DEPARTMENT OF EDUCATION

STUDENT ENROLMENT PLANNING IN PUBLIC HIGHER EDUCATION

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CONTENTS

SECTION A: PROCESS AND PRELIMINARY PARAMETERS

1 INTRODUCTION

The central premise that underpins the policy framework for the transformation of the higher education in Education White Paper 3: A Programme for the Transformation of Higher Education (July 1997), is that the higher education system must be planned, governed and funded as a single national co-ordinated system.

The emphasis on planning is informed by the fact that if the higher education system is to respond to the national development agenda in terms of access, redress and human resource development needs, the size and shape of the system cannot be left to the vagaries of the market, in particular, unco-ordinated institutional decisions on student enrolments and programme offerings.

The higher education system therefore needs to be steered to meet national goals and priorities through a combination of instruments, namely, planning, funding and quality assurance.

The size and shape of the higher education system must be determined in the context of the available resources if the quality and sustainability of the system is not to be compromised. This was emphasised in the National Plan for Higher Education, which in making the case for increasing the participation rate stated:

> "….it is imperative to guard against rapid enrolment growth unless it is matched by additional resources. Increasing enrolments without new investment will be detrimental to the long-term stability and sustainability of the higher education system, as well as to the quality of offerings" (NPHE: 24).

However, despite the cautions in the National Plan, the higher education system has grown more rapidly than the available resources. The resultant short-fall in funding has put severe pressure on institutional infrastructure and personnel, thus compromising the ability of higher education institutions to discharge their teaching and research mandate. This cannot continue if the higher education system is to contribute to the national development agenda through its role in the generation, transmission and application of knowledge in general and human resource development in particular.

The enrolment planning framework outlined in this document is therefore informed by three key factors:

(i) The imperative to match enrolments plans with available resources to enable the higher education system to deliver on its teaching and research mandate. The current proposals have been developed based on the indicative Medium-Term Expenditure Framework projections

(ii) The need to ensure that enrolment plans are linked to national human resource and research priorities. In this regard, it should be emphasised that any changes to institutional enrolment patterns that result from the proposals in this

document must take into account national priorities, in particular, in scarce skills fields such as teacher education and science, engineering and technology.

(iii) The need to enhance quality, in particular, throughput and graduation rates. The introduction of funding for foundation programmes, as well as the provision of development funds for teaching should contribute to this. In this regard, it is important to ensure that attention is paid to developing foundation programmes in scarce skills areas.

There can be no argument that enrolment planning is essential if the policy goals and objectives in the National Plan for Higher Education are to be realised, in particular, the need for a high quality and differentiated system to meet the human resource a knowledge needs of the country.

1.1 The Enrolment Planning Process

In the Ministerial Statement on Public Higher Education Funding: 2004/05 to 2006/07, which was released in December 2003, it was indicated that the process for developing student enrolment plans, which is essential to the implementation of the new funding framework, would begin in 2004. According to the Ministerial Statement:

> *The Department of Education will during the first half of 2004 engage in a system-wide student enrolment planning exercise covering the academic years 2005 to 2007, to facilitate the implementation of the new funding formula and, in particular, to ensure that institutional enrolment plans are affordable and sustainable in the context of the Medium-Term Expenditure Framework.*
>
> *The enrolment planning exercise will involve the Department developing broad national and institutional enrolment projections indicating the student numbers that the Department will consider funding in the financial years up to 2009/2010 (enrolments for 2007 will generate block grants for the 2009/2010 financial year). The enrolment planning projections will be developed on the basis of (a) the goals and targets set in the National Plan for Higher Education; (b) the various projections contained in this Ministerial Statement, and (c) institutional student input and output data for years up to and including 2003.*
> (Ministerial Statement on Public Higher Education Funding: 2004/05 to 2006/07, December 2003, Section 12)

The Department of Education gave effect to this through the following:

(1) As a first step, the Department analysed the HEMIS data submissions of each institution for the years 2000 to 2003. This involved assessing the quality and consistency of the data for 2003, as well as reviewing the details of each institution's student enrolments and outputs for 2000 to 2003. The reviews of student enrolments and outputs were used to prepare a preliminary set of enrolment planning parameters for each institution for the years 2005-2007.

(2) In June and July 2004 the Department met with representatives of each institution to discuss the Department's proposed planning parameters, including highlighting (a) the relationship between enrolment planning and other steering mechanisms, and (b) the major enrolment planning issues facing the higher education system.

(3) Institutions were invited to make written submissions on the proposed planning parameters by the end of August 2004. In addition, in September 2004 the Department checked each institution's third and final student data submissions for 2003.

(4) The initial proposals for planning parameters have been revised taking into account the institutional responses, as well as the updated data analyses.

2 AFFORDABLE AND SUSTAINABLE STUDENT ENROLMENT PLANS

2.1 Government allocations for higher education

The Ministerial Statement indicated that system-wide student enrolment plans had to be affordable and sustainable within the context of the government's medium term expenditure framework (MTEF), which is a "rolling" three-year budget framework. The Minister of Education is responsible for determining the division of the higher education between different categories and sub-categories. The division for of the higher education budget for the funding years 2004/05 to 2006/07 is set out in the table below. It should be noted that the allocation for the outer years is indicative and could change.

Table 1

NATIONAL HIGHER EDUCATION BUDGET FOR 2004/05 TO 2006/07									
	Distribution of budget for 2004/05 (R'million)		Provisional distribution of MTEF budgets 2005/06 (R'million)		2006/07 (R'million)		Increase on budget provision for previous financial year		
							2004/05	2005/06	2006/07
1 Block grants	8 568	87%	9 144	87%	9 716	87%	8.3%	6.7%	6.3%
1.1 Teaching inputs	5 496	56%	5 866	56%	6 233	56%	8.0%	6.7%	6.3%
1.2 Institutional factors	573	6%	611	6%	649	6%	11.4%	6.7%	6.3%
1.3 Teaching outputs	1 374	14%	1 466	14%	1 558	14%	7.9%	6.7%	6.3%
1.4 Research outputs	1 125	11%	1 200	11%	1 276	11%	8.5%	6.7%	6.3%
2 Earmarked grants	809	8%	860	8%	938	8%	-20.0%	6.3%	9.1%
2.1 NSFAS	578	6%	638	6%	726	6%	6.1%	10.4%	13.8%
2.2 Interest & redemption	146	1%	131	1%	115	1%	-8.7%	-10.3%	-12.2%
2.3 Foundation programmes	85	1%	91	1%	97	1%	30.7%	6.8%	6.3%
3 Institutional restructuring	502	5%	550	5%	568	5%	119.2%	9.6%	3.3%
TOTAL	9 879	100%	10 554	100%	11 222	100%	10.7%	6.8%	6.3%

In Table 2 below only the block grant allocations are considered and compared for the five-year period 2002/03 to 2006/07. It shows that the block grant allocations increased by 9.3% between 2002/03, by 8.3% between 2003/04 and 2004/05, and are projected to increase by 6.7% in 2005/06 and by 6.3% in 2006/07. The projected consumer price inflation is on average 5%. Thus, the real growth in the block grants allocated to institutions are likely to average only 1.5% for these two years. This has to be taken into account in assessing the affordability of student enrolment plans.

Table 2

BLOCK GRANT ALLOCATION TOTALS			
Funding year	**Block grant (Rands millions)**	**Increase on grant total of previous year**	**Grant generated by student enrolments of year**
2002/03	7248	6.0%	2000
2003/04	7929	9.3%	2001
2004/05	8568	8.3%	2002
2005/06	9144	6.7%	2003
2006/07	9710	6.3%	2004

In addition, it should be noted that the because block grants for a given funding year n are generated by the student enrolments of year n-2, the issues arising from the enrolment patterns for the years 2000 to 2003 will provide a further important context when assessments are made of the affordability and sustainability of student enrolment plans**.**

2.2 Student enrolment patterns: 2000-2003

Appendix B contains tables which set out student enrolment and output totals for individual institutions and for the higher education system for the period 2000-2003. The main patterns which emerge from these tables are discussed in the subsections which follow.

2.2.1 Contact plus distance head count enrolments

The head count enrolled total for the system increased from 587 000 in 2000 to 718 000 in 2003. This was a total increase of 131 000 (or 22%) over the four-year period. Most of the increase occurred in the university sector. University enrolments increased by 103 000 (or 27%), compared to the increase of 28 000 (or 14%) in technikon enrolments. Fifteen of the 20 universities had increases in enrolments in 2003 compared to 2000 above the national average of 22%. The ratio for technikons was different; only 7 of the 14 technikons had increases above the national average of 22%.

It should be noted that a head count total of 718 000 represents a participation rate of 18%. This is close to the 20% target in the National Plan, which suggested that it would take at least 10 years to achieve. This should also be considered in assessing the affordability and sustainability of student enrolment plans**.**

2.2.2 Head count enrolments by race and gender

Table 3 below compares changes in enrolments between 2000 and 2003 by race group and gender.

One effect of these changes in enrolments was that African females had, at 33%, the largest share of head count student enrolments in 2003. The overall enrolment by race group was 60% African, 6% coloured, 7% Indian and 27% white. Female students had a 54% share of the total enrolment.

Table 3

INCREASES IN ENROLMENTS: 2003 COMPARED TO 2000 (Thousands)		
African female	46	24%
African male	37	24%
Coloured female	8	53%
Coloured male	4	30%
Indian female	7	37%
Indian male	5	27%
White female	17	21%
White male	7	9%
Female total	**77**	**25%**
Male total	**54**	**19%**
OVERALL TOTAL	**131**	**22%**

2.2.3 Full-time equivalent student enrolments

The FTE enrolled student total (contact + distance) for the system increased from 421 000 in 2000 to 495 000 in 2003. This was a total increase of 74 000 (or 18%) over the four-year period. Most of the increase occurred once again in the university sector. University FTE student enrolments increased by 55 000 (or 19%), compared to the increase of 19 000 (or

14%) in technikon enrolments. The differences between the growth in head count compared to FTE students that occurred in universities between 2000 and 2003 (27% compared to 19%) is an indication that average course loads were lower in 2003 than they had been in 2000.

2.2.4 Teaching input units (or weighted FTE student enrolments)

About 65% of the block grant budget is allocated to institutions for teaching inputs. These allocations are based on FTE student enrolments, which have been weighted by subject category and by course level. This (weighted) teaching input total for the system increased from 773 000 in 2000 to 930 000 in 2003; an overall increase of 157 000 (or 20%) over this four-year period. The data in Table 2 of subsection 2.1 show that the Rand values of the grants generated by these teaching inputs increased by 26% over the four year period. The percentage increase in nominal Rands of the grants therefore exceeded that of total teaching inputs. However, since the real increase in these grants over the four year period was only 7%, the real value of a teaching input unit would have fallen by nearly 13% over this period. These points are summed up in the table below:

Table 4

INCREASES IN 2003 COMPARED TO 2000	
Total teaching input units:	20%
Block grants:	
nominal Rands	26%
real Rands	7%
Rands per teaching input unit:	
nominal Rands	1%
real Rands	-13%

2.3 Student outputs: 2000-2003

2.3.1 Total graduates and diplomates

The total of graduates and diplomates produced by the higher education system was 94 000 in 2000 and 109 000 in 2003. This represented a total increase of 15 000 (or 17%) over the four-year period. Graduates/diplomates as a proportion of the head count enrolment total averaged 15% over the period 2000-2003. This low ratio indicates that unacceptably large proportions of any cohort of students entering the higher education system during these years would have dropped out without completing their qualifications, and that fewer than 50% of any cohort will eventually graduate.

2.3.2 Actual and normative totals of teaching outputs

The new government funding framework, which was introduced for the first time in 2004, bases part of the block grants of institutions on the teaching outputs (a) which they actually produce and (b) which they ought to produce given their student enrolment totals. Teaching outputs for the purposes of these calculations are completed qualifications at non-research masters level and below. These outputs are given weightings which depend on their minimum periods of study. The calculations of these actual and normative teaching output totals confirm the points made in paragraph 2.3.1 above. The system's actual total of weighted teaching outputs was 90 000 in 2000 and 96 000 in 2003; an increase of 17%. The normative totals, which were dependent on student enrolments, were 110 000 in 2000 and 130 000 in 2003. It follows that on the output norms of the new funding framework, the system in 2000

produced 82% and in 2003 only 74% of the expected (or normative totals) of teaching outputs.

2.3.3 Students dropping out of the higher education system

The main conclusions which flow from paragraphs 2.3.1 and 2.3.2 are that the higher education is producing fewer graduates than it should, and that one of the main causes of this under-production is high levels of student drop-outs. A detailed study of the 120 000 undergraduates who entered the higher education system for the first time in the 2000 academic year confirms these conclusions. Details of their progress by institution can be seen in Appendix B. Table 5 below offers a summary of the detailed cohort data.

Table 5

PROGRESS OF 2000 COHORT OF FIRST-TIME ENTERING UNDERGRADUATES			
	Universities	**Technikons**	**Total**
Dropped out at end of 2000	25%	34%	30%
Dropped out at end of 2001	9%	13%	11%
Dropped out at end of 2002	7%	11%	9%
Total dropped out 2000-2002	**41%**	**58%**	**50%**
Graduated in 2002 or 2003	**26%**	**19%**	**22%**
Studying in 2003 but not completing	**33%**	**22%**	**28%**
Total in cohort	**59 000**	**61 000**	**120 000**

The data in Table 5 show that about 36 000 (or 30%) of the total cohort of 120 000 first-time entering undergraduates in universities and technikons dropped out at the end of their first year of studies, and that a further 24 000 dropped out after either two or three years of study. The total of the cohort that had dropped out by the 2003 academic year was therefore 60 000 (or 50%). Only 26 500 (or 22%) of the total cohort had graduated by the end of their third or fourth years of study. The remaining 33 500 were studying in 2003 but did not complete their qualifications in that year. It is seems possible that this first-time entering cohort of the 2000 academic year may not achieve an overall graduation rate of even 40%.

2.3.4 Degree credits

The output measures used in paragraphs 2.3.1 and 2.3.2 were based on degrees and diplomas which would normally take some years to complete. Analyses based on degree credits offer annual “snapshots” of the outputs of the higher education system. Degree credits, at levels below those of research masters and doctorates, are basically FTE calculations made of courses actually passed by students. For example, if a course X has a credit value of 0.2 (indicating that it has a weighting of 20% in a full-time curriculum) and if 1000 students are enrolled in the course, its FTE enrolled total would be 1000 x 0.2 = 200. If 700 students finally pass X, then its degree credit total would be 700 x 0.2 = 140. Since courses passed eventually lead to the award of a degree, these degree credits can be construed as the “building blocks” of the degrees or diplomas finally awarded to students. A further feature of the use of degree credits, is that it is possible to calculate weighted average success rates for an institution for year n by dividing its degree credit totals for n by its FTE enrolled student totals for that year. Calculations on these lines show that the FTE degree credit total for the higher education system was 273 000 in 2000 and 333 000 in 2003. The increase over the period was 66 000 (or 22%). The increase in FTE enrolled student total over this period was 74 000 (or 18%). Table 6 below sets out the annual average success rates for the system, calculated as ratios of degree credits to FTE enrolments for the system for the period 2000-2003.

Table 6

WEIGHTED AVERAGE ANNUAL SUCCESS RATES 2000-2003				
	2000	**2001**	**2002**	**2003**
Universities	66%	66%	71%	68%
Technikons	62%	63%	66%	66%
Average for the system	**65%**	**65%**	**69%**	**67%**

Although these ratios improved over the period 2000-2003, they could still in 2002 and 2003 be read as indicators of low average pass rates in the higher education system. For example, the overall 2003 ratio of 67% indicates that approximately one third of the courses for which students were registered in 2003 were either failed or left as "incomplete".

2.4 Full-time equivalent instruction/research staff

An important resource for the higher education system is its complement of staff engaged in instruction and research activities. The data in Appendix B show that the full-time equivalent total of staff with primary responsibilities for instruction and research grew slowly over the period 2000 to 2003. This total was 20 500 in 2000 and 21 800 in 2003; an increase of only 1300 (or 6%) over the four year period. This 6% growth in FTE instruction/research staff has to be compared to the 22% growth in head count student enrolments and the 18% growth in FTE enrolled students that occurred over this period. One effect of these differences was that the system's student to instruction/research staff ratios worsened between 2000 and 2003. The (unweighted) ratio of FTE enrolled students to FTE instruction/research staff increased from 21 in 2000 to 23 in 2002. The weighted FTE ratio (based on teaching input units) changed from 38 in 2000 to 43 in 2003. The most important aspect of these changes is that they occurred in a context in which the numbers and proportions of disadvantaged students in the system were growing, and in which student output rates showed no signs of improving.

2.5 The affordability and sustainability of the higher education system

There are three key issues, which flow from the above analysis, that impact on and have to be considered in assessing the affordability and sustainability of the higher education system, namely:

- Between 2000 and 2003 student enrolments grew at unexpectedly high rates. The rate of enrolment growth exceeded the provision, in terms of real Rands, of government subsidy allocations to the higher education system.

- The numbers of disadvantaged students in the higher education system increased over this period at a higher rate than that of students from advantaged backgrounds. The provision of the academic staff needed to teach these students grew at less than one third of the rate of increase in student enrolments.

- Student outputs were below the norms set in the National Plan on Higher Education and in the new funding framework. Small improvements only occurred in student success and graduation rates during this period.

3 PRELIMINARY ENROLMENT SCENARIOS FOR THE HIGHER EDUCATION SYSTEM

3.1 Preliminary teaching input unit projections

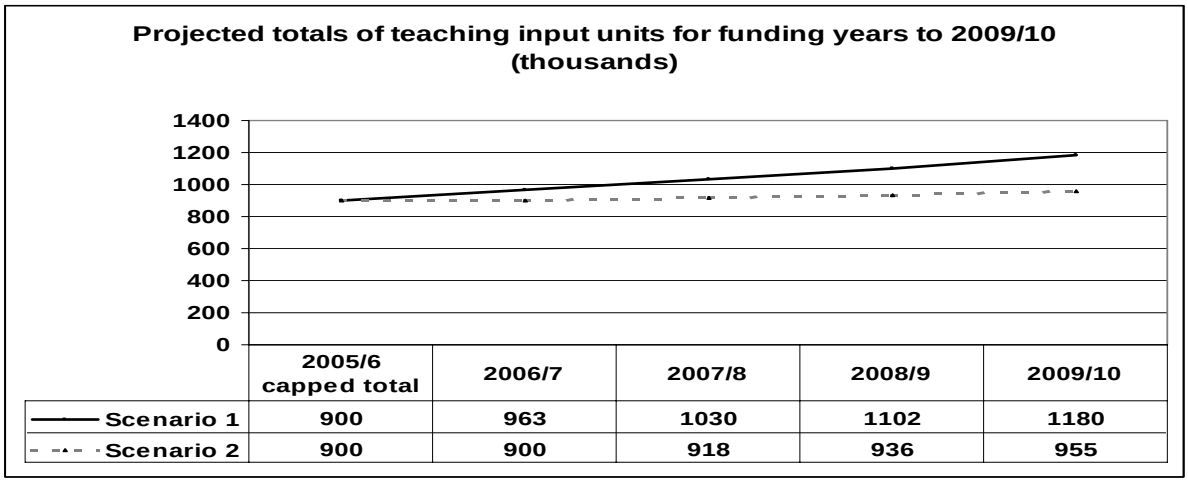
The preliminary scenarios which the Department used during its June and July 2004 discussions with institutions had the following main characteristics:

- The enrolment totals discussed covered the academic years 2005 to 2007.

- Teaching inputs were taken to be the basic planning units. Since the units for a funding year n are generated by weighted FTE student enrolments for academic year n-2, the use of teaching units as the basic planning elements extended the scenarios to the 2009/10 funding year.

Diagram 1 below sets out two of the scenarios which the Department used in these discussions.

Diagram 1



	2005/6 capped total	2006/7	2007/8	2008/9	2009/10
Scenario 1	900	963	1030	1102	1180
Scenario 2	900	900	918	936	955

Scenario 1 takes the teaching input unit total for 2005/06 to be 900 000. This is based on the enrolment caps announced by the Minister of Education in April 2004, i.e. 2002 plus 5% for contact students and 2002 plus 3% for distance students. The scenario assumes that the current rate of growth of 7% pa in teaching input units will be funded in full from 2006/07. On this scenario, the teaching input total could, by 2009/10, be 280 000 (or 31%) higher than the capped total used in subsidy calculations for 2005/06.

••Scenario 2 starts from the same base of a capped total of 900 000 teaching input units, but assumes that this capped total will be used again in the 2006/07 funding year It assumes further that a growth rate of 2% pa in teaching input units will be approved for the period from 2007/8 to 2009/10. On this low growth scenario, the teaching input total would by 2009/10 be only 55 000 (or 6%) higher than the 2005/06 capped total of 900 000.

may be the only financially sustainable one for the 2005/06 to 2009/10 funding years. In putting forward this point of view, it raised the following points of concern:

- Over the next 5 years, growth in nominal Rands in the national allocations for block grant is likely to be in the band 6%-7%. Since the rate of inflation is expected to

average 5%, the growth in real Rands in block grant allocations is likely to be in the band 1%-2%.

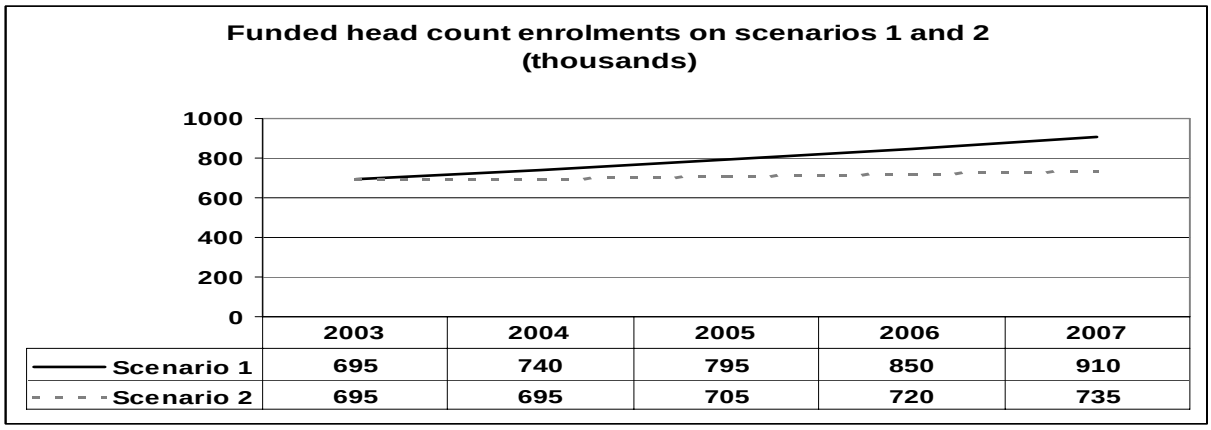
- It follows that if growth in student numbers in the higher education system, and hence in teaching input units, exceeds 2% over the next 5 years, then the value of government funding per student unit will drop. Since improvements in the higher education system's performance, particularly as far as student outputs are concerned, require at very least that the value of a input funding remains constant in real terms, these are not likely to occur if growth in student enrolments is permitted to exceed 2% pa over this period. **3.2 Preliminary head count enrolment projections**

The teaching input unit totals used in the two preliminary scenarios in diagram 1 can be related to totals of head count and FTE enrolled students, using these average ratios for 2001-2003:

- 1.89 teaching input units = 1 FTE enrolled student;
- 1 FTE enrolled student = 1.46 head count students
- 1 teaching input unit = 0.77 head count students

The graph below gives the totals of funded head count students under these two preliminary scenarios.

Diagram 2



	2003	2004	2005	2006	2007
Scenario 1	695	740	795	850	910
Scenario 2	695	695	705	720	735

Diagram 2 shows that, under the first high growth scenario, the head count total of students qualifying for government funding would reach 910 000 in 2007. This total, which would generate government funds in the 2009/10 financial year, would be 215 000 (or 31%) higher than the capped 2003 total of 695 000. Scenario 2 projects a far lower growth in funded head count enrolments. Its projected total for 2007 is only 40 000 (or 6%) higher than the capped total for 2003.

4 INSTITUTIONAL RESPONSES TO ENROLMENT PARAMETERS

The issues summarised in the sections 2 and 3 above set the context within which the Department drafted the preliminary planning parameters for discussion with institutions during June and July 2004. An outline of what was contained in the reports prepared for each institution is set out in Appendix A to this report.

4.1 Institutional responses to preliminary planning parameters

A wide range of responses to the preliminary planning parameters were received from institutions during August 2004. The main features of these responses are summarised in the points which follow.

4.1.1 Base and target years for capping of enrolments

Institutions argued that because the broad patterns of their enrolments have already been set, it will not be possible for major changes to be made to their size and shape during the triennium 2005-2007, particularly if the requirement is that they bring these back to a base year of 2003. Suppose, for example, that its preliminary parameters suggested that an institution, which had been on a rapid growth path during 2000 to 2003, should limit its student enrolments to 2003 levels. The scale of the 2000-2003 growth would ensure that this institution would, during at least 2005 and 2006, experience an "enrolment bulge" of returning students. So even if it were to cut back drastically on its intake of new undergraduates from as early as 2005, its enrolments could achieve the target set by the 2003 cap by 2007 at the earliest.

The Department accepts these arguments that the realities of enrolment management in a South African context may prevent institutions from achieving reduced enrolment caps within a short span of time. This issue will be considered further and in more detail in Section B.

4.1.2 Formulation of caps

Some institutions argued that the caps proposed by the Department were too detailed, and amounted to "unnecessary micro-management" of institutional enrolments. Their view is that the Department should formulate its proposed caps in ways which are broader than those suggested in the preliminary proposals.

The Department does not agree that the proposed institutional planning parameters could be construed as micro-management. They were in fact set broadly in line with the key policy goals and objectives in relation to the targets for (a) the shape and size of the higher education system and for individual institutions; and (b) institutional and programme mixes, as outlined in the White Paper and National Plan for Higher Education. In this regard, it should be emphasised again that the whole purpose of enrolment planning is to ensure the development of an affordable and sustainable higher education system that is responsive to, and contributes to, the national development agenda**.**

4.1.3 Enrolment increases and the subsidy income of institutions

Institutions which asked that their enrolment caps be raised often assumed that additional students, or more specifically additional teaching input units, would generate additional government funding for them. An essential point which these institutions have missed is that because the new funding framework functions essentially as a distributive mechanism,

additions to the teaching units of institutions will result in them receiving new funding only if the added units increased that their overall share of the national total of teaching units. If, for example, institution A's teaching input total were to be increased by 5%, then A would receive additional teaching funds only if its % share of the system's total increased. If the teaching unit totals of all other institutions also increased by 5%, then A would receive no additional funding. However, if A's teaching unit total increased by 5% while the system's total increased by 10%, A's share of the total, and as a consequence its teaching input grant, would drop.

4.1.4 Shifting enrolments into higher weighted cells on the funding grid

Some institutions indicated that, while they accepted that head count and (unweighted) FTE enrolled should be capped, they planned to adjust their enrolment shape within the cap in order to move greater proportions of their enrolments into the more expensive cells in the funding grid. They expected that their (capped) totals of FTE enrolments would, as a consequence of these shifts, generate (a) higher totals of (weighted) teaching input units, and (b) additional government funding. Proposals of this kind are based on the same mistaken assumptions as those discussed in 4.1.3 above. Additional funding units, even if generated by funding grid shifts within a capped total, will not necessarily result in more in government funding accruing to an institution.

The effects of growth in input units on the mechanisms of the new funding framework will be discussed further in Section B.

4.1.5 Stabilising the government income of institutions

Sharp changes in the shares which institutions have of system-wide funding unit totals will have detrimental impacts on the finances of those who grow at rates below averages for the system. The issue of how institutional shares of funding unit totals can be stabilised over reasonable periods of time will be discussed in more detail in Section B.

4.1.6 Enrolling students above approved enrolment caps

A number of institutions, while accepting the principle of enrolments being capped for the purpose of the distribution of government grants, have raised the issue if institutions will be permitted to exceed their caps by registering "non-funded" students.

SECTION B ENROLMENT TARGETS AND GOVERNMENT FUNDING

5 TWO KEY ISSUES RAISED BY INSTITUTIONS IN AUGUST 2004

In section B the Department sets out a series of proposals on enrolment planning which build on the two preliminary scenarios discussed in subsection 3, and which take account of two central issues raised by institutions in their responses to the June and July 2004 enrolment planning proposals.

- The first is the issue of what the base and forward years should be for the setting of enrolment targets. The Department's revised proposals are based on analyses of the higher education system's current flows of students, and on new enrolment projection scenarios.

- The second main issue concerns the relationship between enrolment growth and government funding in the new policy framework. The Department's revised proposals are based on analyses of what effects changes in enrolment growth have on the distribution of government funds to institutions.

6 REVISED ENROLMENT TARGETS FOR THE HIGHER EDUCATION SYSTEM

6.1 Student enrolment flows

An analysis of enrolment flows in the public higher education system is an important first step in the revision of enrolment targets for the higher education system. The diagrams which follow offer broad overviews of student inflows and outflows for the 2003 academic year.

Diagram 3 offers an estimate of how the head count total of 718 000 in 2003 was constituted, and Diagram 4 an estimate of the outflows that probably occurred at the end of 2003 (HEMIS data for 2004 are not yet available).

The main points which should be noted about Diagram 3 are these:

- The total of 718 000 students reflected in the two diagrams is the final HEMIS total for 2003, which was used in Table 1 of Appendix B to this report.

- The new undergraduate total of 178 000 is derived directly from HEMIS data for 2003.

- First-time entering undergraduates are students who entered the higher education system for the first-time in 2003. Their share of the enrolment total of the system was 20% Transfer undergraduates are students who had been registered in the system before 2003, and who entered a new institution in 2003. Their share of the enrolment total of the system was 5%.

- The largest group of students registering in 2003 was that of "returning students". These would be students who re-registered at the institutions which they had attended

in 2002. This total is estimated to have been 505 000 in 2003, or 70% of the overall enrolment. The balance of 35 000 (or 5% of the overall total) of the 540 000 reflected in this box of Diagram 3 fall into the category "new postgraduates". This total is an estimate only, because the HEMIS system does not permit clear distinctions to be drawn between new postgraduates and the overall group of returning students. Most of these 35 000 are likely to be students who returned to the institution at which they had completed an undergraduate qualification

Diagram 3
Estimate of entry status of students in 2003 academic year

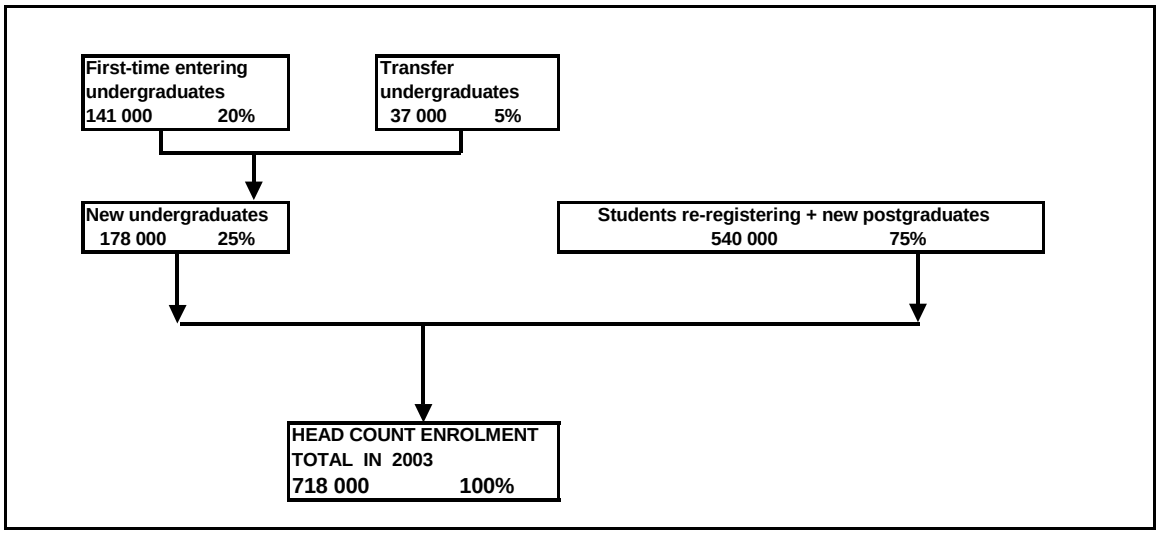


Diagram 4 offers an estimate of the outflow of students from the public higher education system at the end of the 2003 academic year. Some points which should be noted about the data in the diagram are these:

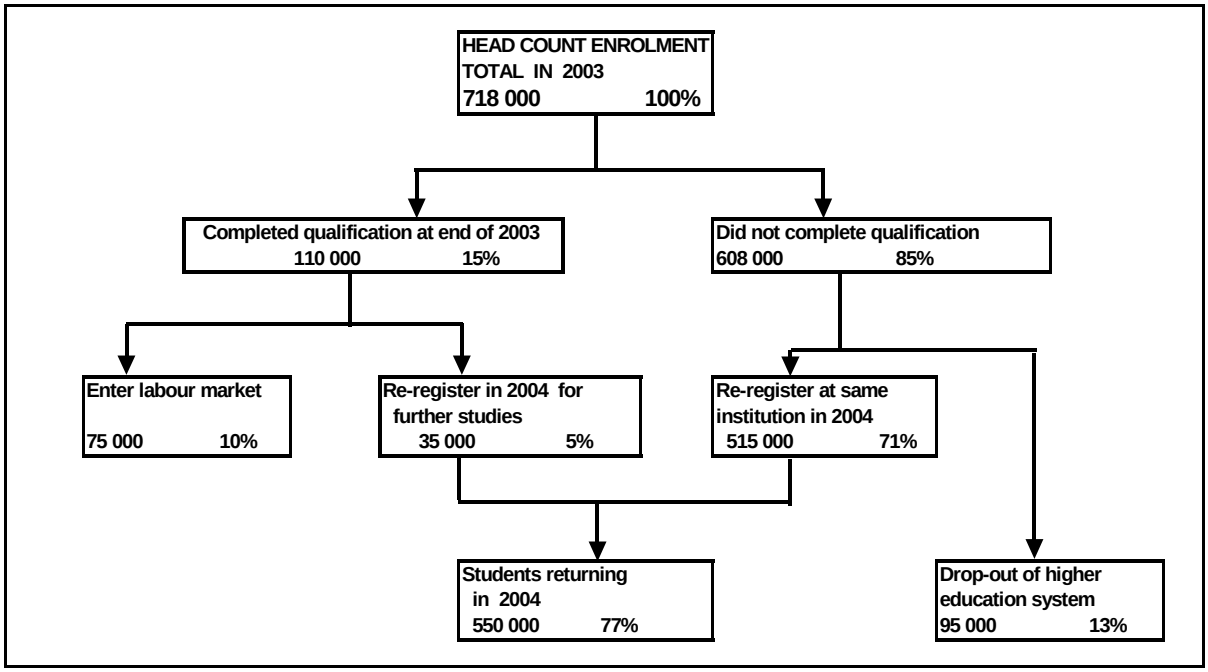
- The graduate total of 110 000 is the actual HEMIS total for 2003, which is reported in detail in Table 1 of Appendix B to this report.

- The division of graduates into those entering the labour market and those returning for further studies in 2004 is an estimate based upon data analyses for earlier years.

- The drop-out total of 15% of the enrolment is also an estimate based on data analyses for earlier years.

Diagrams 3 and 4 show that student enrolment planning in a public higher education system has to take account of a number of central issues. The major ones, from the point of view of the system, are annual intake of first-time entering and of transfer undergraduates, and the total of returning students. These issues will be discussed further in the subsections which follow.

Diagram 4: Estimate of exit status of students at end of 2003 academic year



6.2 Head count enrolment estimates: 2005-2009

Diagram 3 and 4, when linked to Tables 7 and 8 which follow, provide data needed for the revised projection of head count enrolments for the 5-year period 2005-2009. Table 7 gives the totals by sector of first-time entering and transfer undergraduates, and Table 8 expresses these totals as proportions of total head count enrolments.

Table 7

Intake of new undergraduates (Thousands)								
	First-time entering				**Transfer**			
	2000	**2001**	**2002**	**2003**	**2000**	**2001**	**2002**	**2003**
Contact universities	38.3	49.8	56.9	59.2	14.2	14.7	14.2	12.3
Contact technikons	43.5	48.4	49.7	50.8	2.7	4.7	4.6	7.2
Unisa + Tech SA	38.2	35.6	31.1	31.2	19.7	21.3	19.4	17.8
TOTAL	**120.0**	**133.8**	**137.7**	**141.2**	**36.6**	**40.7**	**38.2**	**37.3**

Table 8

New undergraduates as proportions of total enrolments								
	First-time entering				**Transfer**			
	2000	**2001**	**2002**	**2003**	**2000**	**2001**	**2002**	**2003**
Contact universities	14%	17%	18%	18%	5%	5%	4%	4%
Contact technikons	31%	31%	31%	28%	2%	3%	3%	4%
Unisa + Tech SA	22%	19%	16%	15%	11%	11%	10%	9%
TOTAL	**20%**	**21%**	**20%**	**20%**	**6%**	**6%**	**6%**	**5%**

Two new, revised enrolment scenarios for the higher education system for the period 2003 to 2009 can be derived from the diagrams and Tables 7 and 8. Scenario A, which is presented in Table 9 below, is based on these two assumptions:

- New undergraduates (first-time entering plus transfer) will grow at an average annual rate of 5% between 2003 and 2009.

- The annual total of students re-registering plus new postgraduates will be 77% of the head count enrolment total of the previous year.

Table 9

Scenario A: revised high growth scenario (Thousands)				
	2003	**2005**	**2007**	**2009**
Total new undergraduates	179	195	215	240
Students re-registering + new postgraduates	539	565	605	660
TOTAL	**718**	**760**	**820**	**900**

If scenario A's two underpinning assumptions were to be realised, then the higher education system would grow from the 2003 head count total of 718 000, to 820 000 by 2007, and to 900 000 by 2009. This would involve an additional total of approximately 30 000 students being added to the public higher education system in each year of this 7-year period.

Scenario A, it should be noted, projects growth totals which are more modest than those projected in the first high growth scenario used in the Department's June/July 2004 presentations. This early scenario (see diagram 2 in subsection 3.2) was based on an assumption that enrolments would grow at an annual average rate of 7% up to 2007. Its projections were that head count enrolments would reach 910 000 by 2007, compared to this new scenario's projections of a total of 820 000 by 2007 and 900 000 by 2009. However, even though A is a more modest (but still high growth) scenario, the issues of Section A would arise again. The enrolment totals projected in scenario A would be affordable and sustainable only if the funding and performance of the higher education system improved radically over the next 3 to 5 years. The evidence which is available suggests that these two conditions are unlikely to be met over the period up to 2009.

6.3 Controlling student enrolment growth

The central points made by the Department in its June/July 2004 presentations have to be repeated: the criteria of affordability and sustainability require student enrolment growth to be managed at both national and institutional levels. Initial controls must ensure that head count student enrolments, for the purposes of government funding, are initially held to their 2003 levels with low growth being permitted only in the outer years of the period up to 2009.
The discussion in subsections 6.1 and 6.2 show that there are two main points at which growth constraints can be placed on a higher education system:

- The totals of first-time entering and transfer undergraduates admitted each year into the system could be subjected to controls. This would require new undergraduate intake targets to be set for each institution, and for its intakes to be carefully managed by each institution.

- The proportion of students re-registering in the following year could be lowered. This would involve institutions ensuring that failing students are not permitted to renew their registrations in any automatic way, but more importantly ensuring that larger proportions of their students complete their qualifications in the shortest possible time.

Table 10 below presents a revised low growth scenario which the Department proposes to introduce for the 5-year period 2005-2009. This revised enrolment scenario is based on these requirements:

- The new undergraduate total in 2007 must fall by 10% compared to 2003. The total may increase again after 2007, but only up to the limit of the 2003 total by 2009.

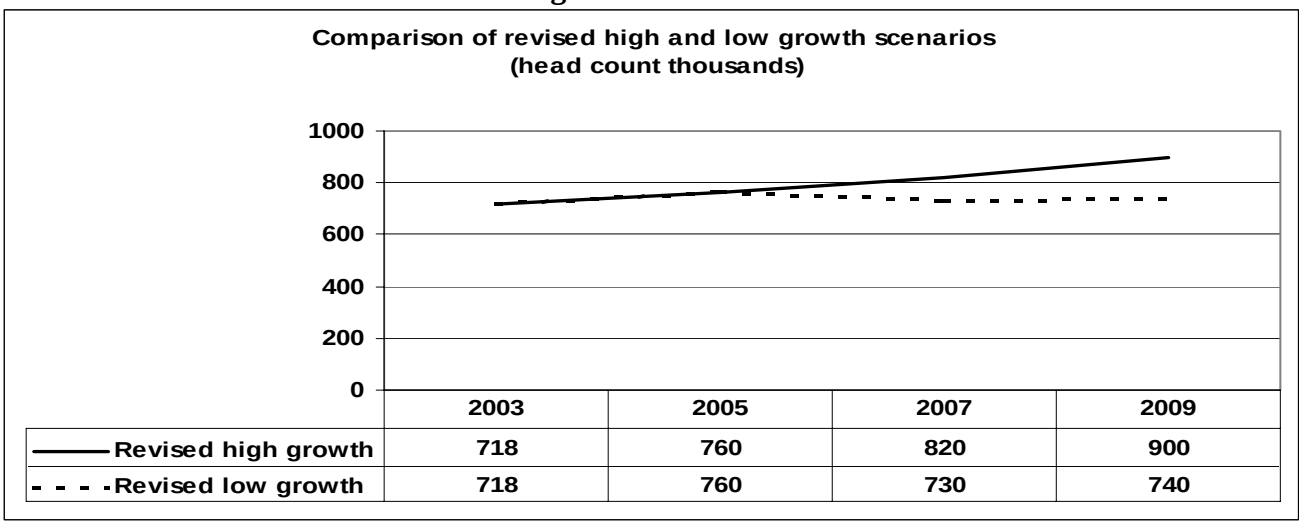
- Institutions must tighten their readmission and re-registration criteria to ensure that the proportions of failing students re-registering drops, and that greater proportions of students complete their qualifications in minimum time.

Table 10

Scenario B: revised low growth scenario (Thousands)				
	2003	**2005**	**2007**	**2009**
Total new undergraduates	179	178	160	180
All other students	539	582	570	560
TOTAL	**718**	**760**	**730**	**740**

Diagram 5 which follows compares the revised scenarios A and B. The graph shows that because controls could not at this stage be placed on enrolments for 2005, both scenarios predict a 2005 head count enrolment of 760 000 for the higher education system. They divide radically for the remaining academic years up to 2009, with the effect of growth limitations appearing starkly in 2007 and 2009. The difference between the two scenarios is predicted as being 90 000 in 2007 and 160 000 in 2009.

Diagram 5



As was indicated earlier in this section, the projections of the revised high growth scenario (scenario A) are not as high as those of the first scenario presented by the Department during the June/July 2004 meetings with institutions. The outer years of the projections of the revised low growth (scenario B) are in line with the low growth scenario proposed by the Department in June/July. In the preliminary scenario, which is summarised in subsection 3 of this report, the Department's projection was that the approved head count total in the system should be limited to 735 000 in the 2007 academic year. This latest scenario makes the 2007 approved total 730 000, and adds a further 10 000 to this for the years 2008 and 2009.

7 ENROLMENT GROWTH AND GOVERNMENT FUNDING

7.1 Effects of enrolment growth on block grant funding

Enrolment growth has, in the context of the new funding framework, two main effects on block grant funding. The first concerns the system as a whole and the second individual higher education institutions.

7.1.1 Effects of enrolment growth on the higher education system

The effects of enrolment growth on the system as a whole can be demonstrated best by showing what impact the two different growth scenarios would have on Rand values per teaching input unit for the period 2003-2009. The first of these is the revised high growth scenario used in subsection 6. The second is the revised low growth scenario employed in this previous subsection. Scenario B is based on the assumption that the total of funded teaching input units in the system will be limited to the 2003 capped total of 890 000 plus an annual growth of 1.5% in the period up to 2009 (the uncapped total of teaching input units for 2003 was 931 000). The table below sets out each scenario's teaching input unit total for the system for the period to 2009.

Table 11

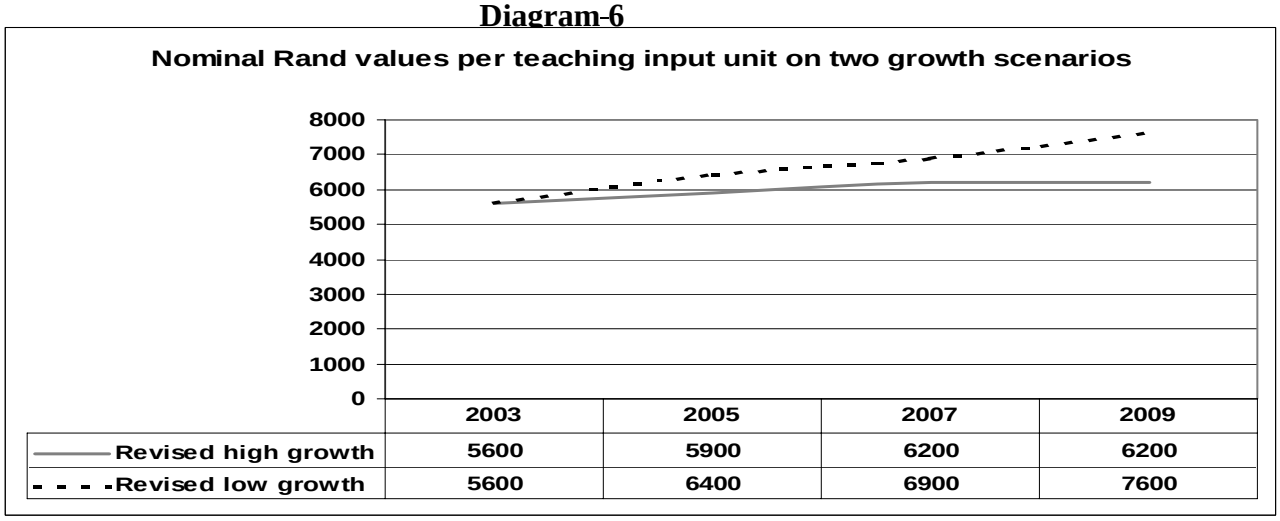
Funded teaching input unit totals under two revised growth scenarios (Thousands)				
	2003	**2005**	**2007**	**2009**
Revised high growth	930	990	1065	1170
Revised low growth	890	915	945	970

If the MTEF allocations for block grants for the period to 2007 are used, and if it is assumed that these block grant totals will grow at 6% pa beyond 2007, then the nominal values of a teaching input unit will be as set out in diagram 6 which follows.

This graph shows that under the revised high growth scenario, the nominal Rand value of a teaching input unit would increase at average annual rate of 1.7%, which is less than a third of the rate of projected increase in MTEF grants. Under the revised low growth scenario, which involves limits being placed on growth, the nominal Rand value of a teaching input unit would increase at average annual rate of 5.2%, which is less than 1 percentage point lower than the expected rate of increase in MTEF grants.

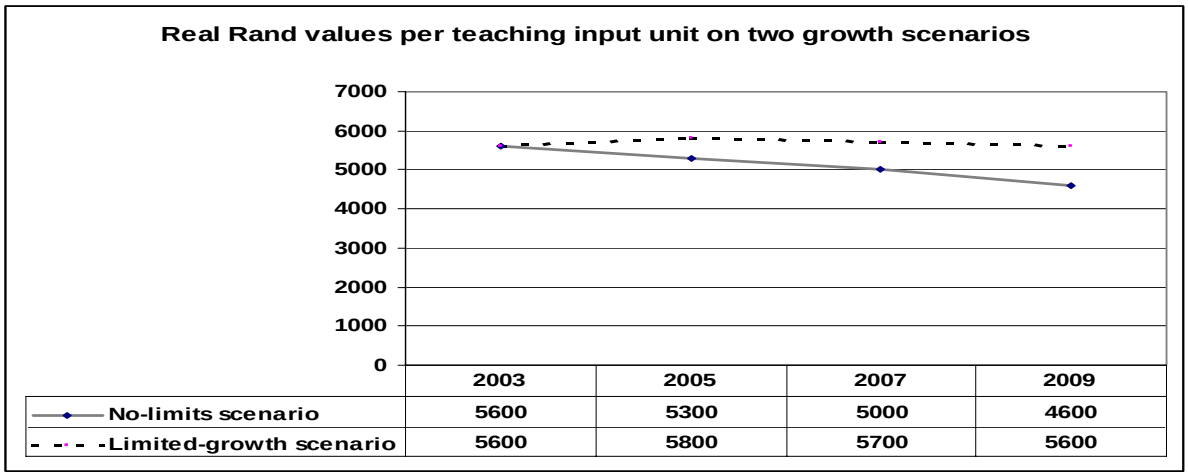
Diagram 7, which also follows on the next page, shows what the values of teaching input units would be in terms of real Rands, using 2003 as the base year and inflation rates of 4% for 2004 and 5% for each of the years 2005-2009. This graph shows that under the revised high growth scenario, the real value of a teaching input unit would decline at average annual rate of 3.2% between 2003 and 2009. Under the revised low growth scenario, the real value of a teaching input unit would increase in 2005 and 2007, before staying at the 2003 value in 2009.

Diagram-6



Note: The high growth scenario assumes that no formal limits will be placed on enrolment growth, and that the head count enrolment total in the system will reach 900 000 by 2009.
The low growth scenario assumes that Ministerial limits will be placed on enrolment growth, and that the 2009 head total will be held to 740 000.

Diagram 7



7.1.2 Effect of enrolment growth on individual institutions

Because the new funding framework functions essentially as a distributive mechanism, growth in their enrolments will not guarantee increases in the flow of government funding of institutions. Their funding levels would change only if their rates of growth differed from those of other institutions, enabling them to increase the shares, which they have of funding unit totals in the system.

Consider as an example four institutions W to Z whose teaching unit totals changed in the following ways between the 2004/05 and 2005/06 funding years

Table 12

Example of effect of growth in teaching input units of teaching grants							
	Teaching input units (Thousands)		Institutional share of total for system		Teaching grants millions		
	2004/05	2005/06	2004/05	2005/06	2004/05	2005/06	Change
Institution W	40	50	4.60%	5.38%	251	315	25%
Institution X	50	50	5.75%	5.38%	314	315	0%
Institution Y	30	34	3.45%	3.66%	188	214	14%
Institution Z	70	72	8.05%	7.74%	439	453	3%
Totals for system	**870**	**930**	**100%**	**100%**	**5456**	**5855**	**7%**

In this example, because W increases its teaching input unit total by 10 000 (or 25%), its share of the total for the system increases from 4.60% to 5.38%. Its teaching grant, as a consequence, increases by R64 million in 2005/06, which is equivalent to 18 percentage points above the average increase for the system. Institution X's teaching input total remains 50 000 across the 2 years, and its share of the total for the system drops from 5.75% to 5.38%. X does not as a consequence receive an increase in its teaching grant in 2005/06 compared to 2004/05. Z's teaching input unit total increases by 2000 (or 3%) in 2005/06, but its share of the total falls from 8.05% to 7.74%. Z does not as a consequence receive the full 7% increase in teaching input grants.

It is important to stress that the problems of variable growth on institutional funding allocations can be avoided if the effects of the caps used in calculations for the 2005/06 funding year are repeated in future years. A new set of proposals to deal with this are set out in subsection 7.2 below.

7.2 Stabilising the government block grants of institutions

The Department proposes to adopt the following measures to dampen these possible variations in institutional block grant allocations:

- Teaching input grant allocations for the 2006/07 to 2008/09 financial years (which will be generated by the enrolments and outputs of the 2004, 2005 and 2006 academic years) will be based on the shares which institutions have of the capped 2003 teaching input total of 893 000 units.

- Normative teaching output totals will be based on the 2003 head count enrolment totals of institutions. These will include the funded as well as the unfunded totals for these two years.

The proposed capped totals for the calculation of normative totals of teaching outputs are those in the first column of Table 14.

Table 13

PROPOSED INSTITUTIONAL SHARES OF TEACHING INPUT UNIT TOTALS					
	2003		Funded totals 2005-2009		
	Actual 2003	Capped for 2005/06	Capped for 2006/07	Capped for 2007/08	Capped for 2008/09
CAPE PENINSULA	4.52%	4.49%	4.49%	4.49%	4.49%
CAPE TOWN	5.07%	5.24%	5.24%	5.24%	5.24%
CENTRAL	1.67%	1.64%	1.64%	1.64%	1.64%
DURBAN INSTITUTE	3.71%	3.83%	3.83%	3.83%	3.83%
FORT HARE	1.19%	1.15%	1.15%	1.15%	1.15%
FREE STATE	4.38%	4.45%	4.45%	4.45%	4.45%
JOHANNESBURG	7.03%	6.91%	6.91%	6.91%	6.91%
KWAZULU NATAL	7.88%	7.70%	7.70%	7.70%	7.70%
LIMPOPO	3.47%	3.41%	3.41%	3.41%	3.41%
MANGOSUTHU	1.34%	1.17%	1.17%	1.17%	1.17%
NELS0N MANDELA	3.67%	3.80%	3.80%	3.80%	3.80%
NORTH WEST	5.28%	5.01%	5.01%	5.01%	5.01%
PRETORIA	8.89%	9.19%	9.19%	9.19%	9.19%
RHODES	1.14%	1.18%	1.18%	1.18%	1.18%
SOUTH AFRICA	9.63%	9.96%	9.96%	9.96%	9.96%
STELLENBOSCH	4.93%	5.09%	5.09%	5.09%	5.09%
TSHWANE	8.45%	8.57%	8.57%	8.57%	8.57%
VAAL TRIANGLE	2.36%	2.44%	2.44%	2.44%	2.44%
VENDA	1.55%	1.34%	1.34%	1.34%	1.34%
WALTER SISULU	3.38%	3.04%	3.04%	3.04%	3.04%
WESTERN CAPE	2.87%	2.86%	2.86%	2.86%	2.86%
WITWATERSRAND	6.07%	6.09%	6.09%	6.09%	6.09%
ZULULAND	1.54%	1.45%	1.45%	1.45%	1.45%

7.3 Limits on funded student growth

During the discussions in June and July 2004 on preliminary planning proposals, the Department indicated that it was considering the placing of limits on funded student growth. The reasons offered then were basically those concerned with the effects which the rapid growth of 2000-2003 appeared to have had on the output performance of the system.

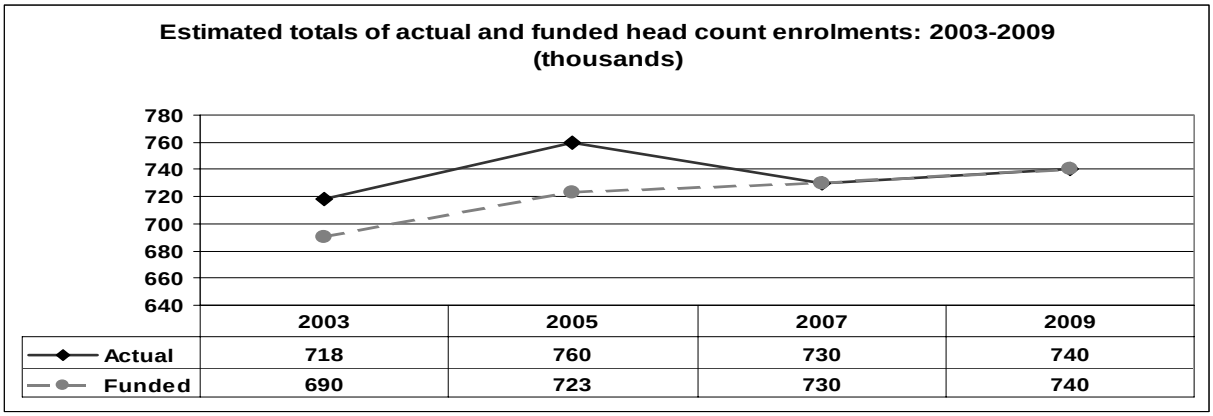
- The system's funding and infrastructure, and in particular its provision of instruction staff, had not kept pace with the rapid growth in student enrolments.

- The system's output performance, measured both in terms of degree credits and completed qualifications, remained below the targets of the National Plan throughout this period.

- Related to the point above, student drop-out rates were high and indicated that efficiency levels in the system were low.

The Department's view remains that enrolment growth must be dampened. Its revised proposal is that the period over which enrolments in the system must be brought down to levels which are affordable and sustainable must be the 2005-2009 academic years. The Department proposes to limit, for funding purposes, head count totals in the higher education system to 723 000 in 2005, 730 000 in 2007 and 740 000 in 2009. The consequences of these proposals can be seen in Diagram 8 which follows.

Diagram 8



The graph shows that one effect of the funding caps placed on the 2003 teaching input unit total is that a total of 28 000 head count students did not generate government input funding for the 2005/06 financial year. This funding gap was 4.3%. The funding gap is projected as increasing to 37 000 head count students (or 7.8%) in the 2005 academic year, before levelling off in the 2007 and 2009 academic years. The closing of this funding gap will be achieved only if specific limits are placed on the enrolments of institutions, and if institutions use the mechanisms described in subsection 6 to implement these limits.

Table 14 below contains summaries of the funded head count and FTE enrolment totals which the Department has set for each institution for the period 2005 to 2009. These individual totals are based on the Department's preliminary analyses, which were reconsidered in the light of (a) the responses received from institutions, and (b) the new analyses for the higher education system presented in this report.

Table 14

FUNDED AND FTE AND HEAD COUNT STUDENT ENROLMENTS										
	HEAD COUNT STUDENT ENROLMENTS (Thousands)					FTE STUDENT ENROLMENTS (Thousands)				
	2003		Funded totals 2005-2009			2003		Funded totals 2005-2009		
Institutional names from 2005	Actual 2003	Funded 2003	2005	2007	2009	Actual 2003	Funded 2003	2005	2007	2009
CAPE PENINSULA	26.1	24.5	26.1	26.0	26.0	20.1	18.9	20.1	20.0	20.0
CAPE TOWN	20.5	20.5	21.7	23.0	24.4	17.1	17.1	18.1	19.2	20.4
CENTRAL	10.2	9.5	10.5	10.5	10.5	8.3	7.7	8.3	8.3	8.3
DURBAN INSTITUTE	21.1	21.1	21.5	21.5	21.5	16.3	16.3	16.5	16.5	16.5
FORT HARE	8.4	7.6	8.8	9.0	9.4	6.6	6.0	6.8	7.1	7.4
FREE STATE	23.4	20.2	24.8	25.5	26.2	17.4	15.0	18.0	18.5	19.0
JOHANNESBURG	43.0	40.4	42.0	42.0	42.0	32.8	30.8	31.0	31.0	31.0
KWAZULU NATAL	43.2	39.9	43.5	43.5	43.5	32.6	30.1	33.0	33.0	33.0
LIMPOPO	14.7	12.8	14.5	14.5	14.5	11.0	9.6	11.0	11.0	11.0
MANGOSUTHU	8.0	6.7	8.5	8.5	8.5	6.2	5.2	6.5	6.5	6.5
NELS0N MANDELA	27.3	27.0	28.1	29.5	30.5	18.6	18.4	19.3	20.0	20.8
NORTH WEST	37.0	34.5	37.0	38.2	39.6	25.2	23.5	25.2	26.0	27.0
PRETORIA	44.9	44.9	47.6	50.4	53.5	33.1	33.1	35.0	37.2	39.4
RHODES	5.5	5.5	5.8	6.2	6.6	4.8	4.8	5.0	5.4	5.7
SOUTH AFRICA	209.3	209.3	205.0	205.0	205.0	103.4	103.4	100.0	100.0	100.0
STELLENBOSCH	21.4	21.4	22.7	24.0	25.5	16.2	16.2	17.2	18.2	19.3
TSHWANE	59.8	57.7	60.0	60.0	60.0	42.8	41.3	44.5	43.0	43.0
VAAL TRIANGLE	15.9	15.9	16.5	16.5	16.5	11.5	11.5	12.0	12.0	12.0
VENDA	9.5	8.4	9.5	9.5	9.5	6.9	6.1	7.0	7.0	7.0
WALTER SISULU	20.6	16.8	20.5	20.0	20.0	17.9	14.6	17.5	17.5	17.5
WESTERN CAPE	14.6	14.2	15.0	15.0	15.0	11.4	11.1	11.9	11.5	11.5
WITWATERSRAND	24.2	23.3	25.0	25.0	25.0	18.4	17.7	19.0	19.0	19.0
ZULULAND	9.2	8.3	8.7	8.0	8.0	7.3	6.6	6.5	6.5	6.5
TOTAL	718	690.0	723	731	741	486	465	489	494	502

The Department proposes, during 2005, to address further the detailed planning parameters within which these funded totals have been set for each institution. It will do this in the context of its assessments of reports which institutions will be required to submit on their current enrolment management mechanisms, including those concerned with admissions and readmissions.

The Department will, in its consideration of these planning parameters, take account once more of the performance of institutions. It will use sets of indicators which enable detailed judgements to be made on what the size and shape should be of each institution's funded enrolments up to 2009.

The performance measures which the Department proposes to use in these 2005 analyses are summarised in the table which follows on the next page.

Table 15

Proposed indicators for enrolment planning	
1 Input indicators	1.1 Growth in head count enrolments
	1.2 Growth in FTE enrolments
	1.3 Growth in teaching input units
	1.4 Growth in FTE instruction and research staff
	1.5 Ratio of teaching input units to instruction/research staff
2 Output indicators	2.1 Growth in FTE degree credits
	2.2 Ratio of degree credits to FTE enrolments
	2.3 Growth in graduates and diplomates
	2.4 Ratio of graduates/diplomates to head count enrolments
	2.5 Actual as % of normative teaching outputs
	2.6 Progress across time of first-time entering undergraduates
3 Equity indicators	3.1 African + coloured students as % of contact FTE total
	3.2 Female students as % of contact + distance total
	3.3 African+ Coloured degree credits as % of FTE enrolments

The use of this indicator table, and possible amendments and additions to it, will be included in consultations which the Department will have with the higher education sector during 2005.

SECTION C SUMMING UP

8 KEY ISSUES RAISED IN REPORT

The major issues raised in this report are these:

8.1 The Department's analyses of institutional and systemic data for the years 2000-2003 have shown that the pattern of growth in the higher education system is neither affordable nor sustainable. Affordability has been affected by enrolment growth, which has exceeded real growth in government funding of the higher education system. Sustainability is affected primarily by inefficiencies in the system. Drop out rates are high, and success and graduation rates are lower than they should be.

8.2 The requirement of affordability and sustainability can be met only if student enrolment numbers are controlled at both systemic and institutional levels. Enrolments at a systemic level will be controlled through the mechanism of government funding and the approval of institutional three-year rolling plans. Enrolments at an institutional level will have to be controlled by institutions themselves, primarily through their enrolment management mechanisms. Institutions will have to ensure that these mechanisms include (a) tight management of the intakes of new undergraduates and of the readmission of returning students, and (b) instruments for the improving of the throughput rates of their graduates.

8.3 Steps will be taken to stabilise government funding allocations to institutions during the funding years 2005/06 to 2008/09. The main measure to be adopted will be that of holding institutional teaching input unit totals to the capped 2003 totals used for the 2005/06 funding year. A secondary measure will be that of freezing the head count totals used for the calculation of normative teaching grants to the (uncapped) 2003 total of 718 000

8.4 No limits or caps will be placed on the teaching and research outputs produced by institutions.

8.5 Funded head count and FTE student totals have been set for each institution up to the 2009 academic year. These overall totals will be unpacked into detailed planning parameters during 2005.

8.6 Sets of performance measures for higher education institutions will be drawn up by the Department during 2005. These will, after discussions have been held with the sector, be used in future planning processes.

9 DIFFERENCES BETWEEN PRELIMINARY AND REVISED PROPOSALS

The main differences between the preliminary scenarios used in the June and July 2004 meetings with institutions, and the Department's revised proposals are these:

9.1 The methods used for calculating the scenario totals are different. The June/July scenarios were based on assumptions concerning overall enrolment growth rates. The revised scenarios are based on assumptions about growth in first-time entering undergraduates and related student re-registration rates.

9.2.1 The June/July scenarios used totals of teaching input units as the primary planning tools. The revised scenarios use as head count and FTE student enrolments as well as weighted teaching inputs as units for planning, for different illustrative purposes. They do so on the understanding that, because the ratios which hold between these different planning units are likely to remain constant at both system-wide and institutional levels during the 2005-2009 planning period, planning targets can be set in terms of any one (or all three) of student head counts or student FTEs or weighted teaching input units.

9.3 The teaching input units projected in these first scenarios extended only as far as those which would be generated by 2007 student enrolments for the 2009/10 funding year. The outer academic year for the preliminary projection of head count enrolments was thus 2007. The outer academic year for the revised scenarios is 2009, which would generate funding units for the 2011/12 funding year.

9.4 The preliminary high-growth scenario of June/July projected a total of 910 000 head count students in the system by 2007. If this projection were extended to the 2009 academic year at the same 7% pa growth rate, the head count total for the system would be 1 050 000. The revised high growth scenario, because it is based on assumptions about intake and re-registration rates, projects lower head count totals of 820 000 for 2007 and 900 000 for 2009.

9.5 The revised scenarios accept, which was not the case with the June/July scenarios, that head count enrolment totals will continue to grow up until at least 2006. So the revised limited-growth scenario projects a total of 760 000 heads for the system for 2005, falling to 730 000 by 2007 before increasing to 740 000 by 2009. The preliminary June/July scenario limited-growth scenario projected totals of 705 000 for 2005, and 735 000 by the 2007 academic year. No projection was offered for the 2009 academic year.

APPENDIX A: PRELIMINARY INSTITUTIONAL ENROLMENT PLANNING REPORTS

1 Reviews of institutional data

Each report contained a review of the institution's HEMIS data for 2000-2003, dealing with the broad areas of student inputs and outputs and the availability of staff.

1.1 Student inputs 2000-2003

The main aspects of student inputs covered in each institution's review were these:

- growth in head count and FTE enrolments;
- the flow of first-time entering undergraduates into the institution;
- the shape of the head count enrolment by qualification type and major field of study;
- the shape of the head count enrolment by race and gender;
- the shape of the FTE enrolment by course level and subject matter;
- ratios between FTE enrolments by course level and head count enrolments by qualification category.

1.2 Student outputs 2000-2003

The main aspects of student outputs covered in each institution's review were these:

- growth in degree credits and in graduates and diplomates;
- ratios of degree credits to FTE enrolments, and of graduates/diplomates to head count enrolments;
- success rates in contact undergraduate programmes by race group.

1.3 Teaching input and output units generated by data for 2000-2003

Calculations were made, on the basis of the data for 2000-2003, of the teaching input and output units employed in the new funding framework. These calculations permitted pictures to be obtained of the rate of growth in these units, and, by comparing actual to normative output totals, of the output efficiency of institutions.

1.4 Staff available 2000-2003

The main staffing aspects covered in each institution's data review were these:

- growth in head count and FTE totals of staff by employment category;

- ratios between FTE and head count totals of staff in each category;

- ratios of (new formula) student teaching input units and FTE instruction/research staff.

2 Examples of preliminary enrolment planning parameters

In each preliminary report a summary was made of the main issues which had flowed from the review of the institution's HEMIS data. This summary was followed by a listing of proposed planning parameters for that institution. In the paragraphs which follow two actual examples of planning parameters proposed in June or July 2004 are set out.

2.1 University X

(i) Review of X's data

The main planning issues which emerged from the review of X's student and staff data were these:

- X's growth rates in head count and FTE enrolments during 2000-2003 were very high. The undergraduate enrolment total in 2003 was 44% higher than that of 2000, and postgraduate total 28% higher. The intake of first-time entering undergraduates in 2003 was 88% higher than that of 2000.

- The shares which African students had of X's total student enrolment, and of its intake of first-time entering undergraduates, changed markedly over this period 2000-2003. The proportion of African students in the total head count enrolment rose from 40% in 2000 to 47% in 2003, and in the first-time entering undergraduate intake from 43% in 2000 to 50% in 2003. The actual total of African first-time entering undergraduates more than doubled in 2000 compared to 2003.

- These sharp increases in student enrolments were accompanied by falling student output rates. X's ratio of degree credits to FTE enrolments fell from 78% in 2000 to 76% in 2003. In the case of undergraduates, this measure of student outputs fell from 79% in 2000 to 76% in 2003. Its ratios of graduates to head count enrolments also fell.

- The gap between the success rates of white and of African undergraduate students did not improve over this period. In 2000 the average success rate for white undergraduates was 87% and that of African student 71%. In 2003 these percentages were 86% for white undergraduates and 69% for African undergraduates.

(ii) Proposed planning parameters for X

The review of its data for 2000-2003 suggested that broad enrolment planning parameters of this kind could be appropriate for X for the triennium 2005-2007:

- The FTE and head count student enrolment totals should be consolidated at 2003 levels, and no further growth should be permitted during the triennium.

- Growth in undergraduate programmes should be controlled by placing an upper limit on the annual intake of first-time entering undergraduates. This upper limit could be set at the

2003 total of 4 000, which should be sufficient, given reasonable retention rates, to support an undergraduate head count total of 15 500 students.

- The head count total should, by 2007, be at most 24 000, which should include 15 500 undergraduate students, 1 000 occasional students, and 7 500 postgraduate students. The 2003 shape of the contact head count enrolment by major should be maintained: 64% in science and technology and business and management, and 36% in humanities and education.

- No distance education programmes at levels below masters and doctors should be offered by X.

- The FTE enrolled student total in all programmes should, by 2007, be at most 18 500.

- X should, during 2005-2007, give a high priority to the maintenance and improvement of student success rates, and in particular those of African students.

- X must also give a high priority to the improvement of its output rates of completed degrees and diplomas. It should note that funded enrolment targets may be adjusted downwards if these aspects of its student out performance do not improve.

2.2 Technikon Y

(i) Review of Y's data

The main planning issues which emerged from the review of Y's student and staff data were these:

- Y reported low growth rates in head count as well as FTE student enrolments during 2000 to 2003. Head count and FTE enrolments grew at average annual rates of less than 3%.

- However, because the FTE instruction/research staff total declined in 2003 compared to 2000, Y had an unfavourably high student input unit to academic staff ratio by 2003.

- Y's head count enrolment is predominantly in undergraduate programmes. In 2003 93% of all students were in undergraduate diploma programmes, and 6% in undergraduate degree programmes. Head count masters and doctoral enrolments were under 100 in 2003.

- Science/technology and business/management majors are likely to continue to be dominant in Y's enrolments. In 2003 nearly 90% of Y's students were following programmes in these two broad fields.

- Y's undergraduate success rates averaged 69% during 2000-2003, which was below the target rate of 75% for SA technikons.

- Y's average output of graduates/diplomates was less than half of the targets set in the National Plan and in the new funding framework, which implies that substantial proportions of Y's students drop out before completing their qualifications.

(ii) Proposed planning parameters for Y

The review of its data for 2000-2003 suggested that broad enrolment planning parameters of this kind could be appropriate for Y for the triennium 2005-2007:

- The FTE and head count student enrolment totals should be consolidated at 2003 levels, which implies that no further growth should be permitted at Y.

- Postgraduate programmes should be limited to areas of strength, and an upper limit of 100 head count postgraduates should remain in place until the end of the 2005-2007 triennium.

- No distance education programmes should be offered by Y.

- Y should, during 2005-2007, give a high priority to the improvement of student success rates, and to the improvement of its output rates of completed degrees and diplomas. It should note that funded enrolment targets may be adjusted downwards if these aspects of its student output performance do not improve.