Chapter 5 – Operational Cost Efficiency Review

Section 1 – Organization and Management

The review team evaluated Clark County School District's (CCSD) organization and financial management in three main areas: (1) performance measurement and accountability, (2) decision-making framework, and (3) the district's high-level organizational structure.

This evaluation was conducted during a period of significant change for the district. Several major positive initiatives have been undertaken since January 2011 under the district's new leadership.

- *Performance zone reorganization* – The district is migrating from schools organized by geographic area to an organization characterized by performance level. This is expected to increase the focus on student performance needs and better allocate time and resources to best meet those needs. The performance zone model has been implemented in other major school systems in the U.S., including New York City Schools and Chicago Public Schools.

- *Data analysis/data dashboards* – A student data dashboard project is underway to support more data-driven decisions for solving problems. Dashboard tools are being implemented to provide a user-friendly platform to analyze data at multiple levels such as district, area, performance zone, school, and grade level. The district is also planning to expand its use of data analysis and data dashboards to operational areas.

- *Focus on Return on Investment* – District leadership has identified Return on Investment (ROI) as a major priority for more effectively using the district's resources to meet identified needs and goals. The recommendations contained in this report should help district management improve the rate of return on investment in the areas covered by the review team.

- *Expansion of Empowerment Schools* – In *A Look Ahead, Phase 1: Preliminary Reforms Report*[37] the Superintendent communicated to the Board of Trustees in May 2011 his intent to expand the Empowerment School model, which provides schools more flexibility in making decisions and allocating resources to best meet student needs.

Table 5-1.1 presents a summary of recommendations to improve customer service and establish a decision-making framework at CCSD. Recommended changes to the district's organization structure are reflected later in this section in the new organization chart.

[37] *A Look Ahead: Phase 1 Preliminary Reforms Report – Improving Achievement in the Clark County School District* Superintendent of Schools Dwight D. Jones (May 2011)

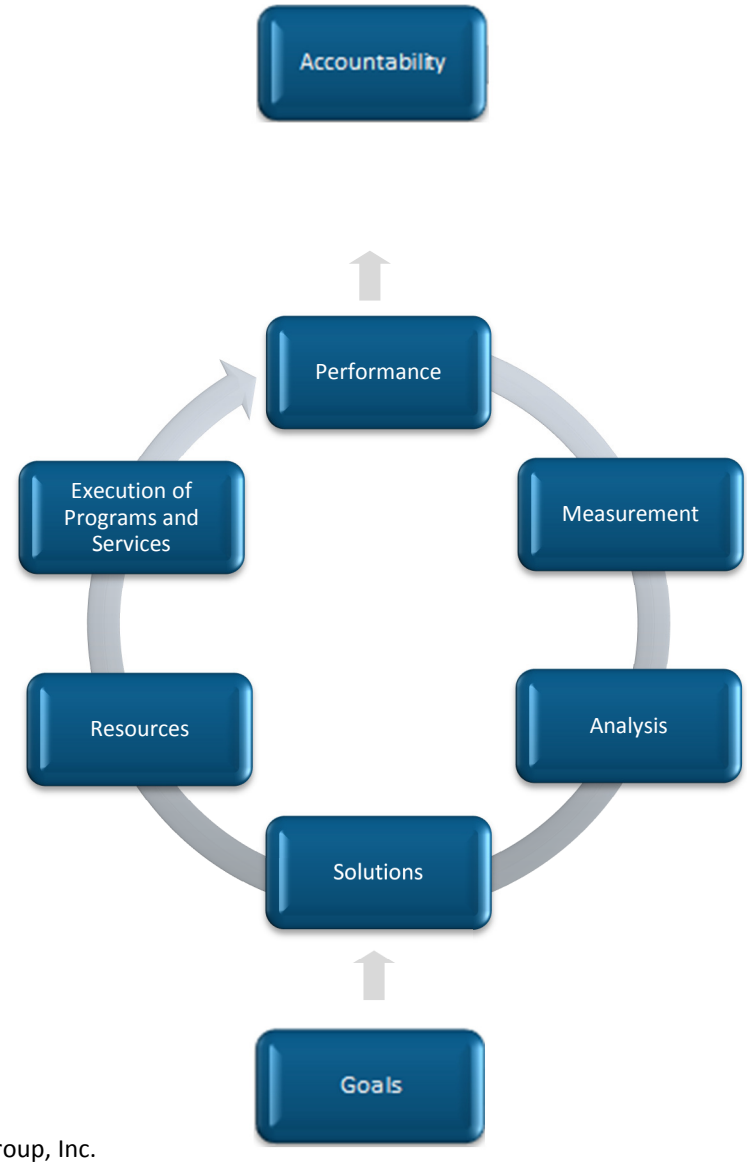
Table 5-1.1. Summary of recommendations

Recommendation	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required	Major Policy Changed Required
5-1.1. Improve the monitoring of customer service and satisfaction.	High	2012-13	($50,000)	No	No
5-1.2. Develop and implement district-wide decision-making framework.	High	2011-12	$0	No	Yes
Total			**($50,000)**		

Performance Measurement and Accountability

Performance measurement and accountability represent the beginning and end of a performance life cycle that is depicted in Figure 5-1.1. In this cycle, performance data are measured and analyzed, solutions and plans are developed within the context of district, school and departmental goals, resources are allocated, and the plans are executed. The last step is holding individuals accountable for performance, through formal performance evaluations. If performance levels are not achieved, individuals should be removed from the organization and replaced with an individual who is able to meet performance expectations.

Figure 5-1.1. Performance life cycle



Source: Gibson Consulting Group, Inc.

At CCSD, this performance cycle has improvement opportunities at virtually every step. Following is a discussion of the weaknesses in the current cycle and the resulting impact on performance accountability. Many of these issues are addressed in separate sections of this report. The purpose here is to demonstrate the relationship among these issues and their collective impact on the organization's ability to achieve high performance levels.

1. **There are insufficient measurements to support the analysis of performance**. On the academic side, multiple data sets support multiple analyses. CCSD is beginning to better coordinate the analysis of student achievement data, but much work remains. On the operations side, performance measurement is voluntary. Many of the "performance measures" listed in the district's budget are actually operating statistics which in and of themselves, shed little or no

light on the district's performance. Performance measures in individual departments range from insufficient (Human Resources) to excellent (Facilities). Further, the district is limited in its ability to evaluate the performance of specific programs and initiatives because data relevant to those programs (e.g., expenditure, program use, etc.) is not being captured.

2. **The tools used to measure performance are not coordinated into a single performance measurement system**. The district uses several tools to support the analysis of student achievement and operational data, but these are not coordinated (through an enterprise data model) to ensure data integrity and comparability. The lack of integrated performance measurement tools limits the quantity and effectiveness of the analysis that can be performed with the district's limited staff resources. Through this study, the review team developed a data dashboard prototype for facilities management that may be used as a model for other departments.

3. **Decisions and solutions are not always based on data**. The lack of complete, meaningful, and accessible performance information directly affects CCSD's ability to identify solutions to problems. Decisions to implement solutions to identified problems are often made in organizational silos, without adequate coordination or engagement of other stakeholders. Some initiatives are undertaken without a clear definition of what the end result is expected to be, or how such an end result aligns with the district's strategic goals and objectives.

4. **Lack of achievement of district goals**. The district's own planning documents reflect repeated patterns of performance substantially below CCSD's stated standards, and short-term planning targets do not aim for substantial gains. For example, the CCSD 2010 District Improvement Plan presents the following information on the Criteria Referenced Test (CRT) in third grade mathematics:

    - 2008-09 Baseline actual performance: 61.0 percent
    - 2009-10 Target – Adequate Growth: 62.0 percent
    - 2009-10 Target – Moderate Growth: 63.0 percent
    - 2009-10 Target – Superior Growth: 64.0 percent
    - 2009-10 Actual performance – 65.3 percent
    - District Standard: 90 percent to 100 percent

    While the district's standards are high, documented performance expectations and actual performance have been low.

5. **The budget could be more effective as a strategic decision-making tool for resource allocation**. Planning and budgeting processes are not linked primarily because most of the planning occurs after the budget process is completed, instead of before. The district's budget process could be improved to better allocate resources to meet identified needs and priorities, and be more

transparent to demonstrate efficient operations. CCSD's budgeting process is addressed separately in *Chapter 4 – Budget Process and Transparency* of this report.

6. **Execution**. A large number of initiatives and programs and the lack of coordination among them creates an environment conducive to implementation problems. Programs are often implemented in schools without adequate school leadership input, at times prompting the schools to neglect or abandon the central office program in favor of a self-selected program. CCSD is implementing a special projects position – reporting to the Superintendent – that should help improve the coordination and execution of major initiatives.

7. **Individuals are not held accountable for performance**. According to the CCSD Human Resources Division, less than 1 percent of CCSD teachers received an unsatisfactory evaluation in 2009-10. A 99 percent satisfactory rate does not seem reasonable in light of CCSD's student achievement data. In other areas, such as custodial services, cumbersome and lengthy remediation processes limit the ability to rectify personnel performance problems.

Recommendations relating to these issues are presented in separate chapters and sections of this report. Implementation of these recommendations is critical to the establishment of an effective performance management life cycle and the related needs for substantial improvements in student achievement.

Recommendation 5-1.1: Improve the monitoring of customer service and satisfaction.

During focus groups with school principals, the review team was provided with examples of customer service issues, from delays in receiving purchased items, delays in getting maintenance services, and the lack of communication on the status of orders or requests. Several departments conduct their own annual customer surveys, most of which have reflected high degrees of customer satisfaction.

As part of the district's current plans to implement an operational performance measurement system, customer service measures (in addition to efficiency measures recommended in *Chapter 4 – Budget Process and Transparency* of this report) should be included. Some data can be obtained from existing information systems, such as response times, but additional information is needed including:

- *Complaint tracking system* – Through the area offices, customer (school administrator) complaints should be logged, prioritized, and categorized by functional area in an automated tracking system. Easy-to-use online tools such as Issuetrak or Everest are available for this type of system. Customer complaints should be analyzed for recurring themes and factored into the respective performance evaluation of each operations department head.

- *Surveys* – Surveys should be conducted through the area offices and not through the operating departments (as they are currently). This will help ensure the independence of the analysis, and should yield more candid responses. To support longitudinal analysis of customer satisfaction, survey data should be consistently defined and collected over time.

Fiscal Impact

The fiscal impact assumes the purchase of a web-based complaint tracking software product, including implementation and training costs, of $50,000. The district already uses on online survey tool.

Recommendation 5-1.1.	One-Time Costs/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Purchase of web-based complaint tracking system	($50,000)	$0	$0	$0	$0	$0
Total	**($50,000)**	**$0**	**$0**	**$0**	**$0**	**$0**

Decision-Making Framework

The decision-making framework has a direct impact on the efficiency and effectiveness of any organization, including school systems. Highly centralized decision-making systems inhibit the flexibility of schools to meet student needs; highly decentralized decision-making systems may contribute to inconsistent performance, higher costs, and increased effort to manage a larger number of programs and services. The challenge for school district leadership is to find the right balance of flexibility and control so that student needs can be met in the most efficient manner.

Nevada state law[38] does not mandate site-based or school-based decision making, but provides for it. Below are the provisions relating to the designation of such schools:

> NRS **386.4154 Authority of Board of Trustees to prescribe rules relating to creation and administration of program.** The Board of Trustees of a school district may prescribe rules relating to the creation and administration of a program of school-based decision making for the public schools within the district. The rules must provide:
>
> 1. For the creation of a school council.
> 2. For the involvement of parents and other members of the community on and with the school council.
> 3. The requirements for recordkeeping by the school council.
> 4. The procedure for appealing a decision of the school council.
> 5. The procedure for a school to obtain a waiver of the requirements of regulations of the Board of Trustees or the State Board.
> 6. A method for determining the progress of a pupil in a program of school-based decision making.

[38] http://www.nvasb.org/Publications/Research_Data/nrs_386.pdf

7. A method for reporting the progress of a pupil to the pupil, the pupil's parents or guardians, the Board of Trustees and the State Board.
8. Plans for improving the schools within the district.
9. A method for allocating money to schools that have adopted a program of school-based decision making and for the administration of the budget of the school district.
10. The procedure which a school council or Board of Trustees may use to withdraw from a program of school-based decision making.

(Added to NRS by 1993, 2886; A 1995, 862; 1997, 2357)

NRS **386.4156 Authority of Board of Trustees to waive requirements of regulations for public school adopting program.** The Board of Trustees of a school district may waive the requirements of regulations of the Board of Trustees and the State Board for a public school within the district that adopts a program of school-based decision making. The Board of Trustees may not waive statutory requirements.

(Added to NRS by 1993, 2887; A 1995, 862; 1997, 2357)

NRS **386.4158 Authority of State Board of Education to waive required course of study for school council created pursuant to program.** The State Board may waive a course of study otherwise required by statute upon application of the Board of Trustees of a school district on behalf of a school council created pursuant to a program of school-based decision making.

(Added to NRS by 1993, 2887; A 1995, 862; 1997, 2357)

The delineation of decision-making authority and the respective roles of the Board of Trustees and the Superintendent are clearly reflected through Governance Policies (differentiated from district policies and administrative regulations). Within the district's organization, however, decision authority is less defined. Below are examples of Board policies that address certain types of decisions for CCSD:

Board Policy 6121(I)[39]

> The Superintendent directs that the goals contained in its System for Quality Schools shall provide the basis for the instructional program of the Clark County School District.

Administrative Regulation 6121(I.B)[40]

> Academic Services and Curriculum and Professional Development will assume responsibility for the development and revision of curriculum. The appropriate Curriculum Commission

[39] http://www.ccsd.net/pol-reg/pdf/6121_R.pdf

[40] http://www.ccsd.net/pol-reg/pdf/6121_R.pdf

> and selected administrator and/or teacher advisory groups will serve in an advisory capacity. The appropriate deputy superintendent is responsible for the curriculum of the District.

Administrative Regulation 6122(I.A)[41]

> Teachers shall develop instructional plans consistent with curricular and instructional requirements as specified by the Elements of Quality. The development of specific teaching techniques is the responsibility of the teacher and shall be consistent with Clark County School District objectives and proven principles of learning.

Administrative Regulation 6124.1(II)[42]

> The development of specific teaching techniques is the responsibility of the teacher. They are to be consistent with the district's objectives and proven principles of learning.

There are references in CCSD planning documents indicating that all schools have site-based decision-making authority. In practice, however, Empowerment Schools have much more decision-making authority than traditional schools.

Principal job descriptions provide information relating to "duties and responsibilities" and "position expectations" but not to decision-making authority. During interviews, CCSD principals indicated that they clearly understood that Empowerment School leaders have more decision-making authority, but were not familiar with any document where decision-making authority for principals was specified.

The lack of a clear and well-documented decision-making framework has adversely affected CCSD by leading to a proliferation of academic programs, professional development programs, student assessment instruments and instructional software products that are duplicative or overlapping. Specific examples of overlapping initiatives are presented in *Chapter 3 – Academic Programs and Services.*

Recommendation 5-1.2: Develop and implement a district-wide decision-making framework.

CCSD needs to better define who is responsible for making what types of decisions, and then ensure that all appropriate central office and school positions understand the decision rules. This recommendation does not require a policy change, but the decision-making framework should be incorporated as an administrative regulation.

[41] http://www.ccsd.net/pol-reg/pdf/6122_R.pdf

[42] http://www.ccsd.net/pol-reg/pdf/6124.1_R.pdf

A decision-making framework should be defined and documented for the following types of decisions:

- Curriculum / curriculum guides
- Lesson plans
- Differentiation of instruction for students
- Ability to re-allocate instructional and/or non-instructional staff to meet needs identified by school
- Assessment instruments
- Course offerings (secondary)
- School calendar
- School bell schedule
- Class size
- Purchasing decisions (by type of good or service purchased, and by value)
- Bus routes
- Cafeteria schedule
- Student fees
- Authority over staff based at school
- Work schedules for any categories of staff
- Number of work days per year for any categories of staff
- Computers / servers
- Block scheduling (secondary)
- Instructional software selection/purchase
- Instructional program selection/purchase
- Professional development program selection
- Hiring school staff
- Evaluating school staff
- Terminating school staff
- Establishing staffing needs
- Establishing non-staff budget needs
- Other school equipment (electronic whiteboards)
- Thermostat control
- Use of personal space heaters, refrigerators, microwaves
- School facility renovations
- Student discipline – code of conduct
- Student activity funds – software / processes
- Class rank determination / computation

Some of the decisions referenced above, such as the district's curriculum, need to be made centrally in order to provide consistent application and efficient operations at the schools and central office. Other decisions, such as differentiation of instruction for students, can and should be made at the school level. Documentation of the overall CCSD decision-making framework will help ensure that all principals and central office administrators understand the lines of authority for decision making. Adopting this framework as an administrative regulation will ensure its consistent use. Each major type of decision should be assigned to one of the following four categories:

1. **Site-based decisions not requiring central office approval**. These decisions can be made or approved independently by principals or their designees at the school level, and might include teaching strategies used, certain disciplinary actions, and assignments of special projects to staff.

2. **Site-based item selection from a list of district-provided options**. Examples of this might include furniture, fixtures, or computer and instructional software purchases. Schools can be given choices of computer brands and software as long as they meet minimum specifications established by the central office technology function. Buying outside the list could result in the inability of the technology function to effectively support hardware or software. Selecting from a list provides flexibility in decision making within a framework that helps ensure district-wide efficiency and effectiveness.

3. **Site-based decisions requiring central office approval**. Certain site-based decisions, such as hiring or terminating school staff, landscaping decisions, or use of a school by an outside group, should require central office approval to ensure compliance with state and federal laws and district policy.

4. **Central office decisions**. There are certain decisions that should be made by only by the central office and enforced at all schools. A single standardized curriculum and the school bell schedule are examples of decisions that should be established, or standardized, by the central office. In making these decisions, however, the central office should solicit input from schools to ensure that they make sense for the schools as well as the district.

Using the list on the previous page as a starting point, CCSD should inventory the decisions that need to be included in the definition of a decision-making framework. The process for determining decision rules should consider the following elements:

1. Does state or federal law prescribe the decision?
2. Does Board policy prescribe a decision?
3. Do administration regulations prescribe a decision?
4. Does the decision affect the flexibility schools need to meet individual student needs?
5. Who is technically capable of making the decision?
6. Does the decision affect the district's immediate or long-term cost?
7. Does the decision commit the district to future expenditures?
8. What are the risks of making the wrong decision?
    - Student or employee safety
    - Lawsuit or grievance
    - Sacrifice of necessary internal controls
    - Possible lack of alignment with district goals
    - Inconsistent services for students that move to another school in the district
9. Does the decision affect the ability of central office to provide ongoing support?

10. Could the decision have a ripple effect on other areas in the school system?

A CCSD task force should be created to develop and implement the decision-making framework. Participants on the task force should include principals, academic managers, area operations staff, and the two deputy superintendents. Separate meetings should be conducted for academic and operational areas, bringing in leaders of the respective units (Curriculum and Professional Development, Maintenance, Technology, Human Resources) as those decisions are discussed. This recommendation should be implemented during the 2011-12 school year.

Fiscal Impact

This recommendation can be accomplished with existing resources.

Organizational Analysis

CCSD's organization structure has been undergoing change during the course of this study. The most significant change involved the introduction of performance zones to provide instructional support to the schools based on each school's performance and related needs. Previously, the schools were organized under geographic areas reporting to area superintendents. The performance zone model has been successfully implemented in other large school systems in the U.S. including New York City Schools and Chicago Public Schools. This model provides better organizational alignment between resources and the unique needs of schools compared to traditional geography-based organizational support structures.

Thirteen performance zones, based on school performance and related needs, and one autonomous zone for the district's highest performing schools, are being created. The area offices will remain, but all instructional support will be provided through academic managers leading each performance zone, and each academic manager will report to the Deputy Superintendent for Academic Programs even though they will be physically located in area offices. The area organizations will be used to provide operational support and customer service to the schools, allowing performance zone staff to focus exclusively on instructional support. Area operational staff will support school operations, policy interpretations, and serve as the primary point for customer service of the central office operational areas such as facilities management, food services, purchasing, and human resources, among others. The review team endorses the performance zone model and believes that it will support better alignment of academic programs and services under a single leadership position responsible for all academic programs.

During this study, the review team analyzed other aspects of the CCSD high-level organization structure, evaluating traditional organizational concepts such as:

- *The delineation of line versus staff functions* – Line functions are responsible for the day-to-day transactions of running a school system. They include all instructional and related functions, as well as operational areas including technology, administration, and auxiliary operations. Line functions represent major departments with sizable staff and budgets. Staff functions, on the other hand, are generally more advisory or supervisory in nature, and are not involved in the

day-to-day transactional activities of running a school system. Staff functions include legal support, communications, program evaluation, special assignments and projects, and advisors to the superintendent.

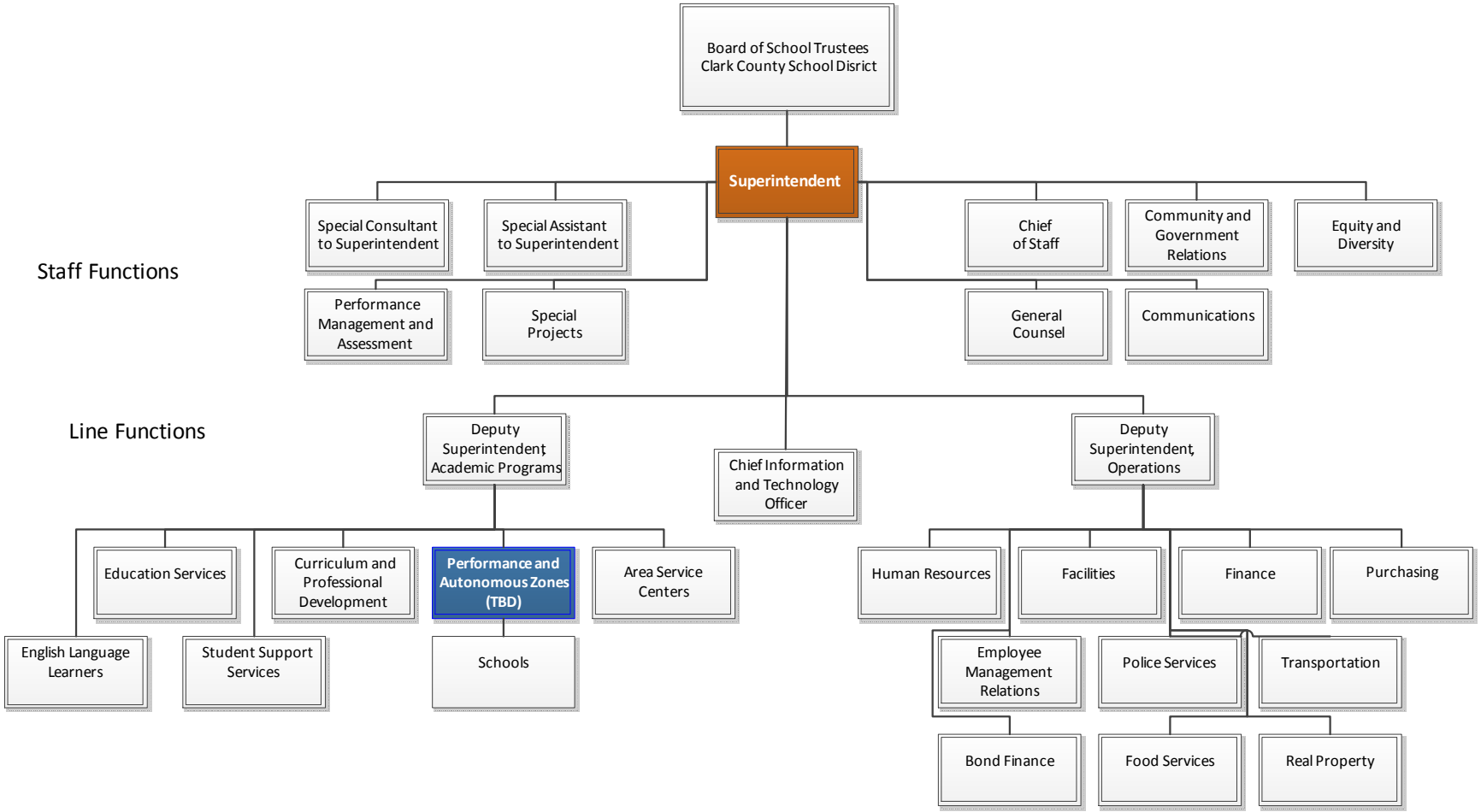
- *Logical alignment of functions* – The line functions in an organization structure should be logically aligned and grouped in a way that supports effective accountability. The grouping of functional areas should also match the technical skills of available management candidates in the marketplace.

- *Span of control* – Span of control is defined as the number of direct reports to a supervisory position. The proper span of control is influenced by the size and complexity of the reporting units. There are no set standards for span of control. At lower levels of the organization it is not uncommon to have 75 or more positions reporting to a single supervisor if those positions are similar, such as bus drivers. For senior management positions that oversee large functional areas, the span of control is smaller, there are generally between five and twelve direct reports.

The organization chart should also reflect the job description of the superintendent and the balance of internal (district operations) and external (Board of Trustee relations, community involvement) demands on the superintendent. If the demands on the superintendent are more internal, the organization is usually flatter with multiple line functions reporting to the superintendent. If the superintendent demands are more external, fewer line functions report to the position, leaving the day-to-day management of schools and operations up to a fewer number of leadership positions that oversee the functions.

Figure 5-1.2 presents the new organization structure being implemented for the 2011-12 school year. Most of the line functions of the organization report to two deputy positions, one over academic programs and one over all operational areas. There is also a separate line function for the Chief Information and Technology Officer that also reports directly to the Superintendent. The new performance zone element of the district's organization structure is highlighted in blue.

Figure 5-1.2. New CCSD organization structure



Source: CCSD, 2011

During the development of this structure the review team made several recommendations to CCSD leadership that influenced the organizational alignment:

- **Convert the Police Services Division from a staff to a line function**. The district previously had its Police Services Division as a staff function reporting directly to the Superintendent. Police Services is a line function and a major operation for the school system. This division deals with discipline and security matters on a daily basis and is an integral component of the district's line functions. This division should report directly to the Deputy Superintendent of Operations.

- **Convert the Employee-Management Relations Department from a staff function to a line function**. While a small organizational unit, this area is a line function by nature. This unit needs to be independent of the human resources function. Accordingly, this department should report directly to the Deputy Superintendent of Operations.

- **Maintain Performance Management as a staff function**. District leadership considered moving this function – now called the Assessment, Accountability, Research and School Improvement Division – under the Deputy Superintendent for Academic Programs. These functions need to be independent of the units they are evaluating. Separation of assessment and testing from academic programs will support segregation of duties to help ensure that proper controls are in place.

- **Organize information and technology functions under a Chief Information and Technology Officer reporting directly to the Superintendent.** Technology has become increasingly important to organizations and has moved up the organization chart in many school systems. Technology has transitioned over the past 20 years from functions more focused on infrastructure support and service to those that now include information management, decision support, and the development of tools to increase transparency and accountability. Organizing leadership of information and technology functions under a single direct report to the Superintendent gives appropriate weight to the strategic importance of these functions in relation to both the instructional and operational areas it supports.

In the long-term, CCSD should consider other organizational realignments, including the placement of Employment Management Relations under Human Resources and the placement of Bond Finance under Finance, as they are functional subsets of the human resource management and financial management, respectively. Other organizational recommendations relating to specific functional areas are located in the applicable section of this report.

The span of control for the Superintendent (12 direct reports) is one report higher than the previous organization structure. In the prior structure four positions were line functions while in the new structure there are three. The span of control for the Deputy Superintendent of Academic Programs under the new structure results in 21 direct reports, most of which are Performance Zone Academic Managers. This is a high span of control for a senior leadership position, but since there is some homogeneity in the performance zone position responsibilities, the demands will be less than if the

direct reports were completely different functions. The district should continue to monitor this aspect of the organization structure to ensure that the reporting load for this deputy position is not too heavy.

The span of control for the new Deputy Superintendent of Operations position (10 direct reports) is reasonable given the size and complexity of the respective functions.

Section 2 – Financial Management

This section presents a district-level analysis of CCSD's spending and staffing, and provides recommendations in three areas under financial management: finance, purchasing, and health benefits.

Financial and Staffing Analysis

The financial and staffing analysis presented on the following pages compares CCSD's 2009-10 financial results with those of its peer districts and includes an internal trend analysis over the past four years. For purposes of the financial analysis, the review team focused on CCSD's operating expenditures as these amounts relate to operating efficiency. Excluded from the analysis are non-operating expenditures and activities such as capital outlays for construction and interest on long-term debt.

The peer group analysis compares CCSD's financial operations with those of the three school systems included selected for *Chapter 2 – Student Performance Analysis* of this report: Broward County Public Schools (BCPS) and Miami-Dade County Public Schools (M-DCPS) in Florida, and the Houston Independent School District (HISD) in Texas. Each of these districts is comparable to CCSD in size and student demographics, and each district has achieved higher levels of academic performance than CCSD.

Based on the financial peer comparisons and trend analyses, the following were noted with respect to CCSD's cost structure:

- CCSD had lower staffing levels – teachers and non-teachers – relative to its peers. This contributes to CCSD having overall lower overall costs per-pupil than the peer group.
- CCSD instruction-related expenditures per pupil were lower than its peers.
- CCSD spent less, based on a percentage of total expenditures, from its General Fund than its peers. This is due to the fact that CCSD receives less support per student from state and local sources (state funding, tax revenues, etc.) than its peers.
- Compared to its peers, CCSD had the lowest per-pupil expenditures in the following categories: instruction, instructional leadership, and plant maintenance and operations.
- Over the past four years, CCSD per-pupil expenditures have risen at an average pace of less than 3 percent, and non-instructional expenditures per pupil have remained flat for the past three years.

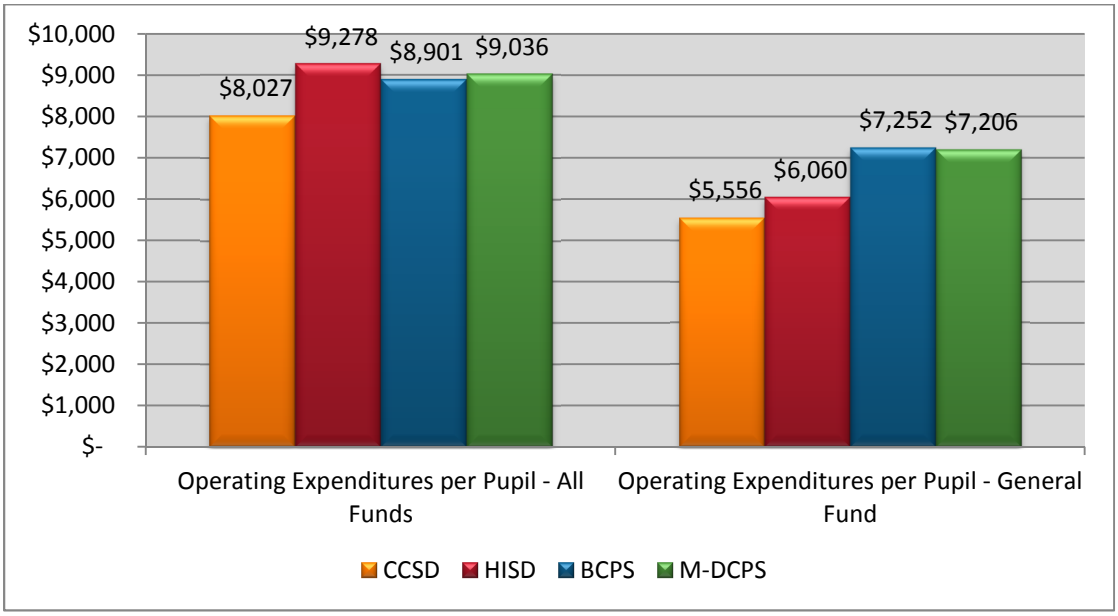
The analysis presented in this section focuses on operational efficiency, primarily measured by operating expenditures per pupil. Per-pupil amounts were analyzed to support comparisons to different sized peer school systems and to analyze spending trends over time within CCSD as enrollment has changed.

Financial and staffing data for the peer district analyses were obtained for 2009-10, the most recent year for which published financial information was available

Peer District Comparison

CCSD spent less per student than its peers, and this is true with respect to all funding sources and the district's General Fund. Figure 5-2.1 shows operating expenditures per student for CCSD and its peers for the General Fund and All Funds combined.

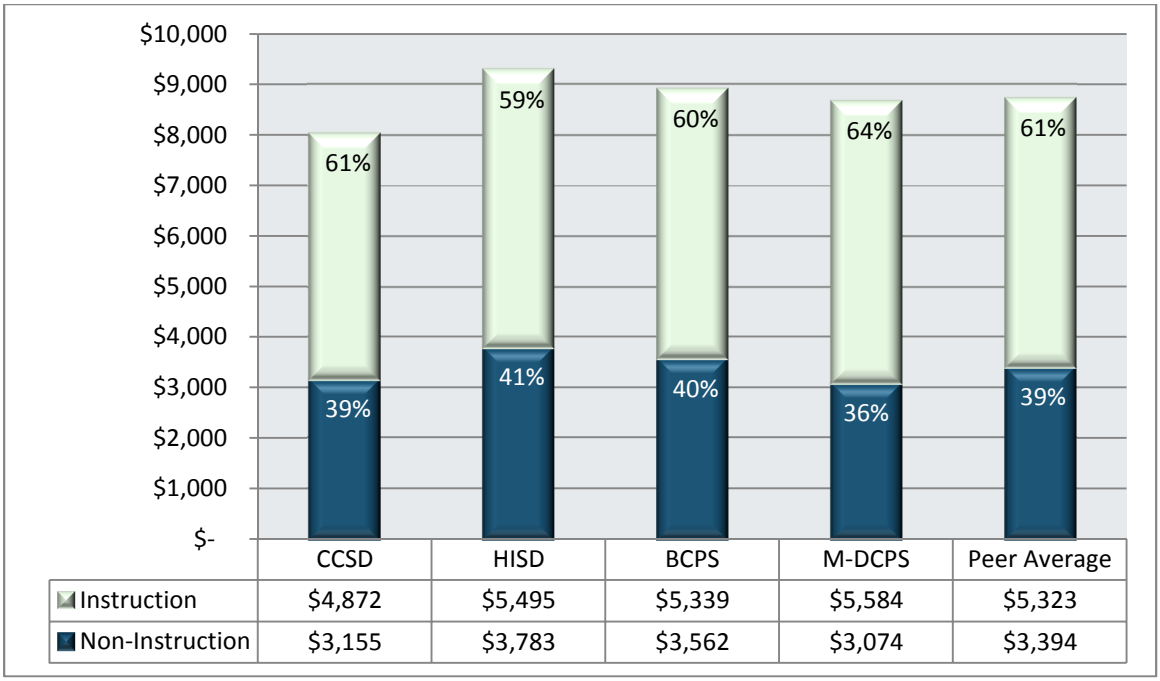
Figure 5-2.1. Peer comparison of operating expenditures per student, 2009-10



Source: CCSD 2009-10 Actual Expenditures by Program; Florida Department of Education 2009-10 Annual Financial Report and Comprehensive Annual Financial Report; Texas Education Agency 2009-10 PEIMS District Financial Actual Report.

As shown in Figure 5-2.2**,** CCSD had the second-lowest percentage of expenditures for instruction (61 percent). CCSD's rate of expenditure for instruction is comparable to the average of all peers.

Figure 5-2.2. Percentage of expenditures for instruction, General and all funds, 2010



	CCSD	HISD	BCPS	M-DCPS	Peer Average
Instruction	$4,872	$5,495	$5,339	$5,584	$5,323
Non-Instruction	$3,155	$3,783	$3,562	$3,074	$3,394

Source: CCSD 2009-10 Actual Expenditures by Program; Florida Department of Education 2009-10 Annual Financial Report and Comprehensive Annual Financial Report; Texas Education Agency 2009-10 PEIMS District Financial Actual Report.

Table 5-2.1 presents expenditures per student by functional category. The green shaded cells indicate where CCSD was the lowest among its peers. The red shaded cells indicate where CCSD was highest among its peers in per student spending. CCSD was the lowest in overall spending as well as in the following categories: instruction, instructional leadership, food services, plant maintenance and operations, and community services.

Differences in instructional leadership and community service appear to be due to different classification schemas than the three comparison districts. CCSD had the highest per-pupil expenditures in one functional category, student support services.

Table 5-2.1. Operating expenditures per student, all funds, 2009-10

Operating Expenditures per Student - *All Funds*				
Function	**CCSD**	**HISD**	**BCPS**	**M-DCPS**
Total Operating Expenditures	$8,027	$9,278	$8,901	$9,036
Instruction	$4,872	$5,495	$5,339	$5,584
Instructional-related services	$313	$430	$297	$315
Instructional leadership	$69	$135	$200	$174

Operating Expenditures per Student - *All Funds*				
School leadership	$547	$647	$505	$476
Support services - student	$464	$414	$433	$410
Student transportation	$337	$216	$380	$242
Food services	$271	$558	$326	$394
Extracurricular activities	$37	$83	$0	$0
Central administration	$239	$167	$357	$278
Plant maintenance and operations	$735	$886	$944	$1,066
Security and monitoring services	$101	$103	$0	$0
Data processing services	$42	$122	$29	$3
Community Services	$0	$22	$91	$94

Source: CCSD 2009-10 Actual Expenditures by Program; Florida Department of Education 2009-10 Annual Financial Report and Comprehensive Annual Financial Report; Texas Education Agency 2009-10 PEIMS District Financial Actual Report.

Security and monitoring services for the Florida districts (BCPS, M-DCPS) are included in the plant maintenance and operations amounts. If CCSD and HISD amounts for plant maintenance and operations and security and monitoring services are combined, CCSD still has the lowest expenditures per pupil at $836. CCSD did not begin tracking community services expenditures separately until 2010-11.

Table 5-2.2 shows the same information but for the General Fund only. Cells for which CCSD expended the lowest of all four districts are highlighted in green. CCSD incurred the lowest expenditures per pupil in six functional areas, and did not have the highest amount in any area. CCSD was the lowest in the same areas as above, and spent less in General Fund expenditures per pupil than its peer districts in transportation.

Table 5-2.2. Operating expenditures per student, General Fund, 2010

Operating Expenditures per Student – *General Fund*				
Function	**CCSD**	**HISD**	**BCPS**	**M-DCPS**
Total Operating Expenditures	$5,555	$7,209	$7,253	$7,205
Instruction	$3,264	$4,504	$4,444	$4,782
Instructional-related services	$178	$182	$198	$117
Instructional leadership	$46	$91	$100	$57
School leadership	$542	$630	$490	$469

Operating Expenditures per Student – *General Fund*				
Support services - student	$296	$265	$385	$168
Student transportation	$165	$206	$281	$229
Food services	$0	$54	$0	$0
Extracurricular activities	$37	$71	$0	$0
Central administration	$153	$144	$332	$227
Plant maintenance and operations	$734	$848	$931	$1,064
Security and monitoring services	$100	$99	$0	$0
Data processing services	$42	$105	$29	$3
Community Services	$0	$10	$63	$89

Source: CCSD 2009-10 Actual Expenditures by Program; Florida Department of Education 2009-10 Annual Financial Report and Comprehensive Annual Financial Report; Texas Education Agency 2009-10 PEIMS District Financial Actual Report.

CCSD's lower cost per pupil was driven primarily by lower staffing. Table 5-2.3 provides comparisons of teaching and non-teaching staff ratios among CCSD and its peer districts. In general, the lower the staff counts, the higher the ratio of students to staff. CCSD had the highest pupil-teacher ratio, indicating that the district had on average 20 percent fewer teachers relative to its student population.

Table 5-2.3. Peer comparison of staff ratios, 2009-10

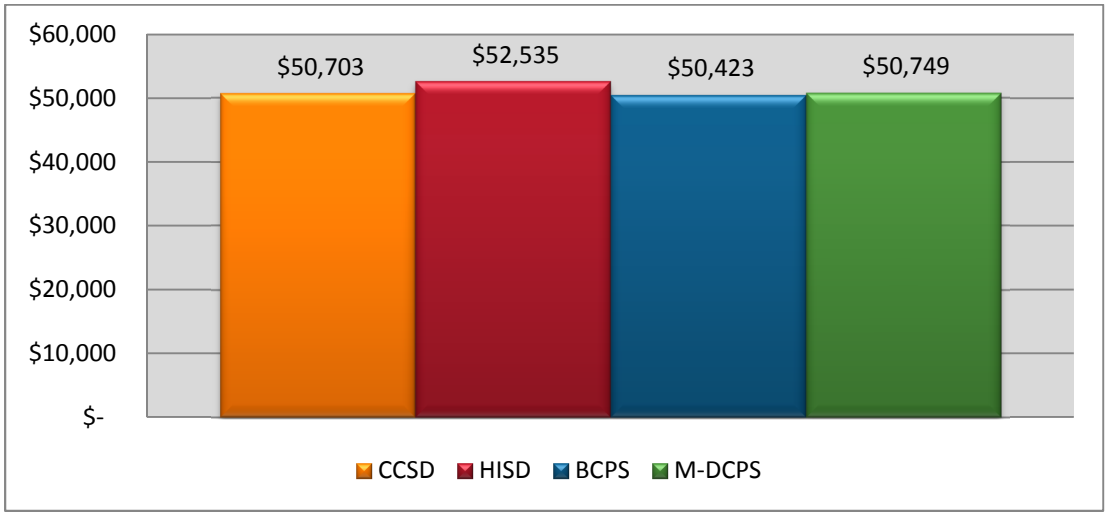
2010 Pupil-Staff Ratios				
	CCSD	**HISD**	**BCPS**	**M-DCPS**
Pupil-Teacher Ratio	20.0	16.9	16.9	16.0
Pupil-Non-Teaching Staff Ratio	30.1	15.8	23.9	21.5

Source: U.S. Department of Education National Center for Education Statistics, Common Core of Data (CCD); 2010-11 Budget Reports for Clark County; Texas Education Agency 2009-10 Academic Excellence Indicator System; Florida Department of Education "Membership in Florida Public Schools" 2010-11; "Staff in Florida's Public Schools, 2010-11."

CCSD's ratio of pupils to non-teachers is significantly higher than the peer districts. However, it is important to note that CCSD calculates full-time equivalents (FTEs) for non-instructional staff differently from its peers. CCSD factors in the percentage of the day worked, but also the percentage of the year. Consequently, an 8-hour non-instructional employee that works 9 months of the year is considered a 0.75 FTE in CCSD, but a 1.0 FTE in Texas and Florida. If CCSD were to define its FTEs as Texas and Florida, its FTE counts would have been substantially higher and its ratio of pupils to non-teaching staff would have been substantially lower.

Differences in teacher salaries did not account for differences in overall cost, as CCSD's teacher salaries were similar to its peers. Figure 5-2.3 presents a comparative analysis of average teacher salaries for 2009-10.

Figure 5-2.3. Average teacher salaries, 2009-10



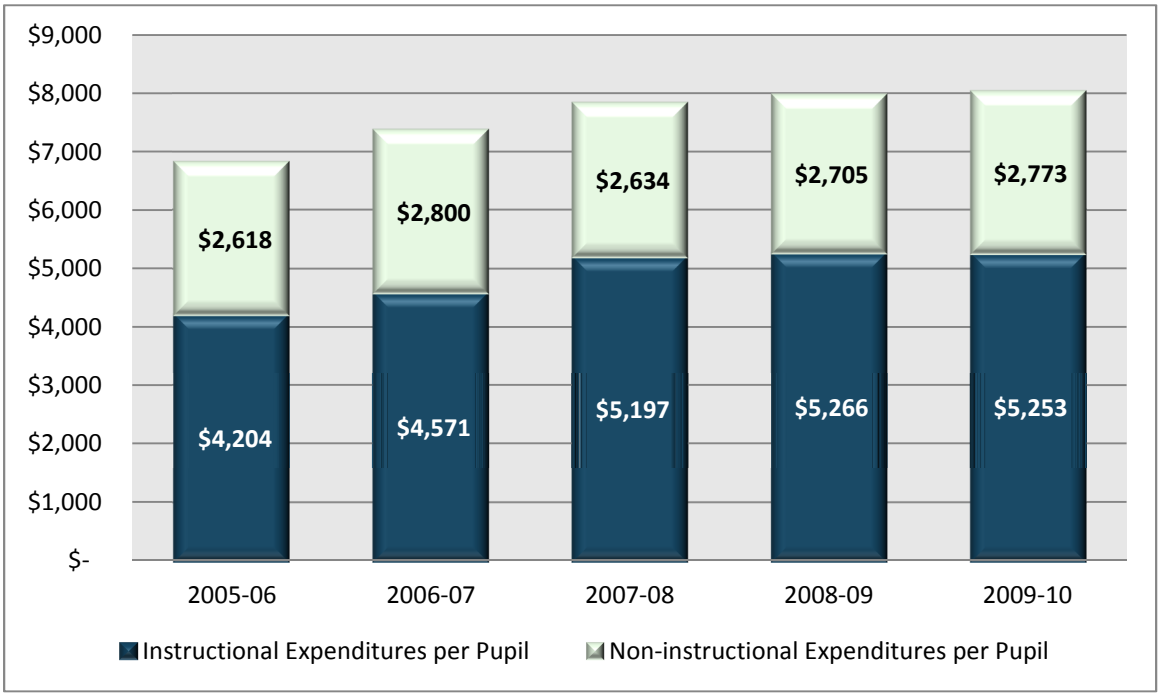
Source: CCSD finance office; Texas Education Agency 2009-10 Academic Excellence Indicator System; Florida Department of Education "Staff in Florida's Public Schools, 2010-11."

Trend Analysis

A trend analysis of CCSD expenditures was performed to identify fluctuations in spending patterns. All figures used in this analysis are those reported by CCSD to the Nevada Department of Education through the InSite system for each fiscal year reported here.

From 2005-06 to 2009-10, CCSD's operating expenditures per pupil have increased from $6,822 to $8,026, or an average of 4.4 percent per year. During this time enrollment grew from 291,510 to 309,476, but enrollment and spending has been relatively flat for the past three years. Figure 5-2.5 shows instructional and non-instructional expenditures per pupil for the past five years.

Figure 5-2.5. CCSD per-pupil expenditure, 2005-06 to 2009-10



Sources: CCSD InSite reports for 2005-06 to 2009-10

Table 5-2.4 shows per-pupil expenditures by instructional area and by non-instructional function for 2005-06 through 2009-10. Expenditures per pupil for instruction have increased, based on an annual average, more than any other area (The 23.4 percent increase in central administration represents a reclassification from Instructional Leadership in 2010). In non-instructional areas, expenditures per pupil overall have increased at an average rate of 1.5 percent per year.

Table 5-2.4. CCSD operating expenditures per pupil, all funds, 2005-06 to 2009-10

Expenditure Category	2005-06	2006-07	2007-08	2008-09	2009-10	Average Annual % Change
Enrollment	291,510	302,763	308,783	311,240	309,476	**1.54%**
Total Operating Expenditures/Student	$6,822	$7,371	$7,831	$7,971	$8,026	**4.41%**
Instruction	$3,697	$3,999	$4,633	$4,808	$4,872	7.95%
Instructional-related services	$291	$349	$429	$334	$313	1.87%
Instructional Leadership	$216	$223	$135	$124	$68	-17.05%
Total Instructional Related Expenditures/Student	**$4,204**	**$4,571**	**$5,197**	**$5,266**	**$5,253**	**6.24%**
School administration	$511	$538	$564	$593	$547	1.76%
Student support services	$653	$713	$322	$367	$464	-7.25%

Expenditure Category	2005-06	2006-07	2007-08	2008-09	2009-10	Average Annual % Change
Student transportation	$338	$324	$333	$368	$337	-0.07%
Food services	$248	$277	$304	$273	$271	2.26%
Extracurricular activities	$32	$37	$34	$31	$37	3.92%
Central administration	$123	$154	$173	$184	$239	23.40%
Plant maintenance and operations	$594	$641	$699	$732	$735	5.95%
Security and monitoring services	$81	$87	$113	$105	$101	6.12%
Data processing services	$38	$29	$92	$52	$42	3.08%
Non-instructional Expenditures/Student	**$2,618**	**$2,800**	**$2,634**	**$2,705**	**$2,773**	**1.5%**

Source: CCSD InSite reports for 2005-06 to 2009-10

Selected CCSD pupil-to-staff ratios are presented Table 5-2.5. Reductions in ratios reflect increases in staffing levels relative to the student population. The decrease in the Central Services ratio in 2009-10 (offset by an increase in General Administration) is due to the reclassification described above under Central Administration expenditures. The significant increase (reduction in staff) in the Land and Building Acquisition ratio reflects the winding down of the district's building program.

Table 5-2.5. Pupil-to-non-instructional staff ratios, 2007-08 to 2010-11

	2007-08	2008-09	2009-10	2010-11
Administrative and Instructional Support Staff				
Student support	237.5	235.6	230.9	232.3
Instructional staff support	278.1	280.3	297.1	298.5
General administration	695.7	732.4	1,659.0	1,630.3
School administration	132.0	134.9	138.1	142.7
Central services	491.8	519.6	375.8	364.0
Total Administrative and Instructional Support Staff	**53.0**	**54.0**	**54.9**	**55.5**
Operating, Transportation, and Other Service Staff				
Operating and maintenance services	119.1	119.1	120.0	115.7
Student transportation	202.9	207.7	222.3	215.1
Food services	525.9	567.3	677.6	675.3

	2007-08	2008-09	2009-10	2010-11
Land and building acquisition	810.6	876.3	1,348.7	2,262.0
Total Operating, Transportation and Other Service Staff	**60.7**	**62.1**	**66.4**	**65.7**

Source: 2010-11 CCSD Budget

Expenditures and staff levels for specific educational and operational areas are addressed in separate chapters and sections in this report.

Financial Management and Purchasing Operations

Financial management and purchasing operations at CCSD fall under the Operations Support Unit under the direction of the chief financial officer (CFO). In addition to finance and purchasing, the Operations Support Unit includes the functions of facilities, technology, Vegas Public Broadcasting System, transportation, food services, employee relations, risk management, facilities and bond financial fund management, demographics and zoning, and real property management.

The Deputy CFO who oversees the finance operations for the district supervises a team of 78 employees in the functions of general accounting, budget, payroll, accounts payable, cash management, purchasing cards and fixed assets, and school banking. In addition to the finance staff, the district maintains a separate grants function that falls under the purview of the Student Support Services Division of the Instruction Unit. The grants function is staffed with 17 grant coordinators and nine budget/finance coordinators.

Due to a major upgrade of finance and purchasing information systems, the finance and purchasing functions are much more efficient than they were in the past. CCSD's enterprise resource planning (ERP) system has streamlined business processes and improved the end-user functionality of activities such as:

- Online matching of invoices, purchase orders and receiving documents to support efficient processing and payment of invoices.
- Account code defaults that simplify the coding and ordering process by prompting end users.
- User-friendly shopping carts for purchasing items.
- Customized reports that help track expenditures and inventory more effectively.

Like other CCSD departments, finance and purchasing have lost positions in the last few years, but because of better information systems, they have been able to re-engineer business processes to reduce the related work demands.

While the new ERP system has resulted in a number of substantial operational improvements, the review team found other opportunities for improvement in grants management, warehousing, purchasing, and risk management.

Table 5-2.6 presents a summary of the recommendations made in this section as well as the projected five-year fiscal impact of each recommendation.

Table 5-2.6. Summary of recommendations

Recommendation Summary	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required	Major Policy Changed Required
5-2.1. Re-assign the fiscal component of the Grants Department to report to the Deputy Chief Financial Officer and improve controls over grant fund spending.	High	2012-13	$0	No	No
5-2.2. Reduce the amount of non-standard purchases in the district and implement spending controls.	High	2012-13	$9,750,000	No	Yes
5-2.3. Create a position of Technology Buyer to assist with technology purchasing in the district.	High	2012-13	($408,000)	No	Yes
5-2.4. Negotiate language in collective bargaining agreements to allow CCSD access to health benefits plan performance information	Medium	2012-13	$0	No	Yes
5-2.5. Periodically conduct audits to verify eligibility of health benefits plan dependents	High	2012-13	Unknown	No	Yes
Total			**$9,342,000**		

Finance Management

Recommendation 5-2.1: Re-assign the fiscal component of the Grants Department to report to the Deputy Chief Financial Officer and improve controls over federal grant fund spending.

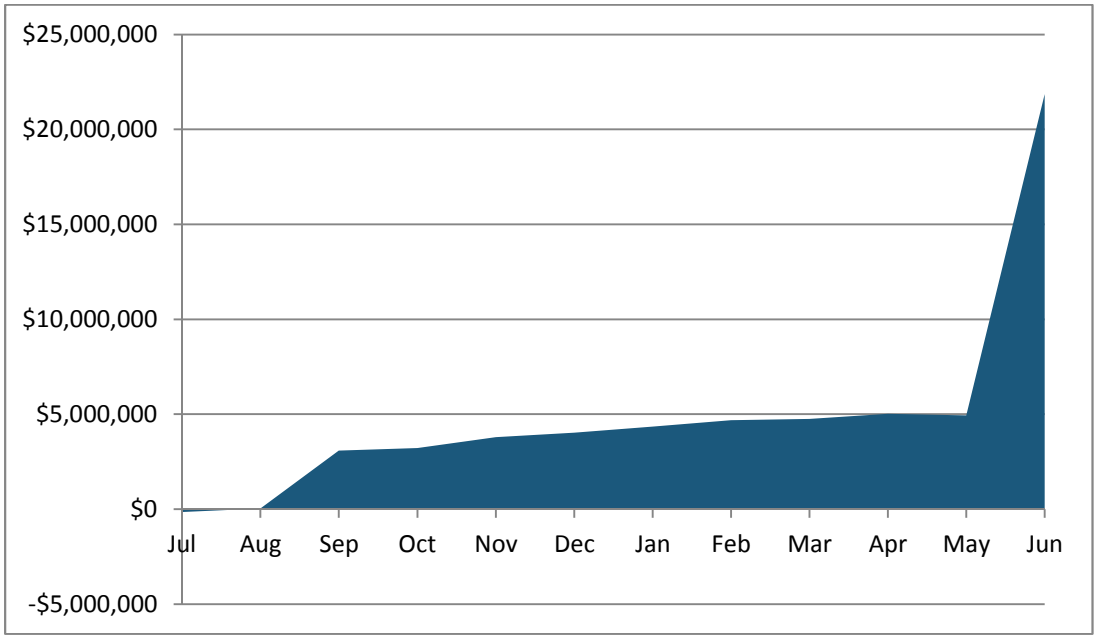
The district currently has $300 million in federal grant funds that are not under the purview of the Deputy CFO. Finance and grants account for some expenditures differently, and CCSD conveyed to the review team that school-based staff receive direction regarding accounting and procurement processes from grants that are different from Finance. Due to a lack of controls over budgetary and spending practices in the Grants Department, the district is at risk of losing funding. In FY 2010-11, for instance, the district had almost $76 million in Title I funding which is solely managed by the Title I Department. At year-end, $59 million of these funds were expended or planned to be expended, leaving $16 million of available funds unspent.

Districts are allowed to carryover some of their unexpended funding in accordance with federal guidelines, which in the case of Title I funding is 15 percent, but large carryovers raise the question as to whether a district is using the funds strategically to meet identified needs, and places the district at risk

of losing future funding due to non-compliance. CCSD is currently in the position of having to respond to the federal government as to why it did not meet the 85 percent spending threshold for the year, and justifying why it should continue to be funded at current levels when it did not meet spending goals in the prior grant year.

Figure 5-2.6 shows the spending pattern by month for fiscal year (FY) 2010-11 for Title I (non-stimulus) funds. As this graph shows, a significant majority of the district's expenditures occurred during the last month of the fiscal year. While some of the end of year expenditures relate to the subsequent school year, the pattern indicates that Title I expenditures are not well planned and may not be effectively supporting strategic needs of the district.

Figure 5-2.6. CCSD's expenditures of Title I funds by month for FY 2010-11



Source: FY 2010-11Title I expenditure report, CCSD Finance and Operations Division

Placing the grants fiscal function under the supervision of the Deputy CFO will help to promote a more cohesive way of conducting the district's business, will make procedures and practices more consistent, and will help to provide a higher level of accountability of the district's financial management. Upon adoption of the annual budget, each major grant coordinator should develop monthly expenditure budgets based on identified district and school needs. This will support the monitoring of grant spending throughout the year.

Fiscal Impact

While there is no direct fiscal impact associated with this recommendation, this re-organization will help the district to better manage its grant funding and will improve internal controls over grant expenditures.

Purchasing

The director of Purchasing and Warehousing has a staff of 105 employees in purchasing, contract management, mail room services, and warehousing. The district also maintains a graphic arts function falling under the Purchasing and Warehousing Department which is operated as an internal service fund. That is, the departments and schools using the services of Graphic Arts are charged for those services. The Purchasing and Warehousing Department is aggressive in seeking the best prices for the district through vendor negotiations, participating in purchasing cooperatives, and in procuring goods and services through joinder agreements (joining on other governmental agencies' bids). As a part of the analysis, the review team conducted price comparisons on several items and found that CCSD's Purchasing and Warehousing Department is using its purchasing power to obtain highly competitive pricing.

One of the most successful procurement processes implemented in the district is the just-in-time (JIT) purchasing and inventory control system. Under a JIT process, central warehouses no longer maintain large stocks of routine supplies. Instead, each school or department orders supplies when they are needed, and local vendors deliver the goods and supplies directly to the school or department placing the order, most often by the next business day following order submission. This process has resulted in substantial cost reductions to the district in comparison to its old central receiving and distribution functions, which required central ordering, delivery of all goods and supplies to a central warehouse, stocking of those supplies, and distribution/delivery of the supplies to end users by way of CCSD vehicles and personnel. The only bulk item currently stocked by the district in a central warehouse is specialty paper; regular white copier paper is delivered to departments and schools when needed. However, the district is searching for a vendor willing to provide bulk prices on its specialty paper, yet deliver to the various schools and departmental locations on an as-needed basis.

The Purchasing and Warehousing Department has also reduced the costs of CCSD's mail operations by streamlining the process, reducing previous daily service to twice weekly service, and redesigning routes to use fewer vehicle miles.

The district has a value-added contracting process. All contracts are reviewed and negotiated by Purchasing and Warehousing Department staff, and the ERP system is used to track and maintain contract information. The department has placed automated controls into the ERP system that prevents the completion of a purchase order if it is not associated with a board-approved item.

As part of this study, a sample of CCSD's major contracts was reviewed to determine whether proper procedures were followed when the contracts were evaluated and executed. Out of a total of 60 contracts over $1 million in FY 2010-11, 11 were selected for testing. Table 5-2.7 shows that all the contracts reviewed were properly bid, evaluated, and approved.

Testing procedures included a review of the bid documents to ensure that all facets of the bidding processes were in place, including whether the Request for Proposal, bid, or request for quote was advertised as required by Nevada procurement statutes and whether bids were received and evaluated in accordance with bidding statues and district policy.

In addition, the evaluation or bid tally sheets were reviewed to determine whether vendor responses were accurately and fairly evaluated. Finally, documentation related to Board of Trustee approval for the items selected in the sample was reviewed.

Table 5-2.7. Results of contract testing – contracts over $1 million

Contract Description	Total Contract Amount	Contract Start Date	Contract End Date	Proper Notice?	Properly Bid?	Properly Evaluated?	Properly Approved?
Sign Language Interpreters-Preston Bass	$2,019,272	5/28/2010	5/27/2012	✓	✓	✓	✓
Carpet Supplies	$5,003,460	7/29/2007	8/13/2010	✓	✓	✓	✓
Refrigerator Roll-In	$1,607,087	7/30/2010	7/30/2011	✓	✓	✓	✓
Athletic Training Services	$2,057,400	5/28/2010	5/27/2012	✓	✓	✓	✓
Maintenance – Flooring	$3,531,061	6/25/2007	9/26/2011	✓	✓	✓	✓
Interpreting Service-American Sign Language	$3,989,920	5/28/2010	5/27/2012	✓	✓	✓	✓
Carpet	$1,560,000	1/3/2011	1/13/2012	✓	✓	✓	✓
Monochrome Printers	$11,750,000	12/9/2010	12/8/2011	✓	✓	✓	✓
Architectural Design Services	$1,424,480	2/14/2011	6/30/2012	✓	✓	✓	✓
Maint-Roofing	$7,272,085	5/26/2007	7/15/2011	✓	✓	✓	✓
Computer Windows –Lenovo	$20,762,752	5/13/2011	5/12/2012	✓	✓	✓	✓

Source: CCSD Purchasing and Warehouse Department, 2011

The Purchasing and Warehousing Department and the Operations Department also started a recycling program that is saving the district approximately $2 million annually. To implement the program, the district obtained bids from area vendors to handle recyclable items such as paper and plastic that had been going into the landfill. Because the district diverted some of its solid waste, it saved money with its waste management and garbage collection contract.

As an incentive for participating in the recycling program, schools are given a rebate based on the amount of waste that is diverted to recycling.

Recommendation 5-2.2: Reduce the amount of non-standard purchases in the district and implement spending controls.

During the period of time that CCSD was experiencing explosive growth in student enrollment, beginning in the 1990s and lasting through 2007, the district was building numerous schools annually, the highest number of schools built in a single year being 16. To help furnish and equip each new school in an expedient and cost effective way, the Purchasing and Warehousing Department developed a "standards" process where typical items that go into a school (student desks, teacher desks, computers, black boards, white boards, tile, carpeting, etc.) were pre-selected and bids obtained in advance. Each standard item contained several options so that site administrators had flexibility in the way that they furnished or equipped their schools.

Purchasing and Warehousing Department staff found that schools needing to order non-standard items on occasion experienced significant delays in obtaining the items they needed because they were not pre-bid. To alleviate these delays, purchasing developed a non-standard process to simplify and streamline approval.

The Purchasing and Warehousing Department also publishes all its bid items in a district catalog, allowing school and departmental staff to search for items needed in an online, automated format. All items contained in the catalog have been bid to district specifications and have the district's negotiated prices listed.

Many site administrators choose to purchase non-standard items or items that are not listed in the district's catalog. These non-standard purchases are costing the district additional time to bid and process the items as well as additional costs to procure since there are fewer bulk purchases being made. Non-catalog items are typically purchased with the district's procurement card which also results in higher than necessary expenditures. In addition to buying sub-standard products, procurement card purchases can also result in the loss of pre-negotiated discounts. In addition, use of the procurement card requires that staff be away from their job while selecting and purchasing items.

Site administrators argue that they can obtain items quicker and at lower costs than what can be obtained through the district's catalog. However, these non-catalog items do not always have the same specifications as catalog items. To demonstrate this, the Purchasing and Warehousing Department conducted a comparison of a sample office chair and a sample computer. In each case, the more expensive item available through the district catalog was, in the long run, more cost effective due to estimated useful life and better warranties. Six positions in the department are currently involved in the handling of the non-standard item requests, three of which could be eliminated if non-standard purchases decreased.

Fiscal Impact

In addition to position reductions that could be made in the Purchasing and Warehousing Department (estimated to be $200,000 annually), the district could also achieve cost reductions of approximately

$1.75 million annually through cost reductions on the purchase price of many of the items it procures. This estimate is derived by taking purchases made with a procurement card and calculating the negotiated reductions had the item been purchased from a district bid.

Recommendation 5-2.2	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Reduce the amount of non-standard and non-catalog purchases in the district and implement spending controls	$0	$1,750,000	$1,750,000	$1,750,000	$1,750,000	$1,750,000
Eliminate staff in the Purchasing and Warehousing Department who handle non-standard purchases	$0	$200,000	$200,000	$200,000	$200,000	$200,000
Total	**$0**	**$1,950,000**	**$1,950,000**	**$1,950,000**	**$1,950,000**	**$1,950,000**

Recommendation 5-2.3: Create a position of Technology Buyer to assist with technology purchasing in the district.

The Purchasing and Warehousing Department does not have a dedicated technology buyer with requisite specialized knowledge to support hardware and software purchases. As discussed in the technology section (Section 4) of this chapter, technology purchases do not always follow the district's standards and can be executed without adequate coordination or control. Creating a Technology Buyer position will help the district better plan and better coordinate purchases involving technology. In addition, such a position can be helpful in evaluating purchases before they are made to ensure that they will be compatible within the district's operating environment.

Such a position should work closely with the Technology and Information System Services Division, and serve as liaison between the customer department or school, the Purchasing and Warehousing Department, and Technology and Information System Services Division.

Fiscal Impact

The fiscal impact associated with this recommendation is estimated to be approximately $81,600 annually for salary and benefits.

Recommendation 5-2.3	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Create a position of Technology Buyer	$0	($81,600)	($81,600)	($81,600)	($81,600)	($81,600)
Total	**$0**	**($81,600)**	**($81,600)**	**($81,600)**	**($81,600)**	**($81,600)**

Employee Management Relations– Health Benefits Administration

CCSD has three separate health benefit plans: one for administrators, one for support staff, and one for teachers. The district spends $186 million annually from its General Fund for health insurance for its employees. CCSD manages the support staff health trust fund, whereas the Clark County Educators Association manages the teacher's health fund and the Clark County Association of School Administrators manages the fund for the district's administrators.

The district is in the process of hiring a consultant to conduct a feasibility study to determine if the district would benefit from consolidating some or all of its health plans.

There are 15,861 employees covered by the teacher fund; 7,500 covered by the support employee's fund, and 1,100 employees covered in the administrator's fund. The benefits available to teachers include a choice of two medical plans, and the district contributes either $538.87 or $613.87 per covered employee per month for the benefits. The support employee's plan includes not only medical coverage but also dental, life, long-term and short-term disability, and vision benefits. CCSD contributes $526.65 per covered employee per month for support employee coverage. The district administrator benefits include medical, life, and long-term disability coverage, for which the district pays $670.62 per covered employee per month.

Recommendation 5-2.4: Negotiate language in the collective bargaining agreements to provide CCSD with access to health benefits plan performance information.

Under the arrangements with the associations, CCSD administration has little or no voice in how the health funds are administered. The district pays a set amount per covered employee without knowing essential information that would support its ability to negotiate a rate. The district has requested data from the groups administering the health funds, but only limited information has been shared with the district.

The district should negotiate through its collective bargaining agreement with the teachers' and administrators' association groups to request that the associations provide a summary of financial data to include, at a minimum: covered employees and coverage level, monthly aggregate premiums and claims, diagnosis and total paid for claim amounts over $100,000 on an annual basis. The district should also request that the associations provide an annual executive summary of renewal negotiations and results.

The current structure places both fiduciary responsibility and financial liability for teacher and administrator health benefits with the respective associations. But the district is accountable to taxpayers for overall health benefits expenditures, and so it must ensure the proper administration of these funds.

Fiscal Impact

This recommendation can be implemented with existing resources.

Recommendation 5-2.5: Periodically conduct audits to verify eligibility of health benefits plan dependents.

The district's health benefits plans cover not just CCSD employees, but their dependents as well. However, in the past five years, no audits have been conducted to verify the eligibility of dependents participating in the district's health plans. Such audits would ensure that overpayments due to claims by ineligible claimants are not being incurred.

Fiscal Impact

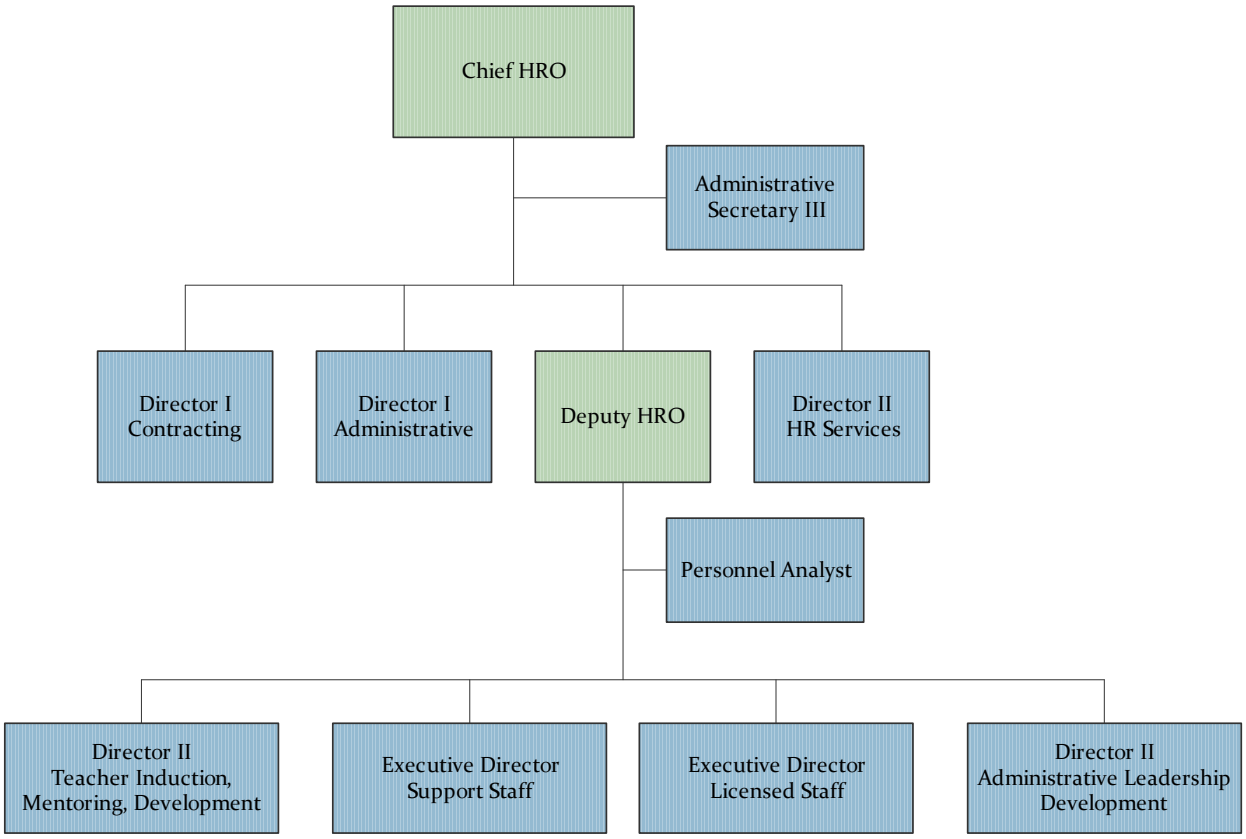
Because the district has been unable to collect data on the health plans administered by the associations, it is not possible to determine the total number of participating dependents and therefore estimate a fiscal impact. However, other districts who have conducted such dependent eligibility audits typically find that these audits provide cost reductions by reducing payments to ineligible persons.

Section 3 – Human Resources

As of July 1, 2011, the Human Resources (HR) Division at CCSD consisted of 172 staff members. Eleven employees report to the general HR Division office, eight employees provide support to administrative personnel, 29 provide support to licensed personnel, 16 provide support to substitute teachers, and 59 provide support to support staff. Additionally, there are 15 employees in contracting services, five in administrative leadership development, seven in support staff training and development, and 22 in teacher induction, mentoring and development.

Reporting to the Acting Chief Human Resources Officer (CHRO) are two Executive Directors – one for Support Staff Personnel Services and one for Licensed Personnel Services. Additionally, five Directors and a Personnel Analyst report directly to the CHRO. However, once a CHRO is hired, three of the directors actually report to that position, as shown in Figure 5-3.1 below.

Figure 5-3.1. Human Resources Organization Chart



Source: CCSD, 2011

With the exception of the leadership development, mentoring and training and development functions, the primary focus of this division is on transaction processing. It is extremely difficult for HR staff members to focus on strategic or proactive HR activities. This is primarily caused by:

- Lack of automation and shared systems among the groups within HR (e.g., Administrative Personnel Services, Licensed Personnel Services, Substitute Services, and Support Staff Personnel Services)

- Arbitrary decision rules and computer system limitations (for example, staff members in HR stated that once an employee turns in their disability retirement paperwork, even if the employee filled out the form incorrectly, neither benefits employees nor the employee may correct the error because of a system limitation) and processes that lengthen human resource actions relating to hiring, firing and performance evaluation

The groups within the HR Division at CCSD are primarily organized around the types of employees serviced. However, some duties appear to cross outside of these organizational boundaries. For example, Administrative Personnel Services oversees support staff classifications, job descriptions and desk audits, and Support Staff Personnel Services oversees the placement of food services and bus driver substitutes and temporary clerical employees. Although there is a reception desk at the front of the HR building, each sub-department also staffs a reception desk.

The information systems supporting the HR function (for online applications, applicant tracking and employee management) are decades old and functionally obsolete. Some have been in use since 1990, and are mainframe-based systems. These systems are quite inflexible and require significant resources to maintain. More importantly, they are not capable of supporting strategic human resources planning and decision making, and they are not integrated with other enterprise-wide systems.

Because of departmental divisions and the lack of modern integrated systems, the processes in the HR Division are highly fragmented and paper-intensive for both applicants and HR staff members. Some electronic forms that are employed, such as job requisitions, are printed from the system and manually routed for approval. Currently, some departments – such as licensed personnel and substitute personnel – have online applications systems in place to process applications. However, support staff personnel are operating in a primarily paper-based environment and utilize paper applications.

In the next sections, several recommendations are set forth for implementation in the HR Division. The overarching goal of these recommendations is to streamline operations in the HR Division to better serve internal and external customers, and to allow HR staff members to concentrate on strategic issues, rather than transactional processing of paper forms. Specifically, there are several initiatives that need to be implemented:

- **Implement an integrated HR/Payroll information system and streamline/reengineer processes in Human Resources** for applicant and employee recordkeeping and position control. The district is currently evaluating options to move forward with previous plans to implement the HR/Payroll modules of its SAP ERP system. These plans were put on hold as a result of recent cutbacks in state funding. They should be revived as soon as funding for implementation can be secured.

- **Implement timekeeping system for hourly employees.** Hourly support employees at CCSD are paid on an exception basis, meaning that employees are assumed to work 40 hours per week unless exceptions are reported to a supervisor or timekeeper. This method is prone to unreported or under-reported leave time and may lead to abuse by some employees. By implementing the timekeeping module of SAP (after the HR/Payroll module implementations) and moving away from exception basis pay for these employees, CCSD can increase accountability without significantly increasing the workload of Payroll staff members. Different timekeeping systems are currently in place for food services, facilities, and transportation employees. The district should explore the practicality of moving all employees to the same system.

- **Standardize forms and processes in Human Resources to better coordinate work efforts.** The various departments in Human Resources (e.g., Support Staff Services, Licensed Personnel Services, and Substitute Services) perform similar recruiting and hiring functions for different types of employees. But these departments use different forms and different processes, each requiring different computer systems and producing different management reports. Efforts should be made to simplify and standardize these forms, processes and reporting systems.

- **Improve the ability of HR to support an efficient process for attracting and retaining highly talented staff.** Currently, school leadership reports that the number of qualified candidates in certain areas, such as occupational therapists, is insufficient. Further, it was indicated that there are unnecessary delays or candidates are forced to make decisions too quickly – both resulting in the loss of qualified candidates.

- **Reduce the amount of paper produced, routed and stored in and on behalf of Human Resources.** The Human Resources Division uses a large amount of paper. Even some electronic forms, such as requisitions and licensed personnel applications, are printed from the system, routed for manual processing and approvals, and filed away in file cabinets and archival boxes.

- **Give preference to organization configurations that will promote collaboration, ease the burden of applicants and reduce duplication of effort by HR employees**. For example, the district could set up an intake center where employees and applicants can report and be directed to the appropriate HR person who can assist them. This intake center would be staffed with information liaisons and intake clerks, and preferably contain kiosks at which applicants can apply for jobs and employees can submit QSPs (forms used to apply for placement in the qualified selection pool for a particular position).

Table 5-3.1 provides a summary of the recommendations presented in this section, including the five-year fiscal impact resulting from implementation.

Table 5-3.1. Summary of recommendations

Recommendation	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required	Major Policy Changed Required
Human Resources					
5-3.1. Implement integrated systems and streamline processes in HR.*	High	2013-17	$825,000	Yes	No
5-3.2. Improve the ability of HR to support an efficient process for attracting and retaining highly-talented staff.	High	2013-14	$0	No	Yes
5-3.3. Reduce the amount of paper produced, routed and stored in and on behalf of HR.	Medium	2013-14	$0	No	Yes
5-3.4. Give preference to organization configurations that promote collaboration, ease the burden of applicants, reduce duplication of effort by HR employees and provide exceptional customer service to employees.	High	2013-14	$0	No	No
Totals			**$825,000**		

* Fiscal impacts related to the software implementation are shown in *Chapter 5, Section 4 - Technology*

Recommendation 5-3.1: Implement integrated systems and streamline processes in HR.

The various departments within the Human Resources Division (e.g., Support Staff Services, Licensed Personnel Services, and Substitute Services) have similar primary functions in that they are responsible for recruiting, hiring and supporting employees in the district – although the types of employees supported differ. Although the employees within each sub-department appear to be well cross-trained, there is a disconnect when it comes to collaboration and standardization of processes within HR as a whole.

Each area employs slightly different processes and procedures in performing very similar tasks. Some areas are more automated (e.g., Licensed Personnel Services) while some areas are extremely paper-based and manual (e.g., Support Staff Personnel Services) – with some areas falling in-between.

At this time, some departments within HR – such as Licensed Personnel Services (Licensed Personnel), the Administrative Personnel Services (Administrative Personnel) and Substitute Services (Sub Services)

– have systems in place to accept employment applications online (a mainframe system called HR Daily). However, Support Staff Personnel Services (Support Personnel) operates in a primarily paper-based environment and utilizes paper employment applications, which are three-part no carbon required (NCR) forms. These application forms are manually routed throughout the application process. Although reference requests can be distributed via email using HR Daily, Administrative Personnel distributes them on paper, via US mail.

Because there is not a central repository of applicant data, HR staff who receive an application must perform manual research to determine if an applicant has previously submitted an application with another HR group. The manual research typically involves walking to the various areas of HR in order to inquire if the applicant has previously submitted another application. This is the only available method for determining if there is any information that can be shared to expedite the hiring process.

Administrative Personnel leadership indicated that even in the case where an internal applicant (e.g., a teacher) is applying for an administrative position within the district, it is often difficult to obtain the necessary data from the Human Resources Management System (HRMS) used for licensed employee management and tracking. Additionally, it was stated that even the images in the Document DNA (DNA) imaging system are separate and require imaged files to be printed and rescanned into the administrative imaging system after the employee is transferred.

Some initiatives are being currently implemented which will assist in sharing applicant information. For example, an Access database of FBI fingerprinting results is being created by the Support Staff compliance staff to assist HR staff in sharing applicant background check results. If one HR area has fingerprinted an applicant, the other areas may use those same results if the fingerprinting results are less than six months old. This has the potential to greatly expedite the process, as fingerprinting results from the state can take up to 12 weeks to be returned. However, this is not ideal as this information should be maintained in a secure, password-protected system to which limited employees have access. Although HR leadership has investigated the possibility of utilizing a third-party to expedite the fingerprinting and background searches, they have indicated that the third-party searches are not as thorough as that performed by the state.

Next, the applicant data (for Licensed Personnel and Sub Services only) is hand-entered into the FoxPro-based Applicant Tracking System (ATS) which has been in use by CCSD since 1990. HR staff members indicated that it “crashes” frequently. Also, the system is not updated in a timely manner when new fields must be added due to law or policy changes.

Although Licensed Personnel, Administrative Personnel, and Sub Services accept online applications, once an applicant submits the online application, the application is printed by a staff member and processed and routed manually. Additionally, because ATS can only store one application per person, applicants applying for additional positions must complete and submit additional applications on paper.

Other major shortcomings of the applicant tracking system are:

- The ATS does not have a place to indicate that references have already been sent out for the applicant.

- The ATS allows applicants to submit their applications even if required information is missing.

Once licensed employees are hired, HR staff members enter their data into the HRMS, an in-house, mainframe employee management system. However, Support Personnel and Administrative Personnel staff indicated that a full implementation of the HRMS system for all types of employees was placed on hold when the SAP ERP system was purchased, and was not re-started when the SAP project was put on hold. Because of the lack of electronic employee management, Support Personnel and Administrative Personnel staff members keep folders and binders containing basic data for their employees.

A major limitation of the HRMS is that it contains only current data and does not retain an employee's history. Because of this limitation, HR has implemented a "History Card" software program in which HR staff members perform duplicate entry of employee history when there is any change to the employee (e.g., change in position, location, etc.). However, reports related to groups of employees cannot be generated from this software. Rather, information about each employee of interest must be accessed one employee at a time.

Pay data for all types of employees is entered into the mainframe payroll system (sometimes referred to as Passport). However, these data cannot be entered prior to the payroll period in which it occurs. Rather, HR and Payroll employees must wait until after the processing for one payroll period is complete before changes for the next payroll period can be entered. Other limitations of the Passport and HRMS systems include:

- An employee cannot be paid for two different types of overlapping pay. For example, if a substitute is hired as a teacher, but the substitute pay has not been completed, the HR Division must submit a manual form in order for the employee to receive the substitute pay.

- Mid-year employee transfers require manual payroll calculations (e.g., changes between full-time, part-time or shared jobs; moves to and from Edison Schools).

- HR primarily relies on Computer Information Services (CIS) to provide daily, weekly and monthly reports.

- Full-time equivalent (FTE) budgeting/position control is performed manually in Support Personnel, using a monthly report that is provided from the Budget department. Support Personnel writes on the report when staff change positions and reconcile this information to their school and department binders. Other HR areas track positions in Excel.

Because of the limitations of the systems utilized in HR, many Excel spreadsheets and Word documents have been created and are maintained, none of which are integrated with the others. These include the following:

ADMINISTRATIVE PERSONNEL SERVICES

- Promotions and status changes
- Seniority list
- Principalship seniority tracking
- Education information
- Position history
- Committee scoring sheets

CONTRACTING SERVICES

- Leave of Absences (LOA) database
- Separation database
- Retirement database
- New hire document tracking spreadsheet
- Unemployment tracking spreadsheet
- Imaging tracking spreadsheet
- Name change spreadsheet
- Intent receipt tracking database
- Public Employee Retirement System (PERS) additional service credit for at-risk/hard-to-fill (non-qualified) tracking database
- Document receipt tracking database for salary advancements
- Researched courses database for salary advancements

LICENSED PERSONNEL SERVICES

- License tracking database
- Alternative Routes to Licensure (ARL) database
- ARL guest presenter payment spreadsheet
- Alternative Routes to Certification (ARC) database
- Highly-qualified test reimbursements budget spreadsheet
- New teacher contract database
- New hires from outside the district spreadsheet
- Staffing allocation spreadsheet

- Transfer tracking database
- Coaching stipend budget spreadsheet
- Ticket-taker payment tracking spreadsheet
- School club (grant) budget tracking spreadsheet
- Recruiter interview tracking database
- Advertising tracking database
- Surplus tracking database
- Unemployment tracking spreadsheet
- Licensed elementary staffing transaction spreadsheet
- General recruitment services trip database
- Licensed elementary staffing recruiting trip tracking spreadsheet
- Technology equipment (for HR) check in/out spreadsheet

SUPPORT STAFF PERSONNEL SERVICES

- New hire tracking spreadsheet
- Separation tracking spreadsheet
- Applicant tracking spreadsheet (for school technology positions)
- LOA database
- Family Medical Leave (FML) database
- Staff allocations spreadsheet
- Resignation and termination tracking spreadsheet
- Surplus spreadsheet
- Reduction in force (RIF) spreadsheet
- Rights to return process spreadsheet
- PERS hours/credit tracking (pay data) spreadsheet
- Drug and alcohol testing database
- PRAXIS testing spreadsheet
- Bilingual and Title 1 test score tracking database
- Drug testing database
- Key control spreadsheet
- Police applicant database

- Support staff certificate spreadsheet (multiple worksheets)
- Suspension database
- Bloodborne pathogen tracking
- Buyer position testing database
- School Security Monitor coursework/recertification database
- Paraprofessional assessment test tracking for Title 1 position database

TEACHER INDUCTION, MENTORING AND DEVELOPMENT

- School support collaborative tracking spreadsheet

SINGLE DATABASES USED BY ALL AREAS

- Qualified Selection Pool (QSP) Helper database - linked to ATS
- Master Vacancy database
- Orientation database

Some data are tracked only in HRMS, some are tracked only in an external electronic or paper file, but some information – such as employee/applicant demographics and other basic information – is entered in both the systems and external files. This duplicate entry creates unnecessary work for HR employees because they must perform periodic verifications to make sure that the information is matching. Additionally, there is no one data source from which district can pull complete employee information for all types of employees. These data must be pieced together from various sources.

Another potential issue that will be mitigated by the implementation of integrated systems is the method used to pay hourly support employees at CCSD. These employees are exception basis, meaning that employees are assumed to work 40 hours per week unless exceptions are reported to a supervisor or timekeeper. This method may be prone to error due to unreported leave time and may lead to abuse by some employees.

In addition to the sharing of information within the HR silos, another significant issue is the differences in processes and business rules between the different HR groups. For example:

- HR groups define the termination date differently. Support Personnel uses the last day worked as the termination date while both Licensed and Administrative Personnel use the last day paid.

- Each group keeps slightly different standard documents in the electronic personnel file (DNA) and there are no consistent guidelines. Also, while Contracting Services shreds scanned files, Support and Administrative Personnel both store the paper documents in the warehouse.

- In order for an employee who has been in more than one type of job at CCSD to view their personnel file with all job history, the HR Division requires that they make a separate appointment with each HR group to view their personnel file documentation related to that type of job. *This may be a security issue which limits staff within the HR Division from seeing employees in another HR group.*

CCSD should implement integrated systems, including a timekeeping module, to support the HR Division and Payroll Department in order to reduce the transactional processing burden on HR and Payroll staff members and to integrate strategically important HR information with other CCSD systems (e.g., the accounting system). Additionally, during system implementation, much attention should be directed at reengineering HR and Payroll business process in order to reduce the manual effort and time currently consumed by these processes.

Once the HR and Payroll modules are implemented, the implementation of a time system will increase accountability without significantly increasing the workload of Payroll staff members. The district currently owns the time management module for SAP and implementation of this module should be included in the project in conjunction with implementation of SAP HR and Payroll modules. Once this is implemented, the district should move away from exception basis pay for these employees.

Implementation of this recommendation will result in many benefits including: better information for decision makers concerning the district's single largest object of expenditure: personnel; dramatically improved process efficiency and effectiveness; improved consistency of HR and payroll processes and outcomes across departments; improved collaboration between HR staff members; increased accountability; increased ability of HR employees to perform strategic tasks; improved customer service to applicants and employees; and possibly further reduction of staff due to business process reengineering.

According to the 2009 Human Capital Benchmarking Study[43] performed by the Society for Human Resources Management (SHRM), the median number of HR staff for an organization with 37,341 employees is 149. With the district's current dependence on manual and paper-based processes, the current HR staffing level of 172, while higher than benchmark, is almost certainly necessary.

Some HR organizational changes and HR position reclassifications will be possible once new systems and processes are in place. For example, the district will be able to move to online applications for all areas. Based on this change, the functions of the intake clerk position would significantly change or be eliminated.

Fiscal Impact

CCSD has purchased 23 modules of the SAP software (including HR, payroll, and time management) and has implemented 14 modules at this time. The district is currently evaluating options to move forward

[43] http://www.shrm.org/Research/SurveyFindings/Articles/Documents/09-0620_Human_Cap_Benchmark_FULL_FNL.pdf

with implementing the remaining nine modules. The implementation of the remaining SAP modules is expected to incur significant costs related to implementation support – estimated to be approximately $10,000,000. Conversely, there will be some cost reduction opportunities in terms of staff reductions, approximately $165,000 annually according to CCSD, due to two full positions that could be eliminated. Some additional positions may be repurposed once the transactional processing burden is removed with the new system and processes.

An ERP implementation allows new business processes to be designed and old business processes to be reengineered to improve timeliness and effectiveness. CCSD should avoid the temptation to re-create current processes in the newly implemented system. Doing so will lead to costly customizations and upgrades, and can actually perpetuate inefficiency. Rather the configuration of the system should be guided by the system's "vanilla", or un-customized, processes. These process changes are expected to result in greater efficiencies, allowing for additional staff reductions that can be accomplished through attrition.

Some cost reductions, in the form of staff reductions, are expected to be realized after the system implementation is complete and the human resources processes have been streamlined. For example, the two positions that are currently devoted to maintaining the crosswalks between the payroll system and SAP could be eliminated, resulting in a cost reduction of $165,000 annually. Additional human resources positions could be repurposed and/or eliminated through attrition.

Although the implementation and process re-engineering will require a significant staff commitment by the Human Resources Division, it will ultimately result in increased efficiencies. As HR/payroll business processes will be reengineered during the implementation, human resources staffing should be continuously re-evaluated during the project to determine which positions may be eliminated and which positions need to be re-purposed (and possibly reclassified).

The software implementation portion of the fiscal impact for this recommendation is included in *Chapter 5, Section 4 – Technology*.

Recommendation 5-3.3.	One-Time (Costs) / Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Eliminate two positions	$0	$0	$165,000	$165,000	$165,000	$165,000
Total	**$0**	**$0**	**$165,000**	**$165,000**	**$165,000**	**$165,000**

Recommendation 5-3.2: Improve the ability of HR to support an efficient process for attracting and retaining highly-talented staff.

In the past, the Human Resources Division has been effective in recruiting the quantity of staff needed to support growth, but as growth has slowed, more attention can be shifted to candidate quality and competence, as well as the efficiency of the overall process and customer perceptions related to it.

School and department leadership noted the following major issues related to the hiring process:

- It takes too long to hire staff.
- The number of quality candidates in the Qualified Selection Pool is sometime inadequate.
- The "bumping" process (by which more senior employees may, by union contract, claim positions held by less senior employees) is contentious, cumbersome, causes great inefficiency (due to frequent retraining of staff) and has a detrimental effect on morale.
- The salaries offered by CCSD are not perceived to be competitive locally or nationally.

During interviews and focus groups, the review team found that the HR Division is perceived by applicants and hiring managers to be somewhat inefficient and bureaucratic, and some expressed frustration with HR's current organizational silos not effectively sharing data, such as fingerprinting results, references and other application information.

Although some of these issues will be mitigated by the implementation of other recommendations, the review team recommends the following actions also be taken. It is anticipated that existing staff can perform the work required for the implementation of these recommendations, so there will not be a fiscal impact.

Reduce the time-to-hire by streamlining the fingerprinting process.

The implementation of integrated systems, as well as the streamlining of processes and collaboration that will occur as a part of that project, is expected to decrease the time it takes to hire a new employee. However, as described earlier, the fingerprinting process – which is now performed for CCSD by the state, but very slowly – will continue to be a source of delay unless the process can somehow be accelerated. HR Division leadership should continue previous efforts to explore other avenues by which applicant fingerprint checks can be accomplished on a timelier basis, or work with the State of Nevada to reduce the time required.

Increase the number of quality candidates in the QSP.

It was reported to the review team that the number of qualified candidates in certain areas, such as occupational therapists, is insufficient. Additionally, district management expressed concern that some candidates may be denied entry into the QSP (or do not apply) due to non-essential job requirements in the posting or advertisement. An example provided was related to an administrative position which required an obsolete Nevada certification.

Some managers and principals also expressed the opinion that some candidates in the QSP are found to be unqualified after further review.

According to HR staff, reductions in force, rights to return, and "bumping" are strictly dictated by employee seniority. Almost every management employee interviewed – including those in HR –

expressed frustration with the bumping process, and especially in cases wherein a qualified, skilled staff person is replaced by a nominally qualified, more senior employee who simply cannot perform the essential functions of the position. One example provided was a personnel assistant who was bumped by another employee who had no HR experience. The bumped employee then bumped another employee from a registrar position at a school.

Principals stated they have "lost a lot of autonomy" to staff their schools with competent, highly qualified staff, because only seniority and licensure, not experience or past performance, is taken into consideration when placing a teacher who has exercised his or her "right to return" from reduction in force (RIF) or leave of absence.

It was also stated in principal interviews that when an Empowerment School rejects a teacher due to unsatisfactory performance, such teachers are placed in vacant positions (or can "bump" other teachers) at a regular school – sometimes without the approval of the receiving principal.

According to the negotiated labor agreement[44], an employee who is assigned to a vacant position or who accepts a position as part of a surplus reassignment or RIF must meet the qualifications detailed on the published job description.

A logical recommendation would be to review and update job descriptions with true required education and specific experience necessary to perform each job. However, a sample of job descriptions for support staff was reviewed by the evaluation team and most contained very explicit required qualifications, such as business degrees and years of experience in a particular field or working with specific software or hardware.

There are a number of separate actions that can be taken to assist with this recommendation:

1. **Allow hiring managers and principals to participate in the process PRIOR to applicants/employees being placed into the QSP.**

   Particularly for positions which require applicants with specific skills, the hiring manager/principal will be better able to determine whether the type of experience that the applicant possesses is adequate and meets the requirements of the position.

   Because education and experience are established on the job description, it would appear that these minimum qualifications are not thoroughly enforced when performing bumping processes. HR should establish a more systematic process for evaluating employees' qualifications and experience prior to allowing them to bump a better qualified person from a position.

   Additionally, it was indicated by HR management that important parts of the budget process, specifically the enrollment projections and assignment of staffing allocations, which affect HR,

[44] http://www.ccsd.net/jobs/gnrl/?p=agreements

typically occur in mid- to late-spring. This greatly compresses the time that HR staff and building supervisors have to fill their vacant positions prior to the involuntary surplus meetings in May.

2. **Increase the number of metrics that are tracked and analyzed related to recruitment.**

   With the implementation of any modern ERP system, the ability to track and measure all types of data will be possible. CCSD should ensure that the system is configured in such a way as to allow the measurement of applicant source quality. Data points used to measure this include: locations of recruiting trips or advertisements, the amount of recruiter time spent, the travel expenses or advertisement costs, number of total candidates found, number of qualified candidates, the number of new hires resulting, and the length of employment of those new hires.

   These data can help the CCSD HR Division focus recruitment and advertising efforts on the most effective sources of quality applicants and discontinue ineffective recruitment efforts.

3. **Explore alternative candidate sources and recruiting strategies.**

   Because of the budget crisis, as well as the recent lack of growth in enrollment, some recruiting activities that were performed in the past have been suspended. For example, Administrative Personnel developed and maintained an out-of-district candidate pool. Once HR processes are streamlined, it may be possible to reinstate this practice.

   A recruitment best practice for school districts is to cultivate relationships with potential employees long before they become applicants. Although some HR staff members are tasked with building relationships with post-secondary institutions, this effort is limited to teacher recruiting. Supplementary efforts should be focused on reaching other potential applicants, such as highly-skilled technology workers and other types of support staff.

   Additionally, targeted programs could be developed to cultivate interest by high school or college students in CCSD careers. Private sector companies employ strategies such as these to allow students to work part-time in the field of interest to them while remaining in school.

   An example internal to CCSD is related to a food services course offered at the middle and high school level. As a part of this program, approximately 800 to 1,200 high school students per year (who are taking the food services course) work part-time work in the school cafeteria – time for which they are paid. Middle school students participating in this course are not paid for the time that they work in the cafeteria.

   The same approach could be applied to other skilled trades and support functions.

   Additionally, a growing number of organizations are augmenting their traditional recruitment channels with recruitment-oriented use of social media such as Facebook, Twitter, and LinkedIn in order to reach a larger number of potential applicants at a lower cost. These same tools can

be used to publicize the achievements of CCSD, drive traffic to the CCSD website and provide an alternative to the mainstream media when a message needs to be communicated.

4. Administer performance evaluations more effectively.

Managers and principals throughout the district indicated that it is difficult to terminate chronically under-performing employees from CCSD. There is a perception that the district shifts unsatisfactory employees from supervisor to supervisor, rather than effectively managing poor performers out of the district. This practice negatively affects morale. It is likely that a major driver of this practice is the current two-tiered performance rating system which requires that supervisors rate each employee as "unsatisfactory" or "satisfactory". Such an "either-or" evaluation does not allow adequate differentiation of performance evaluations. The district's new superintendent intends to shift CCSD to a four-tiered evaluation system using the ratings "highly effective", "effective", "minimally effective", and "ineffective". The review team supports this change.

Without some intermediate ratings, it is human nature to over-evaluate and assign a satisfactory rating. Data provided by CCSD HR staff indicated that in 2010-11, 37 of the 18,010 licensed employees (approximately 0.2 percent) received an unsatisfactory performance rating last year. This is surprising in the context of the district's relatively low student performance.

When asked to explain why there is a tendency to effectively over-evaluate employees so that they will be accepted by other supervisors in CCSD, several managers and principals referenced the cumbersome guidelines (dictated by negotiated agreements) that must be followed in order to terminate a poor performer. They felt that it resulted in extremely long processes, and a number of interviewees indicated that even when these procedures are followed and the employee is terminated, there have been instances when the Employee Management Relations (EMR) Department has reinstated or reassigned the employee without addressing the performance problem. The example given was an employee who was terminated for excessive use of sick leave or because they were absent without leave for more than five days. It was stated that "about two to three times per year", an employee such as this will go through the arbitration process and be rehired and placed in another department. In order to reduce the confusion and dissatisfaction with the progressive discipline process, the EMR Department should provide additional communications and training regarding performance management and the negotiated agreements to managers and principals. Subjects of the communication and training should include: basic requirements of the negotiated agreement; how to conduct an effective and defensible performance review; creating goals, objectives and action plans for improvement; coaching skills; and avoiding common types of biases.

Additionally, performance measures related to the disposition of employee grievances should be tracked in order to identify trends and mitigate risks, such as unfair management practices, and litigation trends. Some performance measures to consider are: grievance rate by type of

grievance, disposition of grievances (in favor of the employee or the employer), and the EMR Department operating expense per employee FTE.

Increase communication regarding the RIF/surplus/bumping processes.

Although the process of "bumping" is mandated by the negotiated agreements[45], there are some actions that the HR Division can take to ensure that the process goes more smoothly and that employee perceptions are managed.

Increased proactive communication to managers, principals and employees about the requirements of the negotiated agreement requirements and their impact on HR processes may minimize some issues in that the "customer" expectations will be better managed.

Perform market research to ensure that CCSD's compensation and benefits are in line with other local organizations and with comparably sized school districts with which they compete for employees.

The leadership of two departments/divisions (HR and Technology) indicated in interviews that the pay scale for professional employees, such as teachers and highly-skilled technology employees, may not be in line with local and national entities with which CCSD competes for applicants.

1. HR leadership indicated that CCSD is not nationally competitive for first-year teachers and CCSD does not offer stipends for hard-to-fill positions. This issue was also addressed in Recommendation 6-5 in the MGT report in 2006[46].

2. The Technology Department indicated that it is difficult to get highly skilled technical employees, such as programmers, because of the salary levels offered by CCSD.

New teacher placement salaries of selected peers are presented in Table 5-3.2.

Table 5-3.2. CCSD and peer district new teacher placement salaries

District	Bachelors	Masters
CCSD	$34,688	$40,280
Miami-Dade County Public Schools	38,500	41,600
Broward County Public Schools	39,000	42,650
Houston Independent School District	44,987	46,017
Peer Average	**$40,829**	**43,422**

Source: CCSD; Peer district websites

[45] http://www.ccsd.net/jobs/gnrl/?p=agreements

[46] *Clark County School District Financial Management Review,* MGT of America, October 2006.

CCSD beginning teacher pay (for those with bachelor's degrees) is 15 percent below the average of selected peers, and nearly ten percent below the lowest peer – Miami-Dade County Public Schools.

Fiscal Impact

Unless compensation levels are adjusted, these recommendations will not have a fiscal impact.

Recommendation 5-3.3: Reduce the amount of paper produced, routed and stored in and on behalf of HR.

Review and update retention schedules.

CCSD Regulation R-3621[47] (Records Retention Schedule) lists 180 different forms and documents, along with the party responsible for retention and the required retention period. Of these 180 items, 84 – nearly 50 percent – require permanent retention. However, the time required for retention at CCSD is far greater than is stated in the Nevada Local Government Retention Schedule (Section Number S-1031[48]).

For example:

- CCSD requires permanent retention of authorizations for extra pay (CCF-5), while local government regulations only require that document to be kept for three fiscal years from the date of authorization.
- CCSD requires permanent retention of licensed employee appraisal reports (CCF-8), while the local government regulations only require those documents to be kept for three calendar years from the end of the calendar year in which the individual terminated.
- After two years, administrative applications are printed from the HR Daily system and sent to the warehouse. A Word document is kept which lists the names of the applicants who were stored. However, local government regulations require documentation related to requisitions, applications and other related documentation to be retained for two calendar years after the position is filled. (An exception is that under the antidiscrimination laws, if there is a pending charge or claim of discrimination against the organization, all relevant hiring records must be retained until the conclusion of the case.)

[47] http://www.ccsd.net/pol-reg/pdf/3621_R.pdf

[48] http://nsla.nevadaculture.org/dmdocuments/school_districts.pdf

Existing staff can accomplish this recommendation. Fiscal impacts will be limited to cost reductions related to the cost of warehouse storage space and staff time that will no longer need to be spent processing the retention requirements.

Reduce or eliminate manual and paper-Intensive processes and dispose of paper, when possible.

There are an extremely high number of manual, paper-based processes in the HR Division at CCSD. In fact, many forms are NCR forms which are managed by an HR employee who manages changes and orders them when stock is low. Many of these forms require manual calculations during completion, and all of them are manually routed for signature. One example of a frequently used NCR form is the CCF-5 or authorization for extra pay form. Every two week pay period, approximately 700 to 800 CCF-5s are processed by the Support Personnel Pay Data group. Also, if the extra pay includes overtime, a separate CCF-5 is required. This form is also used when an employee changes jobs within a pay period.

Both HR and Payroll employees indicated that they feel that there is no control over the CCF-5 process and it is difficult to know if duplicate forms are being submitted for the same person and reason – primarily because there is not a date field on the form and because of the volume of forms received.

Other manual and paper-based processes include:

- Support personnel applications
- Licensed personnel applications – Although they are completed by the applicant online, licensed personnel applications are printed from the system and routed for manual processing.
- Licensed personnel offer letters – While there is some electronic workflow leading up to the offer for employment for licensed applicants, the actual offer letters are printed and mailed.
- Intent letters
- Contracts
- CCF-30 (licensed employee transfer notifications) – CCF-30s are delivered electronically to Contracting Services and the paper form is also routed to the same employee who receives the electronic notification.
- Requisitions – Even some electronic forms, such as requisitions and licensed personnel applications, are printed from the system and then routed for manual processing and approvals.

Several HR employees indicated that the combination of their manually routed forms and the recent decrease in mailroom services is adversely affecting the timeliness with which they can perform their job functions.

After processing the paper forms, they are scanned into the online personnel folder in the DNA system. While some HR groups destroy the paper at this point, in some HR groups, the paper copies are shipped to the warehouse for storage, sometimes permanently.

Chapter 239, section 51 of the Nevada Revised Statutes (NRS 239.051[49]) states that "any custodian of public records in this State may destroy documents, instruments, papers, books and any other records or writings in the custodian's custody only if those records or writings have been placed on micro-photographic film or if the information they contain has been entered into a computer system which permits the retrieval and reproduction of that information." As previously recommended in the 2006 MGT report[50], Gibson also recommends that CCSD dispose of personnel/employee record documents once those documents are imaged into an electronic personnel record file.

During implementation of the HR/Payroll system, special consideration should be given to eliminating paper routing and manual processing. Where possible, electronic forms and workflow should be utilized to reduce the time and effort that is expended performing these manual activities.

Fiscal Impact

These recommendations will not have a concrete fiscal impact, but will result in increased efficiencies and some potential decrease in storage costs related to warehouse space.

Recommendation 5-3.4: Give preference to organization configurations that promote collaboration, ease the burden of applicants, reduce duplication of effort by HR employees and provide exceptional customer service to employees.

As discussed previously, the HR Division is divided into silos which negatively impact the level of customer service, as well as customer perceptions of the department's professionalism.

The district is currently working on a major reorganization and there are some recommendations related to the new organization configuration which can be implemented to mitigate these issues.

Eliminate duplicative reception desks within HR.

Currently, the HR Division staffs multiple reception desks. An Information Liaison and a Security Guard are stationed at a reception desk at the building's entrance. The Information Liaison is responsible for answering basic questions posed by visitors, as well as collecting information regarding the reason for their visit and informing them of what must be done to accomplish the goal for their visit. Before visitors are allowed to continue into the building, they must sign in and receive a visitor's badge prior to continuing to the HR department or office they wish to visit.

Additionally, each HR department, such as Administrative Personnel and Support Personnel, has its own reception desk at which the visitors must again explain the purpose of their visit and sign in.

[49] http://www.leg.state.nv.us/nrs/NRS-239.html#NRS239Sec051
[50] *Clark County School District Financial Management Review,* MGT of America, October 2006.

Another issue related to reception is that communication frequently stops at the sub-department reception desk and the main reception desk staff does not receive updates and other information consistently. This causes confusion for the visitors and the front desk reception staff.

These duplicative reception desks and sign-ins are inefficient and should be eliminated. The main reception desk should continue to greet visitors, gather information for their visit and process them for a visitor's pass. Then, the information regarding the reason for the visit should be communicated to the HR department or office to which the visitor is going.

In the short-term, these staff members should be re-assigned to relieve the staff burden related to the systems implementations. Eventually, some positions may be eliminated through attrition.

Co-locate similar functions and cross-train employees to increase collaboration.

There are employees in each of the HR departments who perform similar jobs. Each HR department effectively cross-trains the employees within their own department so that various tasks can be accomplished when an employee calls in sick or goes on vacation. However, no collaboration or cross-training between HR departments was reported in the interviews conducted with staff. The silos in HR are the primary reason for this.

HR Division leadership should institute cross-training across organizational silos in order to realize better coverage as workloads shift during different times of the year. Also, arrangements should be made to facilitate the sharing of workloads throughout the year among HR staff. For example, the review team spoke to an employee who reports to another department head, is paid out of the Human Resources budget and performs Human Resources related work, but is not located in the HR Division. The job is of a seasonal nature and during the summer there is very little to do. Prior to moving to the current location, the position was co-located in Human Resources, which permitted some cross-training and work load sharing that is no longer possible.

These types of situations should be minimized by co-locating HR employees to allow the sharing of workloads during the various "peak" times.

Re-distribute duties, as appropriate.

Currently, some tasks appear to be misplaced among the HR departments. For example, Support Personnel handles the placement of temporary clerical substitutes and the Food Services Department handles the placement of their own substitutes, as does the Transportation Department.

It is recommended that the placement of all substitutes be centralized in the Sub Services Department using automated systems already in place.

Furthermore, the Administrative Personnel Department is in charge of the support staff job descriptions, reclassifications and desk audits. These duties should be shifted to the Support Personnel Department.

Adjust positions, where necessary.

After the recommended process improvements are implemented, the department will be able to re-evaluate staffing levels and the number and type of positions required to conduct business. For example:

- The need for intake clerks will decrease after all applications are accepted online, but the district may wish to refocus these positions to provide assistance to applicants (via telephone or in-person) as they are completing the online application (at home or at kiosks on the CCSD premises).
- Because the implementation of integrated systems is expected to decrease the amount of time spent on data entry and other manual processes, some clerical, data processing positions may be converted to another type of position or eliminated through attrition.

Fiscal Impact

The implementation of these recommendations will result in increased efficiencies, which may – over time – produce cost reductions related to staffing levels.

Section 4 – Technology

The Technology and Information Systems Services (TISS) Division of CCSD provides technology related services and support to district users. TISS's major responsibilities include:

- Supporting the district's central information systems such as human resources, payroll, finance, procurement and the student information management system.
- Providing application development services.
- Managing email and instructional software support services.
- Implementing and maintaining the local area network (LAN) and wide area network (WAN) throughout the district.
- Supporting all computers and related equipment.
- Providing technology solution and business systems training to all CCSD employees.

TISS operates under a $34 million budget, approximately 38 percent of which relates to staffing. TISS has 174 positions. An additional 233 technology-related positions outside of TISS report to school administrators to provide instructional technology solutions and technical support in classrooms and to other divisions/departments such as Facilities, Transportation, and Student Data Services. Although TISS communicates and coordinates with the technical staff located in other divisions/departments to provide technical standards and direction, there are areas where this can be improved.

The district's operations are supported by three mission-critical enterprise-wide applications underlying the core business functions of human resources management, student information management, and financial management. The first two of these are obsolete and need to be replaced.

- **Human Resources / Payroll System**. CCSD currently uses a 20 year-old payroll/benefit system and a 15 year-old application for applicant tracking and position control (of licensed personnel only). Both of these systems were developed internally. The district does not have an applicant tracking system or position control system for non-licensed employee groups. As described in the Human Resources section (Section 3) of this chapter, these obsolete systems contribute to highly inefficient and costly human resource management operations.

  The district purchased a software application from SAP for Human Resources/Payroll in 2004, but implementation of this system was put on hold due primarily to budget constraints. The SAP HR/Payroll applications are integral parts of a larger SAP ERP system which includes financial management and purchasing applications, among others. These financial systems have already been implemented. Although the planned implementation of SAP HR/Payroll will require a significant investment and will be a challenging project, continuing to operate within the constraints of the current application environment has significant risks and costs as well. The

district is currently entertaining proposals to implement the SAP Human Resources/Payroll system. The implementation of this system will involve a significant effort from Human Resources, TISS, and the Payroll areas. It will ultimately affect the way every CCSD employee is recruited, hired, evaluated, promoted, and paid.

- **Student Information System.** The district's student information management system is also obsolete. Schools Administrative Student Information (SASI) is no longer being upgraded or supported by the vendor. This creates a significant support issue and related risks for the district. Due to its outdated technical design, the SASI application is resource intensive and not efficient compared to today's web-based student information management systems. The district has taken steps towards replacing SASI but more work and a significant investment will be required. Gibson endorses the district's efforts to pursue this needed system replacement.

CCSD has significant technology needs, but funding constraints have limited the district's ability to implement major initiatives. This section presents five recommendations that represent the highest priority needs for the district. Table 5-4.1 presents a summary of the recommendations made in this section as well as related five-year fiscal impacts.

Table 5-4.1. Summary of recommendations

Recommendation Summary	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required	Major Policy Changed Required
5-4.1. Create and implement an enterprise data management framework.	High	2012-13	($5,030,000)	Yes	Yes
5-4.2. Procure and implement a student information system	High	2012-14	($23,000,000)	Yes	No
5-4.3. Fully implement the HR and Payroll modules of SAP	High	2013-17	($10,000,000)	Yes	No
5-4.4. Develop criteria to identify and select instructional and operational software programs.	High	2012-13	$0	No	Yes
5-4.5 Phase out Educational Computer Strategist positions and re-purpose through separate functions for technical and instructional support.	Medium	2012-13	$0	No	No
Total			**($38,030,000)**		

Data Management

The efficiency and effectiveness of the technology function is limited by the lack of an enterprise data management framework which consists of:

- Establishing enterprise data standards.
- Establishing and documenting enterprise data processes.
- Establishing and implementing clear staff roles and responsibilities for data management.
- Establishing efficient data integration across all mission critical systems.

Currently, the district's data are fragmented and often duplicated among computer applications, departments and business processes, residing on diverse data platforms (or on paper forms) and managed by different staff with varying skill levels. Although there are procedures in place for data management in those systems under the purview of TISS, CCSD does not have a documented, district-wide enterprise data management framework. As a result, the district spends significant time and resources to make sure data are accurate, complete, consistent, and timely.

Enterprise Data Standards

Data standards are documented agreements that ensure data are clearly understood, uniformly defined, and uniformly collected. Data standards typically include: definitions, allowable codes, field type (e.g., alpha/numeric), field length and population requirements. All data items at CCSD are not standardized among the different applications used.

One example is the building and square footage information collected as a part of the data request for this study. The data received from various departments conflicted and were difficult to reconcile because each application stored data using different codes for buildings and used different business rules. Some square footage data for schools included portables, while other applications stored the portables separately.

Another example encountered during this study was the analysis of student-level data. In almost all data sets, there was inconsistency in variable names and values across years and across tests. As a result, an extensive amount of time was needed to clean and standardize the data in order to perform a simple examination of the same variables across all school years. In some cases, data were simply "missing" because they had been moved from one computer system to another.

Enterprise Data Processes

TISS has fully-documented data processes for SASI. This documentation includes:

- Data exports and imports
- When they occur
- How they occur (e.g., batch, user-initiated)
- Party who is responsible for the process
- Who receives the data
- The format of the data, including the fields supplied

However, none of the other mission-critical district systems (Human Resources, Payroll, Finance, Facilities, Food Services, Transportation) have been documented in this manner.

Data process documentation is important because it records, in a consistent manner, how data flows between critical applications and how it is used by these applications. Without careful documentation, this knowledge resides only in the memory of current employees. Documentation also supports analysis of how new data systems will need to import or export data from old data systems. This is particularly important for CCSD because its core systems are outdated and need to be replaced soon.

Roles and Responsibilities for Data Management

In addition to TISS, other divisions/departments such as Facilities, Transportation, and Assessment, Accountability, Research, and School Improvement (AARSI) have their own staff members who are responsible for data management. Their dealings with TISS staff that are responsible for data are based on informal relationships between the individual employees.

For example, AARSI has implemented an integrated system called the INFORM Learning System, which contains testing and common assessment data, as well as data from various instructional programs and the student management system (e.g., attendance, grades). INFORM appears to be a very promising data warehouse and reporting tool for instruction- and student-related data. However, there has been limited involvement by TISS in this study.

In addition, the individuals who manage the technical aspects of this system are not district employees; one is employed by the software vendor and co-located at CCSD, and another is an intern from the University of Nevada Las Vegas. This dependence on outside persons inhibits the institutionalization of knowledge within the district and presents some uncertainty regarding whether the district can support and enhance INFORM if these non-district personnel became unavailable.

Although those performing the administration of INFORM have a good relationship with TISS, the interactions and specific responsibilities of each group are not well defined, nor are they based on documented processes or procedures. Increased coordination and communication between the two groups should be initiated in order to transfer some of the critical knowledge to district staff in general, and TISS staff in particular. A CCSD employee should be designated and trained to perform the INFORM-related tasks as soon as possible. Written documentation should also be created to explain all data exchange processes (e.g., who is responsible, when does it happen, what is the data format) between various feeder (source) systems and INFORM.

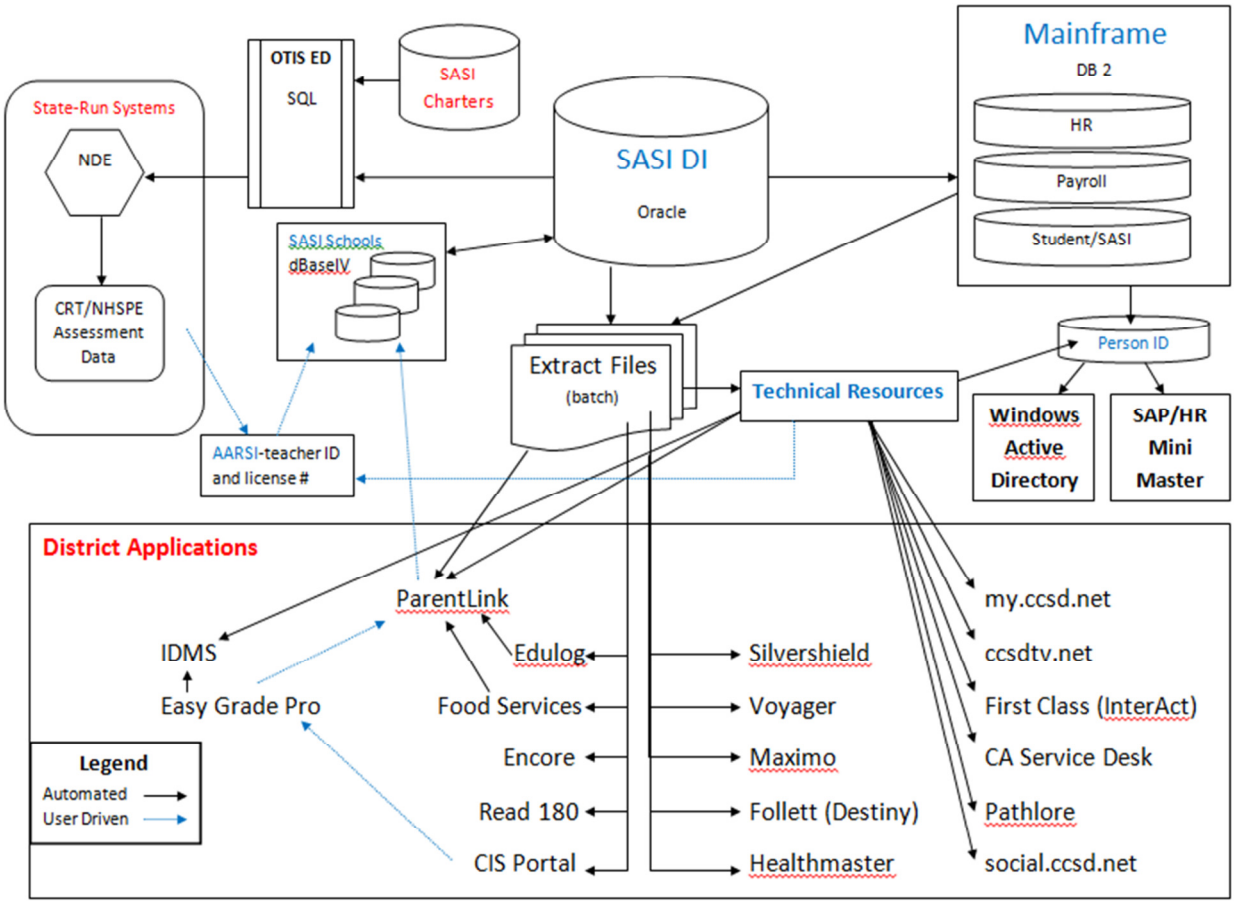
Data Integration Across All Mission Critical Systems

There is some integration among CCSD's mission-critical systems. However, many points of integration require manual intervention. For example, ParentLink, a critical system that enables parents to view their student's grades and other information requires a manual, labor intensive data transfer process from one system to another. Such manually initiated data transfers have a higher potential for error, and by definition cause some measure of delayed accessibility of the data in the receiving system. Other integrations are automated such as batch processes. These are typically initiated after other transaction

processes have been completed, or at a certain time of a day, week, or month. While batch processes are typically more accurate, complete, and consistent than a user-driven process, there may still be an issue with the timeliness of the data.

Figure 5-4.1 is an excerpt from a TISS presentation to the CCSD Board of Trustees in July of 2010. It illustrates the batch and manual data exchanges among some of the district's critical applications.

Figure 5-4.1 CCSD data/account management configuration



Source: TISS Division, 2011

The fact that CCSD enterprise applications reside in multiple database platforms makes data integration much more complicated.

Table 5-4.2 illustrates the critical district applications that reside in various database platforms.

Table 5-4.2. CCSD application software and database platforms

Owner	Application/Software	Database Platform
Finance	SAP	Oracle
HR (Licensed Personnel)	HRMS (In-House)	DB2
HR (Substitute Services)	Smart Find	MySQL
Payroll	Passport (In-House)	DB2
Student Data Services	SASI	Oracle/DB2
Special Education	Encore	MS SQL
Facilities	Maximo	Oracle
Transportation	Compass	MS SQL
Food Services	MCS Software	MS SQL

Source: TISS Division, 2011

Recommendation 5-4.1: Create and implement an enterprise data management framework.

As part of creating and implementing an enterprise data management framework the district should establish and document **data standards** and **data processes** for their critical enterprise data. Once data standards and processes are created and documented, TISS should be given the responsibility and authority to enforce them throughout the district. This authority should also include establishing roles of and responsibilities for of district staff with data management roles, regardless of the department in which they reside. Having clear and consistent roles and responsibilities for the technical staff that work with data is a very important part of an enterprise data management framework. Additionally, staff who work with data should have formal collaboration and communication avenues (such as periodic meetings and subject-specific professional development opportunities) to ensure that data-related processes and standards are being employed consistently throughout the district.

Data integration is another element of an enterprise data management framework. The district should improve integration among critical systems, minimizing the amount of user intervention that is required. The best way to achieve integration is to use a technology known as web services. Web services rely on a collection of small, commonly used, and well defined "services" that allow different systems to interact with each other through a common technical architecture known as a Services Oriented Architecture. There are third-party companies who have developed specialized software using web services to help school districts integrate large sets of legacy system data. For example, seven years ago, Fairfax County Public Schools (Virginia) had over 150 critical applications which were connected through various batch files and manual connections, much like CCSD has now. With the help of third-party web services software, their 150 applications are now integrated.

In addition to addressing data integration throughout the district, the district will be well-served by creating a single database reporting platform for non-instructional data collected to make timely and more accurate intelligent data-driven decisions. The district already owns SAP Business Objects, a powerful reporting toolset which can be used to access data that resides in a single database reporting platform. Once the prior recommendations regarding data standards are implemented, the district should create a consolidated reporting database on a single database platform and use the SAP reporting tool to provide the timely and accurate data necessary to make informed, data-driven decisions.

TISS does not have the requisite skills and experience to implement this recommendation internally. Consequently, outside assistance will be needed. TISS will need to be closely involved in its implementation and gain the appropriate skills and experience over time.

Fiscal Impact

This recommendation's fiscal impact has three components: (1) hire an internal Data Architect position to assist with the framework development and manage the district's various data bases on an on-going basis and a SAP business intelligence analyst to implement SAP Business Objects reporting toolset, (2) hire external consultants to provide technical assistance to develop the enterprise data management framework, and (3) purchase software, such as a third-party web service application.

The salary scale (inclusive of benefits) for a Data Architect Level IV, the level at which the review team recommends the district hire, is approximately $193,000 per year. For the SAP business intelligence analyst, the district should budget $153,000 in salary and benefits per support position per year. It is also recommended that the district hire a team of three consultants for a term of up to six months to assist with the development of the enterprise data management framework. The cost for the consulting team is estimated to be $700,000. The district should expect to spend up to $1,400,000 on third-party software, with an annual maintenance fee of $240,000.

Recommendation 5-4.1	One-Time (Costs) / Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Consultant fees for development of enterprise data management framework	($700,000)	$0	$0	$0	$0	$0
Hire Data Architect and SAP Business Analyst	$0	($346,000)	($346,000)	($346,000)	($346,000)	($346,000)
Purchase a third-party web service application	($1,400,000)	($240,000)	($240,000)	($240,000)	($240,000)	($240,000)
Total	**($2,100,000)**	**($586,000)**	**($586,000)**	**($586,000)**	**($586,000)**	**($586,000)**

Student and Human Resources Information Systems

Recommendation 5-4.2: Procure and implement a robust and integrated student information system (SIS).

SASI, the district's current student information system, is no longer being upgraded or supported by its vendor. The continued use of unsupported software has some inherent risks and costs. These include the following:

- Operational stoppage – If there is an issue that causes the software to become unusable, the vendor is no longer responsible for fixing it. These types of repairs can be very expensive for the district.
- Regulatory requirement changes – When changes in laws necessitate that the software be updated to be brought into compliance, the district must absorb the cost to do so.
- Support burden placed on district staff – The CCSD help desk and technical support staff must research and resolve issues with the unsupported software. Over time, the ability of district support staff to resolve issues typically decreases.
- Integration issues – Even currently supported software bears some risk related to any interfaces they have with unsupported software.
- Reduced usefulness – Because new functionality is no longer being added to the software via product support, the usefulness of the software will decrease over time.
- Development costs – Should the district determine that additional functionality needs to be added by internal software developers, the cost to maintain the program can become quite high.

The district has taken steps towards replacing SASI but more work and a significant investment will be required. The review team endorses the district's efforts to pursue this needed system replacement.

Fiscal Impact

The fiscal impact for this recommendation has been modeled by using the costs obtained from comparable districts. The comparable districts' total costs were reduced to a five-year per student amount and then multiplied by 309,893 – the CCSD enrollment for 2010-11. The resulting amount of $23 million was within the range of estimates developed internally by CCSD.

Using an average of the comparable districts' licensing fees, estimated licensing fees for CCSD were calculated at $16 per student, or $4,958,288. Maintenance fees were estimated using an average of the same comparable districts (30 percent of licensing fees), with maintenance in the first year estimated at $1,487,486. Typically, these fees are increased each year by the vendor, so the estimated maintenance

for years two, three, four and five reflect 2.5 percent increases. The remainder of the $23,000,000 – or $10,222,996 – has been assigned to one-time implementation costs.

Recommendation 5-4.2.	One-Time (Costs) / Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Procure and implement a robust and integrated SIS						
Licensing Fees	($4,958,288)	$0	$0	$0	$0	$0
Implementation Fees	($10,222,996)					
Maintenance Fees		($1,487,486)	($1,524,673)	($1,562,790)	($1,601,860)	($1,641,907)
Total	**($15,181,284)**	**($1,487,486)**	**($1,524,673)**	**($1,562,790)**	**($1,601,860)**	**($1,641,907)**

Recommendation 5-4.3. Fully implement the Human Resource and Payroll modules of SAP.

In *Section 3 – Human Resources* of this chapter, the impact of outdated information systems is discussed in great length. CCSD is planning to implement the SAP HR/Payroll system, but has not been able to commit funding to the project in its 2011-12 budget. Through implementation of other cost reduction measures contained in this report, CCSD should move forward with this implementation to improve the efficiency and effectiveness of the human resources function.

Fiscal Impact

The district has already initiated a project to select an outside firm to implement the SAP modules that have not yet been implemented. An estimated $10,000,000 in consulting costs and costs of district personnel associated with additional SAP module implementations are included in the fiscal impact summary below.

Recommendation 5-4.3.	One-Time (Costs) / Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Implement integrated HR systems and streamline HR processes	($10,000,000)	$0	$0	$0	$0	$0
Total	**($10,000,000)**	**$0**	**$0**	**$0**	**$0**	**$0**

Selection of Instructional and Operational Software

The district's process for selecting and purchasing software products is highly decentralized. There are no formal procedures that require schools and operational departments to coordinate the selection and purchase of software products. As long as general purchasing policies are followed, and a school or

department has adequate funds in their budgets, they are generally free to purchase the programs they want.

There is a general expectation that purchases of major software systems should be coordinated with TISS to ensure system compatibility as well as to ensure that TISS can provide the necessary support for the system being implemented. For the most part, this coordination occurs, but in some isolated instances, it does not.

Purchasing and Warehousing Department staff have attempted to place some structure into the software selection and purchase process, but a structure has not been formalized through policy and procedure.

Many of the district's larger operations such as facilities and transportation maintain their own technology staff to provide Information Technology support to the departments where they reside. This support can include software purchases outside the purview or control of TISS.

Recommendation 5-4.4: Develop criteria to identify and select instructional and operational software programs.

CCSD is purchasing software products that are either not well-liked by users, duplicative of other products, or not compatible with the district's operating systems.

Analyses and interviews with district staff revealed a high level of autonomy related to the acquisition of instructional and operational software throughout the district. This autonomy, combined with a lack of a standard procurement process for software purchases, has led to unnecessary spending of school funds.

Interviews with district staff revealed:

- Purchases of software to support classroom instruction or student assessment often get shelved when the principal, or other instructional leader, who selected it transfers to another school or leaves the district.

- Identical or similar software programs are being purchased school-by-school rather than obtaining bids for bulk purchasing. The purchase of Rosetta Stone language instruction software is an example of this practice. Many purchases of this product have been on a school-by-school basis without getting bids for bulk purchasing. According to purchasing reports, the district has spent over $933,000 on Rosetta Stone products for the past two fiscal years (2009-10 and 2010-11).

- Software programs that are incompatible with the district's operating and infrastructure system are being purchased. In a recent example, the English Language Learners (ELL) program purchased a program which the district returned after it was discovered that it could not be operated in the current technology infrastructure. The ELL Department had not vetted the product with TISS prior to purchasing it.

- The Transportation Department purchased a major software routing program, COMPASS, without first consulting with TISS. The reasoning behind the decision to purchase the product without the knowledge of TISS was that the Transportation Department maintains its own computer and server technicians. However, when the time came to implement the software program, TISS had to become involved and its regular work flow was disrupted due to the unplanned nature of the implementation. The new transportation system is an additional program that TISS must now support, yet the department had no say in the product's selection or the timing of the implementation effort.

The district-developed document *Response to Instruction: A K-12 Multi-Tiered System of Support, A General Education Initiative* lists the reading and math programs adopted and supported by the district. This document lists 19 adopted reading programs and 37 adopted math programs for various grade levels (see Tables 5-4.3 and 5-4.4).

Table 5-4.3 CCSD adopted reading programs

Program	Grade Levels Using Program	Program Type[(1)]	Program	Grade Levels Using Program	Program Type[(1)]
Compass Learning	PK - 12	S	Voyager Passport	K - 5	I
Classworks	K - 8	S	Language!	6 - 12	I
Earobics Step 1-2	K - 5	S	Corrective Reading	6 - 12	I
Study Island	3 and 6 - 8	S	Voyager Journeys	6 - 12	I
Read Well	K - 5	S	Fast ForWord	K - 5	II
Fast ForWord	K - 8	S	Language!	3 - 12	II
Achieve 3000	K - 8	S	Read Well	K - 3	II
Burst	K and 1	I	Voyager Passport	K - 5	II
Fast ForWord	K - 5	I	Voyager Journeys	6 - 12	II
Harcourt Trophies Intervention	K - 5	I	Read 180 Enterprise Edition	6 - 12	II
Read 180 Enterprise Edition	4 - 12	I	Corrective Reading	6 - 12	II
Time Warp Plus	K - 5	I	System 44	6 - 12	II

Source: CCSD, *Response to Instruction: A K-12 Multi-Tiered System of Support. A General Education Initiative,* April 2010.

Note: [(1)] Key: S = Tier I Supplemental Program; I = Tier II Intervention Program; II = Tier III Intensive Intervention Program

Table 5-4.4 CCSD adopted math programs

Program	Grade Levels Using Program	Program Type[(1)]	Program	Grade Levels Using Program	Program Type[(1)]
Accelerated Math	K – 5	S	Fathom	9 – 12	S
Compass Learning	K – 12	S	GeoSketch Pad	6 – 12	S
Classworks	K - 5	S	Tinkerplots	6 – 8	S
FASTT Math	K – 8	S	Moogie Math	K – 12	I
Singapore Math	K - 5	S	Accelerated Math	6 - 12	I
Orchard Math	K – 5	S	Do the Math	K – 5	I
Standards Plus	K – 5	S	Standards Plus Intervention System	K – 5	I
Leap Track	1 – 5	S	Voyager Math	3 – 5	I
Voyager Math	1 - 5	S	Knowing Math	4 – 5	I
Number Worlds	K – 2	S	Understanding Math	K – 5	I
Mind Institute Program	K – 5	S	Compass Learning	6 – 8	I
Read It, Draw It, Solve It	1 - 5	S	Green Globs	9 – 12	I
Study Island	3 – 8	S	Myskills Tutor	9 – 12	I
Success Maker	K – 5	S	Super Math Tutor	9 – 12	I
Math by All Means	1 – 5	S	ALEKS	9 – 12	II
Understanding Math	K – 5	S	Algebraic KEAS	9 – 12	II
Acces	6 – 12	S	Cognitive Tutor	6 – 8	II
Brain Pop	6 – 12	S	I can Learn	6 – 12	II

Source: CCSD, *Response to Instruction: A K-12 Multi-Tiered System of Support. A General Education Initiative,* April 2010.

Note: [(1)] Key: S = Tier I Supplemental Program; I = Tier II Intervention Program; II = Tier III Intensive Intervention Program

When comparing these approved programs to a list of procurements made in fiscal year 2010-11, the review team found that the district purchased, in addition to the adopted programs, 10 reading programs and eight math programs. The combined cost of these additional math and reading programs is estimated to be $1.5 million in 2010-11. For fiscal years 2008-09 and 2009-10 similar practices were employed.

Tables 5-4.5 and 5-4.6 list the additional reading and math programs purchased for fiscal years 2008-09 through 2010-11.

Table 5-4.5. CCSD reading programs purchased in addition to adopted programs

Program	FY 2008-09 Cost	FY 2009-10 Cost	FY 2010-11 Cost
ReadingSmart	$4,250	$15,155	$24,775
Raz-Kids, Reading A-Z, Gizmos, Ticket to Read	0	163,942	65,120
Lexia Reading, Reading Plus	363,237	260,706	220,105
Rigby Reads, Destination Reading	0	0	44,610
Istation Reading Intervention	0	15,000	15,000
Reading Comprehension	0	0	41,647
STAR Reading, Accelerated Reader	188,436	234,495	617,675
Scholastic Reading	0	0	26,271
Academy of Reading Advantage	0	0	6,700
Reading Assistant	0	0	371,910
Access to Early Reading	0	7,559	0
Fluent Reader, My Reading Coach, RAPS 360	0	39,180	0
Read Naturally	0	4,355	0
Academy of Reading Advantage	12,500	0	0
Reading Blaster	2,800	0	0
Reading A-Z	9,427	0	0
Totals	**$580,650**	**$740,392**	**$1,433,813**
Percent Increase from prior year	**n/a**	**28%**	**94%**

Source: CCSD Purchasing and Warehousing Department, 2011

Table 5-4.6. CCSD math programs purchased in addition to adopted programs

Program	FY 2008-09 Cost	FY 2009-10 Cost	FY 2010-11 Cost
Carnegie Math	$0	$0	$24,998
DreamBox Learning	0	0	6,000
Edu2000	0	0	7,500
iLearn Inc.	0	0	17,220
IXL Math	0	0	7,600
Smartview	0	0	2,840
MCLASS	1,125	3,938	11,415
Mathematica	0	0	7,500
Academy of Math	0	32,320	0
STAR Math	900	21,506	0
MathFacts in a Flash	3,500	26,661	0
Mathpad	0	3,520	0
Design Science	1,453	0	0
Math Prep	3,964	0	0
Math Blaster	4,580	0	0
Gizmo	14,622	0	0
Math Bricks	4,750	0	0
Math Stories	1,380	0	0
Math Intervention	10,000	0	0
Totals	**$46,274**	**$87,945**	**$85,073**
Percent Increase from prior year	**n/a**	**90%**	**-3%**

Source: CCSD Purchasing and Warehousing Department, 2011

Unless approval and decision-making processes are put into place, this type of spending will continue.

The project team's analysis focused on reading and math programs; it did not include science, history, chemistry, business, career and technology, research and subscription services, or computer and technology education. Further review of procurement reports showed that in 2010-11 the district purchased seven different career and college-readiness programs at an estimated cost of $54,000; four online learning/credit recovery programs with an estimated to cost $380,000; three foreign language

programs with an estimated cost of $700,000; and four assistive technology programs with an estimated cost of $26,000.

In addition to the direct costs of software, there are other costs associated with the purchase of non-standard programs such as separate web hosting fees and professional development and training costs for using the programs.

The district uses a variety of assessment and reporting tools, primarily INFORM, AIMSweb, and Dibels, spending over $6.5 million on these systems in 2010-11. In addition to these assessment tools, district staff have also purchased a variety of stand-alone assessment tools. In 2010-11 the district purchased at least 15 different assessment programs costing over $1 million (Table 5-4.7 below).

Table 5-4.7. CCSD assessment programs purchased in addition to adopted programs

Program	Purpose	FY 2011 Cost
Archipelago Learning	Standards-based assessment	$569,964
Brainchild	Assessment	3,133
Cengage Learning	Assessment	6,760
AMC Anywhere	Math assessment	5,627
Educational Testing Service	Assessment	219,446
Functional Assessment Systems	Assessments	3,265
InfoSource	Technology assessment	14,783
Kamico	Standards-based assessment	31,185
Northwest Evaluation	Measures of academic progress	30,363
Renzulli Learning	Web-based assessment and differentiation	20,000
Criterion	Writing assessment	10,560
Teaching Strategies	ECI assessment	74,600
My Access	Writing assessment	19,340
Mindplay	Reading assessment	39,600
Write Tools	Writing assessment	4,489
Total		**$1,053,115**

Source: CCSD Purchasing and Warehousing Department, 2011.

Observations from these analyses support anecdotal information the review team gathered through focus groups and interviews that revealed that many instructional staff feel frustrated with the number

of new software programs put in place and the number of programs not used due to lack of support or direction.

The review team also heard from various managers in the district that when a software system or program is selected, schools and departments do not always adopt the new program, instead choosing to stay with an old program or purchasing their own outright. Examples of this situation include:

- The district adopted and purchased a new accounting software program to manage school banking; many schools did not want to convert to the new system and are still using the old system.

- The district has purchased several stand-alone inventory systems as well as time keeping systems. Departments purchasing their own stand-alone systems include Food Services, Maintenance, and Transportation.

The district currently does not use a comprehensive inventory system to track the software programs in place for instructional or operational purposes. In addition, cost data on instructional programs are difficult to obtain because of the way that district staff code expenditures. The primary reason for this is that the Grants Department chooses to code most software purchases to its instructional supplies expenditure code. However, this account code also contains other non-software expenditures, so isolating software expenditures is largely a manual process.

Developing an inventory process for both operational and instructional software, which should be searchable and available to all district staff, will help users determine what resources are already available in the district. The district's ERP system contains a tracking module called Trackables that could be modified to track software purchases. Once the Trackables system has been established and current software inventory data loaded, all future purchases of software should be entered automatically into the system at the time of purchase.

While various inventories of software programs exist in the district for specific purposes, there is no comprehensive database that is accessible to all employees. TISS could begin the inventory process by conducting an automated search of all computers connected to the network. While this will not include all computers in the district, it would be a good start for the inventory. Once complete, this information should be loaded into the Trackables system.

Once the software inventory database is complete or substantially complete, users in the district who wish to purchase a specific program can search the database to determine whether the district already owns the program, and if so, can investigate whether the product has available licenses, and whether the current owner/user is satisfied with the product's content.

The district should develop procedures that guide the selection and purchase of instructional and operational software. These procedures should address the following:

- Purchases of instructional software amounting to $10,000 or more, regardless of the funding source, should be approved first by the Curriculum and Professional Development (CPD) Department and then by TISS.

- Purchases of operations software amounting to $10,000 or more, regardless of the funding source, should be approved by TISS.

This added layer of review will help to ensure that the product being purchased is compatible not only with the district's infrastructure, but will also help to ensure that the product falls within the adopted or acceptable programs already existing in the district.

Fiscal Impact

Analysis resulting from this study identified $2.6 million of software purchases (reading, math, assessment programs) that were not in line with the standards or systems already in place in the district. Cost reductions associated with implementing this recommendation should be re-purposed to support additional licensing fees for software that does meet the standards and additional training to use it effectively. Accordingly, there is no net fiscal impact of this recommendation.

Educational Computer Strategists

CCSD employs 233 fully licensed teachers as Educational Computer Strategists (ECS). These technology-trained teachers work in the schools and assist other teachers and staff in their use of technology for daily student instruction.

ESCs work under the direction of principals and other site administrators to provide professional development and level one technical support, maintain appropriate and accurate records, and accomplish the objectives set forth in site technology plans. Other responsibilities of an ECS include:

1. Create and maintain systems and procedures for scheduling, using, and maintaining technology equipment.
2. Create and maintain systems and procedures for troubleshooting and reporting problems to User Support.
3. Perform the site-based management of the school's network.
4. Maintain accurate records, including but not limited to, for professional development, inventory of hardware and software, and work orders.
5. Serve on the site technology committee and facilitate the development and revision of yearly technology plans to support the school improvement plan.

School principals are responsible for hiring and supervising the ECSs in their own schools. ECSs might coordinate with the district's help desk technicians if they need assistance, but they report to their individual principals. According to district staff, there is no central coordinator of the ECSs. District staff

noted that principals are encouraged to select an ECS on the basis of their professional development skills first, based on a belief that technical skills can be easily acquired.

Recommendation 5-4.5: Phase out Educational Computer Strategist positions and re-purpose through separate functions for technical and instructional support.

The ECS position is based on a model that is rapidly becoming outdated. It assumes that an ECS will provide on-site support and professional development to all the teachers in their assigned school, helping them to effectively integrate technology into classroom instruction and giving classroom demonstration lessons on how to use computer technology to augment and enhance teacher lessons and content mastery. However, as often happens with this kind of position, ECSs spend a significant portion of their time providing basic troubleshooting assistance. Table 5-4.8 provides a breakdown of the deployment of the ECSs and an estimate of how much of their time is spent providing Level One technical support. The district has not undertaken any studies to definitively determine how ECSs spend their time, although district staff have discussed doing some type of study in 2011-12. A central office administrator who works regularly with the ECSs estimated that the ECSs in the high schools spend more than half of their time providing Level One technical assistance. Those in middle and elementary schools spend less of their time on technical assistance.

Table 5-4.8. Allocation of educational computer strategists

School Level	ECS FTE	Total Salary (excluding benefits)	Estimate of Time Spent on Level One Technical Support
K-5	124	$7,561,088	35%
6-8	55	3,412,237	50%
6-12	3	213,859	60%[1]
9-12	40	2,385,785	70%
Alternative	9	611,840	35%
Location not found	2	140,506	35%[2]
Total	**233**	**$14,325,315**	

Source: CCSD Instructional Technology; CCSD salary data, 2011

Note: [1]Estimate based on staff figures for middle and high schools

[2]Estimate

The district has a User Support Services Division that provides technical assistance to all staff, including school-based staff. The division has both a help desk and field technicians. If a technical issue cannot be resolved over the phone by the help desk, a field technician is dispatched. In 2010-11, User Support Services resolved 51,849 trouble tickets (including incidents, problems, and requests) with 19 staff. Of those, User Support Services resolved 35,311 in less than 10 minutes. The district does not collect

statistics on the number of technical issues the ECSs resolve without User Support Services assistance, so it is unknown how many more trouble tickets would be sent to User Support Services if the ECSs were not providing some on-site assistance.

Although the field is evolving, some recent research points away from the ECS model. In 2005, one study found that, rather than having an on-site dedicated to providing support for technology integration, a "collaborative apprenticeship" model appeared to hold promise. Such a model features reciprocal interactions, essentially a structure whereby peer teachers learn from each other through modeling, collaboration, and coaching. Because the teachers in collaborative apprenticeships know they are working with peers who also have teaching loads, the tendency is to use the time they have together to focus more on technology integration rather than low-level technical assistance.[51]

In 2006, another study reviewing the barriers to effective technology integration in the classroom found that a lack of professional development can be one of several barriers. The research showed that effective professional development related to technology integration: focused on content; included "hands-on" opportunities; and, was highly consistent with teachers' needs.[52] However, this professional development does not have to be offered in the teacher's own classroom to be effective. Moreover, given the need to focus on content, it is unlikely that an ECS with a background in math would be as effective in promoting technology integration with an English teacher. A need to focus on content suggests a more centralized approach to professional development related to technology integration, in a manner whereby all teachers of similar content can work together using the same tools and learning objectives.

CCSD ECS positions should be re-purposed to clearly separate the required functions of technical assistance and instructional support with technology integration in the classroom. The instructional support should be coordinated through the district's newly established performance zones and aligned with the district's overall academic strategies.

To address the issue of lost professional development opportunities, the district should develop a technology position within Curriculum and Professional Development to serve as an internal consultant to professional development designers. This position would help ensure that technology tools and their usage are embedded in all professional development.

Fiscal Impact

No fiscal impact is expected for this recommendation, as all cost reductions are expected to be reinvested. Re-purposing the 233 ECS positions would allow CCSD to re-allocate $20.67 million ($14.32 million plus benefits) per year to separate functions for field technicians and instructional support for

[51] Glazer, E., Hannafin, M. J., & Song, L. (2005). Promoting technology integration through collaborative apprenticeship. *Educational Technology Research & Development*, 53, (4), 57-67.

[52] Hew, K. F., & Brush, T. (2006) Integrating technology into K-12 teaching and learning: Current knowledge gaps and recommendations for future research. *Educational Technology Research & Development*, 55, 223-252.

the integration of technology into classroom instruction. Any funds not used for these purposes could be allocated to dedicated teacher positions at schools. The district would need to hire at least 52 additional field technicians, as shown in Table 5-4.9.

Table 5-4.9. Estimate of need for additional field technicians

School Level	ECS FTE	Estimate of Time Spent on Technical Support	Estimated ECS FTE Spent on Technical Support	Estimate of FTE Field Technicians Needed[3]
K-5	124	35%	43	22
6-8	55	50%	28	14
6-12	3	60%[1]	2	1
9-12	40	70%	28	14
Alternative	9	35%	3	1
Location not found	2	35%[2]	1	0
Total	**233**		**105**	**52**

Source: CCSD Instructional Technology

Note: [1]Estimate based on staff figures for middle and high schools

[2]Estimate

[3]Assuming trained field technicians to be twice as efficient in Level One support issues

With such a large addition of technical staff, the district will likely need two additional technician supervisors.

An additional 52 technicians will require $4.16 million per year. The supervisor positions could likely be filled at approximately $100,000 each in salary and benefits. The proposed internal consultant for professional development position could likely be filled at approximately $100,000 in salary and benefits. The remainder of the cost reductions should be re-purposed to instructional technology support and any remaining amounts to school-based teachers.

Section 5 – Facilities Management

The CCSD Facilities Division is responsible for managing all facilities-related activities for the school district. This includes maintenance, construction, operations and energy management activities. For purposes of this study, the review team focused on operating areas to identify efficiencies that could benefit the district's General Fund. To this end the review team assessed the maintenance, energy management, and custodial functions of the Facilities Division. These functions are responsible for maintaining the environment in the facilities for students and staff and to ensure all building functions are in working order. The mission of the Facilities Division, which covers all the reviewed departments, is:

> *To provide "best in class" educational facilities support services with demonstrated cost effectiveness second to none - ensuring clean, comfortable, safe, and educationally effective facilities are provided in the right quantity and location to meet the needs of Southern Nevada's children and the professional staff and support systems that serve them.*[53]

The geographical area served by the district encompasses the entire county, approximately 7,910 square miles, and includes the Las Vegas urban area as well as remote, rural areas in mountainous and desert terrain. CCSD has 392 facilities requiring maintenance, consisting of almost 35 million square feet. The Maintenance Department (including the Landscaping and Grounds section of the Facilities Division) had 676 staff in 2010-11, of which 476 were devoted to building maintenance. Table 5-5.1 provides a summary of key metrics for CCSD's facilities management function.

Table 5-5.1. Facilities management key metrics summary

Data Item	FY 2010-11
School facilities (sites) to maintain	357
Administrative facilities (sites) to maintain	35
Square feet (SF) of building space	34,927,142
Total maintenance & landscaping/grounds staff	676
Total maintenance & landscaping/grounds costs	$55,553,723
Square feet maintained per technician	51,775
Total energy costs	$49,843,461

Source: CCSD Facilities Division, 2011

The Maintenance Department has gone through several recent initiatives to improve and lower the cost of its operations. The Maintenance Department led CCSD in the implementation of International Organization of Standardization: 9001 2000 certification in 2004 with all other facilities management

[53] http://ccsd.net/directory/facilities/

employees completing training by 2010. This certification focuses on repeatable and efficient work processes and, through this process, the department has identified over $15 million in cost reduction ideas in the last six years. These ideas included roof restorations, salvaging parts, rebuilding parts and identifying vendor billing errors. The department also implemented a new computerized maintenance management system (CMMS) in the last few years to assist in organizing work and making work activities more efficient. The department has performed its maintenance activities well even though its funding is less than its industry peers. Due to repeated budget cuts, the department enters 2011-12 with approximately 15 percent less staff than it had three years ago. These accumulated cuts create an environment where the required maintenance activities to effectively maintain the CCSD facility assets cannot be completed. The effects of funding and staffing shortfalls may not be apparent in the short term, due to the number of new facilities (requiring less maintenance) brought on-line in the last 10 to 15 years, and the robust capital replacement program that has existed for 20 years and just recently came to a close. If these conditions are not corrected, and additional funds or efficiencies are not identified, maintenance and equipment replacement costs will accumulate and accelerate in the next two to five years and service levels will likely be affected.

In 2010-11, the Landscaping and Grounds Department provided services at costs comparable to its peer benchmarks as discussed later in the section. However, the group will be eliminating approximately 28 percent of its staff going into the 2011-12 year, due to recent budget cuts. Additional funding or additional efficiencies need to be identified to fill this gap or issues with the appearance of the grounds will become apparent immediately. The Landscaping and Department has also performed water management initiatives over the past few years with success. Many areas are being transitioned to desert landscaping versus vegetation to drastically reduce water use.

The Energy Conservation Department manages all energy use throughout the district. The current energy use of approximately 55.9 kBtu/square foot/year[54] is comparable to peer benchmarks of 53.7 kBtu/square foot/year[55]. This department has performed a number of energy savings initiatives over the past several years which have reduced consumption from 66 kBtu/sf/yr to the current levels. These include an incentive-based behavioral program for individual schools to be rewarded for energy efficiency, which saved over $10 million in 2010. The department also implemented a number of new technologies including lighting retrofit projects and installation of photovoltaic (solar) cells panels. The challenge for this department is to continue to identify cost effective energy savings opportunities to continue to lower energy use and to obtain funding for these projects under the current fiscal constraints faced by the district. Since energy conservation has generated significant attention in the industry over the past few years, there are always new opportunities to evaluate.

This section identifies cost reduction opportunities in the maintenance, landscaping and grounds, energy conservation and management, and custodial functions at CCSD. The review of these functions commenced with an overall budget performance as benchmarked against the Association of Physical

[54] CCSD Energy Conservation Department, 2010-11

[55] Council of Great City Schools – A Report of the Performance Measurement and Benchmarking Project, 2009

Plant Administrators (APPA), the Council of Great City Schools peers[56], and against best practice standards developed by Jacobs Engineering. Staff interviews, process reviews, and data analysis of the respective operations were performed to identify best-practice processes that could improve the efficiency of the organization. Any cost reduction initiatives recently implemented by CCSD were not included in this report. This analysis was developed to provide an estimate of the efficiencies that could be realized if additional best practice processes were implemented.

Following are specific recommendations for improvement, grouped by individual function. The CCSD maintenance and landscaping and grounds functions are consolidated together separately from the energy conservation and management and custodial functions. It is assumed that all cost reductions generated by maintenance and landscaping and grounds efficiency improvements will be reinvested in the district's unfunded needs in these areas.

Table 5-5.2. Summary of recommendations

Recommendations	Priority	Timeframe	Net Five-Year Fiscal Impact	Major Investment Required
Maintenance/Landscaping and Grounds				
5-5.1. Increase wrench time of technicians	High	2012-14	($800,000)	Yes
5-5.2. Increase productivity of facilities technicians and re-purpose cost reductions to support preventive maintenance	High	2012-14	($450,000)	Yes
5-5.3. Outsource selected landscaping tasks to perform additional needed services at the same cost	Med	2012-13	$0	No
Energy Management – All Recommendations Combined				
5-5.4. through 5-5.15. Sum of Energy Conservation Measure Opportunities (some individual opportunities may overlap with others)	Med	2012-22	$41,797,469	Yes
Custodial Services				
5-5.16. Outsource custodial services operation to a private service firm.	High	2012-14	$46,800,000	No
Totals			**$87,347,469**	

Maintenance, Landscaping and Grounds

CCSD's maintenance and landscaping and grounds 2010-11 total expenditures were approximately $1.59 per square foot, $0.12 less than the Council of Great City Schools peer benchmark of $1.71 per square foot. CCSD's Maintenance Department also performs additional activities (e.g., office equipment repairs)

[56] The Council of Great City Schools is a coalition of the nation's 65 largest urban school districts.

and replaces large equipment (e.g., chillers worth more than $10,000) that most school systems typically do not include in their maintenance budgets. The CCSD budget was normalized with peer benchmarks and developed an effective budget of $1.52 per square foot, $0.19 or 11 percent less than the peer district benchmark, as shown in the table below.

Table 5-5.3. Maintenance and landscaping and grounds budget summary

Budget	Amount	$/SF	Source
2010-11 Maintenance Expenditures	$44,920,752	$1.29	CCSD Facilities Administration Department
2010-11 Landscaping and Grounds Expenditures	$10,632,971	$0.30	CCSD Landscaping and Grounds
Total 2010-11 Maintenance and Landscaping and Grounds	$55,553,723	$1.59	CCSD Landscaping and Grounds
Adjustments to normalize to benchmarked peers	$2,385,315	$0.07	Removed Office and Machine Repair, Industrial Arts Departments and Capital Expenditures > $10,000.
Total 2010-11 Maintenance and Landscaping and Grounds Expenditure – Normalized	**$53,168,408**	**$1.52**	**Normalized services included to compare with Peer Benchmarks**
Council of Great City Schools Maintenance Budget Benchmark		$1.71	Council of Greater City Schools, 2009 - A Report of the Performance Measurement and Benchmarking Project (11% greater than CCSD normalized costs)

Source: CCSD, 2011

While the district spends less per square foot on maintenance activities than benchmarked peer school districts, CCSD's own analysis and the review team's observations indicate that there are significant opportunities for productivity improvement and cost reductions. However, the district is significantly underfunding preventive maintenance as described later in this report, to the extent that identified cost reductions should be reinvested. The end result will be a more effective maintenance function operating at a similar budget level as it does currently.

A summary of efficiency improvements for maintenance, landscaping and grounds are provided in Table 5-5.4. The majority of the cost to implement these improvements relates to outside assistance needed for technical and implementation support. The total investment anticipated for these recommendations is $1,250,000 with an expected net return of $19.3 million over five years. It is recommended that the efficiency improvements in this section be re-purposed to support a more effective preventive maintenance program and meet additional landscaping and grounds needs.

The results of implementing the recommendations presented in this section will substantially increase the effective number of technician work hours, as reflected in Table 5-5.4. Once these improvements

are implemented, and preventive maintenance is enhanced, a better determination of an adequate maintenance budget level can be determined.

Table 5-5.4. Summary of increased technician hours from improvements

Improvement Area	Additional Technician hours	Annual Reductions@ $25/hour	Percent Increase
Wrench time improvement	90,500	$2,262,500	44%
Productivity Improvement	74,209	$1,855,225	36%
Landscaping – Outsourcing efficiency	18,600	$465,000	10%
Totals	**164,709**	**$4,582,725**	

Notes: 1. Cost per hour = $25/hour (base + benefits) for technicians

2. Wrench time improvement hours calculated from Table 5-5.5.

3. Productivity improvement hours calculated from Table 5-5.6.

Following are descriptions of each recommendation along with suggested implementation strategies.

Recommendation 5-5.1.Increase wrench time of technicians.

"Wrench time" represents the percentage of time spent by maintenance staff performing maintenance activities at the work location. This is distinguished from "windshield" time, representing driving time and other activities not involving the performance of maintenance work. The average wrench time percentage for general maintenance technicians (includes CCSD's maintenance zone technicians) is approximately 42 percent (3.15 hours of wrench time during a 7.5 hour work day) at CCSD. This percentage is based on a CCSD sample of approximately 140 technicians (44 percent of the 315 CCSD technicians). Jacobs Engineering best practice for wrench time is approximately 60 percent (or 4.5 hours of wrench time during a 7.5 hour work day) for general technicians (Mitchell, 2006).[57]

CCSD maintenance staff are spending an excessive amount of time entering information into the CMMS, reducing the amount of time spent at the work place. During this study a number of technician groups were observed during the mobilization and de-mobilization stages of the day. This effort took a total of approximately 1.5 hours daily, mostly due to planning and work order entry. Mobilization/de-mobilization in best practice maintenance organizations take approximately 45 minutes (Mitchell, 2006)[5].

The district is in the process of deploying a four-quadrant organizational model to reduce the time needed by technicians to drive to work locations. This model is beneficial for general maintenance services and will decrease windshield time, thereby increasing wrench time.

[57] Jacobs Engineering best practices; Mitchell, J.S. (2006). *Physical asset management handbook* (4th edition). Clarion Technical Publication.

Ordering parts also demands too much time of CCSD's maintenance technician staff. CCSD's Purchasing and Warehousing Department represented that virtually all materials and supplies are ordered "free-text," which requires buyer processing and approval for all transactions. Based on CCSD estimates, the time between ordering and receiving of free-text materials and supplies, including the processing time, is approximately 2.5 days. Best practice maintenance organizations have up to 90 percent[5] of material and supplies ordered through pre-negotiated suppliers requiring minimal technician ordering time and buyer interaction. Additionally, best practice maintenance organizations have processes to order and receive the material and supply delivery on the next day[5]. The cost reductions related to this recommendation is in the form of additional time that can be spent performing repairs. Bulk pricing from pre-negotiated suppliers may save CCSD some money, but the more significant impact will be to free up maintenance staff time for actual maintenance work, and to speed up delivery of materials and supplies.

The following strategies can be applied by CCSD to implement this recommendation. The first step would be to perform an industrial engineering study of technician time. To gain greater confidence regarding where the technicians spend their time in all departments, a "time and motion" study is recommended to identify all of the activities the technicians need to perform (or are performing) to complete work and the time associated with these activities. Once this has been accomplished, detailed implementation strategies by department can be finalized and prioritized based on the estimated cost reductions.

Once a time and motion study has been completed, the following process and organizational modifications can be implemented to improve the wrench time of the technicians.

1. **Implement a geographically dispersed organization**. The district should move forward with its implementation of the four-quadrant geographic model that is currently underway. Initially, the model should be implemented for general zone technician-related work. Additional analysis should be performed to determine if specialty trades should be centralized or geographically dispersed. The analysis should include the impact on equipment utilization.

2. **Implement supply management performance improvements**. The following strategies should be considered to improve the efficiency of supply management performance.

    - Develop a supply management strategy that defines the various procurement actions and process changes that need to occur with the objective of reducing or eliminating time required for technicians to obtain the required materials/supplies at a minimal cost to CCSD.

    - Identify and implement more blanket pricing contracts with vendors that can manage inventory along with stocking clerks and consignment inventory. Two current examples include Grainger (currently managing plumbing stock) and Fastenal (fasteners and maintenance supplies).

- Implement an effort to place part information into CMMS that can be translated into an SAP catalog. A translation program linking CMMS (Maximo) and SAP will need to be written. This will allow parts to be ordered the same day. This process was recently started but due to funding constraints was not completed.
- Review inventory stock and dispose of stock items that will not be used, in order to make room for additional stock items
- Assign dedicated shop staff to place orders for specialty equipment. One primary person should be designated for each shop.
- Develop a longer term strategy to have procurement resources order and kit parts for specific work tasks.

3. **Minimize CMMS (Maximo) data entry by technicians**. This strategy can be accomplished in two phases. In the short term, CCSD should phase out data entry by technician staff and migrate to this work being done by administrative staff. Second, the district should implement technology in the field, such as Personal Digital Assistants (PDA) that would enable technicians to input data at the point of origination that directly connects to the CMMS. CCSD has had difficulty implementing these types of technology in the past, but recent rapid advances in the capabilities of inexpensive handheld devices (including iPhone and Blackberry applications) would aid in implementation in the field.

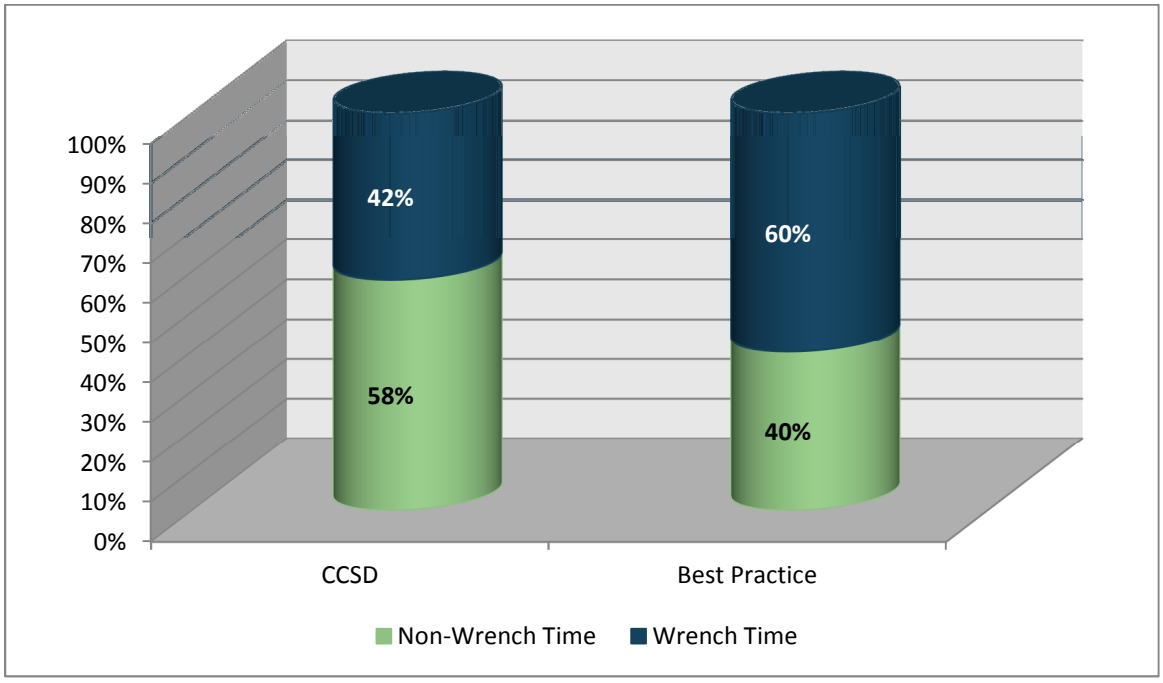
4. **Implement an equipment tracking system.** An equipment tracking system will help limit the amount of time spent locating and checking out equipment. Under current practice, CCSD technicians spend an unnecessary amount of time calling multiple sources to determine the location and availability of equipment. This is a straightforward process and can be implemented internally.

5. **Implement a more formal equipment rental process where equipment is checked out and returned**. The CMMS has functionality that can assist with the equipment rental process. Utilization of this system will assist the technicians in quickly obtaining rental equipment needed and will assist in increasing wrench time. This is a straightforward process and can be implemented internally.

6. **Implement process to add parts information into CMMS.** Current equipment assets are being entered on work orders; however, there are no parts lists associated with the assets or the buildings. The CMMS has the capability to build parts lists “on the fly” whenever a part is used. Having a parts list for an asset or a building takes the guesswork out of determining which parts are needed for a work order. The parts can then be looked up when preparing for the next day. This functionality minimizes the amount of time needed to identify and obtain parts required for a work order. For preventive maintenance work orders, the needed parts can be built into the job plan.

Through the implementation of several practices and tools recommended in this section, CCSD can increase its wrench time by approximately 18 percent (from 42 percent) to meet the best practice benchmark (60 percent) as reflected in the Figure 5-5.1 below.

Figure 5-5.1.Maintenance technician wrench time



Source: CCSD, 2011

Note: 1. Percentage are based on a 7.5 hour work day

2. Non-wrench time includes mobilization, demobilization, travel, supply management, and other related activities.

In summary, bringing CCSD maintenance staff wrench time up to benchmark standards would result in a 90,000 hour, 44 percent increase in maintenance productivity. Table 5-5.5 provides the calculation of the additional productivity.

Table 5-5.5. Wrench time improvement – Man-hour analysis

Annual Technician Man-hours 7/1/10 – 6/30/11	Current Technician Hours Wrench Time @ 42% 7/1/10 – 6/30/11	Best Practice Technician Hours Wrench Time @ 60%	Additional Hours Increase	Percentage Increase
494,724	206,334	296,834	90,500	44%

Source: CCSD Maintenance Department, 2011

Note: Wrench time sample extrapolated to all technicians (sample = 140, total = 315)

Fiscal Impact

Investments will need to be made by CCSD to achieve the expected cost reductions resulting from this recommendation. CCSD will need to commission an industrial engineering study to specifically determine and categorize the factors causing reduced wrench time so that they may be addressed in priority order. The results of this report will provide more specific detail on technician "non-wrench" time. The approximate cost of a study of this nature is $75,000.

As a result of data identified in the industrial engineering study, CCSD will need to develop and implement new processes in the organization. All costs discussed in this section are estimated based on CCSD utilizing external consultants. The approximate cost of process development and implementation is $350,000. This cost does not include the geographically dispersed strategy or mobile technology. The geographically dispersed strategy is excluded because the CCSD Maintenance Department is already in the process of rolling this program out. The technology is excluded because it is not a primary strategy as discussed earlier in this report.

CCSD supply management will need to implement supply management best practice processes and software programs with the assistance of external consultants (approximate cost totals $250,000). CCSD's in-house staff "tiger team" should assist the consultants in this supply management effort. In addition, CCSD should develop CMMS processes to streamline technician data entry. The approximate cost of this effort would be $125,000 and would include implementation assistance by external consultants. Investments needed to achieve the projected five-year cost reductions for Recommendation 5-5.1, total $800,000.

It is assumed that the $2.26 million in efficiency gains (90,500 hours x $25 per hour average pay and benefits) will be reinvested in the district's preventive maintenance program. Accordingly, the net fiscal impact for the next five years is projected to be zero.

Recommendation 5-5.2: Increase productivity of facilities technicians and re-purpose cost reductions to support preventive maintenance.

The productivity of technicians while performing work activities can be improved by approximately 25 percent. This efficiency figure is based on the evaluation against best practices and prior facilities maintenance performance improvement experience. Implementing this recommendation will improve

the productivity and efficiency of the technicians during the actual wrench time so that they are able to complete more work orders per hour of work. For clarification, the wrench time and productivity improvements are independent from each other. An example of productivity – bundling preventive maintenance (PM) with scheduled corrective maintenance (CM) work at a specific location will allow technicians to complete two work orders at a specific location instead of one – leveraging the time at a specific work location and increasing the work order per hour completion efficiency of the technician.

To ensure that facilities are maintained effectively and in the most efficient manner, maintenance work should involve PM activities in addition to CM activities. Best practices suggest that 70 percent (Mitchell, 2006) of total maintenance time be devoted to preventive maintenance. CCSD peer organizations spend 56 percent (Abate, Towers, Dotz, Romani, & Lufkin, 2010) of the time on preventive maintenance. According to CCSD records, the district spends only 9 percent of staff time on scheduled preventive maintenance, and many needed PM tasks are not completed. A higher percentage of preventive maintenance enables operations to be more proactive in the planning and performance of maintenance work, resulting in a more efficient operation and a reduction of accumulated deferred maintenance in the future.

The impact of the low amount of time spent on preventative maintenance at CCSD is not yet apparent, as most of the district's facilities were constructed during the past 15 years. However, not completing this work could have a significant negative impact on the condition of CCSD facilities if not corrected in the next 3 to 5 years.

The CCSD Facilities Division has a robust CMMS. However, information processes have not been fully developed and implemented to leverage this system to support the field activities. For example, preventive maintenance, planning tools, and performance reporting are CCMS features not fully deployed at the supervisor level. Not all preventive maintenance has estimated work hours. Tools do not exist to monitor the performance of technicians or departments. Finally, CCSD building and HVAC technicians are processing preventive maintenance work orders using manual lists or spreadsheets.

As a result of system underutilization, CCSD is limited in its ability to manage performance. It is not apparent that a formal performance management system is in place and used to manage the performance of the organization – aligning organizational objectives with technician work targets. There is also limited ability to manage the performance of technicians in the field – both disciplinary action and rewards. High levels of organizational performance can only be attained if supervisors can manage the performance of employees using objective performance data.

Other observations are presented below:

- The backlog of incomplete preventive maintenance work orders cannot be assessed due to inadequate records.
- The current a backlog of corrective work orders totals approximately 25,000 hours.

- The majority of the maintenance work activities are unplanned. The review team did not find supervisors or technicians developing day-ahead planning assignments for work orders in any department observed. This is an issue as research shows that emergency work orders (un-planned work) cost 2 to 3 times that of planned work orders for the same work activity. Planned work is significantly more efficient and costs less to complete, and firms following best practices plan over 85 percent (Mitchell, 2006) of their work.[58]

- Currently, according to the CCSD Work Management Group (WMG), priority two work orders are responded to in 3.74 hours, while priority one work orders are responded to in 2.9 hours. CCSD data reflects that all priority one and two work orders are treated as unplanned (same day) emergency work orders. Priority two work orders are required to be responded to by the next day, and therefore, can be planned. The maintenance organization can improve productivity by improving its focus on managing work order priorities. For example, maintenance shop staff reported that work orders are made a priority one to please school administrators when the work should be planned as a priority two or priority three work order based on the district's established criteria for work order priorities.

By adopting these recommendations, the review team estimates that the productivity of technicians while performing work activities can be improved by approximately 25 percent based on an evaluation against[59] best practices and prior facilities management performance improvement experience. This effort will improve the productivity and efficiency of the technicians during the actual wrench time so that they are able to complete more work orders per hour of work over time.

Combining efforts to increase total wrench time while also increasing the productivity of technicians during wrench time will lead to a significant increase in the total number of maintenance hours performed each year. Table 5-5.6 illustrates this impact. Through the implementation of specific strategies, CCSD could increase its productivity to perform an additional 74,000 of work with the same number of employees.

Table 5-5.6.Technician productivity analysis

Annual Technician Man-hours	Productivity Improvement of 25% - Additional Man-hours	Effective Man-hours due to 25% Productivity Improvements
296,834	74,209	371,043

Note: 25 percent Improvement target based on experience with similar organizations and review of CCSD work processes.

The following strategies can be applied by CCSD to implement this recommendation. The estimated time

[58] Jacobs Engineering best practices

[59] Jacobs Engineering best practices

1. **Implement a work planning and scheduling (work management) strategy**

   - Pre-schedule the next day's work for each technician, every day.
     - All supervisors should provide planning training and assign work orders to individual technicians. Consideration of skill level, grouping of work orders in selected location, and grouping two, three, and four priority work orders for efficiency needs to occur.
     - All technicians should be required to attend planning training to develop "day ahead" work plans. When arriving at end of day, technicians should review work orders provided by the supervisor and organize parts, materials, supplies and equipment for next day. This results in a faster start the next morning.
   - Maximize the use of the CMMS system.
     - Preventive maintenance work orders need to be developed for all required equipment with job plans and estimated completion hours.
     - All preventive maintenance work orders should be processed through the CMMS.
     - Required deferred maintenance work is not currently being entered into the CMMS. This needs to be done so that the organization captures all work activities in a single information management system.
   - Require preventive maintenance activities to be completed once new productivity improvements are implemented. The best way to reduce the quantity of unplanned work is to complete planned work before there is a failure. Preventive maintenance work needs be assigned a high enough priority to enable it to be scheduled along with other types of work orders.
   - Review work order priority methodology. Priority one work is expensive and disruptive compared to planned work. CCSD should review of all the priorities taking the following into consideration:
     - Priority one definition should be understood by both end users and technicians. The current culture of upgrading lower priority work orders to priority one status simply to please end users should be stopped.
     - Priority two work needs to be performed the next day and integrated into the next-day planning process.
     - Evaluate whether zone maintenance staff can respond to most emergency work in an area, in lieu of core specialized trade technicians.
     - CCSD's priority system goes from Priority two (next day) to Priority three (30 days). A five-tier system should be considered with a priority of 14 days for preventive maintenance work.

2. **Implement performance management reporting and monthly performance reviews of operations**. CCSD should implement shop-level reports (example reports provided below) to provide real-time information to manage the performance of the organization.

    - Work backlog reports – by shop
    - Work aging reports – by shop
    - Average parts delivery times
    - Planning work index (how many work orders are planned as a % of total work orders)
    - Scheduling efficiency index (how many work orders are worked to plan)
    - Work orders by technician and by shop

3. **Implement a process to monitor the execution of work efficiency by technician (performance management)**.CCSD should provide estimates on the average amount of time a job should take on job plans and work. Supervisors should review the reasons for deviations over 25 percent and create staff performance reports by work task activity. In addition:

    - Deviations under the average time should be reviewed for efficiencies that can be used to improve everyone's efficiency – and internally share best practices.
    - Consistent deviations over the average should be reviewed for any impediments to executing the work.
        - Identify barriers that can be removed to improve efficiency
        - Provide productivity targets for all departments and individual technicians
        - Assess management's ability to discipline technicians for poor performance.
        - Implement a rewards program for high performers.

Fiscal Impact

All costs discussed in this section are estimated based on CCSD utilizing consultants external to CCSD that have knowledge of best practices and can implement changes into an organization. CCSD will need to invest approximately $300,000 to develop strategies and implement the work management best practices presented in this recommendation. The development and implementation of performance management-related implementation strategies (including best practices, metrics, reporting, etc.) is estimated to cost CCSD approximately $150,000. This includes work process development and implementation with the assistance of an external consultant. One-time investments needed to achieve the projected five-year cost reductions related to this recommendation total $450,000. Efficiency gains based on more effective use of maintenance staff time will free up approximately $1.85 million in annual cost reductions (74,209 hours x $25 per hour average pay and benefits). These efficiency gains should be re-purposed to support underfunded preventive maintenance activities.

It is assumed that the $1.85 million in efficiency gains will be reinvested in the district's preventive maintenance program. Accordingly, the net fiscal impact for the next five years is projected to be zero.

Recommendation 5-5.3: Outsource selected landscaping tasks to perform additional needed services at the same cost.

At CCSD, the majority of landscaping activities are currently performed by in-house staff. The Landscaping and Grounds Department has reduced its staff by 28 percent resulting in all required services not being provided. Prior to this recent reduction, the cost of providing landscaping service at CCSD was approximately $3,500 per acre. The general industry benchmarks are $3,155 to $3,721 per acre. Based on this analysis, prior CCSD landscaping costs are in line with industry benchmarks. However, after the 28 percent reduction in staff going into the 2011-12 calendar year, this department is in need of additional staff to perform required lawn service tasks. The recommended strategy is to outsource the lawn service tasks, which could potentially save an estimated 15 percent of the current cost. This strategy should allow the organization to utilize more staff due to the lower cost of outsourced staff – primarily because of lower benefits costs – and complete the required tasks within the existing budget with minimal impact to school operations.

Fiscal Impact

The tasks recommended for outsourcing are those which do not require staff to possess a high level of skill and outside contractors can easily provide the service (e.g., grass cutting, and gardening). Currently, 62 CCSD staff members perform these tasks at an annual cost of approximately $3.1 million each year, or $25 per hour including benefits. Outside contractors, through lower pay rates and benefits, should be able to provide $465,000 of additional needed services ($3.1 million x 15 percent) at the same total cost. Accordingly there is no net fiscal impact of this recommendation.

Energy Management

The review of the energy management function addressed overall energy usage and spending. Findings were based on interviews, discussions with CCSD energy consultants, site visits, and data analysis of the systems and operations to identify and confirm opportunities that could improve the energy efficiency of the district's facilities.

The cost reduction opportunities resulting from this study are summarized in Table 5-5.7. All the cost reduction calculations were developed individually without consideration of other initiatives. The total fiscal impact of all the opportunities in Table 5-5.9 may not be achieved if all the recommendations are implemented as the implementation of certain strategies may reduce the potential cost reductions of other strategies listed.

Cost reductions for all recommendations are supported by detailed engineering analysis developed by the review team and CCSD energy consultants. The calculations take into account parameters such as current baseline energy usage, specific schools or facilities for the recommendation, current electricity

and gas rates, cost to procure and install any equipment, projected cost reductions based on equipment specifications or engineering analysis and the time duration (hours) of the energy use. A summary of recommendations is shown in Table 5-5.7.

Table 5-5.7. Energy management recommendations summary

Recommendations	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required
5-5.4. Modify Heating Ventilation and Air Conditioning (HVAC) equipment start time	High	2012-13	$6,078,208	No
5-5.5. Optimize team clean HVAC	High	2012-13	$7,877,054	Yes
5-5.6. Implement PC management software	High	2012-13	$4,307,143	Yes
5-5.7. Replace compact refrigerators	Low	2012-13	$1,932,553	Yes
5-5.8. Implement optimized and integrated retro-commissioning program	High	2012-14	$14,265,593	Yes
5-5.9. Retrofit walk-in refrigerator and freezer motors	Med	2012-13	$347,454	Yes
5-5.10.Retrofit classroom lighting	High	2012-13	$3,716,616	Yes
5-5.11. Retrofit multi-purpose room lighting	High	2012-13	$339,611	Yes
5-5.12. Retrofit gymnasium lighting	High	2012-13	$679,172	Yes
5-5.13. Install photovoltaic panels	High	2012-13	$112,000	Yes
5-5.14. Install occupancy sensors	Med	2012-13	$1,734,639	Yes
5-5.15. Retrofit and upgrade motors with VFDs	Low	2012-22	$407,426	Yes
Total			**$41,797,469**	

The following recommendations relate primarily to operational modifications, improvements, and equipment upgrades.

Recommendation 5-5.4.Modify Heating Ventilation and Air Conditioning equipment start times.

Currently the HVAC in the Energy Management System (EMS) equipment are started when the custodian first opens the school – approximately two hours prior to students entering the building. CCSD should consider modifying equipment operating schedules for the HVAC equipment in the EMS based on current school bell schedules. Coordinating the HVAC equipment operating schedule with the school schedules will allow for more efficient operation while still providing conditioned spaces upon

occupancy of the buildings by the staff and students. This strategy will not impact the environment while students are in the school and will save approximately one hour of HVAC time per school day.

The calculation of the five-year cost reductions includes one hour of HVAC time per school day at all schools. The cost to implement this recommendation is approximately four hours of programming in the EMS system per school, which can be performed by the CCSD staff. This strategy can be implemented in less than one month.

Recommendation 5-5.5: Optimize Team Clean HVAC.

The custodial staff is currently performing "team cleans" at night, which allows all custodians to focus on cleaning one specific area of a building at a time. However, this team moves through the school twice, and lights and HVAC (in custodial mode) are left on the entire time, which is approximately eight hours.

The district should coordinate the lighting and HVAC usage with the custodial cleaning schedule, and should implement "one-pass" cleaning. Coordinating the lighting and HVAC operating schedule with the custodial "team cleans" and focusing on completing areas in a "one-pass process" will allow the teams to clean areas completely and then turn off the lights and HVAC in that area – reducing energy costs.

The cost reductions are estimated for turning off the lighting and HVAC completely, and are approximately 35 percent to 45 percent during the eight hours of cleaning (based on the school). Implementation costs include zone cleaning area strategy development and additional trainers to train staff on the new process. Additional implementation costs of $500,000 will be required for this recommendation in order to coordinate HVAC and lighting zones with cleaning zones, and provide a contingency for modification of electrical circuits that may be needed to isolate the different areas of the building.

Recommendation 5-5.6: Implement PC management software.

CCSD should implement an energy management system for the district's computer power (e.g., desktop computers) to manage use of equipment only when required and power down when not required. An outside vendor can provide implementation, operation, and maintenance of PC management software. Through a competitive procurement process, CCSD Energy Conservation and Management Departments have received proposals from six vendors to implement this strategy. The cost and cost reductions were obtained from vendor proposals and the analysis estimated that 100,000 computers are involved, with an average annual savings of 100kWh/computer. The implementation costs relate to the installation of the software onto CCSD's system, which can be loaded onto CCSD's network without impacting any critical network functions or increasing risk or security to CCSD operations or information technology systems. The vendors have also provided a proposal to include financing which can be paid for from the cost reductions obtained.

Rebates are also available through NV Energy, the district's utility provider.

Recommendation 5-5.7: Replace compact refrigerators.

Throughout the life of the buildings, faculty and staff members have brought in their own compact refrigerators for personal use. While convenient for staff, utilizing these compact refrigerators is much less efficient than using the existing large community refrigerators. CCSD should implement a policy to prohibit use of personal compact refrigerators used by faculty and staff. In addition, CCSD should install well-paced additional community full-size refrigerators as it is more cost effective to install energy efficient (ENERGY STAR compliant) full-size refrigerators than run the small refrigerators.

The analysis estimates that there are over 7,770 compact refrigerators that could be replaced by adding an additional 971 full-size refrigerators – over 1,500 full-size refrigerators currently exist. The cost reductions are calculated based on the net energy savings of removing the compact refrigerators and adding additional full-size refrigerators.

Recommendation 5-5.8: Implement optimized and integrated retro-commissioning program.

A retro-commissioning program is an effort that ensures that all building equipment (e.g., air conditioning and heating equipment) is operating as efficiently as possible and that the least amount of energy is expended. CCSD facilities that have not been commissioned in the last five years are candidates for retro-commission. CCSD's Energy Conservation and Management Departments have performed commissioning on more recent new construction schools and pilot retro-commissioning efforts on two older schools, but the majority of the buildings have not been retro-commissioned. The pilot retro-commissioning results and industry experience show that retro-commissioning can reduce energy costs for buildings five percent to 15 percent with a short payback period. CCSD should implement a retro-commission program across the entire portfolio of facilities to be completed within two years. The initial retro-commissioning should be performed with the assistance of an outside commissioning provider to meet the two year deadline. The cost reductions are developed by estimating an energy savings of approximately 8 percent for all the schools to be retro-commissioned except the ones previously commissioned. The costs are developed based on a joint CCSD/contractor team performing the commissioning services.

Recommendation 5-5.9: Retrofit walk-in refrigerator and freezer motors.

The district has an estimated 270 walk-in refrigerators which utilize original, less efficient, condenser and evaporator fan motors. The district should replace existing walk-in refrigerator and freezer motors with electronically commutated motors that are more energy efficient. Motors can be easily retrofitted as new motors are direct replacements. The cost to implement is for purchasing and installing new motors. The cost reductions are the calculated net energy savings between the current motors and the new high-efficient motors.

Recommendation 5-5.10: Retrofit classroom lighting.

CCSD's Energy Conservation and Management Departments currently have 98 schools scheduled to receive classroom lighting retrofits of existing fluorescent lighting to more efficient super T8 lighting under current funding. However, retrofitting the classroom lighting for the remaining 200 schools – which would reduce energy usage and have a short payback period – is not scheduled or funded at this time.

The district should retrofit existing classroom lighting fixtures in all schools. By continuing to use the same procedures for implementation as the current classroom lighting retrofit projects, this effort can result in significant energy savings.

Recommendation 5-5.11: Retrofit multi-purpose room lighting.

The classroom lighting retrofit recommendation (Recommendation 5-5.10), does not include retrofitting multi-purpose room lighting. CCSD should retrofit the multi-purpose lighting for 200 schools, which would also reduce energy usage with a short payback period. These projects are not scheduled or funded at this time, as classrooms were prioritized over the multi-purpose rooms. The costs for this recommendation include the cost and installation of the new efficient light fixtures. The cost reductions are calculated from the net energy savings achieved by using the new highly efficient fixtures. The same procedures for implementing classroom lighting retrofits can be applied to the multi-purpose room lighting retrofit project.

Recommendation 5-5.12: Retrofit gymnasium lighting.

CCSD's Energy Conservation and Management Departments currently have a portion of schools scheduled to receive lighting retrofits of the existing gymnasium metal halide lighting to higher efficiency T5 lighting. The district should retrofit existing metal halide light fixtures for gymnasiums in all schools and student centers in high schools and middle schools. Retrofitting the gymnasium lighting for 150 schools, which would reduce energy usage with a short payback period, are not scheduled or funded at this time. The costs for this recommendation include the cost and installation of the new efficient light fixtures for 150 schools. The cost reductions are calculated from the net energy savings achieved by using the high-efficient fixtures. CCSD should continue using the same procedures for implementation as the current gymnasium retrofit projects.

Recommendation 5-5.13: Install photovoltaic panels.

CCSD should continue to take advantage of the Nevada (NV) Energy rebate program for photovoltaic panels, which provides the funding to make this strategy economical, and provides approximately 87 percent of installation costs. While NV Energy provides a limited amount of funding to all customers on an annual basis, CCSD has been able to obtain close to the maximum allowable funding under this program each year. The recommendation is for CCSD to continue to obtain as much of NV Energy's annual program as it is able until the program is discontinued. The estimated fiscal impact assumes the

purchase and installation of eight 50K watt panels (one panel per school) annually that produce solar electric power to help reduce the energy usage at the school. However, CCSD should only purchase photovoltaic panels under conditions where each installation stands on its own merit with respect to return on investment.

Recommendation 5-5.14: Install occupancy sensors.

Occupancy sensors have not been installed in approximately 75 percent of schools in CCSD, and should be installed in schools where they have not been installed to date. These sensors provide energy savings by turning out lights when a room is not occupied for a set period of time.

The implementation costs for this recommendation include the equipment and installation expenses to install the occupancy sensors in approximately 270 schools. Cost reductions are calculated by assuming that these sensors will save approximately 20 percent of the electrical energy used by the lighting in the school.

Recommendation 5-5.15: Retrofit and upgrades of motors with Variable Frequency Drives.

Approximately 30 percent of CCSD schools have installed constant speed motors, which run at the same speed all the time without regards to the amount of demand on the motor. These motors are used for various applications including heating and cooling equipment. Constant speed motors are less efficient than variable speed motors, which can vary energy use based on demand.

Because of the relatively low payback of this recommendation, it may be more economical to upgrade to variable speed motors when the existing motors are in need of replacement, which will most likely be over a 10-year period. The cost analysis estimated 33 motors per school for 108 schools, and the implementation costs include both the equipment and the installation costs. Cost reductions are estimated based on the energy use difference between the two types of motors.

Fiscal Impact

The following table lists each recommendation, the estimated costs to implement the recommendation and the expected cost reductions. The cost reductions have been calculated for the first five years. It was estimated that only 50 percent of the cost reductions would be realized in the first year due to implementation timelines. The recommendations are listed in the order of the highest return on investment.

Energy savings projects have been implemented by CCSD in prior years primarily with the support of bond funding. Although many projects have been implemented, there are many more opportunities to save on energy costs. Most of these projects will require initial up-front investments, and it is recommended that CCSD look at a variety of ways to fund these projects. If the recommendation involves capital upgrades (e.g., lighting), CCSD can obtain additional bond funding or contract with an energy services company that will fund and finance the investment. If the recommendation involves the

implementation of a specialized technology (e.g. PC management), pursuing relationships with firms that will finance the investment through cost reductions are recommended – with no initial investment by CCSD. For those recommendations that are labor intensive and difficult to fund with bond funds (e.g., commissioning, modifying HVAC start time), the primary funds will come from the operating budget.

These recommendations have very quick payback periods, and if they are planned over two years and timed with the seasons, much of the cost reductions during the calendar year could fund the actual costs to implement for that year.

Table 5-5.8. Detailed five-year fiscal impact, energy management cost reductions

Recommendation	One-Time Cost / Reduction	2012-13	2013-14	2014-15	2015-16	2016-17
Energy Management						
5-5.4. Modify Heating Ventilation and Air Conditioning (HVAC) equipment start time	($77,760)	$683,996	$1,367,993	$1,367,993	$1,367,993	$1,367,993
5-5.5. Optimize team clean HVAC	($655,000)	$948,006	$1,896,012	$1,896,012	$1,896,012	$1,896,012
5-5.6. Implement PC management software	($864,000)	$574,571	$1,149,143	$1,149,143	$1,149,143	$1,149,143
5-5.7. Replace compact refrigerators	($1,146,252)	$342,089	$684,179	$684,179	$684,179	$684,179
5-5.8. Implement optimized and integrated retro-commissioning program	($8,975,066)	$2,582,295	$5,164,591	$5,164,591	$5,164,591	$5,164,591
5-5.9. Retrofit walk-in refrigerator and freezer motors	($410,130)	$84,176	$168,352	$168,352	$168,352	$168,352
5-5.10.Retrofit classroom lighting	($6,836,735)	$1,172,595	$2,345,189	$2,345,189	$2,345,189	$2,345,189
5-5.11. Retrofit multi-purpose room lighting	($624,717)	$107,148	$214,295	$214,295	$214,295	$214,295
5-5.12. Retrofit gymnasium lighting	($1,440,000)	$235,464	$470,927	$470,927	$470,927	$470,927
5-5.13. Install photovoltaic panels	($284,000)	$44,000	$88,000	$88,000	$88,000	$88,000
5-5.14. Install occupancy sensors	($6,850,618)	$953,917	$1,907,835	$1,907,835	$1,907,835	$1,907,835
5-5.15. Retrofit and upgrade motors with VFDs	($1,935,360)	$260,310	$520,619	$520,619	$520,619	$520,619
Totals (some individual opportunities may overlap with others)	**($30,099,638)**	**$7,988,567**	**$15,977,135**	**$15,977,135**	**$15,977,135**	**$15,977,135**

Custodial Services

CCSD's custodial services are part of the district's Operations Department, and are responsible for cleaning 351 schools and other district facilities comprising over 35 million square feet of space. The custodial function consists of 1,514 employees including custodians, pest control personnel, and supervisory and administrative staff.

Table 5-5.9 shows a summary of personnel as of the date of this study and the budgeted staff levels for fiscal year 2011-12.

Table 5-5.9. Custodial personnel, fiscal years 2010-11 and 2011-12

Classification	Fiscal Year 2010-11	Fiscal Year 2011-12
Administration	3	2
Clerical	10	7
Floor care specialists	10	9
Training staff	6	3
Pest control specialists	6	6
Custodians	1,154	1,146
Custodial supervisors	325	322
Total	**1,514**	**1,495**

Source: CCSD Operations Department, 2011

Note: Custodial supervisors also includes head custodians

Supplies of custodial products are largely budgeted at the school level. Purchases are made by each school as quantities are depleted. The total amount budgeted for supplies in the past three years has not changed significantly from the amount budgeted in fiscal year 2010-11 of $2,253,756 (see Table 5-5.10). Expenditures of the department for the last three fiscal years are shown in Table 5-5.10.

Table 5-5.10. Custodial department operating results, fiscal years 2008-09 through 2010-11

Category	Fiscal Year 2008-09	Fiscal Year 2009-10	Fiscal Year 2010-11
Salaries and wages	$50,757,341	$52,610,039	$52,537,264
Benefits	$20,889,556	$24,173,514	$25,676,185
Services	$0	$0	$691
Supplies	$0	$377,063	$347,024
Other	$0	$29,722	$93,101
Totals	**$71,646,897**	**$77,190,338**	**$78,654,265**

Source: CCSD Budget Office, 2011

Note: Supplies of custodial products are also budgeted at the individual schools. See discussion below. Changes in expenditure classification occurred after FY 2008-09. Prior to FY 2009-10, custodial supplies and services were not separately budgeted.

Key operating statistics for the past three years are shown in Table 5-5.11.

Table 5-5.11. Custodial services operating statistics, fiscal years 2008-09 through 2010-11

Statistic	Fiscal Year 2008-09	Fiscal Year 2009-10	Fiscal Year 2010-11
Total personnel	1,495	1,480	1,514
Square footage [1]	34,491,205	33,624,210	34,591,205
Department expenses	$71,646,897	$77,190,338	$78,654,265
School supplies expense	$2,261,398	$2,249,509	$2,253,756
Cost per square foot	$2.14	$2.36	$2.34
Student enrollment	311,240	309,476	309,893
Cost per student	$230.19	$249.42	$253.81
Average Salary Levels	$35,175	$35,547	$34,701
Average Benefit Rate	41.2%	46.0%	48.9%

Source: CCSD Operations Department and Business Office, 2011

[1] Square footage of CCSD's facilities varied depending on the source of the information.

Average salary levels have declined in FY 2010-11 even as the number of personnel has increased slightly. However, the level of benefits has dramatically increased. This increase is largely due to employee group insurance, which has increased by over $4 million (to $13.8 million) from 2008-09 to 2010-11, a 26 percent increase from 2008-09 to 2009-10 and another 12 percent jump in 2010-11. Strategies to address this issue are discussed in the remainder of this section.

Assignment of Custodians

Custodians are assigned to schools and other facilities based on the square footage of floor space to be cleaned, and each evening shift custodian is responsible for cleaning 32,000 square feet. For elementary schools, the total square footage of the school, including the floor space of all portable classrooms on site, is reduced by 5,000 (representing the average size of the cafeteria) and the remaining square footage is divided by 32,000 to yield the number of FTEs necessary for the evening shift. Each elementary school's head custodian is expected to clean the cafeteria before the end of his/her daytime shift.

For secondary schools, square footage of the school is divided by 32,000 to determine the total number of custodians to be assigned to the school on either the day or night shift. In addition to this staffing formula, each secondary school is also assigned one head custodian (either Head Custodian II or III, for middle school or high school, respectively). For each high school, one of the staff members included in the total derived by the formula is a Lead Custodian, who is a working supervisor who works during the evening shift.

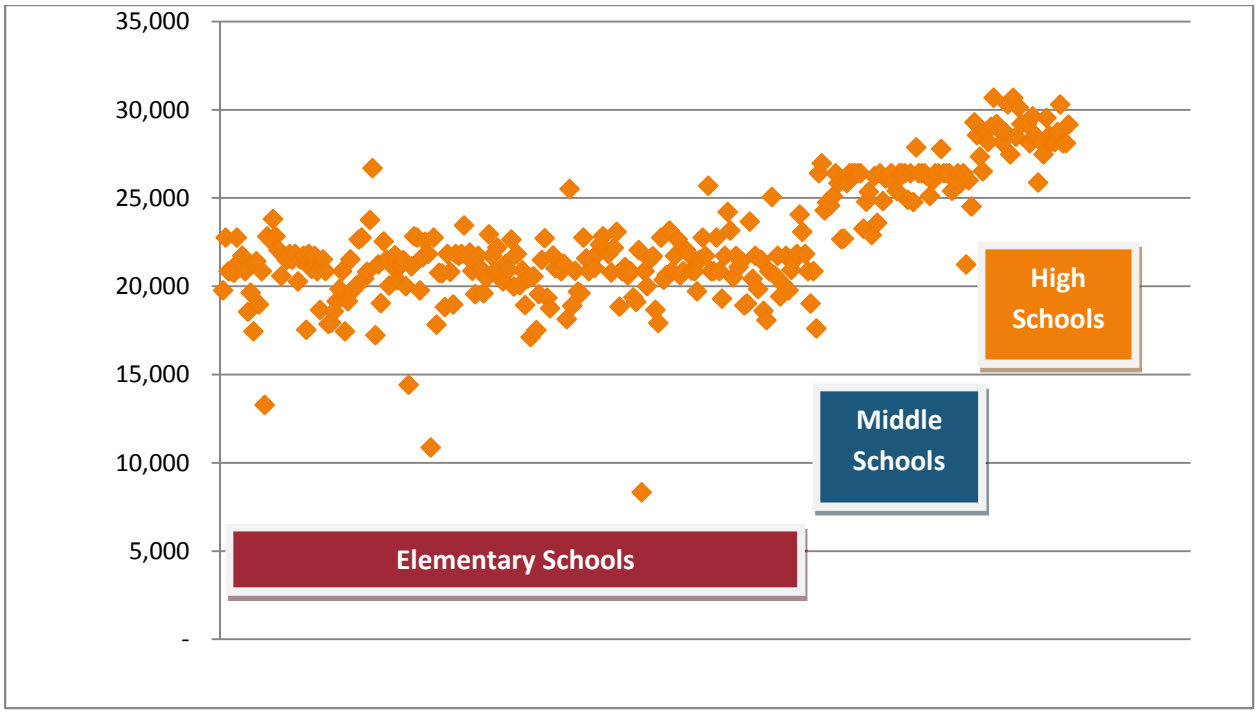
When the staffing formula yields a partial staff count (i.e., when the quotient of the formula is a non-integer), the school may be assigned a combination of full-time and part-time staff. The review team noted that currently, CCSD schools have 263 employees who work as custodians for shifts ranging from two hours to seven hours daily. These individuals may also work in some other capacity at CCSD, but their shifts as custodians are less than eight hours per day.

By employing staff for the exact number of hours needed, CCSD is able to maximize staffing efficiency regardless of the physical layout or size of each school. Were the department to hire either full-time (eight hours daily) or half-time (four hours daily) employees – as opposed to the variable shifts currently in place – CCSD would incur over 430 additional hours daily. These hours would result in over $1 million in added personnel costs annually.

National staffing standards for school operations vary by state, and school-related professional association guidelines do not always agree. However, according to the Planning Guide for Maintaining School Facilities[60], issued in conjunction with the National Association for School Business Officials (ASBO), a school custodian should be able to clean between 28,000 and 31,000 square feet per eight-hour night shift, or an aggregate measure ranging from 23,000 to 25,000 square feet when incorporating day shift staff requirements. This level of productivity is the norm for most school facilities, and CCSD's square footage per custodian exceeds the national standard. Figure 5-5.2 is a scatter diagram reflecting the custodial productivity, measured at gross square feet per custodial FTE, at each school. While more schools fall in the 18,000 to 24,000 range, these are primarily elementary schools where maximum productivity levels are more difficult to attain because of the smaller school size and the need to have at least one custodian at the school during the school day. As shown in Figure 5-5.2, there were four elementary schools that had low productivity in 2010-11 compared to others in CCSD.

[60] http://nces.ed.gov/pubs2003/2003347.pdf

Figure 5-5.2. Gross square feet per custodian by school, 2010-11



Source: CCSD, 2011

Similar standards have been published in the American School and University (ASU) journal. From its most recent national survey (2009)[61], ASU published data on custodial costs on a per student and per square foot basis. In 2009, the average costs of custodial services were $277.69 per student; CCSD's current costs of $260.83 per student are slightly lower than this benchmark. ASU's average custodial costs were reported to be $1.59 per square foot; CCSD's custodial costs of $2.34 per square foot significantly exceed the ASU national average.

In its publication, *Performance Measurement & Benchmarking for K12 Operations*, the Council of Great City Schools (CGCS) suggested per-square-foot and per-custodian benchmarks for custodial services. The median of $1.57 per square foot and 25,536 square feet cleaned per custodian are similar to the other benchmarks discussed above.

CCSD's custodial productivity rate per staff member is in line with national averages. The cause for higher custodial costs is related to CCSD's higher compensation rates and benefits. Part of this is due to custodial staff being paid on the high end of CCSD's published salary scales[62]. Applying the minimum, maximum, and average salary rate to the number of personnel in each category, projected costs at each salary level can be calculated and compared to actual salary costs. The actual FY 2010-11 custodial salary costs were only $2,588,904 below the maximum, as shown in Table 5-5.12.

[61] http://asumag.com/Maintenance/school-district-maintenance-operations-cost-study-200904/index.html

[62] http://www.ccsd.net/jobs/gnrl/pdf/ESEA_Agreement.pdf

Table 5-5.12. Projected salary levels, fiscal year 2011-12

Level	Salary
If all custodians paid at minimum salary level	$42,223,720
If all custodians paid at average salary level	$48,674,944
If all custodians paid at maximum salary level	$55,126,168
Actual salary expense - 2011	**$52,537,264**
Difference between maximum and actual	**$2,588,904**

Source: CCSD Operations Department and Business Office, 2011

In addition to the established minimum and maximum compensation levels for each position, CCSD support staff is eligible for step increases in salary based on the classification of the position and the number of years of service. CCSD custodial staff have not experienced significant turnover in recent years, and consequently, incumbent custodians are eligible for salary levels significantly higher than the minimum. Table 5-5.13 indicates the average number of years of service for each custodial position based on the actual compensation paid in 2010-11.

Table 5-5.13. Average salary expense by position, fiscal year 2010-11

Category	Count	Pay Grade	Actual Salary Expense (2010-11)	Average Hourly Rate	Step	Average Service (Years)
Clerical	10	40	$361,881	$17.40	Above max	20 +
Floor Care Supervisor	1	52	$63,220	$30.39	Above max	20 +
Senior Floor Care Technician	2	50	$120,401	$28.94	Above max	20 +
Floor Care Technician	7	48	$290,127	$19.93	E2	5
Assistant Custodial Supervisor	5	53	$292,800	$28.15	G2	10
Custodial Supervisor	7	54	$453,447	$31.14	H2	15
Trainer	5	51	$264,880	$25.47	G2	10
Custodial Leader	48	46	$1,910,718	$19.14	F2	5 +
Custodian	1,106	43	$34,260,205	$15.00	D2	4
Head Custodian I	208	47	$8,648,128	$19.99	F2	5 +
Head Custodian II	64	48	$2,956,083	$22.21	G2	10
Head Custodian III	38	52	$2,122,641	$26.86	G2	10
Head Custodian – Special Schools	3	47	$128,136	$20.53	G1	10

Category	Count	Pay Grade	Actual Salary Expense (2010-11)	Average Hourly Rate	Step	Average Service (Years)
Pest Control Supervisor	1	50	$60,224	$28.95	Above max	20 +
Pest Control Technician	2	44	$71,490	$17.19	F2	5 +
Senior pest control technician	3	47	$123,381	$19.77	F1	5 +

Source: ESEA negotiated agreement[63], 2011; CCSD Operations Department, 2011

Strategies for Cost Containment

Custodial Services currently exceeds national standards for productivity for cleaning schools to an acceptable level of cleanliness. As noted above, the department does plan to reduce personnel in certain areas next year; however, these cuts will not impact custodian or head custodian positions. CCSD could reduce custodial positions to achieve costs reductions, but this would require modification in the cleaning procedures, and the frequency of certain processes, such as floor sweeping, carpet vacuuming, wastebasket collection, and mopping, would need to be reduced. This could negatively impact the cleanliness of the schools.

Other reductions in costs, such as services or supplies, are not likely to yield any significant cost reductions due to the relatively small contribution of these categories to total custodial expenses. Reducing overall custodial costs can only be achieved by reducing salary rates or benefits, or both.

Recommendation 5-5.16: Outsource custodial services operation to a private service firm.

The process of outsourcing custodial services operations would include the following tasks:

- Issue an initial Request for Qualifications to identify firms with proven experience and expertise in school district custodial operations. CCSD can further negotiate with one or more of these firms for specific contract terms.
- Determine the contract terms to be negotiated, particularly the treatment of existing staff in the transition to an outsourcing firm.
- Negotiate contract terms. In order to achieve the desired levels of cost reductions, an external firm will need to be assured that the contract will remain in effect for a period of time necessary to amortize start-up costs (equipment, employee on-boarding expenses, etc.) and to implement any organizational changes or phase-out any pre-conditions set by CCSD.

[63] http://www.ccsd.net/jobs/gnrl/pdf/ESEA_Agreement.pdf

Fiscal Impact

Within the past 18 months, the department conducted exploratory discussions with a firm that outsources custodial services for public institutions such as CCSD (several firms have approached the district over the past decade). The projected cost schedule included 1,522 FTEs in approximately the same personnel categories as are currently employed; however, average salary rates and benefits, particularly employee group insurance, were significantly less than CCSD's internal costs. For example, the proposed average salary rate for custodians was $12.57 per hour, compared to CCSD's current rate of $15.00 – a difference of approximately $5.6 million annually. The proposed cost of benefits for employee group insurance was estimated at $259.18 per month for employee-only coverage, compared with $526.65 per employee under the negotiated agreement with CCSD Education Support Employees Association– a difference of $4.8 million annually. The combined projected cost reductions amount to $10.4 million.

The fiscal impact is based on preliminary estimates of cost reductions above that could be received by CCSD if custodial operations are outsourced, and assumes a phasing-in of the actual cost reductions to support a smooth transition from the in-house operation to the outsourcing firm.

Recommendation 5-5.16.	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2016-17	2017-18
Outsource custodial operations to a private service firm	$0	$5,200,000	$10,400,000	$10,400,000	$10,400,000	$10,400,000
Total	**$0**	**$5,200,000**	**$10,400,000**	**$10,400,000**	**$10,400,000**	**$10,400,000**

Section 6 – Transportation

The CCSD Transportation Department is responsible for home to school transportation for general education students and special needs students attending public schools and vocational and technical schools. The department is also responsible for student transportation for summer programs, school activities, educational field trips, and extracurricular activity trips for all schools. Additionally, the department is responsible for vehicle maintenance for the fleet of school buses and the for the district's general services vehicles.

The mission of the Transportation Department is:

- To provide safe, timely, efficient and courteous bus transportation services to eligible students in the Clark County School District.
- To provide, effective, efficient, and safe fleet management and maintenance services to meet overall CCSD transportation needs.
- To provide quality performance, showing continual improvement in meeting departmental objectives toward the ultimate goal of student achievement.[64]

In addition to the geographical and topographical challenges mentioned for other departments, the Transportation Department faces other challenges specific to its mission. For example, it provides transportation for students attending alternative schools for behavior problems, students who are eligible to attend their school of choice (rather than their neighborhood school), and students who participate in career and technical programs and work life programs offered throughout the district. The department also transports general and special needs students from home to the locations for programs that may be miles away from the student's "home" school. It provides transportation for general and special needs students, for extended school year (ESY) students in the summer, and for sporting events, extracurricular activities, and field trips.

During the 2010-11 school year, approximately 120,000 CCSD students were eligible for home-to-school transportation. The Transportation Department served approximately 97,000 general education students daily and 9,000 special needs students in the district.

The following table (Table 5-6.1) outlines the increase in student riders in each of the past four years.

[64] Source: http://transportation.ccsd.net/quick%20links/qckMission.php

Table 5-6.1. Student ridership, 2008 to 2011

	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11
Total students eligible for student transportation	115,000	112,759	111,430	120,879
General daily student riders	70,189	77,203	81,891	96,856
Special needs daily student riders	6,483	6,839	7,634	8,926
Total student riders	76,672	84,042	89,525	105,782
Student riders as percent of eligible	67%	75%	80%	88%

Source: Annual Transportation Reports to the Nevada Department of Education; FY 2010-11 CCSD Transportation Department

The Transportation Department attempts to strategically locate the facilities, which house transportation operations and vehicle maintenance throughout the district's large geographical area. There are currently five facilities located within the city of Las Vegas and four outlying facilities in more rural areas of the county. A new facility is under construction. Four of the five facilities in Las Vegas serve as active transportation facilities for school buses. The Arville transportation facility in Las Vegas is the most centrally located and serves as the base for the largest number of school buses, 500. Cheyenne, located in North Las Vegas, is the second largest bus facility with 350 buses. The Russell transportation facility is located in southeast Las Vegas and is the base for 250 buses. The newest facility, Wallace is located south of downtown Las Vegas. The district constructed Wallace approximately four years ago to maintain 250 buses and serve as the warehouse for a large inventory of parts for vehicle maintenance. The fifth facility in Las Vegas, Eastern, is also the oldest. Last year, the district closed the Eastern site as a school bus operating facility. The Transportation Department currently uses Eastern as an administrative facility and as the location for vehicle maintenance for the general services vehicle fleet. All of the transportation facilities, with the exception of Wallace, are at maximum vehicle capacity. The new vehicle maintenance facility under construction is in northwest Las Vegas. When the new facility opens in 2012, the Transportation Department will relocate some school buses from existing facilities to the new location. The Transportation Department estimates the new assignment of buses will permit the district to reduce "deadhead miles" — the distance traveled from the bus facility parking to the start of school bus routes. The outlying facilities serve small numbers of buses in remote areas. The four outlying facilities include Laughlin (eight buses), Mesquite/Moapa Valley (25 buses), Indian Springs (three buses), and Sandy Valley (four vehicles).

The Transportation Department has a school bus fleet of almost 1,600 buses.[65] The current schedule for replacing standard school buses is every 14 years. The department typically retains special education buses for 15 years. Historically, the department has purchased approximately 110 buses per year, for replacement vehicles and growth in service. The director of vehicle maintenance in the Transportation Department said that the district's goal is to purchase approximately the same number of vehicles annually to ensure a regular replacement schedule; however, recent changes in the number of buses

[65] Source: CCSD Transportation Department, 2011

required for daily student transportation (discussed below) will reduce the number of buses retired for replacement each year.

The department also uses technology to help improve operating efficiency and collect accurate data. Several years ago, the district purchased the Zonar system for each school bus. Zonar is an automated system that each driver uses to conduct and record daily pre-trip and post-trip bus inspections for each bus. Zonar also records driver start and end times, reducing the time paid related to drivers reporting to a central location and then walking to find the bus parked on the facility parking lot. The Transportation Department can also message each driver on duty using the Zonar system on the school bus.

The total 2010-11 budget for the Transportation Department was $111 million, including all vehicle maintenance.[66] Of the total $111 million, 85 percent was budgeted for salary and salary-related expenses, 11 percent for fuel, and 4 percent for supplies. The department works to reduce fuel and mileage, but the cost of fuel continues to be unpredictably volatile, making planned reduction in expenses difficult. The Transportation Department recently implemented a midday "park out" of some buses at high schools strategically located in the district in order to reduce deadhead time (and thereby, fuel costs) on some routes. In 2010, the district leadership team asked the Transportation Department to reduce the budget 15 to 20 percent for the 2011-12 school year. The department made reductions totaling about 14 percent, approximately $12 million in bus route reductions through staggered bell schedules (discussed further below), and an additional $3 million for expenditure reductions in administrative staff, supplies, and parts.

The Transportation Department has been very effective in identifying ways to be more efficient and reduce total costs. A major initiative to stagger bell times beginning in the 2011-12 school year will allow CCSD to provide home-to-school transportation with fewer school buses. The staggered bell times will make it possible for one bus to make trips to multiple schools each morning and afternoon. The district expects that staggering bell schedules to maximize the use of buses and bus drivers will save the district $12 million in 2011-12, or about 11 percent of the Transportation Department budget. In another initiative, the Transportation Department is implementing new software (COMPASS) for automated routing and driver scheduling, which should result in additional efficiencies. One of the challenges for the Transportation Department will be to sustain these cost reductions in the face of increasing ridership. As principals and other school representatives are empowered with additional decision-making authority, there is more pressure on the Transportation Department to respond to site-based decisions related to early releases and revised bell times. These changes in schedules can increase costs and risk undermining the Transportation Department cost reductions that have already been achieved or are planned.

This study identifies four additional opportunities for cost reductions in the Transportation Department. In some cases, Transportation Department staff had already identified but has not yet implemented these opportunities. Table 5-6.2 summarizes the recommendations for the Transportation Department. As an alternative to the organization and management recommendations set forth, the district should

[66] Source: 2011-12 CCSD Transportation Department budget

consider outsourcing transportation services to save costs should the changes to revise bus driver work rules and bell schedules not be selected for implementation.

Table 5-6.2. Summary of recommendations

Recommendation	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required	Major Policy Changed Required
Organization and Management					
5-6.1. Reorganize the Transportation Department to reduce supervisory staff.	High	2013-14	$2,243,590	Yes	No
5-6.2. Revise work rules for bus drivers and revise bell times to improve scheduling efficiency.	High	2013-14	$14,252,880	No	Yes
5-6.3. Develop guidelines to facilitate the least restrictive mode of transportation for special needs students.	Medium	2013-14	$7,980,000	No	No
Total			**$24,476,470**		
Alternative Recommendation: Outsource Student Transportation					
5-6.4. Consider outsourcing transportation service to reduce total cost.	High	2014-15	$36,082,000	Yes	Yes
Total			**$36,082,000**		

Organization and Management

Providing transportation to over 100,000 students in an 8,000 square mile service area requires a large administrative staff to manage operations and supervise bus drivers and transportation aides. The Director of Transportation (Director III) leads the Transportation Department organization. Two deputy directors (Director I) support the director. One deputy director is responsible for vehicle maintenance for the school bus fleet and the district's general service vehicles. The other deputy director is responsible for the student transportation functions of the department. Five transportation coordinators representing various functions of the department report to the Deputy Director of Student Transportation. The five coordinators are responsible for general education transportation, special education transportation, investigations and training, routing and scheduling, and information technology. The Transportation Department also has a payroll manager and a call center. While the majority of these functions are essential for the day-to-day operations of the department, there are many supervisory positions for general education transportation and special education transportation. Some of these supervisory positions are necessary to assist with day-to-day operations; however, there

is an opportunity to reorganize the Department to reduce staff while improving field supervision of transportation services. Representatives in the Transportation Department suggested some of the concepts and ideas for reorganization of the department during discussions with the review team in June of 2011.

The Transportation Department also identified opportunities to save additional costs by scheduling driver assignments to improve efficiency. However, four provisions in the negotiated agreement with the Education Support Employees Association (ESEA) establish work rules that create inefficiencies in the assignment of driver time, thereby increasing operating costs. If the rules for driver time were more flexible, the new COMPASS software could create more seven-hour to eight-hour driver assignments. More efficient bus driver assignments will increase the number of full-time drivers while reducing the total number of drivers on the payroll.

The cost of student transportation per rider is very different for students using general education transportation and students with special needs who require special education transportation. In 2010-11, the cost for student transportation operations only (excluding vehicle maintenance, investigations and training, routing and scheduling, and information technology) was $76 million. Of that amount, $42 million, or 54 percent, was for special education transportation to transport, on average, less than 9,000 daily student riders. This compares to the general education transportation cost of about $34 million to transport about 97,000 daily student riders.

The opportunities to create cost reductions in the Transportation Department by reorganizing supervisory staff, revising work rules, and establishing close cooperation with the Special Education Department are discussed in the following recommendations.

Recommendation 5-6.1: Reorganize the Transportation Department to reduce supervisory staff.

The Transportation Department supervisory staff responsible for general education and special education transportation is larger than required to oversee operations. At the same time, there is not enough oversight of transportation service in the field. The budget for 2011-12 reflects a coordinator for general education, a coordinator for special education, three operations managers and 21 field supervisors¸ supported by 10 dispatchers and 11 office specialists. These supervisory positions oversee the bus drivers and transportation aides. There is an opportunity to reduce costs by revising the organization to decrease supervisory staff and increase personnel responsible for supervision of service in the field.

Most field supervisors for general and special education spend the majority of their time in an office setting, dealing with payroll and other paperwork, and do not actually supervise “in the field”. The Transportation Department needs more personnel who work directly with drivers and aides and oversee transportation services for students. Drivers often need assistance while operating their buses for a number of reasons, including incidents or accidents, in-service bus breakdowns, issues with student behavior, questions about schedules and routes, and communications with parents and school administrators. Supervisors who actually spend time “in the field” can offer assistance in a more

efficient and timely fashion. Deploying more staff in the field will aid in customer service and the efficiency of day-to-day operations.

The proposed reorganization includes eliminating the position of field supervisor, increasing the number of operations managers to supervise student transportation, and increasing the number of office clerks to handle transactional duties, permitting the Operations Managers to be in the field rather than the office. Each Operations Manager will report to one of the coordinators for general or special education transportation.

Additionally, the Transportation Department should implement a Lead Driver position. Each lead driver should be responsible for about 25 bus drivers plus transportation aides, and be trained to answer questions, help with issues, and ensure that the paperwork for each driver's route is completed. In addition to supervisory responsibilities for other drivers, lead drivers should respond to calls from parents and school administrators, review incident videotapes from cameras on buses when required, observe drivers on routes, and serve as assistant trainers. Lead drivers should also drive school bus routes themselves when there are not enough drivers available. Lead drivers are already on the payroll and so the additional cost would be the incremental cost for salary increases to reflect the new responsibilities. The lead drivers will each report to one of the operations managers.

Table 5-6.3 illustrates the 2011-12 staff levels and the proposed changes. The chart reflects only the general education and special education transportation functions affected by the change in organization.

Table 5-6.3. 2011-12 staff level and proposed changes

Position Description	2011-12 Staff Level	Recommended Staff Level	Change
Operations Manager	3	10	+7
Field Supervisor	21	0	-21
Dispatcher	10	10	0
Operations Clerk	4	6	+2
Total	**45**	**33**	**-12**
Lead Driver*	0	54	+54

Source: CCSD, 2011-12 Transportation organization chart

*Lead Driver would be a new position to the organizational chart.

Other elements of proposed staff changes include delegating payroll processes to operations clerks, using electronic messaging to send messages to drivers rather than calling individuals into the office to deliver information, and implementing an automated telephone system for public information rather than calls directly to operations managers. The department can accomplish these improvements with existing resources.

To implement these changes, the Transportation Department director and the coordinator for transportation operations should work with the Human Resources Division to draft a new job description for lead driver and post the vacancies. Qualified candidates for the new vacancies would be expected apply for the positions. Some of the existing field supervisors would undoubtedly qualify for the additional operations manager positions.

Fiscal Impact

The fiscal impact for this recommendation includes a labor cost reduction related to the elimination of the 21 staff budgeted in the field supervisor position for 2011-12. The cost reductions of $1,915,876 per year are calculated as the average salary for all 28 employees in the position in 2010-11 ($63,443), plus 33.48[67] percent payroll benefits, plus the annual health insurance rate per support position of $6,320 per year.

The fiscal impact for this recommendation includes an increase in labor costs for seven additional operations managers and two additional operations clerks. The annual increase in labor costs of $790,203 for the seven operations managers is calculated as above, using and average annual salary of $79,622. The annual increase in labor costs of $131,289 for the two additional operations clerks is calculated as above, using an average annual salary of $44,325.

The additional cost for the lead drivers will be an incremental increase in wages for the additional responsibilities plus related payroll benefits. The annual increase in labor costs of $545,666 is calculated as $7,547 per year additional wages plus 33.48[68] percent payroll benefits for each of 54 lead drivers. The 54 new lead drivers (32 general bus drivers and 22 special bus drivers) are anticipated to be promotions for current bus drivers. This will leave some bus driver vacancies that need to be filled. This impact is addressed in the next recommendation concerning bus driver work rules and revised bell schedules.

The net cost reduction is $448,718 per year. An implementation date of August 2012 is recommended.

Recommendation 5-6.1	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Eliminate field supervisors (21)	$0	$1,915,876	$1,915,876	$1,915,876	$1,915,876	$1,915,876
Add operations managers (7)	$0	($790,203)	($790,203)	($790,203)	($790,203)	($790,203)
Add operations clerks (2)	$0	($131,289)	($131,289)	($131,289)	($131,289)	($131,289)
Increase pay for lead drivers (54)	$0	($545,666)	($545,666)	($545,666)	($545,666)	($545,666)
Total	**$0**	**$448,718**	**$448,718**	**$448,718**	**$448,718**	**$448,718**

[67] Source: CCSD Human Resources Division
[68] Source: CCSD Human Resources Division

Recommendation 5-6.2: Revise work rules for bus drivers and revise bell times to improve scheduling efficiency.

Student transportation cost reductions can be achieved with more efficient scheduling of driver assignments and additional adjustments in the bell schedules. However, this will require renegotiation of certain terms in the labor agreement with the bus drivers' employee association.

Four provisions in the negotiated labor agreement with the ESEA create inefficiencies in the assignment of driver time and increase Transportation Department operating costs:

1. Nine-month and eleven-month bus drivers are guaranteed at least six hours of work each school day. (Article 33-3).

2. Bus drivers successfully bidding for summer assignments are entitled to receive the six-hour guarantee for four workdays during each week of their assignment. If a scheduled driver's service requires a fifth day, they are entitled to receive a three-hour guarantee.

3. A period of one hour or less of waiting time between assigned runs is included as paid driving time.

4. The District has twenty-five school days from the students' first day of school to adjust a general bus driver's total paid time, and thirty school days from the students' first day of school to adjust a special education bus driver's total paid time. If a bus driver's total paid time is reduced after these cutoff dates, the bus driver will still be entitled to be paid his or her total paid time, according to the labor rules listed above.[69]

Total paid time refers to the time per daily assignment that is the basis for each driver's wages. Total paid time includes the driver's time operating the school bus on route, paid time for sign-in/sign-out, and paid waiting time, if applicable according to ESEA work rules. A six-hour guarantee means a driver with an assignment for less time will be paid for non-productive time, up to a total of six hours. The six-hour guarantee is particularly inefficient in the summer when many driver assignments are less than six hours.

The up to one-hour paid waiting period makes it difficult to assign two four-hour runs to a single driver, as the paid waiting period forces the total assigned time to over eight-hours for the day and 40 hours for the week, which incurs overtime costs.

Student loads on school buses vary significantly during the first few weeks of a school term. School starts in August, but many students do not return to school until after Labor Day. Bus schedules that work for the start of school have to be adjusted in response to changes in student rider loads and even changes in student school assignments, well after the school term starts. There are opportunities to improve bus scheduling efficiency after student ridership settles into a pattern. An improvement in bus

[69] http://www.ccsd.net/jobs/gnrl/pdf/ESEA_Agreement.pdf

scheduling may mean a driver's daily assignment requires less total time. However, the labor agreement requirement that a bus driver's total paid time per daily assignment cannot change after 25 school days from the start of school for general education and after 30 school days for special education, means that paid time is set before the Transportation Department can create the most efficient bus schedules.

The district should seek to negotiate a change in the labor agreement to eliminate these rules that build in pay for non-productive time and create scheduling inefficiencies. The Transportation Department has already identified this initiative; however, the district has not made a formal approach to representatives of ESEA to negotiate a change in the labor agreement rules for driver paid time.

Further staggering of bell schedules at schools can help to reduce peak demand for school buses. The new bell schedule for 2011-12 evens out the buses across three bells. Primarily high schools are on first bell, middle schools are on second bell, and elementary schools are on third bell, however there are some exceptions. A fourth bell scenario will create a 9:45 a.m. bell time and further even out the bell times. This additional bell scenario could increase the number of driver assignments over seven hours and reduce the total number of drivers needed. The Transportation Department has already identified this initiative; however, department staff representatives diverge on how much could be saved with this strategy. Transportation for "choice students" (i.e., students who are transported some distance across the school district to attend the school of choice) creates a limit to how much can be achieved by staggering bell times. At some point, scheduling efficiency is minimized by smaller numbers of student riders on more buses to more schools A combination of more flexible bus driver work rules and additional staggered bell times will make it possible for the new COMPASS software to create more efficient bus driver assignments and reduce the total number of buses required.

With approval of the school district administration, the director of the Transportation Department can begin discussions with drivers and representatives of the ESEA about the benefits that could accrue with greater flexibility for bus driver work rules. The Transportation Department can prepare analyses of the benefits of more full-time drivers to assist in negotiation. The effort can be accomplished with existing resources; however, the effort will be successful only if the school district administration is prepared to support the Transportation Department in the commitment to more efficiently schedule driver assignments.

The Transportation Department has already considered options for further staggering bell times to reduce peak demand for school buses. With implementation of the COMPASS software, it is both more feasible and less time consuming to evaluate a range of options. Additional changes in bell times will require support from the school district administration, principals, other key school administrators, and parents. The Transportation Department effectively established the value of reducing school bell times during the last changes and a continued program for communication with stakeholders is necessary.

There are several possible opportunities to reduce operating costs.

- Operating costs will be saved if the labor agreement is revised to guarantee bus drivers four hours of work each school day instead of six. The review team found that 124 general bus driver

assignments and 20 special bus driver assignments consisted of less than six hours of driving time in the 2010-11 bus schedules for the regular school year. Each driver with an assignment of less than six hours of driving time was paid the six-hour minimum for each school day during the regular school year. This generated 121.5 total paid hours more than actual scheduled bus driver assignments each day (106.7 paid hours for general bus drivers and 14.8 paid hours for special bus drivers) for 180 school days per year. A change in bus driver work rules could reduce paid (but not productive) time by up to 21,870 hours per year, with associated pay and benefits cost reductions. A change in practice to set the minimum guaranteed hours paid at four hours would also minimize the impact of the policy to set a driver's hours within 25 days (general) to 30 days (special) from the start of school.

- Significant cost reductions will also accrue if the labor agreement is revised to reduce the paid-time guarantee to four hours for each Extended School Year school day in the summer sessions. The review team found that 273 general bus driver assignments were less than six hours for the 2010-11 summer sessions. Each driver with an assignment less than six hours was paid a minimum of six hours for each school day during the ESY. This generated 688.5 total paid but un-driven hours every day, for each of the 50 summer school days (one six-week session for 30 days and one four-week session for 20 days). Different bus driver work rules would have saved up to 34,425 hours during the summer.

- Data were not available to estimate the exact impact of the ESEA work rule that requires paid time for one hour or less of waiting time between assigned runs. However, this guarantee makes it difficult to assign two four-hour runs to a single driver, as the paid waiting period forces the total assigned time over eight hours for the day and 40 hours for the week (overtime). Analysis by the review team identified 49 general education and 79 special education bus driver assignments that were over eight hours per school day during the 2010-11 regular school year. The total hours of time over eight hours per day were 102.8 hours (per day) for 180 days per year (64.1 paid hours for general bus drivers and 38.7 paid hours for special bus drivers). A change in bus driver work rules to create more efficient bus driver assignments could save 18,504 overtime hours per year at time and one-half pay per hour.

- To analyze the impact of additional staggering of bell times to create more full-time bus driver assignments and more flexible work rules, the review team estimates that 401 general education driver assignments and 155 special education driver assignments were between six and seven hours in the 2010-11 bus schedules for the regular school year. If a comparable number of driver assignments in the 2012-13 school year could be scheduled more efficiently by one additional hour each, a total 76 bus driver assignments could be saved (55 general bus drivers and 21 special bus drivers).

- The number of bus drivers with more efficient scheduling based on additional staggering of bell times and more flexible work rules, is more than the number of additional bus drivers required to fill 54 vacated positions when drivers are promoted to lead driver (see Recommendation 5-

6.2). The additional drivers (32 general bus lead drivers and 22 special bus lead drivers) should replace lead drivers.

Fiscal Impact

Cost reductions are based on reducing the minimum hours per school day from six hours to four hours during the regular school year; reducing the minimum hours per school day from six hours to four hours during the summer sessions; and reducing overtime hours. The fiscal impact of each of these opportunities to reduce operating cost is estimated by multiplying the bus driver paid hours saved by the median pay rate for the driver by type of route (general or special) to estimate cost reductions for direct labor costs. The median rate in 2010-11 for general education bus drivers was $17.54 per hour and for special education drivers, $20.81 per hour. Additional cost reductions for payroll benefits are 33.48 percent for hours during the regular school year and 9.73 percent for hours during the summer session.

To estimate the cost reductions for a reduced number of driver assignments, the review team estimated the average paid hours for each driver (includes scheduled time and paid leave) to be 1,334 per year for a general education bus driver and 1,410 per year for a special bus driver. The hours are based on details for each driver assignment reported by the Transportation Department in a scheduling system report titled *Bell Data*. The fiscal impact is estimated by multiplying the bus driver paid hours saved by the median pay rate for the driver by type of route (general or special) to estimate cost reductions for direct labor costs, adding additional cost reductions for payroll benefits at 33.48 percent, and adding cost reductions for employer paid insurance premiums $6,320 per position per year.

The net cost reductions are $2,850,576 per year beginning 2012-13.

Recommendation 5-6.2	One-Time (Costs) / Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Reduce bus driver minimum to 4 hours – Regular school year	$0	$525,069	$525,069	$525,069	$525,069	$525,069
Reduce bus driver minimum to 4 hours – ESY	$0	$808,145	$808,145	$808,145	$808,145	$808,145
Cost reductions - overtime pay	$0	$697,317	$697,317	$697,317	$697,317	$697,317
Decrease in number of drivers staggered bell times (76)	$0	$3,027,421	$3,027,421	$3,027,421	$3,027,421	$3,027,421
Increase drivers to replace lead drivers (54)	$0	($2,207,376)	($2,207,376)	($2,207,376)	($2,207,376)	($2,207,376)
Total	**$0**	**$2,850,576**	**$2,850,576**	**$2,850,576**	**$2,850,576**	**$2,850,576**

Recommendation 5-6.3: Develop guidelines to facilitate the least restrictive mode of transportation for special needs students.

The director of the Transportation Department stated the goal of the department is to provide every special needs student with an opportunity to use the least restrictive mode of transportation to school. When the least restrictive mode can be the general school bus, the Transportation Departments works with the Special Education Department to attempt to assign special needs students to a general education bus route. When a student can ride the general school bus instead of using a special education bus, the Transportation Department can reduce operating costs.

During the 2010-11 school year, the Transportation Department conducted a pilot program to demonstrate the benefits of providing access for special needs students to general education bus routes. The coordinator for special education transportation worked with the Special Education Department to identify 200 students that could take part in the demonstration project. The demonstration involved the student catching a general education bus to school from a corner stop near home (as opposed to door-to-door service on special education transportation). Additionally, a peer program was established where each special needs student taking part in the pilot was partnered with a general education student. The general education student was asked to ride with the special needs student as long as required to ensure the special needs student could successfully board and exit the bus at the appropriate times and locations. The demonstration resulted in a reduction in the number of buses used to transport students. The department leadership believes that the pilot program was successful. Of the 200 students who participated in the demonstration, 20 returned to special education transportation. Eighty percent of the students participating in the demonstration successfully transitioned to general education transportation routes. The Transportation Department, working with the Special Education Department should implement this type of program throughout the district to reduce operating costs for student transportation. The transition is a long-term change in culture, but a guidebook with best practices and examples of successful initiatives could expedite the process.

This recommendation can be implemented with existing resources by continuing the same partnerships and best practices used for the demonstration in 2010-11. Successful demonstrations of the transition of special needs students from special education transportation to general education transportation will provide encouragement to others. Each year that additional special needs students successfully transition from special education transportation to general education transportation, the Transportation Department will be closer to the goal to provide every special needs student with an opportunity to use the least restrictive mode of transportation to school.

A goal to transition 180 students using special education transportation to general education transportation each year for five years will mean that as many as 900 students (or about 10 percent of the current number of students using special education transportation) would have the opportunity to use a less restrictive mode for home to school transportation. However, each year some students will graduate and leave the school district or elect to transfer back to special education transportation. Table 5-6.4 illustrates the estimates for special needs students transitioning to general transportation each

year and cumulative. The estimates assume 10 percent of students each year choose to no longer use the general transportation service and an additional 10 percent leave the district due to graduation or transfer (resulting in a total of 20 percent fewer each year after the initial transition).

Table 5-6.4. Special needs students transitioning to general transportation each year and cumulative*

First Year Transition	2011-12	2012-13	2013-14	2014-15	2015-16
2011-12	**180**	144	115	92	74
2012-13		**180**	144	115	92
2013-14			**180**	144	115
2014-15				**180**	144
2015-16					**180**
Total Special Needs Students on General Transportation	**180**	**324**	**439**	**531**	**605**

*Note: Estimate assuming 180 students transitioning from special transportation to general transportation each year and assuming 20 percent of students each year no longer use general transportation for a variety of reasons.

Fiscal Impact

The budget for operations for special education transportation was $42.2 million in 2010-11 to transport on average 8,926 special needs students to and from school daily. The Transportation Department staff included 600 drivers for special transportation routes. On average, each driver transports about 15 students each day per bus special transportation route (8,926 divided by 600). The cost of special transportation in 2010-11 was approximately $70,000 per special bus route driver ($42.2 million divided by 600). These costs reflect only the cost of transportation operations for the bus drivers and transportation aides and the supervision and management of school bus services. The expenses for vehicle maintenance, investigations and training, routing and scheduling, and information technology are not included.

By comparison, the 2010-11 budget for operations for general transportation was 800 bus drivers and $33.9 million to transport on average 96,856 general education students to and from school daily. This represents a budget of approximately $42,000 per general bus route driver ($33.9 million divided by 800).

On average, the Transportation Department could save $70,000 per year for every 15 students who use general transportation instead of special transportation. However, the cost reductions for special education can be achieved only if a route is actually reduced for each group of 15 students that use general transportation. In practice, special transportation must be responsive to each individual special needs student, so a route may not always be saved for every 15 students. To be conservative, the fiscal impact assumes a special transportation bus route can be saved for every 18 students who move to general transportation. The calculations for cost reductions are the total number of special needs

students transitioned to general transportation each year, divided by 18 per special bus route driver saved, times $70,000 cost reductions per bus route. There is no incremental cost for a student to use general transportation as long as any route accommodation does not increase the number of bus routes and drivers required.

Recommendation 5-6.3	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Develop guidelines to facilitate the least restrictive mode of transportation for special needs students.	$0	$700,000	$1,260,000	$1,680,000	$2,030,000	$2,310,000
Total	**$0**	**$700,000**	**$1,260,000**	**$1,680,000**	**$2,030,000**	**$2,310,000**

Outsource Student Transportation

Over the past 20 years of rapid growth, CCSD has struggled to recruit and hire the number of employees needed to provide education and support services for students. This was particularly true for student transportation employees. To attract bus drivers, CCSD offered a generous pay and benefits program that remains in place today. However, the district's growth period ended and projections show relatively flat enrollment levels for future years. The aggressive pay and benefits program no longer appears to be necessary and represents "above market" rates for this type of job function. Outsourcing student transportation operations represents a viable alternative to reduce its cost of transportation services to market levels, and many school districts around the country have chosen this option.

A private contractor can save costs for home-to-school transportation by offering transportation at a lower cost per bus route or a lower cost per bus per day. The review team has extensive experience analyzing costs for both public and private school transportation programs. A contractor can lower costs because the private sector generally pays lower wages per employee and offers a set of benefits that is not as generous as the benefits offered by a public school district. Since labor represents the majority of the cost for the student transportation program, lower wage rates and benefits generally mean lower total costs. A private contractor may also employ different work rules that help to reduce cost. For example, a private contractor typically uses part-time bus drivers and will offer fewer paid days for personal leave than the public school district.

Recommendation 5-6.4: Consider outsourcing transportation service to reduce total cost.

If CCSD does not implement the recommendation to revise bus driver work rules to increase scheduling efficiencies and generate cost reductions, CCSD should consider outsourcing transportation services to reduce costs. The scope of services recommended for outsourcing is transportation operations, which includes managers, supervisors, bus drivers, and transportation aides to operate school bus services. Expenses for vehicle maintenance, investigations and training, routing and scheduling, and information technology are not included in this analysis. The review team believes that the most significant cost

reductions can be achieved by contracting transportation operations but retaining the functions for routing and scheduling service, maintaining the buses, and ensuring quality control of the contractor through investigators and trainers working for CCSD.

Cost reductions are one benefit should transportation services be outsourced. However, there may be other reasons to consider contracting transportation operations to a private contractor, including:

- Contractors can negotiate more flexible terms for bus driver work rules.
- The private contractor will be responsible for managing bus driver attendance.
- Performance clauses can be included into the contract to ensure quality of services.
- Incentive clauses can be incorporated in the contract to increase cost-efficiency.
- The private contractor can be required to implement an appropriate cost accounting system to monitor cost-efficiency and cost-effectiveness and to monitor and control cost by function and service category.

CCSD can confirm the opportunity to save costs by outsourcing through a request for expression of interest by private contractors. A request for expression of interest will help to determine if the local market is competitive. If there are not a sufficient number of prospective bidders, privatization may not generate enough competition to produce price advantages. The Transportation Department and the Purchasing and Warehousing Department can prepare a request for expression of interest with existing staff resources.

If the district determines there is merit in the idea of outsourcing, the next steps for implementation are to prepare a request for proposals (RFP). Working with the CCSD Purchasing and Warehousing Department, the Transportation Department should invest either staff resources or contract for consultant assistance to assist with the formal procurement process. Whether completed internally, or contracted to an external consultant, the following steps should be included in the procurement process:

- Prepare comprehensive contract specifications. The specifications must be carefully prepared to cover all of the services to be provided by the contractor during the length of the contract. The specifications should include standards to measure and monitor contractor performance.

- Include incentives for high performance and penalties for unsatisfactory performance. The contract for services should contain incentive clauses that encourage contractors to find ways to reduce costs while maintaining high quality services in accordance with performance standards. The contract should also allow the district to levy penalties against the contractor if performance does not meet standards.

- Plan for workforce transition and employee impact. Transportation employees would understandably be affected by a decision by the district to contract student transportation to a private contractor. The transition may create concerns about employment status, pay, benefits,

and working conditions. Employees who have been with the district for several years may have additional concerns about loss of seniority and protection of retirement benefits. The district can include core requirements and propose contractual terms and conditions in the RFP, such as offering first option on positions in order of seniority and providing a transition period from the district to the contractor to allow employees to seek employment with the contractor or elsewhere.

- Determine the cost impact of accrued benefits or transfer of retirement benefits. The district may incur up-front costs for a change in labor structure if the employee benefits include an obligation to pay out accrued benefits such as accumulated paid leave. The district may also have some costs associated with transfer of retirement benefits to a new employer, if that is the policy. To accurately estimate final cost reductions if student transportation operations are outsourced, the Human Resource Division and the district's legal counsel will need to determine the district's financial obligation to employees whose jobs are eliminated as a result of outsourcing. The cost of accrued benefits and transfer of retirement benefits, if any, is not included in the estimate of cost reductions for this recommendation.

- Develop an employee transition plan for implementation involving the employees and their representatives as much as possible. The district should keep employees informed and listen to concerns. The communication process should start before the request for proposals is issued.

- Finalize policy decisions before requesting proposals. The district should evaluate issues and make important policy decisions about employee status before requesting proposals, and these policy decisions should be reflected in the RFP requirements.

- Decide the contract term of performance. The district should determine the preferred length of the contract for a private provider of transportation operations. The recommended length should be balanced between a longer contract (which typically allows contractors to amortize startup costs over a longer period and thereby offer a more competitive price) and a shorter contract (which protects the district's options to change contractors or to modify the terms of the agreement based on an evaluation of performance). A common term of performance for contracted transportation services is three years with several two-year renewal options.

- Require the contractor to provide a complete transition plan. Successful privatization requires sufficient time for transition to new management. The contractor should provide a detailed plan for the transfer of responsibilities from the district to the new management team. The transition period can be difficult if attempted mid-year. The district should consider the value of starting the contractor at the beginning of a new school year.

- Establish performance measures and contractor performance reporting as an integral part of the contract. CCSD will need to closely monitor services provided by a contractor and measure performance against agreed upon standards. These should be an integral part of the contract document, along with requirements for periodic performance reporting against contractual

standards. Contractor compensation, including performance-based rewards and penalties, should be specified in the contract documents.

Fiscal Impact

The review team estimated the cost reductions possible by outsourcing transportation operations after researching other privately contracted transportation programs and interviewing representatives of private school bus contractors active in the western United States.

The financial assumptions for the transportation operations function of the CCSD Transportation Department are detailed below. The 2011-12 budget for general transportation operations is $21,325,400 million, and the budget for special transportation operations is $38,755,200 million, for a total $60,081,000 million (rounded to nearest $1,000).

- The CCSD budget for 577 general bus drivers, 569 special bus drivers, and 227 transportation aides in 2011-12 is $54,572,000.

  In 2010-11, the CCSD median wage rate was $17.54 for general education bus drivers, $20.81 per hour for special education bus drivers, and $15.15 per hour for transportation aides. On average, CCSD pays each general bus driver for 1,334 hours per year, including an average 114 hours per year paid leave. CCSD pays on average 1,410 hours per year for each special bus driver, including an average 112 hours paid leave. Transportation aides are paid on average 1,218 hours per year.

- The CCSD budget for salaries and benefits for 58 supervisory personnel and other labor related expenses in 2011-12 is $4,281,000.

- Expenses including professional services in 2011-12 are budgeted at $956,000, plus about $272,000 in other labor expense such as summer workers.

- The CCSD Transportation Department reported an attrition rate for bus drivers of about 10 percent per year average for the last three years.

The financial assumptions for outsourcing the transportation operations function for the CCSD Transportation Department are detailed below. The estimated 2012-13 expenses for a private contractor are $53,596,000 or a cost reduction of $6,485,000 the first year. Based on the assumptions, a private contractor will generate an additional 2 percent cost reductions each subsequent year.

- Private school transportation contractors would expect to hire the existing bus drivers and transportation aides from the public school district at the same or nearly the same wages per hour. The CCSD median wage rate in 2010-11 was $17.54 for general education bus drivers, $20.81 per hour for special education bus drivers, and $15.15 per hour for transportation aide.

- The private school transportation contractor will hire new and replacement employees at a lower rate per hour. The estimated rates are $12.00 to $14.00 per hour for general transportation, approximately two dollars per hour higher for special education and $10.00 to $12.00 per hour for transportation aides, depending on the local market and the types of skills required.

- The contractor expects an attrition rate of about 10 percent per year. This rate of attrition is consistent with the CCSD Transportation Department records for the last three years.

- The estimate of private contractor paid hours for either former CCSD employees or new hires is calculated using actual assignment time and does not include paid time for personal leave. Private contractor allocation for paid leave benefits is addressed below. Based on 2010-11 information for CCSD bus driver and transportation aide scheduled assignments, the average bus driver assignment was 1,220 hours per year for general education bus drivers and 1,298 hours per year for special education drivers. Transportation aides were scheduled on average 1,206 hours per year.

- Managers, supervisors, and other administrative personnel working in transportation operations for the CCSD Transportation Department will be eligible to be hired by the private contractor, generally at a competitive salary. The private contractor does not necessarily have the same staffing levels as the public school district. For the purposes of this analysis, the private contractor is assumed to reorganize the supervisory staff as reflected in Recommendation 5-6.1. The reorganization represents a reduction in supervisory staff from 58 to 39 positions. The analysis assumes the private contractor will pay the remaining staff salaries that are comparable to the school district.

- The total contractor cost for benefits will be lower than the CCSD benefits. The contractor's percent payroll benefits will include similar requirements as the school district for Medicare, unemployment, and workers' compensation insurance; however, the benefits ratio for other benefits (health insurance, paid leave) will be lower. The private contractor ratio for percent total benefit (payroll benefits, health, and including paid leave) is typically about 40.5 percent. This compares to the CCSD ratio for payroll benefits (33.48 percent) and health insurance ($6,320/year per person, which is an average 25.24 percent for drivers and aides) for a benefits ratio for drivers and aides of 58.72 percent. In addition, on average, 7.15 percent of the annual wages paid to each CCSD driver and aide is compensation for paid leave.

- Direct expenses including professional services are estimated as $956,000, consistent with CCSD budgeted cost.

- Ten percent of the total cost for payroll and benefits is assumed as the private contractor cost for corporate overhead and profit.

Table 5-6.5 compares the CCSD budget for transportation operations in 2011-12 to the estimated cost reductions if the same function is outsourced to a private contractor in the following four years.

Table 5-6.5 CCSD transportation operations budget compared to estimated cost reductions

	CCSD Budget 2011-12	Private 2013-14	Private 2014-15	Private 2015-16	Private 2016-17
Salaries	$2,933,000	$2,210,000	$2,210,000	$2,210,000	$2,210,000
Wages	$34,383,000	$31,131,000	$30,392,000	$29,660,000	$28,932,000
Benefits	$12,493,000	$13,498,000	$13,199,000	$12,903,000	$12,608,000
Employer Premium Health	$9,044,000	incl above	incl above	incl above	incl above
Expenses	$1,228,000	$956,000	$956,000	$956,000	$956,000
Corporate Overhead and Profit		$4,684,000	$4,580,000	$4,477,000	$4,375,000
Total	$60,081,000	$52,479,000	$51,337,000	$50,206,000	$49,081,000
Cost reductions		**$7,602,000**	**$8,744,000**	**$9,875,000**	**$11,000,000**
Percent Cost reductions vs. 2011-12		-12.7%	-14.6%	-16.4%	-18.3%

Source: CCSD Transportation Department

The fiscal impact for contracting transportation operations is summarized below. The one-time cost for professional services to assist the district to outsource transportation operations is estimated as $79,000 in professional services plus $10,000 expenses. The first year the cost reductions for a private contractor are offset by start-up expenses estimated at approximately two percent of the value of the contract for the first year.

In subsequent years, additional cost reductions are due to the 10 percent additional new hire employees each year (due to attrition) at lower wages.

Recommendation 5-6.4	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Professional services for procurement	($89,000)	$0	$0	$0	$0	$0
Contractor start-up	($1,050,000)	$0	$0	$0	$0	$0
Contractor cost reductions for transportation operations	$0	$0	$7,602,000	$8,744,000	$9,875,000	$11,000,000
Total	**($1,139,000)**	**$0**	**$7,602,000**	**$8,744,000**	**$9,875,000**	**$11,000,000**

Section 7 – Food Services

The CCSD food service operation is funded separately from most other school operations (which are supported by the district's General Fund). In recent years the financial stability of the food service operation has been substantially improved, and for the past three years has operated at a surplus after several years of deficits. This was due to food services management implementing staffing changes, menu changes and other strategies that increased productivity and meal participation rates. The Food Service Department (Food Services) has developed a 5-year plan towards increasing participation, maintaining solvency and making necessary capital purchases for kitchen equipment, trucks, trailers and other necessary equipment.

The General Fund at CCSD incurs costs on behalf of the food service operation and a significant portion of those costs are not currently allocated to Food Services. This section addresses the ability of CCSD to achieve General Fund cost reductions by allocating (to the Food Services Fund) $5.8 million in additional costs for custodial service, utilities and other costs associated with food services in the district. Several strategies, discussed in further detail on the following pages, will need to be implemented for food services to generate sufficient surpluses to be able to absorb these costs.

The CCSD Food Service Department serves approximately 155,000 lunches and 44,000 breakfasts daily at 327 elementary and secondary school cafeterias. Elementary school lunches are prepared centrally and delivered to students as either individual serving menu or dish-up meals.

- **Individual Serving Menu** (**ISM**) are meals prepared in the Food Service Department's central kitchen facility, packaged in individual portions, and delivered frozen to elementary schools. Meals are then re-heated on site and served to students. Each meal typically includes an entrée plus side dishes of fruit, vegetables, dessert, and milk.

- **Dish-up** meals are prepared in bulk portions in the central kitchen facility, frozen, and transported to each school. The school cafeteria staff re-heats the food, keeps it warm in steam tables, and serves the meals as students pass through the lunch line. Dish-up meals are similar to those offered as individual servings.

Each secondary school cafeteria operates a full-preparation kitchen and offers a choice of entrées and side dishes. In addition to standard meal choices, secondary schools also offer Grab 'n Go lunches which decrease the wait time and offer more variety for older students. Other meal serving methods are offered to special student populations or school types. Less than 2 percent of total meals are served through these alternative methods.

The remainder of this section provides additional background information and explains the recommendation to allocate certain General Fund expenditures to the food service operation in order that it covers all costs incurred for its benefit. Table 5-7.1 summarizes the recommendation for the Food Service Department.

Table 5-7.1. Recommendation summary

Recommendation Summary	Priority	Timeframe	Five-Year Fiscal Impact	Major Investment Required	Major Policy Changed Required
Allocate allowable General Fund costs to the Food Service Fund	High	2012-13	$26,100,000	No	No
Total			**$26,100,000**		

Organization

The CCSD Food Service Department is led by a director, and one coordinator oversees the creation of menus, nutrition policy, the central kitchen operation and all special programs operated within the department. Another coordinator is responsible for overseeing all budgeting and accounting for the department's financial operations.

A food service senior supervisor oversees all school operations, while another meets with prospective suppliers, tests and evaluates new products for possible inclusion on the menus, and develops bid specifications. A technical support manager keeps all computers, software, and the network running properly while an industrial arts supervisor responds to all food service equipment repair requests from the schools, reviews and approves all new kitchen construction and manages all kitchen rehabilitation projects. A food service warehouse supervisor orders, receives, stores, and ships all food products and supply items to schools.

A fleet of 27 trucks deliver food and supplies to each school cafeteria, including schools in Mesquite, Virgin Valley, Bunkerville, Logandale, Indian Springs, Blue Diamond, Sandy Valley, Goodsprings, Searchlight, and Laughlin.

As shown in Table 5-7.2, the Food Services Department employs 1,450 employees in the central kitchen operations and at the school cafeterias. In addition to regular and part-time staff, the department also employs student workers as needed each year. The number of student workers may vary widely depending on school needs.

Table 5-7.2. Food Service Department staff

Staff Area	Number
Managerial	5
Administrative, professional and clerical	33
Warehouse and drivers	55
Central kitchen staff	23
School-based cafeteria staff	

Staff Area	Number
Supervisors	25
Kitchen labor	603
Temporary kitchen workers	706
Total	**1,450**

Source: CCSD Food Service Department, 2011

Financial Operations

Food Service has reversed it losses in 2007-08 and 2008-09 and achieved a surplus in the last two fiscal years. At the time of this study, the financial results for 2011 were not finalized, but a net surplus of $11 million was expected. Food costs and personnel costs, as a percentage of total revenues, have steadily declined as Food Service has streamlined operations and reduced staff levels. Although participation rates remained fairly stable from 2007 to 2010, participation in 2011 improved significantly (see Table 5-7.3). As a result, revenues and surplus for 2011 significantly exceed levels of prior years.

Table 5-7.3. Food Service Department financial operations

	2007	% of Revenue	2008	% of Revenue	2009	% of Revenue	2010	% of Revenue	2011*	% of Revenue
Revenues	$80,072,317		$86,587,538		$85,935,596		$89,383,276		$78,758,771	
Salaries, wages and benefits	$35,181,717	*43.9%*	$39,404,071	*45.5%*	$38,854,129	*45.2%*	$35,053,588	*39.2%*	$28,736,247	*36.5%*
Food costs	$42,539,322	*53.1%*	$39,652,606	*45.8%*	$32,262,366	*37.5%*	$31,888,384	*35.7%*	$30,604,844	*38.9%*
Services and supplies	$2,608,575	*3.3%*	$11,132,826	*12.9%*	$10,665,187	*12.4%*	$11,435,546	*12.8%*	$4,563,123	*5.8%*
Other Expenses	$3,880,465	*4.8%*	$3,884,515	*4.5%*	$4,107,741	*4.8%*	$5,624,611	*6.3%*	$2,887,080	*3.7%*
Net surplus (deficit)	**$(4,137,762)**	***N/A***	**$(7,486,480)**	***N/A***	**$46,173**	***0.1%***	**$5,381,147**	***6.0%***	**$11,967,477**	***15.2%***
Avg. enrollment	290,019		292,401		284,145		299,477		310,198	
Avg. participation (lunch)	45.4%		47.4%		45.5%		43.6%		49.3%	

Source: CCSD Food Services Department, 2011

*Note: Results for 2011 represent only 10 months in fiscal year 2010-11.

Despite these overall positive operating results, Table 5-7.4 shows that financial results for individual schools still vary widely. In general, most elementary school cafeterias operate at surpluses while most secondary schools break even or run deficits. This is because the participation rate is higher in elementary schools than it is in secondary schools.

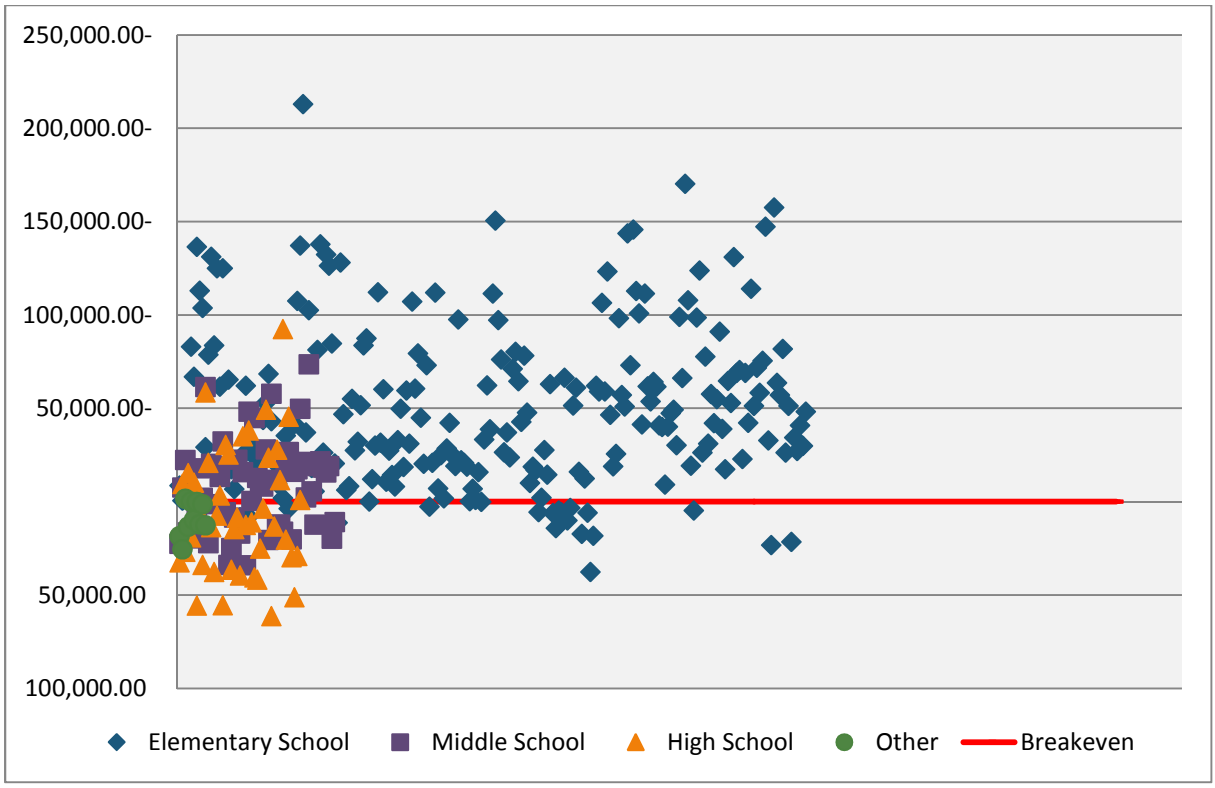
Table 5-7.4. Net surplus (deficit), fiscal years 2009-10 and 2010-11

School Type	FY 2009-10	FY 2010-11
Elementary schools	$2,292,237	$10,828,590
Middle schools	$24,120	$423,895
High schools	($1,125,281)	($234,465)
Other schools	($166,421)	($163,885)
Administrative areas	$4,356,492	$1,113,342
Total Surplus	**$5,381,147**	**$11,967,477**

Source: CCSD Food Service Department, 2011

Figure 5-7.1 shows a scatter graph of operating results for all CCSD schools during FY 2011. Schools with positive financial results (revenues in excess of expenses) are shown above the “Break-even” line. In 2011, 45 secondary schools food service operations fell below the break-even point. A total of 77 schools (all schools combined) fell below break-even in 2011.

Figure 5-7.1. FY 2010-1111 CCSD food service operating results



Source: CCSD Food Service Department, 2011

Operations

As noted above, CCSD operates a central kitchen in Clark County. This method of meal preparation offers the most efficient means of serving a population of CCSD's size. National standards for employee productivity suggest that central kitchens such as CCSD's are 15 to 20 percent more efficient than conventional model of having a full-service kitchen in each school.

Labor Productivity

Table 5-7.5 shows standards used by the industry to measure productivity of school cafeteria operations in terms of meals per labor hour. If this productivity measure for a given kitchen is lower than the recommended standard, then either the number of meals served is relatively low (given the capacity of existing staff) or the total number of staff-hours worked is relatively high. The number of hours worked is a function of two variables: the number of staff employed at each location and the hours worked per staff member. For schools with a MPLH below industry standards, the school's food service operation can develop strategies to achieve the recommended productivity level, including:

- Increase the number of meals served while maintaining existing staff levels
- Decrease the number of staff-hours worked daily by reducing staff counts or adjusting the work schedule to reduce overall staff hours

Table 5-7.5. Industry standard recommended meals per labor hour

Number of Equivalents	Low Productivity	High Productivity
Up to 100	10	12
101–150	11	13
151–200	12	14
202–250	14	15
251–300	15	16
301–400	16	18
401–500	18	19
501–600	18	19
601–700	19	20
701–800	20	22
801–900	21	23
901 up	22	23

Source: Pannell-Martin (1999)[70]

The CCSD Food Service Department calculates meals per labor hour for all its school cafeterias on a regular basis using actual meals served and hours worked by staff during the period. As shown in Table 5-7.6, CCSD's average productivity is substantially higher than the above standards for almost all its schools, particularly elementary schools.

Table 5-7.6. Average productivity by cafeteria type

Cafeteria Type	Average Meals per Labor Hour
Individual Serving Menu	58.1
Dish-up Menu	40.5
Middle Schools	32.3
High Schools	24.4
Other schools	20.8

[70] Pannell-Martin, D. (1999). *School foodservice management for the 21st century* (5th edition). Alexandria, Virginia: inTEAM Associates, Inc.

Cafeteria Type	Average Meals per Labor Hour
Overall – all schools	**43.8**

Source: CCSD Food Service Department, 2011

The review team recalculated MPLH for fiscal year 2010-11 using financial data provided by the Food Service Department. For this analysis, the following was assumed:

- Equivalent meals were calculated based on $2.74 per meal (the federal lunch reimbursement rate).
- Labor hours were determined based on total labor costs associated with each school's cafeteria divided by an average pay rate of $19.23 per labor hour (average labor cost including benefits).

This analysis resulted in 271 out of 327 (or 82.9 percent) schools exceeding the recommended productivity standard (Convenience System – High Productivity) corresponding to the size of each school. Fifty-six schools (or 17.1 percent) fell below those corresponding standards. The majority of schools falling below the standard rate were middle schools (17 out of 55 total middle schools) and high schools (28 out of 43).

Participation Rates

High school cafeteria participation rates and sales have improved markedly in recent years. In 2009 the average high school participation rate was 16 percent. In 2009-10, it was 19 percent and in 2010-11, it was 25 percent.

Recommendation 5-7.1: Allocate allowable General Fund costs to the Food Service Fund.

CCSD charges the food services fund for reimbursement of administrative expenses and overhead through an approved indirect cost rate. This charge is calculated annually and includes only central administration and fiscal services costs. For fiscal year 2010-11, these allocated General Fund expenses equaled 1.7 percent of direct costs of food services. This allocation does not include expenditures related to custodial services, utilities or waste removal that are incurred by the General Fund for the benefit of the food services operation.

In accordance with federal guidelines, CCSD should allocate expenditures incurred for the benefit of the food service operation to the Food Services Fund. As a practical matter, many expenses paid from the General Fund are directly attributable (and therefore allocable) to Food Services operations. Typical expenses include energy costs and pest control costs associated with the kitchen and cafeteria, expenses for disposal of food and other waste from the cafeteria, and personnel costs for custodians charged with cleaning the cafeteria and kitchen during or after breakfast and lunch.

The portion of these expenses that relate directly to food services should be calculated through direct tracking or estimating and allocated to the Food Service Department on an annual basis in order that

financial reports portray a complete and accurate picture of the actual revenues and expenses associated with food services operations.

Because it is difficult to isolate the exact portion of certain food service-related expenses (disposal fees and utility costs, for example), estimates must be developed of the amount of each expense that relates to food services, based on measures relevant to each expense type.

For example, to allocate the cost of custodians, the district can use estimates based on the square footage of kitchen and cafeteria floor space or based on the estimated time spent by custodians setting-up before meals, policing the cafeteria during meals, and cleaning-up after meals. Utility costs can be allocated on the basis of the square footage of kitchen and cafeteria floor space. Estimates of disposal expenses can be based on the relative quantities of food, paper and other supplies disposed of daily compared with the quantity of classroom and office waste.

The review team obtained allocable expenditures from CCSD financial records for 2010-11. For custodial services and utilities, the basis for allocation was the estimated square footage of cafeteria space relative to the total square footage of the school and the estimated percentage of time the cafeteria is not used for other purposes. For disposal costs, the allocation is based on the estimated cafeteria waste to total waste for the school.

Table 5-7.7. Allocation of expenses related to food services

Area	Expense Base	Allocation Methodology	Expense Allocation (rounded)
Custodial Services	$78,654,265	▪ 5% of square footage relates to cafeteria ▪ 50% of time cafeteria space is not used for other purposes	$2,000,000
Utilities	Gas – $4,580,358 Electricity – $47,896,329 Total – $52,476,687	▪ 5% of square footage relates to cafeteria ▪ 50% of time cafeteria space is not used for other purposes	$1,300,000
Disposal	$5,096,702	▪ 50% of non-recycled waste is originated in the kitchen/cafeteria	$2,500,000
Total			**$5,800,000**

Source: CCSD, Food Service Department

These costs can and should be absorbed by the Food Services Department, freeing up General Fund amounts for other district priorities.

Fiscal Impact

The five-year cost reduction projections assumes that the Food Service Department will continue to achieve a sufficient level of surplus including any capital investments or other one-time expenditures. During 2011-12, the district should monitor and record the use of cafeteria space and non-recycled

waste to confirm that the above percentages are reasonable. This fiscal impact assumes that 50 percent of the costs in Table 5-7.7 will be allocated in 2012-13 and the full amount in subsequent years.

Recommendation 5-8.1	One-Time (Costs)/ Reductions	2012-13	2013-14	2014-15	2015-16	2016-17
Allocate allowable General Fund costs to the Food Service Fund	$0	$2,900,000	$5,800,000	$5,800,000	$5,800,000	$5,800,000
Total	**$0**	**$2,900,000**	**$5,800,000**	**$5,800,000**	**$5,800,000**	**$5,800,000**

To ensure that the cost allocation can be sustainable in future years, the Food Service Department should analyze the reasons for negative operating results for certain schools, and take corrective action to further improve school financial performance.

The department should also continue its efforts to review the analysis of MPLH based on the simplified method of calculation and determine if adjustments can be made in work schedules or personnel assignments to achieve higher levels of productivity. Other reasons for deficits, such as higher food costs, should also be examined to determine whether waste or other preventable issues are accounting for the variances. The Food Service Department should base staffing decisions on the expected level of sales for each school in order to reduce or eliminate operating deficits at each school.

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