

# Selected Outcomes related to Tech Prep Implementation by Illinois Consortia 2001 - 2005







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Office of Community College Research and Leadership  
with support from the Illinois Community College Board

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## Acknowledgements

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This report is possible because of the work of many people associated with Tech Prep in Illinois. We thank consortia leadership as well as educational administrators and faculty throughout the state for their dedication to advancing Tech Prep education in Illinois and for their attempts to accurately report data that are often difficult to track and verify across educational levels. We at the Office of Community College Research and Leadership (OCCRL) are also grateful to the Illinois Community College Board for entrusting us with the important task of compiling and summarizing the data that represent Tech Prep implementation in Illinois.

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# **I**ntroduction

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The Illinois Community College Board (ICCB) partnered with the Office of Community College Research and Leadership in 1999 to develop the Tech Prep Evaluation System (TPES), a systematic, statewide process that is composed of an onsite review and improvement process, a local proposal and budget development process linked to outcomes assessment and continuous improvement, annual final programmatic reports, the monitoring of Tech Prep enrollments and outcomes, and a state-of-the-art website. This report is the summary of key aspects of Tech Prep in Illinois over the five year period of 2001 – 2005 during which all Tech Prep consortia provided annual data based on federal legislative requirements and state-determined essential elements of successful programs.

Annual Tech Prep reports of the local consortia in Illinois are posted on the OCCRL website ([http://occr.ed.uiuc.edu/Projects/tech\\_prep/evaluation.asp](http://occr.ed.uiuc.edu/Projects/tech_prep/evaluation.asp)). By distributing these reports via the web, local educators can monitor student participation and program activities within their own consortium over time, and they can compare their consortium results with aggregate results for the entire state.

## About Tech Prep



The Tech Prep Education Act, Title II of the Carl D. Perkins Vocational and Technical Education Act (Perkins), was originally authorized in 1984. It was reauthorized in 1998 and is awaiting reauthorization in 2006. Tech Prep programs are intended to provide students with academic preparation that involves non-duplicative, sequential programs of study that begin as early as the 9th grade and enable students' transition to postsecondary education and training. Tech Prep curricula involve integrated academic and technical content, developed in partnership with business and industry.

Tech Prep programs of study culminate with an associate's degree or a two-year postsecondary certificate in a specific career field and lead to placement in employment for which students have been prepared. Tech Prep programs that lead from the two-year degree and certificate programs to the baccalaureate degree are also encouraged by the federal legislation.

The purpose of these programs is to provide individuals with the academic and technical skills needed to succeed in a knowledge- and skills-based economy. Current federal legislation requires states to allocate funds in ways that ensure equitable distribution to urban and rural areas and encourages local programs to provide education and training that meets local workforce needs.

## **I**llinois Tech Prep

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States have the flexibility to further define the requirements of their Tech Prep programs and students. Illinois Tech Prep programs are aligned with federal guidelines. In Illinois, a Tech Prep student is defined as “one who is seeking further education after high school and has a written career plan that identifies a sequence of courses that leads to a Tech Prep occupation as a career goal.” (<http://www.iccb.org/techprep/pdf/definitions.pdf>)

Illinois Tech Prep programs include career interest areas in the fields of:

- Agriculture and Natural Resources
- Arts and Communications
- Business and Administrative Services
- Health Care
- Human and Family Services, and
- Industrial and Engineering Technology

Consistent with the federal law, Illinois implements Tech Prep programs through consortium arrangements typically involving a community college; multiple secondary schools; business, industry, and labor organizations; and sometimes community groups. Illinois’ community college districts are the primary organizing structure for Tech Prep across the state. In total, 40 local Tech Prep consortia currently operate in Illinois.

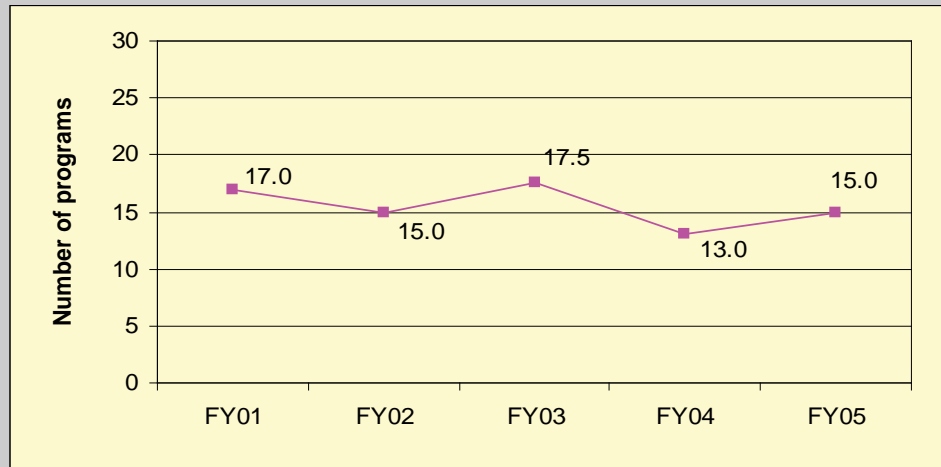


## Tech Prep High School Programs



**The number of high school Tech Prep programs fluctuated from 13.0 to 17.5 between FY01 and FY05.**

The median number of Tech Prep programs offered by local consortia over the five-year period of FY01 to FY05 ranged from a low of 13 programs per consortium in FY04 to a high of 17.5 programs in FY03. In the most current fiscal year (FY05), a typical Tech Prep consortium offered an aggregate of 15 Tech Prep programs at the high school level. These results are based on 78% of the consortia reporting data for all five fiscal years.

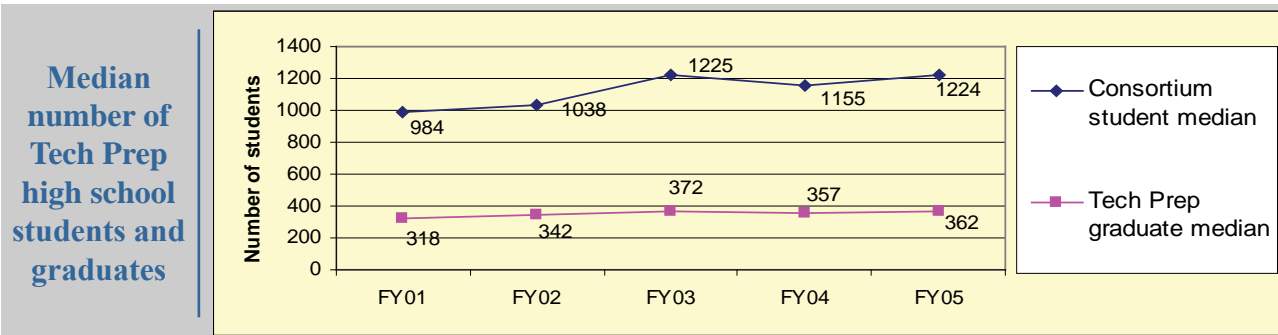


**Median number  
of Tech Prep  
programs offered  
from  
FY01 to FY05**

# High School Enrollment and Graduation

The number of high school students and graduates who participated in Tech Prep programs increased from FY01 to FY03, declined in FY04, and rebounded in FY05.

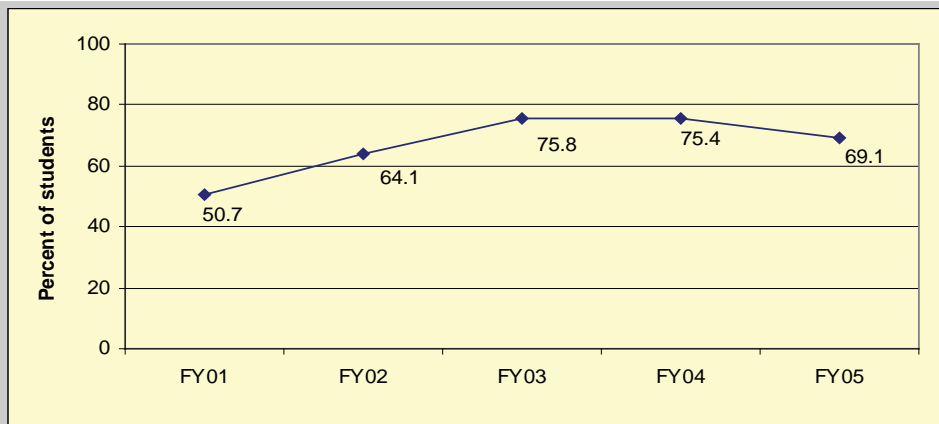
The median numbers of high school students and graduates who took Tech Prep-related courses increased steadily from FY01 to FY03 before they declined in FY04 and rebounded in FY05. In FY05, the total number of Tech Prep high school students in Illinois' 40 consortia reached 94,241, accounting for about 15% of total enrollments in Illinois public high schools, an increase from 11% in FY04. This percentage underrepresents the actual concentration of Tech Prep students at the high school level because most Tech Prep students are in the 11th and 12th grades and not all public schools participate in Tech Prep. The total number of Tech Prep graduates was 27,857 in FY05. There were about 1,200 Tech Prep students and 360 graduates per consortium in FY05.



## College Credits Earned in High School

The percentage of Tech Prep students who earned articulated and dual credits increased from about 50% to 75% from FY01 to FY03 before stabilizing in FY04 and declining in FY05.

An original defining feature of Tech Prep is that it provides students the opportunity to take courses during high school that generate college credit; those credits are referred to as articulated credit or dual credit depending on when and how the credit is awarded. There was an early, dramatic increase in the percentage of students earning this type of credit, 25% between FY01 and FY03, before the percentage stabilized around 75% in FY03 and FY04 and declined to 69% in FY05.



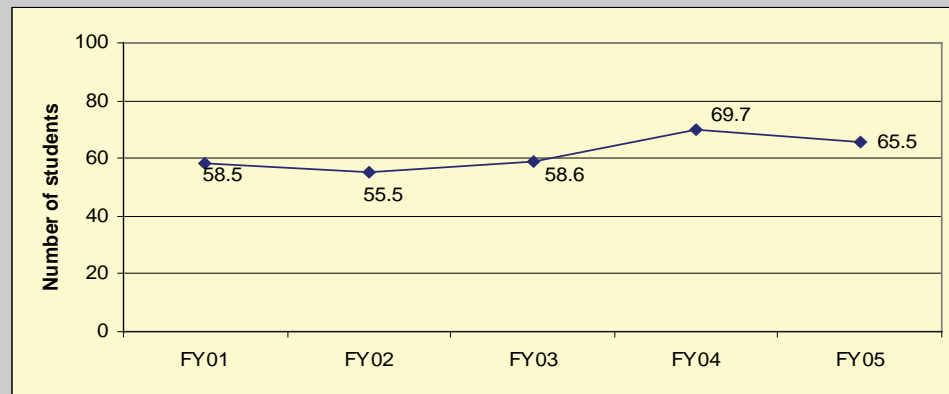
Mean percentage of students entering community college Tech Prep programs who earned articulated and dual credits while enrolled in high school

## First Year College Enrollment

The average number of Tech Prep students who matriculated to community college in a related Tech Prep program was stable from FY01 to FY03, increased from FY03 to FY04, and declined slightly in FY05.

The average number of first-year college students who were enrolled in a Tech Prep program after finishing a sequence of Tech Prep high school courses the preceding year remained relatively stable, from 56 to 59, between FY01 and FY03 before increasing to 70 in FY04, and dropping to a mean of 66 students per consortium in FY05. In FY05, an estimated 2,556 13th grade Tech Prep students were reported by all Illinois consortia, with a mean number of 66 per consortium<sup>6</sup>.

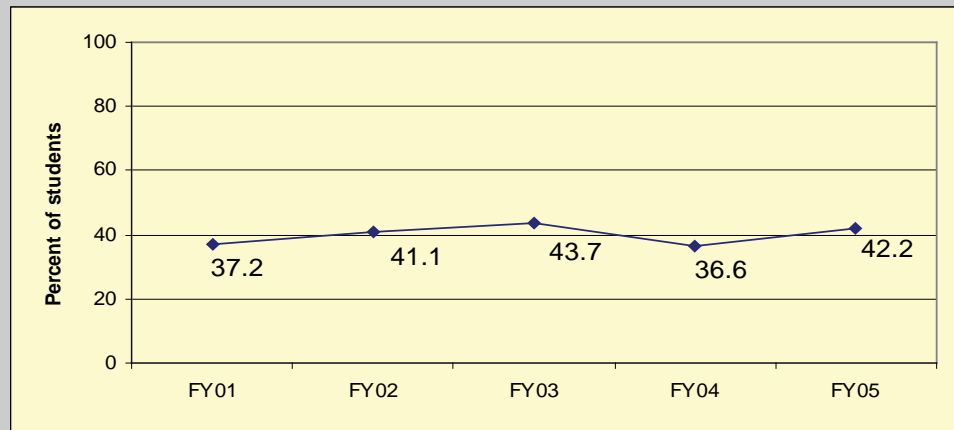
Mean number of  
first-year college  
students enrolled  
in Tech Prep  
programs



## Remediation in College

**The mean percentage of first-year college Tech Prep students who took at least one remedial course was relatively stable from FY01 to FY05.**

There was a relatively stable mean percentage of first-year community college Tech Prep students who were enrolled in at least one remedial course from FY01 to FY05. In FY05, based on 22 consortia that reported reliable data, the mean percentage of first-year students in Tech Prep programs who took at least one remedial course was about 42%, substantially lower than the 64.5% remediation rate reported in a national study of first-year community college students<sup>7</sup>.



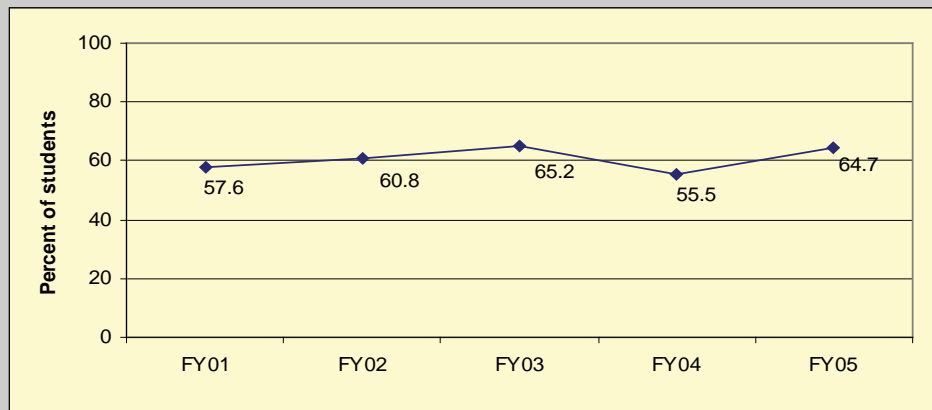
**Mean percentage  
estimate of  
participation in  
remediation by  
first-year  
Tech Prep  
college students**

## Persistence in College

Persistence in college Tech Prep programs has fluctuated from a low of 55.5% to a high of 64.7% between FY01 and FY05.

The mean percentage of first-year college students who continued a Tech Prep program of study a second year at the community college was relatively flat during the five-year period of this study. Based on 22 consortia reporting reliable data, the mean percentage of second-year Tech Prep students who had started the previous year was about 65% in FY05. This rate is lower than that of a large, comparable-age cohort of students who persisted from first to second year of attendance at community colleges<sup>8</sup>.

Percentage of first-year Tech Prep college students who persisted to the second year.



## Curriculum Reform: Existence & Growth



**The incidence of high school involvement in all eight curriculum reform categories exceeds community college involvement, though reform activities have progressed at both levels.**

Statewide, three curriculum reform efforts were evident in the most high schools associated with Tech Prep consortia in FY05:

- Supplementing existing vocational-technical courses with academic content
- Supplementing existing academic courses with vocational content
- Adding applied curriculum to the existing curriculum

Three reforms showed the most growth at the high school level between FY01 and FY05:

- Providing academies, combining courses from vocational-technical areas and math, science, communication, and other academic areas
- Replacing parts of the existing curriculum with applied academics courses
- Supplementing existing academic courses with vocational-technical content

Three reforms showed the most growth at the community college level from FY01 to FY05:

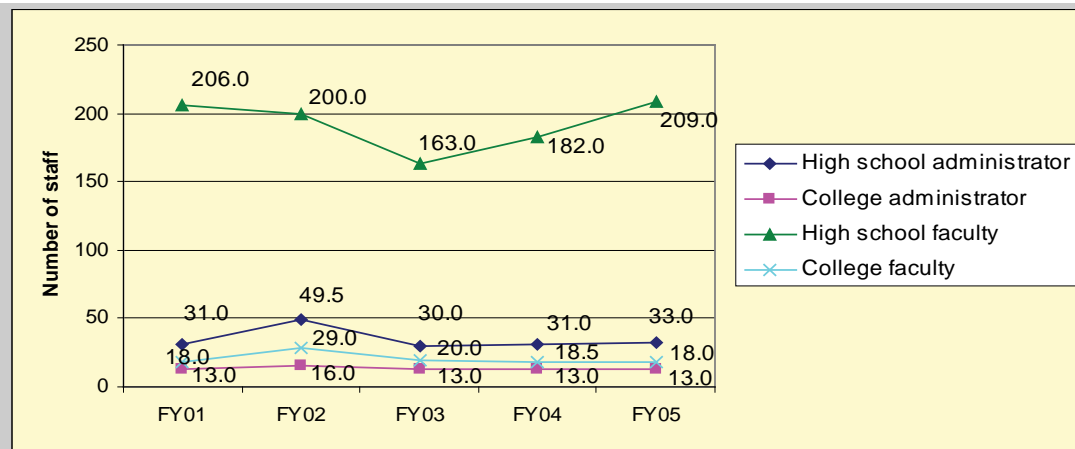
- Replacing parts of the curriculum with applied academic courses
- Providing interdisciplinary courses combining vocational-technical content and academic content
- Organizing academic and vocational-technical courses around occupational/career clusters

## Professional Development by Job Type

High school faculty dominated the attendance in professional development activities related to Tech Prep over the five-year period.

Other than a dip in attendance in FY03 and FY04, the median number of high school faculty attending professional development activities hovered around 200 per consortium between FY01 and FY05. The attendance of the other three categories of personnel was far lower and remained stable between FY03 and FY05. High school administrators accounted for the second largest group by job type, followed by college faculty and finally, college administrators.

Consortium  
median  
attendance in  
professional  
development  
activities by  
job type

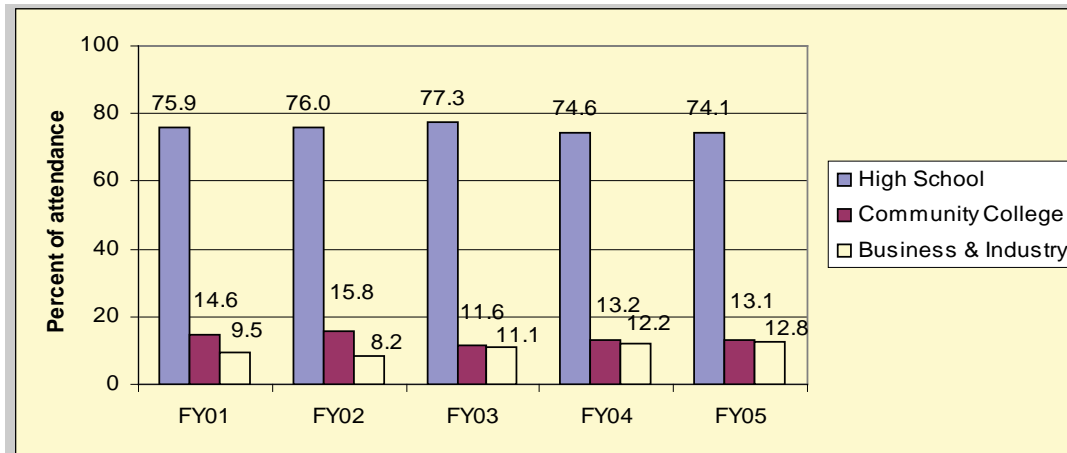




## Professional Development by Institution Type

High school personnel consistently accounted for about 75% of the participants in Tech Prep professional development activities.

Participation in professional development by institution type (high school, community college, business and industry) remained stable from FY01 to FY05, with the overwhelming majority of participants being high school personnel, and one-quarter coming from the community college or business and industry. During the three most recent fiscal years, the level of representation by community college and business and industry personnel was similar.



Participation  
in  
professional  
development  
activities by  
institution  
type

## **B**arriers that Challenge Effective Implementation

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Each year, local consortium directors are asked to indicate the level of impact of 20 barriers on implementation of Tech Prep using a scale of 1 (none) to 6 (very major). In FY05, seven barriers were identified by at least 20% of consortium directors as having a major or very major impact on implementation during all five fiscal years:

1. Lack of qualified certified instructors to fill technical teaching jobs in high schools (28%)
2. Stereotype about Tech Prep as appropriate for less academically and socially proficient students (28%)
3. Lack of understanding of the Tech Prep concept by local educators (23%)
4. Lack of acceptance that Tech Prep programs are rigorous academic programs (23%)
5. Lack of financial resources for Tech Prep (23%)
6. Lack of consistency in identifying Tech Prep students (23%)
7. Lack of parental support for Tech Prep (20%)

Three barriers that decreased dramatically in importance are:

1. Lack of substitute teachers to fill in for regular teachers during professional development activities, from 41% in FY01 to 18% in FY05
2. Little time designated for joint planning by academic and vocational or secondary and postsecondary faculty, from 46% in FY01 to 18% in FY05
3. Too much paperwork associated with the administration of Tech Prep, from 41% in FY01 to 8% in FY05

## Looking Forward



Educators and administrators eagerly anticipate reauthorization of the federal Carl D. Perkins Vocational and Technical Education Act of 1998. Most expect changes in language and emphasis as Tech Prep adapts to other national level educational reform efforts. An early leader in providing integrated high school curricula formally articulated with postsecondary education, Tech Prep legislation is anticipated to emphasize the creation of career pathways as the model to enable students' transition from secondary to postsecondary education and eventually to work.

Tech Prep's early emphasis on credits in escrow, articulated credits, and recently dual credit and dual enrollment offer students the opportunity to earn college credit while enrolled in high school, an accelerated learning approach that can move students closer to their educational and career goals. This and other forms of accelerated learning continue to grow as increasing attention is paid to effective strategies that promote transition and access to higher education. As this report documents, progress has been made in the state of Illinois, but opportunities for growth and improvement remain.

Illinois is engaged in statewide efforts to improve Tech Prep while monitoring the federal discussion as legislation is debated in Washington DC. At the local level, Illinois' 40 Tech Prep consortia continue to establish and improve articulation agreements between the two educational levels, and many consortia are pursuing technology-based systems aimed at improving local data sharing processes. At the state level, the Illinois Community College Board is engaged in efforts to improve Tech Prep program and student outcomes by enhancing accountability systems that measure local and state progress in meeting Perkins requirements. More information on Illinois Tech Prep is available at <http://www.iccb.org/techprep/> and <http://occr1.ed.uiuc.edu/TPStrategicPlan/index.htm>

## End Notes

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<sup>1</sup> The original data used in this report were derived from information provided on the Tech Prep Final Programmatic Report, submitted by Illinois' consortia each August to the ICCB and forwarded to the OCCRL. Unless otherwise noted, outcomes reported in this document reflect data from 39 of the 40 consortia in Illinois and are reported on the consortium level as the unit of analysis. Because of its size and unique consortium arrangement, wherein all high schools associated with Chicago Public Schools and the seven City Colleges of Chicago comprise one consortium, Chicago's consortium data are not included in most calculations because they would skew the consortium-level means and medians and distort understanding of a typical consortium in the state of Illinois.

<sup>2</sup> Illinois' definition of a Tech Prep program is a program specific core of academic and technical courses taught during the two years of high school preceding graduation at a minimum, and at least two years of community college education in a non-duplicative course of study leading to an A.A.S. degree or a two-year certificate in a specific career field or two years of an apprenticeship following high school (<http://www.iccb.org/TechPrep/pdf/definitions.pdf>).

<sup>3</sup> According to the *Illinois State Board of Education 2005 Annual Report*, the number of students enrolled in grades 9 – 12 in Illinois' public secondary schools was 613,676 (<http://www.isbe.net/board/pdf/AnnReport2005.pdf>).

<sup>4</sup> This statistic excludes the Chicago consortium due to extreme fluctuations in data reporting between FY01 and FY04. In FY05, Chicago officials reported they were involved in several initiatives to improve their ability to track students' progress and report accurate data.




<sup>5</sup> Consortium directors and state Tech Prep officials report this statistic vastly under-represents the actual number of students who matriculate due to problems with identifying and tracking Tech Prep students at the community college level. In FY06, Illinois initiated several efforts aimed at capturing reliable data.

<sup>6</sup> Due to unexplained fluctuations in data reporting, enrollments were estimated for 18 consortia based on previous enrollments or by using the average enrollment number for their regional or geographical location. For the other 21 consortia, we used the figures originally reported.

<sup>7</sup> In a study conducted by the U.S. Department of Education, Office of Vocational and Adult Education (OVAE), Adelman found that of a large, national sample of 1992 high school graduates, 64.5% of those who attended community college following graduation took at least one remedial course and 43.7% took more than one. See: Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, D.C.: U.S. Department of Education. This report is available online (<http://www.ed.gov/pubs/edpubs.html>).

<sup>8</sup> See: Adelman, C. (2005). *Moving into town – and moving on: The community college in the lives of traditional-age students*. Washington, DC. U.S. Department of Education. The Executive Summary of this report is available online (<http://www.ed.gov/rschstat/research/pubs/comcollege/index.htm>).



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Funding for this report was awarded by the Illinois Community College Board and was conducted by staff at OCCRL. Conclusions or suggestions based on the data are the result of professional judgment and do not necessarily represent official position or policy of the Illinois Community College Board or the University of Illinois.

We appreciate receiving feedback on the quality and utility of reports and materials produced by OCCRL staff. The complete annual Tech Prep reports can be found online ([http://occrl.ed.uiuc.edu/Projects/tech\\_prep/annual\\_report.asp](http://occrl.ed.uiuc.edu/Projects/tech_prep/annual_report.asp)). If you have comments or suggestions for this or other OCCRL products, we would appreciate hearing from you. Please direct your comments to:

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