

MEMORANDUM

June 4, 2009

TO: Education Committee

FROM: Elaine Bonner-Tompkins, Senior Legislative Analyst *EBT*
Kristen Latham, Legislative Analyst
Office of Legislative Oversight

SUBJECT: **Worksession on OLO Report 2009-10: Montgomery County Public Schools Career- and Life-Readiness Programs**

On June 8th, the Education Committee will hold a worksession on OLO Report 2009-10 which was released by the Council on April 28th. Council President (and Education Committee Member) Phil Andrews requested this study to improve the Council's understanding of the programs that MCPS provides to enable students to become self-sufficient adults.

OLO Report 2009-10 summarizes the components, administration, participation, performance, and cost of MCPS career- and life-readiness programs in four areas:

- Career and Technology Education (CTE) programs and courses in middle and high schools;
- Transition services for students with disabilities as they transition out of high school;
- The Students Engaged in Pathways to Achievement (SEPA) program for older ESOL students with interrupted educations; and
- Secondary school counseling services to support career awareness and academic planning.

Overall, OLO finds that MCPS offers an array of programs aimed at enhancing the career- and life-readiness of students and that many of MCPS' programs align with best practices for enhancing the rigor of CTE programs. However, many of the students most in need of career and technology education (e.g. students at high-risk of dropping out) may have the least access to these programs.

Committee members should bring their copy of the report to the meeting which is also available online at www.montgomerycountymd.gov/olo. The following MCPS staff will attend the worksession:

- Mr. Erick Lang, Associate Superintendent, Office of Curriculum & Instructional Programs
- Dr. Frank Stetson, Community Superintendent, Office of School Performance
- Mr. Steve Boden, Coordinator, Foundations Office
- Dr. Michael Cohen, Director, Department of Instructional Programs
- Ms. Shelley Johnson, Director, Instructional Technology & Partnerships
- Dr. Kathy Kolan, Supervisor, Transition Services Unit
- Ms. Gwen Mason, Director, Department of Special Education Services
- Dr. Marshall Spatz, Director, Department of Management, Budget & Planning
- Mr. Kent Weaver, Supervisor, School Counseling Services
- Dr. Karen Woodson, Director, Division of ESOL/Bilingual Programs

A. REPORT HIGHLIGHTS

This section summarizes the budget, participants, and emphasis of MCPS' career- and life-readiness programs. The report's four-page executive summary is attached starting on ©1.

Participants, Staffing, and Budget. The table below describes FY 2009 data on the number of participants, staffing, and budget for each MCPS career- and life-readiness program area. Career and technology education and secondary school counseling services represent MCPS' largest investments in career- and life-readiness programs, and they serve the largest number of students.

Table A: MCPS Career- and Life-Readiness Participants, Staffing, and Budget, FY 2009

MCPS Career and Life-Readiness Programs	Students	FTE's	Budget
Career and Technology Education	37,644	457.5	\$47,824,021
Transition Services for Students with Disabilities*	5,605	72.8	\$6,395,253
Students Engaging in Pathways to Achievement	20	4.4	\$462,152
Secondary School Counseling Services*	75,736	413.0	\$43,336,431
Total		947.7	\$98,017,857
* FY 2008 data for students.			

College and Work Readiness Emphasis. The intent of MCPS' career- and life-readiness programs is to enable students to live independently as adults by assuring that all students graduate with the academic skills necessary for higher education and entry-level careers. The college readiness versus work readiness emphasis of specific programs varies as the table below shows.

Table B: Career- and Life-Readiness Program by College and Work Readiness Emphasis

MCPS Career- and Life-Readiness Programs	College Readiness	Work Readiness	College & Work Readiness
<u>Career and Technology Education (CTE) Clusters</u>			✓
Arts, Humanities, and Communication			✓
Biosciences, Health Sciences, & Medicine	✓		
Business Management and Finance	✓		
Construction and Development		✓	
Education, Training and Child Studies			✓
Engineering Technology	✓		
Environmental Resources			✓
Human and Consumer Sciences		✓	
Information Technology			✓
Law, Government, & Public Safety			✓
Transportation		✓	
Work-Based Learning		✓	
<u>Transition Services for Students with Disabilities</u>		✓	
Transition planning			✓
Vocational education		✓	
Independent living skills		✓	
<u>Students Engaged in Pathways to Achievement (SEPA)</u>		✓	
Academic Courses		✓	
Technical Courses		✓	
<u>Secondary School Counseling Services</u>			✓
Academic four year plan			✓
High school career centers and website			✓

Array of CTE Programs. MCPS offers 38 career pathway programs that are designed to prepare students for specific careers or occupations: 24 of these pathways prepare students to earn industry recognized certificates; and all but two pathways offer articulated credit with Montgomery College or another college. Each MCPS high school offers at least one pathway program, and Thomas Edison High School of Technology offers 19 career pathway programs, 18 of which emphasize career readiness. Admission to Edison for most programs is on a first come/first-served basis.

Transition from Vocational to Career and Technology Education. MCPS’ current mix of career clusters and pathway programs reflects the transition from a separate vocational curriculum for students who were unlikely to attend college to a new model of instruction designed to enhance the academic and technical skills of all students. The increased academic rigor of the new CTE model aligns with best practices identified by researchers.

Yet, the new CTE focus on college readiness may diminish access for students traditionally served by vocational education programs. For example, students who repeat coursework often do not have time to complete a career pathway. As such, MCPS’ CTE programs tend to serve students performing at- or above-grade level rather than students at high risk of dropping out.

Limited Offerings of Financial Literacy Courses. With the exception of independent living programs for students with disabilities, no requirements exist that MCPS provide financial management courses. As such, MCPS offers a limited number of personal finance courses that include the Grade 7 Family and Consumer Sciences course, an on-line personal finance (in implementation), and a personal finance course within the Business cluster. Two current high schools courses with curriculums that include financial management - Consumer Math and Community Work Experience Course B - are being phased out. The latter course will be reconstituted as part of the College/Career Research and Development program next year.

Administration. MCPS’ Office of School Performance provides oversight of all school-based personnel who deliver career and technology education, transition services, SEPA programming, and secondary school counseling. However, the central office administration of MCPS’ career- and life-readiness programs is decentralized across the Office of Curriculum and Instruction and the Office of Special Education and Student Services as follows:

Table C: Central Administration of MCPS’ Career- and Life-Readiness Programs

Program	MCPS Office	Unit/Division/Department
Career and Technology Education	Office of Curriculum and Instruction	<ul style="list-style-type: none"> • Instructional Technology and Partnership Unit • Foundations Office, Department of Instructional Programs • Department of Curriculum and Instruction
Transition Services	Office of Special Education and Student Services	<ul style="list-style-type: none"> • Transition Services Unit, Department of Special Education
SEPA Program	Office of Curriculum and Instruction	<ul style="list-style-type: none"> • Division of ESOL/Bilingual Education , Department of Instructional Programs
School Counseling Services	Office of Special Education and Student Services	<ul style="list-style-type: none"> • School Counseling Services Unit in the Department of Student Services

Performance. MCPS collects extensive data regarding the performance of its career- and life-readiness programs, in part, to comply with federal, state, and local requirements. Highlights of MCPS' performance data for three of the four career- and life-readiness program areas follow; MCPS' Office of Shared Accountability is currently evaluating the SEPA program.

- Career and Technology Education: In 2008, 3,349 students concentrated in a career pathway program and 1,058 graduates completed a career pathway program. This represented 11% of all graduates. By 2014, MCPS' strives to increase the share of graduates completing a career pathway to 30%. In 2008, 54% of CTE completers met University System of Maryland (USM) requirements; by 2014, MCPS intends to increase this share to 80%.
- Transition Services: From 2004 to 2008, the number of students with disabilities exiting MCPS with either a diploma or a certificate increased by 13% (109 students). In particular, MCPS reduced to zero the number of students who reached the maximum age of 21 without earning a certificate/diploma before exiting the school system.
- School Counseling: MCPS survey data from 2006-2007 indicate that all secondary students received counseling for academic scheduling, all middle school students were introduced to career/college counseling, and all high school students met with a counselor for college or career planning. The vast majority of students (77-88%) further indicated that their counselors addressed their academic/college/career planning concerns.

B. RECOMMENDED DISCUSSION ISSUES AND AGENCY COMMENTS

OLO identified 15 project findings described on © 5 - 17 and seven issues for discussion between the Council and MCPS representative starting on © 18. MCPS' Chief Operating Officer's (COO) written comments, attached on © 24, offers MCPS' responses to several of OLO's recommended discussion issues. The seven issues and questions for discussion that OLO identified are summarized below, along with MCPS' initial responses from the COO's letter for six of the seven issues.

Issue # 1: Understanding MCPS' Vision and Administration of CTE

OLO notes that MCPS' current central administration of CTE likely reflects MCPS' desire to align CTE with its multiple performance goals for Perkins, technology education, and its Seven Keys to College Readiness. Some of the discussion questions this approach raises are as follows:

- What trade-offs, if any, exist between pursuing these multiple program goals for CTE?
- How does MCPS' current administration of CTE enable the school system to achieve its vision? In particular, how does the separate administration of Foundations and non-Foundations programs enable MCPS to achieve its overarching vision for CTE?

MCPS' vision and mission for CTE is described in detail in the COO's letter on © 24.

Issue #2: Accessing the New College Readiness Focus of CTE

OLO notes that MCPS' CTE programs have transitioned from a focus on career readiness to a focus on enhancing students' career and college readiness; yet the practical effect of adding a college readiness focus for many CTE programs may diminish access for students who struggle to meet higher standards. Some discussion questions that this issue raises are:

- Is there a tradeoff between the current college and career focus of CTE programs versus the prior vocational education focus, particularly for students performing below grade level?
- What practices has MCPS instituted to ensure access to CTE programs for students at high risk of dropping out, English language learners, and students with disabilities?

The COO's letter on © 25 notes that MCPS' new approach to CTE reflects the common academic skills required for college and career readiness.

Issue #3: Increasing Utilization of CTE

OLO notes that several indicators suggest that many MCPS' career pathway programs may be under-enrolled for students most likely to seek full-time employment after leaving MCPS. For example, only one in four students enrolled in CTE courses concentrate in a career pathway program; and student enrollment at Edison has diminished by 30% over the last two years so that it currently operates at about half its capacity. The following questions delve into this issue further:

- Is there adequate promotion of career and technology education opportunities beyond the technology education requirement? In particular, the promotion of Edison High School?
- What methods of outreach would be most effective for students? What methods are being considered for the future?

The COO's letter on © 26 indicates that more students are completing career pathways at their home campus.

Issue #4: Expanding CTE Enrollment Among Students At-Risk

OLO notes that research suggests that CTE may help at-risk students stay in high school and graduate and that there is link between CTE courses and earnings after high school. MCPS recognizes the value of CTE programs for students with disabilities and English language learners who are unlikely to leave MCPS with a diploma. Yet, MCPS does not appear to offer any parallel CTE programs for other students at high risk of dropping out. The following questions delve into this issue:

- Does MCPS view CTE programs as a tool for improving the job readiness of students at high-risk of dropping out? If so, in what ways?
- Does MCPS view CTE programs as a lever for preventing drop-outs and/or re-enrolling drop-outs? If so, in what ways?

Issue #5: Using Data to Understand the Value of MCPS' CTE Programs

OLO notes that MCPS measures the performance of CTE programs in part based on federal requirements for Perkins funding. MCPS also currently only tracks a portion of CTE program costs that excludes most school-based staff. The questions below delve into accessing MCPS' accountability system for CTE:

- Are there adequate accountability measures in place to assess MCPS' CTE programs? Which MCPS central offices are responsible for implementing CTE accountability measures?
- How does MCPS determine in what areas they will provide pathway programs? What roles do the Cluster Advisory Boards and Trades Foundations Boards play in this process?
- What are the start-up costs of instituting a new pathway program? What savings accrue to MCPS when certain pathway programs are discontinued?

The COO's letter on © 26-27 acknowledges that MCPS has experienced some challenges in CTE data gathering and reporting and is currently working to rectify these issues.

Issue #6: Using School Counseling Offices to Increase Awareness of CTE Programs

OLO notes that MCPS school counselors typically use a reactive approach to deliver career counseling: if the student asks, a counselor will provide links to available resources. Yet, this reactive approach may foster a gap between students' awareness of potential employment opportunities and the array of CTE programs that prepare students for the workforce. OLO identified the following discussion questions related to this issue:

- Are there additional and more systematic opportunities beyond the four-year academic plan for providing career counseling? What are the strengths and drawbacks of potential approaches?
- Are there ways that both middle and high school counselors can become better informed about CTE programs so that more students can learn about these programs?

The COO's letter on © 25 indicates that "school counselors promote a college pathway among students to ensure that no student is denied an opportunity for postsecondary study should he or she wish to pursue higher education."

Issue #7: Expanding Work Readiness Opportunities for Students with Disabilities who are Diploma Bound

Transition services for certificate-bound students typically offer in-school and off-site vocational educational opportunities. During the site visits conducted as part of this study, OLO heard that many diploma-bound students with disabilities could also benefit from CTE opportunities, but that students would need the support of para-educators in CTE courses at their home campuses and Edison pathway programs to successfully complete more career pathway programs. OLO identified the following discussion questions related to this issue:

- Is MCPS confident that students with disabilities who are on track to earn a diploma are receiving the transition services they need to enhance their career readiness?
- To what extent does MCPS' delivery of CTE programs for students with disabilities align with the Perkins goal that CTE practices enable special populations to access and succeed in career and technical education?
- How does MCPS' central administration work together to ensure that the career-readiness transition needs of all students with disabilities are being met? What are some of the recognized needs? In particular, how do the Transition Office and Instructional Technology and Partnership Units work together to meet these needs?

The COO's letter on © 27 indicates that the Office of Special Education and Student Services is working with other central offices, school-based administrators, and special education staff to ensure that students with disabilities receive transition services necessary for them to graduate with diplomas given changing requirements for the Cooperative Work Experience pathway.

LIST OF ATTACHMENTS

Item	Begins at:
OLO Report 2009-10 Executive Summary	© 1
Chapter VII: Summary of Project Findings	© 5
Chapter VIII: Recommended Discussion Issues	© 18
MCPS Chief Operating Officer Response to OLO Report 2009-10	© 24

**MONTGOMERY COUNTY PUBLIC SCHOOLS’
CAREER- AND LIFE-READINESS PROGRAMS
OFFICE OF LEGISLATIVE OVERSIGHT REPORT 2009-10
APRIL 28, 2009**

Montgomery County Public Schools’ (MCPS) middle and high schools offer students an array of career- and life-readiness programs aimed at enabling them to earn livable wages, manage their assets, and live independently as adults. Historically, most of these programs were offered in vocational and special education and were isolated from the general education curriculum. Today, MCPS is transforming these programs to increase their academic rigor and improve their alignment with system-wide efforts aimed at ensuring that all MCPS students graduate ready for college and careers.

Career- and Life-Readiness Programs Overview

MCPS’ career- and life-readiness programs share a common goal of preparing students for college and work; they include the following program baskets: career and technology education (CTE), transition services for students with disabilities, Students Engaged in Pathways to Achievement (SEPA), and secondary school counseling services. As shown below, programs place different emphasis on preparation for work, college, or both.

Career- and Life-Readiness Program by College and Work Readiness Emphasis

MCPS Career- and Life-Readiness Programs	College Readiness	Work Readiness	College & Work Readiness
Career and Technology Education (CTE) Clusters			✓
Arts, Humanities, and Communication			✓
Biosciences, Health Sciences, & Medicine	✓		
Business Management and Finance	✓		
Construction and Development		✓	
Education, Training and Child Studies			✓
Engineering Technology	✓		
Environmental Resources			✓
Human and Consumer Sciences		✓	
Information Technology			✓
Law, Government, & Public Safety			✓
Transportation		✓	
Work-Based Learning		✓	
Transition Services for Students with Disabilities		✓	
Transition planning			✓
Vocational education		✓	
Independent living skills		✓	
Students Engaged in Pathways to Achievement (SEPA)		✓	
Academic Courses		✓	
Technical Courses		✓	
Secondary School Counseling Services			✓
Academic four year plan			✓
High school career centers and website			✓

MCPS’ career- and life-readiness programs must comply with federal, state, and local mandates and policies; operate within a context of other MCPS education goals and strategies for secondary schools; and align with state and local graduation requirements. MCPS’ standards often exceed federal or state requirements. For example, MCPS’ requires 22 credits for a diploma, whereas the state requires 21 credits, and MCPS’ targets for student achievement embedded in their Seven Keys for College Readiness exceed federal requirements for student proficiency on state assessments.

Overall, MCPS' career- and life-readiness programs are aimed at ensuring that students performing at- or above-grade level graduate ready for college and entry-level careers. Among MCPS' portfolio of career- and life-readiness programs, only transition services for students with disabilities and SEPA are aimed at ensuring that students who are unlikely to earn a diploma exit MCPS ready for the world of work. A description of each career- and life-readiness program basket follows.

Career and Technology Education (CTE) Programs

MCPS' CTE programs consist of elective, career-focused courses offered at every middle and high school. Most career pathway programs are a sequence of four, year-long CTE courses that prepare students for a career or occupation. MCPS students can choose from 38 career pathway programs; 24 of these prepare students to earn industry recognized licenses or certifications as noted in the table below.

MCPS' Career Clusters and Career Pathway Program Offerings

<p><u>Arts, Humanities, and Communications</u> Broadcast Media Printing, Graphics, and Electronic Media</p> <p><u>Biosciences, Health Sciences, and Medicine</u> Academy of Health Professions and Biosciences Biomedical Sciences (Project Lead the Way) Biotechnology Medical Careers*</p> <p><u>Business Management and Finance</u> Academy of Finance* Accounting* Business Administration and Management* Marketing*</p> <p><u>Construction and Development</u> Carpentry* Construction Electricity* Heating, Ventilation, and Air Conditioning* Masonry* Plumbing* Principles of Architecture and CAD Technology*</p> <p><u>Education, Training, and Child Studies</u> Academy for Teacher Education Early Child Development*</p> <p><u>Engineering Technology</u> Advanced Engineering (Project Lead the Way) Pre-Engineering</p>	<p><u>Environmental Resources</u> Environmental Horticulture Green Industry Management Landscape Design</p> <p><u>Human and Consumer Sciences</u> Academy of Hospitality and Tourism Cosmetology* Hospitality Management* Manicuring/Nail Technology* Professional Restaurant Management*</p> <p><u>Information Technology</u> Academy of Information Technology* Cisco Networking Academy* Network Operations (Foundations)* Oracle Academy*</p> <p><u>Law, Government, and Public Safety</u> Fire and Rescue Services/EMT* Justice, Law, and Society</p> <p><u>Transportation</u> Automotive Body Technology/Dealership Training* Automotive Technology/Dealership Training* Foundations of Automotive Technology*</p> <p><u>Work-Based Learning</u> Cooperative Work Experience</p> <p>* Prepares students to earn certification or license.</p>
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The Thomas Edison High School of Technology (Edison) offers 19 career pathway programs. Admission to most of these programs is on a first come, first served basis with most programs having excess capacity. Enrollment at Edison has declined 30% since 2006, and it currently operates at half its capacity.

Most MCPS students take CTE courses to satisfy the technology education requirement for graduation. In FY 2008, approximately one-third of MCPS' high school students (14,256) enrolled in a CTE course, 3,349 students concentrated in a career pathway program, and 1,058 students graduated as career pathway program completers.

In recent years, MCPS has focused on expanding career pathway programs within its Biosciences, Business, Engineering, and Information Technology Clusters. This new CTE focus on enhancing the academic rigor of courses and enhancing students' readiness for college aligns with promising practices for effective CTE programs. Yet, the new focus may diminish access for students traditionally served by vocational education programs. For example, students performing below grade level who struggle to complete required classes for graduation often do not have time to complete a career pathway.

Transition Services for Students with Disabilities

Transition services are designed to improve the academic and functional achievement of students with disabilities as they transition out of secondary school. By law, MCPS must begin transition planning for every student with a disability by age 14 and articulate transition services within their IEP by age 16. In FY 2008, MCPS managed transition plans for 5,605 students.

The type and intensity of transition services MCPS provides depends on whether a student is on track to exit MCPS with a diploma or a certificate. For a diploma-bound student, MCPS offers transition services that focus on enhancing both work and college readiness, such as career counseling and guidance, self-advocacy training, and assistive technology. MCPS offers intensive transition services for students who are certificate-bound and enrolled in a Functional Life Skills (FLS) curriculum. These services, which focus more explicitly on enhancing work readiness, often include social skills instruction, in-school and community internships, on-the-job training opportunities, and independent living skills instruction.

Students Engaged in Pathways to Achievement (SEPA)

The SEPA program serves older, Spanish-speaking ESOL students who have interrupted educations and are unlikely to complete state graduation requirements by the age of 21. This program provides English language instruction, literacy training, and career education knowledge and skills. Currently, this program serves 20 students in academic classes at Wheaton and Einstein High Schools and in technical courses in construction, auto trades, manicuring, and restaurant management at Edison High School.

Secondary School Counseling Services

MCPS' secondary school counseling services provide information on postsecondary options, including advice on academic scheduling to meet career and college goals. At minimum, school counselors meet with each student annually to provide academic counseling. Some of the services offered include:

- Notifying students of academic and career programs available at MCPS;
- Assisting students in developing their four year plan for high school;
- Enrolling students in courses that prepare them for college and career;
- Informing students about career options; and
- Assisting students in planning and applying for college and financial aid.

Each MCPS high school also has both an on-site and web-based career center that provides information on postsecondary training and education, financial aid, professional skills, and career options. In FY 2008, middle schools counseled 31,087 students, and high schools counseled 44,648 students.

Administration of Career- and Life-Readiness Programs

MCPS' Career- and Life-Readiness Programs are administered by three offices:

- The Office of Curriculum and Instruction centrally administers MCPS' career and technology education programs across the Instructional Technology and Partnership Unit, the Foundations Office in the Department of Instructional Programs, and Department of Curriculum and Instruction. This office also manages SEPA in the Division of ESOL/Bilingual Education.
- The Office of Special Education and Student Services provides central office administration of transition services and secondary school counseling via the Transition Services Unit in the Department of Special Education's Division of School-Based Special Education Services and the School Counseling Services Unit in the Department of Student Services.
- The Office of School Performance provides oversight of all school-based personnel including teachers and counselors who deliver career and technology education, transition services, SEPA programming, and student counseling in MCPS' comprehensive middle and high schools.

Costs of Career- and Life-Readiness Programs

OLO estimates the FY 2009 budget for MCPS' career- and life-readiness programs totals about \$98 million. It funds 947.7 full time equivalents (FTE's) across the four program areas. Two areas – CTE and secondary school counseling services– account for over 90% of the budget.

FY 2009 FTEs and Budget of MCPS Career and Life Readiness Programs

Career- and Life-Readiness Programs	# FTEs	Budget
Career and Technology Education (CTE)	457.5	\$47,824,021
Transition Services for Students with Disabilities	72.8	\$6,395,253
Students Engaging in Pathways to Achievement (SEPA)	4.4	\$462,152
Secondary School Counseling Services	413.0	\$43,336,431
Total	947.7	\$98,017,857

Recommended Discussion Issues

This report identifies seven issues that the Council may wish to address with MCPS representatives:

- Issue #1: Understanding MCPS' Vision and Administration of CTE.** MCPS has expanded its vision for CTE beyond the original "education for work" approach of CTE to increase the number of student who meet federal and state skill attainment goals. MCPS' recent changes to decentralize CTE administration likely reflect its pursuit of these goals.
- Issue #2: Assessing the New College Readiness Focus of CTE.** MCPS has changed from a more traditional approach to CTE to a more academically rigorous program that strives to improve students' college and work readiness. This may diminish access for those students who are performing below grade level or who struggle to meet higher standards.
- Issue #3: Increasing Utilization of CTE.** Several indicators suggest MCPS' Career Pathway Programs may be under-enrolled for those students who are focused on finding full-time work immediately after high school. MCPS recognizes this issue and is committed to increasing the share of graduates who complete a career pathway from 11% to 30%.
- Issue #4: Expanding CTE Enrollment among At-Risk Students.** MCPS provides programs to support the transition of students with disabilities and students with limited English proficiency; however, students performing below grade level or in danger of dropping out do not have access to comparable programs.
- Issue #5: Using Data to Understand the Value of MCPS' CTE Programs.** MCPS currently measures the performance of career and technology education based on the requirements of programs funded by the Perkins grant. However, two key accountability areas are not tracked: the alignment of CTE with the demand of the current labor market or staffing costs for most school-based personnel who provide CTE instruction in secondary schools.
- Issue # 6: Using Secondary School Counseling Offices to Increase Awareness of CTE Programs.** School counseling services focus on academic advising and college admission and often do not actively counsel students about CTE options.
- Issue # 7: Expanding Work Readiness Opportunities for Students with Disabilities who are Diploma-Bound.** The transition services MCPS offers certificate-bound students typically consist of in-school and off-site vocational educational opportunities that emphasize work readiness. Currently, diploma-bound students do not receive comparable vocational educational, work readiness opportunities.

For complete OLO Report 2009-10 see www.montgomerycountymd.gov/olo.

Chapter VII: Summary of Project Findings

Secondary schools today offer students an array of programs that are intended to help students earn livable wages, manage their assets, and live independently as adults. Historically, these goals were assigned primarily to vocational and special education programs that were isolated from the general education curriculum. Recent changes aimed at enhancing the rigor and relevance of these courses have transformed how schools deliver programs aimed at preparing students for their adult lives.

For Montgomery County Public Schools, these “career- and life-readiness programs” represent one aspect of the school system’s overall efforts to ensure that all MCPS students graduate ready for post secondary education and employment. For this project, four MCPS career- and life-readiness programs were reviewed: (1) career and technology education, (2) transition services for students with disabilities, (3) the Students Engaged in Pathways to Achievement (SEPA) Program and (4) secondary school counseling services.

The Council requested this Office of Legislative Oversight (OLO) report to improve its understanding of the career- and life-readiness programs that Montgomery County Public Schools (MCPS) offers. This report describes the programs MCPS offers; how they are administered; how many students are enrolled in the different types of programs; and what students and MCPS staff think about these programs.

This chapter summarizes the Office of Legislative Oversight’s findings in four parts:

- The framework for MCPS’ career- and life-readiness programs;
- MCPS’ career and technology education (CTE) programs;
- MCPS’ other career- and life-readiness programs; and
- MCPS’ career- and life-readiness program costs.

The Framework for MCPS’ Career- and Life-Readiness Programs

MCPS’ career- and life-readiness programs must meet several objectives simultaneously. These findings highlight some of these standards and explain MCPS’ program design and service delivery structures.

Finding 1: Laws and policies at the federal, state, and local government levels establish requirements that shape MCPS’ delivery of career- and life-readiness programs. These laws establish mandates for specific types of services that MCPS must provide.

Several specific federal, state, and local laws and policies shape the career- and life-readiness programs that MCPS offers. These mandates require MCPS to provide services such as school counseling for all students, transition goals and services for students with disabilities, and programs to narrow the achievement gap by English language proficiency.

- At the federal level, MCPS' programs must comply with requirements of the Carl A. Perkins Career and Technical Education Act, the Individuals with Disabilities Education Act, and Title III of the No Child Left Behind Act.
- At the state level, MCPS' programs must comply with the State's Career Development Framework, state regulations for students with disabilities, and the requirements for English language learners in the State's Bridge to Excellence Act.
- At the local level, four Board of Education Policies articulate guidance for MCPS' delivery of career- and life-readiness services. For example, BOE Policy IGK – *Career and Technology Education*, provides an assurance that all students choosing either college or careers will be fully served.

Finding 2: MCPS' portfolio of career- and life-readiness services encompasses four distinct program areas. Three of these areas achieve MCPS' compliance with legal mandates. The fourth program, which was established in response to community concerns, also helps MCPS align with federal and state mandates to improve the English proficiency of English language learners.

Today, MCPS offers four groups of programs with services that address the transition from secondary school to higher education or a career.

- **Career and technology education (CTE)** seeks to increase students' academic and technical knowledge in order to improve their college and career readiness. CTE was formerly referred to as vocational education. CTE classes include family and consumer sciences, technology education courses, and career pathway courses.
- **Transition services for students with disabilities** focus on improving the academic and functional achievement of students with disabilities as they transition from school to postsecondary opportunities.
- **Students Engaged in Pathways to Achievement (SEPA)** is designed to meet the English language acquisition, literacy, and career education needs of an older cohort of English language learners who, due to interruptions in their education, are unlikely to complete state graduation requirements by the age of 21.
- **Secondary school counseling services** refer to the school system's delivery of information to students (and parents, as appropriate) regarding career awareness and planning, career options, and postsecondary options, including college.

Three of MCPS' program groups – career and technology education (CTE), transition services for students with disabilities, and secondary school counseling respond to specific sets of mandates. The fourth program area – Students Engaging in Pathways to Achievement (SEPA) – was established in response to recommendations of the Montgomery County Latino Education Coalition; it also aligns with federal and state standards that mandate services to improve the achievement and English language proficiency of English language learners.

Finding 3: Three MCPS offices administer its career- and life-readiness programs: the Office of Curriculum and Instructional Programs, the Office of Special Education and Student Services, and the Office of School Performance.

The Office of Curriculum and Instruction (OCI) provides central office administration of MCPS' career and technology education programs across the following three units:

- The Instructional Technology and Partnerships (ITP) Unit is responsible for the oversight of federally funded (Perkins) programs and the central administration of CTE programs not administered by the Foundations Office. The ITP Unit also works with the 11 Cluster Advisory Boards who provide guidance and support for each career clusters.
- The Foundations Office housed within the Department of Instructional Programs administers the Foundations Programs: career pathways within the Construction and Transportation clusters, and the Networking Operations pathway in the Information Technology cluster. The Foundations Office works in partnership with the local business community through Student Trades Foundations to support these programs.
- The Department of Curriculum and Instruction works with ITP and school-based staff to administer CTE programs and to ensure alignment of the CTE programs with the High School Assessments and core academic curriculum.

OCI's Department of Curriculum and Instruction also provides central office administration of the Students Engaged in Alternative Pathways (SEPA) program managed by the Division of ESOL/Bilingual Education.

The Office of Special Education and Student Services provides central office administration for transition services and secondary school counseling as follows:

- The Transition Services Unit within the Department of Special Education Services' Division of School-Based Special Education Services tracks transition data for students with disabilities and assist schools in delivering transition services.
- The School Counseling Services Unit within the Department of Student Services provides central office oversight and support to school counselors, administrators, and staff.

The Office of School Performance provides on-site administration and oversight for each of MCPS' career- and life-readiness programs. With the exception of special educators that include transition teachers, the Office of School Performance allocates to schools the staff that provides career- and life-readiness programming. Typically, these positions are supervised by resource teachers that serve as departmental chairs and report to the principal. For example, on most campuses, CTE teachers are supervised by a resource teacher that serves as the CTE departmental chair. The resource teacher positions report to the principal, who in turn reports to their Community Superintendent.

Finding 4: MCPS' career- and life-readiness programs share a common goal of preparing students for college and work, but they differ in the emphasis they place on preparing students for work, college, or both.

Most of MCPS' career- and life-readiness programs focus on enhancing students' college and job readiness by providing students the opportunity to enhance their career awareness and develop competencies and skills that prepare them for higher education and the workforce. Yet, some of MCPS' career- and life-readiness programs emphasize one approach – college readiness or work readiness – more than the other. For example:

- CTE pathways within the Engineering Cluster tend to emphasize college readiness since there are few engineering opportunities available for high school graduates.
- Conversely, the focus of the SEPA program is to ensure that its students are prepared for entry-level positions once they leave MCPS.

Table 7-1 summarizes MCPS' career- and life-readiness programs by their college and/or work readiness emphasis.

Table 7-1: Career- and Life-Readiness Program by College and Work Readiness Emphasis

MCPS Career- and Life-Readiness Programs	College Readiness	Work Readiness	College & Work Readiness
Career and Technology Education Clusters			✓
Arts, Humanities, and Communication			✓
Biosciences, Health Sciences, & Medicine	✓		
Business Management and Finance	✓		
Construction and Development		✓	
Education, Training and Child Studies			✓
Engineering Technology	✓		
Environmental Resources			✓
Human and Consumer Sciences		✓	
Information Technology			✓
Law, Government, & Public Safety			✓
Transportation		✓	
Work-Based Learning (CWE)		✓	
Transition Services for Students with Disabilities		✓	
Transition planning			✓
Vocational education		✓	
Independent living skills		✓	
Students Engaged in Pathways to Achievement		✓	
SEPA Courses		✓	
Pathways at Edison		✓	
Counseling and Career Services			✓
Academic four year plan			✓
Career centers and website			✓



MCPS' Career and Technology Education (CTE) Programs

MCPS' CTE programs consist of elective, career-focused courses in middle and high schools. Individually, each CTE course aims to improve the academic and technical skills of its students. Collectively, completion of four credits in a CTE career pathway enhances a student's readiness for the world of work and higher education.¹

Finding 5: MCPS' career and technology education programs offer high school students opportunities to train for 38 career pathways across 12 career clusters.

Most CTE Career Pathway Programs (CPP) include a sequence of four year long courses that prepare students for a specific career or occupation. MCPS offers 38 pathways across 12 career clusters: 24 of these pathways prepare students to earn industry recognized certificates; and every CTE pathway except Cosmetology and Nail Technology offers articulated credit with Montgomery College or another college. Each MCPS high school offers at least one pathway program, and a student may request a transfer to enroll in a pathway program offered at another campus. Table 7-2 lists MCPS' 38 CTE pathways.

Table 7-2: MCPS' Career Clusters and Career Pathway Program Offerings

<u>Arts, Humanities, and Communication</u> Broadcast Media Printing, Graphics, and Electronic Media	<u>Environmental Resources</u> Environmental Horticulture Green Industry Management Landscape Design
<u>Biosciences, Health Sciences, and Medicine</u> Academy of Health Professions and Biosciences Biomedical Sciences (Project Lead the Way) Biotechnology Medical Careers*	<u>Human and Consumer Sciences</u> Academy of Hospitality & Tourism Cosmetology* Hospitality Management* Manicuring/Nail Technology* Professional Restaurant Management*
<u>Business Management and Finance</u> Academy of Finance (AOF)* Accounting* Business Administrative and Management* Marketing*	<u>Information Technology</u> Academy of Information Technology (AOIT) Cisco Networking Academy* Network Operations (Foundations)* Oracle Academy*
<u>Construction and Development</u> Carpentry* Construction Electricity* Heating, Ventilation, and Air Conditioning* Masonry Plumbing* Principles of Architecture and CAD Technology	<u>Law, Government, and Public Safety</u> Fire and Rescue Services/EMT* Justice, Law, & Society
<u>Education, Training and Child Studies</u> Early Child Development* Academy for Teacher Education	<u>Transportation</u> Automotive Body Technology/Dealership Training* Automotive Technology/Dealership Training* Foundations of Automotive Technology
<u>Engineering Technology</u> Advanced Engineering (Project Lead the Way) Pre-Engineering* *Prepares students to earn industry certification or license.	<u>Work-Based Learning</u> Cooperative Work Experience

¹ The two exceptions to this pattern are the Advanced Engineering pathway that requires 5 credits for program completion and the Cosmetology pathway that requires 9 credits.

Finding 6: The Thomas Edison High School of Technology offers 19 career pathway programs, 18 of which emphasize career readiness. Admission to Edison is on a first come/first-served basis, except for programs where demand exceeds capacity.

The Thomas Edison High School of Technology, the County's technical high school, offers 19 career pathways, each of these pathways except Biotechnology focus on job readiness. Edison serves as the main campus for the Foundations programs and also serves as the sole site for five of the six Construction pathways, the Foundations of Automotive Technology pathway, and the Printing, Graphics, and Electronic Media pathway.

Students spend half of the day taking a three-period pathway course at Edison, and the other half at their home campus earning core graduation credits. High school students must apply to Edison through their home high school counseling office for a specific career pathway program. Admission to programs at Edison is on a first come/first-served basis, except for programs such as Medical Careers where demand exceeds capacity. Admission to these programs is based on student attendance, grade point average, and letters of recommendation.

Table 7-3: Edison Career Pathway Programs

Career Cluster	Pathway Program	Program Length	Program Focus
Arts, Humanities, Media, and Communications	Printing, Graphics, and Electronic Media	2 Years	Graphic design and imaging.
Biosciences	Biotechnology	1 Year	Laboratory and research skills.
	Medical Careers	1 Year	Certified health care skills.
Construction	Carpentry*	2 Years	Home building and carpentry.
	Construction Electricity*	2 Years	Residential electrical and cable installation.
	Principles of Architecture and CAD Technology*	2 Years	Designing, illustrating, and drafting.
	Heating, Ventilation, and Air Conditioning *	2 Years	Heat pump, furnace, and air conditioner installation and maintenance.
	Masonry*	2 Years	Masonry unites and installation techniques.
	Plumbing*	2 Years	Installation, maintenance, and repair of pipe.
Hospitality and Tourism	Cosmetology	3 Years	Personal services skills.
	National Academy of Hospitality and Tourism	1 Year	All aspects of the hospitality industry.
	<i>Interior Design**</i>	1 Year	<i>Elements and principles of interior design.</i>
	Nail Technology	1 Year	Nail care and salon management.
	Restaurant Management	2 Years	Culinary arts and food service.
Information Technology	Network Operations*	1 Year	Installation, configuration, diagnosis, and repair of hardware, operating systems, and networks.
Transportation	Foundations of Automotive Technology*	1 Year	Automotive maintenance and basic servicing.
	Automotive Body Technology*	2 Years	Collision damage repair, panel replacement, paint and finish.
	Auto Technology and Dealership Training*	2 Years	Diagnosis, repair, service, reconditioning, and sales and marketing.
Work-Based Learning	Cooperative Work Experience	1 Year	Provides on-the-job training in industries not reflected in MCPS' career clusters, such as retail.

* Foundations Programs; ** Program in development; and Programs in bold available only at Edison.

Finding 7: Most Edison pathways programs have excess capacity since enrollment has declined by 30% over the past two years.

As noted in Table 7-4 below, Edison currently enrolls 524 students. Enrollment has declined by more than 200 students (30%) over the past two years. Edison is designed to serve 1,000 students, but it operates at about half of its capacity. MCPS projects an enrollment of 687 students for FY 2010.

Table 7-4: Edison Enrollment Data, FY 2003–FY 2010

School Year	Enrollment	Annual Change
2002-2003	659	
2003-2004	598	-61
2004-2005	624	26
2005-2006	646	22
2006-2007	746	100
2007-2008	625	-121
2008-2009	524	-101
2009-2010	687 (Projected)	To be determined

Sources: Schools at a Glance and FY10 Recommended Program Budget

Finding 8: MCPS has implemented several recognized programs to increase the academic rigor of its CTE programs. Several of these initiatives align with promising practices for effective CTE programs.

MCPS' current CTE offerings represent a transition to a new model of career and technical education. Whereas previously MCPS offered a separate vocational education curriculum to students who were unlikely to attend college, MCPS' current portfolio of CTE programs aims to increase academic rigor and to improve college and work readiness for all students.

Many of MCPS' initiatives to improve academic rigor align with promising practices of effective CTE programs. MCPS offers these initiatives at one or more of its comprehensive high schools. Some examples of these strategies are:

- The implementation of the recognized Project Lead the Way Biosciences Program at Wheaton High School and Pre-Engineering Programs on seven high school campuses;
- Academies of Finance on six high school campuses; and
- Academies of Information Technology on another six campuses.

The coursework that each of these programs requires consists of MCPS honors level classes. Table 7-5 on the next page describes the alignment between CTE promising practices and MCPS' CTE initiatives.

Table 7-5: Career and Technical Education Best Practices and MCPS Initiatives

CTE Promising Practices	Example of MCPS CTE Practices
Programs should integrate career and technical education with academic rigor and relevance.	Project Lead the Way students apply advanced mathematics skills to engineering projects.
Students achieve more success in CTE smaller learning communities.	MCPS has established several CTE smaller learning communities including the Academies of Finance and Information Technology.
The curricula of the programs should be aligned with industry, government, and postsecondary standards.	The curriculum of the Construction and Development Pathway Program is aligned with The National Center for Construction Education and Research (NCCER).
Programs should include links to the local business community and provide for student work experiences.	The National Academy of Hospitality and Tourism Advisory Board provides students with guidance and internship opportunities.
CTE teachers should have increased standards to meet career, technical, and academic needs of students.	Teachers at Edison High School are certified in their field and work with staff in academic departments to increase the academic rigor of CTE courses.
There should be consistent assessment and greater accountability for CTE programs.	MCPS measure CTE outcomes in compliance with the Perkins indicators of performance.
Programs should connect and engage students.	Construction cluster students work together to design, build, decorate, and a sell a house annually.

Sources: Brand, B. (2008); Kazis, R. (2005)

Finding 9: Few MCPS students enrolled in CTE courses concentrate or complete a career pathway program. Most students likely enroll in CTE courses to satisfy technology education credit requirements for graduation.

In FY 2008, approximately 14,000 students representing one third of MCPS' high school population were enrolled in a CTE course. Of these,

- 3,349 students (24%) were CTE concentrators who had completed at least half of their pathway requirements; and
- 1,058 students (7%) graduated as CTE pathway program completers.

The low ratio of CTE concentrators and completers to CTE participants suggests that few MCPS students enroll in CTE courses with the intent of completing a career pathway program. Some possible explanations for this follow:

- Students who complete a CTE program option to graduate must satisfy a higher number of specific program credits than students who complete any of the three college preparatory options. (These are: the foreign language, American Sign Language, and advanced technology education options.) CTE pathway programs can be difficult to complete for students given their other graduation requirements.

- The Maryland State Department of Education requires that students complete one credit (i.e., two courses) in Technology Education in order to graduate with a diploma. MCPS currently offers all courses that earn Technology Education credits as CTE courses. Among MCPS' CTE courses, there are 16 courses that earn Technology Education credits under current requirements for the Classes of 2009 – 2011 and three that earn Tech Ed credits for the Class of 2012 and beyond.

Finding 10: MCPS' restructuring of CTE programs to enhance students' college readiness may have inadvertently diminished access to CTE programs among students traditionally served by vocational education programs.

The following two performance goals shape MCPS' current delivery of CTE programs:

- MCPS will increase from 11% to 30% the proportion of MCPS graduates who complete a career pathway program by 2014; and
- MCPS will increase from 53% to 80% the proportion of career pathway completers who also meet the University System of Maryland requirements by 2014.

In pursuit of these goals, MCPS is increasingly focused on improving the rigor of its CTE programs and encouraging more academically talented students to complete a career pathway program. However, CTE's increased emphasis on college readiness may be at the expense of access for students historically served by CTE programs: students performing below grade level.

Interviews with school staff suggest that students performing below grade level and most likely to enter the workforce rather than college upon exit from MCPS often have the least access to CTE's career pathway programs. Two reasons for this diminished access were cited.

- First, students performing below grade level often struggle with completing their core academic classes required for graduation; if they need to repeat more than one course, they will not have the time to concentrate in a CTE pathway.
- Second, the CTE opportunity gap is exacerbated in the "high-flyer" CTE programs in Biomedicine, Engineering, and Information Technology because these programs often require that students complete pre-requisite courses and/or high school courses in middle school (e.g., Algebra I) for program admission.

Overall, the thrust of MCPS' CTE programs is to enhance the college and career readiness of students performing at- or above-grade level rather than to serve as a second chance program for students performing below grade level and/or at-risk of dropping out. Moreover, with the exception of SEPA and transition services for students with disabilities, MCPS does not offer any specific career-readiness programs for students at-risk of exiting MCPS without a diploma.

MCPS' Other Career- and Life-Readiness Programs

Beyond its CTE programs, MCPS provides school counseling for all secondary students, plus other programs for students with disabilities and with limited English proficiency.

Finding 11: By law, MCPS must deliver transition services to all students with disabilities. In practice, the type and intensity of transition services a student receives depends on whether a student is on track to exit MCPS with a diploma or a certificate.

As required by state law, MCPS begins a transition planning process for every student with a disability by age 14. This process must identify each student's post high school goals, establish a course of study that aligns with these goals, and provide other needed transition-related services and activities, such as linkages to adult services offered through other government agencies. In FY 2008, MCPS enrolled 5,605 students with disabilities aged 14 to 21.

MCPS' transition planning process varies according to the course of study that a student pursues.

- For a student who is on track to complete a high school diploma, MCPS offers transition services that focus on enhancing both work and college readiness. Examples of these include career counseling and guidance, self-advocacy training, and assistive technology.
- For a student who is on track to complete a certificate and is enrolled in a Functional Life Skills (FLS) curriculum program, MCPS' offers more intensive transition services that focus more explicitly on enhancing work readiness. Examples of specific transition services include social skills instruction, in-school and community internships, on-the-job training, and independent living skills instruction.

To respond to the greater needs of students with cognitive impairments, the transition teachers interviewed as part of this project indicated that they focus almost exclusively on students enrolled in the FLS curriculum. Transition services for students in the FLS curriculum take priority not only because these students are more likely to require adult services, but also because they face dire consequences (e.g., unemployment) if their transition services are inadequate. A potential drawback to this approach, however, is that the transition needs of students with disabilities on track to complete a diploma could be unmet or underserved.

Finding 12: MCPS' Students Engaged in Pathways to Achievement (SEPA) program provides an intensive program of academic classes, vocational instruction, and social services to a small cohort of English language learners.

Currently, MCPS' Students Engaged in Pathways to Achievement (SEPA) program develops the work-readiness and English literacy skills of 20 Spanish speaking ESOL students who are not likely to meet the requirements for graduation by age 21. The SEPA program has four components:

- Academic classes at the student's home school that include Spanish for Native Speakers, Software Applications, Cooperative Work Experience, ESOL ,and math;
- Career pathway classes at Edison in construction, automotive trades, manicuring, and restaurant management;
- A summer program that introduces students to available Edison programs; and
- A dedicated Parent Community Coordinator who assists students with needed services and staffs the SEPA Safety Net Program that connects families with community organizations and social service assistance.

MCPS staff report that SEPA students often benefit from the program's hands-on approach and work experiences that incorporate math and reading skills. However, students often struggle to understand the theoretical components of the program due to their limited English proficiency.

Finding 13: MCPS provides academic and career-planning guidance to secondary students via school counselors and High School Career Centers.

The goal of secondary school counseling services is to provide each student with career- and life-readiness support through academic, social, and career development. At minimum, school counselors meet with each student annually to provide academic guidance. In FY 2008, middle schools were responsible for counseling 31,087 students and high schools were responsible for counseling 44,648 students.

In middle schools, counselors focus on enhancing the career and college readiness of students by facilitating their transition to high school. Specifically, middle school counselors:

- Notify students of academic and career programs available at MCPS;
- Assist students in developing their four year plan for high school that serves as a road map for a student's high school career; and
- Enroll students in middle school courses that prepare them for the high school course of study that aligns with their college and career goals.

In high schools, counselors assist in enhancing the career and college readiness of students by providing more extensive academic and career guidance and facilitating their transitions to higher education and the working world. In particular, high school counseling offices:

- Enroll students in courses that prepare them for college and career;
- Inform students about career options; and
- Assist students in planning and applying for college and financial aid.

Each MCPS high school also has both an on-site and web-based career center that provides students with access to information on postsecondary education, training, and careers. Information available to students includes:

- College catalogs and handbooks, financial aid applications, and college testing and registration materials;
- Information on professional skills such as resume writing and interview skills;
- Career planning and occupational data; and
- Information on career/trade and military schools.

Students interviewed for this project and MCPS survey data reviewed suggests that school counselors have provided beneficial guidance to students and helped them to resolve their concerns. However, a perception among students, school counselors, and teachers conveyed as part of this project is that MCPS' counseling services are often skewed towards promoting college-readiness, instead of more balanced emphasis on college readiness and career planning.

Finding 14: MCPS offers a limited number of life-readiness courses in personal finance.

Life-readiness courses often teach student's financial literacy or other life skills, such as time management. With the exception of independent living programs for students with disabilities, no requirements exist that MCPS provide life-readiness programs or financial management courses in particular. As such, MCPS offers only a limited number of personal finance courses. Examples of these include:

- Grade 7 Family and Consumer Sciences;
- An online personal finance course for high school students (currently being implemented); and
- A personal finance course included in the Business Management cluster.

Two current high schools courses whose curriculum includes financial management - Consumer Math and Community Work Experience Course B - are being phased out. The later course will be reconstituted as part of the College/ Career Research and Development program next year.

MCPS Career- and Life-Readiness Program Costs

Finding 15: OLO estimates the combined budget for MCPS' career- and life- readiness programs for FY 2009 totals \$98 million. This budget includes 947.7 FTE's.

The overall budget for MCPS' career- and life-readiness programs totals approximately \$98 million for FY 2009 and includes funding for 947.7 full time equivalents (FTE's). Table 7-6 on the next page describes FTE's and budgets for the four baskets included in MCPS' career- and life-readiness programs. The biggest drivers of the budget are career and technology education at \$47 million, followed by secondary school counseling services at \$43 million. Transition services at \$6.4 million and SEPA at \$0.5 million represent 7% of MCPS' overall career- and life-readiness costs.

To estimate MCPS' budget for career- and life-readiness programs, OLO relied on budget data provided by MCPS with estimates for benefits costs for (1) secondary school counselors and central office personnel, (2) transition office personnel and program based staff, (3) the Students Engaged in Pathways to Achievement (SEPA) program, (4) career and technology education administration, and (5) the Edison High School for Technology. In FY 2009, MCPS budgeted \$59.2 million for these five functions that includes 558.8 FTE's.

Another driver of MCPS' career- and life-readiness programs is the cost of teachers for the CTE courses staffed at MCPS' comprehensive middle and high schools. MCPS estimates that 110 FTEs teach the approximately 550 CTE courses taught in middle schools; 10.5 FTEs teach CTE courses in the Foundations programs, and another 268.5 FTE's teach other CTE courses in MCPS high schools. OLO estimates that, at approximately \$100,000 per position including benefits, there is an additional \$38.9 million that should be included in the MCPS budget for career and technology education as reflected in Table 7-5 below.

Table 7-6: FY 2009 FTEs and Budget of MCPS Career and Life Readiness Programs

Career- and Life-Readiness Programs	# FTEs	Budget
Career and Technology Education		
Career and Technology Education Teachers	388.50	\$38,850,000
Career and Technology Education Administration	29.75	\$5,037,590
Edison High School of Technology	39.25	\$3,936,431
Subtotal	457.50	\$47,824,021
Other Career- and Life-Readiness Programs		
Transition Services for Students with Disabilities	72.80	\$6,395,253
Students Engaging in Pathways to Achievement	4.40	\$462,152
Secondary School Counseling Services	413.00	\$43,336,431
Subtotal	490.20	\$50,193,836
Total	947.70	\$98,017,857

Chapter VIII: Recommended Discussion Issues

MCPS' invests significant resources in programs that prepare students to earn livable wages, manage their assets and become self sufficient adults. In FY 2009, the MCPS' budget for its career- and life-readiness programs totals \$98 million. Together, these resources provided counseling services for approximately 71,000 secondary students, career and technology education for 21,000 students, transition services for 5,600 students with disabilities, and vocational education, literacy instruction, and wrap around supports for another 20 high school students with limited English proficiency.

The Council requested this report to improve its understanding of the portfolio of career- and life-readiness programs MCPS provides. Briefly, OLO found that MCPS' programs are designed to comply with multiple federal, state and local mandates, to align with state and local graduation requirements, and to operate within the context of other MCPS goals and policies.

At the heart of MCPS' career-based education curriculum are 38 different career pathway programs; 24 of these programs prepare students to earn industry recognized licenses or certifications. MCPS' delivery of these career and technology education (CTE) programs aligns with several recognized promising practices for effective CTE programs; however, most students probably enroll in CTE courses to earn the technology education credits they need to satisfy a state graduation requirement rather than to complete a career pathway program.

This chapter presents OLO's recommended list of discussion issues that the Council may wish to address with the Montgomery County Board of Education and MCPS representatives.

Recommended Discussion Issues

Issue #1: Understanding MCPS' Vision and Administration of CTE

Historically, MCPS' vision for career and technology education (CTE) focused on improving the career-readiness of students who planned to enter the job market when they left high school. Recently, MCPS expanded its vision for career and technology education (CTE) beyond the original "education for work" concentration of CTE to embrace other important goals. As a result, MCPS' current vision and mission for CTE responds to at least three goals:

- To align MCPS' CTE courses with MCPS' Seven Keys of Success to increase the percent of MCPS graduates who complete a career pathway to 30% and the proportion who also meet University System of Maryland requirements to 80% by 2014;
- To increase student enrollment in and completion of CTE career pathway programs in order to increase student attainment of Perkins academic and technical skill goals; and
- To offer coursework for all students to meet the State's Technology Education requirements.

MCPS' changes to decentralize CTE administration likely reflect the pursuit of these three program goals. To enhance the Council's understanding of how the current administrative structure for CTE better enables MCPS to reach its multiple goals for CTE, OLO recommends the Council discuss with MCPS representatives the following questions:

- What is the vision of CTE? Does this vision apply to all CTE programs, or do the program visions differ by career clusters or pathways?
- Are the performance goals for CTE relative to MCPS' Seven Keys to Success, Perkins, and the State's Technology Education requirements aligned with MCPS' vision for CTE? If so, how?
- What trade-offs, if any, exist between pursuing these multiple program goals for CTE?
- How does MCPS' current administration of CTE enable the school system to achieve its vision? In particular, how does the separate administration of Foundations and non-Foundations programs enable MCPS to achieve its overarching vision for CTE?

Issue #2: Assessing the New College Readiness Focus of CTE

MCPS has transitioned its career and technology (CTE) programs from a more traditional approach, focused on skill attainment, to a more academically rigorous program that strives to improve students' college and work readiness. This movement aligns with best practices in the field of CTE and with performance goals for academic and technical attainment under the federal Carl A. Perkins Career and Technical Education Act.

The practical effect of adding an increased focus on college readiness to CTE programs is that it may diminish access for those students who are performing below grade level or who struggle to meet higher standards. A student's access to a program may be limited for different reasons. For example, the "high flyer" CTE programs that MCPS offers in Biomedicine, Engineering, and Information Technology may exclude a student who does not meet the rigorous requirements for admission such as completion of Algebra I in middle school. Alternatively, a student who must repeat core academic coursework may no longer have time in his or her schedule to complete the eight courses (4 credits) needed to complete a CTE pathway.

To better understand the effect of the new focus of MCPS' CTE programs, OLO recommends the Council discuss the following questions with MCPS representatives:

- What are the benefits of the college readiness, "education through work" focus of CTE programs compared to the job readiness (i.e., "education for work") approach? What are the drawbacks of specific CTE programs that focus jointly on college and career readiness compared to their previous focus solely on job readiness?
- Is there a tradeoff between higher standards for CTE programs versus keeping standards at their current level in order to maintain broader access to CTE programs among all students, particularly among students performing below grade level?

- What practices has MCPS instituted to ensure that CTE programs remain inclusive? In particular, what assurances exist to ensure access to CTE programs for students at high risk of dropping out, English language learners, and students with disabilities?

Issue #3: Increasing Utilization of CTE

Notwithstanding MCPS' expanded vision for its CTE courses, the need for high school students who leave MCPS to earn decent wages remains. This need is especially urgent for those students who want to pursue a college career and need to help finance their education, or for those students who decide to work full-time. Without the training afforded by CTE programs, students have few opportunities to earn wages above the minimum wage once they leave MCPS.

Several indicators suggest MCPS' Career Pathway Programs may be under-enrolled for those students who are focused on finding full-time work immediately after high school. For example,

- Only one out of four students annually enrolled in a CTE course are CTE concentrators on track to complete a Career Pathway Program;
- Only 7% of all high school students enrolled in a CTE course last year completed a CTE pathway program;
- Student enrollment at Edison diminished 30% (by more than 200 students) over the past two years; and
- Today, Edison is operating at one-half of its design capacity.

An explicit goal of MCPS is to increase the number of graduates who complete a career pathway from 11% to 30% by 2014. To understand how MCPS intends to increase the number of students who concentrate and complete CTE pathways, OLO recommends the Council discuss the following questions with MCPS representatives:

- Is there adequate promotion of career and technology education opportunities beyond the technology education requirement? In particular, the promotion of Edison High School?
- What methods of outreach would be most effective for students?
- What methods are being considered for the future?

Issue #4: Expanding CTE Enrollment among Students At-Risk

Research suggests that career and technical education may help less-motivated, or more at-risk students stay in high school and graduate. Research also suggests that there is a link between students who take a concentration of CTE courses and their ability to earn higher wages after high school. These results suggest career and technical education may not only help narrow the achievement gap by ethnicity, language, and service group status in high school, but also help narrow similar gaps in employment and wages earned among young adults.

MCPS recognizes the value of vocational programs to support the transition of students with disabilities and for students with limited English proficiency who participate in the SEPA program. In particular, both programs recognize that not all students will exit MCPS with a diploma so alternative programs are necessary to ensure that young people become productive citizens. Yet, MCPS appears not to offer any parallel programs for other students at-risk or CTE incentives for dropouts to re-enroll in MCPS and complete their diplomas other than the Gateway to College Program that serves about 200 students annually.

To improve the Council's understanding of whether and how MCPS uses CTE to engage students at-risk and improve their job readiness skills, OLO recommends the Council discuss the following questions with MCPS representatives:

- What student subgroups are defined as "special populations" under Perkins?
- How does MCPS meet Perkins requirements for (a) increasing access or success for special populations; (b) providing activities to prepare special populations for high skill, high wage, or high demand occupations that will lead to self-sufficiency?
- Does MCPS view CTE programs as tool for improving the job readiness of students at high-risk of dropping out? If so, in what ways?
- Does MCPS view CTE programs as a lever for preventing drop-outs and/or re-enrolling drop-outs? If so, in what ways?

Issue #5: Using Data to Understand the Value of MCPS' CTE Programs

MCPS currently measures the performance of career and technology education based on the requirements of programs funded by the Perkins grant. These measures include: participation, completion, academic achievement, graduation, and employment. In addition, MCPS plans to adopt a technical skills assessment for all of its career pathway programs. However, it is not clear how MCPS' career clusters and pathways align with the demand of the current labor market particularly among occupations that earn high wages.

MCPS currently tracks only a portion of CTE program costs. MCPS tracks costs for central administration of career and technology education, Edison, and the subgroup of CTE teachers who teach the Community Work Experience courses and facilitate on-the-job training opportunities and internships for students. MCPS currently does not track the staffing costs for most school-based personnel who provide CTE instruction in middle and high schools. These costs, which are, excluded from MCPS' career and technology education program budget, reflect more than half of all CTE costs.

Since local revenue will fund 78% of CTE costs for FY 2009, OLO encourages the Council to assess the adequacy of MCPS' accountability systems for CTE. OLO further recommends that the Council discuss with the Montgomery County Board of Education the following questions:

- Are there adequate accountability measures in place to assess MCPS' career and technology education programs? What local measures does MCPS monitor and how do they compare to the federal/state measures? How accurate is the current data collection process?

- Which MCPS central offices are responsible for implementing CTE accountability measures?
- How does MCPS determine in what areas they will provide pathway programs? What roles do the Cluster Advisory Boards and Trades Foundations Boards play in this process?
- What are the start-up costs of instituting a new pathway program? What savings accrue to MCPS when certain pathway programs are discontinued?
- What changes in data collection for CTE performance and costs has MCPS planned for the future?

Issue # 6 Using Secondary School Counseling Offices to Increase Awareness of CTE Programs

The stated goal of MCPS' secondary school counseling services is to provide each student with career- and life-readiness support through academic, social, and career development. Developing four year plans for high schools and enrolling students in secondary courses, however, are the only systemic practices MCPS' secondary school counselors use to ensure that students become career ready.

Beyond these practices, the approach school counselors typically use to deliver career guidance places the initiative with the student: if a student asks for support, a counselor will provide links to information and resources available on-line at the High School Career Centers.

Despite the *College Tech Prep Career Pathways Toolkit* developed by the Instructional Technology and Partnership Unit, many counselors do not actively counsel students about the options and potential benefits of career and technology education. This reactive approach, combined with MCPS' focus on ensuring that students are ready for higher education when they graduate, fosters a gap between students' awareness and information about MCPS' CTE programs and the impressive array of programs and opportunities that are available.

OLO encourages the Council to discuss with MCPS representatives the following questions:

- Are there additional and more systematic opportunities beyond the four-year academic plan for providing career guidance and counseling? What the strengths and drawbacks of potential approaches?
- Are there ways that both middle and high school counselors can become better informed about CTE programs so that more students can be encouraged to consider these programs?

Issue # 7 Expanding Work Readiness Opportunities for Students with Disabilities who are Diploma Bound

The intent of MCPS' transition services is to ensure that students with disabilities have the resources, skills, and competencies they need to meet their post secondary goals. Transition services can focus on either a student's career readiness, college readiness, or both. Usually, the focus and intensity of transitions services depends on whether a student is on track to earn a diploma or a certificate.

Transition services for certificate-bound students, which emphasize work readiness, typically offer in-school and off-site vocational educational opportunities. During the site visits, OLO heard that many diploma-bound students would also benefit from career and technology education opportunities, but that students would need the support of para-educators in both the CTE courses and Edison pathway programs to successfully complete more CTE programs.

Nearly a quarter of students with disabilities in the Class of 2008 completed a CTE pathway toward graduation. Many of these students completed the Cooperative Work Experience (CWE) pathway program that allows students to complete one high school course and earn up to three credits for on-the-job training during their senior year. Next year, MCPS will substitute the College/Career Research and Development pathway for the CWE pathway. This new pathway will require students to complete two high school courses, rather than one. Some teachers fear that this change will reduce graduation opportunities for many students with disabilities.

OLO encourages the Council to discuss with MCPS representatives the following questions:

- Is MCPS confident that students with disabilities who are on the diploma track are receiving the transition services they need to be fully supported with respect to enhancing their career readiness?
- To what extent does MCPS' delivery of career and technology education programs for students with disabilities align with the Perkins goal that CTE practices enable special populations to access and succeed in career and technology education?
- How do the Offices of Special Education and Student Services, Curriculum and Instruction, and School Performance work together to ensure that the career-readiness transition needs of all students with disabilities are being met? What are some of the recognized needs? How do the Transition Office and Instructional Technology and Partnership Units work together to meet these needs?



April 20, 2009

Dr. Elaine Bonner-Tompkins, Senior Legislative Analyst
Ms. Kristen Latham, Legislative Analyst
Office of Legislative Oversight
Stella B. Werner Council Office Building
100 Maryland Avenue
Rockville, Maryland 20850

Dear Dr. Bonner-Tompkins and Ms. Latham:

Thank you for providing Montgomery County Public Schools (MCPS) staff members with the opportunity to review and comment on the draft Office of Legislative Oversight (OLO) Report on Career- and Life-Readiness Programs. Comments and suggestions for technical changes were previously provided. MCPS staff members who participated in this review appreciated the collaborative process used throughout the development and review of this report. The data and findings in this report will help MCPS in our review and oversight of the Career and Technology Education (CTE), Transition Services for Students with Disabilities, Students Engaged in Pathways to Achievement (SEPA), and School Counseling programs.

It is evident that much of the feedback provided by MCPS throughout the development of the report was carefully considered and incorporated. In our final review, the following comments are offered:

- Issue number one references the MCPS CTE vision and its relevance to all Career Pathway Programs (CPPs) and students. In 2004, the CTE vision was developed by the Montgomery County Collaboration Board for CTE, consisting of business, community, and higher education partners as well as students. The CTE vision is, “to provide students with an education that combines rigorous academic and technical study with the excitement of discovery through small learning communities and career-themed programs. With the support of the business and higher education communities, students will apply their acquired skills and knowledge to make informed decisions concerning education, careers, and a path toward lifelong learning.” This vision purposefully was written to be inclusive of all students and to align with MCPS goals.

Furthermore, the CTE mission, “Building a competitive and inspired future workforce,” was developed based upon the 2004 mission of the Montgomery County Department of Economic Development, “Building a competitive workforce.”

Office of the Chief Operating Officer

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- All CPPs are designed to include connections to the world of work in engaging and relevant ways. For example, all CPPs provide students with the choice of completing a work-based capstone experience at a local business or nonprofit organization. Students also may choose to complete a college course or guided research as their capstone experiences, based on their abilities and interest. CTE coursework is designed to prepare students for their work-based learning experiences.

In 2007, over 95 percent of the MCPS students participating in CTE-related work-based learning experiences were identified by their employers as being well-prepared for the workplace. More than 900 MCPS CTE students participated in paid internship experiences and more than 700 students participated in unpaid experiences. Employers reported that 98 percent of MCPS students who participated in work-based learning met or exceeded minimum requirements for workplace readiness.

- College readiness is career readiness. Issue number three raises questions about how the quality of life for MCPS students is impacted by their preparation for postsecondary experiences in the workplace, the military, technical schools, or college. Research indicates that wages earned after high school are commensurate with a student's level of education. The more postsecondary education students complete, the more money they make. One ACT study, *Ready for College and Ready for Work: Same or Different?*, concludes that, "All students need to develop the knowledge and skills that will give them real options after high school. No students' choices should be limited by a system that can sometimes appear to have different goals for different groups. Educating some students to a lesser standard than others narrows their options to jobs that, in today's economy, no longer pay well enough to support a family of four."

Whenever possible, MCPS CTE offers CPPs that culminate with industry certifications appropriate for high school students. These certifications strengthen the rigor and relevance of CTE programs and ensure that students who don't go to college leave MCPS with the skills and credentials they need to enter the workforce.

School counselors promote a college pathway among students to ensure that no student is denied an opportunity for postsecondary study should he or she wish to pursue higher education. MCPS does recognize that not all students will attend college. For this reason, school counselors work with students on both college and career planning. In addition to the *College Tech Prep Career Pathways Toolkit* which provides staff, parents, and students with information on the benefits of career and technical education, students have access to the *Choices Explorer* and *Choices Planner* web-based career and college planning applications and the MCPS *Getting Set*, *Getting Started*, and *Getting Ready* series of career and college planning guides.

The *Choices Explorer* and *Choices Planner* web-based career and college planning applications provide students with a wealth of career-related information and personal assessment tools such as career interest inventories. The MCPS *Getting Set*, *Getting Started*, and *Getting Ready* series of career and college planning guides contain sections outlining a systematic approach to career and college planning that covers the full range of options.

- Many MCPS CPPs are relatively new, so it is too early in the developmental process to see large numbers of concentrators and completers. For example, the Biomedical Sciences CPP began in FY 2008 with approximately 30 students at Wheaton High School. This group of students will not graduate until FY 2011. In FY 2009, one year after initial start-up, the program has grown to over 100 students enrolled but still has 0 concentrators and 0 completers. Planned expansion to another high school in FY 2010 will increase the number of students in this CPP. The concentrator and completer data for 15 of the 28 CTE CPPs are in the initial stages of implementation or expansion, and for this reason, are in an enrollment growth period. Concentrator and completer numbers for these CPPs are expected to increase over the next few years.
- To increase the number of CPPs available to students, CTE staff has collaborated with high school principals and their leadership teams over the past several years to determine what 21st century CPPs would best enhance each school's existing themes and/or academies. This strategy resulted in a 32 percent increase in the number of CPPs offered within all 25 comprehensive high schools. In FY 2004, 23 high schools offered a total of 157 CPPs and in FY 2008, 25 high schools offered a total of 208 CPPs. CTE enrollment, concentrators, and completers are increasing as a result.

The expansion of CPPs in all schools has reduced the need for some students to attend the Thomas Edison High School of Technology. The proliferation of CPPs at the comprehensive high schools allows students to remain in their home schools, resulting in more time to take courses rather than traveling to and from Edison. Due to expense and facility needs, it helps the system to offer some programs at Edison. For example, the Automotive Trades, Construction Trades, and Biotechnology programs have unique facility needs that are not cost efficient to replicate at every school. MCPS is embarking on a process to review the programs offered at Edison to update them based on workforce demand at the local, state, and national levels so that students are prepared for future jobs in our global economy.

- Issue number five addresses use of data and performance measures that are set by the federal government for the use of Perkins funds. MCPS has taken the additional step of setting targets for CTE and dual completion. By 2014, 30 percent of all MCPS graduates will complete a CPP, and of these graduates completing a CPP, 80 percent will be prepared for college and careers. There have been some issues with the state in terms of

gathering and reporting data. MCPS is working to rectify the reporting issues. For example, all CTE resource teachers have received training on a database used for data-driven decision making related to their CTE students. This ability to verify CTE-specific data at the school level will improve the accuracy and reliability of data reported to the state.

- Issue seven raises a concern regarding a modification in the Cooperative Work Experience (CWE) course pathway. The change requires that students complete two CWE courses and two on-the-job training/internship courses and will not impact the graduation rate of students with disabilities. Currently, students often complete three credits of the CWE program in their senior year. With the new College/Career Research and Development (CCRD) program required by the Maryland State Department of Education, students still can complete three credits in their senior year, one course and two on-the-job training courses, after completing their first CCRD course in Grades 9–11. The Office of Special Education and Student Services is working with school-based administrators and special education staff, as well as with other central office and school staff to ensure that students with disabilities receive transition services necessary for them to graduate with diplomas, given the requirement for two courses. In addition, the support provided by transition services staff will also ensure that students with disabilities receive services required to enhance their career readiness.

MCPS also offers the following comments concerning the budget:

- In Table 3-16, corrections are needed for the administrative FTE's. In FY 2010, the Instructional Technology and Partnerships Unit actually will only have 3.8 of the 6.8 FTE's involved with administering CTE programs—1.0 director, 1.0 instructional specialist, 1.0 administrative assistant, and a 0.8 fiscal assistant. The remaining three FTE's are involved in other programs. Only 1.2 of the 6.0 FTE's for the Perkins Program are administrative in nature at a cost of \$60,953, not including benefits. The rest of these FTE's are school-based. The administrative costs in the table need to be adjusted to reflect the actual FTE's.
- As MCPS CPPs stabilize over the next few years, expensive program startup costs including equipment, certification training, and instructional materials, will diminish and overall expenditures are expected to decrease.

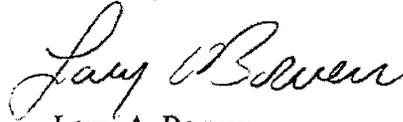
Dr. Elaine Bonner-Tompkins
Ms. Kristen Latham

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April 20, 2009

Thank you again for the opportunity to review the draft findings and recommendations. I believe the collaborative work between MCPS and OLO will result in an excellent report that will support the work of the school system and County Council.

Sincerely,



Larry A. Bowers
Chief Operating Officer

LAB:llh

Copy to:

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Dr. Spatz