



## Statewide Economic Impact Report

## **Forward**

September, 2006

Colleges and universities affect our society in many ways, most notably their graduation of students who become productive citizens of our communities. These institutions also conduct research that often leads to improvements in the quality of our lives and the strength of our economy.

The four institutions of the University System of New Hampshire (University of New Hampshire, Durham and Manchester; Plymouth State University; Keene State College; and Granite State College) also have a significant economic impact on our communities and our state. The dollars that are paid in tuition and fees, funds from contracts and sponsored research, the State's basic appropriation, monies from auxiliary enterprises, and private and corporate philanthropy are largely spent here in New Hampshire, resulting in jobs, economic growth, and overall improvement in the quality of life.

We invite you to review this Statewide Economic Impact Report. It may well offer you new insights into the important role your public university system plays in the life of New Hampshire and its people.

Stephen J. Reno  
Chancellor

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## Executive Summary

The State of New Hampshire invests in higher education in order to develop the human capital of the state. The University System of New Hampshire (USNH)—University of New Hampshire (UNH), Plymouth State University (PSU), Keene State College (KSC), and Granite State College (GSC)—has a direct impact on hundreds of thousands of New Hampshire citizens every year. The state’s investments in USNH result in long-term economic benefits, including productivity and income gains from educated workers; new products, services, and business start-ups from students and faculty; and volunteer activities of employees and students. Individual communities, and the state as a whole, benefit, because USNH is one of New Hampshire’s largest employers and consumers of goods and services.

In an effort to quantify these economic contributions and measure its economic impact, USNH conducted a study to identify all expenditures for fiscal year (FY) 2005, including direct expenditures for payroll; construction and capital projects; service and supply purchases from vendors throughout the state; and the direct spending of students, faculty, staff, and visitors. This methodology follows the “economic base” approach, which measures actual expenditures, as recommended by the New England Public Policy Center at the Federal Reserve Bank of Boston. A key tenet of this approach is that actual expenditures have both a direct economic impact on the people and businesses receiving the outlays and an indirect, cumulative effect, referred to as the “multiplier effect,” when the spending is circulated through the state’s economy. This study used a conservative 1-to-1 multiplier value—that is, it was estimated that each dollar paid out by the university system and its students, faculty, staff, and visitors was recirculated in the state’s economy one additional time. It is important to note that this study quantifies only the direct and indirect economic benefits from USNH expenditures and related activities—it does not quantify the very significant economic benefits from educating students, contributing to a skilled workforce, and helping to seed entrepreneurial and new business activity in the state, nor does it quantify the social and cultural benefits USNH provides communities across the state.

In FY 2005, USNH employed 7,666 benefited, nonbenefited, and noncontinuing individuals living in New Hampshire, with additional contract workers at PSU and KSC, and paid out \$228 million in total gross wages and salary.

These numbers exclude all workers living in border states and all USNH-employed students. USNH faculty and staff live in every county throughout the state, and the income they earn benefits businesses and communities statewide. Faculty and staff spending was calculated

at 80 percent of gross wages and salary of all USNH compensated workers (excluding student workers) with a permanent New Hampshire address. The spendable income of USNH individuals throughout the state was calculated to be approximately \$182 million.

<b>Direct and Indirect Statewide Economic Impact of USNH in FY 2005</b>			
<b>FISCAL CATEGORY</b>	<b>DIRECT ECONOMIC IMPACT TOTAL</b>	<b>INDIRECT ECONOMIC IMPACT TOTAL</b>	<b>STATEWIDE IMPACT TOTAL</b>
Institutional Purchasing	\$48,937,824	\$48,937,824	\$97,875,648
Construction/Capital Activity*	70,434,093	70,434,093	140,868,186
Student Spending	105,314,900	105,314,900	210,629,800
Visitor Spending	8,830,100	8,830,100	17,660,200
Faculty & Staff Spending	183,101,243	183,101,243	366,202,487
Health/Dental	28,521,663	28,521,663	57,043,326
<b>Total Impact</b>	<b>445,139,823</b>	<b>445,139,823</b>	<b>890,279,646</b>

\* Three-year annualized average

The majority of USNH benefits-eligible employees use the services of medical, vision, and dental practitioners in their local communities within New Hampshire. USNH provides medical, vision, and dental benefits equal to an average of 18 percent of all benefits-eligible employee salaries (system cost only; employee contributions not included). In order to make realistic calculations of the amount employees spent on local health care providers, these expenditures were calculated at 80 percent spent in state, which adjusts for the fact that some employees may have spent some health care dollars out of state. In FY 2005, USNH benefits-eligible employees spent more than \$28 million on health care services in New Hampshire.

Like private sector business, USNH in the process of fulfilling its core mission purchases a range of goods and services from a variety of companies. In FY 2005, USNH paid out more than \$48 million in actual dollars to vendors throughout the state to conduct the business of public higher education. Because construction projects vary at each campus from year to year, an average expenditure amount was calculated using actual dollars for the three-year period FY 2003 to FY 2005, which amounted to an average of more than \$70 million per year infused into the New Hampshire economy.

Spending by students on goods and services beyond tuition, fees, and on-campus room and board is also significant. Based on responses from the 1,395 USNH students who were randomly sampled about their local spending habits, students spent \$105 million in New Hampshire in FY 2005. Monthly spending was much higher for off-campus students largely due to housing and food costs, and spending was significantly higher for part-time and graduate students.

Thousands of people from across New Hampshire and from other states, including the parents and families of enrolled students, visit USNH campuses for a variety of activities, such as attending meetings, seminars, concerts, theater performances, summer camps, and sporting events. For this study, a conservative estimate of individual visitor spending was calculated at \$15 per day during a visit to a USNH campus. In FY 2005, the money spent directly by visitors at local gas stations, restaurants and hotels, retail businesses, etc., totaled, at a minimum, nearly \$9 million.

USNH is a major driving force in the economy of New Hampshire. The direct economic impact associated with USNH in FY 2005 represents more than \$445 million and serves as a major fiscal component of New Hampshire's economy. Taking into account the multiplier effect, the economic impact to the state was more than \$890 million in FY 2005.

## **Introduction**

The University System of New Hampshire (USNH) generates a wide array of benefits for the state of New Hampshire. Graduates benefit from higher personal earnings, and the state benefits from an educated workforce necessary to sustain a vibrant economy. In addition, statistically, educated citizens vote and volunteer more, maintain better health, and commit fewer crimes. All education constituents (taxpayers, legislators, employers, students, etc.) want to know if they are getting their money's worth. The institutions of USNH—University of New Hampshire (UNH), Plymouth State University (PSU), Keene State College (KSC), and Granite State College (GSC)—have a direct impact on hundreds of thousands of New Hampshire citizens every year, along with the almost 30,000 enrolled students and 70,000 alumni living in the state. In the process of fulfilling its educational mission, USNH produces many fiscal and social benefits to the community. This report presents the returns generated from having a public university system in New Hampshire.

The USNH project committee reviewed the literature related to economic impact study methodologies and analyzed studies conducted by higher education institutions in 14 states. Based on this information, the committee adopted the “economic base” methodology recommended by economists at the Federal Reserve Bank of Boston.<sup>1</sup> The economic base approach measures the direct and indirect economic benefits that expenditures associated with higher education institutions infuse into a region's economy. Higher education institutions can affect regional economies through their expenditures on payroll, supplies, and services, including construction and debt outlays, as well as through spending by faculty, staff, students, and visitors to the institution.

This study divides expenditures into several categories: employment impact; vendor and capital expenditures; faculty, staff, and student spending; and visitor spending. The committee chose to use conservative estimates of spending in all categories. All of these benefits were calculated for each USNH institution's local area and its broader region and were aggregated for a statewide analysis. Worker payroll data were reported by the individual's permanent resident zip code and then aggregated into communities called “regions” for this report. The towns included in each region are listed in appendix A. Expenditures are reported in direct dollars as well as with a multiplier effect. The committee chose a conservative 1-to-1 multiplier value (i.e., every dollar spent by USNH and its students, faculty, staff, and visitors, will circulate within the economy one more time before leaving the state). Calculation methodology and assumptions in the data collection and interpretation are presented in appendix B.

## **The Statewide Impact of USNH Workers**

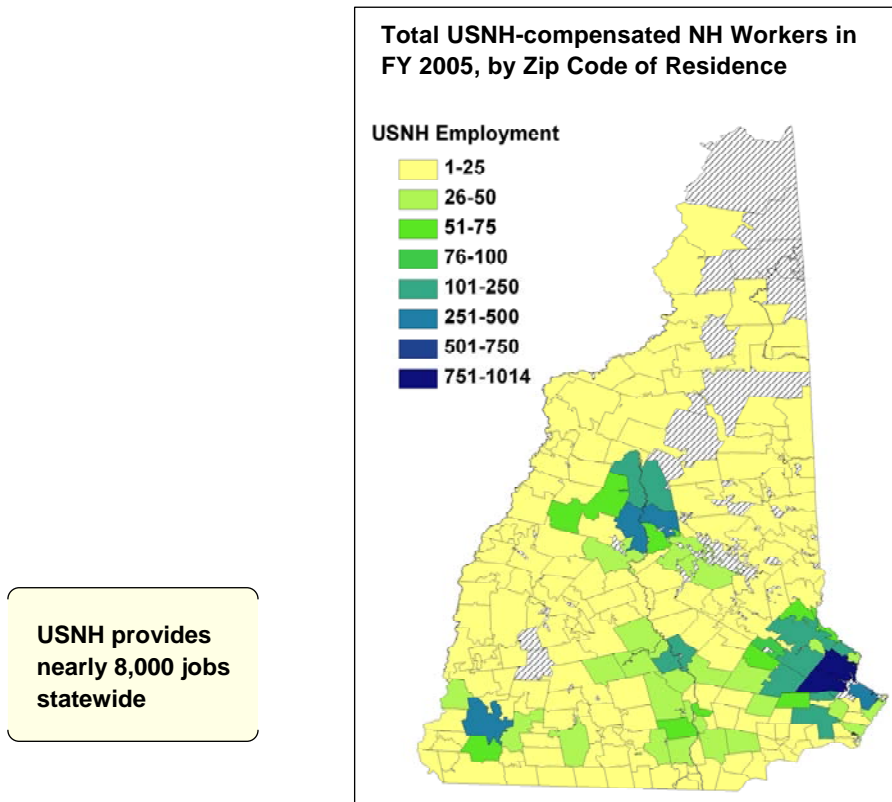
USNH, as an important supplier of educated workers and producer of ideas and development, fuels the innovation economy at a time when higher education's significance in society is growing. USNH faculty and staff provide New Hampshire with authoritative, objective data about the state's economic health, political trends (through reports and polls), life science concerns, engineering needs, and health program issues. The study of trends and research conducted by faculty within their individual areas of specialization impact the state in a myriad of ways. For example, UNH has undertaken a variety of alternative fuels projects and has been working with government officials to help to bring the biodiesel industry to New Hampshire.

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<sup>1</sup> Matthew P. Nagowski, New England Public Policy Center, Federal Reserve Bank of Boston, February 22, 2006

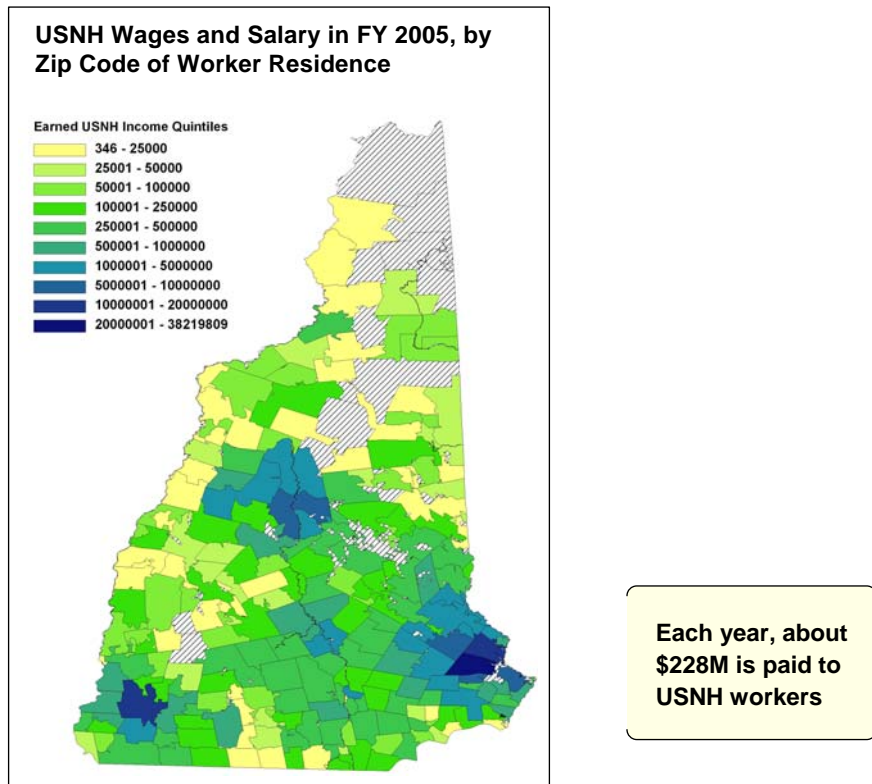
In FY 2005, USNH compensated 7,666 benefited, nonbenefited, and noncontinuing individual workers living in the state of New Hampshire, with an additional 306 contract workers at PSU and KSC, and paid out \$228 million in total gross wages and salary. These numbers exclude all individuals living in border states and all USNH-employed students. Figure 1 displays the distribution of USNH compensated workers across the state based on permanent home address.

**Figure 1**



The “business” of higher education not only creates positions for faculty and instructors, it hires workers in positions within technical, clerical, skilled craft, and other professional fields. USNH offers stable jobs with competitive salaries and benefits in a variety of locations across the state. Figure 2 displays the statewide distribution of USNH wages and salary by compensated worker residence.

**Figure 2**



By these calculations, USNH is one of the largest employers in New Hampshire.

### Faculty and Staff Spending

In FY 2005, USNH paid more than \$228 million in wages and salaries to its faculty and staff. Income earned by USNH faculty and staff, who reside in every county in New Hampshire, benefits businesses and communities statewide. Faculty and staff spending was calculated at 80 percent of gross salary of all USNH workers with a permanent New Hampshire address (table 1). All student workers were excluded.

**USNH was responsible for about \$182M in staff and faculty spending in the state in FY 2005**

**Table 1**

<b>Spendable Income of USNH Faculty and Staff in FY 2005</b>	
<b>Region</b>	<b>Faculty/Staff Spending</b>
Durham/Seacoast	\$116,071,972
Plymouth	21,398,795
Keene	22,648,010
Manchester	8,167,149
Concord	8,802,165
Remainder of NH	6,013,152

## Health Care Expenditures by Employees

The majority of USNH employees use the services of medical, vision, and dental practitioners in their local communities within New Hampshire. USNH provides medical, vision, and dental benefits equal to an average of 18 percent of all benefits-eligible employee salaries. In order to make realistic calculations of the amount employees spent on local health care providers, these expenditures were calculated at 80 percent spent in state, which adjusts for the fact that some employees may have spent some health care dollars out of state. In FY 2005, USNH employees spent more than \$28 million on health care in New Hampshire (table 2).

**Table 2**

<b>Employee Spending on Health Care in FY 2005</b>	
<b>Region</b>	<b>Expenditure</b>
Durham/Seacoast	\$18,819,205
Plymouth	3,311,398
Keene	3,155,173
Manchester	1,177,854
Concord	1,209,238
Remainder of NH	848,795

**USNH employees spend more than \$28M per year on local health care**

## Vendor Purchases

Like private sector business, USNH purchases a range of goods and services from a variety of companies in the process of fulfilling its core mission. In FY 2005, USNH spent more than \$48 million in actual dollars throughout the state to conduct the business of higher education. Table 3 displays these expenditures by region, based on permanent address zip code of vendor.

**Table 3**

<b>Direct Expenditures by Campuses and System Office in FY 2005</b>	
<b>Region</b>	<b>Expenditure</b>
Durham/Seacoast	\$13,463,666
Plymouth	4,015,697
Keene	9,846,814
Manchester	16,315,751
Concord	3,159,452
Remainder of NH	2,136,444

**Overall, USNH infuses nearly \$50M into the NH economy through vendor purchases**

## Capital Expenditures

Each year, USNH conducts significant construction and renovation projects across the state to maintain and renovate campus buildings and to develop new facilities to help to fulfill its educational mission. These projects not only benefit the community’s social and educational needs once completed, they benefit the community early on by providing building and construction jobs to citizens.

In recent years, the state has invested generously in USNH capital improvements by way of the “Knowledge Economy Education Plan for New Hampshire” (KEEP-NH). In 2000, the USNH Board of Trustees introduced KEEP-NH to address significant deficiencies in science, technology, engineering, and other academic-related buildings. The first state appropriation of \$100M came in FY 2001, with a subsequent KEEP-NH investment of \$109.5M in FY 2005.

KEEP-NH already has resulted in successful on-time and on-budget facility expansions, renovations, and upgrades, including Boyd Hall at PSU, the Mason Library and the Science Center at KSC, and Murkland Hall at UNH. A fifth project—the renovation and expansion of Kingsbury Hall at UNH—is scheduled for completion in 2007. GSC, with primarily leased facilities, has repair and renovation needs but does not require new building construction funds.

USNH is committed to very substantial “self-help” regarding capital improvements; the state support of \$209.5M for KEEP-NH represents only one-quarter of the total USNH capital investments to be made during this period (FY 2001 to FY 2013). The balance will come from student-fee-paid bonds, gifts, grants, and reallocation of operating funds. This ongoing initiative is essential for USNH institutions to be successful in attracting and retaining highly qualified students, faculty, and staff.

USNH institutions contribute significantly to capital construction and repairs. Because renovation and new construction projects vary at each campus each year, an average expenditure amount was calculated using actual dollars for the three-year period FY 2003 to FY 2005 (table 4).

**Table 4**

<b>Capital Expenditures: Annual Average for Three-year Period Ending FY 2005</b>	
<b>Region</b>	<b>Expenditure</b>
Durham/Seacoast	\$39,882,406
Plymouth	10,516,849
Keene	18,992,759
Manchester	99,630
Concord	84,250
Remainder of NH	858,199

**Construction and renovation projects at USNH create many jobs throughout the state, with more than \$70M in spending in FY 2005**

## Student Spending

In addition to institutional spending on services, supplies, and construction projects, USNH institutions have a major economic impact on local communities and the state through their students. Students spend significant money on goods and services beyond tuition, fees, and on-campus room and board. For this report, Dr. Andrew Smith, director of the UNH Survey Center, randomly sampled 1,395 students about their spending habits. The representative sample of all campuses included full- and part-time students, all class levels, and students with both on- and off-campus living arrangements.

Survey findings indicated that monthly spending was much higher for students residing off campus, largely due to housing and food costs, and was significantly higher for part-time and graduate students. Spending was also tied to employment. When cross-tabulating spending with hours worked per week, GSC students averaged almost a 40-hour workweek, and UNH-Manchester students averaged a 30-hour workweek. These largely nontraditional part-time students at GSC and UNH-Manchester worked more hours per week and had the highest amounts of spending per month compared with traditional students at the USNH residential institutions, whose monthly spending reflected the average of 20 hours worked per week (table 5). These findings are consistent with the institutions' missions and the types of students they serve. Complete data by category from the student spending survey is provided in appendix C. Student spending data are reported in a monthly rather than annual format, because a majority of students are not on campus a full 12 months of the year.

**USNH students contribute more than \$105M each year to the NH economy**

**Table 5**

<b>Total Monthly Student Spending in FY 2005</b>	
<b>USNH Campus</b>	<b>Median Spending Per Student</b>
UNH-Durham	\$410
UNH-Manchester	983
PSU	455
KSC	405
GSC	1,670

## Visitor Spending

USNH campuses attract a wide variety of visitors. Each year, thousands of parents visit their children attending USNH institutions. Prospective students and their parents visit the state to explore USNH campuses and the surrounding areas. Alumni and their guests come to the state to attend class reunions, homecomings, and special events. Thousands of people from across New Hampshire and from other states come to USNH campuses to attend meetings, seminars, concerts, theater performances, summer camps, and sporting events.

Visitor spending has been calculated many different ways by many different institutions, and there is no agreed-upon best practice to quantify this information. Therefore, the project committee chose a conservative approach to reflect this expenditure in New Hampshire, by calculating spending at \$15 per

day during an individual's visit to a USNH campus. The money spent directly in the community by visitors at local gas stations, restaurants and hotels, and retail businesses, totaled, at a minimum, almost \$9 million in FY 2005 (table 6).

**Table 6**

<b>Spending by Visitors to USNH in FY 2005</b>		
<b>USNH Campus</b>	<b>Estimated Number of Visitors</b>	<b>Amount Spent</b>
UNH-Durham	344,270	\$5,164,050
UNH-Manchester	11,309	169,635
PSU	65,000	1,790,000
KSC	38,919	1,686,915
GSC	1,300	19,500

### **Total USNH Spending in FY 2005**

In summary, the direct expenditures by USNH and its students, faculty, staff, and visitors represent more than \$445 million in economic activity and serve as a major fiscal component of New Hampshire's economy (table 7).

**Table 7**

<b>Estimated Direct Spending in New Hampshire Generated by USNH</b>							
<b>FISCAL CATEGORY</b>	<b>REGIONS</b>						<b>DIRECT ECONOMIC IMPACT TOTAL</b>
	<b>Durham-Seacoast</b>	<b>Plymouth</b>	<b>Keene</b>	<b>Manchester</b>	<b>Concord</b>	<b>Remainder Of NH</b>	
Institutional Purchasing	\$13,463,666	\$4,015,697	\$9,846,814	\$16,315,751	\$3,159,452	\$2,136,444	\$48,937,824
Construction/Capital Activity*	39,882,406	10,516,849	18,992,759	99,630	84,250	858,199	70,434,093
Student Spending	51,660,000	24,278,000	22,790,800	6,586,100	..	..	105,314,900
Visitor Spending	5,164,050	1,790,000	1,686,915	189,135	..	..	8,830,100
Faculty & Staff Spending	116,071,972	21,398,795	22,648,010	8,167,149	8,802,165	6,013,152	183,101,243
Health/Dental	18,819,205	3,311,398	3,155,173	1,177,854	1,209,238	848,795	28,521,663
<b>Total Impact</b>	<b>245,061,299</b>	<b>65,310,739</b>	<b>79,120,471</b>	<b>32,535,618</b>	<b>13,255,106</b>	<b>9,856,590</b>	<b>445,139,823</b>

\* Three-year annualized average

\*\* Unable to accurately determine

### **The Multiplier Effect**

Many of the dollars USNH spends in New Hampshire are re-spent by USNH workers many times over within the state's economy, multiplying the effect of each dollar by creating additional economic benefits to the state (table 8). For example, spending by USNH institutions for New Hampshire goods and services

leads to increased revenues for New Hampshire businesses; these increased revenues lead to increased income and employment, which induces further (increased) spending and revenues in the state. Economists summarize the total effects of these additional rounds of spending in a single number termed a multiplier. The multiplier is defined as the ratio of total spending to the first round of direct spending. There is no precise way to estimate the appropriate multiplier for types of spending, and different economic impact studies by other states have used multipliers ranging from a low of 1 to 1 to a high of 1 to 8. For this study, a 1-to-1 multiplier was used, thus the direct dollars were counted again only once.

**Table 8**

<b>Direct and Indirect Statewide Economic Impact of USNH in FY 2005</b>			
<b>FISCAL CATEGORY</b>	<b>DIRECT ECONOMIC IMPACT TOTAL</b>	<b>INDIRECT ECONOMIC IMPACT TOTAL</b>	<b>STATEWIDE IMPACT TOTAL</b>
Institutional Purchasing	\$48,937,824	\$48,937,824	\$97,875,648
Construction/Capital Activity*	70,434,093	70,434,093	140,868,186
Student Spending	105,314,900	105,314,900	210,629,800
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Faculty & Staff Spending	183,101,243	183,101,243	366,202,487
Health/Dental	28,521,663	28,521,663	57,043,326
<b>Total Impact</b>	<b>445,139,823</b>	<b>445,139,823</b>	<b>890,279,646</b>

Indirect economic impact was calculated using a multiplier value of one.

\* Three-year annualized average

### **Community Use of Facilities**

All USNH institutions offer some manner of free use of facilities to local businesses and organizations throughout the year for meetings and special events. Examples from FY 2005 are listed below.

- UNH-Durham made available for community use such assets as Cowell Stadium, the playing fields, College Woods, East and West Foss Farm, Thompson Farm, and the Jackson Landing Boathouse.
- PSU's Physical Education Center was a focal point for a variety of community activities including high school graduation and use of the pool and field by the City Parks and Recreation summer day camp, and the center was home to several NHIAA tournaments, which attracted more than 16,500 visitors. PSU's Silver Center for the Arts hosted a variety of fine and performing arts events.
- In the Keene area, local organizations held their events at KSC's College Camp, Zorn Dining Commons, Thorne-Sagendorf Art Gallery, Young Student Center, Mason Library, Recreational Center, sports fields, and the campus quad. Examples of community groups that used KSC's facilities in FY 2005 include Granite State Monarchs Peer Support Center, Greater Keene Chamber of Commerce, Monadnock United Way, Keene High School, and the Keene Unitarian-Universalist Church.

**USNH boosts NH economy in ways other than direct expenditures**

- GSC, with nine sites across the state, offered local groups free use of its facilities for a variety of purposes. Each fall and spring for the past three years, the Portsmouth Center provided space for the Active Retirement Association's eight-week education and cultural programming sessions; the Manchester and Concord Centers provided similar space for the Osher Lifelong Learning Institute; the Claremont Center provided space for classes of the New Hampshire Traffic Safety Institute and the New Hampshire Cooperative Extension; the Conway Center provided space to the public school system for activities ranging from teacher training to contract negotiation meetings; and many of the GSC centers statewide offered facility use for New Hampshire Division of Children, Youth, and Family foster parent training sessions.

### **Economic Benefits from USNH Community Service Activities**

USNH employees and students work in partnership with state government, community organizations, and other agencies to enhance services and programs through volunteerism. USNH efforts help groups to leverage grants, assist agencies to serve more New Hampshire citizens, and provide technical training and educational activities that may be beyond the scope and resources of an organization.

Illustrative examples of faculty and staff community service activities at UNH include the Cooperative Extension, Upward Bound, New Hampshire Public Television, and climatology and entomology services provided to the State of New Hampshire by UNH faculty. Examples at PSU include providing tourism data for the New Hampshire Department of Resources and Economic Development, monitoring road conditions for the New Hampshire Department of Transportation, and measuring water quality in several communities by PSU faculty. At KSC, Upward Bound and the Early College Awareness Program (ECAP) helped high school and middle school students to further their college ambitions, and the Community Research Center supported Monadnock region nonprofit organizations in program planning and assessment. KSC's Small Business Institute provided prize-winning unpaid consulting reports, mostly to small businesses in transition. GSC faculty and staff volunteered their expertise to improve child care, expand public knowledge of astronomy, and teach survival skills to victims of sexual assault/abuse.

Questions about student volunteer activities were included on the student spending survey conducted for this study, and the mean and median responses of the 1,395 students surveyed are displayed in table 9. The value of documented student volunteer hours for the three residential institutions, calculated at \$8.60 per hour, was \$8.5 million combined in FY 2005. At KSC alone, 1,200 students provided 13,000 hours of community volunteer service in FY 2005 and more than 4,000 students participated in courses with service learning components.

**Table 9**

<b>Student Volunteer Hours per Month in FY 2005</b>		
<b>USNH Campus</b>	<b>Volunteer Hours</b>	
	<i>Mean</i>	<i>Median</i>
UNH-Durham	7.8	5
UNH-Manchester	8.9	5
PSU	8.3	5
KSC	8.4	5
GSC	12.3	8

The GSC student population, which largely comprises adults who work in their home communities, reported the greatest amount of volunteer work; however, GSC student volunteer effort was not included in the dollar value calculation, because most of its students were living, working, and volunteering in their communities prior to attending GSC.

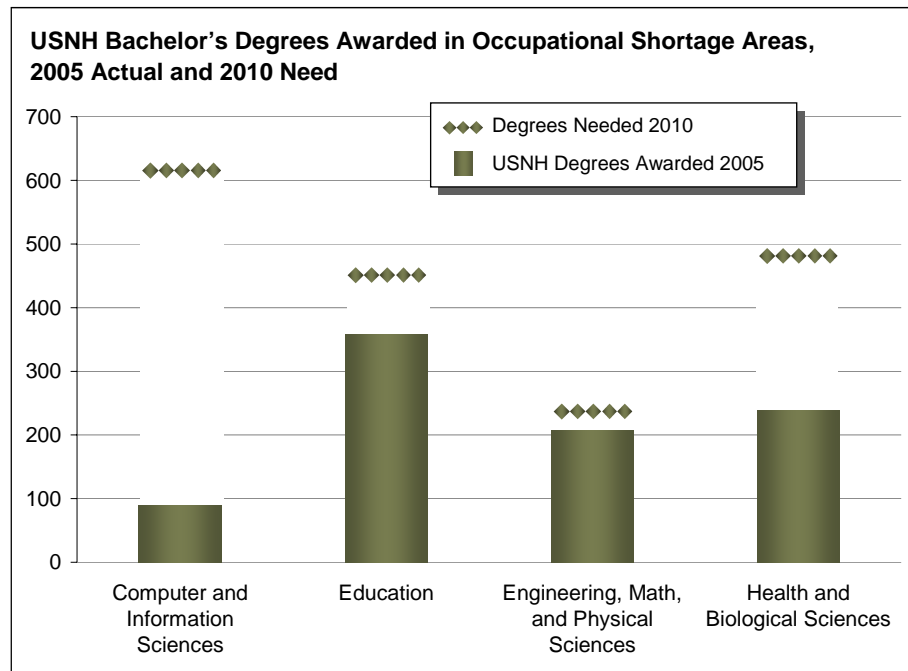
As a point of reference, the Points of Light Foundation (POLF) estimates that 31 percent of all adults in New Hampshire perform volunteer work at an average of 52 hours per person per year at an estimated value of \$17.19 per hour. In an effort to be conservative, student service effort for this study was calculated at \$8.60 per hour, half of the POLF estimated value.

### **Economic Advantages of an Educated Workforce**

Trends in the national economy and the increasing globalization of business have made the presence of a highly skilled workforce a necessary ingredient for healthy state and regional economic growth. With more emphasis on technology and less on textiles and farming, the most important component of New Hampshire's economic infrastructure is the skills and knowledge of its workforce.

USNH has conducted needs assessments and surveyed business leaders throughout the state to identify gaps between the areas of study of graduating students and the employment needs within the state. Study findings indicate that workforce shortage areas are in the health sciences; science, technology, engineering, and mathematics professions; and education. Figure 3 depicts the numbers of graduates in these areas in 2005, and the numbers needed to meet projected workforce demand in 2010.

**Figure 3**



USNH alumni surveys are used to evaluate student learning outcomes, timely progression into the workforce, and the value added to the student's education and the state's economy. For PSU, KSC, and GSC, the demographic characteristics of alumni respondents in 2005 indicate that about 7 out of 10 respondents were New Hampshire residents when they entered college and about half were first-generation college goers. UNH has been surveying alumni since 1979, and, consistently, about one-third of respondents have indicated they were first-generation college students and two-thirds were in-state students. Overall, alumni satisfaction is high at all four institutions, with 8 out of 10 graduates reporting they were very satisfied and more than 80 percent reporting they would recommend their institution to others.

USNH provides the necessary education for graduates to enter the workforce in a timely fashion. About one-quarter of graduates at the residential institutions had jobs before graduation; at GSC, more than half of its students had their current position before graduation, which is reflective of the adult learner population. The average time for USNH graduates to find employment was about six months after graduation. In 2005, two-thirds of the PSU, KSC, and GSC alumni respondents reported they were employed in New Hampshire and were working in the field of their major; consistently, since 1998, three-fourths of UNH respondents have reported that their current position matched their career objective.

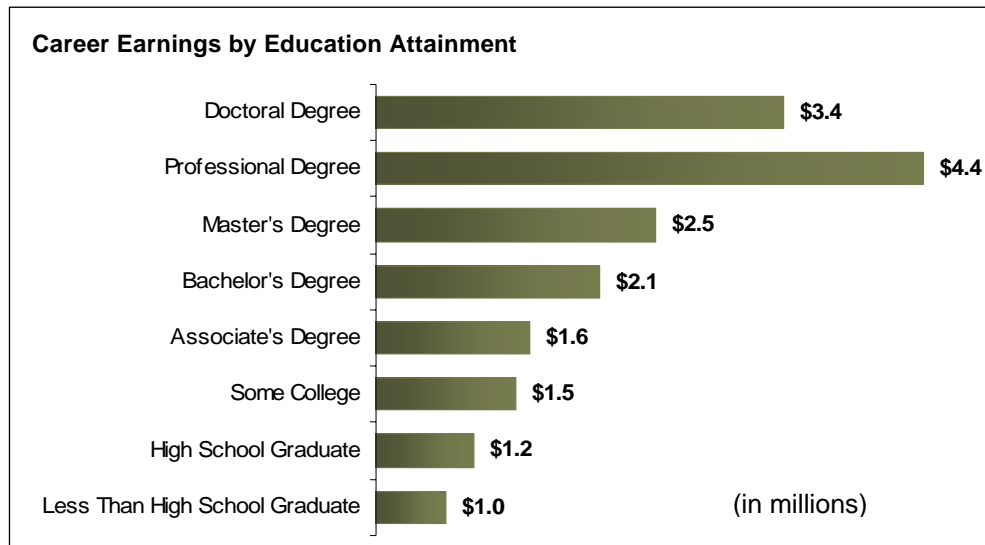
The resultant economic impact of an uneducated population is a serious problem for New Hampshire. Professor Ross Gittell of the UNH Whittemore School of Business and Economics has calculated the returns on investment in higher education:

In each high school graduating class, shortcomings (in counties below the statewide matriculation to postsecondary) in graduates going to college results in loss of income of \$10 million per year in the

state. With multiplier effects in the economy, each 20-year generation loss from low matriculation to four-year colleges is about \$500 million, or 1 percent of the state's overall economy.<sup>2</sup>

The community must do a better job of conveying to students the economics of postsecondary education (figure 4).

**Figure 4**



Source: US Census 2000

While the benefits of a college degree are worth more in millions of lifetime earnings, there are social and economic benefits as well, including increased tax revenues, decreased reliance on public assistance, increased voting and volunteering, better health, and lower incarceration and unemployment rates. In January 2004, according to the Institute for Higher Education Policy, national unemployment rates were 2.9 percent for those with a bachelor's degree, 4.9 percent for those with a high school diploma, and 8.8 percent for those with less than a high school diploma.

### **Beyond the Dollars and Cents: The Social and Cultural Benefits of USNH**

This study identifies the fiscal impacts of USNH; however, the university system also contributes significantly to the social and cultural resources of New Hampshire in ways that are difficult to quantify. USNH institutions contribute to unique environments in different regions of the state, which provide social and cultural benefits to all of New Hampshire's residents. These impacts hold significant value for the state well beyond the dollars spent and people employed by the university system.

Communities with a USNH presence, and surrounding communities, offer access to unique musical, cultural, sports, and literary events and interesting stores and cafés supported by residents and visitors.

<sup>2</sup> Source: Ross Gittell, NH Higher Education Demand presentation, February 2004.

They mix urban amenities and small-town character and are a drawing point for visitors and new companies attracted to the quality lifestyle of New Hampshire.

In an increasingly global and Internet-connected economy, the quality and uniqueness of places will strongly influence economic futures. Entrepreneurs and those with special skills work where they want to live. Many highly skilled, innovative, and creative people are attracted to towns and cities near USNH institutions, and these individuals and their families can contribute significantly to the state's economy. They do this with their new ideas, their products and services, and the businesses they create. At the same time they contribute to the unique quality and character of life in the state.

The social and cultural benefits of USNH are increasingly important to New Hampshire's well-being. Today, and in the future, the cities and towns near USNH institutions will be among the state's leaders in creativity, innovation, entrepreneurship, and economic growth.

## Summary

The University System of New Hampshire (USNH) is a major driving force for the economic vitality of New Hampshire. Public higher education is a good investment for the state of New Hampshire. USNH is one of the largest employers in New Hampshire, providing stable jobs with competitive salaries to many thousands of workers, who, in turn, spend their money in their communities and throughout the state, infusing the New Hampshire economy with more than \$183 million each year. New Hampshire health care providers benefit greatly from the medical, dental, and vision services consumed by USNH employees, who spend more than \$28 million each year on health care needs. In addition, students spend \$105 million on goods and services provided in the community. The multitudes of visitors attracted to the institutions spend another \$9 million, and likely more, in the local economy.

Finally, a large educational system is also a large consumer of goods and supplies—USNH expends almost \$50 million in purchases and \$70 million in construction and renovation projects each year. All combined, these direct expenditures amount to more than \$445 million annually flowing through the state economy. USNH provides supplementary economic benefits, which complement direct expenditures, such as free use of facilities and employee and student volunteer hours benefiting nonprofit and community organizations.

**Higher education pays—educated citizens drive the NH economy and enhance the quality of life in the state**

The mission of USNH is to educate New Hampshire's citizenry. It is well documented that the lifetime earning potential of a person with a bachelor's degree is 75 percent higher than for a person with a high school diploma. Higher education also is positively correlated with increased health status, less criminal activity, and decreased reliance on public assistance—this equates with a better lifestyle and contributes to the positive image of the state. Finally,

USNH's educational offerings include degree programs that are specifically designed to prepare students for careers in some of New Hampshire's largest or fastest-growing industries, such as health care, financial services, education, technology and biotechnology, and care of the elderly. USNH gives the citizens of New Hampshire a great return on their investment.

## **Acknowledgements**

The University System of New Hampshire wishes to thank the following members of the Economic Impact Study project committee for their successful and timely completion of this report: first, to Dr. Mary Ellen Fleeger, director of the USNH Office of Research and Planning, for her leadership, and Mr. Stephen Blakney, data coordinator for the USNH Office of Research and Planning, for their superb job in organizing and managing the entire effort in short order; next, to Dr. Ross Gittell, James R. Carter professor and professor of management at the UNH Whittemore School of Business and Economics, who served as the consulting economist on the project; to the campus representatives—Dr. John Kraus and Mr. David Proulx of the University of New Hampshire, Mr. Nick Mathis and Mr. William Crangle of Plymouth State University, Dr. Cristi Carson and Dr. Jay Kahn of Keene State College, Mr. Jim Miller and Ms. Lisa Shawney of Granite State College; to Ms. Jackie Snow and Ms. Nicole Cole of the UNH Enterprise Computing Group and Ms. Bethany Roy of USNH Financial Services for their expertise in providing important complex data in a timely manner; and, finally, to Dr. Andrew Smith, director of the UNH Survey Center, who conducted the student spending survey for the project.

## Appendix A

### Towns and cities that make up each region:

<b>Durham/Seacoast</b>	<b>Plymouth</b>	<b>Keene</b>	<b>Manchester</b>	<b>Concord</b>
Barrington	Alexandria	Alstead	Amherst	Allenstown
Brentwood	Ashland	Chesterfield	Antrim	Andover
Deerfield	Bridgewater	Dublin	Auburn	Barnstead
Dover	Bristol	Fitzwilliam	Bedford	Belmont
Durham	Campton	Gilsum	Bennington	Boscawen
E. Kingston	Center Harbor	Harrisville	Brookline	Bow
Epping	Center Sandwich	Hinsdale	Candia	Bradford
Epping	Dorchester	Jaffrey	Chester	Canterbury
Exeter	Ellsworth	Keene	Deering	Chichester
Farmington	Groton	Marlborough	Derry	Concord
Fremont	Hebron	Marlow	Goffstown	Danbury
Hampton	Holderness	Nelson	Greenfield	Dunbarton
Hampton Falls	Laconia	Richmond	Greenville	Epsom
Kingston	Lincoln	Rindge	Hancock	Franklin
Lee	Meredith	Roxbury	Hillsboro	Gilmanton
Madbury	Moultonboro	Stoddard	Hollis	Henniker
Milton	New Hampton	Sullivan	Hooksett	Hill
New Castle	North Woodstock	Surry	Hudson	Hopkinton
New Durham	Plymouth	Swanzey	Londonderry	Loudon
Newfields	Rumney	Troy	Lyndeborough	New London
Newington	Sanbornton	Walpole	Manchester	Newbury
Newmarket	Sandwich	Westmoreland	Mason	Northfield
North Hampton	Thornton	Winchester	Merrimack	Pembroke
Northwood	Tilton		Milford	Pittsfield
Nottingham	Warren		Mont Vernon	Salisbury
Portsmouth	Waterville Valley		Nashua	Sutton
Raymond	Wentworth		New Boston	Warner
Rochester	Woodstock		New Ipswich	Webster
Rollinsford			Pelham	Wilmot
Rye			Peterboro	
Somersworth			Sharon	
Strafford			Temple	
Stratham			Weare	
			Windham	
			Windsor	

## Appendix B

### USNH Economic Impact Study Calculation Methodology

#### 1. Employee Salary Calculations

- a. Gross payroll with federal tax and FICA removed for net difference.
- b. Spending calculated on 80% of net (same calculation used by BLS).
- c. Employee salary data cross-tabbed by age, department, and whether or not they had benefits.
- d. Data excluded all student workers.
- e. Retirement deductions were not removed from net salary.

#### 2. Student Spending

Andy Smith stated that now that the survey has been set up in his office, it would not be difficult to conduct it again or repeat it on a regular basis if campuses were interested.

- a. Methodology to report student spending for the three residential campuses: Total monthly amount multiplied by 10 (this will incorporate summer school). We will state that this number underrepresents the total actual spending and is consistent with our desire to be conservative in this report.
- b. GSC to have narrative-only for student spending.
- c. UNH-M used 20% of the total number of students as an estimate of its traditional students; spending total for this subgroup was the same as for UNH-D.
- d. Area categories (community and region) for student spending combined for reporting this expenditure.
- e. Categories for student spending: food, housing, clothing, entertainment, transportation, health care, and "other." Student demographic data: level, part-time or full-time status, and whether living on or off campus. Suggested changes for next survey: Ask age of respondent and permanent address.
- f. Survey data can be validated in two different ways: (1) common data set data reporting can be used as a way to validate survey data about student spending; (2) Financial Aid Offices for each campus can provide an estimate of the total cost of attendance for a given year.

#### 3. Capital Expenditures

- a. Because capital construction projects vary by year, used a three-year average to report amount spent. Only half of year was reported in FIS in FY02 due to a mid-year Banner implementation; therefore, it was agreed to use FY03, FY04, and FY05 data to calculate the average.
- b. Excluded depreciation and transfer of funds; included only payments to vendors (they would have a zip code or phone number).

#### 4. Calculating Medical Benefits

To estimate medical benefits, used 18% of net benefited payroll; to calculate spending, used 80% of that amount. (Pennsylvania used 100% because it is a larger state; we agreed to use 80%, as we want to be conservative in the USNH report.)

## 5. Volunteer Service Calculations

In order to calculate a value of faculty and student volunteer service, we will use \$17.19 /hour for faculty and staff and \$8.60 for students. For this report, we only used calculations of student volunteerism and not faculty. It is too hard to calculate faculty.

## 6. Institutional Spending

- a. The data provided the group with a good approximation of total spending but does not include every transaction. PCard transactions are actually an underrepresentation of the actual amount.
- b. Criteria/assumptions:
  - i. Used invoice transactions to pull total dollars
  - ii. Included regular invoices and PCard transactions
  - iii. Included transactions with New Hampshire as state and/or a zip code beginning "03"
  - iv. Included both current (restricted and unrestricted) and noncurrent fund types
  - v. Included transactions for fiscal year 2005 time frame
  - vi. Removed address codes for campus, permanent, and W2 addresses
  - vii. Removed student rebates
  - viii. Consolidated data based on best guess when city/town names were misspelled and zip codes not provided
  - ix. Sorted data on three tabs by
    - Zip code
    - Campus, then by zip code
    - Subcampus, then by fund type, then by zip code

## 7. Visitor Spending

- a. Identifying a valid and reliable methodology to calculate visitor spending has been difficult. We had to create scenarios for this instead of quantifying a total amount for a given year.
- b. Each campus provided a list of its top visitor-attracting events with an estimated number of visitors for each event.
- c. From the events and number of visitors, we will try to estimate what they spent on food, gas, lodging, etc., while they were in town. A conservative number of \$15 was used.

## 8. Faculty/Staff Spending

- a. UNH comparator institutions reported spending by total categories, i.e., faculty/staff, student, and visitor.
- b. Only Delaware used subcategories for each group. The subcategories were housing, utilities, telephone and cable, food and beverage, automobile, medical and dental services, clothing, other retail, entertainment and recreation, education and tuition, and other (e.g., vacation, home improvement/repairs, unexpected expenditures, charitable contributions).
- c. The subcategories used for this study are food, housing, clothing, transportation, health services, entertainment, and other. Education will be included as other. Property tax will be included in the housing category. These subcategories are used in the campus reports but not in the aggregate system report.

## Appendix C

Slide 1

# USNH Student Economic Impact Survey

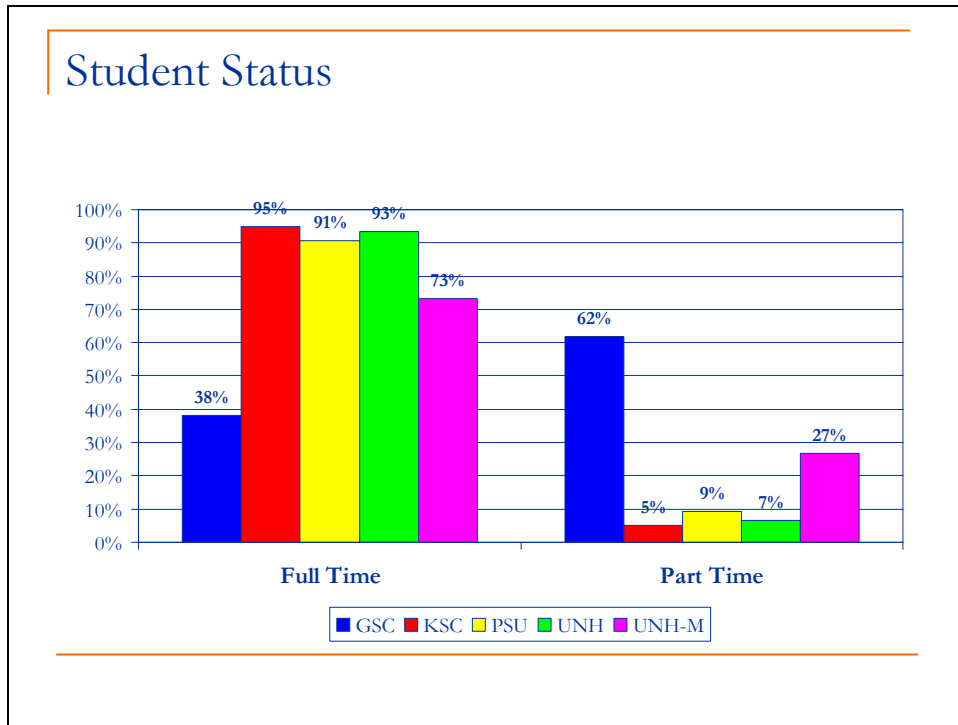
University of New Hampshire  
Survey Center

Slide 2

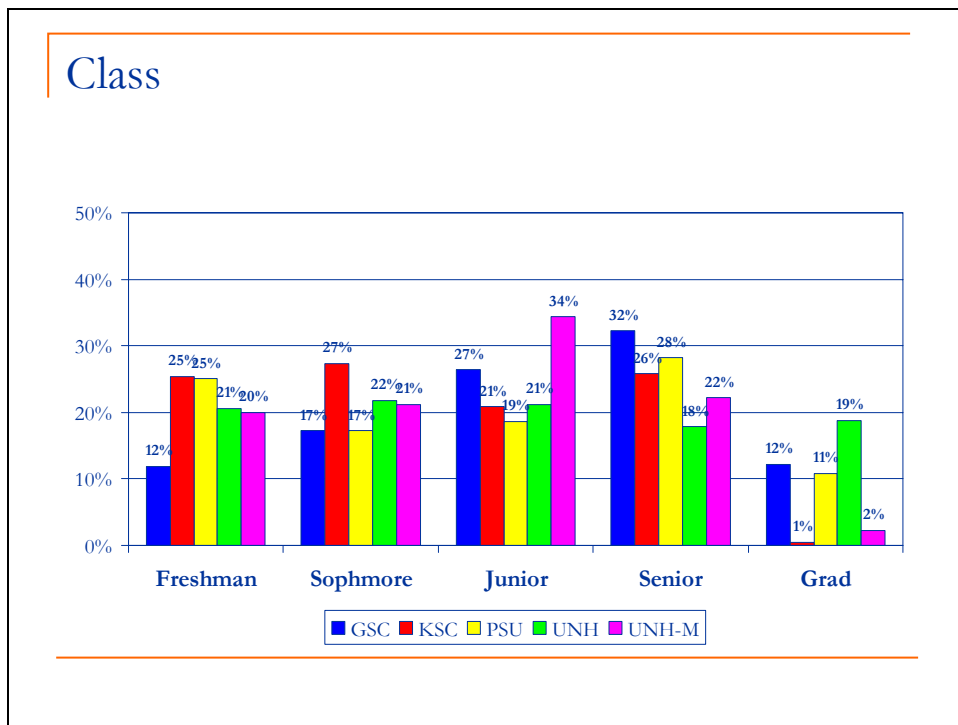
## USNH Economic Impact Survey

- Web-based survey
- Conducted in April/early May, 2006
- Surveys sent to random samples of current UNH, PSU & KSC undergrad and graduate students. Sent to all UNH-M & GSC students with e-mail addresses
  - 1708 sent to GSC – 493 returned (response rate = 29%) MSE: +/-4.4%
  - 995 sent to KSC – 201 returned (response rate = 20%) MSE: +/-6.9%
  - 993 sent to PSU – 279 returned (response rate = 28%) MSE: +/-5.9%
  - 2000 sent to UNH – 332 returned (response rate = 17%) MSE: +/-5.4%
  - ??? sent to UNH - M – 90 returned (response rate = ???%) MSE: +/-10%
- Response rates typical for web survey with students
  - Letter from President/Chancellor
  - Reminder e-mails
  - Incentive raffle for iPod & Flash memory drive

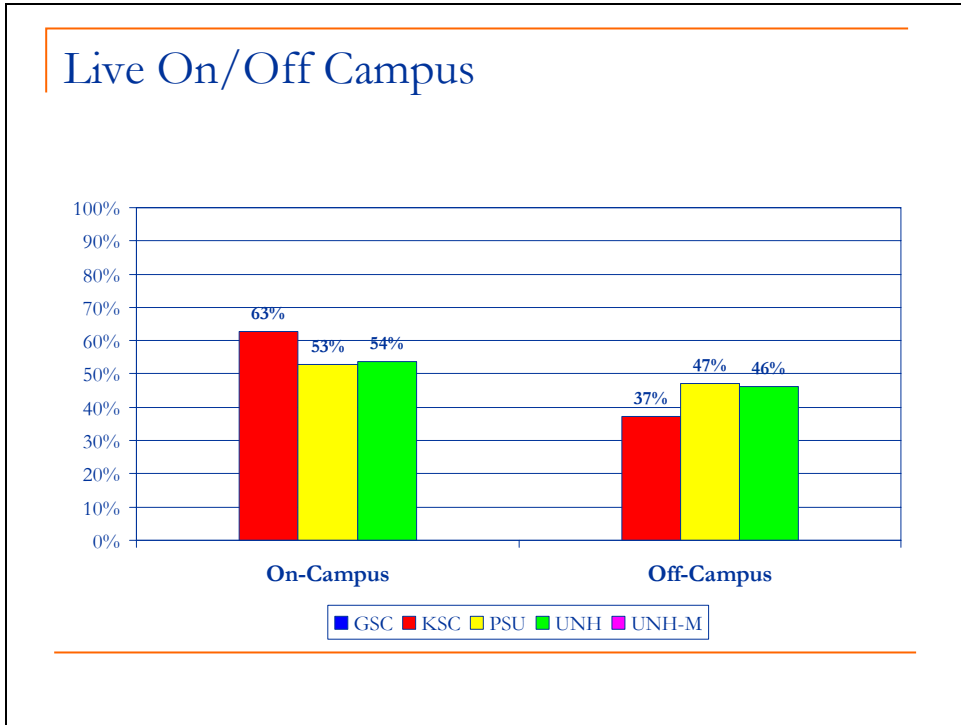
Slide 3



Slide 4



Slide 5



Slide 6

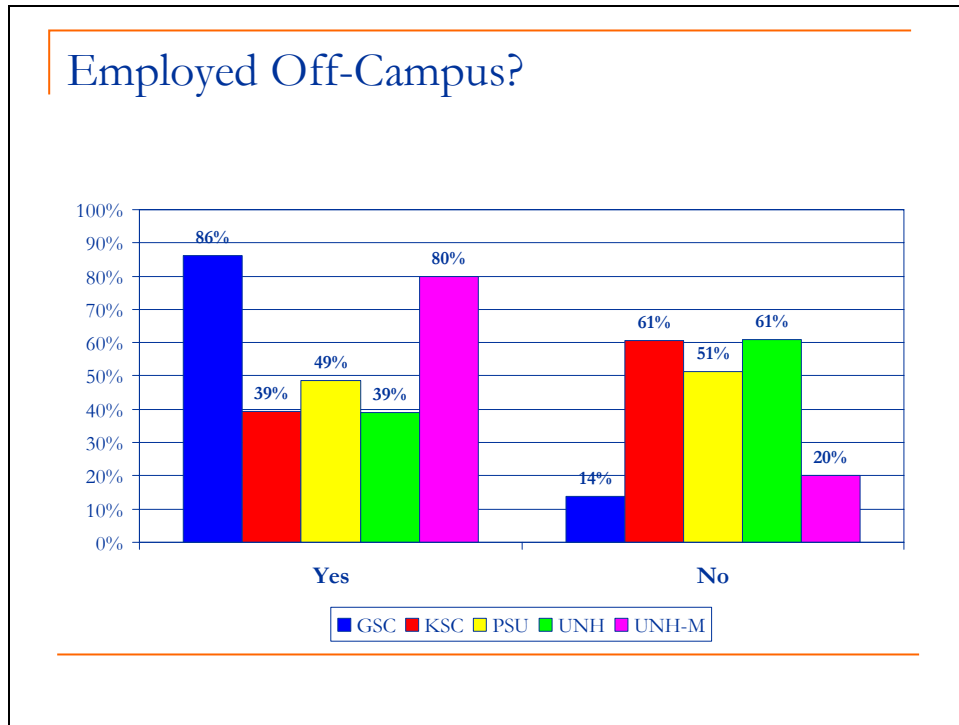
- ### Student Status
- As students get older, the more likely they are to live off campus (at residential schools)
  - Grad students most likely to be part-time students

## Spending Data Issues

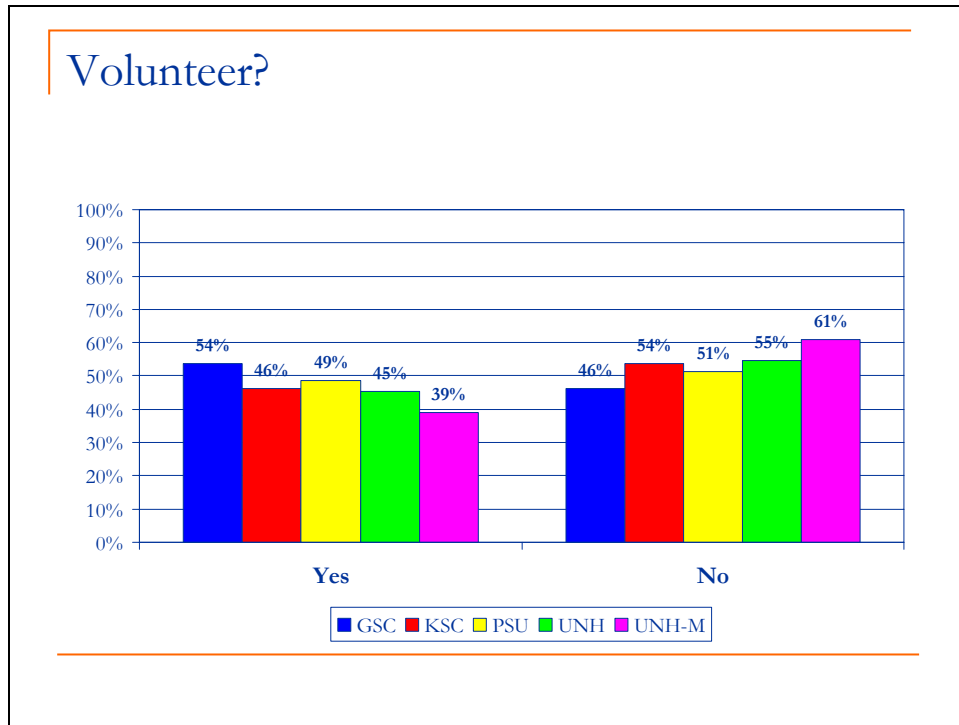
- Occasional data problems (less than 5% of cases)
- Some data clearly wrong – some wildly high numbers
  - 200 hours worked per week
  - \$12,833 spent per month on other items, etc.
- Some data missing
- In both instances, missing data have been replaced with median value for “good” cases
- Data distributions are skewed – Median is probably best measure to use when looking at spending data

## Total Monthly Student Spending

- GSC: mean=\$1,778, median=\$1,670
- KSC: mean=\$560, median=\$230
- PSU: mean=\$683, median=\$455
- UNH: mean=\$619, median=\$410
- UNH-M: mean=\$1,165, median=\$983
  
- Monthly spending much higher for off-campus students (rent)
- Monthly spending significantly higher for part-time students and grad students
- Not much difference between classes



- ### Employed Off-Campus
- Of those who work, hours per week:
    - GSC: mean=39.7, median=40
    - KSC: mean=21.3, median=20
    - PSU: mean=22.1, median=20
    - UNH: mean=19.5, median=20
    - UNH-M: mean=29.8, median=30
  - GSC & UNH-Manchester students most likely to be employed off campus.
  - Older PSU & UNH students more likely than younger to work off campus
    - No significant difference at other schools



- ### Volunteering
- Of those who volunteer, hours per month:
    - GSC: mean=12.3, median=8
    - KSC: mean=8.4, median=5
    - PSU: mean=8.3, median=5
    - UNH: mean=7.8, median=5
    - UNH-M: mean=8.9, median=5
  - UNH grad students significantly less likely to volunteer
    - No other significant differences