

HAVING THE

*Courage*

TO

*Change:*

HOW WE CAN AVOID THE COMING WORKFORCE CRISIS

VERMONT BUSINESS ROUNDTABLE



2006



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## EXECUTIVE SUMMARY



Vermont faces a daunting economic development challenge. A unique convergence of demographic trends is causing a significant shortage of skilled workers, which ultimately will affect the social and economic well-being of a generation of Vermonters. If allowed to continue unchallenged, this problem will grow more acute over the next decades.

While no one can predict what advances the next twenty years will bring, we do know that Vermont will not have a workforce capable of meeting the challenges presented by those advances until we have effective, adaptable education systems to maximize opportunities for each and every Vermont citizen. **The Roundtable believes that the transition from today's learning environment to the environment of the future will take time to accomplish, and the process must begin now.**

The vision of the Vermont Business Roundtable (Roundtable) is to “make Vermont the best place in America to do business, be educated, and live life.” To promote the economic and social prosperity of Vermont and Vermonters, the Roundtable has developed a series of guidelines spanning and linking all aspects of the education continuum.

According to a recent Vermont report on school readiness (2003-2004), only half (52 percent) of Vermont kindergarteners are “ready for school.” **Vermont must adopt the goal that every child arrives at kindergarten deemed “ready to learn.”**

In order to reduce our cohort dropout rates and begin creating the workforce of the future, Vermont needs to build capacity for individuals to learn, create visions, develop personal aspirations, and engage in the kinds of education that will position them for success in the future. School-based career awareness programs can help Vermont's children explore their interests and adequately prepare for high school and beyond. **Vermont must adopt the goal that by the eighth grade every Vermont student will have a career awareness plan, and that by the eleventh grade every Vermont student will have had a meaningful career work experience.**

For Vermonters who do not progress to a four-year college, Career and Technical Education should be a key resource in preparing them for certificate programs and two-year associate degrees that enhance their skills and develop career paths. **Vermont must adopt the goal that by twelfth grade all Vermont students will have been enrolled in a high-quality, academic and applied-learning experience.**



Dual high school and college enrollment programs have a wide range of proven benefits, including educational enrichment, increased academic rigor, the potential to shorten the time required to complete a college degree and decrease the cost of achieving it, eased transition to post-secondary education, and increased aspirations for post-secondary achievement. **Vermont must adopt a policy that removes barriers to dual enrollment programs and provides equal access, equal funding, and equal opportunity to all of Vermont's high school students.**

Vermont has a wide array of workforce education and training resources and programs, in both the public and private sectors, and within and outside the employer community itself, but we face a serious mismatch and misalignment of these resources with employer and employee needs. Particular industries and clusters of businesses have not organized to collectively identify or obtain needed education and training services. Potential providers of such services—colleges, universities, technical centers, and others—also lack the critical information and resources that might lead them to develop and offer such programs and services. **Vermont must adopt a statewide plan for a single, coordinated, and financed state workforce development delivery system, and maximize all existing resources.**

Finally, because educational attainment correlates positively with personal income, personal health, state tax revenues, civic engagement, and higher levels of satisfaction around quality of life issues, **Vermont must adopt a goal that investment in the state's human capital is the state's primary economic development strategy.**

### Conclusion:

Efforts to address the state's looming workforce crisis must begin immediately; be a collaborative process among government, the education community, the private sector, and parents; and touch every aspect of the state's education delivery system.

The recommendations of this report are a starting point for change, which we believe will lead to Vermont becoming a leader in economic and social prosperity through a focus on the state's educational system.

Investment in Vermont's human capital must be the state's primary economic development strategy.

A well-educated citizenry promotes the growth of existing business, creates a climate that encourages business start-ups, and brings new business to Vermont. Good jobs from these businesses will allow our children to remain in Vermont and generate income to the state in order to fund social needs.





## Abstract

Vermont can avert a workforce crisis by implementing specific, long-range recommendations to improve the delivery system for lifelong learning to all its citizens. This report does not offer answers to all the educational needs of Vermonters. Instead, it aims to spur needed discussion toward a worthwhile end, and forecasts that doing nothing or too little may result in a Vermont unable to meet social needs and a state

characterized by both a shrinking business base and a larger exodus of our most precious natural resource, our children.

These recommendations are made with the view that we may or may not need new money to support the proposed initiatives.

## Prologue

The vision of the Vermont Business Roundtable (Roundtable) is to “make Vermont the best place in America to do business, be educated, and live life.” To promote the economic and social prosperity of Vermont and Vermonters, the Roundtable has developed a series of guidelines spanning and linking all aspects of the education continuum.

The Roundtable believes that a core component of Vermont’s economic well-being is a well-educated citizenry that encourages existing businesses to grow, supports a climate that fosters business start-ups, and attracts business to Vermont. Good jobs from these businesses will both enable our children to remain in Vermont and generate income to the state to fund social needs.

The Roundtable believes that the transition from today’s learning environment to the environment of the future will take time to accomplish, and the process must begin now.

The Roundtable recognizes that this report will likely generate both praise and criticism. Nevertheless, we hope that educators, legislators, the Governor’s Office, families, employers, and labor representatives will put aside disagreement over specifics and come together for a common goal: to safeguard the future of our children and our state. In order to move forward, we propose, as a first step, that a bipartisan working group comprised of representatives of the executive and legislative branches, as well as the private sector, convene to discuss this report’s recommendations and develop initiatives for their implementation.



## INTRODUCTION

In its 2004 report, *Becoming the Knowledge State*,<sup>1</sup> the Roundtable affirmed that “in a knowledge-based economy, the potential for economic growth relies heavily on innovation and ideas.” Such intellectual creativity from our well-educated and well-rounded citizens is necessary to fuel the growth of our traditional and emerging businesses alike, as well as to increase the standard of living for each individual.

The skill requirements of such a well-educated citizenry include basic education (e.g., arithmetic, literacy, computer literacy, and business environment social skills); professional skills (e.g., nursing, accounting, engineering); and, specialized industry skills (e.g., trades). That education must start in early childhood, be encouraged along the way by career awareness, provide opportunities to acquire technical skills, promote interest through dual enrollment, be financially supported into higher education, and present workforce development opportunities as new needs emerge.

Most individuals will be part of the workforce for thirty to fifty years. In the last forty years, the digital world, biotechnology, space exploration, globalization, and many other job-creating advances have emerged. During this time successful businesses have adapted the ways in which they do work and provide opportunities for people. While no one can predict what advances the next twenty years will bring, we do know that Vermont will not have a workforce capable of meeting the challenges presented by those advances unless we have effective, adaptable education systems that maximize opportunities for each and every Vermont citizen.

Vermont is struggling to improve academic performance throughout its elementary, middle, and high schools. Standardized test scores are improving for some students in some grades at some schools, and Vermont’s SAT scores are marginally better than the national mean.<sup>2</sup> However, as this report demonstrates, the overall outcomes are unsatisfying given the total level of education spending in Vermont.<sup>3</sup> Vermont must do better for all its children, or face a generational deterioration in its standard of living.

For Vermont, more acutely than in every other state but Maine, the education issue impacts a related problem, namely, a shrinking workforce as a result of a rapidly aging population. Although this is a multifaceted problem, the Roundtable has chosen to focus on one part of

the solution, specifically, meeting the needs of those Vermonters currently underserved by the education system, to improve their opportunities for economic and social prosperity.

### The Problem: Inside the Numbers

Vermont is clearly facing a daunting economic development challenge. A unique convergence of demographic trends is causing a significant shortage of skilled workers, which ultimately affects the social and economic well-being of a generation of Vermonters. If allowed to continue unchallenged, this problem will grow more acute over the next decades. Given the demographic population shift, therefore, Vermont must do more to increase the opportunities available to every citizen so that each may fully participate as a productive and contributing member of society. Today Vermont is plagued by a lack of school readiness among our youngest children, an increasing percentage of students deciding before ninth grade not

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to pursue higher education,<sup>4</sup> and a fragmented post-secondary workforce education and training system. All of these are unacceptable conditions for the twenty-first-century economy.

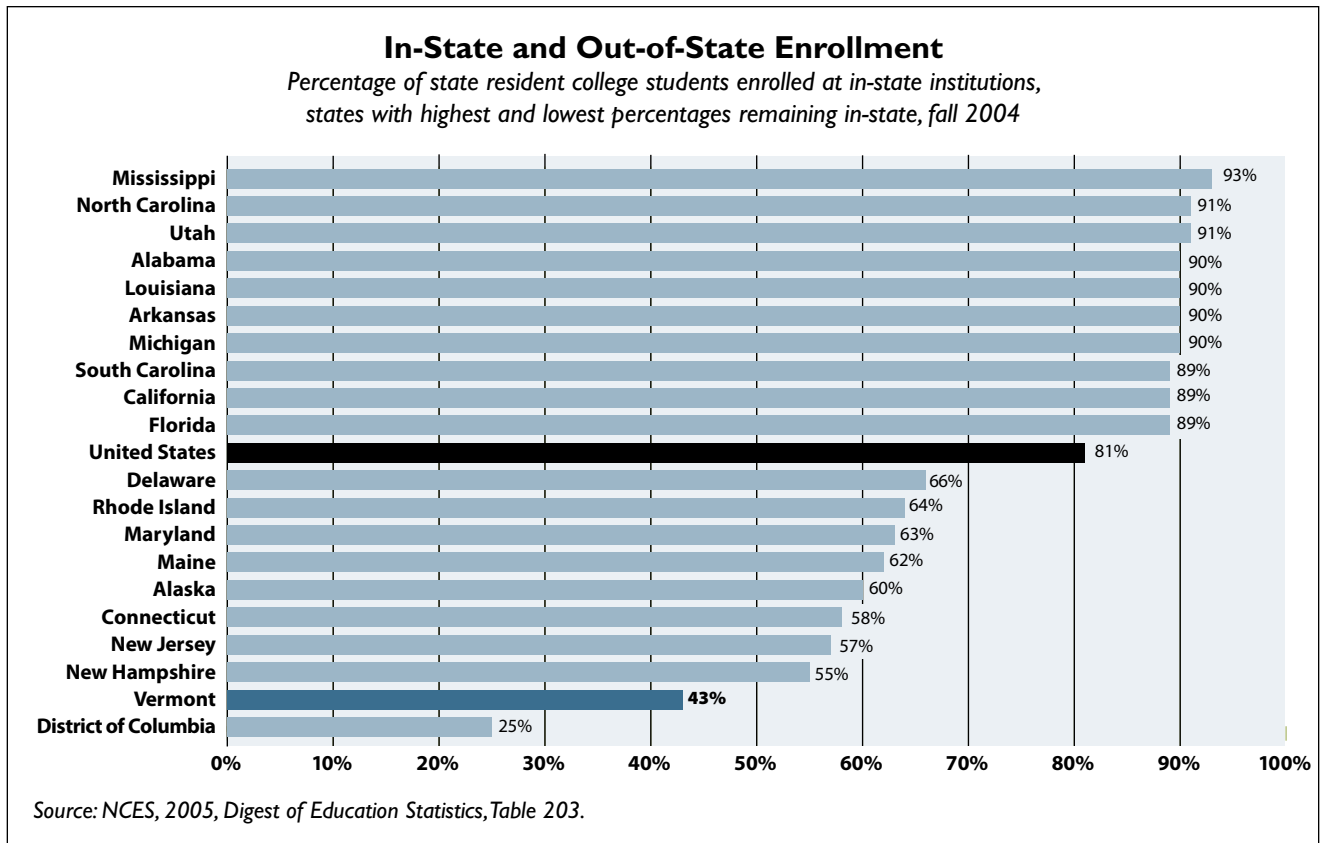
Compared to national census statistics, the Vermont numbers are alarming:

- Vermont's population in the 20 to 34 year-old age group declined nineteen percent between the 1990 and 2000 censuses, indicating that we are failing to retain our native-born children or those who come to Vermont for college;
- According to the census, Vermont can expect an eighteen percent decline in the number of high school graduates over the next decade;
- By 2015 there will be fifteen percent fewer Vermonters under the age of twenty than there were in 2000;
- In 2005 there were five working-age Vermonters (21-64) for every one over 65, but by 2030 that ratio will be 2:1.<sup>5</sup>

While the declining population of a working-age cohort is worrisome and requires serious attention, a more deeply rooted and longer-term problem exists further upstream. Increasingly, Vermont fails to prepare our children to be successful in life and to become responsible adults. And the burden of responsibility involves more than simply the education system; it also includes the business community, government, and parents.

**What, then, is preventing Vermont families and our education system from nurturing the development of educational aspirations or preparing all students to enter the workforce ready to succeed?**

As a society, we must be more inclusive in our education efforts so that every Vermont child may succeed. The "Circle of Prosperity" model identified by the Roundtable, which describes how economic and social prosperity are linked, illustrates the positive effects of empowering individuals to reach their full potential.<sup>6</sup> Conversely, it also illustrates what we as a society stand to lose if we leave a sub-set of our citizens behind.







For example, recent surveys have shown:

- Among the state's 50 fastest-growing occupations, 44 require significant post-secondary education or training; and
- Of the top ten fastest-growing jobs in Vermont, nine require specific post-secondary education or training.<sup>7</sup>

Furthermore, although Vermont has more higher education institutions per capita than any other state in the nation, with 26 colleges and universities, the following statistics demonstrate a worrisome pattern in the post-secondary aspirations of Vermont's high school students.

- Only 34 percent of Vermont's ninth graders will enroll in college within four years, a decline of ten percentage points over the last decade (1990-2000) and the third-highest decline in the nation;<sup>8</sup>
- The number of Vermont high school graduates going out of state to college has increased to 57 percent; twelve percentage points higher than second-place New Hampshire, and well above the national average of 19 percent.<sup>9</sup>

What, then, is preventing Vermont families and our education system from nurturing the development of educational aspirations or preparing all students to enter the workforce ready to succeed? And where will we find our skilled workforce in the future if more than half of our college-bound citizens are leaving the state?

- <sup>1</sup> *Becoming the Knowledge State: The Vital Importance of Higher Education in Vermont's 21st Century Economy*, The Vermont Business Roundtable, 2004
- <sup>2</sup> 2005 "Nation's Report Card" shows Vermont fourth and eighth graders ranked between second and fifth nationally, both in math and reading proficiency. Vermont v. US 2006 Mean SAT Scores: Critical reading 513 v. 503; math 519 v. 518; 502 v. 497.
- <sup>3</sup> Vermont ranks second in per pupil spending, and eighth in education spending as a percentage of all spending. Student-teacher ratio is also very generous (11:1 v. national average of 16:1).
- <sup>4</sup> According to the Vermont Student Assistance Corporation's 2005 "Senior Survey," eighteen percent of students not going on to further study say that they made that decision sometime before the ninth grade. This represents an increase of 139% since 1994.
- <sup>5</sup> Art Woolf, "Vermont's Changing Demographics: Economic and Fiscal Implications." (University of Vermont: November 15, 2005).
- <sup>6</sup> The Vermont Business Roundtable, "Turbulent Seasons: The Urgent Nature of Vermont's Business Climate," unpublished. [2003]
- <sup>7</sup> The Vermont Business Roundtable, "Becoming the Knowledge State," unpublished. [2004] P. 3.
- <sup>8</sup> <http://www.postsecondary.org/SpreadsheetsPW/ChanceCollegeAge19.xls>
- <sup>9</sup> Vermont Student Assistance Corporation, Department of Research calculations based on Table 203 of "Digest of Education Statistics:" [http://www.nces.ed.gov/programs/digest/05/tables/dto5\\_203.asp](http://www.nces.ed.gov/programs/digest/05/tables/dto5_203.asp)

## THE COST OF INACTION

*I*n Vermont the effects of these converging conditions—a population shift, an increasing need for educated workers, and the declining post-secondary educational attainment of Vermonters—are obvious. In addition, Vermont already has one of the highest rates of dual-wage earner families in the nation and one of the slowest population growth rates in the country.<sup>10</sup>

In short, employers will have difficulty finding qualified workers, a situation that may drive existing employers to leave the state and dissuade new employers from locating here. Moreover, increased demand for services from the elderly population will confront state and local governments facing reduced tax revenues to pay for existing services. In fact, according to Vermont economist Art Woolf, “If nothing is done, government spending on only two components, K-12 education and human services, will absorb all of the revenues available to the government by 2030. There will be no revenue available to support any other governmental functions.”<sup>11</sup>

While the “do nothing,” or status quo, option is always a potential policy alternative, the costs to society in this case, both at the individual and macro levels, make this option unacceptable. Because of the state demographic changes currently underway, we must instead commit public investments now to those areas and initiatives that lift the potential for each and every Vermonter.

Faced with similar or even more intimidating challenges, other governments have launched innovative initiatives and made long-term investments to benefit their citizens’ economic and social prosperity. One such case study is the country of Ireland.

Ireland’s economy in the early 1980s was critically ill with symptoms that included declining employment, substantial emigration of its college graduates, and a rapidly rising national debt. However, in one generation, Ireland has turned itself around. According to Deputy Prime Minister Mary Harney, “It was because we nearly went under that we got the courage to change.”<sup>12</sup>

As history records, Ireland’s change has been quite unusual: the government, trade unions, farmers, industrialists, and others came together with common agreement to adhere to a program that included practicing fiscal austerity, slashing corporate taxes, moderating wages and prices, and aggressively courting foreign investment. But perhaps the most significant change occurred after 1996, when Ireland made college education effectively free and thereby created an even more educated workforce.

Rather than being the “sick man” of Europe, Ireland is now called the “Celtic Tiger.” Today Ireland is home to nine out of ten of the globe’s top pharmaceutical companies, sixteen out of the top twenty medical device companies, and seven out of ten of the world’s top software designers. In 2004 Ireland attracted more foreign direct investment from the United States than China, and between 1990 and 2000, its workforce grew from 1.1 million to 2 million.<sup>13</sup>

With its increased tax revenues, Ireland is able to invest in health care, schools, and infrastructure. As Harney stated, “You can’t have social inclusion without economic success.”<sup>14</sup>

On the domestic front, Kentucky provides another case study. Beginning in 2000, then-Governor Paul Patton launched a pervasive “Education Pays” initiative in an effort to increase educational attainment as the primary means of strengthening economic development. (The phrase “Education Pays” even appeared on all state road signs.) The State Council on Post-Secondary Education monitors progress on five key questions: 1) Are more Kentuckians ready for post-secondary education? 2) Is Kentucky’s post-secondary education affordable to its citizens? 3) Do more Kentuckians have certificates and degrees? 4) Are college graduates prepared for life and work in Kentucky? 5) Are

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Kentucky's people, communities, and economy benefiting? Since 2000, the number of degrees awarded has increased 45 percent and the number of degrees awarded in focus fields (engineering, information technology, mathematics, and allied health) has increased 73 percent.<sup>15</sup>

Current Governor Ernie Fletcher continued and expanded this strategy, identifying knowledge as the cornerstone upon which Kentucky's economy and quality of life must be built. The Governor's goals include providing early reading opportunities for all children, bringing teachers' salaries in line with those of surrounding states, and ensuring that higher education remains affordable.

To oversee these initiatives, the Governor established the Kentucky Education Cabinet, conjoining the Department of Education, the Department for Workforce Investment, the Council on Post-Secondary Education, the Department for Libraries and Archives, and Kentucky Education Television.

Once considered a state in decline, Kentucky now ranks fourth in the country in site selection for businesses.<sup>16</sup> More Kentuckians were employed during 2005 than

at any other time in the state's history. More than 60,000 new jobs have been created in the two years. The Governor's dual efforts to strengthen educational outcomes and cultivate a friendly business environment are designed to build a competitive economy for the next generation—to keep the best and brightest in Kentucky and draw creative talent to the state.

Other models exist, but the common theme throughout is that governments rejected the “do nothing” option, and instead aggressively invested in initiatives to prepare their citizens for the future. Vermont, too, must do nothing less than aggressively invest in its people. As in other states and countries, this, alone, must be the key economic development strategy for our future.

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<sup>10</sup> The *U.S. Statistical Abstract* ranks Vermont 38th from 2000-2004.

<sup>11</sup> Art Woolf, “Vermont's Changing Demographics: Economic and Fiscal Implications.” (University of Vermont: November 15, 2005).

<sup>12</sup> Thomas L. Friedman, “The End of the Rainbow.” *The New York Times*, June 29, 2005.

<sup>13</sup> Ibid.


<sup>14</sup> Thomas L. Friedman, “Follow the Leapin' Leprechaun.” *The New York Times*, July 1, 2005.

<sup>15</sup> “The Kentucky Council on Post-Secondary Education Midterm Report, 2003-2006.” By the administration of Governor Ernie Fletcher. Unpublished.

<sup>16</sup> Ibid.



## THE SOLUTION: INSIDE OUR SCHOOLS

ational studies prove that educational attainment correlates positively with income, health, and civic engagement. In Vermont the case is no different, and indeed the Roundtable's latest *Pulse of Vermont: Quality of Life Study 2005* points to a positive correlation between educational achievement and higher levels of satisfaction around quality of life issues.<sup>17</sup> To consider just the economic impact, people with associate degrees earn 33 percent more than people with only a high school diploma, and people with bachelor's degrees earn on average 75 percent more over their lifetime.<sup>18</sup>

Obviously, the situation is much worse for high school dropouts. High school graduates earn, on average, \$9,245 more per year than high school dropouts.<sup>19</sup> During the period 2000-2004, the unemployment rate for those with three years or less of high school increased dramatically (50 percent) from 6.5 to 9.7 percent.<sup>20</sup> The median family income for the period 1974-2004 rose for those with a bachelor's degree (15 percent), while it fell during this same time frame for those without a high school diploma (-31 percent).<sup>21</sup> The income difference also generates more government expenses and fewer revenues for the state. Put a different way, the higher the personal income, the more taxes paid and the fewer state services consumed.

The societal impact of low educational attainment cannot be ignored: eighty percent of Vermont's 18 to 35 year-old male prison population, for example, lacks a high school diploma. While there are multiple and interrelated reasons explaining why someone ends up behind bars, the fact that such an overwhelming majority of prisoners hold little or no formal education is staggering. According to Bob Lucenti, Superintendent of Schools for the Department of Corrections, "that is a lot of (lost) workers for the state of Vermont."

Such evidence illustrates the comment from one education observer: "Higher education is now the gatekeeper to a middle-class income and standard of living," according to Bridget Terry, assistant professor at the Harvard Graduate School of Education, in *Ed. Magazine*. "Those with a college

degree on average make \$1 million more over the course of their lifetime than those without a degree." In addition, in 2004, college graduates were one-and-a-half times more likely to be employed than those with only a high school degree<sup>22</sup>, and far more likely to vote, volunteer, and be involved in civic activities.

The data on this subject are compelling. High school graduates earn more than high school dropouts, college graduates earn more than high school graduates, and those with advanced degrees earn more than those with just undergraduate degrees. Clearly, increasing the quantity and quality of schooling received by children is the single most important lever for improving their economic status. In addition, generally the higher a parent's educational achievement, the higher his or her children's educational achievement will be and the better his or her children's health. People with more education tend to make more informed consumer choices, devote more resources to charity, and commit less crime.

The Roundtable believes that efforts to address the state's looming workforce crisis must begin immediately in a collaborative process among government, the education community, the private sector, and parents. Furthermore, these efforts must touch on every aspect of the state's education delivery system. The Roundtable provides recommendations for action in the following areas: Early Childhood Education, Career Awareness, Technical Center Education, Dual Enrollment, and Workforce Education and Training. The Roundtable also encourages readers to revisit the recommendations on higher education outlined in its 2004 report, *Becoming the Knowledge State*.<sup>23</sup>

### Early Childhood Education

Research shows that high-quality child care enhances early brain development, cognitive and language development, and school readiness, thereby setting the stage for successful early school achievement.<sup>24</sup> Business leaders across the country have supported such findings. In 2003 the Business Roundtable, in Washington, DC, stated, "In today's world, where education and skill levels

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determine future earnings, the economic and social costs to individuals, communities, and the nation of not taking action on Early Childhood Education (ECE) are far too great to ignore, especially when the benefits (e.g., reduced expenditures on public health, education, and crime, as well as increased tax revenues) outweigh the costs.”<sup>25</sup>

Vermont has approximately 41,000 children under the age of six. According to state statistics, an estimated 18,000 of them attend more than 1,900 registered or licensed child care programs at least part-time. Many thousands more are in out-of-home care with family members, neighbors, and friends. The Vermont Department of Education currently serves more than 10,000 children through its preschool programs; the Child Development Division and the Department of Health serve thousands more through their programs.<sup>26</sup>

And although Vermont has made recent progress in its relative state ranking in education spending during the formative preschool years (Vermont is now thirty-sixth out of the fifty states), the results of those investments are unacceptable: Vermont’s school readiness report (2003-04) determined that only half (52 percent) of Vermont kindergarteners are “ready for school.”<sup>27</sup> Parents should greet this readiness statistic with alarm; educators with frustration; policymakers with renewed commitment to change; and future employers with active support for that change.

From a different perspective, ECE assumes a crucial role in supporting the state’s economy. In Vermont over seventy percent of women in the workforce have children under the age of six. For working families earning \$37,000 a year with two children in child care, child care costs consume approximately one-third of their annual income; for families of less means, it represents a higher percentage of their annual expenses.<sup>28</sup> For rural working families, the issues are even more acute:<sup>29</sup>

- Rural preschoolers of working mothers spend, on average, slightly more hours in child care each week than their urban counterparts;
- Those living in rural areas have fewer child care choices, with center-based care being the least commonly available option;

- Many in rural areas rely on families to care for their preschoolers; and
- Recent research finds that rural children lag behind their urban counterparts in letter recognition and beginning sounds recognition when entering kindergarten.

**Vermont’s school readiness report (2003-04) determined that only 52 percent of Vermont kindergarteners are “ready for school.”**

Although a variety of programs in the public and private sectors serve Vermont’s pre-kindergarten children and their families, both rural and urban-based, no single entity exists today with responsibility for creating a vision, developing policy, planning and coordinating services, and funding for this age cohort.

Despite the important role of ECE in the development of a productive society and economy, widely divergent views persist over what kind of priority ECE should take in terms of public investments. In recent years, arguments within state government have concerned funding and the expansion of the K-12 system, rather than what means will benefit all our children. The Roundtable believes that the policy focus must be on children.

#### RECOMMENDATIONS:

- That Vermont adopt the goal that every child arrives at kindergarten deemed “ready to learn;”
- That the Governor, working in conjunction with state government, legislators, businesses, parents, and the education community, create partnerships to develop, finance, govern, sustain, and improve a coordinated, enterprise-wide strategy to deliver high-quality, voluntary early education programs for all of Vermont’s three and four year-olds; and,
- That the Vermont Business Roundtable commit to participate directly in the effort to identify best practices that support all children from birth to age six.

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#### Career Awareness

Children do better in school if they can see how education connects to a successful future. Conversely, if children do not envision themselves as productive members of society doing something they enjoy, then they might not see the value of their education as a gateway to a higher standard of living and an improved quality of life. According to a

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1998 University of Michigan study, high-risk students are eight to ten times less likely to drop out if they enter a career-tech program.<sup>30</sup> And in a 2006 survey of California ninth and tenth graders conducted by the James Irvine Foundation, ninety percent of students who don't like school said they would be more motivated by classes relevant to their future careers.<sup>31</sup>

A recent study by Columbia University found school-based career programs help students connect current actions to

future goals (especially middle school students).<sup>32</sup> A yearlong career course that engaged middle school students in six-week units on various careers promoted both academic and career-related growth. Students increased their knowledge of careers, increased their self-esteem, and were more likely to engage in informed academic planning (as evidenced by their enrollment in magnet high schools) than comparison group students. They also showed improved math and science grades, when compared to a control group, and participating minority students were more likely than peers in the comparison group to enroll in algebra or higher-level math courses in high school. White male students participating in the career course were more likely than their peers in the comparison group to take advanced science courses in high school.

In Vermont we have the informal beginning of a similar program. The Vermont Career Planning Task Force is an ad hoc group comprised of representatives from several statewide entities (including Vermont Student Assistance Corporation, Departments of Labor and Education, the Workforce Development Council [formerly Human Resource Investment Council], and others) committed to identifying, supporting, and improving career planning services and resources in Vermont. However, the task force is not formally sanctioned by the Vermont Department of Education or the State Board of Education.

The Roundtable's concern is that children are unknowingly shutting doors on their future because they lack an awareness of the need for and importance of developing a high school plan, without which their future career choices are limited. In order to reduce our cohort dropout rates and begin creating the workforce of the future, Vermont needs to build capacity for individuals to learn, to create visions, to develop personal aspirations, and to engage in the kinds of education that will position them for success in the future. School-based career awareness programs can

help Vermont's children explore their interests and prepare them for high school and beyond.

### RECOMMENDATIONS:

- That Vermont adopt the goal that by eighth grade every student in the state will have a career awareness plan; and that by eleventh grade every Vermont student will have had a meaningful career work experience;
- That the State Board of Education, working in conjunction with state government, the legislature, and the private sector; build upon the work of the Vermont Career Planning Task Force by developing a strategy to expand, formalize, finance, and coordinate statewide, school-based K-12 career planning efforts; and
- That Vermont Business Roundtable members commit to helping students develop an emotionally compelling vision of their own future by creating mentoring relationships, involving themselves directly with classrooms, and fostering real-world, job-shadowing experiences for students.

### Technical Center Education

Because not all of Vermont's high school students aspire to attend college—some intend to enter the workforce directly upon graduation—a strong Career and Technical Education (CTE) program must be a cornerstone of an effective public school system. Students with a more hands-on learning style require a curriculum that integrates academics and career-based learning.

For the two-thirds of Vermont ninth graders who do not progress to a four-year college, CTE should be a key resource in preparing them for certificate programs and two-year associate degrees which enhance their skills and develop career paths.

Vermont implemented its existing CTE model forty years ago. The model is virtually unchanged today. A network of sixteen technical education centers provides two years of courses for juniors and seniors, who return to their "sending" high schools for their academic courses and degrees. Educationally, these technical education centers are not competitive with the four-year, integrated academic and technical centers that exist in most other states. In addition, the technical education programs which once existed within the traditional four-year high schools have virtually disappeared, with the technical education centers assuming almost total responsibility for CTE in the public school system. This arrangement both reinforces the



**Perhaps the biggest barrier to technical and career center innovation and effectiveness in Vermont is the current system of per-student funding.**

long-standing stigma of “tech ed” students as second-class citizens within the system and denies students who live far from centers of an opportunity to participate in technical education programs.<sup>33</sup>

If broad access to experience-based learning is the objective, Vermont must provide a combination of comprehensive, integrated technical education centers and experience-based learning opportunities at every high school. Programs requiring

significant capital investment or unique equipment logically should be consolidated in centers. However, programs requiring smaller capital investments, such as some information technology-based programs, may lend themselves to a distributed approach.<sup>34</sup> The overall goal of each is the same: to provide the opportunity to “learn by doing.”

At a Student Summit on Regional Technical Career Education held in October 2005, organizers asked students, “Why is access to technical education important?” The students cited a desire to experience alternative learning, to gain specific skills, to prepare for college, to acquire career or life skills, and to explore their interests. They also identified a number of significant barriers they felt had to be overcome, such as negative stereotyping; disruptive, half-day schedules; leaving friends and familiar schools; parental prejudices; and time-consuming transportation.

Programs in Career and Technical Education must be designed to contribute to the broad educational achievement of all students, combining strong academics and applied career-based learning. “Career and Technical Education is fundamental to our efforts to improve academic achievement at all levels so our nation remains competitive in the face of a rapidly changing global economy,” said U.S. House Education & the Workforce Committee Chairman Howard P. McKeon (R-CA).

Perhaps the biggest barrier to technical and career center innovation and effectiveness in Vermont is the current system of per-student funding. For each student who enrolls in a technical center, the “sending” high school pays a tuition set by the technical center. The money follows the student. Consequently, local school boards often face a wrenching choice: to serve the needs of their students by tuitioning them to a technical center or to serve the local high school’s economic interests by discouraging students from going to the technical center.

The State Board of Education and the legislature have long recognized these issues. At the legislature’s request, The Vermont State Board of Education in 2005<sup>35</sup> produced a draft long-term vision for technical education, and the legislature has authorized a series of pilot projects for reforming governance and curriculum. However, these efforts have not resulted in the more systematic reform needed to meet the current needs of Vermont students.

Vermont must ensure better access to CTE programs by reviewing the number and role of technical education centers in the state and by providing support for distributed programs based in academic high schools. In addition, the funding model for CTE must change to eliminate the win/lose incentives created under the current tuition-based system. Finally, CTE should be expanded from two years to four, and include integrated academic/technical curricula with supporting degree-granting authority, where appropriate. This will help to eliminate the perception of “tech ed” students as those who are unable to perform academically.

A recent survey of states known for their successful economic development models<sup>36</sup> highlights a pattern that Vermont would do well to emulate. Specifically, the most effective technical and career development programs are custom-designed, integrated and coordinated programs that possess a strong academic component, have strong technical centers with integrated apprenticeship programs, and include established youth councils.

### RECOMMENDATIONS:

- That Vermont adopt the goal that by twelfth grade every student in the state will have been enrolled in a high-quality, academic and applied-learning experience;
- That the legislature, working in conjunction with the State Board of Education and state government, move forward with a systematic reform of Career and Technical Education in the state, focusing on access, funding, curriculum, and governance.
- That the Vermont Business Roundtable create work-site learning opportunities and provide member input to the planning process.

### Dual Enrollment Alternatives

Despite a national focus on increasing the rigor of high school, many students entering college appear to be unprepared for college-level work. Nearly half of all post-secondary students need at least one remedial course upon entering college.<sup>37</sup> As interested parents,

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achievement. Particularly for underachieving students, this experience provides a clear sense of whether they are prepared to formally begin college in the coming year.<sup>38</sup>

A statewide dual enrollment program or policy should do the following:

- Ensure that the policies and regulations clearly support the stated goals of the program;
- Identify funding mechanisms that meet the needs of all stakeholders;
- Consider the implications of both minimal and detailed dual enrollment policies on program activities, and develop ways to ensure the rigor of such courses;
- Identify the needs of students beyond academic course work; and
- Balance the needs of academically-oriented students with the needs of technically-oriented students.<sup>39</sup>

Thirty-eight states have some form of dual enrollment policy; of them, eighteen states mandate dual enrollment opportunities for all students. Unfortunately, Vermont lacks any formal statewide dual enrollment policy.

Across these 38 states, policy variations reflect such factors as geography, finance, academic performance, communications, and eligibility.<sup>40</sup> High school students' access is dependent on proximity to a particular college, on local relationships between colleges and high schools, on the level of information and support provided by the high school, on the student's ability to pay, and on the admissions policies of the higher education institutions.

policymakers, and future employers, Vermonters should focus on developing programs and policies that help link secondary and post-secondary education.

Dual enrollment has a wide range of proven benefits, including educational enrichment, increased academic rigor, the potential to shorten the time necessary to complete a degree and decrease the cost of achieving it, an easier transition to post-secondary education, and more ambitious aspirations for post-secondary

In one example, a dual enrollment program at Monroe Community College (NY) found in 2003 that dual-credit students who enrolled in the college full-time after high school scored higher on college placement tests, had higher first semester grade-point averages, and were more likely to persist to the second semester of their freshman year than other full-time freshmen. Other studies show that dual enrollment students do as well or better in upper-division and advanced coursework than students who did not have dual enrollment experiences.<sup>41</sup>

Currently, only the Vermont Academy for Science and Technology (VAST) is funded by a state block grant, enabling a small cohort of higher-achieving students to attend free of charge. However, in order to make a lasting impact, systemic support for dual enrollment is necessary.

### RECOMMENDATIONS:

- That Vermont adopt a set of goals to increase the percentage of high school graduates; to increase the percentage of college-bound seniors; and to increase the first-year to second-year retention rate among Vermont college students;
- That the Governor, working in conjunction with the legislature, the higher education community, the State Board of Education, and the Vermont Public Education Partnership (VPEP),<sup>42</sup> establish a working committee to address the barriers to dual enrollment identified above and design a delivery system to provide equal access, equal funding, and equal opportunity to all Vermont's high school students;
- That the Vermont Business Roundtable members serve as resources for the working committee to design an education funding structure to accomplish the individual goals of every student.

### Workforce Education and Training

Vermont has a wide array of workforce education, training resources, and programs. These exist in both the public and private sectors, as well as within and outside the employer community itself. However, Vermont also faces a serious mismatch and misalignment of these resources with employer and employee needs.

Small businesses lack the critical mass to receive affordable, high-quality education and training. Particular industries and clusters of businesses have not organized to collectively identify or obtain needed education and training services. Potential providers of such services — colleges, universities, technical centers, and others — also lack the critical information and resources that might lead





them to develop and offer such programs and services. All parties — employers, employees, education and training providers, and intermediaries such as state agencies and workforce investment boards — lack clear, high-quality, performance-based information about available programs and resources.

National employers report issues which closely parallel those expressed by Vermont employers. Firms most commonly reject job applicants because of “inadequate basic employability skills (e.g., attendance, timeliness, work ethic, etc.)”<sup>43</sup> Moreover, Vermont employers today express confusion about where to acquire both the funding and the skills needed to train their employees, especially when faced with a variety of agencies and training sources.

In earlier work conducted for the Roundtable by Northern Economic Consulting, Inc., we learned that roughly \$50 million in FY04 came into the state for demand-driven programs, the majority of it from the federal government (58 percent); another one-third comes from state funding, and the remaining nine percent comes from other private sector sources. Often, public monies must be spent on areas other than worker training or adult education. However, economic competitiveness ought to become a shared priority for all demand-driven programs.<sup>44</sup>

Vermont faces multiple challenges in workforce development that can no longer sustain the lack of alignment among state, business, and workforce education resources. Across the country pilot programs are addressing the growing recognition that workforce development services must be coordinated to be effective. In Vermont, though, a myriad of agencies, service providers, and funding sources has proliferated independent, disparate planning, information management, and performance reporting.

According to a 2005 research study by Northeastern University’s Center for Labor Market Studies, “effective, coordinated and comprehensive workforce development policies . . . have the potential to boost regional labor supply into the first decade of the 21st century.”<sup>45</sup>

A similar research project conducted in 2003 by the Institute of Policy Studies at Johns Hopkins found that “what matters to the consumers of workforce services... is not how the agencies are organized, but how well they work together or coordinate their activities and services.”<sup>46</sup> Among programs in states the Roundtable examined, this theme is central to their approaches to workforce development.

In order to secure a prosperous economic and social future for all Vermonters, particularly for those currently left out or left behind, an effective Vermont workforce

development system must achieve the following outcomes: sustain existing employers; assist in the business growth of employers of all sizes; create more high-skill, high-wage jobs; promote industries and occupations that offer high wages and advancement; link all providers in a coordinated, cost-effective manner; coordinate local, state, and federal resources; and engage the leadership of top state officials.

***Vermont faces multiple challenges in workforce development that can no longer sustain the lack of alignment among state, business, and workforce education resources.***

### RECOMMENDATIONS:

- That Vermont adopt a goal acknowledging that investment in the state’s human capital is the state’s primary economic development strategy;
- That the Governor, working in conjunction with the legislature, state government, higher education, and the private sector; collaboratively develop a statewide plan for a single, coordinated, and financed state workforce development (versus job training) delivery system; and maximize all available, existing resources.
- That the Vermont Business Roundtable commit to providing leadership on this issue.

### Conclusion:

Efforts to address the state’s looming workforce crisis must begin immediately; be a collaborative process among government, the education community, the private sector, and parents; and touch every aspect of the state’s education delivery system.

The recommendations of this report are a starting point for change, which we believe will lead to Vermont becoming a leader in economic and social prosperity through a focus on the state’s educational system. Investment in Vermont’s human capital must be the state’s primary economic development strategy.

A well-educated citizenry promotes the growth of existing business, creates a climate that encourages business start-ups, and brings new business to Vermont. Good jobs from these businesses will allow our children to remain in Vermont and generate income to the state in order to fund social needs.

- <sup>17</sup> Vermont Business Roundtable, "Pulse of Vermont: Quality of Life Survey 2005," unpublished. [2005].
- <sup>18</sup> "Post-secondary Education Opportunity, 1997-99": [www.postsecondary.org](http://www.postsecondary.org)
- <sup>19</sup> Education Policy Foundation [2002].
- <sup>20</sup> Sandy Baum, Kathleen Payea, Patricia Steele; *Education Pays 2006: The Benefits of Higher Education for Individuals and Society*, The College Board, [http://www.collegeboard.com/prod\\_downloads/press/cost06/education\\_pays\\_06.pdf](http://www.collegeboard.com/prod_downloads/press/cost06/education_pays_06.pdf)
- <sup>21</sup> U.S. Census ([www.census.gov/hhes/www/income/histinc/h13.html](http://www.census.gov/hhes/www/income/histinc/h13.html))
- <sup>22</sup> Ibid.
- <sup>23</sup> [www.vtroundtable.org/publications](http://www.vtroundtable.org/publications)
- <sup>24</sup> Jack P. Shonkoff and Deborah A. Phillips, eds., *From Neurons to Neighborhoods: The Science of Early Childhood Development*. (Washington, DC: National Academy Press, 2000), pp. 307-20.
- <sup>25</sup> The Business Roundtable and Corporate Voices for Working Families, "Early Childhood Education: A Call to Action from the Business Community" (Washington, D.C.: 2003)
- <sup>26</sup> Kids Are Priority One, Finance Project Advisory Committee Meeting minutes, June 21, 2006
- <sup>27</sup> Vermont Department of Education, "School Readiness Report" (2004).
- <sup>28</sup> Kids Are Priority One, Finance Project Advisory Committee Meeting minutes, June 21, 2006
- <sup>29</sup> K. Smith, *Rural Families Choose Home-Based Child Care for their Preschool-Aged Children* (University of New Hampshire: Carsey Institute), Spring 2006.
- <sup>30</sup> "Dropout Nation", *Time*, April 17, 2006, p. 37.
- <sup>31</sup> Ibid.
- <sup>32</sup> Hughes and Karp, "School-Based Career Development: A Synthesis of the Literature" (New York: Teachers College, Columbia University, 2004).
- <sup>33</sup> Lake Champlain Regional Chamber of Commerce and the Greater Burlington Industrial Corporation, "Technical Education Feasibility Study for Chittenden County, Vermont," unpublished. [January 14, 2000].
- <sup>34</sup> Ibid.
- <sup>35</sup> State Board of Education, "Strategic Plan," unpublished [2005].
- <sup>36</sup> California, Colorado, Florida, Georgia, New Hampshire, New York, North Carolina, and Virginia.
- <sup>37</sup> National Center for Education Statistics (NCES), 2001.
- <sup>38</sup> U.S. Department of Education, Office of Vocational and Adult Education, Update to State Dual Enrollment Policies: Addressing Access and Quality, Washington, DC, 2005
- <sup>39</sup> Ibid.
- <sup>40</sup> Ibid.
- <sup>41</sup> Washington State Board for Community and Technical Colleges, 2001.
- <sup>42</sup> VPEP membership includes the Vermont State Colleges, the University of Vermont, the Department of Education, the Vermont Student Assistance Corporation, the Vermont Institutes, the Agency for Human Services, the Vermont Superintendents' Association, the Vermont Principals' Association, the Vermont School Boards' Association and the Vermont NEA.
- <sup>43</sup> National Association of Manufacturers, "The Skills Gap: 2001" (2001).
- <sup>44</sup> R. Heaps and Art Woolf, "Adult Job Training Funding in Vermont" (December 3, 2004).
- <sup>45</sup> Center for Labor Market Studies, Northeastern University, 2005, page 8.
- <sup>46</sup> Burt Barnow of The Institute of Policy Studies, Johns Hopkins University, 2003.



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