opened in August of 2003.

As a small agency, we at GSSM regularly use internal staff work, Board review, and customer (parent/student) inputs 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 recognized as one of the premier schools in the nation as measured by the success of graduates of our programs, both residential and outreach. These long-term successes have arisen from annual objectives with 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 into purpose-built facilities.

GSSM is now into its third year of integrating information developed in conjunction with the Education Oversight Committee (EOC). 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**

### **A. Major Achievements from past year**

#### **Major Achievements, Status: FY 2002-2003 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.

- Demand for placement in GSSM programs far exceeds availability. For application to the two-year (11<sup>th</sup> and 12<sup>th</sup> grades) residential program just one of every three qualified applicants can be accepted. (All six of the State’s congressional districts are, however, represented in the GSSM’s annual student body.) GSSM’s acclaimed outreach programs continue to have many more applicants than available positions.
- Since its founding in 1988, GSSM has led the State in the number of National Merit Semifinalists and Finalists. GSSM also continues to have the highest SAT scores - 1387 average - in the State.
- 100% of GSSM students attend college. More than 90% attend graduate school.
- GSSM graduates are in demand by universities and colleges. One example of this demand is more than \$6,000,000 in scholarships and grants offered to 58 GSSM graduates in the class of 2003.
- GSSM continues to infuse exceptional students into South Carolina colleges and universities, with 63% of our graduates selecting in-state schools.
- All classes at GSSM are advanced or college-level. The emphasis of GSSM’s curriculum is mathematics and science; but diligence is taken to provide a completely balanced curriculum that prepares the students for becoming contributing members of the workforce and society.
- More than 4,300 students and teachers from across South Carolina have participated in GSSM Outreach Programs since 1990. For example, the School’s Summer Science Program (SSP) annually provides hands-on lab and field experience for up to 400 of the State’s 9<sup>th</sup> and 10<sup>th</sup> graders. Scientists, provided by South Carolina universities, lead these students. The in-kind value of their services alone is estimated in excess of \$450,000 annually. GSSM’s acclaimed Mentored Research Program places up to 100 rising high school seniors to work each summer in the laboratories of leading research scientists – from both industry and universities.
- GSSM’s residential enrollment includes 34% minority students while the Summer Science Program includes an average of 27% minority students over the past several years.

- To help meet growing demand for our statewide programs, GSSM is opening our new campus in August of 2003. As funding permits, the Residential program will increase from its current 128 students up to 300 students, while outreach programs for students and teachers will expand by thousands.
- To enhance state funding, the Governor's School Foundation has embarked on A Campaign for Sustaining Excellence" to raise \$8 million to establish a permanent endowment. This fund is necessary to create and maintain the "margin of excellence" which is the hallmark of GSSM programs. Thus, the Campaign is turning to corporations, foundations and individuals committed to excellence in scientific, mathematics and technological education. To date, more than \$8,000,000 has been pledged to the GSSM Endowment from business & industry, foundations and individual supporters who recognize GSSM's unique and effective role in quality education.

#### Other GSSM Facts:

- 97 high schools were represented in GSSM's recent class of 128 residential students.
- GSSM students achieved a 92% pass-rate on AP exams; the average GSSM graduate has achieves Advanced Placement in four courses.
- Average SAT scores: 1387 (highest in the State)
- In national competition, GSSM's Math Team earned **3<sup>rd</sup> place** in the nation.
- Over 700 Middle School students from across South Carolina will participate in GSSM Outreach programs.
- GSSM's Summer Science Program for 9<sup>th</sup> and 10<sup>th</sup> graders continued its expanded level of four, one-week sessions. These students are teamed with university scientists to conduct hands-on learning in an exciting and fast-paced learning environment.

## **B. 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.

## C. Key Strategic Goals for Present and Future Years

1. Build the new campus on time and on budget
  - a. Review facilities plan with Coker/Joint Facilities Committee
  - b. Set facilities fees with Coker
  - c. Regular project review schedule
2. Establish funding for new campus and for growth
  - a. Continue close legislative contacts
  - b. Set legislative strategy for FF&E and Phase II funding
    - i. Budget request
      1. Place FF&E in operating budget with option for bond funding
      2. Request bond funding of \$10 million for Phase II construction
    - ii. Governor's budget proposal
      1. \$10 million in bond bill
      2. Restore cuts
    - iii. Contingencies developed ranging from full growth to zero growth, but all options include moving to new campus in August 2003
  - c. Contact major potential private donors
3. Double the size of the student body and faculty while maintaining or improving quality and minority enrollment
  - a. Hire Admissions Director (done)
  - b. Enhance minority contacts and recruiting
  - c. Integrate with enhanced profile - new campus drawing card for recruitment
  - d. Visit school districts – present the opportunity, hear feedback
  - e. Analyze “competition” – AP, IB, private schools, home schools, other
  - f. Evaluate 10<sup>th</sup> grade admission
4. Spearhead efforts toward leadership in South Carolina science and math education via our outreach program
  - a. Uncover grant opportunities – especially in teacher training - and increase applications
  - b. Firm up summer research coordination with USC, Clemson, MUSC
    - i. Support Hughes Foundation Grants
    - ii. Support university research credit
  - c. Develop long range plan combining needs, capabilities and resources

### **C. Key Strategic Goals for Present and Future Years, continued...**

5. Enhance the profile of GSSM across the state
  - a. Publicity opportunities
  - b. Meet legislators
  - c. Establish role in SC state initiatives to improve science and math education
  - d. Establish role of parents in the school vision
  - e. Define staffing, funding and responsibilities for targeted communication campaign – on hold
6. Continue to focus on the development of high character and exceptional skills in our students
  - a. Evaluate honor codes at other schools
  - b. Review handbook and emphasize principles
  - c. Increase student leadership and responsibility
  - d. Enhance student life and activities
7. Use the expansion opportunity to review and upgrade curriculum
  - a. Define enhanced math/computer science/adv. technology offering - research/develop creating distinct Department of Mathematics & Computer Science
  - b. Integrate with Outreach opportunities

**D. 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).

**Opportunities:**

1. Construction of GSSM's new campus and subsequent Phase I opening in August 2003.
  - a. State-of-the-art facilities for technology in education, mathematics, bioscience, computer science and engineering.
  - b. Facilities equal to quality of teachers/students in program and for greatly expanding outreach efforts in Recertification, standards-based instruction and quality research.
  - c. When complete with Phase II operational, GSSM's new campus will provide a year-round "educational" center for South Carolina.
  - d. As funding permits, increase impact of residential program from 128 to 300 students
2. Maintain and extend quality GSSM programs' reach and depth to a "critical mass" of students and teachers, both residential and outreach.
  - a. 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 opportunity for even more students from every corner of South Carolina to participate.
  - b. Teachers from throughout South Carolina will have the opportunity to take courses at the new campus as funding permits. Recertification and Non-standard Certification opportunities abound.
  - c. Grant requests are submitted to fund high-quality courses will be developed to offer via internet/video links to high schools, middle schools, and elementary schools statewide.
3. Enhance quality of life throughout South Carolina by providing an enhanced supply of high-quality engineers, scientists, doctors, and other professionals who have a strong predilection to seek employment in South Carolina
4. Raise the pride and awareness South Carolinian's 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.

## Barriers:

1. Funding.
  - a. Maintain quality in existing programs. Continuing extreme State budget reductions, coupled with additional state reductions and unfunded contractual obligations, cut deeply into GSSM's departmental budgets and exhausted all reserve areas. Quality cannot be maintained without prioritizing and eliminating essential outreach services.
    - i. Mid-year state reductions and projected additional cuts going in FY 03-04.
    - ii. Other reductions and unfunded obligations in leased facilities bring total decrease to over 20%. Distance learning plans re-evaluated.
    - iii. Projected deficit up to \$185,000 going into 2003-2004 fiscal year.
  - b. GSSM's growth plans for the new campus require the following resources:
    - i. Transition funds (\$600,000 to \$900,000) to outfit, move and effectively utilize Phase I of GSSM's new campus beginning in the fall 2003. Establish Master Lease program to outfit Phase I.
    - ii. Phase II Construction Funds (\$10,000,000) to build the quality laboratories and classrooms planned for the new campus. This facility is the "heart" of GSSM's academic programs.
    - iii. Furniture, Fixture and Equipment (FFE) funds (\$3.5M total, (figure includes early "transition" funds, see 1.a above) to effectively outfit Phase I and Phase II.
    - iv. Operating increases to:
      1. Maintain high tech facilities - Fire, Security, HVAC systems  
First-year under warranty, following year requires funds to cover maintenance contracts.
      2. Increase student body size - staged growth from 128 to max. 300.
      3. Increase faculty size to support increased student body
    - v. Hiring new faculty and staff for expansion with adequate lead time
  - c. Additional costs in construction, facilities and recruitment momentum due to delay of complete funding of GSSM's new campus (Phase II and FFE requirements).
    - i. Construction Inflation estimated at between 6% and 11%
    - ii. Lease costs for replacing classrooms and laboratories not available until Phase II is constructed. Negotiate with Coker College to Lease Chemistry Laboratories unavailable in Phase I of GSSM's New Campus.
2. Misperception that Science/Math/Technology is not a state education priority – that South Carolina's academic and economic future does not rest in providing our state's best with a challenging education.
3. Delay of expansion - with no funds to expand program while moving into new campus facilities, uncertainty impacts prospective and actual admissions applications for both residential and outreach programs.

## Section II – Business Overview -

1. Number of Employees: Full-Time State: 31.00
2. Operations location(s)

Primary Facilities Leased from Coker College: Headquarters at 306 E. Home Ave. Hartsville, SC 29550

- Office Space
- Classrooms
- Dormitory Facilities
- Dining Facilities
- Athletic Facilities
- Shared-use Facilities (Tennis Courts, etc.)
- Library Facilities

Secondary Facilities: Leased office space off-campus for Admissions and Outreach Departments

Future Facilities: Phase I of GSSM's New Campus is opening in August 2003 at 401 Railroad Ave., Hartsville, SC. Beginning August 1, GSSM will transition from all-leased spaces to our new "purpose-built" campus.

Phase II (\$11M construction/outfit estimate) contains specialized laboratories, classrooms and student activity space. Timeline for opening Phase II: 14-16 months after funding is secured. Expansion of student body cannot occur until Phase II is built. Student body growth cannot occur until Phase II is built and operational.

### **Phase I of GSSM's new campus - opening in August of 2003.**

Phase I includes dormitory space for up to 300 residential students, dining facilities, office space for teachers and support staff, counseling areas, Distance Learning Studios, and limited temporary classroom space.

The complete master campus (shown in rendering next page) includes both Phase I and Phase II. Phase II, postponed because of funding delays, includes specialized laboratories and classrooms, plus student activity center.

## South Carolina Governor's School for Science & Mathematics: Master Campus Plan - Phase I & Phase II

### Phase I: Opening 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: Waiting on Funding...

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



### Base Budget Expenditures and Appropriations

| Major Budget Categories       | 01-02 Actual Expenditures |                    | 02-03 Actual Expenditures |                    | 03-04 Appropriations Act |                    |
|-------------------------------|---------------------------|--------------------|---------------------------|--------------------|--------------------------|--------------------|
|                               | Total Funds               | General Funds      | Total Funds               | General Funds      | Total Funds              | General Funds      |
| Personal Service              | \$1,692,234               | \$1,637,311        | \$1,530,929               | \$1,453,203        | \$1,747,274              | \$1,543,774        |
| Other Operating               | \$2,056,725               | \$1,168,976        | \$1,758,444               | \$1,044,670        | \$1,383,672              | \$904,672          |
| Special Items                 | \$                        | \$                 | \$                        | \$                 | \$                       | \$                 |
| Permanent Improvements        | \$6,767,152               | \$                 | \$10,506,040              | \$                 | \$                       | \$                 |
| Case Services                 | \$                        | \$                 | \$                        | \$                 | \$                       | \$                 |
| Distributions to Subdivisions | \$                        | \$                 |                           | \$13,200           | \$13,200                 | \$                 |
| Fringe Benefits               | \$365,659                 | \$427,826          | \$427,826                 | \$391,615          | \$400,974                | \$359,174          |
| Non-recurring                 | \$                        | \$                 | \$                        | 153,000\$          | \$                       | \$                 |
| <b>Total</b>                  | <b>\$10,881,770</b>       | <b>\$3,234,113</b> | <b>\$14,292,028</b>       | <b>\$3,055,688</b> | <b>\$3,545,120</b>       | <b>\$2,798,620</b> |

### Other Expenditures

| Sources of Funds      | 01-02 Actual Expenditures | 02-03 Actual Expenditures |
|-----------------------|---------------------------|---------------------------|
| Supplemental Bills    | \$                        | \$                        |
| Capital Reserve Funds | \$                        | \$                        |
| Bonds                 | \$                        | \$                        |

### Interim Budget Reductions

| Total 01-02 Interim Budget Reduction | Total 02-03 Interim Budget Reduction |
|--------------------------------------|--------------------------------------|
| \$(201,536)                          | \$(247,164)                          |

## Section II Continued...Business Overview

### 4. 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                 |
| Distance Learning<br>Students                              | Advanced coursework,<br>specialized instruction  | 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 | Adv. Curriculum,<br>Student Community<br>service, security                                     | College placement,<br>scholarship offers,<br>safety/security<br>metrics                          |
| South Carolina Science<br>and Math teachers                | Non-standard<br>certification,<br>Recertification, content<br>development              | Advanced course<br>content, certified<br>courses, instruction<br>assistance                    | Number of teachers<br>supported/served   |
| South Carolina school<br>principals and<br>superintendents | DL courses, teacher<br>Recertification   | Reduced cost, alleviate<br>teacher shortage  | Cost per student<br>served, course<br>offerings  |
| South Carolina colleges<br>and universities                | Advanced students  | Highly prepared, able<br>and motivated students  | Attendance in SC<br>col. and univ.   |
| SC business community                                      | Advanced college grads   | In-state grads   | Graduates employed<br>in state   |
| SC general public  | Advanced college grads   | Hi-tech industry for<br>jobs   | Quality of life  |

### 5. Key Suppliers:

- i. S.C. Schools and School Districts provide students, teachers, partnerships and support.
- ii. S.C. Universities provide GSSM with instructors, mentors, and other resources.
- iii. Coker College: Provides majority of leased facilities and services including food, security, data infrastructure, etc.
- iv. S.C. parents provide students and form a key partnership for success
- v. State Engineer’s office provides expertise for capital construction
- vi. 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.

## 6. Description of major products and services

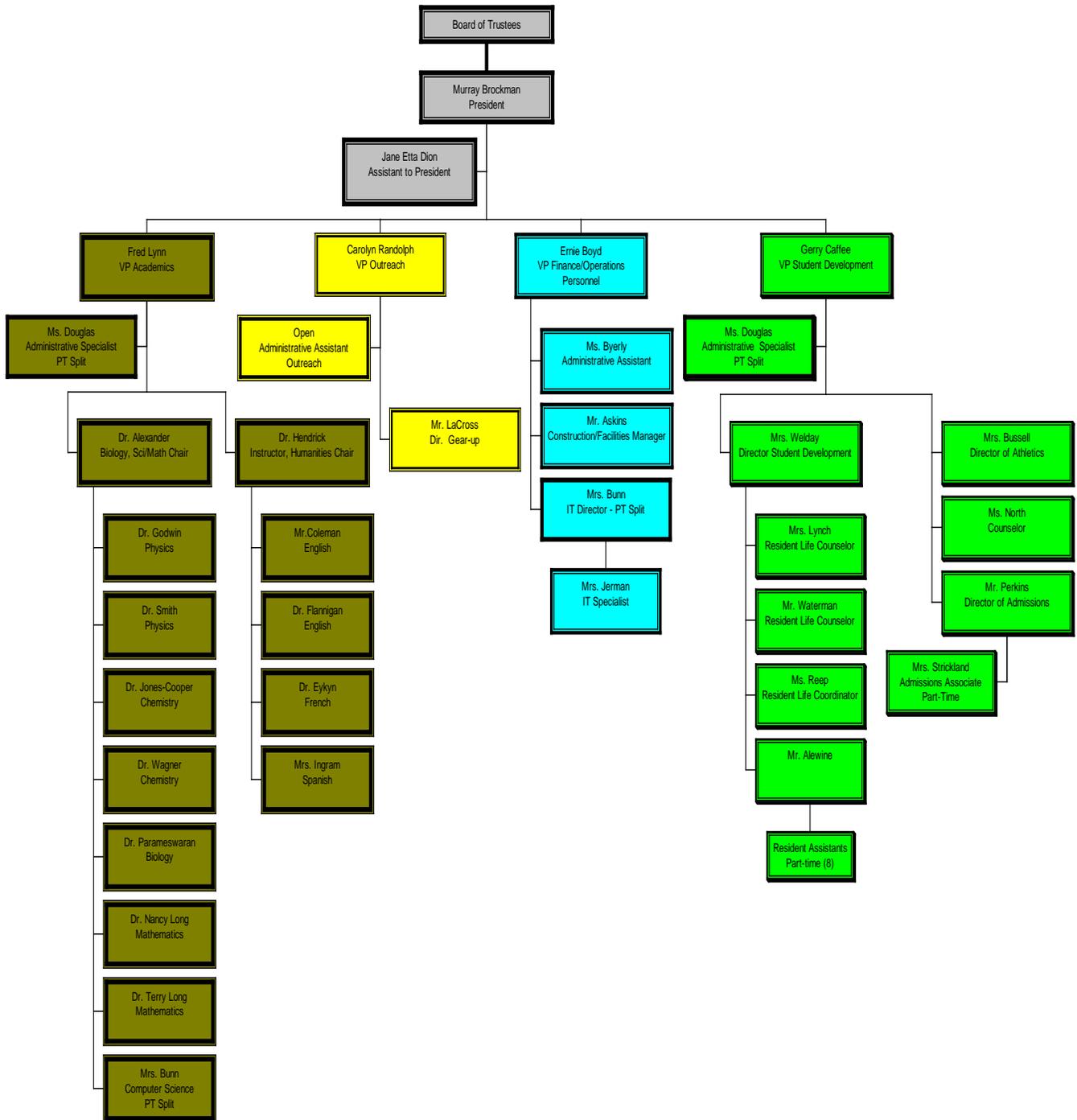
Provide advanced and challenging academic courses and experiences, with an emphasis on science, mathematics and technology, to students and teachers in South Carolina. GSSM features two distinct, yet complimentary, program areas: a full-time Residential Program for 11<sup>th</sup> and 12<sup>th</sup> graders and statewide Outreach Programs from elementary through high school.

## 7. 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 President and five vice-presidents addressing primary functional areas lead GSSM’s structure. Resource responsibility and authority (both personnel and financial) is placed in the hands of those closest to working with our key customers.

Externally, GSSM uses a “partnership” model; designing and building programs based on identified needs and shared resources.

S.C. Governor's School for Science & Mathematics - January 2003



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

Category 1 – Leadership, communication...

1. 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”. Top administrators participate in an annual strategic planning effort. The Board receives regular updates in writing, and Board subcommittees 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 monthly Student Council meetings. The Chair of the Student Council meets regularly with the President. All parents and legislators receive the annual School Report Card, which indicates strategic direction as well as reports results.

- b) Performance expectations

GSSM uses both the state Employee Performance Management System (EPMS) and a specialized faculty evaluation instrument. 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 can be openly discussed.

- d) Empowerment and Innovation

Because of the small size of the agency, the President and all senior administrators maintain an 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 implemented.

#### f) Ethical behavior

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” was made a focal point for all of GSSM, with required summer reading of the book *How Good People Make Tough Choices* leading to incorporation into activities and school seminars.

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

Gauging satisfaction for customers involves demand for GSSM programs and achievements during their participation. Examples include scholarships offered, continued academic participation and success measurements. For teachers, development of and participation in programs, and use of improved skills and knowledge in the classroom to enhance student achievement measure satisfaction.

#### 3. What key performance measures do your senior leaders regularly review?

Performance metrics are listed in section 7 and include application information, test results and participation results.

#### 4. 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?

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.

#### 5. 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.

#### 6. How does senior leadership set and communicate key organizational priorities for improvement? Priorities for improvement are part of short-range direction included in 1.1.a) above.

#### 7. 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.

### Category 2 – Strategic Planning

Strategic Planning at GSSM is an on-going process with formal committee structures created within and between divisions (and Boards) 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.

### 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, as a prerequisite for professional success. GSSM is a leader in both setting achievement standards and integrating “education standards” into modules for students and teachers.

### Category 4 – Information and Analysis

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 and other criteria.

2. 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 measurements (such as classwork, class test results vs. standardized tests, etc.).

3. 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 an internal data collection form, our GSSM by-the-numbers to both identify possible measurements and to collect the data. GSSM also collects and compares data with similar specialized residential high schools in other states.

4. How do you select and use comparative data and information?

Internal discussions on the type, source, and applicability of data lead to selection, rejection or process to collect additional data or change methodology of collection.

Budget decisions are based on directing appropriate resources to priority areas.

Category 5 – Human Resource Focus

1. How do you and your managers/supervisors encourage and motivate employees (formally and/or informally) 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) and informal meetings.

2. 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 budget line-item for Professional Staff Training and Development. This line item has been reduced significantly due to mid-year state budget reductions.

3. How does your employee performance management system, including feedback to and from employees, support high performance?

GSSM utilizes EPMS and internal teacher evaluation systems to formalize communications and both identify priority work issues and also clarify results and expectations.

4. 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 EPMS and our teacher evaluation system, plus turnover rates, which have been low, compared to similar schools by position.

5. How do you maintain a safe and healthy work environment?

Constant communication and formal reviews are conducted as required. GSSM has a faculty member designated as science safety officer.

6. What is the extent of your involvement in the community?

GSSM provides and manages student work service throughout the Hartsville community. In addition, staff is active in charity, church and service organizations. Formally, GSSM works with local schools including a community-service tutoring program for local Elementary Schools using GSSM students as mentors/tutors. GSSM is active in local government (both city and county) and economic development initiatives (local and statewide).

### **Category 6 – Process Management**

1. Key Design and delivery processes for product/services, and how do you incorporate new technology, changing customer and mission-related requirements, into these design and delivery processes and systems?

The nature of our product is the inherent human trait of students and teachers to want 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.

2. 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). We keep class and dormitory attendance rolls and quickly follow-up any absences by students.

3. What are your key support processes, and how do you improve and update these processes to achieve better performance?

Informal and formal (committee) communications processes. In addition to EOC report card information, GSSM uses an internal “GSSM by-the-numbers” document to capture data pertaining to programs. 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. For example, GSSM has set Gifted and Talented research and impact/influence of best practices as a focus.

A line item has been created for “professional development” and our teachers and staff will apply these funds to support Gifted and Talented research. Our focus on the “wellness model” for student support services – a comprehensive approach to allocate departmental and institutional resources - was developed through our strategic planning processes. The same holds true for middle school initiatives 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.

4. How do you manage and support your key supplier/contractor/partner interactions and processes to improve performance?

Weekly, sometimes daily, meetings are held with key suppliers (Coker College) and partners (receiving school sites, partner agencies). Annual reviews are conducted.

## **Category 7 – Business Results**

1. What are your performance levels and trends for the key measures of customer satisfaction?

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

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 “residential” program from outreach 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 student development. Both areas are critical to success at GSSM and are therefore interdependent.

**Key Performance Measurements:**

A primary measure of GSSM customer satisfaction is reflected in the school's third Report Card rating =

**EXCELLENT**      PERFORMANCE LEVEL  
**EXCELLENT**      IMPROVEMENT RATE

This measurement captures a wide-range of data and comparatives and was designed in conjunction with the Education Oversight Committee. The 2002-2003 report card listed on the next two pages is a final draft but minor changes may be made prior to its official release

# THE STATE OF SOUTH CAROLINA

|                                  |             |
|----------------------------------|-------------|
| <b>Annual School Report Card</b> | <b>2003</b> |
|----------------------------------|-------------|

|                         |                  |
|-------------------------|------------------|
| <b>ABSOLUTE RATING:</b> | <b>EXCELLENT</b> |
|-------------------------|------------------|

The school's performance substantially exceeded the standards for progress toward the 2010 SC Performance Goal.

|                            |                  |
|----------------------------|------------------|
| <b>IMPROVEMENT RATING:</b> | <b>EXCELLENT</b> |
|----------------------------|------------------|

The school's improvement rating was excellent despite absolute ratings of excellent for two subsequent years, because the improvement index for all students was a positive number.

|                                  |            |
|----------------------------------|------------|
| <b>ADEQUATE YEARLY PROGRESS:</b> | <b>YES</b> |
|----------------------------------|------------|

This school made adequate yearly progress.

## 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.

**FOR MORE INFORMATION, VISIT WEBSITES AT:  
WWW.MYSCSCHOOLS.COM  
WWW.SCEOC.ORG**

## SOUTH CAROLINA GOVERNOR'S SCHOOL FOR SCIENCE AND MATHEMATICS

### PERFORMANCE TRENDS OVER 4-YEAR PERIOD

|             | Absolute Rating  | Improvement Rating | Adequate Yearly Progress |
|-------------|------------------|--------------------|--------------------------|
| 2001        | Excellent        | NA                 | N/A                      |
| 2002        | Excellent        | Excellent          | N/A                      |
| <b>2003</b> | <b>Excellent</b> | <b>Excellent</b>   | <b>Yes</b>               |
| 2004        |                  |                    |                          |

| PERFORMANCE   | Data  |
|---|-------|
| Advanced placement (AP) Pass Rate                   | 92.4% |
| Graduates' College Freshman GPA (In-state Colleges) | 3.52  |
| SAT Average (High Verbal/High Math)                 | 1387  |

### AP Test Score Distribution

|                   |   |         |         |         |        |       |           |
|-------------------|---|---------|---------|---------|--------|-------|-----------|
| Score             | 5 | 4       | 3       | 2       | 1      | Total |           |
| # of students (%) |   | 62(26%) | 76(32%) | 81(34%) | 15(6%) | 3(1%) | 237(100%) |

### College Freshman GPA

|                   |         |           |          |          |         |         |          |
|-------------------|---------|-----------|----------|----------|---------|---------|----------|
| GPA               | 3.5-4.0 | 3.3-3.5   | 3.1-3.3  | 2.9-3.1  | <2.9    | Total   |          |
| # of Students (%) |         | 24(63.2%) | 5(13.2%) | 4(10.5%) | 3(7.9%) | 2(5.3%) | 38(100%) |

### SAT Scores

|            |            |     |       |     |
|------------|------------|-----|-------|-----|
|            | Middle 50% |     | Range |     |
| SAT Verbal | 640        | 740 | 420   | 800 |
| SAT Math   | 660        | 740 | 570   | 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.

## SCHOOL PROFILE

### INDICATORS OF SCHOOL PERFORMANCE

|   | Our School  | Change from Last Year |
|---|-------------|-----------------------|
| <b>STUDENTS (n=127)</b>                                     |             |                       |
| ❖ Retention rate  | 0           | Same                  |
| ❖ Attendance rate   | 98.4%       | Up from 98.1%         |
| ❖ With disabilities other than speech                       | 0           | Same                  |
| ❖ Older than usual for grade                                | 0           | Same                  |
| ❖ Suspended or expelled                                     | N/A         | Same                  |
| ❖ Annual dropout rate                                       | N/A         | Same                  |
| ❖ Students in residence                                     | 127         | Up from 125           |
| ❖ National Achievement Semifinalists/Finalists              | 29%/29%     | Same                  |
| ❖ Seniors Completing Science Research Project               | 100%        | Same                  |
| ❖ Community Service-hr./student                             | 83          | Same                  |
| ❖ Graduating attending college                              | 100%        | Same                  |
| ❖ Seniors eligible for LIFE Scholarship                     | 98.3%       | Down from 98.4%       |
| ❖ Total scholarship offered                                 | \$6,204,981 | Down fr \$7,609,382   |
| ❖ Number of seniors   | 58          | Down from 63          |
| ❖ National Merit Semifinalists/Finalists                    | 27%/27%     | Up from 18%/18%       |
| <b>TEACHERS (n= 15 )</b>                                    |             |                       |
| ❖ Teachers with advanced degrees                            | 100%        | Same                  |
| ❖ Highly qualified teachers                                 |             |                       |
| ❖ Teachers returning from previous year                     | 86%         | Same                  |
| ❖ Teacher attendance rate                                   | 98.2%       | Up from 97.5%         |
| ❖ Average salary  | \$50,868    | Up from \$48,115      |
| ❖ Professional development days per teacher                 | 6           | Same                  |
| ❖ Teachers with Doctorates                                  | 79%         | Up from 72%           |
| ❖ Years teaching experience-middle 50%                      | 10 to 29    | Up from 9 to 28       |
| <b>SCHOOL</b>   |             |                       |
| ❖ President's years at the school                           | 2           | Up from 1             |
| ❖ Student-teacher ratio                                     | 10 to 1     | Same                  |
| ❖ Prime instructional time                                  | 98.3%       | Up from 95.6%         |
| ❖ Dollars spent per pupil                                   | \$17,377    | Down from \$18,589    |
| ❖ Percent spent on teacher salaries                         | 34.8%       | Up from 31.2%         |
| ❖ Opportunities in the arts                                 | NA          | Same                  |
| ❖ Parents attending conferences                             | 58.6%       | Up from 55.7%         |
| ❖ SACS accreditation  | N/A         | N/A                   |
| ❖ University/Industrial Partners in Research Mentor Program | 23          | Up from 20            |
| ❖ Mentors in Research Program                               | 74          | Down from 83          |
| ❖ Student clubs and organizations                           | 31          | Down from 38          |
| ❖ Students active in clubs/organizations                    | 100%        | Same                  |
| ❖ Varsity sports teams                                      | 9           | Same                  |
| ❖ Students participating in varsity sports                  | 71%         | Down from 74%         |
| ❖ Students returning to home high school                    | 8.5%        | Up from 3.9%          |
| Outreach to other schools:                                  |             |                       |
| ❖ High school units by Distance Learning                    | 62          | Down from 94          |
| ❖ High schools participating in Distance Learning           | 14          | Same                  |
| ❖ Middle school students in Saturday Academies              | 532         | Up from 371           |
| ❖ Students in Summer Science Program (SSP)                  | 324         | Up from 296           |
| ❖ University Partners in SSP                                | 12          | Up from 11            |
| ❖ Six-week summer research positions for other HS           | 26          | Down from 30          |

#### Abbreviations for Missing Data

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

## REPORT OF SUPERINTENDENT

Now in its 15<sup>th</sup> year, GSSM provides a beacon of excellence in science, mathematics and technology education, including a challenging and vital humanities program. Our curriculum is second to none in the state in its scope and depth and compares more closely to a college curriculum than to a typical high school. As you will note in reviewing the report card data, GSSM continues to perform at the highest levels in both our Residential and Outreach programs, with minor variations year-to-year. In the future, we intend to continue this exemplary performance, and, as we move into our new campus, vigorously pursue innovative programs to enhance science and mathematics education statewide.

The significant achievements of the students in residence in Hartsville (1387 average SAT, highest in the state; 27% of seniors were National Merit Finalists; the average student completes 4 Advanced Placement tests, with a 92% pass rate; Math team placed 3<sup>rd</sup> in national calculus competition) are buttressed by formal study of ethical issues in society, in science, in business and in public service through coursework and seminars by prominent state leaders.

Appropriate emphasis on extracurricular activities for all students (71% participated in varsity sports) continues to build strong school spirit. The soccer and tennis teams advanced to the state Division I-A playoffs, the top girl mile runner in Division I-A was a GSSM student, and the Chess Club has won the state championship seven times in the past eleven years.

Our Team Gear Up program provided hands-on science instruction for disadvantaged middle schoolers across the state, and our Summer Science Program encouraged 9<sup>th</sup> and 10<sup>th</sup> graders to explore “real” science. Our Distance Learning program has fallen victim to state budget cuts, which will deprive students statewide of this access to advanced courses next year. We are applying for federal funds to explore Internet-based distance instruction as an alternative.

We are moving into our new campus in Hartsville, which provides a highly visible affirmation of South Carolina’s commitment to excellence in education. When funds permit, we will enter a new phase of growth, doubling our enrollment and revamping our curriculum in advanced technology.

While state revenue shortfalls and resulting budget cuts continue to create significant difficulties, GSSM is meeting its mission of excellence.

Murray W. Brockman, President

### EVALUATIONS BY STUDENTS, TEACHERS, AND PARENTS

|  | Students | Teachers | Parents |
|--|----------|----------|---------|
| Number of surveys returned                     | 61       | 15       | 19      |
| Satisfied with learning environment            | 90.2%    | 100.0%   | 84.2%   |
| Satisfied with social and physical environment | 88.3%    | 100.0%   | 88.2%   |
| Satisfied with home-school relations           | 80.0%    | 100.0%   | 89.5%   |

### 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.

### DEFINITIONS OF ADEQUATE YEARLY PROGRESS

As required by the United States Department of Education, adequate yearly progress specified that the statewide target is met for all students and for each subgroup of students: racial/ethnic, economic, disability, limited English proficiency and migrant status.

## SOUTH CAROLINA GOVERNOR’S SCHOOL FOR SCIENCE AND MATHEMATICS

401 Railroad Avenue  
Hartsville, SC 29550

|                |                        |              |
|----------------|------------------------|--------------|
| GRADES         | 11 – 12                |              |
| ENROLLMENT     | 127 students           |              |
| PRESIDENT      | Dr. Murray W. Brockman | 843-383-3900 |
| BOARD CHAIRMAN | Dr. Leroy Davis        | 843-533-1849 |

2. What are your performance levels and trends for the key measures of mission accomplishment?

In addition to the above Report Card information, several breakout areas reflect GSSM performance:

**Academic Residential School:**

Quality of Academic Program: •Average SAT score for class of 2003 = **1387**. Trend over time – consistent (2002=1359). (Benchmark Comparison: State HS Average, Higher Education Freshman SAT averages.)

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, some 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>2002-2003</u></b> | <b><u>50%</u></b>       | <b><u>50%</u></b>           |
| <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>                   |

### **Performance Indicators Outreach: Research Intern Program (Mentored Research)**

- Demand By Students: Over 100 student (non-GSSM) inquiries, with 47 applications for the 17 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 the American Association of Chemical Engineers, participants in Mentored Research Program continue to win honors and recognition for their research - including publication in professional journals. Trend over time - growing recognition. (Benchmark comparison: Off-the-scale at this level of involvement - we're still searching for a comparison.)
- Number of Participants - 79. Trend over time – fluctuates, lower as funding is reduced. Previous years' placement ranges of 80 to 105. Placements will contract if additional budget reductions are made, increase as additional funding and contributors come on-line.
- Mentor Partners: Eighty-three scientists from S.C. higher education and industry participated this year, at 31 sites. A milestone was reached this year as both Clemson and USC “formalized” providing mentors, student housing and university credit for participants. Statewide, GSSM has identified 276 Ph.D. scientists at over 50 sites available to mentor at this high level. Business partners include DuPont, Michelin, Roche Carolina, Westvaco, and Sonoco. Trend over time - growing, participation depends largely on student scholarship availability. (Benchmark comparison: Higher Education's Performance Indicators IV B and VIII C.)

### **Performance Indicators Outreach: Summer Science Program:**

Attendance: 327 9<sup>th</sup> and 10<sup>th</sup> graders.. Trend over time: Consistent in Range of 270 to 350. GSSM added a fourth week of Summer Science Program last year due to demand - maxing-out facility usage.

- Number of SSP Sections Offered - 27. Trend over time – consistent.
- Number of S.C. Higher Education Partners, offering Ph.D. instructors: 26. Trend over time - consistent.
- Grants/In-Kind. Value of donated time of Ph.D. instructors estimated at over \$60,000 (2002 = \$52,000). Trend: growing slightly each year as current facility schedule is now “maxed” out. \$27,500 Junior Scholar and \$18,000 Gear-up scholarship grants awarded. Trend over time - growing as new support sources come on-line.

**Program Name: GEAR UP: Gaining Early Awareness for Undergraduate Programs.**

A partnership of Higher Education (CHE), GSSM, Businesses (Chamber), SDE, ETV and Schools

Program Objectives: Involve up to 400 low-income middle school students annually throughout South Carolina to provide skills and encouragement so they will continue their education through college.

- Deliver hands-on science, math and technology instructional modules.
- GSSM Students mentor and teach 7<sup>th</sup> graders
- Conduct Saturday Academies for participants on GSSM campus and other educational sites around state. Ten of the twelve Saturday academies were held on the GSSM campus.
- Number of GearUP 7<sup>th</sup> grade participants studying at GSSM: Trend: consistent.

-Scholarships for Gear-up Student to attend GSSM's Summer Science Program: \$18,000 – trend growing (last year's grant totaled \$16,100).

**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
- Manage budget reductions while maintaining programs and quality.

•New Campus Development: Construction is underway and on-time for Phase I of GSSM's new campus – opening in August of 2003. State funding of \$20,000,000 for Phase I construction of new campus has been obtained. An additional \$10M (estimated) is required to complete construction Phase II (which includes Academic/Science Center), plus an addition \$3.5M estimate in Furniture, Fixtures and Equipment, and operating increases beginning in 2004-2005 for faculty/staff and operations at the new campus.

Due to funding being postponed for Phase II, GSSM is working to only open Phase I in August of 2003. Without Phase II's science labs and classrooms, additional leased costs are required in addition to outfitting charges. The delay in funding for Phase II will result in higher construction costs (each year's delay brings additional construction inflation est. now at \$520,000), plus disruptions to our program such as moving students between new campus and leased facilities off-site. In addition, without expansion funds, the new campus will be under-utilized until such funds are provided for student-body growth.

Private funds of over \$8,000,000 toward a private endowment goal have been obtained through the GSSM Foundation. The land for GSSM's new campus in Hartsville was donated, along with landscaping assistance including an irrigation system.

GSSM's new campus, scheduled to open in August 2003, will provide residential space for up to 300 students - more than doubling the current size of the school. As funding permits Phase II construction and operational increases, the new campus will allow exponential increases in the number of students and teachers who will benefit from these statewide services.

3. What are your performance levels and trends for the key measures of employee satisfaction, involvement and development?

Staff turnover rates. 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 had one faculty position change following the school year and was able to recruit a replacement with PhD. Credentials. GSSM meets or exceeds turnover rates at similar residential specialized schools.

4. What are your performance levels and trends for the key measures of supplier/contractor/partners performance?

Maintenance incidents and reports are measured. They have remained consistent from previous years numbers.

5. What are your performance levels and trends for the key measures of regulatory/legal compliance and citizenship?

-No lawsuits against agency (ever).

-State Audit Report: No major exceptions on audit review. Trend, consistent - 11<sup>th</sup> year in a row with no exceptions.

-GSSM works with and meets EOC reporting requirements (Report Card, EIA).

6. What are your current levels and trends of financial performance?

State funding has been reduced due to overall state budget shortfalls, and grant support remains consistent. In addition to state budget cuts, contractual obligations have gone unfunded through the state - resulting in \$100,000 in unfunded obligations over two years. A private endowment drive – designed to support GSSM’s margin of excellence in our programs - endowment campaign now has more than \$7,200,000 committed in pledges. 147 companies have joined us as partners through the GSSM Foundation’s Business Advisory Council.

With state budget cuts continuing, GSSM has been able to maintain all functional areas as reflected in our performance statistics. However, all options for expansion of programs have been eliminated and repairs (replacement) of necessary educational or residential materials (equipment) are not available.

Partnerships with Business and Industry has dramatically increased: GSSM, through its Foundation, has recruited 137 “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 indicates continued lean years. This is a particular concern because of on-going construction and transition commitments required to complete and operate GSSM’s new campus opening in August 2003. These new campus obligations require state government to re-focus the commitment to properly fund both the construction and operating expenses to expand GSSM’s successful academic programs for additional students and teachers throughout South Carolina.