

**PLUGGING THE LEAKS IN INDIANA'S
EDUCATION PIPELINE:
HIGH ACHIEVERS SPEAK OUT**

White Paper

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Introduction

An informal survey of 95 high school seniors in Central Indiana reveals that, while 100 percent plan to enroll in college, only a third have decided to remain in Indiana to pursue their academic goals. Most perceive that better educational opportunities, financial aid packages and careers are available to them if they leave Indiana.

A group of Indiana citizens, concerned about Indiana's "brain drain" is focusing on this group of academic superstars in hopes of learning what Indiana can do to give high-caliber students the encouragement and incentives to stay rooted in Indiana.

The loss of Indiana's top high school graduates is but one indicator of a much broader problem with Indiana's educational traditions. Despite steady progress in the past 10 years in the number of high school graduates pursuing a post-secondary education, Indiana adults remain among the least-educated Americans in the nation.

This white paper summarizes the key elements of the overall problem. It also documents the results of the 1999 survey of Central Indiana's high achievers. Simply put, too many Indiana residents have not pursued an education beyond high school. Those most able to pursue an education and lead the state out of its deficiency continue to leave the state. Taken together, these two critical masses of information underscore the need for Indiana to continue working to shore up its educational system at every level.

Background

One of the most disconcerting statistics about Indiana is the state's dismal rank in educational attainment. In 1970 Indiana ranked 44th among the 50 states in terms of population with a bachelor's degree. By 1997, however, the state's ranking in this important measure had fallen to 48th.

At a time when state economic leaders recognize that human capital is critical to the growth of Indiana's economy, a rank of 48 out of 50 in educational attainment is not acceptable. Higher-paying jobs require higher education. An estimated 75% of net newly created jobs nationwide require specialized and professional education. Without advanced education of its adult population, Indiana is in jeopardy of not being able to compete as a high-performer in either the region or the nation.

Investing in higher education results in substantial returns. For the individual, college attainment means higher earnings, better career opportunities, jobs that are less sensitive to general economic conditions, and improved quality of life. For the state, college attainment means greater productivity, increased tax

revenues, reduced reliance on welfare subsidies, lower crime rates, and increased civic participation. The incentives for Indiana to plug the leaks in its education pipeline are significant.

College graduates are not created overnight. Improvement requires a culture that values college-going; a sufficient number of high school graduates armed with rigorous educational preparation, aptitude and motivation to succeed; a system of higher education institutions that meets the needs of college-goers; and an economy that can attract and retain college graduates. The multiple and often complex variables that accompany this thorny issue have been the subject of numerous studies and statewide initiatives.

Consider these elements:

1. Public attitudes. In a national public opinion survey conducted in 1998 by the American Council on Education and supported by Lilly Endowment and the USA Group Foundation, a college education was found to be a high priority for a vast majority of Indiana citizens (85 percent), but this priority slightly trailed the national average. Nationally, about nine of 10 parents with children under 18 say they plan to send their children to college. 55 percent of Hoosiers also say they will send their children to college regardless of cost, but residents of Indiana are more likely than most in the country to say they may have to reconsider college for their children if it costs too much (36 percent). Six percent felt a college education was not that important.

Indiana respondents were also more sensitive to college costs than other Americans, feeling that while colleges were doing a good job, the prices they charged were not fair. But Indiana participants -- like most Americans -- grossly overestimated the actual costs (by 81 percent for 4-year public colleges, and by 36 percent for 4-year private colleges). The need and opportunity for higher education institutions to build awareness and communicate more effectively on the true price of a college education are significant.

2. Inter-generational effect. Students whose parents have at least a bachelor's degree are much more likely to enroll in higher education immediately after high school than are the children of parents who have less education. National college enrollment rates of high school graduates the following October after high school ranged from 45 percent for those whose parents had less than a high school education to 85 percent for those whose parents had a bachelor's degree or higher. Precisely because Indiana parents tend to be undereducated, Indiana must make extraordinary efforts to offset the impact of this inter-generational effect.

3. Early awareness. Most educators concur that the effort to strengthen college-going has to begin in middle school. Students need to take content-rich courses to prepare themselves academically, and parents need to become aware of the realities of college costs in order to make achievable plans.

A project to build such awareness in Indiana is posting stunning results. The College Connections and Horizon Scholars Program at DePauw University in Greencastle operates an early financial aid estimator

service and sponsors awareness-building workshops for middle-school parents across Indiana. David Murray, executive director of the program, conducts the workshops. Murray reports significant changes in parental perceptions in before-and-after responses to questions about options parents and their children have when it comes to paying for college. A full 77 percent of the participating parents found that their children have more college options than they thought they had, and 67 percent learned their financial aid situation is better than they expected.

Programs that build early awareness and close ignorance gaps about college-going should be strengthened and expanded.

4. Academically rigorous schools. The percentage of Indiana 18-to-24-year-olds who complete high school (88 percent) is slightly higher than the national average (86 percent). But high school completion alone does not guarantee success in college. The quality of the high school experience counts heavily in post-high school success. Schools need to beef up the academic content of the curriculum, strengthen graduation requirements, provide greater access to college credit for able high school students, and improve their students' standardized test scores. Some facts:

- Only 6 percent of Indiana public school districts meet National Commission on Excellence in Education recommendations for graduation requirements. The national average is 19.8 percent.
- The number of Indiana high school 11th and 12th graders achieving a 3 (on a 5-point scale) or higher on Advanced Placement (AP) examinations has doubled from 1991 (20 per 1,000) to 1997 (40 per 1,000) but is half that of the national average (55 per 1,000 in 1991; 85 per 1,000 in 1997). Most colleges and universities grant college credit for AP scores of 3 or higher.
- The average SAT (Scholastic Achievement Test) composite score in the U.S. was 1017 for the class of 1998 (43 percent tested); in Indiana it was 997 (59 percent tested).
- The average ISTEP (Indiana Statewide Testing for Education Progress) score for 10th graders ranges from 20 to 78 by school, and is 59 on a statewide basis. Requiring a 10th-grade test for 12th-grade graduation is only a baby step in the right direction. Some argue that ISTEP is too tough; the reality is that the expectations in Indiana are too low.

5. Higher education system. The status of Indiana's low educational attainment record is ironic given its strong system of colleges and universities. Historically, Indiana has enjoyed a positive reputation for its higher education institutions. Its many colleges and universities have made significant contributions to the life and development of the state and the nation. A few institutions -- and specialized programs within other institutions -- may lay justifiable claim to "world-class" status.

National surveys and popular college rankings consistently list the University of Notre Dame, Indiana University and Purdue University in the top tiers of universities, and DePauw University, Earlham College, Hanover College and Wabash College in the top tiers of liberal arts colleges. Other public and private institutions achieve regional distinction, meet specialized academic and religious needs, or serve their constituencies in numerous ways.

Costs to attend Indiana's 4-year colleges and universities are only slightly above national averages (3 percent above for 4-year private colleges; 7 percent above for 4-year public colleges). Indiana's institutions are also magnetic: The migration of college freshmen to Indiana from out-of-state is nearly twice the migration of Indiana freshmen attending college elsewhere (24.4 percent coming in; 12.7 percent leaving the state).

6. Lack of a community college system. Indiana's lack of a community college system presents a curious anomaly among higher education systems nationally. Public 2-year community colleges provide vocational training and skill development; they offer an inexpensive way to complete lower division (freshmen and sophomore-level) requirements before entering a 4-year institution; and they offer avocational courses for learners (usually adult learners) with special interests. Community colleges are particularly adept at cultivating late bloomers -- students whose potential for academic and professional achievement emerges in non-traditional ways.

While it is true that Indiana's technical college system and the branch campuses of the major universities seek to fill some of the gaps created by the absence of a community college system, and the success story behind 2-year Vincennes University ought to be replicated state-wide, the state as a whole suffers from a top-heavy delivery system. Indiana over relies on its doctoral and research institutions, and does not attract and serve all the students on the margins.

\$ Nationally, about 45 percent of first-time undergraduates attend public 2-year colleges.

\$ 22 percent of those beginning community college transfer to a 4-year institution (public or private). Of those, 38 percent complete an associate degree before transferring, and 26 percent complete a bachelor's degree within five years.

\$ Costs to attend public community colleges are typically low. In contrast, Indiana's tuition and fees for 2-year public colleges is 56 percent above the national average.

In light of these facts, Indiana is seriously shortchanged by the omission of a community college system for its citizens.

7. State economic performance.

Indiana does not retain the college graduates educated here because there is a mis-match between their newly-acquired skills and the availability of jobs to keep them in the state. The Indiana Human Capital Retention Project is undertaking six research initiatives associated with this issue, and has published its first report, “The Evolution of Indiana’s Labor Force.” The Project is a research program being conducted by the Indiana Fiscal Policy Institute and funded by Lilly Endowment, the Indiana Commission for Higher Education and the Indiana State Chamber of Commerce.

Among the Project’s findings: Indiana is lagging behind peer states in high-education/high-pay jobs. As the remainder of these research reports unfold, all concerned Indiana citizens will want to study --and consider following -- the recommendations.

8. Retention, retention, retention.

The issues surrounding educational attainment in Indiana are not new. Years of effort and millions of dollars have been expended to retain students in high school, retain students in college and retain college graduates in Indiana. A sampling of notable efforts, all of which have borne fruit, include:

\$ Multiple (and generous) projects funded and supported by Lilly Endowment, Indiana’s conscience with a checkbook. High Hopes and Long Odds, “College Goal Sunday”, and numerous college and university initiatives, are but a few of the creative efforts funded by the Endowment.

\$ CLASS (Community Leaders Allied for Superior Schools) and other organizations promote increased awareness of retention issues.

\$ The Indiana Commission for Higher Education has promoted retention programs for Indiana’s public institutions and highlighted “best practices” in Indiana and nationally.

\$ U. S. Senator Richard Lugar’s “Fund for Hoosier Excellence” provides scholarships “to keep Indiana’s talented youth in the state.”

\$ The 21st Century Scholars Program, inaugurated by U. S. Senator Evan Bayh when he was governor, is graduating its first recipients this year. The program provides financial support to qualified students who attend college in Indiana.

And the list goes on. Indiana’s future will be determined by the degree to which retention efforts -- at all levels -- will be the sealant for the education pipeline leaks.

Keeping High Achievers: The Survey

One of the leaks comes from the most capable of Indiana high school graduates who leave the state to pursue post-secondary education elsewhere.

This current study was prompted by the planning efforts for a new event, called Ameritchieve, a combination recognition/reception/forum honoring central Indiana students of extraordinary distinction. The event, to be held at Brebeuf Jesuit Preparatory School in Indianapolis, is sponsored by Marian College, USA Group Foundation, The Indianapolis Newspapers, WTHR-TV, J & H Marsh and McLennan, Aramark, Thomson Consumer Electronics, Ameritech and Bank One.

Recipients of Ameritchieve recognition are National Merit Finalists, National Achievement Finalists and National Hispanic Scholar Finalists from within a 75-mile radius of Indianapolis. While the criteria for each of the national awards vary, in general recipients represent students who have scored at the highest levels on national PSAT examinations, have maintained outstanding academic records throughout high school, have received endorsements and recognition from their high school principals, have achieved follow-up SAT-I scores that confirm earlier qualifying test performance, and can be said to have the strongest records of accomplishment and ability.

It is no surprise that finalists represent the cream of Central Indiana's academic crop and have the greatest potential for success in college. Recognizing their distinction, colleges and universities across the nation compete for these students to enter their freshmen classes and, by so doing, enhance their institutional academic profiles.

Recognition of this sort also carries substantial financial reward. The Merit, Achievement, and Scholar finalists are eligible for scholarships from the respective national organizations, and these awards may be supplemented by local and institutional scholarships, as well. Several recipients report receiving significant scholarship and financial aid benefits. One of this year's honorees reported receiving \$54,500 in scholarships to attend Texas A & M University, but her best Indiana-based award offer was \$3,000. Some are receiving "full rides" for the payment of tuition and fees, room and board, and books and supplies, a condition not dissimilar to full rides received by blue chip athletes at athletically-competitive institutions.

These academic "blue chippers" also represent a wide range of intellectual and career interests and are destined to achieve at a broad range of selective institutions. Plumbing their thinking about college-going, about the contrasts between in-state and out-of-state options they considered in making college choices, and about their other attitudes about Indiana, prompted the Ameritchieve organizing committee, led by the hard-charging Linda Hegeman, to request all honorees to complete an informal survey. Surveys were designed by the organizing committee, and were distributed, along with invitations to attend the Ameritchieve events, to all recipients. Lists of recipients were supplied by the high schools of the respective award winners. Survey

responses were made by the students in February and early March, 1999 and returned to Americhieve for tabulation and analysis. Responses reflect current thinking about college-going in the Fall of 1999. A total of 95 surveys were returned out of 212 sent, for a response rate of 45 percent. Not all respondents answered all questions. Percentage scores may not always equal 100, due to rounding.

Results of the Survey

Do you plan to attend college?

Students were asked if they planned to attend college. Not surprisingly for this group of high achievers, all 95 respondents (100 percent) responded affirmatively.

Where do you plan to attend college?

Students were asked to identify whether the college they intended to attend was located in-state or out-of-state, and whether the intended institution was public or private. A total of 21 of the students (23 percent) were “undecided,” an understandable situation, given the competition among institutions for these students, who enjoy the luxury of “shopping around” for better financial aid packages. Of those who knew where they were going, a majority had opted for colleges and universities located outside Indiana. Inasmuch as many of these students could secure admission to practically any college, the proportion planning to go elsewhere does not seem unduly high.

In-State	32 (34%)
Out-of-State	40 (43%)
Undecided	21 (23%)

A majority of the students plan to attend a private college (75 percent). Many private institutions in this country (but not all) are generally more selective than public institutions. The most selective place a high priority on the academic profile of the institution’s incoming freshmen class as an indicator of institutional quality. The respondents are precisely the types of students that selective institutions covet.

If you plan to attend an out-of-state institution, did you consider an Indiana school?

Even though 40 students identified an out-of-state institution as their choice, 42 students responded to this question about considering Indiana schools. (It may be that some of the “Undecided” students have decided to go out-of-state, but may not know which specific out-of-state school to settle on). Three out of four respondents said they did consider Indiana schools in their school selection process.

Yes	32 (76%)
No	10 (24%)

List the two most important reasons that caused you to select an out-of-state school

Responses to this open-ended question cited a variety of reasons deemed important by the

respondents. Aggregating the responses into like categories and listing them in rank order reveal the following:

- | <u>Rank</u> | <u>Reason and Number of Responses</u> |
|-------------|--|
| 1. | The quality of the school; greater depth of courses offered in my field; getting a better education out-of-state (26) |
| 2. | “Name recognition” of the school; academic reputation; reputation means better chance at good graduate schools (18) |
| 3. | Want a change in location; chance to broaden my horizons; chance to see other parts of the country (11) |
| 4.5 | Out-of-state schools offered better financial aid; better scholarships (8) |
| 4.5 | Want to be on my own; be independent of my parents (8) |
| 6. | More diverse student population (5) |
| 7. | Miscellaneous reasons <ul style="list-style-type: none"> <i>Out-of-state schools actively recruited me (3)</i> <i>Better job opportunities after graduation (3)</i> <i>School in a larger city; state with a different culture (3)</i> <i>Better geophysical features; school in the mountains (2)</i> <i>More socially and politically liberal (2)</i> <i>Better college housing at out-of-state school (1)</i> <i>School atmosphere (1)</i> <i>I've been so involved with IU, I feel as if I've already gone there (1)</i> <i>Nothing to do in Indiana (1)</i> <i>School I wanted in Indiana is too expensive (1)</i> <i>Only form of recreation in Indiana is binge drinking (1)</i> |

Do you plan to attend a graduate school?

High achievers are also long-term planners. Many of these respondents are thinking ahead to graduate and professional school four years out. Only 2 percent of respondents said they would not attend graduate school.

Yes	72 (77%)
No	2 (02%)
Undecided	19 (20%)

If so, do you plan to attend an in-state or out-of-state institution [for graduate school]?

Nearly half of the respondents admitted they did not know the location of the graduate school they would likely attend. Of those who did know, however, the overwhelming majority indicated an out-of-state preference. This means that, even for those students who plan to pursue their first (bachelor's) degree in Indiana, most would leave the state to attend graduate school elsewhere.

In-state 5 (07%)
Out-of-state 32 (44%)
Undecided 36 (49%)

List the two most important reasons that would influence you to select an out-of-state school

Responses to this open-ended question elicited a variety of reasons deemed important by the respondents. Aggregating the responses into like categories and listing them in rank order reveal the following:

- | <u>Rank</u> | <u>Reason and Number of Responses</u> |
|-------------|--|
| 1. | Quality of the school; reputation of the school; prestige of the school (45) |
| 2. | Costs; better financial incentives; scholarship money available (25) |
| 3. | Availability of academic program in my field (19) |
| 4. | Job/career opportunities after completion of degree (17) |
| 5. | To broaden my experiences (12) |
| 6. | The location; the surrounding environment (9) |
| 7. | A graduate school in a metropolitan area (5) |
| 8. | Miscellaneous reasons
<i>Bigger network of people to help me in the future (4)</i>
<i>Better research opportunities (3)</i>
<i>Better internship opportunities (2)</i>
<i>Less provincial makeup of the school community (1)</i>
<i>More enthusiastic undergraduates to work with (1)</i> |

After I leave Indiana, why would I return? (1)

At this point, what career do you plan to pursue?

A talented group of students with the capabilities represented in this population are aware of the universe of career and professional options available to them. The responses, listed in order of preference, are remarkable because of their breadth. While many students are undecided about career choice, and others will no doubt change their minds over the next four years, these students have charted courses for themselves in keeping with their talents.

Career choices; numbers identifying each choice

Undecided (12)
Law (8)
Computers, computer science (7)
Psychology; psychologist (6)
Medical research (4)
International business (3)
Engineering (3)
Medicine (3)
Pediatrics; pediatrician (2)
Mathematics professor (2)
Chemical engineering (2)
College professor (2)
Journalism (2)
Business (2)
Music composition (2)
Veterinary medicine (2)
Microbiologist (1)
Pharmacy (1)
International law (1)
Robotics (1)
Research physicist (1)
Marine science (1)
Environmental policy (1)
English professor (1)
Biomedical engineering (1)
Political communication (1)
Mechanical engineering (1)
Jazz musician (1)
The arts (1)
Pianist/composer (1)

- Archaeology (1)
- Nursing (1)
- Writer (1)
- Astronautical engineering (1)
- Electrical engineering (1)
- Ministry (1)
- Civil Engineering (1)
- Librarian (1)
- Mathematics (1)
- Neurosurgery (1)
- Music performance (1)
- Molecular biology (1)
- Elementary school teacher (1)
- Communications law (1)
- Scientific field research (1)
- Foreign Service (1)

Would you prefer to work in-or out-of-state after college?

Fewer than 10 percent of respondents indicated a preference to work in-state after college. Most were undecided or were already assuming they would work out-of-state.

Work in state	7 (08%)
Work out-of-state	37 (43%)
Undecided	42 (49%)

If all opportunities were equal, would you like to live/work in Indiana?

Framed as an “if all opportunities were equal” proposition, the number and percentage of respondents choosing to live and work in Indiana jumps significantly (five-fold). We can infer from these responses that students are assuming that opportunity may not be as likely in Indiana as elsewhere.

Live/work in Indiana-Yes	37 (42%)
Live/work in Indiana-No	22 (25%)
Undecided	30 (34%)

What do you consider to be primary benefits of living/working in Indiana?

Responses to this open-ended question produced a variety of benefits deemed important by the respondents. The list is not unlike one a Chamber of Commerce would publish. Aggregating the responses into like categories and listing them in rank order reveal the following:

Rank Reason and Number of Responses

1. Nearness to family; close to family members (34)
2. Familiarity with Indiana; I grew up here; it's my home (22)
3. Good atmosphere; clean; low crime rate (19)
4. Community spirit; caring people; good Midwestern values (16)
5. Low cost of living (15)
6. Good place to raise a family; to raise small children (10)
7. Central location in the country; access to other parts of country (7)
8. Traditional, fiscal conservatism (5)
9. Miscellaneous benefits
 - Wide spectrum of types of communities* (4)
 - I know a lot of people here* (4)
 - Good secondary schools* (4)
 - It's a beautiful state* (3)
 - High wages; opportunities for some jobs* (3)
 - Variety of companies and businesses that operate here* (3)
 - I can live in small towns and access big city amenities* (2)
 - Low unemployment* (2)
 - Bloomington is a lovely town; a cultured town* (2)
 - We have four seasons here, none of them is too long* (1)
 - Strong work ethic* (1)
 - Eli Lilly would be a good employer* (1)
 - Good shopping district* (1)
 - Opportunities available through IU* (1)
 - There's a certain magic in the corn fields [tongue-in-cheek]* (1)
 - Good opportunities to affect and change the community for the better* (1)
 - High funding for public education* (1)

What do you consider to be drawbacks to living/working in Indiana?

Responses to this open-ended question cited a variety of drawbacks deemed important by the respondents. Aggregating the responses into like categories and listing them in rank order reveal the

following:

<u>Rank</u>	<u>Reason and Number of Responses</u>
1.	Indiana is culturally isolated; lack of entertainment; lack of cultural events; lack of cultural centers (25)
2.	There aren't as many opportunities (24)
3.	The climate; the weather; cold winters; tornadoes (23)
4.	Lack of exposure to other parts of the world (12)
5.	No geographic diversity; no oceans; no mountains, etc. (10)
6.	Political conservatism; conservative nature of the state (9)
7.	Lack of diversity (8)
9.a	No international feel (7)
9.b	Indiana is boring; too many cornfields (7)
9.c	No major cosmopolitan cities (7)
11.	Miscellaneous drawbacks <i>Lower paying jobs (3)</i> <i>Fewer Fortune 500 companies; few corporate centers (3)</i> <i>Backward-thinking; narrow-minded individuals (3)</i> <i>Other places have more major research/innovative work being done (2)</i> <i>Hoosiers seem content with how things are, they don't want to change or adapt (2)</i> <i>Proximity to nuclear family (2)</i> <i>Schools are mediocre--want more opportunities for my children (1)</i> <i>American resistance to a welfare state (1)</i> <i>High public school book rental fees (1)</i> <i>Poor public transportation and roads (1)</i> <i>Poor financial support to public institutions like IU (1)</i> <i>High cost of computer equipment (1)</i> <i>The idea that success equals leaving (1)</i> <i>Indiana isn't one of the most reputable states (1)</i> <i>Distance from major hardware/software vendors (1)</i>

Crime (1)

Dealing with stereotypes of “Hoosier” from non-Indiana natives (1)

Implications for the Future

The education pipeline in Indiana suffers several leaks, and the result is a nationally embarrassing ranking for baccalaureate attainment. Policy makers and concerned citizens who care about the future of the state will want to consider the many and complex factors -- educational, cultural, political and economic -- that bear on the multiple solutions required to plug the leaks.

For the sample of high achievers represented in this informal study, certain policy directions are indicated. While it will be impossible to add mountains or oceans, and the weather is more or less likely to remain the same, there are policy initiatives that might be forthcoming to attract bright individuals -- whether from Indiana or elsewhere -- and retain them and their considerable talents as a part of Indiana's growing human capital. Certainly the financial incentives to attend a particular college and to work in a particular place are pivotal for many of these students and others like them.

The attached table shows the results of last year's (1998) National Merit Scholars' decisions about school options. Reproduced from the Chronicle of Higher Education, the table reveals that of the 46 schools in the nation where Merit Scholars tend to cluster most, only one institution in Indiana -- Purdue University -- was able to attract a sizable number. Surely financial incentives had a lot to do with those decisions.

It is suggested here that a more comprehensive approach to plugging the leaks be assembled across Indiana. A complex problem requires coordinated and multi-faceted solutions, consonant with the knotty issues to be addressed. As Indiana tries to improve its attainment ranking nationally, it will have to focus on a moving target. Other states are unlikely to sit still and await our bold interventions. Playing leap-frog, rather than catch-up, will be the requirement.

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