

# RETURN ON INVESTMENT

REPORT 2018



INDIANA COMMISSION *for*  
HIGHER EDUCATION

# ABOUT THIS REPORT

The Indiana Commission for Higher Education's policy agenda has been built on a commitment to using compelling data to increase transparency, inform practice and drive change for the benefit of all Hoosiers, including a series of consumer-friendly reports that spotlight progress at each stage of the postsecondary pipeline.

The **College Readiness Reports** help local schools and communities understand how their students are performing in college while informing policies that increase college readiness and success.

The **College Completion Reports** provide a clearer and more comprehensive picture of college completion in order to advance Indiana's collective efforts to boost education attainment.

The **Return on Investment Reports** provide a clearer picture of the returns a college degree yields after graduation, both to the individual and the state. These benefits include greater earnings, job security, enhanced social mobility, increased civic involvement, improved health and wellness, and higher quality of life.

## CONTENTS

College is Worth the Cost	
The Return	04
The Investment	05
Higher Education Strengthens the Economy	06
State Financial Aid Pays Off—for Students and the State	07
On-Time Completions Saves Time and Money	08
Individual Decisions Matter	09
College Has Value Beyond Dollars and Cents	11
ROI At-A-Glance	12
Notes	14

Get detailed results  
from this report online:  
**[LearnMoreIndiana.org/ROI](http://LearnMoreIndiana.org/ROI)**

# KEY TAKEAWAYS

1

## College is worth the cost.

The **increased earnings of a degree more than exceed the total costs of college, including debt, for most students within only a few years after graduation.** Wages may not differ as much just one year after graduation, but differences in earnings five to ten years out can be substantial. The earlier someone gets postsecondary education or training, the better.

Stories about graduates with very large amounts of student debt and no jobs do not appear to reflect the typical Hoosier experience, and successful entrepreneurs without some sort of postsecondary education are increasingly rare. Nationally, about **99% of jobs created since the Great Recession went to workers with at least some college.**

2

## Higher education strengthens the economy.

Higher education not only improves individual outcomes, it also helps build stronger communities and strengthens the economy. Over the course of a lifetime, each class of **Indiana public college graduates contributes at least \$13 billion or more in additional spending and tax revenue** to the economy compared to Hoosiers with only a high school diploma.

Conversely, **Hoosiers without college are more than twice as likely to file for unemployment,** accounting for two-thirds of all unemployment claims in the past decade. As technologies change, and as increasing competition from online and multinational giants put pressure on small, local businesses, those with the most skills or formal education are best positioned to do well financially.

3

## State financial aid pays off—for students and the state.

At least one-third of each class of Indiana public college graduates benefits from state financial aid, and **the wages of state aid recipients are more than double the cost of the investment** within only a few years of graduation. Moreover, wages of Indiana's financial aid recipients are similar to those of other graduates, suggesting the positive impact state aid programs can have on Hoosiers' socioeconomic status.

4

## On-time completion saves time and money.

Time is money, and taking additional years to graduate can **increase the total cost of college by thousands of dollars per year.** On average, an associate earned in six years rather than two costs students over **\$34,000 extra**, and a bachelor's degree earned in six years rather than four could cost an **additional \$26,000** or more in additional tuition and debt, let alone lost wages.

5

## Individual decisions matter.

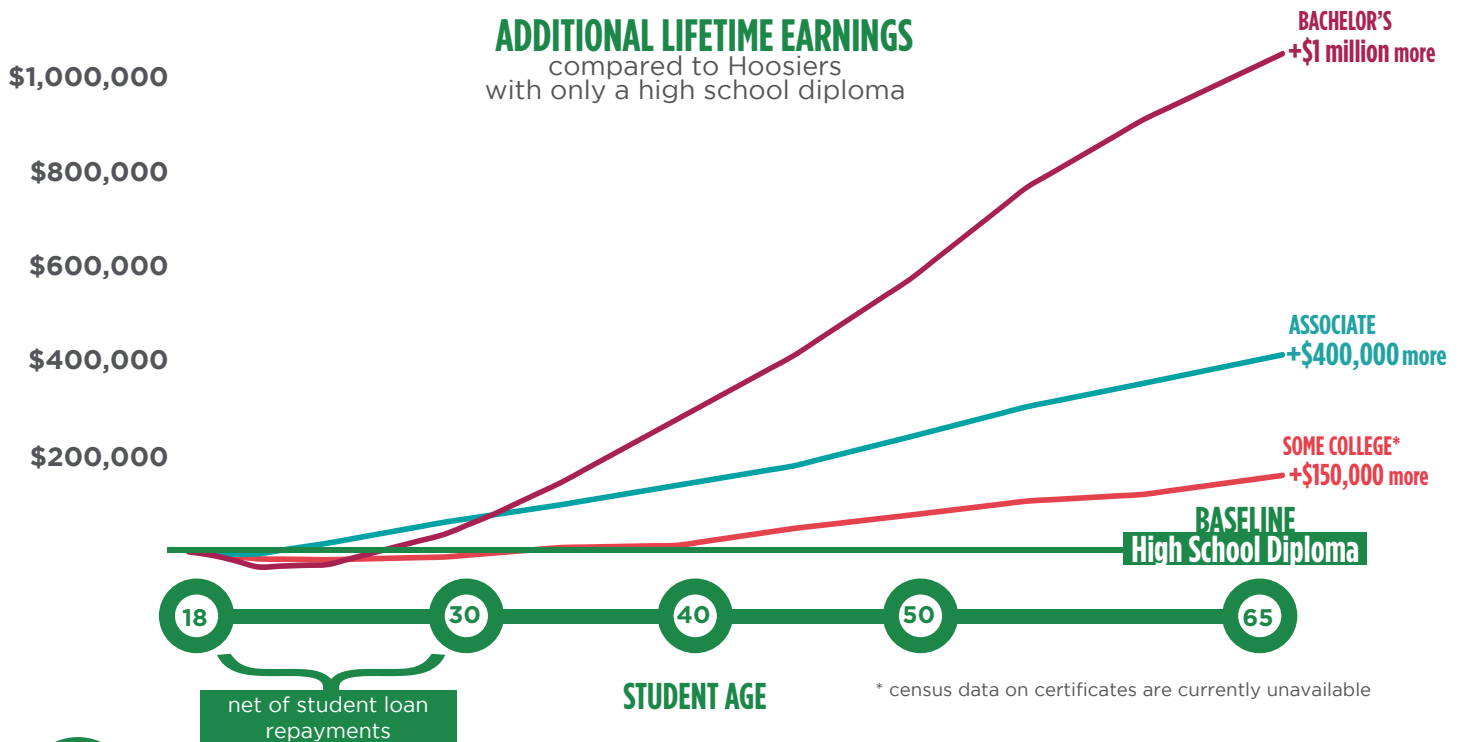
The value of a college degree is undeniable, but the return on investment depends greatly on the decisions students make—what they choose to study, what credentials they earn, how long they take to graduate, and how they finance their education. **It pays to consider all of the variables** when choosing where to go to college, what to study, and how to pay for it.

# COLLEGE IS WORTH THE COST: The Return



## BOTTOM LINE: Higher education pays.

An investment in higher education may be the smartest purchase Hoosiers ever make. Even after accounting for increases in costs, most credentials pay for themselves within only a few years, and college graduates' lifetime earnings often outweigh those of Hoosiers with only a high school diploma by \$1 million or more.



## Key Facts & Assumptions

1

**STUDENT EMPLOYMENT:** The data model assumes that high school graduates begin earning at age 18 and that college students do not work while in school. In reality, about **32% of full-time** students and **72% of part-time** students are employed while in college. Similarly, not all high school graduates are fully employed or self-supporting at age 18.

2

**COST OF COLLEGE:** The projections are based on the “net” cost of college after financial aid. For students who complete on time, the average cost after financial aid to attend a four-year Indiana public college is about **\$11,500** per year, and the net cost to attend a two-year public college is about **\$7,300**.

3

**STUDENT DEBT:** The model also assumes that students incur average levels of student debt, that interest does not start accruing until after graduation, and that loans are paid off at average interest rates over a ten year period. About **2/3** of Hoosier students rely on student loans to finance their education. On average, students at four-year Indiana public colleges accumulate about **\$27,000** in loans (excluding interest), compared to about **\$17,000** for students who attend two-year public colleges.

4

**WAGE OUTCOMES:** Hoosiers with a college degree earn **hundreds of thousands of dollars** more than those with only a high school diploma over a lifetime. But wages are only part of the picture. The more education Americans have, the more likely they are to be employed or to be actively looking for employment. Among 25-64 year-old, noninstitutionalized civilians, **a third (32%)** of high school graduates neither have a full- or part-time job nor are actively seeking a job, compared to about **25%** of those with some college or an associate, and **16%** of graduates with a bachelor's. This disparity is present even among young adults, and it grows as they age, since those with less education drop out of the workforce earlier in life.



# COLLEGE IS WORTH THE COST: The Investment

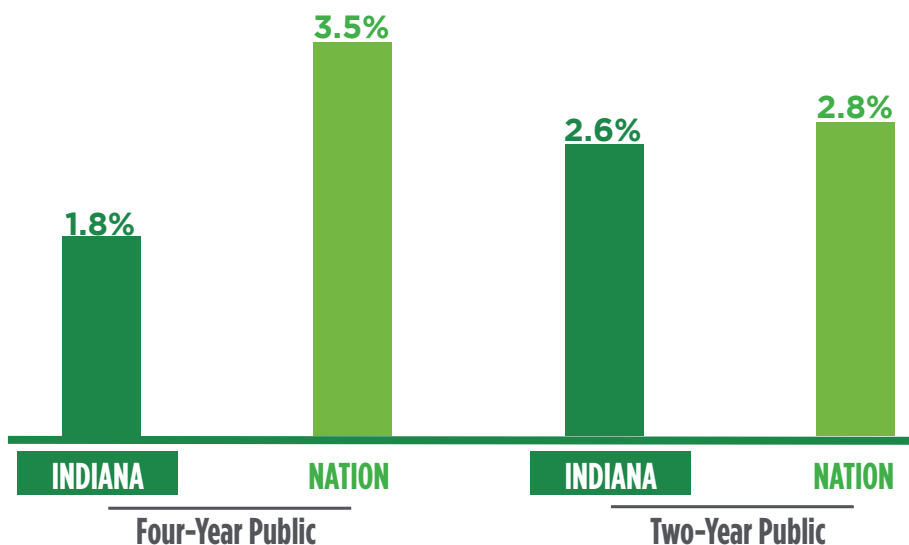


## Indiana vs. the Nation

**BOTTOM LINE:** Indiana's recent tuition and mandatory fee increases are **among the lowest in the nation**, and annual increases have declined significantly in recent years.

### INDIANA VS. THE NATION

average annual increase in in-state tuition and fees  
(2006 to 2016; 2016 dollars)



### KEY FACTS

- According to College Board, tuition and fee increases at Indiana's four-year public institutions were the 6th lowest in the nation over a ten-year time period.
- Indiana's two-year colleges also increased below national averages over the same time period (2.6% annually compared to the national average of 2.8%).

Note: based on College Board data

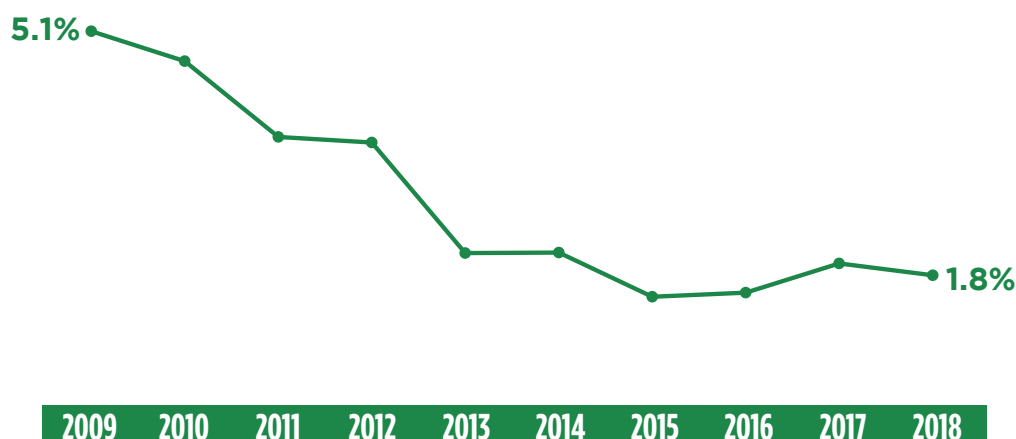


## Annual Percentage Change

**BOTTOM LINE:** Annual tuition and fee increases have **declined steadily** since 2013, averaging roughly 2% per year over the past few years.

### 10-YEAR TREND

average annual increase in in-state tuition & fees  
(2009 to 2018; nominal dollars)



### KEY FACTS

- The Commission for Higher Education is committed to improving college affordability through simplified saving, reduced college costs, and student-friendly financial practices.
- Since 2009, the Commission has set recommended targets for tuition and mandatory fees, with a goal of holding tuition levels steady at no higher than an inflationary level.

Note: based on CHE data



# HIGHER EDUCATION STRENGTHENS THE ECONOMY



## Consumer Spending and Taxes

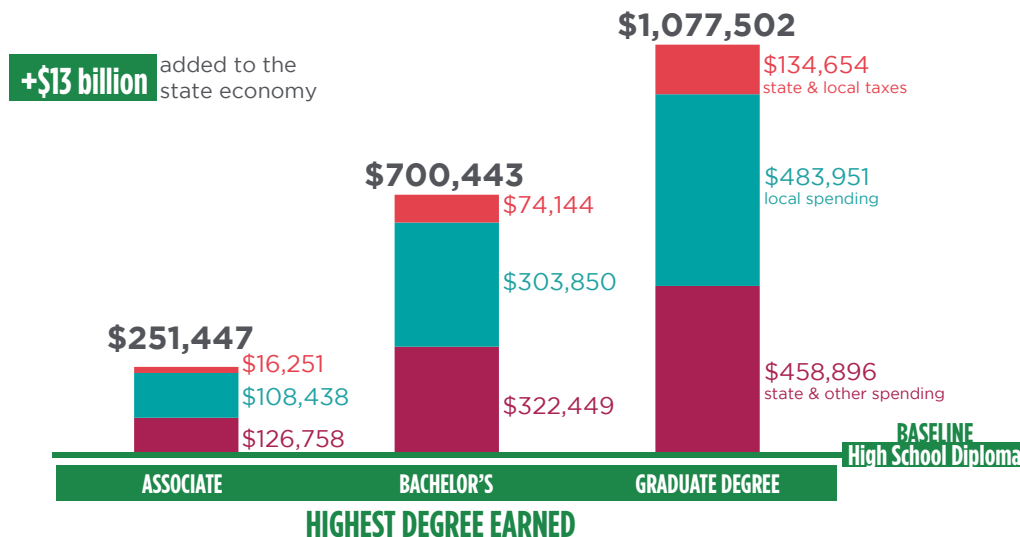
**BOTTOM LINE:** Higher education is key to economic development. Over the course of a lifetime, a class of Indiana public college graduates contributes **at least \$13 billion** in additional spending and tax revenue to the economy compared to Hoosiers with only a high school diploma.

### ADDITIONAL DOLLARS

added to the economy by Hoosiers with a degree compared to high school graduates

### KEY FACTS

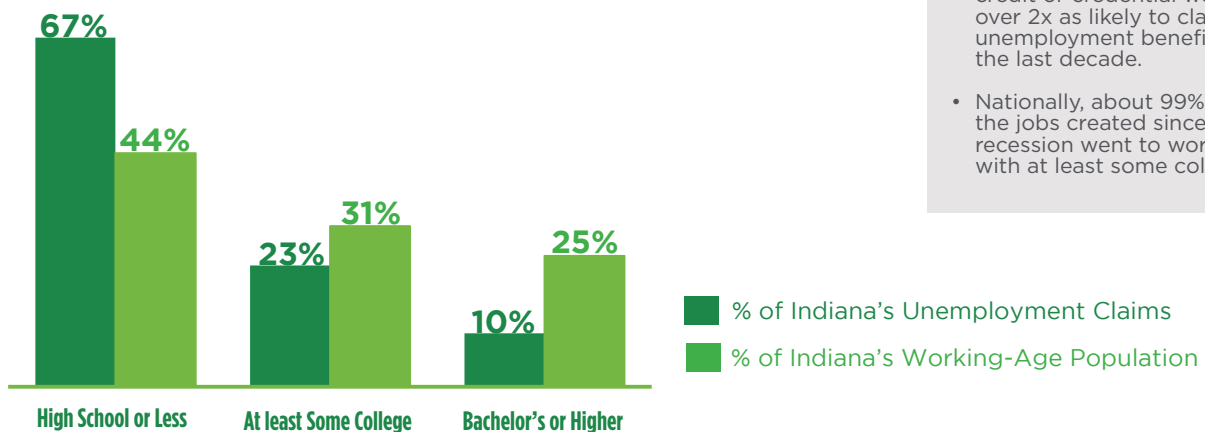
- Hoosiers with an associate degree contribute about \$250,000 extra to the economy compared to those with only a high school diploma.
- Hoosiers with a bachelor's degree contribute about \$700,000 extra to the economy compared to those with only a high school diploma.
- Though census data on certificates are not currently available, the Commission is committed to assessing the ROI of certificate programs in future releases.



## Unemployment Claims

**BOTTOM LINE:** Hoosiers with higher levels of educational attainment have significantly higher levels of job security. Indiana residents with **no college** filed **two-thirds of all unemployment** claims over the past ten years<sup>1</sup>.

### % of Unemployment Claims Filed by attainment level (2006-2015)



### KEY FACTS

- Hoosiers with no college credit or credential were over 2x as likely to claim unemployment benefits over the last decade.
- Nationally, about 99% of the jobs created since the recession went to workers with at least some college.

# STATE FINANCIAL AID PAYS OFF



## Economic Impact

**BOTTOM LINE:** About **1/3** of Indiana public graduates who entered the workforce benefited from a state financial aid program, and state aid recipients contribute **billions of additional dollars** to the state economy compared to high school graduates over the course of a lifetime.

### % of Graduates Entering Workforce Who Received State Aid

Indiana public college graduates (2008-2015 annual average)



### KEY FACTS

- Grant recipients' wages tend to mirror the average wages of other college graduates, providing evidence of state aid programs' potential to raise the socioeconomic status of financial aid recipients.
- Grant recipients' completion rates continue to improve, resulting in increased return on investment to students and to the State.

### State Financial Aid Recipients

**+\$3.5 billion**

added to the **state economy** over the course of a lifetime above and beyond what a high school graduate would add

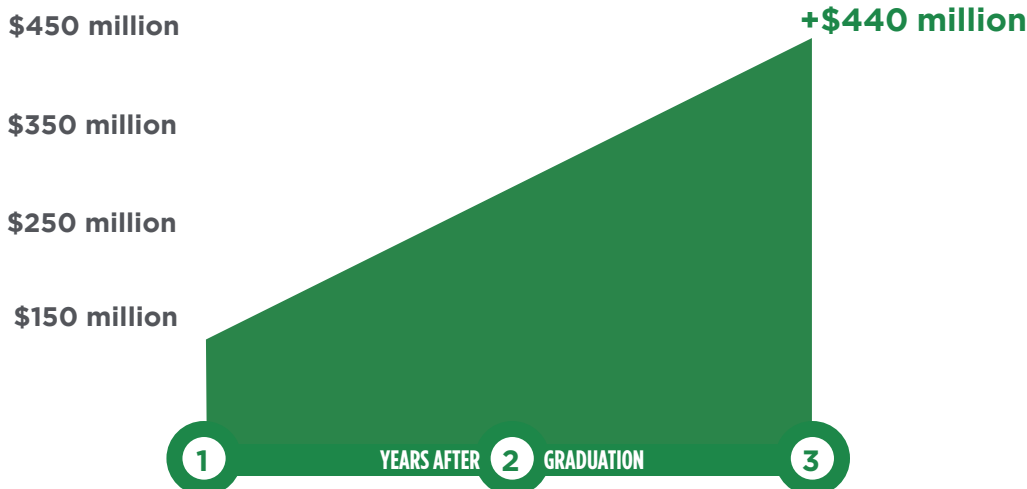


## Student Impact

**BOTTOM LINE:** State financial aid recipients earn **at least 2.5x** what was invested in them within **only 3 years** following graduation.

### Average Cumulative Wages of State Aid Recipients

Indiana public college graduates (average for 2011-2013 graduating classes)



### KEY FACTS

- Financial aid recipients are also more likely than their peers to use an initial certificate or an associate degree as a stepping stone to higher level credentials. About 21% of financial aid recipients who earn an associate go on to earn a bachelor's, compared to the average of 13%.
- State financial aid distributed to recipients starting as first-time students at Indiana public colleges between 2008 and 2016 paved the way for over 10,000 additional higher level credentials to be earned.

Note: includes the 21st Century Scholarship and Frank O'Bannon Grant, Indiana's primary need-based financial aid programs

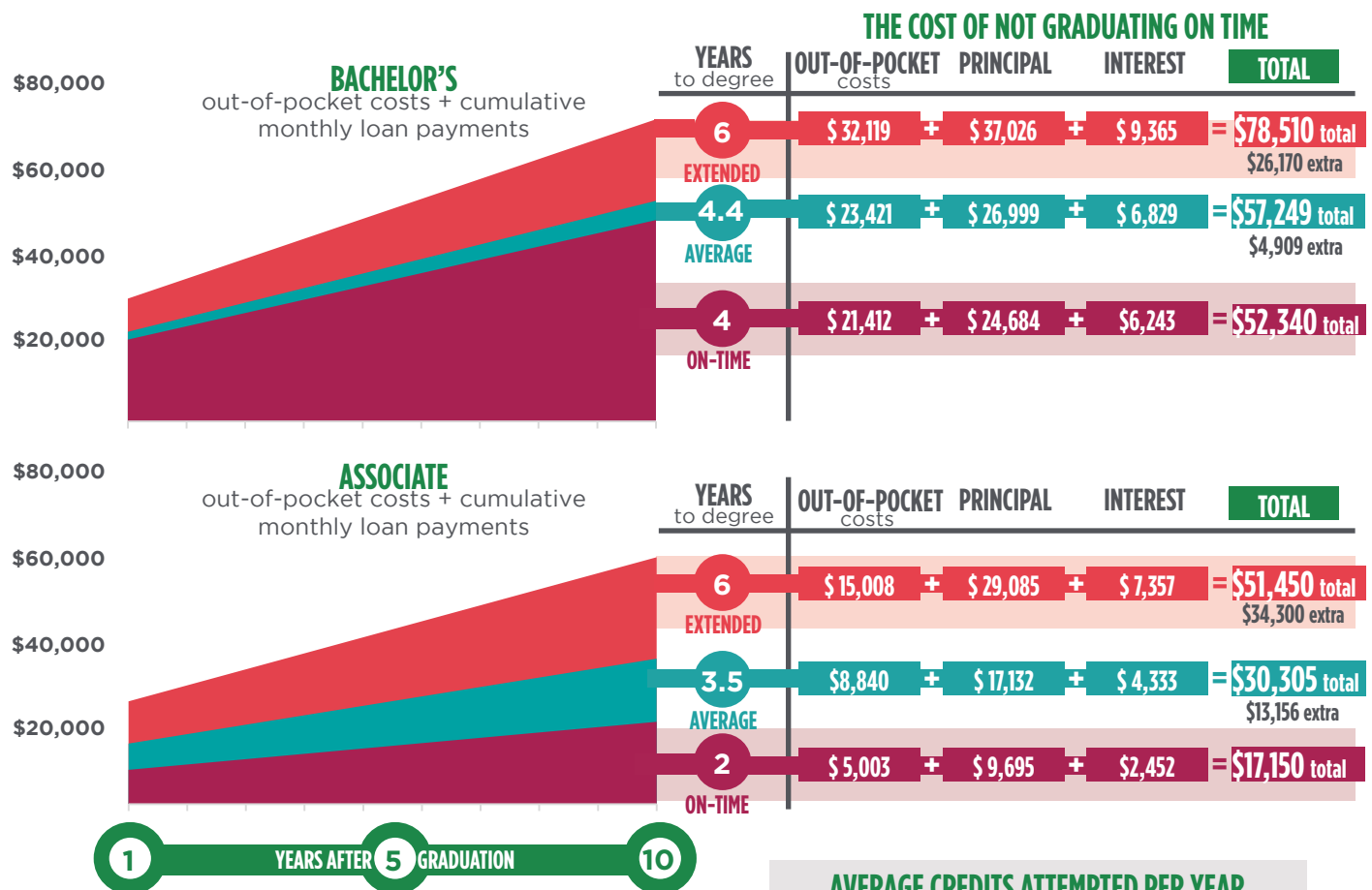


# ON-TIME COMPLETION SAVES TIME AND MONEY



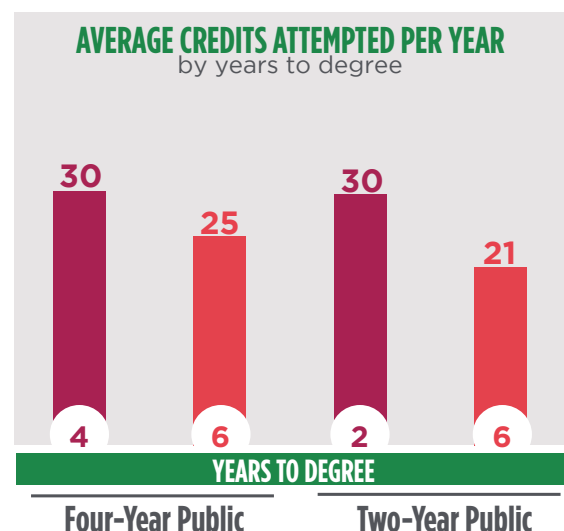
## On-Time Completion Savings

**BOTTOM LINE:** For too many Hoosiers, failing to complete a degree on time significantly increases the costs and debt incurred on the way to a college degree. A bachelor's degree earned in six years will generally add about **\$26,170** to the total cost of the degree, while a six-year associate degree could add as much as **\$34,300**, **not counting lost wages or loss of eligibility for financial aid.**



### KEY FACTS

- An additional year of college can cost Hoosiers nearly \$50,000 in extra tuition, lost wages and related costs.
- On average, students who take longer to complete still attempt a significant number of credits each year, increasing total cost and student debt.



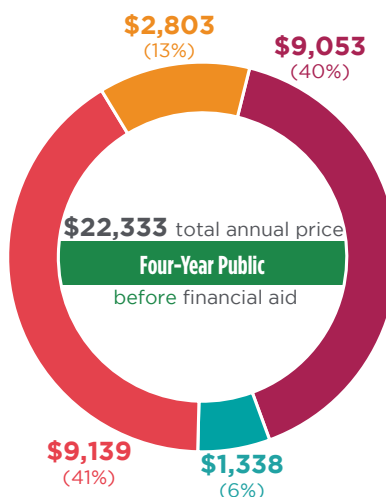
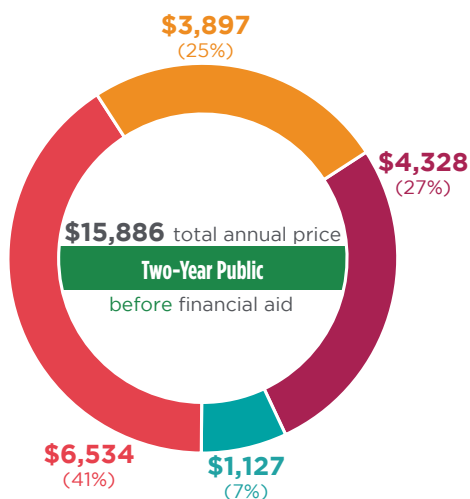


# INDIVIDUAL DECISIONS MATTER



## Unpacking Total Annual Price

**BOTTOM LINE:** The cost of attending college varies depending on what degree students choose to pursue, where they choose to live and other lifestyle decisions they make.



Tuition & Fees	Room & Board
Books & Supplies	Transportation/ Other

### KEY FACTS

- On average, the costs of living on or off campus are similar, but individual costs could vary substantially depending on lifestyle decisions and individual circumstances.
- Other expenses related to living with family might be driven in part by increased transportation costs, particularly for students attending commuter campuses.

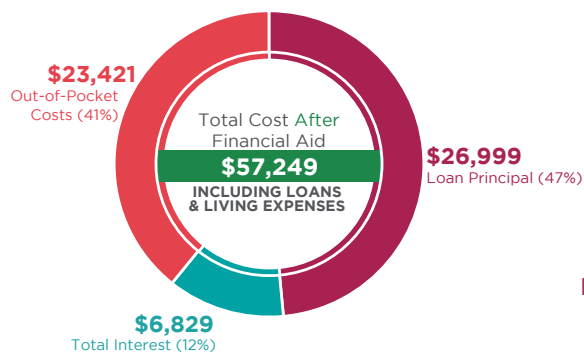
Living Expenses	Low End	High End
On Campus	\$10,000	\$13,000
Off Campus	\$10,000	\$14,000
Living with Family	\$3,000	\$6,000



## The Cost of Student Debt

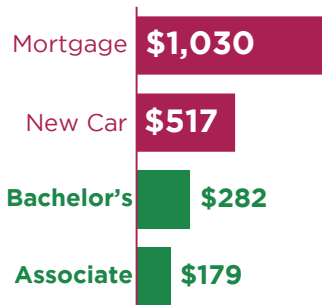
**BOTTOM LINE:** Two-thirds of Hoosier students use student loans to finance their education, and those who do owe **\$17,000 to \$27,000** on average at graduation, but the financial impact of student loans can vary greatly depending on the amount borrowed and the terms of repayment.

### BACHELOR'S

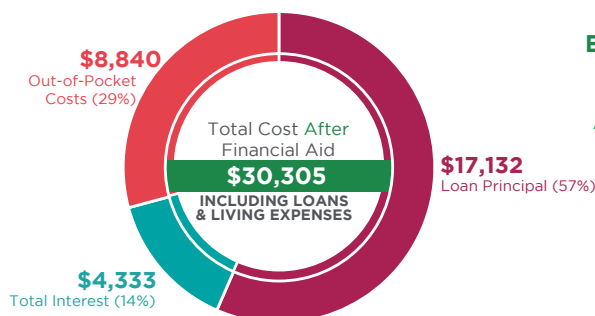


### STUDENT DEBT IN PERSPECTIVE

typical monthly payments of other debt



### ASSOCIATE



### KEY FACTS

- For students with debt, loans cover about half of the total cost of college.
- Monthly payments can vary greatly depending on principal, interest rates and eligibility for income-based repayment plans, which cap payments at 10% of discretionary income.
- On average, student loan payments compare favorably to other types of debt. In 2017, the average new car payment (\$517), was up to 80% higher than the average student loan payment (\$282).

Note: Costs based on average number years to degree (4.4 years for a bachelor's and 3.5 years for an associate degree).



# INDIVIDUAL DECISIONS MATTER

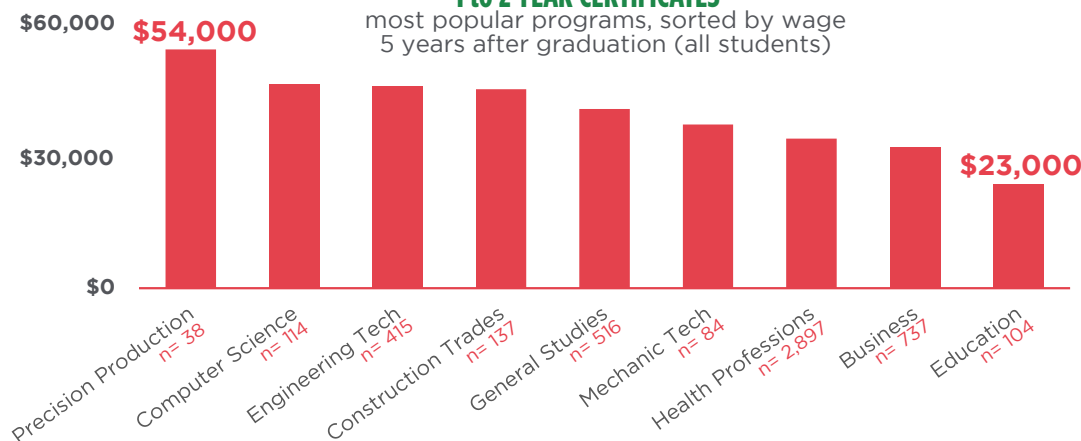


## Five-Year Wages of Top Programs

**BOTTOM LINE: WHERE** students go to college typically affects starting salaries by a few thousand dollars per year, but salary differences by **WHAT** they study can add up to tens of thousands of dollars per year and some skills are more “recession proof” than others.

### 1 to 2 YEAR CERTIFICATES

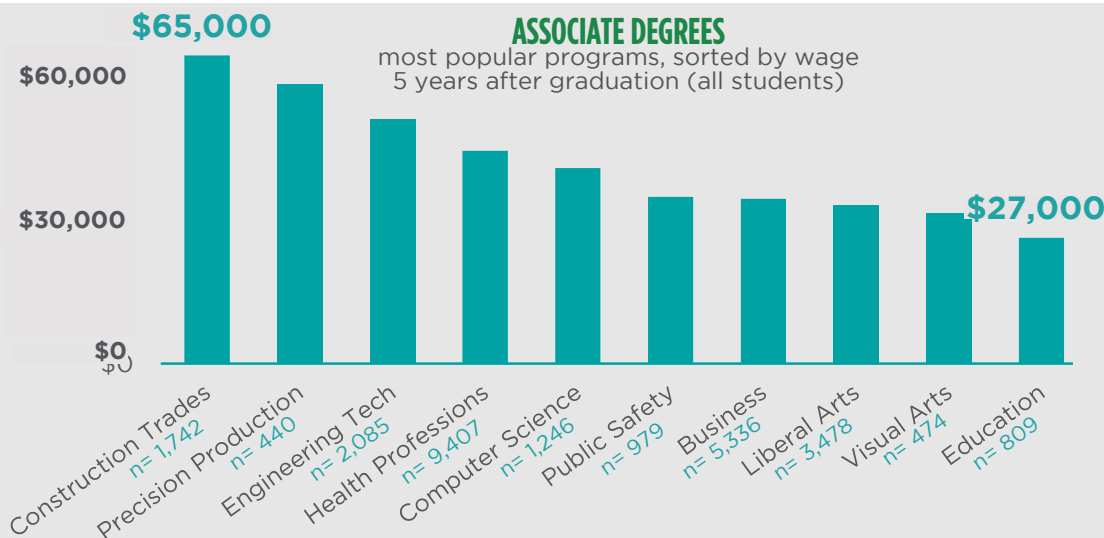
most popular programs, sorted by wage 5 years after graduation (all students)



n= number of graduates

### ASSOCIATE DEGREES

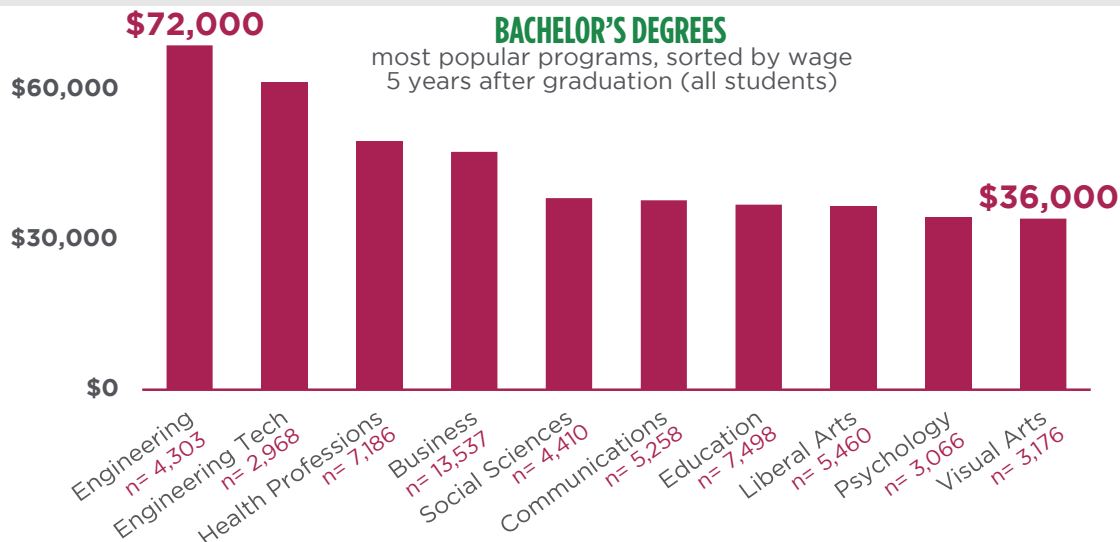
most popular programs, sorted by wage 5 years after graduation (all students)



n= number of graduates

### BACHELOR'S DEGREES

most popular programs, sorted by wage 5 years after graduation (all students)



n= number of graduates

### KEY FACTS

- Prior work or military experience, academic performance and many other factors affect students' range of wage outcomes.
- Some degree programs are designed to prepare students for further education and higher level degrees that yield even higher earnings.



# COLLEGE HAS VALUE BEYOND DOLLARS AND CENTS



## BOTTOM LINE: Higher Education Has Value.

The benefits of a college degree extend far beyond graduates' higher earnings and increased employment opportunities. An increasing body of research suggests that higher education not only improves economic outcomes, but also strengthens communities and helps individuals lead healthier, more fulfilling lives.

### 1

## Reducing Risky Teenage Behavior

The brighter teenagers' futures are, the **less likely they are to engage in risky behaviors** that could end those futures. Studies have found that youths, especially boys, who face steep odds for getting out of poverty may struggle to see the point of school and are more likely to drop out of high school.<sup>1</sup> Providing young Hoosiers with financial aid opportunities to go to college can change their perceptions about themselves and their options and help them to invest in their futures.

Similarly, there is emerging evidence that the worse their economic prospects, the more likely teenage girls are to become pregnant, and that **improving access to college financial aid can reduce teen pregnancy rates.**<sup>2</sup> Because teenagers are often influenced by their peers, the positive benefits of financial aid can not only directly improve the decision-making of teenagers, they can also lead to a culture of "positive peer pressure" among fellow teens.

### 2

## Strengthening Communities

Studies have shown that **Americans with college experience are more likely to volunteer or perform community service.** Researchers found that college students who took part in community service learning programs were more likely to be civically engaged even after college. Separate studies found that a college education was correlated with higher rates of volunteering with nonprofits, volunteering with civic or political organizations, and volunteering with healthcare or education organizations. This indicates that investments in college lead to more investments in communities.<sup>3</sup>

Those with college experience are **more likely to vote.** Since at least 1964, Americans with more education have routinely been more likely to vote. They are also more likely to report that they pay attention to public affairs. Three-quarters of young adults with a bachelor's degree and two-thirds with some college say they pay attention to what happens in the political arena some or all of the time. Meanwhile, less than half of young adults with no college claim to pay attention and 30% "expressed no interest" in following public affairs.<sup>4</sup>

### 3

## Curbing Opioid and Substance Abuse

The drug epidemic doesn't just hurt individuals, it hurts communities. To help treat and prevent addiction, Hoosiers must help individuals find healthier ways to engage with their communities. One such way is through the educational system. A November 2017 report written by the U.S. Congress Joint Economic Committee and commissioned by Senator Mike Lee (R-Utah)<sup>5</sup> found that Americans with some college are **less likely to overdose** than Americans with a high school diploma and those with a bachelor's are least likely. Moreover, the report showed that between 1999 and 2015, although opioid overdose deaths have increased among all education levels, they have increased fastest among Americans with less formal education.

The financial security that postsecondary education and training can provide can also lead to **lower rates of drug abuse.** National datasets show that "there is strong evidence that economic downturns lead to increases in" abuse of prescription pain pills and other illicit drugs, **especially among "prime-age white males with low educational attainment."**<sup>6</sup>

Not only are financially-vulnerable people more likely to turn to drugs, they may be more likely to relapse after going through treatment. At least one study followed patients at a drug treatment facility for a year and found that **recovering drug addicts with a college degree were less likely than high school graduates to relapse.**<sup>7</sup>

# ROI AT-A-GLANCE



## Costs, Debt and Typical Salaries

Data include Hoosier college graduates employed in Indiana.

Data do NOT include Hoosier graduates employed in other states, small businesses, the federal government, or Indiana students with debt and no degree.

STATEWIDE	The INVESTMENT				The RETURN Typical Salaries of Popular Program Majors* After Graduation		
	Annual cost of college BEFORE financial aid	Annual cost of college AFTER financial aid	Average debt upon graduation (for students with debt)	Percentage of students with debt at graduation	1 Year	5 Years	10 Years
ALL FOUR-YEAR COLLEGES (Bachelor's Degrees)	\$22,333	\$11,524	\$26,999	67.7%	\$31,453	\$39,460	\$46,537
ALL TWO-YEAR COLLEGES (Associate Degrees)	\$15,866	\$7,349	\$17,132	48.9%	\$26,874	\$33,630	\$43,861
STATEWIDE (Associate and Bachelor's)	\$20,854	\$10,566	\$25,845	64.8%	\$28,775	\$36,614	\$44,113

**A note about ROI data:** While the data are informative, Indiana college graduates will experience a wide range of employment opportunities, earnings, and related returns based on program selection, academic performance, career planning, and other factors. Similarly, student eligibility for financial aid, student decisions that impact time to degree completion and student debt load will cause total college costs to differ by individual.

STATEWIDE	The INVESTMENT				The RETURN Typical Salaries of Popular Program Majors* After Graduation		
	Annual cost of college BEFORE financial aid	Annual cost of college AFTER financial aid	Average debt upon graduation (for students with debt)	Percentage of students with debt at graduation	1 Year	5 Years	10 Years
Ball State University	\$22,780	\$12,847	\$27,113	74.1%	\$28,545	\$39,646	\$47,074
Indiana State University	\$20,933	\$10,894	\$26,997	76.4%	\$32,106	\$38,697	\$46,030
Indiana University Bloomington	\$24,417	\$13,289	\$26,547	58.5%	\$28,721	\$39,957	\$50,786
Indiana University East	\$20,203	\$8,453	\$25,760	82.4%	\$30,952	\$33,194	\$43,565
Indiana University Kokomo	\$20,113	\$8,566	\$24,440	77.9%	\$31,272	\$35,733	\$41,322
Indiana University Northwest	\$19,340	\$6,992	\$31,117	72.4%	\$31,688	\$40,199	\$45,522
IPFW	\$21,591	\$9,871	\$29,549	77.0%	\$30,062	\$37,588	\$45,047
IUPUI	\$21,985	\$10,740	\$30,030	75.3%	\$30,523	\$40,499	\$49,636
Indiana University South Bend	\$19,271	\$9,296	\$29,267	76.8%	\$30,600	\$37,418	\$42,021
Indiana University Southeast	\$19,829	\$10,690	\$25,796	62.3%	\$29,509	\$39,966	\$48,540
Ivy Tech Community College	\$15,113	\$6,416	\$16,866	42.1%	\$26,451	\$34,088	\$46,944
Purdue Northwest Hammond*	\$21,515	\$10,445	\$28,116	72.7%	\$28,257	\$37,195	\$48,405
Purdue Northwest Westville*	\$22,841	\$7,460	\$24,505	72.8%	\$31,750	\$44,231	\$52,395
Purdue West Lafayette	\$23,002	\$11,643	\$25,769	59.6%	\$32,867	\$46,020	\$55,467
University of Southern Indiana	\$18,212	\$11,179	\$22,716	65.9%	\$28,769	\$36,603	\$49,306
Vincennes University	\$18,278	\$10,235	\$17,530	64.6%	\$28,028	\$39,446	\$46,100

\* Purdue Northwest Hammond (formerly Calumet) and Purdue Northwest Westville (North Central) merged as Purdue Northwest in 2016-17. Typical salaries are affected by range of programs offered. Typical salaries were determined by taking the median salary of the programs (six digit CIP level) with the highest number of resident graduates (limited to maximum top 10 programs with 30 or more graduates and available wage data).





## Industries of Employment

### SHORT-TERM CERTIFICATES

Most Popular Programs	Industries of Employment			Typical Annual Salary After Graduation		
	Industry 1	Industry 2	Industry 3	Year 1	Year 5	Year 10
Heating, Air Conditioning, Ventilation and Refrigeration Technician	Building Equipment Contractors (25%)	Employment Services (8%)	Activities Related to Real Estate (6%)	\$35,131	\$40,930	NA
Phlebotomy Technician/Phlebotomist	General Medical and Surgical Hospitals (35%)	Nursing Care Facilities (5%)	Restaurants and Other Eating Places (5%)	\$22,866	\$26,375	NA
Industrial Technology/Technician	Building Equipment Contractors (15%)	Employment Services (8%)	Motor Vehicle Parts Manufacturing (5%)	\$61,466	\$41,163	NA
<b>All Majors</b>				<b>\$27,592</b>	<b>\$38,929</b>	<b>NA</b>

### LONGER-TERM CERTIFICATES

Most Popular Programs	Industries of Employment			Typical Annual Salary After Graduation		
	Industry 1	Industry 2	Industry 3	Year 1	Year 5	Year 10
Licensed Practical/Vocational Nurse Training	Skilled Nursing Care Facilities (51%)	General Medical and Surgical Hospitals (14%)	Employment Services (2%)	\$35,403	\$40,311	\$43,427
Medical/Clinical Assistant	General Medical and Surgical Hospitals (25%)	Employment Services (5%)	Nursing Care Facilities (Skilled Nursing Facilities) (3%)	\$23,825	\$27,863	\$30,215
Business Administration And Management, General	Employment Services (6%)	Restaurants and Other Eating Places (5%)	Motor Vehicle Parts Manufacturing (3%)	\$28,978	\$33,267	\$49,600
<b>All Majors</b>				<b>\$28,345</b>	<b>\$34,983</b>	<b>\$40,956</b>

### ASSOCIATE DEGREES

Most Popular Programs	Industries of Employment			Typical Annual Salary After Graduation		
	Industry 1	Industry 2	Industry 3	Year 1	Year 5	Year 10
Registered Nursing/Registered Nurse	General Medical and Surgical Hospitals (57%)	Nursing Care Facilities (Skilled Nursing Facilities) (17%)	Management of Companies and Enterprises (5%)	\$47,007	\$51,028	\$57,471
Business Administration And Management, General	Employment Services (5%)	Restaurants and Other Eating Places (4%)	General Medical and Surgical Hospitals (3%)	\$29,431	\$35,679	\$40,437
Liberal Arts And Sciences, General Studies And Humanities, Other	General Medical and Surgical Hospitals (7%)	Restaurants and Other Eating Places (5%)	Colleges, Universities, and Professional Schools (4%)	\$26,290	\$33,763	\$39,370
<b>All Majors</b>				<b>\$32,237</b>	<b>\$41,770</b>	<b>\$48,678</b>

### BACHELOR'S DEGREES

Most Popular Programs	Industries of Employment			Typical Annual Salary After Graduation		
	Industry 1	Industry 2	Industry 3	Year 1	Year 5	Year 10
Business/Commerce, General	Accounting, Tax Preparation, Bookkeeping, and Payroll Services (9%)	Employment Services (4%)	Management of Companies and Enterprises (2%)	\$39,500	\$50,678	\$63,668
Registered Nursing/Registered Nurse	General Medical and Surgical Hospitals (76%)	Management of Companies and Enterprises (6%)	Nursing Care Facilities (Skilled Nursing Facilities) (4%)	\$50,203	\$54,152	\$61,670
Elementary Education And Teaching	Elementary and Secondary Schools (83%)	Restaurants and Other Eating Places (1%)	Employment Services (1%)	\$33,925	\$37,612	\$43,774
<b>All Majors</b>				<b>\$34,682</b>	<b>\$42,915</b>	<b>\$50,651</b>

### MASTER'S DEGREES

Most Popular Programs	Industries of Employment			Typical Annual Salary After Graduation		
	Industry 1	Industry 2	Industry 3	Year 1	Year 5	Year 10
Business/Commerce, General	Engine, Turbine, and Power Transmission Equipment Manufacturing (9%)	Pharmaceutical and Medicine Manufacturing (5%)	Colleges, Universities, and Professional Schools (5%)	\$79,650	\$94,253	\$109,218
Elementary Education And Teaching	Elementary and Secondary Schools (95%)	Colleges, Universities, and Professional Schools (1%)	Junior Colleges (< 1%)	\$44,221	\$50,460	\$58,057
Social Work	General Medical and Surgical Hospitals (19%)	Psychiatric and Substance Abuse Hospitals (7%)	Other Residential Care Facilities (5%)	\$37,479	\$43,993	\$48,446
<b>All Majors</b>				<b>\$48,408</b>	<b>\$56,576</b>	<b>\$63,843</b>



# NOTES AND SOURCES

## COLLEGE IS WORTH THE COST: The Return

### Higher Education Pays

Data represent the estimated net cumulative lifetime earnings (less college costs and debt accrued) for Hoosiers with at least some college compared to Hoosiers with a high school diploma. Earnings data were estimated by obtaining average annual earnings data from the Census Bureau by educational attainment and age groups for Hoosiers ages 25-64. The earnings start date was assumed to be 18 for those with a high school diploma, 20 for those with an associate degree or some college, and 22 for those with a bachelor's degree (assumption of direct college enrollment after high school graduation and on time college degree completion). The average cost of college after financial aid (IPEDS average net price) less average student loans were factored into costs incurred during school for Hoosiers with some college, associate, and bachelor's degrees. Costs associated with student loan payments based on average loan debt and average interest rates (4.66%) over a ten-year period factored into costs incurred 10 years after graduation.

Sources: (1) US Census Bureau, American Community Survey (2016) via IPUMS USA, University of Minnesota, [www.ipums.org](http://www.ipums.org); (2) IPEDS (2015), Integrated Postsecondary Education Data System; (3) Debt data obtained through special data collection from Indiana Public Colleges; (4) US Bureau of Labor Statistics, Labor Force Status of 2016 High School Graduates and 2015-16 High School Dropouts

## COLLEGE IS WORTH THE COST: The Investment

### Indiana vs. the Nation

Data represent the average annual increase in in-state tuition and fees between 2006 and 2016. Data are in 2016 dollars.

Source: Tuition and Fees by Sector and State over Time, College Board: Trends in College Pricing

### Annual Percentage Change

Data represent the annual percentage change in tuition and fees at Indiana public colleges.

Source: Indiana Commission for Higher Education Tuition and Mandatory Fees Survey

## HIGHER EDUCATION STRENGTHENS THE ECONOMY

### Consumer Spending and Taxes

Estimates are based on ratios of average spending to average consumption computed through the Bureau of Labor Statistics' Consumer Expenditure Survey, 2014. To estimate lifetime spending and tax revenue, consumption to income ratios were applied to earnings data of Hoosier graduates 25-64 by age group and attainment level (American Community Survey 2016). Methodology based on national Brookings study: <https://www.brookings.edu/research/what-colleges-do-for-local-economies-a-direct-measure-based-on-consumption/> Compared to national Brookings study, earnings data for Indiana's ROI report were NOT net present value adjusted. In addition, data for Indiana's ROI report did not examine full-time, full-year workers; only about half of individuals work full-time, full-year for all years between 25 to 64.

Estimated state financial aid impact of \$13+ billion was obtained by taking average annual workforce counts and applying them to financial impact multipliers displayed in the "Additional Dollars" chart.

### Unemployment Claims

Unemployment claim percentages by educational attainment taken from study on Hoosier unemployment claimant data. Zimmer (2016). "Which Hoosiers are Successfully Navigating the Unemployment System?" <http://www.ibrc.indiana.edu/ibr/2017/fall/article1.html>.

Working-age population shares are based on data from the American Census Bureau, American Community Survey (1 year estimates, 2006-2016).

Key Facts: (1) Carnevale, Jayasundera & Gulish (2016). "America's Divided Recovery: College Haves and Have-Nots"



# NOTES AND SOURCES

## STATE FINANCIAL AID IS WORTH THE COST

### Economic Impact

Data represent the estimated share of the workforce produced by Indiana public colleges who were touched by state financial aid dollars. Data represent students who were identified to be employed in Indiana working for employers that participate in unemployment insurance and new hire data submissions. Additionally, workforce information is limited to records that could be linked to data in the Management Performance Hub Education and Workforce Database (EWD). Data were based on annual averages of workforce counts from 2008 to 2015. Students were de-duplicated in financial aid groups using the following logic: 1) Any 21st Century Scholar funding = 21st Century Scholar, 2) Any Frank O'Bannon Funding after considering 21st Century Scholar funding = Frank O'Bannon, 3) Other State Financial Aid Program funding.

Sources: (1) Linked higher education and workforce data sourced through Management Performance Hub Education and Workforce Database (EWD); (2) State financial aid status data sourced through legacy and current state financial aid systems (GRADS and ScholarTrack)

Estimated state financial aid impact of \$3.5 billion was obtained by taking average workforce counts obtained from estimating the share of the workforce who were touched by state financial aid dollars and applying them to financial impact multipliers displayed in the "Consumer and Taxes" section.

### Student Impact

Cumulative Wages of State Aid Recipients: Data represent the average cumulative wages of 2011-2013 graduates who obtained a 21st Century Scholarship or Frank O'Bannon Grant dollars, Indiana's primary need-based financial aid programs. Cumulative wages of graduates represent wages of graduates earned 1, 2, and 3 years after graduation of those with at least 2 quarters of wage records in a particular year. Wages were converted to 2016 dollars based on the year associated with 1, 2, and 3 years after graduation for the student. Important note: employment wages do not include graduates who work out of state, who are self-employed, or who work for the federal government.

Sources: Matched higher education and workforce data obtained through the Management Performance Hub; State Financial Aid data were obtained through legacy and current state financial aid systems (GRADS and ScholarTrack)

Key Facts: Data represent state financial aid recipients graduating between 2008 and 2015 at Indiana public colleges who were identified to have went on and received a higher-level credential.

Sources: CHEDSS, Indiana Commission for Higher Education Data Submission System; State Financial Aid data were obtained through legacy and current state financial aid systems (GRADS and ScholarTrack)

## ON-TIME COMPLETION SAVES TIME AND MONEY

### On-Time Completion Savings

Up-front costs:

$([\text{avg. cost after financial aid (IPEDS avg. net price)}] - [\text{avg. student loans per year}]) * [\text{number of years to graduation}]$

Principal:  $[\text{average student loans per year}] * [\text{number of years to graduation}]$

Interest: Interest payments on principal assuming average interest rates (4.66%) and paying debt off in 10 years after graduation

Note: Average debt per year is estimated as average debt calculated using data submitted by institution divided by average time to graduation

Sources: (1) Average Net Price sourced through IPEDS, Integrated Postsecondary Education Data System; (2) Debt data sourced through special data collection from public institutions; (3) average time to degree data sourced through CHEDSS, Indiana Commission for Higher Education Data Submission System

# NOTES AND SOURCES

## INDIVIDUAL DECISIONS MATTER

### Unpacking Total Annual Price

Annual price data (2015) and individual components of annual price (2015) sourced through IPEDS, Integrated Postsecondary Data Education System. Sector data were obtained by weighting institutional data by IPEDS financial aid cohort sizes.

### The Cost of Student Debt

See “On-Time Completion Saves Time and Money” section.

Student Debt in Perspective: Average new car payment (2017) sourced from <https://www.edmunds.com/car-news/auto-industry/auto-loan-lengths-soar-to-record-high-edmunds-finds.html>; average mortgage payment (2017) sourced from US Census Bureau American Housing Survey.

### Five-Year Wages of Top Programs

Data represent median wages five years after graduation for graduates of the most popular programs in each degree level at Indiana public colleges (bachelor’s for four-year and associate for two-year institutions). See “About the Data” section for information about annualized wages of Indiana public college graduates.

## COLLEGE HAS VALUE BEYOND DOLLARS AND CENTS

### Reducing Teenage Risky Behavior

Sources: (1) Kearney & Levine (2014) “Income Inequality, Social Mobility, and the Decision to Drop out of High School”; (2) Kearney & Levine (2012) “Why is the Teen Birth Rate in the United States So High and Why Does It Matter?”

### Strengthening Communities

Sources: (3) Young, Elizabeth (2011) “The Impacts of Educational Attainment, Professional Interests, and Residency on Community Involvement and Civic Engagement”; (4) Coley & Sum (2012) “Fault Lines in Our Democracy”

### Opioids and Substance Abuse

Sources: (5) Vice Chairman’s Staff of the Joint Economic Committee (2017) “The Numbers Behind the Opioid Crisis”; (6) Carpenter, McClellan & Rees (2016) “Economic Conditions, Illicit Drug Use, and Substance Use Disorders in the United States”; (7) Blum et al (2014) “Drug Abuse Relapse Rates Linked to Level of Education: Can We Repair Hypodopaminergic-Induced Cognitive Decline With Nutrient Therapy?”



# ABOUT THE DATA

## Workforce Data Limitations

All workforce information (typical salary, industry of employment) is based SOLELY on students who are employed in Indiana working for employers that participate in unemployment insurance and new hire data submissions. Additionally, workforce information is limited to records that could be linked to data in the Management Performance Hub Education and Workforce Database (EWD). Finally, workforce data are reported only for programs in which 30 or more students in at least two groups (Year 1, 5, or 10) were employed in Indiana. SOURCE: Management Performance Hub Education and Workforce Database (EWD)

## Cohorts

All cohorts represent Indiana resident students who graduated from an Indiana public college during the year range specified below for each measured period: Year 1: graduated between 2013 and 2015; Year 5: graduated between 2009 and 2011; Year 10: graduated between 2004 and 2006. A student is counted only once between 2004 and 2015 in the latest year and institution at which the student completed a credential. If a student earned more than one degree in a given measured period, the student is counted at the highest degree level.

SOURCE: CHEDSS Annual Data Submissions to the Indiana Commission for Higher Education

## Typical Annual Salary after Graduation

Represents the median salary for each measured period (Years 1, 5, and 10 after graduation). Wages are annualized after 2 quarters of wages. Year 1 is based on 2-5 quarters of wages; Year 5 is based on 18-21 quarters of wages; and Year 10 is based on 38-41 quarters of wages. SOURCE: Management Performance Hub Education and Workforce Database (EWD)

## Industries of Employment

Represents the four-digit NAICS (North American Industry Classification System) codes in which a percentage of 2008-2015 Indiana resident graduates in each college program area (two-digit CIP code) were employed Year 1 after graduation. Note that in some cases, NAICS code names have been slightly modified for space reasons. Data are reported only for industries in which at least five 2009-2013 Indiana resident graduates were employed one year post-graduation. SOURCE: Management Performance Hub Education and Workforce Database (EWD)

## Average Student Investment

Annual cost of college BEFORE financial aid: represents, for 2014-2015, the total annual cost of attendance, before financial aid, for in-state, full-time, first-time undergraduate degree-seeking students. Total price is based on students living on campus (for institutions with on-campus housing) or students living off campus, not with parents. SOURCE: Integrated Postsecondary Education Database (IPEDS)

Annual cost of college AFTER financial aid: represents, for 2014-2015, the total annual cost of attendance after financial aid (aid that students do not need to pay back) for in-state, full-time, first-time undergraduate degree-seeking students. Sector data were obtained by weighting institutional data by IPEDS financial aid cohort sizes. SOURCE: Integrated Postsecondary Education Database (IPEDS)

## Average Student Debt (for students with college debt) and Percentage with Debt

Calculations include only Indiana resident students who graduated with bachelor's degrees (for four-year institutions) or associate degrees (for two-year institutions) in 2014-2015 who started at the institution as first-time students. Average debt is calculated by dividing the total amount of debt amassed by bachelor's or associate graduates with college loan debt by the total number of those graduates. The percentage with debt is calculated by dividing the total number of bachelor's or associate graduates by the number of graduates with college loan debt. These calculations do not include Indiana resident students who graduated in 2014-2015 but did not start as a first-time student at the institution of completion. SOURCE: Special data submission by Indiana public colleges and universities, October 2017.