Western Carolina University
Millennial Campus Planning

Planning Decision Issues:
A White Paper

March 2004

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         and
         Members, Millennial Campus Planning Steering Committee
         Western Carolina University

cc:      EKA Project Team

FROM:    Eva Klein
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SUBJECT: White Paper for Planning Session on April 7

With this memo, we are pleased to enclose the *White Paper* on Strategic Decision Issues, a process document to support planning discussions for Millennial Campus. This completes Task 6 in our work program.

As noted in the Preface, this *White Paper* is not a traditionally-organized report. It is a working document, intended to support our discussions and your deliberations—so that we are working toward the *Strategic Business Plan*.

On April 7, we plan to review the content of this *White Paper* only briefly. We will devote most of the time to facilitating your discussion of the *key decision issues* it contains. Thus, it would be important for you to review this *White Paper* prior to April 7, so that we may use our time most effectively to concentrate on substantive discussion leading to decisions.

We look forward to seeing you again on April 7.
PREFACE

Purpose and Content of this White Paper

This White Paper is an interim document in the planning process for Western Carolina University’s Millennial Campus.

Therefore, it is not a traditional consultant’s report that normally would be organized into findings, conclusions, and recommendations.

And, it is not yet a business plan document that would be organized by plan elements and set forth what will be done.

Rather, this White Paper is designed to serve as a work paper, to focus the issues to be addressed in the business planning process. It:

- Presents a compilation of substantial background information on programs, market, and research park planning, development, and financing issues
- Summarizes, where relevant, the consultant team’s analysis of information
- Begins to organize material into sections that eventually, following Western’s deliberations, will become parts of the Strategic Business Plan
- Identifies specific planning issues that require Western’s discussions and decisions
- Sets up, where applicable, some possible solutions, decision alternatives, and potential courses of action for those issues requiring decisions.

The White Paper is, thus, a tool, not a product. It should be read as background for the forthcoming planning session, scheduled for April 7, 2004.

Decision Issues Summary

The agenda for April 7 will be developed in some greater detail prior to that session. However, the following is a preliminary list of “decision issues” or topics that will be the main focus of the discussions:

- Vision, Concept and Overview of Planned Uses (ratify or modify from the draft in Chapter 1)
- Name (discuss a name, based on comments in Chapter 1)
- Market Strategy (discuss and conclude from materials in Chapters 2 and 3):
  - Business-industry focus areas
  - Internal program development directions at Western
  - Marketing methods
  - Marketing organization
- Land plan concepts (discuss concepts in Chapter 4)
- Phase 1 Concepts (discuss and refine, from Chapter 4)
  - Concepts for Town Center
  - Initial/early Western facilities/uses
  - Incubator and/or multi-tenant speculative space
- Development Strategy (discuss, from concepts in Chapter 5).
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1—INTRODUCTION

Objectives

Eva Klein & Associates (EKA) is assisting Western Carolina University (Western or the University) in development of comprehensive plans for development of its "Millennial Campus" initiative.

The overall objective of the consultant team's work is to provide expertise and analyses to support Western in preparation of a Strategic Business Plan that will guide all aspects of Millennial Campus development. This work eventually is to include coordination with land planning, as elements of the land plan are integral to a comprehensive Strategic Business Plan.

University Steering Committee

As this work was undertaken, a first task was to organize a Steering Committee that would be the principal group for planning. Exhibit 1 provides a list of Steering Committee members and members of the consultant team.

Scope of Work

The consultant team's tasks, in summary form, are as follows:

1. Review background documentation provided by Western
2. Conduct an initial visit for a "two-way" briefing on the project
3. Make a presentation on knowledge-based economic development
   Conduct interviews with stakeholders
4. Analyze market factors for market strategy
5. Make an Integrated analysis of issues for planning
6. Prepare a White Paper on planning decision issues
7. Conduct/facilitate planning sessions with Western
8. Prepare and present the Strategic Business Plan.

Coordination of/with land planning also is an EKA task, although that work is not yet underway and the manner of that coordination remains to be decided.

Project Status

In Fall-Winter 2003, Tasks 1 through 3 were accomplished. The consultant team has been working on Tasks 4 and 5. This White Paper is Task 6. It is preparation for Task 7 planning sessions with the Western Steering Committee for this project.
1—VISION AND CONCEPT

Knowledge-Based Economic Development—Integrated Strategy

For two decades, EKA has promoted the notion that development of university-related technology parks is about much more than real estate. These are projects that really should be about the active engagement of universities in their regional economies. (The fact that not all park projects have been conceived this way has accounted for numerous errors and difficulties.)

Physical real estate must be a component of a larger vision for the sponsoring university that also involves focused program and faculty investments, substantial and effective outreach to find ways to help businesses and communities, and changes in internal values and culture.

As part of a broader strategy for knowledge-based economic development, a technology park also automatically requires that the sponsoring university work closely with partners, including other educational institutions, government at all levels, and private firms—whose involvement is required to deliver the comprehensive strategy.

Figure 1

Knowledge-Based Economic Development: An End-to End Model

Evolving Physical Concepts

The physical place, while extremely important, because it creates focus, concentration, visibility, and momentum, is nonetheless a “tool” of the broader economic engagement strategy.

Figure 2 shows the evolution of physical concepts for technology parks. They are descendants of industrial park models. More recently, elements of “campus” and “new town” are being introduced, to create mixed-use knowledge communities.

EKA believes that the very best comprehensive visions and physical plan concepts in evidence today are actually in the State of North Carolina—represented by NC State University’s maturing Centennial Campus and, in concept and early form, by UNC at Chapel Hill’s much newer vision for Carolina North.
Proposed Concept for Western’s Millennial Campus

We propose that Western begin this undertaking, therefore, by establishing the concept for the Millennial Campus as:

- A part of a larger, pervasive vision and strategy for Western’s economic engagement
- Physically: an extension of the Western campus (as opposed to a business site that is considered apart from the campus)
- A location (but not the only one) where Western will enact partnership strategies
- A knowledge community with a dynamic mix of uses that, in turn, is part of a larger, emerging knowledge community in Cullowhee and the region.

Proposed Name—Some Alternatives for Consideration

Western needs to consider a formal name for the physical site so that it reflects the above concepts.

Since research parks descend directly from industrial parks and business/office parks, many common names use the term park. The terms research park, technology park, and science park are used interchangeably, with little meaningful difference in what they denote. Some projects avoid the term park and are called centers, as in Virginia Tech Corporate Research Center, or they are called campus, as in NC State University’s Centennial Campus.

We look forward to working with the Steering Committee, to see what naming ideas the members may propose. For a start, we propose for Western’s consideration a few alternative names.

First, an idea that was considered was for the University to borrow a note from UNC at Chapel Hill, which found that inversion of "North Carolina” to Carolina North suited the leadership’s desire to express quite clearly that its new 1,000-acre development is considered part of the University, not a separate research park. This formulation also works in UNC-CH’s case because the new 1,000-acre property is north of the main campus. Following this concept, a name would be “Carolina West.” However, we have learned that there is a loosely affiliated group of counties that uses this nomenclature. Therefore, it does not appear to be an option.

The second possibility would be to borrow a note from NC State University, to signal, at the same time, the new millennium and the concept that the site is philosophically and physically an “extension” of Western Carolina University.
Alternative Name: “Western Carolina University Millennium Campus,” or “Millennium Campus of Western Carolina University”

Note: Throughout this document, the term “Millennial Campus” is used, as this is the language of the enabling legislation and the nomenclature Western has been using to date. In the above name, we have proposed the word “Millenium,” as a style preference. This name alternative, like all others, is only an example.

A third possibility would be to emphasize the partnerships WCU hopes to induce with business and industry, and with other organizations within the region. We do not think the term partnership has been used in a project name yet, although both the word partnership and the word alliance do appear in names of organizations sponsoring parks, as Idealliance, in Winston-Salem or the Greater Starkville Economic Development Partnership, which sponsors development of Mississippi Research and Technology Park.

Alternative Name: “Western Carolina University Partnership Campus,” or “Western Carolina University Entrepreneurship Campus”

A fourth possibility would be to use a geographic term other than “Western Carolina,” such as:

Alternative Name: “Smokey Mountain Technology Campus”

Finally, while the consultant team would not prefer it, other alternatives could be any of the following commonly used names, with or without the word “University” in the name:

Alternative Name: Western Carolina (University) Research Park
Western Carolina (University) Technology Park
Western Carolina (University) Corporate Technology Center.

Such name alternatives would be consistent with many others and they have the advantage of being more “known” to the marketplace; however, these alternatives tend to describe a commercial use-only site.

**Proposed Vision Statement**

The following tentative vision statement is proposed for Western’s consideration, using the name “Millennial Campus” for now, as the working name.

*Millennial Campus is an extension of the mission, programs, partner relationships and physical facilities of Western Carolina University, with a 21st century focus on the University’s emerging roles in the Knowledge Economy. As both a set of relationships and a physical place, the Millennial Campus will encourage a deliberate mix of knowledge-based activities ranging from research and instruction to commercialization and marketing of knowledge-based products, along with supporting amenities—to create a core focal point of an enlarging knowledge community in the westernmost part of North Carolina.*

The opportunity presented by the Millennial Campus is more than just providing a place for private-sector knowledge companies. Millennial Campus should be considered a functionally mixed-use place where university, private-sector, and community development meet. The real opportunity is to coordinate Millennial Campus with Western Carolina’s main campus and to create a focus for a new “Town Center” that also will provide needed retail and gathering places for the emerging knowledge community.
2—Market Analysis

Typically, the market analysis for a university-related technology park differs from market feasibility analyses for "pure" real estate projects in that the analysis has "internal" and "external" components. For this project, our analysis of market opportunities and challenges, leading to a formulation of market strategy, contains:

- Assets and Challenges (from stakeholder views)
- Internal Market Analysis
  - Western Carolina University
  - Other Educational Institutions
- External Market Analysis
  - Defining the Region
  - The Advantage West Region
  - The Multi-State Region
  - Major Regional Resources and Partners
- Market Conclusions.

The proposed Market Strategy, following from this analysis, is presented in a separate chapter.

Overview of Assets and Challenges

A summary of key assets and challenges for achieving economic development and marketing success for the Western's Millennial Campus was developed, based on the November 2003 sessions, including summit break-out sessions, focus-group interview sessions, and one-on-one interviews with individuals. The broad reach of the summit and interviews was intended to capture the views of as many as possible stakeholders and constituents, all of whom may be, in one way or another and in varying degrees, important to the success of this project.

The commentaries and results have been summarized and grouped into categories that follow the factors most frequently evaluated by businesses seeking to relocate or expand within a given area:

- Accessibility
- Infrastructure
- Natural Resources
- Labor Force/Population
- Quality of Life
- Government and Services
- Business Climate
- Leadership.

The summary, presented in Exhibit 2, is organized accordingly. As is often the case, both assets and challenges can be found within a single set of issues.

Assets

The most prominent assets that constituents believe are relevant to this market strategy are the natural beauty and appeal of the North Carolina mountain region and its associated quality of life and the presence of a comprehensive university, Western Carolina University, and its commitment to developing effective working relationships with local businesses that create economic opportunity, and with other educational institutions. While western North Carolina offers a rural, small town atmosphere, it is also centrally located and readily accessible to three major metropolitan areas in neighboring states: Atlanta, Georgia, Greenville/Spartanburg, South Carolina, and Knoxville, Tennessee. A second circle of metropolitan areas that are also convenient to the region are Johnson City, Tennessee; the North Carolina Piedmont Triad and the Charlotte, North Carolina Metropolitan Area. This accessibility will be further enhanced with the provision of broadband Internet access and with planned improvements to the Cullowhee airport. Utilities are not only plentiful but are also relatively inexpensive; many are provided by industry giants such as Duke Power and Progress Energy.

One of the most crucial concerns of relocating and expanding companies is the quality and quantity of the labor force. While the region has a relatively small labor pool, in-migration is accelerating—not only of retirees but of all age groups. The newcomers tend to include a number of
highly educated and skilled people. The entrepreneurial spirit is growing; the work ethic is strong. And Western itself provides a pool of students and graduates.

Lastly, the region has existing pockets of business activity in the areas of state of the art textile and apparel manufacturing, herbal/natural products, tourism/hospitality and arts/crafts.

**Challenges**

In general, interviewees agree that the biggest challenges arise from the fact that Western North Carolina is not "visible" as a business destination and that the region can be a difficult place to do business due to the terrain, accessibility, and relatively small population/labor force base. These and other factors suggest that the region might not be an ideal destination for employers requiring large numbers of employees and for distribution facilities—but these are not of direct interest for the Millennial Campus strategy.

Another challenge is the fact that air transportation is limited, costly, and from Cullowhee requires a one to two hour drive.

Other challenges common to rural areas such as this are the conflict between long-time residents and newcomers, particularly in this case, where the newcomers are considerably wealthier than the existing residents. There can be conflict between increasing growth pressures and the need to maintain the pristine environment, or just to not change "the way things are." The mountainous terrain and the influx of wealthy vacationers/retirees have driven up the cost of construction and the cost of living. Consequently, developable sites for commercial and industrial uses are scarce. Lastly, Cullowhee and adjoining towns lack the amenities favored by high tech company employees, including singles and young people.

**Internal Market Analysis**

This section of the Market Analysis organizes information about the University from the point of view of its assets and resources to support the Millennial Campus market strategy. A much briefer section on other institutions in the region also is included.

**Western Carolina University**

**History**

Western Carolina University was chartered in 1889 and, in 1905, became Cullowhee State Normal and Industrial School. The institution became Western Carolina Teachers College in 1929 and Western Carolina College in 1953. Designation as regional university followed in 1967, and, in 1972, it joined The University of North Carolina system.

Resident-credit undergraduate and graduate level instruction is offered on the main campus, as well as in Cherokee and Asheville. In Asheville, some courses are offered in cooperation with UNC-Asheville. Headcount enrollment in the Fall of 2002 was 6,576, a level that had been steady since 1992. There has been recent significant enrollment growth, since 2002.

**Program Directions and Strengths**

Western is a comprehensive university offering programs at the baccalaureate, master's, intermediate and doctoral levels. Instructional programs are organized into four areas:

- Applied sciences
- Arts and sciences
- Business
- Education and allied professions.

There is also a graduate school.

At the end of AY 2001-2002, Western conferred 1,139 bachelor's degrees, 42 percent of which were almost evenly divided between Business and Education.

Aside from these predominant program areas, the largest numbers of degrees were awarded in:

- Communications
- Nursing
- Industrial/Manufacturing Technology
- Sports and Fitness Administration.
As a group, these degrees accounted for an additional 18 percent of the university’s total degrees granted.

Western is taking seriously a 5-year old mandate from a former UNC system president: “Grow the campus, make it better, and help the region.” SAT scores of entering freshmen averaged 999 from 1995 through 1999, but are moving upward. In the fall of 2003, they averaged 1,036, and 1,100 is now the target. More of the students in the Honors College are residents of western North Carolina indicative of the University’s growing popularity and competitiveness. These students in turn are more likely to remain in the area after graduation.

The official enrollment projection for 2011 is 9,500, although the “unofficial” goal is 11,000. Supporting this growth plan is a 40 percent increase in applications, along with higher retention success that is occurring in the face of more demanding academic standards. Western has suggested that planning for the technology park relates to enrollment growth, and the University might envision a total headcount enrollment of 14,000 in the not distant future.

As one part of its process of change and growth, the University is focusing on engineering and technology disciplines. Although these are today a modest share of total degrees conferred, the emphasis in those programs is on quality as opposed to numbers. Various engineering-oriented courses are offered, and Western currently enjoys a reputation of having the best computer science program in western North Carolina.

Most significant for this analysis is that, in Fall 2004, Western will admit the first class of students in a new College of Technology (Note: Information about this to be verified). Courses will be offered in electrical engineering and computing, and optics will be a prime feature. Students for the College are being actively recruited; however, the University again will target highly-qualified students as a top priority, and the quantity of students will be a relatively secondary priority.

Business Culture and Issues

Western’s leadership is committed to engagement with the community and its businesses, and the University is involved in a number of local and regional partnerships. Academic changes taking place in this regard include the recent (2001) creation of a program in Entrepreneurship, and student recruitment that focuses on those with an interest in engagement. Reportedly, Western Carolina has the first Masters Degree in Entrepreneurship in the country. During its initial year, there were 36 students in the program; an estimated 90 students will enroll for the second program year.

Interviews conducted as a part of this study revealed various perceptions about Western which merit attention, for purposes of planning the technology park. Regardless of their veracity, they must be recognized as issues in the development of long term planning and investments. Some in the area feel that the university has a tendency to isolate itself from the local community, or that the University at present has little ability to relate to business. There is recognition that Western plays a huge role in bringing together diverse interests and in creating or supporting strategies for necessary change.

Although the University has recently hired a significant number of new faculty who are more oriented to community and business outreach, the University’s pace of implementation of outward focused activities still is perceived to be much slower than that of the community colleges. It was reported that the School of Business, in particular, is not seen locally as “business-friendly.” One explanation offered was that faculty teaching loads and the current reward system are disincentives to external engagement.

Indications are that the University is aware of these issues, and sees them not as impediments to change but as additional reasons for change. Engagement-oriented initiatives, such as a technology park, are viewed as key “change agents” in this process. The consultants observe that cultural dynamic challenges are encountered by every university that has undertaken entrepreneurial and economic development strategies. The challenge is ubiquitous and the pace of change can be a success factor.

Special Resources and Outreach Programs and Facilities

Western has made extensive investments in new programs and in outreach, engagement and economic development programs and services. Resources, programs and services that are especially relevant to Millennial Campus development are described briefly in Exhibit 3, and include:

- Center for Integrated Technologies (CIT)
- Carolinas Micro-Optics Triangle
- Western Carolina University-University of North Carolina-Charlotte Partnership
- Western Carolina University-University of Southern California/Stanford University Partnership
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- Office of Technology Transfer
- Western North Carolina Biotechnology Consortium
- The Education and Research Consortium of the Western Carolinas (ERC)
- College of Business Undergraduate and Graduate Entrepreneurial Degrees
- Small Business and Technology Development Center
- Western Carolina University-North Carolina Institute of Government Partnership (LGTP)
- Continuing Education and Summer School
- Center for Regional Development
- Center for Applied Technology
- Hospitality Management and Tourism Training Center
- Fine and Performing Arts Center.

Other Educational Institutions

While this internal analysis of market assets focuses naturally on Western, it is reasonable to assume that other institutional resources in the region are part of the asset base for supporting technology industry in a market strategy. The following are brief notes on selected other institutions in the region. Advantage West, the economic development agency for Western North Carolina, is attempting to match its industry focus areas with regional higher education resources as input to its own current strategic vision plan. Exhibit 4 is a table in which Advantage West has preliminarily mapped these relationships.

UNC-Asheville

Fifty miles to the east, UNC-Asheville has a student population of approximately 3,200. It is the designated liberal arts university in the UNC system, offering 30 majors in the Arts, Humanities, Natural Sciences and Professional and Pre-professional areas.

Two joint engineering programs are offered at UNC-Asheville, in cooperation with North Carolina State University’s College of Engineering. The intent of these collaborative programs is to broaden the base of educational opportunities to students in Western North Carolina and to integrate the engineering sciences within a liberal arts environment.

The Two-Plus-Two Engineering Program allows students interested in 13 different engineering fields to complete their first two years of study at UNC-A and then transfer to NCSU for the remaining two years. The Bachelor of Science in Engineering-Mechatronics Concentration (BSE) degree allows students to complete an engineering degree while living and working in the Asheville area. The degree is designed to be accessible to students employed in local industries, as well as to traditional students. Students graduate with a Bachelor of Science in Engineering-Mechatronics Concentration degree from NCSU.

As noted above, Western collaborates actively with UNC-Asheville, offering numerous programs there and, in general, the course offerings at the two universities are viewed as complementary to one another.

Appalachian State University

Located three hours northeast of Western is Appalachian State University in Boone, NC. ASU is a comprehensive university serving the traditional undergraduate student, with some graduate programs. It is said to feel a special responsibility to the Appalachian region and seeks to contribute to the understanding, appreciation and preservation of its unique culture. Headcount enrollment for 2002-03 totaled a little more than 14,000.

About 24 percent of ASU’s 84 majors are in Education and, in 2002, 15 percent of the Bachelor’s degrees awarded were in this area. Nineteen majors are offered in Business Management and, in 2002, those accounted for 21 percent of the Bachelor’s degrees awarded. There are four majors offered in Computer and Information Science and in Engineering-related studies, and they account for approximately 2 percent of degrees awarded.

Community Colleges

There are a number of community colleges in the area that augment offerings at Western. Local institutions have varying programs and emphases.

Southwestern Community College is located quite near the Western campus in Sylva, while Asheville-Buncombe County Technical Community College (A-B Tech) and Haywood Community College are within 50 miles of Cullowhee. All three have small business centers. Western Carolina is
currently partnering with Southwestern to attempt to develop a training program for arts and crafts workers in the region.

Southwestern and A-B Tech each offer more than a dozen business-related courses. Taking into account the offerings of those two campuses, several dozen computer and information technology courses are available in the region.

**Western Carolina University-A-B Tech Partnerships**
A-B Tech and Western have several active partnerships underway. For example, the University offers bachelors and masters degrees on the A-B Tech campus.

The institutions collaborate on applied technology, with an associate degree in Applied Technology offered at the community college, while bachelor and master's degrees in Engineering Technology are offered at Western. A-B Tech also offers certain courses in the humanities through Western so that its graduates are prepared for transfer admission to the University as upper division students.

**External Market Analysis**

This section of the Market Analysis covers the more typical real estate-oriented market factors and information. An initial section discusses two definitions of "region." For each, then, a summary of economic and industry data and factors is presented. Lastly, there is a brief discussion of comparable sites/buildings in the region.

**Defining the Region**

It has been the experience of most university-related research/technology parks that they draw the largest portion of their tenants from within the region in which they are located. National relocation recruitments are relatively rare. For this reason, it is useful to develop conceptual definitions of "region" for purposes of organizing marketing activities.

EKA agrees with a number of stakeholders that two definitions of region may be useful.

**Advantage West Region**

Based upon the results of the November summit/interviews and discussions with regional and State economic development experts, we have defined the primary market area for the Millennial Campus, that is, the region to be marketed for business attraction and retention purposes, to correspond to the boundaries of the state-defined economic development region known as Advantage West. This definition is reflective of the regional terrain, existing successful marketing efforts, and site selection perceptions.

**Multi-State Perspective on Region**

The Western Carolina region is situated in a unique location, within a few hours drive of three metropolitan areas that lie outside North Carolina's state boundaries. These are:

- Knoxville, Tennessee
- Greenville/Spartanburg, South Carolina
- Atlanta, Georgia.

In fact, these metropolitan areas are more accessible to the Western Carolina region than many parts of North Carolina. The linkages to the three metropolitan areas are not only in terms of access, but also in terms of existing and potential assets of the region for business attraction and retention purposes. For this reason, we concur with interviewees that these metro areas may be considered a secondary market "region" for purposes of the Millennial Campus development.¹

**The Advantage West Region**

Shown below as Figure 3, the market region of Advantage West consists of 23 counties (Jackson County, the location of Western Carolina University, and Alleghany, Ashe, Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, Watauga, Wilkes and Yancey Counties). Advantage West further subdivides the 23 counties into four sub-regions:

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¹ Clearly, other parts of North Carolina, including metro Charlotte, the Piedmont Triad, and the Research Triangle also can be relevant for Millennial Campus relationships and marketing. In a way, the entire State of North Carolina could be considered a third region, for marketing purposes. These areas are omitted from this analysis, as Western is quite familiar with them; however, a brief summary of North Carolina state-level market focus strategies is included with the exhibits.
Regional Demographic Base
The 2000 population of the 23-county Advantage West region was 999,424 persons, an increase of 143,364 or 16.7 percent over the 1990 population of 856,060. According to the State Data Center, more than 75 percent of the region’s population increase since 1990 was attributable to in-migration rather than natural growth. The largest amount of immigrants to the region originated from other parts of North Carolina and from Florida, South Carolina and Georgia.

As of November 2003, the Advantage West region had a total labor force of 488,954 persons, representing 12 percent of the State’s civilian labor force. At the same time, the region’s unemployment rate was lower than the North Carolina rate, 5.7 percent versus 6.2 percent.

According to 2000 Census data, the Advantage West population is less educated and is employed in fewer professional and more production/transportation occupations than the North Carolina population as a whole. In 2000, approximately 23 percent of state residents had either a college or a graduate/professional degree versus 18 percent for Advantage West residents. Some 25 percent of the regional population did not have a high-school diploma versus 22 percent of the state population. In terms of occupations, 31 percent of state employees were engaged in management/professional occupations and 19 percent in production/transportation occupations versus 26 percent and 23 percent, respectively, of Advantage West residents.

Existing Industry Base
At the end of 2002, the three major industrial sectors of the Advantage West region were manufacturing (25 percent of total employment) followed by health care at 18 percent of regional jobs and retail trade (15 percent of total employment). Similarly, the manufacturing sector was the largest state employment sector, with a slightly lesser proportion of total jobs than the region (20 percent). Health care and retail trade each accounted for 14 percent of state employment, also lower than for the region.

According to information provided by the EDA Western Carolina University Center, the Advantage West region lost a total of 4,533 jobs due to business and manufacturing closings from January through October of 2003. Approximately 50 percent of the job loss took place in Rutherford and Buncombe Counties. No closings were reported in Jackson County. Of the total 57 closings/layoffs in the Advantage West region, 14 were related to the garment industry, six to the wood
products/furniture industry, four to the electronics industry, and three to the automotive components industry.

There are very few large manufacturing employers in the Advantage West region. Of approximately 200 manufacturing employers with 25 or more employees in the region, only 20 percent have 500 or more employees and another 20 percent have 250 to 499 employees. The largest employers are located in Buncombe, Burke and Caldwell counties. Most are engaged in garment manufacturing and the wood products/furniture industry. A notable exception is Drake Industries, a pre-packaged software company with approximately 450 employees in Macon County. Jackson County has approximately six manufacturing companies, none of which has 250 or more employees. The largest employers in Jackson County are Harrah’s Casino, Western Carolina University and West Care Health Systems.

The prevalence of small companies in the region is further substantiated by North Carolina Employment Security Commission data, which indicate that, as of the third quarter of 2003, of the approximately 24,400 non-agricultural employers in the Advantage West region, 50 percent had less than five employees and another third had from five to 20 employees. The largest number of employers with fewer than five employees was involved in construction (20 percent) retail trade (17 percent) and professional services (11 percent). Companies, with five to 20 employees, were dominated by retail trade, construction and health services. These data are consistent with the types of businesses that are currently being serviced by the region’s small business centers.

Regional Industry Targets

Advantage West currently is preparing a new vision plan and industry target analysis. Recently, both Henderson and Transylvania Counties completed their separate analyses. The three plans/analyses are summarized in Figure 4 below, with additional information contained in Exhibit 5. The North Carolina state-level marketing strategy is included in Exhibit 6.

Figure 4: Target Industries Comparison

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>Advantage West</th>
<th>Transylvania County</th>
<th>Henderson County</th>
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<tbody>
<tr>
<td>Automotive Parts</td>
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<td>X</td>
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<tr>
<td>Back Office</td>
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<td>Biotech/Pharmaceutical</td>
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<td>Business Services</td>
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<tr>
<td>Computer/Data Processing/Software</td>
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<td>Construction Equipment</td>
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<td>Food Products</td>
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<td>Furniture</td>
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<td>General Industrial Machinery</td>
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<td>Health Services</td>
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<td>Information Based Jobs</td>
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<td>Information Technology/Multimedia</td>
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<td>Medical Devices/Products</td>
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<td>Metalworking</td>
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<td>Plastics/Chemicals</td>
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<td>Search Detective Equipment</td>
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<tr>
<td>Wood Products</td>
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</table>

Note: ex = existing and em = emerging

Sources: Advantage West, Transylvania County Economic Advisory Board, and Henderson County Chamber of Commerce
The three studies identify a few common targets: All three are seeking automotive parts, biotech/pharmaceutical and plastics/chemicals—industries that already have a significant base in the region, as well as in the State. Both Transylvania and Henderson have identified back office/call centers as targets, while Advantage West and Transylvania are seeking health services and tourism.

The Henderson and Transylvania target industry analyses were conducted by outside consultants that take a "big picture" perspective and a "top-down" approach, comparing national major industrial sector trends with local trends and therefore coming up with a short list of major industries.

The Advantage West methodology was unique in that the study was done in-house and took a "bottom-up" approach that resulted in the identification of smaller niches within larger industry sectors. This approach is well-suited for a rural region where a target niche methodology serves to take into account start-up companies and small companies as well as major employers.

The Advantage West analysis further identified niche targets for each sub-region. For the Highlands sub-region, where Western is located, the targets identified were:

- Pharmaceuticals
- Information technology
- Communication services
- Recreation/tourism
- Medical services
- Business support services.

**Comparable Business Sites and Buildings**

A real estate market analysis typically includes an analysis of comparable and competitive properties. For a technology park that is a knowledge-based economic development strategy with university sponsorship, this kind of comparative data is much less relevant. Nonetheless, it is moderately useful to review briefly the existing property market.

**Industrial Properties**

A search of the Advantage West web site's "site search" listing of available sites and buildings indicates that there really are no properties comparable to the type of business space that is contemplated for the Millennial Campus. No high-end business or office parks were found in the list.

Among a number of industrial properties listed, those at the highest end, including some office space, are renting in the range of $6 to $10 per square foot. The majority of available business locations (whether entire buildings, some space, or acreage) are industrial properties for manufacturing and warehousing, and not necessarily competitive even for those uses.

**Incubators**

There are two incubator facilities in the region—the Haywood Small Business and Industry Center in Waynesville and the A-B Tech Small Business Incubator/Biotechnology Incubation and Training Center, in Asheville.

The Haywood facility has 14,000 square feet of leasable space, all of which is currently occupied. Reportedly, rents may be as low as $1 per square foot plus electricity. It is reported that there is little turnover; however, there are some companies that might be ready to relocate, if there were a suitable location for them.

The A-B Tech facility is a 152,000 square foot former BASF building. At present, about 20,000 square feet of space are occupied by biotech companies paying $8 per square foot. The remaining space is in the process of being converted and will not be available for occupancy for several more months.

Overall, this review confirms that there really are no "competitive" or "comparable" properties for the Millennial Campus in the region, as the Millennial Campus is intended to "set the bar" for a new kind of business site and facilities. However, to the extent that local start-up companies are looking for very low-cost space, there are such alternatives in the region. The Millennial Campus Market Strategy will need to take this factor into account.
The Multi-State Region

For purposes of this Market Analysis, the multi-state region is defined roughly as the region between Knoxville, Greenville-Spartanburg, and Atlanta, identifiable in Figure 5.

Figure 5

A brief economic and marketing profile of each of these three metropolitan areas is included as Exhibit 7. The Tennessee Valley Association (TVA) and South Carolina marketing strategies are contained in Exhibit 8.

The Knoxville region consists of six counties with a total 2000 population of 704,000 and a labor force of 347,000 persons and an unemployment rate of 4.9 percent. As part of the Southern Automotive Corridor, manufacturing employment in the area is heavily concentrated in auto parts and components. The region is attempting to develop a high-tech corridor along I-140 with the Oak Ridge National Laboratory and the McGee Tyson Airport as anchors. Two other growth industry clusters are medical supply and pharmaceutical companies and call centers.

The western South Carolina region contains 10 counties including the Greenville/Spartanburg/Anderson County metropolitan Statistical Area. The region had a 2000 population of 962,441 persons, a labor force of 487,133 and an unemployment rate of 5.0 percent. Led by the famous location of a BMW plant in Spartanburg, this region, like Knoxville, also targets auto parts and supply manufacturers and boasts that it is the location of more than 100 auto-related manufacturing companies. A keystone to the region’s continued dominance in the US automotive industry is the development of the Automotive Motor-Sport Research Center at Clemson. The excellent interstate highway system serving the region also makes it an ideal location for headquarters and distribution facilities. Lastly, the region is emerging as a biotechnology/pharmaceutical hub. Through a partnership of Clemson University, other state research universities, and the Greenwood Genetic Center, the South Carolina Biotechnology Incubation Facility is being developed at the Greenwood Biotechnology Park.

The Metropolitan Atlanta Area contains 28 counties, the City of Atlanta and 110 other cities. With a 2003 population of 4.3 million people, a labor force of 2.4 million persons and an unemployment rate of 4.9 persons, the metropolitan area is by far the largest of the three metropolitan areas in proximity to western North Carolina. Because of its excellent highway system, accessibility to port facilities and the ever-expanding Atlanta Hartsfield Airport, the region is one of the US’s major distribution hubs. The region continues to promote logistics management and research in coordination with the Georgia Institute of Technology Logistics Institute. A more recent initiative is the formation of the Bioscience Council, to help double the number of bioscience-related companies in the region. This is supported by the strong bioscience research being conducted at the many universities in the region.

In summary, both Greenville/Spartanburg and Knoxville continue to rely on growth in the US automotive market, while all three metropolitan areas are seeking to expand their biotechnology base. All three have impressive industry-specific research facilities to anchor their market strategies in coordination with university research activities. Lastly, because of the availability of large tracts of inexpensive highway-served land, the three metropolitan areas are better-suited than western North Carolina for distribution and headquarters facilities. Thus, it is highly unlikely that the Millennial Campus will seek to compete for a large segment of the types of companies currently existing in these three metropolitan areas.
All three areas, however, appear to have few programs that support the growth of start-up and small companies. This is a gap that the Millennial Campus can serve to fill and for which its region is ideally suited, given the region’s history of and continued support for entrepreneurial endeavors.

**Major Regional Resources and Partners**

The State of North Carolina continues to be a leader and an innovator in the attraction and retention of business. Many regional and statewide organizations could serve as marketing partners or resources for Western’s Millennial Campus. Besides the very essential cooperation of Silva and Jackson County, other State and regional contributors are listed below. This list is not meant to be exhaustive but rather illustrative since new organizations and partners are being formed daily. Exhibit 9 provides a brief summary of the focus of the following state and regional organizations:

- North Carolina Department of Commerce
- North Carolina Board of Science and Technology
- North Carolina Film Office
- North Carolina Natural Products Association
- North Carolina Biotechnology Center
- North Carolina Rural Economic Development Center
- Golden Leaf Foundation
- North Carolina Electronics Association
- Advantage West
- Duke Power
- Appalachian Regional Commission
- Smokey Mountain Development Center
- Southwestern Commission Region A Council of Governments
- Eastern Band of the Cherokee Indians
- Haywood Small Business and Industry Center
- AB Tech Small Business Incubator/Biotechnology Incubation and Training Center
- Community College Small Business Centers
- Mountain Microenterprise Fund
- Southern Appalachia Science and Technology Center
- Blue Ridge Entrepreneurs Council
- Education and Research Consortium
- NanoTech Capital, LLC
- HandMade in America
- Western Carolina Industrial Partnership
- Tennessee Valley Association (TVA)

**Market Conclusions**

The conclusions of the internal and external market analysis that are pertinent to the formulation of the market strategy and the development strategy are as follows:

- **Until recently, the region has not been a major destination for technology business and industry.** For this reason, market activity for high-quality business space has been limited in the region. Challenges the region faces include the historical dominance of the apparel/garment and furniture industries; the relative quantity and quality of the labor force; and the relative isolation of the region. Thus, as a business site, the Millennial Campus will represent a new kind of strategy and resource. In early years, it will compete with a variety of low-cost space options. But, to the extent that it can draw companies to consider the region, it will have little comparable competition in terms of cost and/or quality and value.

- **The entrepreneurial base of the region is growing and expanding.** While the region is challenging to market for re-locations of major technology companies, it is very desirable as a location for start-up and expansion of small to mid-size firms. Economic base data indicate the prevalence and growth of small and mid-size companies. A number of target business and industry niches are emerging in the region, many of which are dominated by start-up and
small, growth businesses. A number of these might be targets for occupancy in the Millennial Campus.

- **Western Carolina University is a valuable regional resource and a committed contributor to knowledge-based economic development in the region.** The University’s emerging and accelerating focus on program assets and capabilities that can support business attraction and retention, as well as its burgeoning recruitment of faculty who are business and community outreach-oriented, bodes well for the viability of the Millennial Campus concept.

- **The Millennial Campus location is accessible to three major southeastern metropolitan areas (as well as to regions within North Carolina), but reaching target business prospects in these metro areas will require unusual marketing tactics.** In the main, residents of these major metropolitan areas currently may perceive western North Carolina as an excellent recreational/retirement destination, not as a business destination. The challenge for recruitment of businesses from the “larger” region is that Cullowhee lacks the variety of business support services and amenities that are commonplace in these metropolitan areas—and important to knowledge-based companies and their employees. An advantage in recruitment may be that businesses in these metropolitan areas are accustomed to paying higher costs for space and may find costs in Cullowhee acceptable. Overall, the challenge will be to identify and market to such specialized segments.

- **Myriad resources and potential marketing partners in the region can contribute to the Millennial Campus market strategy, if Western can craft a productive way to keep them engaged.** The activities of numerous economic development organizations offer synergy of purposes with the purposes of the Millennial Campus, and their resources can help broaden its support and appeal. For example, the Eastern Band of the Cherokees may be an excellent financial resource. Advantage West is a proven economic development and marketing agency. The Natural Products Association may be a business development ally, as it represents member companies engaged in an innovative and viable niche business target for the region.
3—Market Strategy

Overview of Market Strategy

The Marketing Strategy that follows is derived from the above vision and concept for the Millennial Campus (Chapter 1) and the Market Analysis factors (Chapter 2). The proposed Market Strategy is divided into seven components as follows, each of which is discussed below:

- **Strategy 1:** Target marketing to niche market segments
- **Strategy 2:** Continue Western’s internal asset building activities
- **Strategy 3:** Develop the “community” components for the knowledge community
- **Strategy 4:** Plan market-driven physical facilities
- **Strategy 5:** Organize the marketing effort internally and to include roles for partners
- **Strategy 6:** Engage in both standard and creative marketing tactics
- **Strategy 7:** Develop and maintain a set of effective marketing materials.

1—Target Marketing to Niche Market Segments

One of the principles of market segmentation and focus for university technology parks is that the Market Strategy should balance between focus and flexibility:

- **Focus.** Focus on priority business/industry segments—selected as much as possible to be compatible with the university’s strengths and the regional industry base

- **Flexibility.** Remain opportunistic, as some company prospects always may emerge that are in different technology areas. In fact, a large percentage of university technology parks are considered to be “mixed-technology” parks.

Based upon recent employment growth by industry type, emerging niches, and the input of the region’s higher education institutions, Advantage West currently is updating its target markets. This organization’s analysis presents a realistic and current evaluation and interpretation of the competitive position of the region.

Relating the new Advantage West analysis to Western’s emerging programmatic assets and capabilities, the following target segments are proposed for Western’s consideration and discussion as primary target markets for the “focus” element of the Market Strategy:

- **Natural Products.** This target segment takes advantage of the region’s flora and fauna, the emerging regional biotechnology/ pharmaceutica industry, the prevalence of arts/crafts and coordination with the North Carolina Natural Products Association and Blue Ridge Food Ventures.

- **Media and Entertainment.** This target segment makes sense in terms of the new facilities at the Center for Applied Technology and the Fine and Performing Arts Center and capitalizes on the growth in entertainment and multi-media production companies already in the region.

- **Information Technology, Services, and Software.** This target segment is logical due to Western’s information systems, computer science, and communications technology programs; the supporting and complementary programs at the community colleges; and the recent introduction of affordable broadband access at the University and in the region. It also makes sense to include as a priority for two other reasons: (1) the location requirements of certain IT and software industry segments may be compatible with the features and advantages of this region and (2) the industry is ubiquitous and generally represents a predominant technology in university research parks. It therefore seems logical that the Millennial Campus should seek some market share of this enormous national industry.

- **Medical Equipment and Materials Manufacturing.** This segment capitalizes on the region’s continuing growth in health care services and Western’s Applied Technology programs.

- **Environmental Management.** This target segment is logical, given the region’s natural resources and environmental fragility. It also can be supported by Western’s Engineering Technology and Construction Management programs, as well as the Environmental Science and Parks and Recreation Management Programs.
2—Continue Western’s Internal Asset-Building Activities

Western recently has made impressive strides in diversifying its programs, hiring faculty, and establishing management functions that enhance its potential as a partner with business and industry. With much accomplished, Western already knows that it must continue this internal “asset-building.” These notes are intended to provide some observations in anticipation of a fuller planning discussion.

Program Focus Areas

The already in-place special-focus programs and facilities and the College of Technology programs will be major program resources.

The planning discussion for the Strategic Business Plan ideally should lead to some specific additional ideas for internal program development, tied if/as possible to the industry niches that represent the strongest opportunities. Some issues for discussion might be:

- Continued expansion of faculty positions, enrollments, and applied research activities in such fields as:
  - Computer science and software, computer engineering, communications technology, etc.
  - Entrepreneurship
  - Engineering technology and engineering design services
  - Multi-media production.

- Specific program development investments that would relate to and support the natural products industry, if something suitable can be defined.

Business Culture and Outreach

In the consultant team’s experience, every university that undertakes to develop a technology park must address internal culture issues and reward/incentive structures, to make itself more responsive, business-friendly, and entrepreneurial. Western is no exception. This topic needs discussion and ongoing attention. Some examples of future development and changes include:

- Continued evolution in the faculty evaluation system to ensure that faculty who engage in entrepreneurial and partnership activities are not penalized and, in fact, rewarded.

- Continued strategic development of the Center for Regional Development and other related outreach activities, to ensure that a full range of active services are in place.

3—Develop the “Community” Components for the Knowledge Community

It is commonly believed in economic development today that companies locate in places where there is cultural, esthetic, and lifestyle diversity. For this reason, cities are once again highly competitive destinations.

In this study, local stakeholders commonly assert that Cullowhee does not have the community amenities that business owners and their employees want, such as interesting retail, restaurants, gathering places and a variety of housing choices. Currently Jackson County and Cullowhee, in particular, are not perceived as obvious destinations for site location and business expansion purposes.

Western already provides cultural assets, as well as a large community of highly educated people. The new Performing Arts Center clearly will be a centerpiece for arts activity. What remains to be developed are the other elements of “community” amenities—an essential mix of supporting uses and amenities that can transform Cullowhee into a more vital community.

This mix of uses, organized into a “Town Center,” then will be able to satisfy the expressed needs of faculty, students, business owners and employees, tourists and other residents alike. Anecdotally, it is reported by interviewees that the demand for many of these services and amenities already exists, even without the Millennial Campus component. This element of Market Strategy is described further in Chapter 4: Land Use and Facilities Plan.

4—Plan Market-Driven Physical Facilities

An important component of the Market Strategy is to have readily available business space that meets the needs of potential occupants. Economic development officials and site selection consultants still maintain that the vast majority of relocating companies prefer to move into existing space rather than undergo the long and arduous development process themselves. This is especially valid in a region such as western North Carolina where site selection professionals may not even consider the region, because it does not have a large selection of high-value competitive space available for their consideration. Additionally, having some readily available space might entice entrepreneurs and other
companies presently in the region to at least evaluate the Millennial Campus as a viable alternative for relocation or expansion, either in the short-term or in the future.

To meet the needs of small regional start-up companies and of more established companies in the region and the multi-state area, three types of business facilities should be developed as part of the initial phases of the Millennial Campus. The three types of facilities are:

- **Incubator Facilities.** Multi-tenant space that leases below market rates and provides specialized services for start-up companies. (This suggests a publicly supported "Incubator" or "accelerator" and is an issue for Western’s discussion.)

- **Multi-Tenant Facilities.** Market-rate, flexible multi-tenant space that is attractive to more mature regional companies and companies coming from the multi-state region, or elsewhere. (Any such market-rate speculative space should be planned in modest quantities in the early stages.)

- **Building Sites.** Developable sites, with infrastructure, that can be leased, in the event that larger-scale users are identified for build-to-suit or stand-alone facilities.

Companies that are mature or that are located in other regions will not be as price-sensitive as local companies and they may be paying higher prices for space in their metropolitan areas than the prices commonly being charged now for industrial properties in the region. They therefore may find the market-rate space at the Millennial Campus to be a viable alternative, if they like other characteristics of the location.

5—Organize the Marketing Effort Internally and to Include Roles for Partners

**Governance**

Western has indicated its intention to develop the Millennial Campus via the Western Carolina University Research and Development Corporation. This plan, with which EKA concurs, is discussed below in Chapter 5—Development Strategy.

**Staffing**

If Western chooses to develop the Millennial Campus without a private development partner, there will need to be dedicated staff, either employed by the Corporation, or employed by Western and "lent" to the Corporation. The minimal initial staffing would be an Executive Director and an administrative support person. If developers are brought in on a fee basis or for specific properties, they will bring additional staff resources.

During the initial stages of the development of the Millennial Campus, the Executive Director will function as the primary marketing person, responsible on a daily basis for responding to inquiries regarding land/building availability and costs and for preparing and implementing marketing initiatives/materials. The Executive Director will also work closely with and capitalize on initiatives already in place by the North Carolina Department of Commerce and Advantage West, as well as other regional economic marketing entities. A third critical function of the Executive Director will be to maintain continuous relationships internally with faculty and staff, seeking always to identify opportunities for connections, relationships, business ideas, and prospects.

**Marketing Advisory Committee**

Marketing cannot only be the responsibility of a designated position. Typically marketing becomes a role for many within the university, with faculty playing an important role.

A Marketing Advisory Committee should be composed of representatives of both internal and external market interests. The mandate of this Committee would be to:

- Advise the marketing program in general
- Conduct specific outreach and promotion activities
- Coordinate marketing activities with other organizations that can be conduits of information or leads, as partners in marketing the region.

Representatives of internal market interests might include personnel such as:

- Center for Regional Development
- Small Business Technology Center
- Tech transfer office
- Faculty
- Alumni
External marketing organizations represented in the Committee might include:

- Jackson County
- Advantage West
- Duke Power
- Eastern Band of the Cherokees
- Western Carolina Industrial Development Association

The details of organization, mandate, and membership of this Committee are for discussion in planning sessions.

6—Engage in Both Standard and Creative Marketing Tactics

Standard Marketing Tactics
Typical real estate and economic development marketing methods include:

- **Systematic Activity in/with Associations of Targeted Industry Segments.** For Western’s market segments, on a regional level, this might include such organizations as the Natural Products Association and the Medical Design and Manufacturers Association. There also are national associations that are relevant, for example in software and multi-media. Activities could include:
  - Membership and participation in events
  - Advertising in the association publications
  - Attendance and exhibits at the conferences and trade shows
  - Direct mailing, with content that specifically highlights Millennial Campus resources and advantages for the industry in question
  - Coordination with Advantage West and others to ensure that roundtables and networks are in place in the industry segments that Western is promoting.

- **Economic Development Agencies.** Western will need to provide baseline information and frequent updates to Advantage West, the NC Department of Commerce, and other economic development organizations. For the economic development agencies, Western will need to maintain information on their events and activities and connect with or participate in them whenever possible.

- **Real Estate Professionals.** Similarly, Western will need to provide baseline information and frequent updates to real estate professionals (brokers) in the region. For brokers, there should be a policy developed under which brokers are "protected," i.e., that they will be paid commissions.

- **Site Selection Outreach.** Western can coordinate with Advantage West and the North Carolina Department of Commerce to place relevant information about the Millennial Campus sites and buildings on the web sites of those organizations and on other relevant site selection websites, such as the National Association of Manufacturers site and the International Economic Development Council site. Marketing materials (with periodic updates) can be supplied to regional and national site selection consultants.

- **Advertising and Earned Media.** Advertising is typically very costly and it is difficult to determine which media outlets are likely to be productive. However, a moderate advertising program for print, TV and radio can be developed. More useful, in many cases, is earned media coverage. Western will need to manage press releases and encourage "earned" media coverage for the Millennial Campus.

Creative Marketing Tactics
In addition to the typical industry marketing activities noted above, other more uniquely-designed marketing activities could include:

- **Relationship Marketing.** One of the very special marketing approaches for university-sponsored real estate is marketing of the resources and opportunities via existing relationships of the University. Presumably, corporate personnel or business owners who already have some form of relationship with Western or the region are higher-probability prospects to be interested in a location here. These “relationship” segments include:
  - Alumni of Western Carolina University
  - Alumni of UNC-A or ASU
  - Companies with which Western as an institution, or any of Western’s faculty, have any form of research or business service agreements or collaborations
  - Companies that make philanthropic contributions to Western
Entrepreneur Outreach. Specific ways to find entrepreneurs would be important. This might include advertising in relevant publications such as Inc Magazine.

Vacationers/Retirees Outreach Marketing. This is a unique opportunity and challenge. The idea would be to convert the thinking of business people who now think of the area for recreation to also think of it as a business location. Materials on the advantages of doing business at the Millennial Campus might be distributed at area visitor centers, lodging facilities, and at the marketing centers for the various residential communities being developed in the area. Additionally, advertisements could be placed in publications, such as Golf Magazine, that are read by travelers to the area.

Multi-State Region Outreach. Tactics are needed for targeting companies in the multi-state region. Examples of possible tactics include placing articles and advertising in business journals serving Atlanta, Greenville/Spartanburg and Knoxville; holding special events attended by area businesses; and participation in tours of the area sponsored by Advantage West, the North Carolina Department of Commerce and other economic development marketing entities.

7—Develop and Maintain a Set of Effective Marketing Materials

A consistent style or “look” for Millennial Campus marketing materials needs to be developed. It surely could include or incorporate the logo of the University but it also can have its own logo and design scheme. All materials—WEB and print—would have unified, compatible design.

The marketing of an endeavor such as the Millennial Campus requires at a minimum the following marketing materials:

- Brochure. An overview brochure (glossy) should show they physical plan for the Millennial Campus, and summarize key assets and benefits of Millennial Campus as a business location.

- Information Sheets. A series of one-page information sheets, that can be changed and updated frequently, can be developed to provide more detailed information about the region’s demographics/economic base, an overview of Western Carolina University’s programs and assets related to the Campus, specifics on land/buildings/pace currently available, etc.

- Web Site. The web site should contain the same components as the brochure and information sheets, but also have space allocated to recent articles about the development of the Millennial Campus, the regional economy, and activities at the University as well as testimonials from companies operating in the region and at the Campus. Several links to related sites would be included.

- Video. A professionally-produced short (e.g., five-minute) video should be prepared on the history and intent of the development of the Millennial Campus and why it is an opportunity for businesses.

- Press Kit. A standard press kit should be developed for disseminating at all press conferences. Ideally, major events at/about Millennial Campus should involve a press conference.

- Trade Show Materials. Large-size display boards and an organized exhibit display are needed. In addition, specific materials for handing out at trade shows, in addition to the standard brochure and information sheets, might be appropriate.

- PowerPoint. There should be one or more versions of presentations that can be used conveniently at various meetings, for general information and promotion events.

- Advertisements and Other Specific, Targeted Materials. Materials that are suitable for advertising in magazines/publications and for mail out to members of specific target associations should be developed.

- Premiums. Somewhat more optional, but often used, are “premiums” or gift items with the Millennial Campus logo and contact information.
4—LAND AND FACILITIES PLAN

Planned Uses

This discussion of planned uses is intended to represent a long-term view of all the uses/facilities that ultimately should be part of the Millennial Campus. A more near-term discussion of “phase 1” elements follows below.

University Academic Uses

University/academic uses that are most likely to help recruit, maintain, and engage private-sector knowledge-based companies are the most advantageous Western uses to locate at the Millennial Campus. These could include science laboratory and engineering programs and space; “Institute” space for multidisciplinary research projects; and “sabbatical space” for faculty to engage in outreach and entrepreneurial activities.

Business Development and Support

Internal University Business and Outreach Functions

Western might elect to move some or all of its business-oriented outreach functions and offices to the Millennial Campus, including such functions as the Office of Regional Development, technology transfer, Small Business Development Center, etc.

Incubator (Low Cost) Facilities

This element requires internal discussion at Western. Although there is incubator space in the region, the Market Analysis suggests that some portion of desirable target markets for Millennial Campus will be new or young companies that are both price-sensitive and in need of business and technology/innovation support services. It therefore seems reasonable that public subsidies should be sought, as is typical, for an incubator facility for the Campus.

Primary Commercial Uses and Office/Lab/Flex Space

One of the most important functions that a university research park engaged in knowledge-based economic development can provide is the link between idea/incubation and stabilized/mature companies. This link is the speculative multi-tenant building, and this is the most challenging building type to finance because it focuses on the early-stage, non-creditworthy company. Nonetheless, speculative multi-tenant space for these types of tenants has proven an essential ingredient in development of most university technology parks.

In addition, more mature, stabilized companies moving to the region also may seek to occupy space in multi-tenant buildings. A more limited number may elect to occupy a complete building.

Early-stage users and occupants in multi-tenant buildings nearly always prefer to lease space. Single-user buildings, buildings for individual tenants, are either built to suite and leased or could be owned by the occupant (in this case, subject to the land lease).

Millennial Campus should focus on the speculative, multi-tenant buildings to fill the need for small, early-stage non-creditworthy companies. However, space also should be available for mature companies in multi-tenant buildings and stand-alone buildings. Buildings should accommodate a mix of commercial, office, lab, and flexible space for data testing and pilot plants.

Amenities and Services

In order to create a knowledge community, ultimately a quite full array of civic and retail services should be included in the Millennial Campus master plan. These must include a variety of places for people to meet, work, and play. A complete community environment would induce people to stay at Millennial Campus for activities in addition to formal work. Hotel accommodations, conference center, day care centers, convenience retail, coffee shops, lunch and dinner places all should be considered. Recognizing that there may be regulatory difficulties involved in including places that serve alcohol, this factor should be reviewed.

These places could be consolidated into a “Town Center” that would meet some of the well-established needs for these amenities in Cullowhee, in general, as well as serve Millennial Campus directly. As an additional consideration, planning of a “Town Center” for the Millennial Campus may inspire local consideration of town planning opportunities beyond the Campus borders.
Housing

Convenient, walk-able, affordable housing appears to be universally recognized as a need in the community. A residential component in a mixed-used community enlivens it after working hours and increases daytime demand for the amenities and services provided. The land plan should test the overall build-out capacity of the Millennial Campus and, if capacity is available, consideration should be given to a residential component, which might be market housing or housing restricted to Western employees and/or occupants of Millennial Campus. Given the land ownership, it appears that rental housing would be most appropriate—unless arrangements can be made to convey title to residential properties.

Land Plan Strategies

The comprehensive Strategic Business Plan eventually will incorporate a Land Plan which, in turn, will influence and be integrated with Market Strategy and Financial Strategy. As the land planning activity has not yet begun, for purposes of this White Paper, the following are some preliminary ideas about land planning.

It is critically important that the Land Plan respond to and represent the vision of the knowledge community, as well as the marketing, financing, and schedule realities. A typical subdivision land plan (as is the model for industrial and business parks) does not promote the concept of a knowledge community and does not allow the informal interactions that create a sense of “place” and an atmosphere of innovation.

In our view, the Land Plan should look more like a traditional college campus than an office park. It should cluster buildings to create usable outdoor spaces that allow pedestrian circulation between the buildings and preserves open space. Millennial Campus, both as a knowledge community in itself and as a part of the larger Cullowhee/Western Carolina knowledge community, should be a centerpiece of energy and activity. Parking, as a significant land use factor, should be carefully organized so that it is convenient and yet does not impede the option of walking on the campus between buildings and uses.

Within the land plan thus organized, the “Town Center” should be a central feature that draws people at Millennial Campus together and attracts people from campus and town.

For a knowledge community, high-density development provides a greater sense of energy and excitement than low-density development. Multi-story buildings promote density and provide greater opportunities for design content. We would envision a mix of building heights, ranging from two to four floors, recognizing that some single-story buildings or some high-bay buildings also may be needed.

The Millennial Campus should have conveniently placed sidewalks and outdoor places to connect between buildings and between the various sections of the campus. Landscaping, lighting, and signage elements should be consistent to unify the campus, and buildings should be subject to Design Guidelines that ensure similarities between them (rather than a single static design requirement for all buildings).

It is significant that the Millennial Campus is intended to be located on one of the few large land tracts available that are close to Western’s campus. The land is interesting in its topography, and it should serve to inspire innovative design. Issues such as soil type, wetlands, and infrastructure must be carefully investigated and resolved.

If additional land could be acquired so that Western’s campus and Millennial Campus were contiguous, this would be highly beneficial. An ideal scenario would be acquire land such that the intended site and the Main Campus can be connected and that connective location might be the preferred site for the Town Center.

It is likely that infrastructure cost will be significant and it therefore will be phased over time. The Land Plan must accommodate this phasing, representing a complete design statement throughout the phases, as well as at the conclusion of build-out.
Proposed Phase 1

The following components should be considered candidates to constitute Phase 1 of Millennial Campus, with Phase 1 tentatively considered to be a 5 to 10-year period:

- **Land Acquisition.** This includes:
  - Completion of the pending land acquisition for the identified site
  - Additional land acquisition to reduce the distance between Western's campus and Millennial Campus and hopefully to make them contiguous, allowing a "Town Center" to be the junction point.

- **Public Infrastructure.** When land planning is undertaken and Phase 1 building projects more defined, a "phase 1" of infrastructure investment requirements will be defined.

- **University Uses.** Phase 1 facilities for Western's programs may be of two types—(1) stand-alone University facilities and (2) some Western activities that can anchor multi-tenant facilities in which companies also would be located. Further discussion is required of the details of which activities and facilities of Western should migrate to the Millennial Campus. Possibilities include:
  - A new Health Sciences Building
  - An Entrepreneurial Center, combining incubator space, some speculative space, and Western's economic development functions.
  - Locating a new College of Education building on the Millennial Campus could provide population momentum and "financial coverage" that helps accomplish infrastructure; however, an Education facility is not as well-focused on the concept of Millennial Campus as would be facilities relating to technology and invention.

- **Multi-Tenant Space.** Recognizing the difficulty of the speculative market and the rent that would be required to cover costs of construction of high-value facilities, if done without public subsidy, initial speculative space should be in small increments, and would best be included in mixed-use buildings that also house University uses.

- **Town Center.** Early on in Phase 1, at least the initial components of a Town Center should be a priority. This would include some food service and retail, and possibly a child care facility. Initial recreation resources could be considered. (More elaborate uses, like a hotel and conference center, would not likely be part of Phase 1.)

- **Housing.** Market-rate housing or housing focused for faculty and/or graduate students. Retirement housing and married student housing might provide population momentum and "financial coverage" for infrastructure, but again, do not appear to be optimally-focused on Millennial Campus' mission. If housing is feasible within Phase 1, the housing would provide market support for other uses.

- **Building Sites.** Sites ready for development of single-use, build to suit facilities.
5—Development Strategy

Development Horizon

University-related research parks—or knowledge communities—traditionally require long build-out periods. This is because most universities initiate such projects in order to create a new market that does not yet exist, for knowledge companies. This means that there typically is an extended planning process followed by relatively slow building activity in the early years. Those universities that focus on their mission, requiring high-value facilities and tenants, including those targeted to be complementary with their institutional interests, take longer to build out because the market is more focused and therefore more limited. Because of these two factors, build-out of university knowledge communities often spans several decades and multiple economic cycles and there are periods of slow activity—at the beginning and during the down cycles.

For these reasons, it is important to establish a realistic development horizon for Millennial Campus. For projects of this magnitude, in this type of marketplace, we often start with the assumption of a development horizon of twenty years, or longer.

Development Entity

Western Carolina has established a special entity—Western Carolina University Research and Development Corporation (the Corporation)—with the intent that the Corporation will be responsible for development activities at Millennium Campus. This is an appropriate way to proceed because this Corporation can:

- Help isolate the University from many development risks
- Serve to streamline decision-making
- Give evidence of the importance of the initiative.

Consideration could be given to expanding the number of participants in the Millennial Campus. Increasing the number of stakeholders and regionalizing the knowledge-based economic development strategies of Millennial Campus can only help in achieving success and may be necessary to gain public understanding and commercial success.

The community colleges, Appalachian State, Advantage West, the County, A-B Tech, Duke Power, among others, could be candidates. They could provide assistance to a wholly WCU-controlled entity on an informal basis, or as a more formally organized advisory group that would meet regularly with an agenda and follow up.

It must be determined how Western’s Corporation will carry out all of the activities that are necessary for development to occur and how to manage the risks associated with them.

Development Activities

Development activities can be organized the following headings:

- Land Consolidation and Acquisition
- Provision of Public Infrastructure
- Marketing and Leasing
- Land Use Planning
- Provision of On-site Infrastructure
- Facilities Design, Permitting, and Construction
- Financing
- Management and Operations

Development Risks

Development risk can be organized under the following headings:

- Pre-development
- Pre-funding risk
- Permitting risk
- Construction cost and schedule risk
Rate risk, both initial and ongoing
- Lease-up risk, both initial and ongoing
- Reputation risk.

**Development Strategy Options**

Universities utilize a variety of business structures to carry out their active real estate programs. Each alternative has a different level of responsibility, activity, and risk:

- **Self Development.** Some universities carry out real estate development and property management internally. They build staff, use consultants, and assume both risk and debt to acquire land and buildings for direct use and/or investment.

- **Fee-For-Service Developers.** Other universities have retained private-sector firms with the necessary development skills and paid fees for their services. The universities assume the entire risk, contracting out only for the required skills and services.

- **Joint Development.** Joint ventures and public/private partnerships with developers are fairly common, although many of these relationships have been less than successful. The university and developer share in varying portions of the management, risk and reward of single or multiple projects. The university can share the general risk with the developer or assume a limited risk through proper business structuring. Although the activities that the university can carry out as a "limited partner" are limited by law, the university can still play an active role in the establishment of governance principles and/or marketing, and still maintain legally limited liability status.

- **Passive.** To complete the range of approaches, it is true that universities can remain passive in real estate projects, simply as lessors of the land. Of course, land leases can be structured with restrictions for design and use.

**Private Developer Roles**

Universities that elect to form partnerships with developers do so to gain:

- Additional expertise and staffing
- Additional marketing
- Additional access to capital
- Assumption of certain risk

If a developer assumes risk, there likely will need to be a continuing relationship to make it worthwhile. A developer having a reasonable expectation of a longer, continuing relationship might better justify significant early investment of expertise, time and money, and might take a longer term view of the project, more aligned with Western's objectives. The "duration" of such a relationship can be expressed as:

- A period of time (years)
- A given number of square feet of development
- A defined phase of development (multiple buildings)
- An initial or individual building

Multiple developers might provide flexibility and theoretically disburse risk; however, this approach might also limit early investment of a developer's time and resources and make a longer term view more difficult. Also, in the long run, if core office/lab facilities are owned by multiple developers, there can be competition between developers when space is available that would complicate achievement of a coherent marketing program.

**Development Strategy for Consideration**

Due to the mixed-use nature of Millennium Campus, it may be advantageous to use a different development approach for each different use. For example, the activities, financing, and skill set needed to develop speculative wet lab space are different from the approach to market-rate housing targeted to faculty and graduate students. Development of a build-to-suit building for a creditworthy, single-user tenant is different than the approach required to develop a speculative multi-tenant building for start-up companies. Retail projects are different from the others. Western should remain flexible to take advantage of multiple approaches for these different projects.
Western's development entity (the Corporation) should be responsible for all the development activities for Millennial Campus, selecting an appropriate specific approach for the various project components. The following approaches are for Western's consideration.

**Infrastructure**

Western would plan, obtain public financing, and construct infrastructure as needed to serve Millennial Campus, coordinating phasing of infrastructure with phasing of buildings.

**Stand-Alone Western Facilities**

Western would directly finance any facilities for its own, exclusive use.

**Land Leases**

Via the Corporation, Western would lease land to companies that wish to self-develop facilities, and to others that wish to build facilities to suit, and administer tenant selection criteria, permitted use guidelines, and design guidelines. As an alternative, Western's Corporation also could offer to carry out development services for such single-user facilities, on a fee basis.

**Speculative Office/Lab—Multi-Tenant Facilities**

It does appear that there is a "thin" market at the present time for existing knowledge-based companies and for attracting knowledge-based companies to Cullowhee. We expect that any market will be price-sensitive and that this will be complicated by Western's objective of creating a high-value (higher cost) community. This challenge would suggest a more active role for Western for this type of facility, at least in the early stages of development of the Park. Western's active role might include supporting commercial financing through:

- Properly structured land leases
- Pre-leasing of space by Western at a percent of the total planned building that is sufficient to induce commercial financing
- Stand-by guarantees.

As experience in numerous other parks suggests, the best (and possibly only) way to create speculative space that can be immediately available for lease is to have Western pre-lease a portion (e.g. 50 percent) of a multi-tenant building. Usually, this will make it possible to finance the entire facility, including its speculative portion. The strategy works best if Western's plan for the financing includes a "fall-back" position, by which Western would be able to lease and occupy additional space, in the event that market response is too slow to materialize.

**Site Amenities/Retail/Town Center/Housing**

Western's Corporation should contract with specialty, private-sector developers to carry out development for facilities with markets that are better defined. These might include housing, as well as retail, hospitality, day care—essentially all of the activities that would make up a Town Center.
6—FINANCING STRATEGY

Financing Review by Components

There are a variety of project needs that may require different financing packages, including:

- Land acquisition
- Public infrastructure
- On-site infrastructure
- Building "core and shell"
- Building "tenant improvements"
- Tenant equipment and moveable furnishings.

In commercial real estate development, buildings typically are planned with cost components that may be treated differently. Usually, the immediate on-site infrastructure and the "core and shell" of the building is one component, while the "tenant improvements," that is, the fit-up of the interior space is a separate component. This is because commercial tenants differ in their requirements for interior space. Often, only "shell" space is finished and the rent that is charged includes an allowance for tenant improvements, which may be financed differently than the core and shell.

Land Acquisition

It is our understanding that Western has in place the funds necessary to acquire the land; however, this planning process (and related land planning) may indicate that additional land acquisition would be advantageous in linking Millennium Campus to both the main campus and to a new retail/community core.

Public Infrastructure

Public infrastructure which will service multiple projects at the Park and off-Park projects that will develop as the Park is successful will have to be publicly financed. It could be that some development can take place prior to significant public infrastructure but, certainly, significant public infrastructure will be required to achieve the build-out expectations for Millennium Campus.

On-Site Infrastructure and Building Core and Shell

On-site infrastructure, building core and shell, and some building tenant improvements are often financed with traditional commercial debt and equity, where the debt is secured on the revenue streams of the tenants in the building. This means that the creditworthiness of the tenants is central to the feasibility of financing for the transaction.

While traditional commercial debt and equity financing is most straightforward, it could be that community-minded investors in Cullowhee or Western alumni would be willing to offer funds on more advantageous or flexible terms that would enable the project to be financed with tenants that are less than creditworthy and/or would allow the project to be leased at a lower cost.

Additional opportunities may include special-purpose bond financing or even grants for certain projects. Some universities have provided financing from their own foundations or have secured financing using the indirect cost recovery from research grants.

Building Tenant Improvements

Building tenant improvements that are non-standard or those whose cost exceeds the market—such as laboratory tenant improvements—are often difficult to finance with traditional debt and equity. These costs often require the alternative types of financing noted above or public finance sources. Many universities make the mistake of not including such improvements within their projects’ lease structure, thinking that the tenant will fund them. This almost always impedes lease-up, because small tenants do not choose to use limited capital for this purpose, or lack access to capital.

Initial Capital Costs and Pro Forma

Considerable work must be undertaken as part of the land planning activity to determine off-site, public infrastructure costs, as well as on-site infrastructure costs. Also as part of the land planning activity, projected costs for the various facilities types/elements—office, lab, flex, retail, housing—can be determined. Project cost estimates then form the basis of a pro forma which will identify the amount and type of financing required.
**EXHIBIT 1—PLANNING PARTICIPANTS**

**Western Carolina University Steering Committee**

John Bardo, Chancellor  
Charles J. Carter, Chairman, Special Assistant to the Chancellor  
Kenneth A. Burbank, Head, Department of Engineering Technology  
Paul L. Evans, Director, Center for Regional Development (new member)  
N. Leroy Kauffman, Dean, College of Business  
Noelle L. Kehrberg, Dean, College of Applied Sciences  
Thomas E. McClure, Director, Office of Regional Affairs  
George W. Wooten, Vice Chancellor for Finance and Administration  
David J. Butcher, Head, Department of Chemistry and Physics  
Don W. Connelly, Assistant Professor, Department of Communications and Theater Arts  
Scott E. Higgins, Professor, Department of Health Sciences  
Clifton B. Metcalf, Vice Chancellor, Advancement and External Affairs  
Thomas Franke, Chief Information Officer

**Eva Klein & Associates, Ltd.—Consultant Team**

Eva Klein, Project Director  
Bruce L. Flye, Jr., Consultant, Site and Land Plan Coordination  
Patricia Curran, Market Analysis and Market Strategy  
William C. Morlok, Development and Financing Strategies
EXHIBIT 2—SUMMARY OF ASSETS AND CHALLENGES

Assets

Accessibility
- Proximity to major population centers
  - Atlanta
  - North Carolina Triad
  - Knoxville
  - Greenville/Spartanburg
- Transportation infrastructure
  - Well-developed regional roadway system
  - Strategic access to region by way of multiple "entry states"
  - Location immediately adjacent to a small county airport that is being expanded to meet increasing demands from private users.

Infrastructure
- Information Technology
  - Significant high-speed internet and broadband access
  - Tier 2 connectivity, with Tier 1 pending
  - Technology infrastructure and culture continuously developing
- Adequate utilities, presence of major utility providers including Duke Power and the Tennessee Valley Authority
  - Water
  - Electric power
  - Natural gas

Natural Resources
- Bio-diversity
  - Temperate rain forest
  - Ongoing research activity
  - Widest array of flora in the United States
  - Large forest resources
- Wide range of mineral resources
- Generally pristine natural environment

Labor Force/Population
- Appalachian culture
  - Entrepreneurial spirit
  - Sense of self-reliance
  - Commitment to many to remaining in the region
- Available work force
  - Many under-employed (representing opportunity for employers)
  - Numerous skilled and semi-skilled workers who remained behind after employers departed
  - Population becoming more diversified
  - Substantial well-educated retirement sector, with significant business leadership and management skills.

Quality of Life
- Western North Carolina Mountains
  - Moderate climate in all four seasons
  - Beautiful scenery
  - Plentiful outdoor recreational opportunities and national parks
- Culture and Atmosphere
  - A major university in a quiet rural setting
  - A strong arts culture
  - Low population density
  - Small-town livability
• Strong, place-oriented communities
• A sense of “hip-ness” (in nearby Asheville)
• Low crime rate.

**Government and Services**
- Locally good health care system
- Low property tax rate
- Generally strong K-12 schools
- Presence of a regional education system
  - Numerous public and private institutions
  - Presence of an “institutional economy”
  - Existing culture of collaboration among institutions

**Business Climate**
- Existing base of technologically inclined enterprise
  - Biotechnology and biogenetics
  - Nutraceuticals
  - Opto-electronics
  - Parametric modeling
  - Precision manufacturing and plastics
  - State-of-the-art textiles and apparel concerns
    - Park Dell Mills
    - Unifi
    - Milliken
  - Herbal and natural product industries
- Other centers of economic activity
  - Tourism
  - Hospitality
  - Arts and crafts

**Leadership**
- Commitment to community-building
- Culture of collaboration
  - Increasing contacts and support between Western and the business community
  - New sense of bipartisanship in state delegation
- Availability of a strong cast of stakeholders
  - Chancellor is seen as an achiever
  - Advantage West is regarded as one of the best organizations of its kind in the business
  - Loyal and active delegates at the state and national levels.

**Challenges**

**Accessibility**
- Highway transportation
  - No inter-modal planning or public transportation
  - Limited traffic patterns and options
  - Little planning for construction of new roads
  - University is not on an interstate roadway
  - Access to the region can be limited further in winter
  - Walking and biking options are quite limited.
- Air transportation
  - Local airport is limited with no commercial travel
  - Air service into regional airports is costly and minimal
- Visibility
  - “West of Asheville” identity
  - Perception of inaccessibility
  - Perception of isolation.
Infrastructure
- Limited distribution of Internet access
- Limited access to utilities
  - Terrain
  - Local policies
  - Costs of expansion.

Natural Resources
- Lack of planning for long-term resource management
- Constraints of environmental issues complicate and limit the number of available and accessible business sites
- Natural infrastructure (air, water) is fragile
- Tension between issues of growth/development and environmental stewardship.

Labor Force/Population
- Local culture
  - Although increasing, still relatively little cultural diversity
  - Growing migrant population
  - Predominance of elderly population (the young and educated move away)
  - Small regional labor force, which affects industry relocations and expansions
  - Low-skilled and unskilled workforce remains in region.
- Resistance to change
  - Minimal support for growth of any kind
  - Retirees are reluctant and not motivated to change
  - Church community has not been brought on board with development
  - Narrow vision of the long term (e.g., "It's OK to throw your refrigerator in the creek.")
  - Appalachian stereotype.

Quality of Life
- Mountainous terrain
  - Promotes linear development patterns
  - Restricts transportation options and impacts commuter patterns
  - Drives up development costs
  - Contributes to sense of isolation for inhabitants
  - Limits accessibility for the physically handicapped
- Standard of living
  - Relatively high cost of living and construction
  - Mid-priced and decent affordable housing is in short supply
  - High level of poverty.
- Limited amenities
  - Few nightspots
  - No activities for singles
  - Few community gathering places.

Government and Services
- Planning and growth management
  - Lack of land use planning which results in unrestricted/uncoordinated growth and development
  - Lack of accepted models for rural development
  - Real estate risk is high due to lack of planning
  - Regional efficiencies not possible
- High corporate taxes
- Reduced tax base due to publicly owned lands in many locations
- County and towns are "dry"
- Limited availability of pre-school programs
- Some public K-12 schools are challenged.
Business Climate
- Limited access to capital
  - Venture capital has not been available locally.
  - Few formal initiatives for accessing local capital
- Cost of development
  - Real estate prices are high and rising
  - Few competitive vacant sites and buildings available
  - Lack of skilled construction labor drives up wage rates
- Limited employment opportunities
  - Low-wage jobs prevail
  - Local perception of exclusionary hiring practices.

Leadership Issues
- Collaboration gaps
  - “We-They” issues, especially locals/retirees vs. university people
  - Jurisdictional rivalries and outdated boundaries
  - Few effective business/development networks
  - Local elected leadership remains remote
- Conflicting visions
  - Preserving heritage vs. managing change
  - Which comes first—more people or more jobs?
- Perception of a resource gap as a major impediment
  - Sense that western North Carolina lacks political clout
  - Belief that Raleigh “bureaucrats” do not understand western North Carolina.
EXHIBIT 3—SPECIAL RESOURCES AT WESTERN CAROLINA UNIVERSITY

Center for Integrated Technologies (CIT)

The CIT has three primary areas of focus that include:

- Opto-Electronics/Photonics
- Telecommunications Engineering Technology that includes both Automatic Identification and Data Capture (AIDC) and Wireless Mobile Computing
- Advanced Manufacturing application expertise that will focus on Stereo Lithography/Fused Deposition (Rapid Prototyping) and other applied laser technologies.

The CIT is engaged currently with more than 30 manufacturing clients in the areas of design, modeling, metrology, CAM and automation that includes verification of high performance piston geometry; geometric verification and metrology for metal allow steel seals; fixture design and fabrication for an automated polishing station; feasibility studies for automation lines; electronic fixture and enclosure design; and, 3-D modeling consultation.

Carolinas Micro-Optics Triangle

This partnership brings together the materials engineering expertise at Clemson, the world class Center for Precision Metrology at UNC-Charlotte, and manufacturing expertise at Western. It is intended to not only create employment opportunities but also training opportunities for students and existing work force skills enhancement.

Western Carolina University-University of North Carolina-Charlotte Partnership

This partnership was established for Western to take advantage of the high level of expertise in the fields of photonics, wireless networks and telecommunications at UNC-Charlotte. The partnership has enabled Western to develop its laboratories in these fields to a level that its students are now able to obtain specialized degrees in these fields.

Western Carolina University-University of Southern California/Stanford University Partnership

Western established a partnership with the University of Southern California and Stanford University through a DARPA grant. The partnership is a joint research effort that could lead to mass production of intricate components necessary to bring high-speed fiber optics communications to the consumer desktop. The R&D will largely take place at USC and Stanford with the model manufacturing being conducted at Western. Ultimately, the hope is to establish production manufacturing in western North Carolina, with creation of new economy jobs.

Office of Technology Transfer

Western recently created an office of Technology Transfer within the office of Legal Counsel. Legal Counsel will work with faculty to develop research, patents, product development and will enter into agreements with private sector entities as appropriate in these same areas. The University currently has an agreement with Wake Forest University to evaluate the viability of potential patents.

Western North Carolina Biotechnology Consortium

This association includes regional universities, community colleges and economic development leaders and organizations in addition to the North Carolina Biotechnology Center. The Consortium was a result of a ten-point agenda to create a Biotechnology/Bioprocessing Industry for the region.

The Education and Research Consortium of the Western Carolinas (ERC)

The ERC was established in 1997 to enhance economic and workforce development in western North Carolina and was recently expanded to include upstate South Carolina. In addition to Western, members include three private colleges in the region, representatives from the Community Colleges and institutions of higher education in upstate South Carolina. The ERC is leading the effort to bring affordable broadband access to western North Carolina and currently has established a Tier 2 Network...
in the major population center and within a few months will have a Tier 2 Network in the entire western region of the state.

**College of Business Undergraduate and Graduate Entrepreneurial Degrees**

The College of Business at Western now offers the only degree in Entrepreneurship in the State, and at both undergraduate and graduate levels. The program is based on the campus at Cullowhee and operates in collaboration with community colleges in western North Carolina. The program was designed to address a critical need in the region for sustainable economic development through small business start-ups and expansions of existing small businesses. The program is also a vehicle for training students who wish to carve out an economically viable niche for themselves as business entrepreneurs and remain in the area.

**Small Business and Technology Development Center**

The western regional Small Business and Technology Development Center (SBTDC), located in the College of Business, provides ongoing business assistance/counseling to approximately 350 clients annually. This service is provided through its offices at Western’s main campus and also in Asheville, the region’s population center. The services provided by the SBTDC include:

- Technology development
- Management education/counseling
- Marketing research services
- Government procurement assistance
- International business assistance.

**Western Carolina University-North Carolina Institute of Government Partnership (LGTP)**

Western and the Institute of Government entered into a partnership about 20 years ago to deliver training to local elected officials and government employees in western North Carolina. Because this area is located so far from the center of state government, it was not practical for local officials to travel to the Capitol for two or three days. Therefore, the partnership was established to provide training on a regular basis in western North Carolina. In collaboration with the Institute of Government, the LGTP serves an average of 1,000 local elected officials, government employees, county managers, and others on an annual basis, at a variety of locations in the region.

**Continuing Education and Summer School**

This division offers a variety of education and training services to enhance the skills and knowledge of persons of all ages. The division’s mission is to partner with business, industry, public agencies, organizations and schools to increase the effectiveness of the people they employ.

**Center for Regional Development**

The Center for Regional Development is composed of three programs: the EDA University Center, the Local Government Training Program and Western North Carolina Tomorrow. It is located administratively in the Division of Academic Affairs. Recently reorganized to better serve its constituency, the CRD provides an array of services, including:

- Economic development feasibility/impact studies
- Technology transfer, in collaboration with the College of Applied Sciences’ Engineering Technologies program
- Strategic planning for communities, non-profits, economic development organizations, academic researchers; and, local governments.

In collaboration with the Smokey Mountain Development Corporation, the CRD until recently also provided incubator management assistance and SBA 505 loan packaging. During the past 15 years, this partnership has created in excess of 500 jobs and approximately $50 million in capital investment in western North Carolina.

The CRD provides:

- Demographic data and interpretation/trend analysis
Center for Applied Technology

Western recently opened this 28,000 square-foot academically multidisciplinary facility. The Center will provide high technology education and programs to support emerging, high-tech or "new economy" industries. It includes integrated multimedia-based programs for commercial quality digital sound recording (virtually one of a kind) and television studios. The Center also contains applied engineering facilities and laboratories for technology-based manufacturing, three-dimensional epoxy laser modeling and information network design.

Hospitality Management and Tourism Training Center

A 25,000 square-foot Hospitality Management and Tourism Training Center has been designed and is planned to be constructed during the next two years, subject to the availability of funding. This Center will house the Hospitality Management degree program at Western and will support development of the region's tourism and hospitality industry, which is the second largest contributor to the regional economy.

Fine and Performing Arts Center

The Fine and Performing Arts Center is a $30 million facility which, when complete, will provide classrooms, studios, galleries and support space for students majoring in the arts and humanities, and a 1,000-seat hall for music and theatrical performances. Consolidation of all of Western's fine and performing arts into an integrated complex reflects the importance of the arts to the campus. But it also will provide an important cultural amenity for the surrounding region.
**EXHIBIT 4—ADVANTAGE WEST ANALYSIS OF HIGHER EDUCATION PROGRAM ASSETS (DRAFT)**

This table, provided by Advantage West is in draft form.

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<tr>
<th>Industry Cluster</th>
<th>Highlands</th>
<th>Asheville Metro</th>
<th>Foothills</th>
<th>High Country</th>
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<td></td>
<td>Cherokee, Clay, Graham,</td>
<td>Buncombe, Haywood, Henderson,</td>
<td>Burke, Caldwell, McDowell,</td>
<td>Alleghany, Ashe, Avery,</td>
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<td>Jackson, Macon, Swain</td>
<td>Madison, Transylvania</td>
<td>Polk, Rutherford, Wilkes</td>
<td>Mitchell, Watauga, Yancey</td>
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<tr>
<td><strong>Recreation and Tourism</strong></td>
<td>Public Service Technology</td>
<td>Business and Hospitality</td>
<td>Hospitality Management and</td>
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<td></td>
<td>Career Prep in high schools</td>
<td>Education at AB Tech</td>
<td>Recreation Management</td>
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<td>programs at ASU</td>
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<td>BA in Performance at</td>
<td>Language and culture and</td>
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<td>Montreal College</td>
<td>music and dance programs</td>
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<td><strong>Food Products</strong></td>
<td>Family and Consumer</td>
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<td>Sciences Education</td>
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<td>program in middle schools</td>
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<tr>
<td><strong>Hospitals, Labs and Medical</strong></td>
<td>Health Sciences Career</td>
<td>Medical diplomas and</td>
<td>AA in Health Sciences/Public</td>
<td>Dept. of Family and Consumer</td>
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<td>Services**</td>
<td>Prep in high schools</td>
<td>certificates at SCC</td>
<td>Services and health technician</td>
<td>Sciences at ASU</td>
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<td>courses at CCCTI</td>
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<td>Health Occupations Education</td>
<td>Medical degrees at Tri-</td>
<td>Certified nursing,</td>
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<td>program in middle schools</td>
<td>County</td>
<td>phlebotomy, and EMT training,</td>
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<td>Health Care and Healthy</td>
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<td>Health Occupations</td>
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<td>Living programs at ICC</td>
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<td>Students of America in</td>
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<td>middle and high schools</td>
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<td>Allied Health degree at Mars Hill</td>
<td>AA in Health Sciences, diplomas and certificates in dental and medical assisting, and continuing education programs in certified nursing and phlebotomy at WFCC</td>
<td>BA in Public Administration at Shaw CAPE</td>
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<td></td>
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<td>BA in Exercise Science at Brevard College</td>
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<tr>
<td>Pharmaceuticals and Medical Technologies</td>
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<td>Vehicle Parts Assembly</td>
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<td>Information Technology and Communications Services</td>
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<td>Technology Education program in middle schools</td>
<td>Computer continuing education classes at SCC</td>
<td>Computer technology certification programs at BRCC</td>
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<td></td>
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<td>DPI collaborates with ExplorNet, Cisco, CC system and others to provide IT courses in high schools</td>
<td>Information and Office Systems degrees at Tri-County</td>
<td>Microcomputer Operator certificate at Cecils College</td>
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<td>Computer science continuing education courses at WCU</td>
<td>SoftTrain offers technical and programming and end-user applications training for businesses, government, public</td>
<td>Computer certificate programs at McDowell Tech</td>
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<td>Business Support Services</td>
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<td>Business Technologies Career Prep in high schools</td>
<td>Accounting and Business degrees at Tri-County</td>
<td>Business Technologies program at HCC</td>
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<td>Industry Cluster</td>
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<td>Keyboarding and Business Computer Technology occupational skills development course in high schools</td>
<td>Business college at WCU</td>
<td>Administrative Assistant certificate at Cecil's College</td>
<td>Investments and Finance at ICC</td>
<td>BA in Business at Lees-McRae</td>
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<td>Business Education program in middle schools</td>
<td>BA in Business at Mars Hill</td>
<td>AA in Business Technologies at WPCC</td>
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<tr>
<td>Future Business Leaders of America (vocational student organization) in middle and high schools</td>
<td>BABA and MBA at Montreat College</td>
<td>AA in Business and Public Service Technologies and Insurance Program at WCC</td>
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<tr>
<td>Chemicals and Plastics</td>
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<td>Metalworking and Industrial Machinery</td>
<td></td>
<td>Trade and industrial Electronics courses at CCCTI</td>
<td></td>
<td>Metals Manufacturing Technology Dept. at ASU</td>
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<tr>
<td>Recreation and tourism-related</td>
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<tr>
<td>Tourism/hospitality, incl. eco- and heritage niches</td>
<td>environmental education through Pisgah Forest Institute, BA in Wilderness Leadership, and diploma in Outdoor Leadership at Brevard College</td>
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<tr>
<td>Outdoor recreation</td>
<td>Transport Technologies K12</td>
<td></td>
<td>AA in Transportation and aviation program at CCCTI</td>
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<td>Industry Cluster</td>
<td>Region Overall</td>
<td>Highlands Cherokee, Clay, Graham, Jackson, Macon, Swain</td>
<td>Asheville Metro Buncombe, Haywood, Henderson, Madison, Transylvania</td>
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<td>attractions and services</td>
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<td>Outdoor recreation equipment</td>
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<td>Advanced manufacturing-related</td>
<td>Industrial technology Career Prep in middle schools</td>
<td>WCU's college of Applied Sciences</td>
<td>Engineering and Applied Technology at AB Tech</td>
<td>AA in Industrial Technology at CCCTI</td>
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<td></td>
<td>Trade and Industrial Education program in middle schools</td>
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<td>BRCC participates in NC Manufacturing Certification Program</td>
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<td>Engineering technologies Career Prep in high schools</td>
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<td>Applied and Engineering Technologies at HCC</td>
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<td>Automobile components, 2nd &amp; 3rd tier</td>
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<td>Advanced materials &amp; composites (incl. ceramics)</td>
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<td>Chemicals and plastics</td>
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<td>Metalworking</td>
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<tr>
<td>Health care-related</td>
<td>see general industry cluster table</td>
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<td>Industry Cluster</td>
<td>Region Overall</td>
<td>Highlands Cherokee, Clay, Graham, Jackson, Macon, Swain</td>
<td>Asheville Metro Buncombe, Haywood, Henderson, Madison, Transylvania</td>
<td>Foothills Burke, Caldwell, McDowell, Polk, Rutherford, Wilkes</td>
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<td>Health care delivery (hospitals, labs and specialized medical services)</td>
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<td>Medical equipment and materials manufacturing</td>
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<tr>
<td>Retirement-related</td>
<td>Construction Technology Career Prep in high schools</td>
<td>Real estate license courses at Tri-County</td>
<td>Real estate program at WCC</td>
<td>Construction Technology Dept. at ASU</td>
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<tr>
<td>Construction of second homes</td>
<td></td>
<td>Electrical degrees at Tri-County</td>
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<tr>
<td>Gerontology</td>
<td>Services, activities and work for the elderly</td>
<td>The North Carolina Center for Creative Retirement at UNCA promotes lifelong learning, leadership, and community service opportunities for retirement-aged individuals</td>
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<tr>
<td>Life sciences-related</td>
<td>Biotechnology of native plants</td>
<td></td>
<td>Yellow Creek Botanical Institute</td>
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<tr>
<td>Biomanufacturing, incl. nutraceuticals</td>
<td>Biological and Chemical Technologies Career Prep in high schools</td>
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<td>Industry Cluster</td>
<td>Region Overall</td>
<td>Highlands Cherokee, Clay, Graham, Jackson, Macon, Swain</td>
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<tr>
<td>Alternative/renewable energy</td>
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<td>Environmental sciences</td>
<td></td>
<td>Environmental Training Center at BRCC</td>
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<td>Natural Resources program at HCC</td>
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<td>BA in Environmental Studies at Brevard</td>
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<td>BA in Environmental Studies at Warren Wilson</td>
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<td>Value-added natural resources, including minerals</td>
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<tr>
<td>Crafts-related</td>
<td>Cherokee museum</td>
<td>Professional Crafts at HCC</td>
<td>Drawing and painting, needle craft and sewing, and hobbies and crafts programs at ICC</td>
<td>ASU's College of Fine and Applied Arts</td>
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<td></td>
<td></td>
<td>Bachelor of Fine Arts at UNCA</td>
<td>AA Arts or Fine Arts at CCCTI</td>
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<td>AA and BA in Fine Arts at Brevard College</td>
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<td></td>
<td></td>
<td>BA in Arts at Montreat College</td>
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<tr>
<td>Nichie wood products and furniture</td>
<td></td>
<td>Wood Science at HCC</td>
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<td>ASU's Furniture Technology Dept.</td>
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<tr>
<td>Self-employed, incl. home-based entrepreneurs and artisans</td>
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<td>Industry Cluster</td>
<td>Region Overall</td>
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<td>Communications and IT-related</td>
<td>see industry cluster table above</td>
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<td>IT/software</td>
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<td>Call centers</td>
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<td>Higher education/training (leverage distance learning and unique partnerships)</td>
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<td>Multi-media, incl. film, TV, video</td>
<td>Commercial and Artistic Production Technology in high schools</td>
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<td>ASU's Printing Technology Dept.</td>
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<tr>
<td>Professional services: architecture, engineering, legal services, financial, publishing</td>
<td>Marketing Education program in middle schools</td>
<td>AA in Paralegal Studies at Cecil's College</td>
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<td>Food-related businesses</td>
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<td>Wine and culinary arts</td>
<td></td>
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<td>Cooking program at ICC</td>
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<td>Organic farming</td>
<td>Agriculture Education program in middle schools</td>
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<td>Agriculture and Natural Resources Technologies Career Prep in high schools</td>
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<td>Food processing and packaging</td>
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<td>Industry Cluster</td>
<td>Region Overall</td>
<td>Highlands</td>
<td>Asheville Metro</td>
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<td>Cherokee, Clay, Graham, Jackson, Macon, Swain</td>
<td>Buncombe, Haywood, Henderson, Madison, Transylvania</td>
<td>Burke, Caldwell, McDowell, Polk, Rutherford, Wilkes</td>
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<tr>
<td>Forensics</td>
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<td>Homeland Security</td>
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<td>Fire and Rescue Training at Tri-County</td>
<td>Public Safety program at ICC</td>
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<td>Criminal Justice</td>
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<td>Law Enforcement continuing education classes at SCC</td>
<td>AA and BA in Criminal Justice at Shaw CAPE</td>
<td>Basic Law Enforcement program at WPCC</td>
</tr>
<tr>
<td>General workforce development</td>
<td>Small Business Centers at community colleges</td>
<td>WCU's Center for Regional Economic Development - focused efforts include polling, citizen attitude analysis, grant proposal assistance and short-term intervention</td>
<td>Rural Entrepreneurship through Action Learning (REAL) at BRCC</td>
<td>Rural Entrepreneurship through Action Learning (REAL) at CCCTI</td>
</tr>
<tr>
<td>employment infrastructure</td>
<td>Employment Security Commission and JobLink Career Centers</td>
<td>Regional High Technology Center at HCC</td>
<td>Apprenticeship Training Program to earn Journeyman certification at CCCTI</td>
<td>Lees-McRae's Professional Development Center offers courses and seminars for professionals who must continue their education for license renewal purposes</td>
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<tr>
<td></td>
<td></td>
<td>Center for Transformational Leadership at Brevard College offers educational seminars</td>
<td>New and Expanding Industry Training at McDowell Tech and WPCC</td>
<td>Information Technology Center at Brevard College houses a distance learning lab and offers IT courses to the public</td>
</tr>
<tr>
<td>Industry Cluster</td>
<td>Region Overall</td>
<td>Highlands</td>
<td>Asheville Metro</td>
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<td>Graham, Jackson,</td>
<td>Henderson, Madison,</td>
<td>McDowell, Polk,</td>
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<td>Macon, Swain</td>
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<td>Rutherford, Wilkes</td>
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<td>Technical certificate</td>
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<td>programs offered at</td>
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<td>McDowell Tech</td>
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<td>WCI Inc. offers training</td>
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<td>programs and workshops on</td>
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<td>performance improvement</td>
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<td>WPCC participates in NC</td>
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<td>Mentor, which assists students</td>
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<td>with exploring career options</td>
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<td>and preparing for college</td>
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<td>WPCC is a member of Tech Prep</td>
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<td>network</td>
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EXHIBIT 5—ADVANTAGE WEST, HENDERSON COUNTY AND TRANSYLVANIA COUNTY INDUSTRY STRATEGIES

Advantage West

The five-year economic development plan for the Advantage West (Western Carolina) region is currently being formulated with heavy involvement not only of local economic development professionals and civic leaders but also of representatives of the higher-education institutions in the region. As part of this process, the most promising nationally-defined existing clusters of businesses were identified for the region and its four sub-regions.

Existing clusters are:

Primary:
- Pharmaceuticals/Medical technologies
- Vehicle parts assembly
- Food products
- Recreation/Tourism

Secondary:
- Hospital labs/Specialized medical services
- Information technology/Instruments
- Communication services/Software
- Metalworking/Industrial machinery (only in Burke, Caldwell, McDowell, Polk, Rutherford and Wilkes Counties)
- Business support services

Of the above, based upon employment growth, the primary clusters identified for the Highlands region of Advantage West (Cherokee, Clay, Graham, Jackson, Macon and Swain counties) were pharmaceuticals, information technology, communication services and recreation/tourism and the secondary clusters were medical services and business support services.

Emerging Niches:

Contributors to this plan also identified specific niches within the existing clusters of the region and the State that could grow and expand, if given the proper support.

These emerging niches are:
- Recreation/Tourism (eco-tourism and heritage tourism, attractions/services, recreation equipment)
- Advanced Manufacturing (automobile components, advanced materials and composites (including ceramics), chemicals and plastics, metalworking, and professional services)
- Security (forensic sciences, homeland Security technologies and criminal justice)
- Health Care (health care delivery and medical equipment and materials manufacturing)
- Retirement (construction of second homes, gerontology and services/activities/work for the elderly)
- Life sciences (biotechnology of native plants, bio-manufacturing including nutraceuticals)
- Environment (alternative/renewable energy, environmental sciences and value-added natural resources including minerals)
- Crafts (niche wood products and furniture and self employed including home based entrepreneurs and artisans)
- Communication and IT (IT/software, higher education, training and multimedia including film, radio, TV and Video.)
Food Related (wine and culinary arts and food processing and packaging including organics).

Henderson County

Targets for Henderson County were identified by Lockwood Greene Associates, and were based upon an analysis of location criteria critical to site seekers, the desire of County officials to diversify away from traditional industries and to compete in the new economy for information-technology producing industries, and the labor force/land constraints of the County. The target industries identified were:

Primary
- Plastics manufacturing/distribution
- Auto parts manufacturing/distribution
- Medical products manufacturing/labs/distribution
- Recreational sporting goods manufacturing/distribution
- Machinery manufacturing/distribution
- Electronic components/switchgear manufacturing/distribution
- Finance/back office
- Computer programming/software

Secondary
- Biotech
- Controls/instruments manufacturing
- Industrial valves/fittings manufacturing/distribution
- Optical instruments manufacturing

Transylvania County

Transylvania County's target industry assessment was done by Flour Global Location Strategies and was based upon an analysis of the County's strengths and weaknesses, the identification of compatible industries, and the evaluation of the compatible industries in terms of growth, strength and their likelihood to locate in the County.

The eight identified target industries were:
- Commercial furniture
- Medicinal chemicals and botanical products
- Specialty plastics products
- Metal coating
- Motor vehicle parts
- Retirement/adult care facilities
- Inbound call centers
- Tourism
EXHIBIT 6—SUMMARY OF NORTH CAROLINA MARKET STRATEGY

The input for this summary review of North Carolina market strategy consists of three sources;

- Industry reports prepared by the North Carolina Department of Commerce that are used for marketing purposes
- High Technology Industries in North Carolina prepared by the North Carolina Department of Commerce, Economic Policy and Research Division, August 2000

Industry Reports

Chemical Industries

- 1998 Employment – 48,783; 397 establishments, 6th highest manufacturing employment in State
- The largest number of establishments, Charlotte region (137) Piedmont Triad (94) Research Triangle (62)
- Advantage West (28 establishments), 7 percent of total, 2nd to last of seven economic development regions
- By type, the largest number of firms detergent/cleaning preparation (83), miscellaneous chemical products (64), plastic material/resins (56) and drugs (50).

Electronic/Electrical Equipment

- 1998 employment – 63,592 - 445 establishments, 4th highest manufacturing employment
- The largest number of establishments in Research Triangle (127), Charlotte Region (118), Piedmont Triad (98)
- Advantage West 56 firms, 12 percent of total, 4th highest of seven economic development districts
- By type, the largest number of firms was electronic components/accessories (115), electrical lighting equipment (84), and communications equipment (76).

Fabricated Metals

- 1998-35,519, 835 establishments, 11th largest employer
- Largest number of establishments, Charlotte (287) and Piedmont Triad (210)
- Advantage West – 83 10 percent of total, 4th highest of seven economic development regions
- By type, the largest number of establishments engaged in fabricated structural metal products (367)

Food and Kindred Products

- 1998- 55,145, 549 establishments, 5th largest
- The largest number in Charlotte (106) and Global TransPark (106)
- Advantage West 47, 12 percent of total – last of seven regions
- By type, meat products (107) and miscellaneous food preparation (100)

Instruments and Allied Firms

- 15,692 – 231 establishments, 16th in total employment
- The largest number in Charlotte (73) and Research Triangle (63)
- Advantage West had 24, 10 percent of total – 4th highest of seven regions
- By type, miscellaneous machinery (655) specialized industrial machinery (307) and metalworking machinery (257).

Rubber/Miscellaneous Plastics

- 41,256 – employed, 489 establishments 5 percent of workforce
- Largest number of establishments, Charlotte (186) and Piedmont Triad (119)
- Advantage West, 74 establishments, 7 percent of total, 3rd of seven regions
- By type, 358 of total were miscellaneous plastics products
Transportation Equipment

- 35,342, 361 establishments
- Largest number of establishments Charlotte (112) and Global Transpark
- Advantage West - 32 firms 9 percent of total tied for last of seven regions with Research Triangle

High Technology Industries

- In 1998 computer programming/data processing services (Information Technologies) has largest number of North Carolina high-tech establishments (57 percent), followed by high technology machinery and instruments industries (19 percent) and high technology research industries (11 percent). Biotechnology and biomedical had lowest number (3 percent).
- In terms of employment: Information Technology (33 percent), high technology machinery/instruments industries (28 percent), defense and aerospace industries (13 percent). High technology research industries had lowest (5 percent).
- By seven economic development regions Advantage West had 425 of 5,170 establishments (8 percent of total and 4th in rank) and 26,492 out of 250,953 employees (11 percent of total and 4th in rank). It also had the second highest average employment per establishment.
- The Asheville Metropolitan Area (Buncombe and Madison Counties) accounted for 160 of Advantage West's high-tech establishments (39 percent) and 9,717 of its employees (37 percent).

High Tech Clusters in North Carolina

The purpose of the high tech cluster study was to design and implement cluster-based economic development strategies at state and regional levels.

Existing Clusters

- Tobacco products
- Apparel
- Pharmaceuticals
- Stone/Clay Products
- Fabricated Textile goods
- Wood Products (furniture)

Emerging Clusters

- Printing/publishing
- Hospital/labs/specialized medical services
- Transportation/shipping/logistic
- Construction Materials
- Information technology/instruments
- Chemicals/plastics
- Banking/advertising

Core US Clusters in North Carolina

- Chemicals/plastics
- Industrial machinery
- Pharmaceuticals/medical technologies
- Information technology/instruments (Research Triangle)
- Motor vehicle manufacturing—intermediate suppliers/after market products growing in Advantage West and Charlotte

Advantage West Region Growth Clusters

- Chemicals/Plastics
- Construction Materials
- Motor vehicle manufacturing
- Pharmaceuticals/medical technologies
Exhibit 7—Economic Overview and Market Strategies: Knoxville, Greenville-Spartanburg, and Atlanta

Knoxville, Tennessee

For marketing purposes, the Knoxville region consists of six counties including the City of Knoxville that compose the Knoxville Metropolitan Statistical Area (KMSA). The region had a US Census 2000 population of 704,000, composed of 281,000 households. The 1999 median household income was $36,800 and the median family income was $45,000. The 2003 labor force was 347,000, with an unemployment rate of 4.9 percent.

The Knoxville Chamber of Commerce Partnership is the prime agency for promoting and marketing economic development for the region. The Partnership consists of six agencies, including the Development Corporation of Knox County, the Central Business Improvement District, the Tennessee Small Business Development Center, the Tennessee Minority Supplier Development Council, the US Department of Commerce Export Assistance Center and the East Tennessee Film Commission. Located in Knoxville, the Chamber of Commerce component of the Partnership employs a staff of 27.

Employment in the region is weighted toward educational, health and social services that employ 20 percent of the civilian work force. Other major employment categories are manufacturing (13 percent), retail (13 percent) and professional/scientific, management and administrative (10 percent). Major employers in the KMSA region are:

<table>
<thead>
<tr>
<th>Employer</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Department of Energy—Oak Ridge</td>
<td>13,600</td>
</tr>
<tr>
<td>University of Tennessee at Knoxville</td>
<td>8,300</td>
</tr>
<tr>
<td>Covenant Health</td>
<td>8,000</td>
</tr>
<tr>
<td>Knox County Schools</td>
<td>7,230</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>4,173</td>
</tr>
<tr>
<td>University of Tenn. Medical Center</td>
<td>3,707</td>
</tr>
<tr>
<td>St. Mary’s Health System</td>
<td>3,553</td>
</tr>
<tr>
<td>Baptist Health System</td>
<td>3,000</td>
</tr>
<tr>
<td>Denso International America, Inc.</td>
<td>2,930</td>
</tr>
<tr>
<td>City of Knoxville</td>
<td>2,798</td>
</tr>
</tbody>
</table>

The Knoxville Metropolitan Area has been able to attract auto parts industries to serve the auto assembly plants located in Kentucky, Mississippi, Alabama, South Carolina, Tennessee, Ohio and Indiana that are within a six-hundred mile radius of Knoxville or equal to a day’s drive. Knox County is part of the Southern Automotive Corridor, the spine of which is I-65 and I-75. Denso International America, Inc. makes auto electrical components and Key Safety Systems makes seat belts and air bags.

Call centers are another major industry in the region. For example, NOVA Information Systems operations center in Knoxville provides payment processing for retailers, financial institutions, associations, and government agencies, and is the third largest payment processor in the US. EdFinancial, also in Knoxville, processes student loans.

Another growth industry cluster is health services. The Knoxville area boasts a mild climate that attracts retirees from colder northern climates and from warmer climates of the south. The attraction of retirees, plus natural growth, provides the base for expansion of hospitals, nursing homes, and hospices. This expansion, in turn, has spurred growth of medical supply and pharmaceutical companies.

The region is seeking high-tech companies, research and development firms, and laboratories and is developing a high-tech corridor along I-140 that will connect the Oak Ridge National Laboratory in Anderson County to the McGee Tyson Airport in Blount County. The Partnership has teamed with Oak Ridge National Laboratory, managed by UT-Battelle LLC for the US Department of Energy, to found the Technology Mining and Matching Program. This Program aids businesses through the sharing of technology, enhancing productivity, and creating new products. The University of Tennessee Center for Industrial Services researches and applies methods for making manufacturing processes more efficient and productive for area businesses.
Greenville/Spartanburg, South Carolina

For marketing purposes, the Western South Carolina region is defined as 10 counties and two cities composing the Greenville/ Spartanburg/Anderson County Metropolitan Statistical Area. The most recent demographic data for this area is the 2000 US Census that indicates a population of 962,441, comprised of 374,741 households. The median household income was $38,458 in 1999. The labor force in 2000 was 487,133 and the unemployment rate was 5.0 percent.

The marketing entity for the region is the Upper Alliance South Carolina that is located in Greenville. The Alliance has a staff of seven and primarily functions to attract industry to the region and connect that industry to the county or city economic development agencies. The annual budget is $1.25 million.

Total employment in the MSA is 472,000, of which 413,000 is private sector employment. The major employment categories are Manufacturing (28 percent) and Retail Trade (20 percent) followed by Transportation & Communication (8.6 percent). The largest manufacturing employees are:

<table>
<thead>
<tr>
<th>Company</th>
<th>Industry</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW Manufacturing Corp</td>
<td>Automobiles</td>
<td>4,300</td>
</tr>
<tr>
<td>Michelin North America</td>
<td>Radial tires</td>
<td>4,232</td>
</tr>
<tr>
<td>West Point Stevens Inc.</td>
<td>Finished sheets</td>
<td>3,754</td>
</tr>
<tr>
<td>General Electric</td>
<td>Gas turbines</td>
<td>2,600</td>
</tr>
<tr>
<td>Sealed Air Corp.</td>
<td>Plastic bags</td>
<td>2,972</td>
</tr>
<tr>
<td>Torrington Company</td>
<td>Screw machine parts</td>
<td>2,634</td>
</tr>
<tr>
<td>Kemet Electronics</td>
<td>Capacitors</td>
<td>2,397</td>
</tr>
<tr>
<td>Springs Industries</td>
<td>Apparel fabrics</td>
<td>1,854</td>
</tr>
<tr>
<td>Electrolux</td>
<td>Household refrigerators</td>
<td>1,500</td>
</tr>
<tr>
<td>Fuji Photo</td>
<td>Graphic system products</td>
<td>1,500</td>
</tr>
</tbody>
</table>

The major industries are automotive, headquarters and distribution, advanced manufacturing, and bio-tech/pharmaceuticals.

☐ **Automotive.** Led by the BMW manufacturing plant in Spartanburg, the Upstate area boasts that it is one of the leading regions in the world in the automotive industry. Recently, BMW formed a partnership with Clemson University and the State of South Carolina to establish the $25 million, up to 3.4 million square foot Automotive Motor-Sport Research Center in Greenville, to assist in developing automotive engineers for the Upstate auto industry. Michelin and BMW have teamed up for F1 racing and are supported by Clemson University's Brooks Institute for Sports Science. The region comprises more than 35 Tier 1 auto suppliers and 100 companies overall. (Trish—100 automotive???)

☐ **Headquarters & Distribution.** There are more than 280 companies headquartered within the Upstate area, including such companies as Michelin North America, BMW Manufacturing, Milliken and Fuji. The region also is becoming a hub for distribution centers, such as Wal-Mart, BMW and W.W. Grainger.

☐ **Advanced Manufacturing.** The Upstate region offers advanced manufacturing in metalworking, plastics, textiles and composites and contains advanced manufacturing companies such as Hitachi, Electrolux, BASF Bosch, Borg Warner, General Electric, KEMET Electronics and BMW. To provide a highly-trained labor force to support these industries, the region offers the Center for Accelerated technology Training (CATT), which provides customized pre-employment training for new and expanding industries. To date, CATT has trained more than 200,000 people for new jobs at more than 1,500 companies.

☐ **Biotechnology/Pharmaceutical.** The Upstate region is emerging as a hub for the biotechnology and pharmaceutical industries. Clemson University, with its history of being a key biotech research university, has teamed with the State's two other research universities and the Greenwood Genetic Center, to develop a life science incubator in Greenwood called the SC Biotechnology Incubation Facility. There are 500 acres for the location of life science industries (Greenwood Biotechnology Park).
Atlanta, Georgia

For marketing purposes, the Metropolitan Atlanta area is defined as 28 counties including the City of Atlanta and 110 other cities. The 2003 population estimate of this area was 4.3 million people. The 2002 Average Effective Buying Income was $58,568. The current labor force is 2.4 million with 2.3 million employed and an unemployment rate of 4.9 percent.

The marketing entity for this area is the Metro Atlanta Chamber of Commerce; it encompasses 28 counties and some 5,000 square miles. The Chamber has 4,000 member companies that employ 700,000 workers. It is engaged in a number of programs and initiatives to attract development to the Atlanta region such as the Quality Development Initiative that promotes taxes for improved sewer and water systems, high-speed rail and tax incentives for business development in the biotech industry. Metro Atlanta has recently recruited 25 new companies including Newell-Rubbermaid corporate headquarters, New York Life’s data center and Generated Solutions Inc. scientific and technical consulting offices.

Metro Atlanta contains nearly 120,000 business establishments, 5,000 of which are manufacturing facilities. The largest industry categories in the region are Trade, Transportation and Utilities that provide 23 percent of total jobs and Professional/ Business Services at 16 percent of total employment. Government, Leisure and Hospitality and Manufacturing are the next largest sector employers providing jobs for 13 percent, 8.8 percent and 7.8 percent of the labor force.

Some of the major private employers in the region are:

<table>
<thead>
<tr>
<th>Company</th>
<th>Atlanta Employees</th>
<th>Product or Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta Airlines</td>
<td>28,000</td>
<td>Air transportation</td>
</tr>
<tr>
<td>BellSouth Corp.</td>
<td>23,560</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>Publix Supermarkets</td>
<td>15,155</td>
<td>Grocer</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>14,700</td>
<td>Retailer</td>
</tr>
<tr>
<td>AT&amp;T Corp.</td>
<td>12,000</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>United Parcel Service</td>
<td>10,500</td>
<td>Package delivery</td>
</tr>
<tr>
<td>Randstad North America</td>
<td>10,115</td>
<td>Staffing services</td>
</tr>
<tr>
<td>Kroger Company</td>
<td>10,000</td>
<td>Grocer</td>
</tr>
<tr>
<td>Home Depot</td>
<td>9,889</td>
<td>Home Improvement retailer</td>
</tr>
<tr>
<td>IBM Corp.</td>
<td>8,400</td>
<td>Hardware/software/consulting</td>
</tr>
</tbody>
</table>

The Metro Atlanta Chamber of Commerce believes that the greatest source of new economic growth in the region will be from the “Industries of the Mind” those companies that are dependent upon intellectual capital. The Chamber developed the Bioscience Council aimed at doubling the number of bioscience companies from the 200 companies now in the region led by Solvay, UCB Pharma, Merial and Seriologicals. The region has initiated the “Breakthrough Atlanta” marketing campaign to publish a magazine with articles on the bioscience industry in the region as a recruiting device for bioscience firms considering relocating to greater Atlanta.

Metro Atlanta is also seeking to expand the 1,600 foreign-based companies that are now located in the region emphasizing its superior airport and transportation infrastructure. Since the Atlanta region is a major center for transportation companies and distribution facilities, Metro Atlanta is promoting logistics management and research in association with the Georgia Institute of Technology Logistics Institute to help improve the efficiency of warehousing and distribution operations in the region.
EXHIBIT 8—MARKET STRATEGIES FOR TVA AND SOUTH CAROLINA

Tennessee/Tennessee Valley Authority (TVA)

Discussions with staff of the Tennessee Department of Economic and Community Development indicate that no industry cluster or target industry analysis has been performed in recent years. However, the targets identified by the TVA for its service region are indicative of the types of industries that are appropriate for targeting by the State of Tennessee. These industries and the reasoning behind their targeting are summarized below:

- **Plastics.** Strategic location and access to major customers in automotive, food processing, furniture and electronics industries. Appropriate workforce including engineers and trained machine operators; location of industry leaders such as 3M, Aqua Glass, Heartland Building Products, Kohler, etc.

- **Distribution.** Central location with highway, air and water access; large labor force; industry leaders including (distribution facilities) Bridgestone/Firestone, ConAgra Foods, Waldenbooks, WalMart, etc.

- **Food Industry.** Access to wide variety of raw food products, to customers, and to water supply; industry leaders such as Coors Brewing Co., Frito-Lay, Hershey Foods Corp., Kraft Foods, etc.

- **Biotechnology.** Central location; multitude off colleges/universities and research hospitals; industry leaders including Abbott Labs, GlaxoSmithKline, Johnson and Johnson and Oak Ridge National Laboratory; most of region's biotech companies are concentrated in Memphis, Nashville and Huntsville.

- **Automotive.** Central location vis-à-vis the US automotive market; availability of industrial sites/existing buildings; 900,000 employed machine operators/fabricators and 500,000 production workers; industry leaders, DaimlerChrysler, Goodyear Tire and Rubber, Bosch Braking Systems, Saturn Corporation, etc.

- **Electronics/Aerospace.** In Valley, 850 companies that are prime markets for electronic components, primarily automobile assembly/automobile companies; 500 electronics companies employing 15,000 in region; college/university/tech schools with 5,000 graduates/trained professionals in engineering, computer sciences and related programs; industry leaders include Dell Computer, Emerson Electric, Lockheed Martin, Siemens Energy and Automation, etc.

The TVA has industry representatives to provide technical and business development services for these targets.

A review of the State's largest employers confirms these targets. In addition, an analysis of the 2003 distribution of Tennessee manufacturing jobs by industry indicates that the top six (of 464,700 total jobs) were:

- Transportation Equipment – 11 percent
- Industrial/Commercial Machinery – 10 percent
- Fabricated Metals – 9 percent
- Food – 9 percent
- Electronic/Electrical Machinery – 7 percent
- Rubber and Plastics – 7 percent

South Carolina

The input for the South Carolina Marketing Strategy review consists of two sources:

- Phase 1 of the South Carolina Competitiveness Assessment prepared in 2003 by Professor Michael E. Porter and Monitor Company Group, LP
- Industry reports prepared by the South Carolina Department of Commerce that are used for target marketing purposes.

Competitiveness Assessment

The purpose of the competitive assessment study was to combat South Carolina's declining wage growth and higher than national unemployment rate.
Millennial Campus Planning

Competitive Strengths:
- Strong technical college system
- New leadership in research institutions committed to economic development
- Attractive relative cost structures
- Good highway system. Port of Charleston
- Valuable assets such as Savannah River site and Navy SPAWAR Systems Center in Charleston
- Effective network of economic development organizations
- Very competitive recruitment procedures

Competitive Challenges:
- Relatively poor educational system
- Lack of top-tier research university
- Difficult environment for start-ups and small firms (not emphasized by economic development professionals)
- Lack of cluster councils and University/Industry linking organizations

Clusters
Strong South Carolina clusters that exist or are evolving and their percentage of US employment:
- Textiles – 15 percent
- Chemical Products – 6 percent
- Power Generation/Transmission – 6 percent
- Furniture – 3 percent
- Forest Products – 3 percent
- Production Technology – 2.5 percent
- Automotive – 2.5 percent
- Aerospace Engines – 2.5 percent
- Pharmaceuticals – 1.5 percent
- Hospitality/Tourism – 1.5 percent

The fastest growing of the above clusters from 1999-2001 were:
- Aerospace Engines – 206 percent
- Automotive – 149 percent
- Biopharmaceuticals – 90 percent
- Forest Products – 50 percent

Of the above, the largest in terms of total employers were: textiles, hospitality/tourism, aerospace engines, chemical products and power generation/transmission.

Cluster Assessment
Focus on the four clusters that have significant impact on state economy:
- **Automotive Cluster.** State should continue to establish itself as leader in R&D, build on ability to support sophisticated, more customized manufacturing, and focus on attracting firms reliant on importing and exporting
- **Chemical Products Cluster.** State should build upon niche opportunities including communications, SRS Technology, biopharmaceutical manufacturing and defense against weapons of mass destruction.
- **Textile Cluster.** State should transition to supplying materials to end-users (autos, construction etc.), develop new production techniques and provide high-end products.
- **Tourism Cluster.** State must improve collaboration, identify highly attractive and highspending tourism segments and develop products and marketing strategies aimed at these tourism segments.

Industry Reports
Industry reports currently exist for the automotive, chemicals/plastics and customer service center industries. It is likely that these industry-marketing reports will be revised and expanded as a result of the competitive assessment outlined above. The current marketing reports are summarized below:
Automotive
☑ State currently ranked 13th in automotive cluster employment and growing at 10 times national rate
☑ 200 suppliers, foreign investment
☑ Industry giants such as BMW, Honda-ATV and Daimler Chrysler
☑ Excellent transportation system
☑ Competitive tax structure (no state property tax, local income tax, inventory tax, wholesale tax and sales tax on manufacturing inventory and materials)
☑ Lowest unionization in US
☑ South Carolina Center for Accelerated Technology Training offers automotive curriculum, technology training
☑ Ample labor force
☑ Proximity to NASCAR headquarters in Charlotte
☑ Improved research strengths (Clemson, Center for Automotive Research, and USC)

Chemicals/Plastics
☑ State specialized training programs of individuals chosen by company
☑ Fourth largest chemical employment share (56,000 persons)
☑ 300 chemical manufacturing facilities, 105 in Greenville-Spartanburg
☑ Industrial leaders—DuPont, BASF Corporation, BP AMOCO, Nan Ya Plastics, Eastman Chemical, Monsanto and Westinghouse Electric Corporation
☑ Competitive regulatory environment
☑ Low unionization
☑ Lowest electricity cost on east coast
☑ Abundant water
☑ Westinghouse Savannah River site, nuclear materials processing facility (12,000 employees)
☑ Proximity to Center for Disease Control and FDA

Customer Service Centers
☑ Large and growing labor force (university and military operations
☑ Friendliness
☑ Affordable available sites/building regulations
☑ Statewide, state of the art telecommunications network
☑ CATS – Customer-service center curriculum
☑ Existing Call Centers for Harbor Freight tools, Client Logic, Verizon Wireless, Insurall Casualty Group
EXHIBIT 9 RESOURCE ORGANIZATIONS

Through the focus groups, summit results and one-on-one interviews with economic development, educational and industry leaders, a list of potential State and regional resource and partner organizations were identified. This list is not exhaustive but is intended to be illustrative of the types of very valuable resources/partners that are available at the State and regional level.

State Organizations and Resources

North Carolina has a long history of successful economic development organizations and initiatives. Some of these North Carolina organizations/resources are:

North Carolina Department of Commerce

The State’s lead agency for economic, community and workforce development, the Department of Commerce’s strategic plan focuses on three goals: keeping North Carolina competitive for high-value, technologically competitive industries and companies; improving economic opportunities for residents through programs targeted to less prosperous people and places and ensuring that North Carolina is recognized as a highly attractive location for growing businesses and for tourism, film and sports development. The Department has an annual operating budget of over $144 million and 765 full-time staff. It is headquartered in Raleigh and has a regional office in Asheville. An office of the Department’s Small Business and Technology Center is located at Western Carolina University.

North Carolina Board of Science and Technology

One of the three boards providing policy direction to the North Carolina Department of Commerce, the 19-member Board seeks to encourage, promote and support scientific, engineering and industrial applications in North Carolina. It works with the General Assembly and Governor to put into place the required infrastructure to help keep the State on the cutting edge of science and technology.

North Carolina Film Office

A service of the North Carolina Department of Commerce, the Office recruits Hollywood studios to film in North Carolina, attracts independent filmmakers, promotes the State’s filmmaking resources outside the United States and helps to grow the State’s production infrastructure.

North Carolina Natural Products Association

Recently formed, the Association’s purpose is to establish North Carolina as a key global supplier of plant-based natural medicines, organic products, functional foods, personal care products and alternative lifestyle options through the education of its members and other stakeholders. A western North Carolina initiative, Blue Ridge Food Ventures, coordinates with the National Products Association.

North Carolina Biotechnology Center

Established in 1981 by the General Assembly, the Center’s mission is to support biotechnology research, development and commercialization statewide. It has three core programs: science and technology development, business and technology development and education and training. Other initiatives of the Center include the Institute of Forest Biotechnology and the North Carolina Genomics and Bioinformatics Consortium. The Center recently announced the opening of a western North Carolina office to be located at the Enka campus of AB Tech. Initial plans call for the office to help develop a Biowork course at AB Tech, to recruit biotech companies and to work with UNC-Asheville to formulate an undergraduate program in biotechnology.

North Carolina Rural Economic Development Center

Founded in 1987, the North Carolina Rural Economic Development Center, a non-profit organization, focuses on formulating and implementing economic strategies to improve the quality of life in the State’s 85 rural counties. During October of 2003, the Institute of Rural Entrepreneurship was created within the Rural Economic Development Center to concentrate on the stimulation and support of micro, small and medium businesses within the rural counties. Some of the Institute’s planned initiatives include: the development of statistical information on entrepreneurship activity; the holding of focus groups with rural entrepreneurs; the development and management of demonstration projects; the creation of a statewide service partnership of business resource providers called the Rural Business Resource Alliance and other educational/training, informational, financing, and technology assistance services.
Golden Leaf Foundation
Established in 1999, the Golden Leaf Foundation (Long-term Economic Advancement Foundation) is a non-profit corporation whose mission is to use half of the funds from the Tobacco Master Settlement Agreement to improve economic conditions in North Carolina’s economically distressed and tobacco-dependent counties. While Jackson County is not one of the priority communities for this funding, many of its adjoining counties are eligible.

North Carolina Electronics Association
Founded in 1993, the Association is intended to serve as the primary organization for the Information Technologies Industry in North Carolina. The Association industry is defined as including the electronics, software, telecommunications, research and development, digital content, Internet service providers and technology support services sectors. Initiatives of the Association are education, government affairs, economic development, industry promotion and programs/special events.

Western North Carolina Region
The western North Carolina region is lacking in a substantial number of major corporations that could support the Millennial Campus. However, as the garment and furniture industries have departed, a vast array of economic development organizations and initiatives have been formulated to help replace the jobs that have been lost with employment in other emerging industries. In addition to the very important Jackson County and Sylva local governments, some of the regional organizations identified were:

Advantage West
Chartered by the North Carolina General Assembly in 1994, Advantage West is a non-profit public/private partnership with the primary responsibility of marketing the 23 western North Carolina counties to corporations seeking to relocate, open up or to expand a business within the region. Located in Asheville, Advantage West has an eight person full-time staff and an annual budget of almost $3 million.

Duke Power
As Duke Energy’s franchised electric utility, Duke Power has been contributing to the growth of the Piedmont region of North and South Carolina since 1904. Its economic development staff assists relocating and expanding companies with information on available sites and buildings; state, regional and local tax programs and incentives; state-funded training programs and demographic/labor data. The Hendersonville office services Jackson County and surrounding counties.

Appalachian Regional Commission
A federal-state partnership, the Appalachian Regional Commission works with the residents of the 13 Appalachian states to create opportunities for self-sustaining economic development and improved quality of life. The commission’s five goal areas are: education and workforce training, physical infrastructure, civic capacity and leadership, business development (including the $25.6 million Entrepreneurship Initiative) and health care.

Smokey Mountain Development Center
Serving a 10-county area of western North Carolina (Clay, Cherokee, Graham, Haywood, Henderson, Jackson, Macon, Madison, Swain and Transylvania counties), the Smokey Mountain Development Center’s primary purpose is to promote and facilitate business, industrial and economic development in the service area. Since 1987, the development center has served as an SBA Certified Development Corporation that provides low-interest, long-term financing for small businesses through the SBA-504 Loan Program.

Southwestern Commission Region A Council of Governments
Headquartered in Bryson City with a staff of 20, the Council of Governments focuses on workforce development, programs for the aging, planning and economic development services and regional transportation and water/sewer issues. It operates a revolving loan fund for the creation and expansion of area businesses. The minimum loan amount is $20,000 and the maximum is $200,000 or one-third of the total project cost. Most of the businesses served to date have been involved in the tourism or service industry.
Eastern Band of the Cherokee Indians

The 56,000-acre reservation is located adjacent to the Great Smokey Mountains National Park, reportedly the most visited national park in the United States. For over 30 years, the reservation has served as a Smokey Mountain tourist attraction and its visitation was recently enhanced with the opening of the Harrah’s casino and hotel in 1997. An estimated 3,000 persons are employed in Cherokee’s tourism business, which accounted for over $65 million in revenues prior to the opening of the casino. The Cherokee Tribal Planning Office and the Cherokee Tribal Travel and Promotion Office are working closely with other State and regional tourist promotion agencies to increase visitation to the area and to expand the tourist offering. A second hotel tower is under construction and a revitalization plan for the downtown is being developed. The Native American Business Development Office provides technical assistance to tribal businesses, most of which have recently been employed in the construction industry.

Haywood Small Business and Industry Center

One of the first business incubators in the State, the 17,000 square-foot facility opened in Waynesville in 1987 and is operated by the Smokey Mountain Development Center. The facility’s 14,000 square feet of space is currently fully occupied. Tenants include: Chassy Glass (manufacturer of artistic glass and mirror products), Windsor Woods (manufacturer of wooden crafts holders), Environmental Instruments (manufacturer of a unique oxygen sensor that was developed by a WCU biology professor), Incentives for Excellence (maker of glass sculptures for awards) and ChemTronix (developer of pollution abatement for imaging and toxic silver recovery). Besides the reduced rents (approximately $1.00 per square foot plus electricity), many of the tenants also receive counseling services from the EDA University Center of Western Carolina University and other small business centers in the region.

AB Tech Small Business Incubator/Biotechnology Incubation and Training Center

Recently BASF donated two buildings to AB Tech Community College, one of which the College is in the process of converting to incubator space. Upon conversion, the 152,000 square-foot building will house two incubators: one a traditional small business incubator and the other, a biotech incubator that capitalizes on the existing lab space in the donated building. Already five companies have located in the biotech incubator, two of which are conducting biotech research. The five companies occupy approximately 20,000 square feet and pay $8 per square foot. Because the building is undergoing renovation, the remainder of the space is not available for lease at present and will not be ready for occupancy for another eight months. The incubator is also the location for AB Tech’s biosciences training program.

Community College Small Business Centers

Southwestern Community College, Tri-County Community College and Haywood Community College operate small business centers that provide training, counseling and resource information to new and expanding small businesses in the region.

Mountain MicroEnterprise Fund

A non-profit organization helping low-income persons, minorities and women start businesses, the Fund provides technical assistance and low-interest loans of $10,000 or less to businesses with five or fewer employees. It provided technical assistance/loans to approximately 400 persons last year residing in the 12 most western North Carolina counties. The majority of the businesses aided were service businesses, artists and craftspeople and businesses involved in alternative health products.

Southern Appalachia Science and Technology Center

A new initiative to be headquartered in western North Carolina, the Technology Center has a multipurpose vision for the management of intellectual property and commercialization of cutting edge technology in the areas of Nanotechnology, Biotechnology and Material Sciences. Its focus will be the formulation of knowledge-sharing agreements with participating institutions, the synthesis and commercialization of multiple discoveries and the initiation and growth of new businesses. The center is still in the planning stage and a number of locations are being considered for its headquarters.
Blue Ridge Entrepreneurs Council

Chartered in 2002 by Advantage West, the Blue Ridge Entrepreneurs Council, is intended to serve as a nurturing organization for entrepreneurs in western North Carolina and focuses on four core areas: education, mentoring and networking, communications, and capital formation and preparation. To date, the organization has helped local businesses raise capital, has brought equity investors to the region to evaluate businesses and has hosted a venture capital conference. It is in the process of helping to raise a five million dollar Angel Investment Fund (BRAIN).

Education and Research Consortium

A non-profit organization, the Education and Research Consortium’s goal is to work cooperatively to bring the economic and quality of life benefits generated by modern technology to the western Carolinas (both North and South Carolina). To date, it has helped to expand high-speed Internet access in the region, worked to enhance quality education at all levels and promoted a broader understanding of the need for the development of new technology in the region.

NanoTech Capital, LLC

A Tryon, North Carolina nanotechnology intellectual property management and development company, NanoTech Capital has entered into an agreement with the Oak Ridge Laboratory for the cooperative commercialization of all nanotechnology research conducted at the facility. The company is heavily involved in the development of the Southern Appalachia Science and Technology Center as discussed above.

HandMade in America

A non-profit organization located in Asheville, HandMade in America was formed in the early 1990’s by a group of community leaders who were searching for means to boast the region’s dormant manufacturing economy. The focus of the group evolved into supporting and nurturing the already established industry of craftspeople prevalent throughout western North Carolina rather than recruiting new Industry. HandMade in America provides a variety of services to individuals and crafts businesses in the area including: the publication of a crafts heritage trails guidebook, the development of a crafts registry/directory and the holding of workshops/seminars (marketing, business planning, sales techniques, etc.)

Western Carolina Industrial Partnership

This industrial recruitment organization is composed of representatives of Cherokee, Clay, Graham, Jackson, Macon and Swain counties; the Eastern Band of the Cherokees and Duke Power Company. The organization has been inactive over the last few years but some of the members are interested in its resurgence.

Tennessee Valley Association (TVA)

The largest public power company in the United States, TVA provides power services to seven states including a small portion of western North Carolina. The Association’s six strategic objectives are: to improve life in the Tennessee Valley through integrated management of the river system and environmental stewardship; to meet customers’ needs for affordable reliable electricity; to demonstrate leadership in sustainable economic development; to continue the trend of debt reduction; to reduce the delivered cost of power; and to strengthen working relationships with all of TVA’s stakeholders. While TVA does not service Jackson County, it still provides power to adjacent counties and could prove to be a valuable partner in business retention and attraction.
EXHIBIT 10—OTHER REPORTS REVIEWED

The following reports also were reviewed:


☐ *At the Crossroads: North Carolina's Place in the Knowledge Economy*, North Carolina Board of Science and Technology, 1998

☐ *North Carolina's Regions: Transition to the Knowledge Economy*, North Carolina Board of Science and Technology, 1999

☐ *Focus for Change: An Economy in Transition*, North Carolina Board of Science and Technology, 2000

☐ *Links to the Future: The Role of Information and Telecommunications Technology in Appalachian Economic Development*, Appalachian Regional Commission, 2002

☐ *Exports, Competitiveness and Synergy in Appalachian Regional Clusters*, Appalachian Regional Commission, 1997
