Professional Practices Paper
Mail Ballot Processing Accountability and Six Sigma Goals
Washington State

Problem/Need for the Program:
Following the historically close 2004 gubernatorial race and subsequent election contest in 2005, King County Elections hired quality assurance professionals to assist staff in ballot tracking, procedures and overall ballot reconciliation. A key measure identified by King County Elections' stakeholders is the ability to demonstrate the accountability and tracking of mail ballots received and tabulated. The expectation is that the number of mail ballots received less any challenged ballots or empty envelopes should equal the number of mail ballots tabulated, resulting in a full accounting of all ballots received.

The goals of ballot accountability and reconciliation are threefold:

1. Ballot Count Accuracy - only those ballots that should be legitimately counted are counted and ballots that should not be counted are not counted.

2. Process Transparency - the organization, external interest groups and observers should be able to understand what processes have taken place and should be able to identify any anomalies in the process. Ballot accountability should be documented.

3. Process Efficiency - resources must be used effectively to address process needs.

Insight
King County has made continued progress in this area through the development and use of manual tracking tools such as spreadsheets, batch slips and quality control logs.

The keys to ballot reconciliation and processing improvements in this area have been: 1) a thorough understanding of the data elements stored in various systems, 2) accurate tracking of changes and transactions in the Elections Management/Voter Registration System or any manual changes that occur, 3) the immediate identification and resolution of issues prior to certification 4) the development and use of organization support tools, and 5) benchmarking to the Six Sigma Quality standard.

1) Understand the data

One of the key elements of successful mail ballot accountability is to be able to understand the data elements stored in various systems such as the Elections Management/Voter Registration System, the Ballot Tabulation System, and other

tracking methods. As an example, it is important to know where precinct information is stored in each system in order to accurately report results at the precinct level. Another key element is having an understanding of how various transactions in the systems affect the data stored in each system. An example of this is how manually crediting voters in poll books differs from the automated processes used for processing absentee ballots. All of this information is critical in identifying and addressing potential inconsistencies. Some of the tools King County has implemented to ensure accuracy in ballot processing include: 1) daily huddles to share information, 2) documented training presentations 3) acquisition and retention of technical staff and 4) testing environments prior to election day.

2) Systems in place to accurately track data changes and transactions

Ballot acceptance and counting is a combination of transactions captured in the voter registration system and transactions performed manually and includes: 1) system transactions such as updates to a voter record and 2) manual transactions such as removing a ballot for duplication after manual inspection. Each human transaction is an opportunity for error and for this reason there is a need for near real-time tracking of data changes and transactions. Tracking data changes and transactions provides documentation of the process, is critical in identifying and addressing issues, and provides an opportunity to leverage the data for process evaluation and improvement. Tools King County uses to track changes and transactions include: 1) multi-part batch slips to track absentee ballots 2) one, comprehensive batch accountability spreadsheet, 3) quality review logs (which includes information about empty envelopes); and 4) the Elections Management/Voter Registration system and Tabulation system reports.

3) Need to resolve issues immediately

A crucial element in the success of a ballot accountability system, is the identification and resolution of data problems or issues on a daily basis. The Mail Ballot Processing staff meet daily during each Election to identify problems and issues. This meeting has been coined the daily "oil check". Staff identify and record action items and assign responsibilities to investigate and resolve issues on a timely basis. Challenged ballots are reconciled daily as well. Plagued by a short time period between the primary and general election, staff struggled in 2004 to reconcile daily due to the high number of absentee ballots and short certification window. Failure to address issues daily complicates the process for a number of reasons: 1) as batches move through the different stages of processing discrepancies can occur, 2) work volumes are not always predictable and can impact staff or resources available to complete research; and 3) as certification nears, staff focus and resources shift to the final certification activity.

4) Need to set up organization support tools

Organizational support tools can facilitate an effective ballot accountability system. King County Elections' Mail Ballot Processing staff utilize a variety of support tools such as standard meeting agendas, scheduled daily huddles, written procedures, and cross training opportunities for staff development.

5) Six Sigma Goals

King County Elections' new Quality Assurance Department introduced the concept of "Six Sigma" to staff.   In simple terms, Six Sigma quality performance means no more than 3.4 defects per million opportunities. Many world class organizations such as General Electric, Motorola, and Bank of America benchmark process performance to this Six Sigma standard. Quality improvement through variance reduction is the prime aim of Six Sigma.

The Mail Ballot Processing Unit adopted the Six Sigma standard to benchmark against any discrepancy between the number of mail ballots received and the number of mail ballots tabulated (less challenged ballots and empty envelopes). During a large scale election, the King County Mail Ballot Processing Unit handles close to 400,000 mail ballots. In the 2004 presidential election, King County processed more than 600,000 mail ballots To achieve the Six Sigma standard of less than 3.4 defects per million, the allowable discrepancy between mail ballots received and tabulated, must be no more than 1.36 ballots. To provide additional perspective, the largest potential mail ballot processing scenario for King County would be in a vote-by-mail environment during a presidential year election. This would require the processing capacity to handle up to 900,000 ballots. To achieve the Six Sigma standard of less than 3.4 defects per million in this scenario, the allowable discrepancy between mail ballots received and tabulated would be no more than 2.72 ballots.

Results/Success of the King County's quality assurance program:
The results of the fall 2005 primary yielded a difference between the mail ballots received and mail ballots tabulated of 390 ballots, and improved to a difference of 23 ballots in the 2005 general election. This was an improvement from 1551 per million to 58 per million.   In the ensuing 2006 spring special elections this difference improved to 6.4 per million in the February special election and to *zero* per million for the March and May special elections.

The table below chronicles the progress and provides a column for comparing against the Six Sigma standard of 3.4 errors per million.

Election	Mail Ballots Returned	Difference returned vs. counted*	Per Million Mail Ballot Discrepancy	World Class Performance at 3.4 Errors Per Million
2004 General	-	-	-	-
2005 Primary	251,480	390	1551	.85
2005 General	395,531	23	58	1.34
2006 February Special	154,115	1	6.4	.52
2006 March Special	18,738	0	0	.06
2006 May Special	30,898	0	0	.11

*Less challenged ballots and empty envelopes

Since implementing mail ballot processing accountability and Six Sigma goals, ballot reconciliation has improved dramatically and staff enthusiasm has increased in their drive for perfection and zero discrepancies.

King County Elections is proud of our improvement, but also recognizes the need to continue to explore technology and system changes that can reduce the potential for variation.

Time Frame: September 1, 2005 to present