

# King County Elections

## 5-Year Technology Plan 2015 - 2019

# Executive Summary

## Vision for King County Elections

As the largest vote-by-mail county in the country, King County Elections (KCE) has been a leader in implementing new and innovative approaches to election information technology. This Technology Plan lays out the framework and strategy for key IT decisions, investments and projects over the next five years. It builds on and is consistent with both the King County Elections Strategic Plan, 2014-2018 and the draft Strategic Information Technology Plan, 2016-2018 currently being developed by King County Information Technology (KCIT). It balances both the interests of financial sustainability and innovation as we continue to be at the forefront of the field of elections.

The mission of KCE is:

 *With integrity and a commitment to innovation, we provide all citizens the opportunity to participate in and protect the democratic process.*

The proposed strategic areas of focus for King County's Strategic Information Technology Plan include: civic engagement, workforce empowerment, data driven, mobility, and system effectiveness. This plan attempts to bridge and combine both KCE's core mission and the County's IT strategic goals in a rapidly changing IT environment.

## A Changing Environment

The landscape of election administration, and specifically technology for election administration, is changing all the time. Increasingly we see jurisdictions exploring new approaches like automated signature verification and online voting tools. Additionally, more than ten years have passed since major purchases were made with "Help America Vote Act" grants and we see many jurisdictions planning to make large investments to replace equipment and IT infrastructure.

Further, this is all on top of more general IT trends, such as increased use of mobile devices, a move to more online service delivery, increasing interest in data management and analytics, and cloud-based information management. All of these and other trends were key considerations in putting together KCE's key information technology goals.

## Key Goals for Information Technology

The following are KCE's key goals for IT over the next five years. Because of the rapidly changing environment, we expect that these goals will need to be adaptive and regularly reviewed. What's more, all three goals will require an active and robust partnership across KCE, KCIT and the King County Council.

- 1. Maintain Secure and Stable Systems and Infrastructure.** Two of KCE's core values are accuracy and transparency and they are foundational to how we think about our IT systems and infrastructure. Ensuring timely, accurate results is perhaps the most important thing we do. In the coming years this will mean making an investment in a new tabulation system; continuing rigorous security and stability evaluations in partnership with KCIT; and, making sure we have the capacity to support our ever-growing number of registered voters.

2. **Improve Access and Customer Satisfaction.** KCE will continue to explore new and pioneering ways to engage our electorate. This will include continuously improving our website and online tools, making registration easier and more accessible, creating new GIS applications, and evaluating the pros and cons of expanding online voting. KCE will be rolling out elections materials in two new languages in 2016 (for a total of four languages other than English – Chinese, Vietnamese, Spanish and Korean) with more languages anticipated in the future. It will be critical for our technology to keep up with these business changes and the needs of our many language communities.
3. **Collaborate on Innovative Solutions and Services.** To improve access and education it's important that we engage residents where they are – this means more mobile options, tablets in the field for voter registration, and partnerships across King County government, with other jurisdictions, and with community partners.

## Financial Outlook

The majority of projects anticipated in this five-year plan are expected to be funded out of the department's operating budget without new requests. There are three probable exceptions – (1) the replacement of the Tabulation System and associated accessible voting units, a \$1.5 to \$2 million dollar project which will be proposed for the 2017-2018 budget, (2) replacement of the sorting server, which would be a \$100,000 - \$200,000 project, and (3) the online ballot mark-up program for which grant funding runs out in 2018 would require an additional \$25,000 to be identified to continue to program. These would need to be funded with a combination of capital improvement project and operational funding requests made during the regular 2017-2018 and 2019-2020 biennial budget processes.

## Governance

The projects laid out in this plan were developed by the Elections Leadership Team in consultation with KCIT, PSB, and the Citizens Election Oversight Committee (CEOC) over the course of the last year. Going forward, the Election's Technology Governance Team, which is comprised of department operational and technical services staff, will continue to review and make recommendations about each of these projects in collaboration with KCIT, department leadership and the CEOC. Further, all major projects outside of the regular scope of business will proceed through the central IT governance process.

The following pages lay-out more detail for each of these priorities, outline specific IT projects on the horizon, as well as internal IT solutions, and discuss the governance and decision-making process.

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## Introduction

King County Elections (KCE) administers elections for 1.3 million registered voters and conducts up to four elections each year (five in 2016 including the Presidential Primary). In February 2009, the newly established Department of Elections conducted its first all-mail countywide election, making King County the largest jurisdiction in the United States to conduct elections entirely by mail.

In the subsequent years, KCE has established a record of secure, accurate and transparent election processes. Since 2004, more than 300 reforms and process improvements have been implemented, resulting in a record of 27 straight elections with zero discrepancies<sup>1</sup> and nearly nine million ballots counted.

However, in order to continue this record of success the department will need to adapt and improve, particularly with respect to technology, which is increasingly the foundation of election administration. Because we are home to a number of world-renowned technology corporations, residents of King County expect government information and services to keep pace with the private sector. Further, King County is changing significantly as a region. The number of voting-age residents who speak languages other than English is growing all the time, with more than 170 languages spoken in King County.

This technology plan is intended to guide KCE's approach to, decisions about, and investments in information technology over the next five years. It contains three key goals and several strategies under each goal. Projects to support the strategies are called out in tables that highlight the anticipated benefits, risks, costs, timing and next steps for each.

This plan will need to be adaptive and regularly reviewed in order to be effective. What's more, many of the goals and projects anticipated in this plan will require active partnership between KCE, KCIT, the King County Council and myriad other partners. They will also require clear governance and decision-making processes so we can ensure that we are making the right investments, at the right time.

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*1 Zero discrepancies is defined as there being no unaccounted for differences between ballots received and ballots counted. Put differently, every eligible ballot was counted. There are also a variety of mechanisms in place, discussed later in this report, to ensure that ballots are counted correctly.*

# Strategic Context

## King County Elections Strategic Plan

The King County Elections Strategic Plan, 2014 – 2018, was developed in 2013 and 2014 with broad input from both internal and external stakeholders, including King County Councilmembers, CEOC members, city mayors, and community representatives. The plan is consistent with and drew many key concepts from the King County Strategic Plan, which identified four core goals that reached across the organization - Financial Stewardship, Public Engagement, Quality Workforce and Service Excellence.



The Elections Strategic Plan lays out a variety of goals for the organization and several explicit goals for information technology. Specifically, it calls out the following:

- Develop a 5-year technology plan, including capital improvements;
- Offer Elections services online;
- Analyze and evaluate technology and equipment requirements to sustain operations and address future needs; and,
- Evaluate and determine the feasibility of several specific opportunities, including automated signature verification and electronic voting.

This technology plan either fulfills or charts the course forward for each of the aforementioned strategies.

## KCIT Enterprise Information Technology Strategic Plan

King County's central information technology department, KCIT, is in the process of developing an enterprise Strategic Information Technology Plan, which will cover 2016-2018. While still in draft form, the plan focuses on the following proposed strategic areas of focus:

1. **Civic Engagement.** This focus area includes key concepts for Elections like "no wrong door" customer service, online service delivery, and promoting equity and social justice.
2. **Workforce Empowerment.** Strategies specific to Elections include building staff capacity in information and technology tools and increasing internal collaboration.
3. **Data Driven.** Central for KCE will be ensuring proper data security and management and using analytics to drive improvements.
4. **Mobility.** This focus area is consistent with KCE's goal of increasing mobile service options and using tablets and other tools to increase voter registration.
5. **System Effectiveness.** This plan prioritizes updating KCE's systems and infrastructure to ensure continued stability and security.

The enterprise plan is expected to be finalized in May, 2016 and transmitted to Council in June, 2016. This Elections Technology Plan draws from the proposed focus areas but will need to be periodically reviewed to ensure that the goals and specific projects continue to reflect KCIT's priorities.

## External Drivers

**King County Demographics.** King County is changing as a region. The majority of the growth in the last twenty years has been persons of color. We are seeing immigrants from all over the world, but especially Asia, Latin America, Eastern Europe and Africa. The percent of residents who speak a language other than English went from 18.4% in 2000 to 25.4% in 2011 and our residents speak more than 170 different languages. Going forward, King County can only expect to become more vibrant and diverse – nearly half of the region’s kids are children of color, with the under-18 population expected to be majority minority by 2018.<sup>2</sup>

**Engagement.** Both nationally and in King County specifically, we have seen a downward trend in voter turnout. While efforts to increase turnout will require a variety of strategies and broad cultural change, information technology will undoubtedly be a critical tool. It will be important over the next five years to have an on-going dialogue with community stakeholders, other organizations who administer elections, and the County Council on this issue to determine how we can have a tangible impact on turnout.

**Statewide Technology Modernization Project.** Washington State is in the process of a large-scale voter registration modernization project in collaboration with many county election administrators. A key goal of the project is to procure a new voter registration system for the Secretary of State’s Office and potentially a single system that could be used by all counties in the state. An RFP process is expected first quarter of 2017. King County is actively participating on the various subcommittees for the project, as the results could be a key driver for KCE technology projects and decisions.

**Certified Technology.** KCE is pro-actively working with the national Election Assistance Commission (EAC), the Washington State Office of the Secretary of State, and fellow county partners to develop the technology standards for the next generation of election technology solutions.<sup>3</sup> These partnerships will allow us to be at the forefront of solution development in a current election technology landscape that is woefully lacking in marketplace systems. Simply put, there are few companies capable and/or willing to manufacture and support elections technology due to legislative and regulatory requirements on current systems. As a result the current options for system and infrastructure replacement are limited, which will be an important consideration for several key technology projects detailed later in this plan.

## Financial Outlook

Funding for KCE comes from two primary sources – (1) the County’s General Fund, and (2) reimbursement for “election-related costs” from participating jurisdictions. In general, these two sources make up approximately 50% each of KCE’s budget. For the 2016-17 biennium, Elections operating and capital budgets were \$36.8 million and \$285,000 respectively. Because the County General Fund is facing a \$50 million gap for the 2017-18 biennium and Elections is expected to identify almost \$800,000 in savings through the budget process, only the most critical IT projects were considered in this planning process.

From an operating perspective, KCE does not anticipate any significant new costs related to the provision of IT services over the next five years. However, major capital investments will be required in order for KCE to continue to provide accurate, secure and transparent elections.

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<sup>2</sup> “King County’s Changing Demographics: A View of Our Increasing Diversity” King County Office of Performance, Strategy and Budget, June 5, 2013 - <http://www.kingcounty.gov/~media/exec/PSB/documents/AGR/KingCountyDemographics2012>

<sup>3</sup> More information can be found at <http://collaborate.nist.gov/voting/bin/view/Voting/WebHome>

Specifically, we anticipate the following projects over the next five years that are not currently funded:

- **Tabulation System Replacement.** This request is intended to be included in KCE's proposed 2017-2018 budget. Additional information gathered during the initial "Request for Information" procurement process, indicates an order-of-magnitude cost estimate of \$2.0 million.
- **Sorting System Server Replacement.** At present, this request is anticipated for the 2019-2020 budget process with a rough order of magnitude estimate of \$100,000 - \$200,000.
- **Online Ballot Mark-up Program.** Since its inception, this program has been supported by a federal grant intended to help military and overseas voters through the Everyone Counts program. The grant runs out at the end of 2018 and \$25,000 in funding will need to be identified from another source to continue the program.

Additional detail about these three projects, as well as projects that will be undertaken as part of the department's regular operating budget are included in the "Key Goals and Projects" section that follows.

## Key Goals and Projects for Information Technology

### Goal 1: Maintain Secure and Stable Systems and Infrastructure

Because of the critical nature and significance of registering voters, processing ballots and tabulating results, the most important thing KCE does from an IT perspective is ensure security and stability. KCE already takes a variety of measures to ensure system security, including physical security measures, system testing and redundancies.

#### Physical Security

A variety of longstanding physical security measures restrict unauthorized access to the space supporting the tabulation system and other critical equipment, and, because KCE's hardware is not networked to any other system, physical access to the environment would be required in order to attempt any unauthorized access. Biometric access, access logs, log-on credentials, observed logic and accuracy tests, and hash code testing are all additional measures taken by Elections to ensure the security and integrity of the tabulation system and the voting process. In addition, during the time that scanning is occurring, there is live video streaming of the tabulation area on the KCE website. When staff is not present, the server room has security seals in place to ensure that there is no unauthorized access (these seals may only be placed and removed by two employees).

#### Testing

Prior to every election, the GEMS database and central count tabulation equipment are subjected to extensive testing that culminates with the official Logic and Accuracy Test before the election. This rigorous testing checks that the database and each machine properly record, count and tabulate results correctly. Each central count device must pass logic and accuracy testing. An extensive audit trail is maintained of this process including detailed checklists. The Logic and Accuracy test is conducted in the presence of the Citizens Elections Oversight Committee and is open to the public. Also, during the election cycle, a Mid L&A is completed to

ensure that everything is still working correctly. During the primary and general elections, the Office of the Secretary of State is also present for the Logic and Accuracy test.

## Redundancy

King County Elections also has redundant hardware imaged and configured to be put in place in the event of a hardware failure. Each night a back-up of the database is created in the event of a catastrophic system failure. Because back-ups take approximately two hours to complete, this is the optimal frequency for back-ups in that it provides a regular safeguard while still maintaining ballot processing speed and timely reporting of results. In a scenario in which the work completed that day is not recoverable, the system would be restored to the previous day's backup and all of the ballots scanned that day would be re-scanned.

## Quality Assurance and Audit

KCE employs a full-time staff person dedicated to quality assurance. This individual does daily cross-system reconciliations to ensure every ballot has been accounted for across the various processes. Additionally, the Thursday after Election Day KCE staff audit the tabulation process. They do this by randomly selecting six batches of ballots, counting them by hand and comparing them to the automated results to ensure ballots are being properly counted.<sup>4</sup>

While KCE is always seeking new ways to improve security, the following strategies focus primarily on system stability – which has been identified as the major risk in the coming years by KCE and KCIT.

## Strategy 1: Complete Election Management System Replacement



*Staff working on the implementation of the new Election Management System.*

The application at the heart of election administration work is the Election Management System (EMS). The EMS is the database housing all voter, jurisdiction and contest records. It is the official repository of voter registration data. This database also contains an integrated Geographic Information System (GIS) component that maintains the relationship between each voter and their precinct. The EMS also captures and stores electronic images of voter signatures and is used to confirm voter identity during petition verification and ballot processing.

<sup>4</sup> This process is defined by RCW 29A.60.170, which states that "A random check of the ballot counting equipment may be conducted upon mutual agreement of the political party observers or at the discretion of the county auditor. The random check procedures must be adopted by the county canvassing board prior to the processing of ballots. The random check process shall involve a comparison of a manual count to the machine count and may involve up to either three precincts or six batches depending on the ballot counting procedures in place in the county."

Technology Project: Election Management System Replacement	
<b>Anticipated Benefits</b>	Lower operating cost; reduced need for workarounds and side systems; alignment with other WA counties for increase in efficiencies.
<b>Risks</b>	Risks did include integration with other systems, staff training and development of new work processes, and data transfer - but all have been successfully managed.
<b>Projected Cost</b>	Implementation cost: \$285,000 and a TLT project manager- covered in 2015-2016 budget. Term-limited IT Project Manager plus current staff time covered by existing operating budget. Ongoing operating cost: net decrease of approximately \$59,000 per biennium.
<b>Timing/Target Date</b>	<ul style="list-style-type: none"> <li>• New system “go live” date: 12/7/15</li> <li>• Final acceptance: 5/31/16</li> </ul>
<b>Status/Next Steps</b>	Complete final acceptance and revise BAP (Benefits Achievement Plan)

On December 7, 2015 King County Elections completed the implementation of the new solution, DFM Election Information Management System (EIMS). The success of this project was the result of KCE staff, KCIT, and the vendor working together over the last year and a half to ensure that we would be able to migrate from the previous solution that had been in place for over eleven years. The new system provides value by fully integrating many current business processes into the application and reduces the number of side systems, thereby freeing up KCE's Application Developers to work on other important business projects. The annual maintenance and leasing fee is also lower than the previous EMS (\$59,000 less per biennium). The result of this project is a system that provides more value for less cost. With this implementation over 60 percent of the voters in Washington State are supported by one Election Management System.

For the purposes of this IT Plan, the EMS replacement project needs to be brought successfully to conclusion, including subsequent testing phases and final acceptance, which is expected in May, 2016.

## Strategy 2: Plan for, Procure, and Implement New Certified Tabulation System

The system currently used to scan ballots, record voter selections and calculate election results - together called the “tabulation system” - is made up of sixteen specialized high-speed document scanners, corresponding tabulation software and dedicated servers. The system runs on a Windows XP platform that is no longer supported by Microsoft. The scanning hardware is currently in year nine of a planned ten-year life cycle. Further, the system has reached its maximum bandwidth and cannot be configured to grow as our need for processing capacity increases. We are evaluating systems that are currently in the process of becoming federally and state certified that meet



*Election worker scanning ballots*

our needs. This includes hardware and software associated with the tabulation process such as Accessible Voting Units (AVUs). Cost estimates for this project and a sustainable funding strategy are in the developmental stage.

Technology Project: Tabulation System	
<b>Anticipated Benefits</b>	End of lifespan; responsible planning for replacement system; increasing bandwidth
<b>Risks</b>	<ul style="list-style-type: none"> <li>• Not replacing the system could mean challenges with capacity and ultimately delays in election results</li> <li>• Replacing the system without adequate time for evaluation, implementation and testing could mean a variety of unforeseen problems</li> <li>• May not be certified options on the market that meet King County's requirements</li> </ul>
<b>Projected Cost</b>	\$1.5 – 2.0 million acquisition cost. Ongoing operating cost: There will be incremental costs associated with licensing fees and staff time for support and maintenance (25% - IT System Specialist, 10% Desktop Support Specialist, and 10% Admin Staff time).
<b>Timing/Target Date</b>	<ul style="list-style-type: none"> <li>• Initial research – 2015</li> <li>• Results from RFI – February, 2016</li> <li>• Summer/Fall, 2016 – 2017-18 budget request</li> <li>• Tentative Implementation – 2017 (contingent on funding and system availability)</li> </ul>
<b>Status/Next Steps</b>	Evaluation of RFI results in collaboration with KCIT and the CEOC subcommittee; begin working through Conceptual Review with IT governance and the budget process with PSB.

King County Elections has developed a consortium with Pierce and Snohomish Counties to gather requirements to produce an RFI to identify vendors that may want to take part in an RFP process. This RFI was released on January 14, 2016 and we received responses from 5 vendors. Staff visited Multnomah County, Oregon to view their acceptance testing of a modernized tabulation system at the end of January. We are also working with the Office of Secretary of State and the Election Assistance Commission to ensure that we are keeping abreast with any updates or changes to the Tabulation Standards. We are also reviewing the updates from the National Council of State Legislatures (NCSL) and the National Institute of Standards and Technology (NIST) for any other technology or security updates or changes that may come up.

In the interim, KCE is considering a variety of mitigation strategies to ensure timely reporting of results. These strategies include staffing ballot tabulation in shifts in order to stay below top capacity of the current system.

The Tabulation System and Accessible Voting Units (which are detailed under Goal 2) comprise a multi-million dollar investment with significant risks and opportunities. In particular, there will

need to be careful consideration of the timing of such a replacement given the election cycle and the need for any system to be both federally and state certified. This will be a key issue both in terms of IT governance and the biennial budget process.

### Strategy 3: Perform Regular Hardware, Software, and Systems Replacements

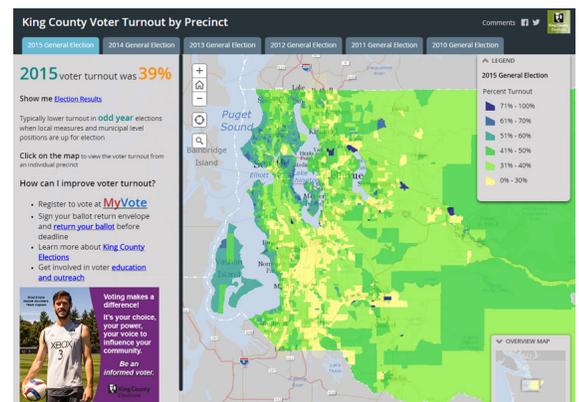
Like most modern business organizations, King County Elections depends on basic technology products and services to deliver services and accomplish everyday tasks. Periodic replacement and/or upgrades to personal computers, printers, tablets, monitor and enterprise business software is needed to remain effective and efficient. King County Elections has established a regular four-year replacement cycle for basic products and services. Based on this schedule, utilizing existing Operating Funds previously identified for this purpose, we will move forward with a replacement and upgrade project starting in 2016.

## Goal 2: Improve Access and Customer Service

Increasing access and education is one of the most important goals in the Elections Strategic Plan. KCE will continue to explore new and pioneering ways to engage our electorate. This will include continuously improving our website and online tools, making registration easier and more accessible, creating new GIS applications, and evaluating the pros and cons of expanding online voting. These strategies are detailed below.

### Strategy 1: Tailor Outreach by Leveraging Geographic Information Systems (GIS)

Maintenance of an accurate voter/precinct/district database is the cornerstone of an election management system. To support this business need, Elections Technical Services and GIS staff will work to ensure the compatibility of the new EMS with our current GIS processes and develop applications to support other business projects and goals. Among the new applications is increased demographic data analysis and mapping to support our voter education and outreach efforts and refinement of the public review process for precinct alterations to improve efficiency and access. The budget for dedicated GIS and related software is covered by the county's Enterprise License Agreement (ELA) with ESRI and is provided by the KCGIS Center for the Department. The Department's share is based on pooled ESRI software usage costs and dedicated ELA-based GIS software rates.



*Interactive GIS application for voter turnout*

### Strategy 2: Develop New Online Tools and Applications to Improve Service

Providing accurate, timely and personalized election information online plays a major role in responding to demand for effective services as evidenced by the high level of traffic to the KCE website during election cycles. Elections plans on making investments to develop additional online self-serve options and increased access to real time data with new web-based applications. We will work with KCIT to evaluate resource needs to accomplish this work and the current project to redesign our website (completed in December 2015) has already revealed opportunities for enhancements.

Technology Project: Online Service Enhancements	
<ul style="list-style-type: none"> <li>• Candidate Filing/Voters' Pamphlet submissions</li> <li>• Provisional ballots</li> <li>• Ballot Return Statistics</li> <li>• Election Results Resource Center</li> <li>• My Voter Info</li> <li>• Additional webcams</li> </ul>	
<b>Anticipated Benefits</b>	Increase voter access to available elections data, streamlining elections web applications to central points of contact and accessibility.
<b>Risks</b>	If KCE doesn't continue to create new mechanisms for engagement, we risk missing key opportunities to engage with voters, project transparency, and create efficiencies by having voters verify and update their own information. Risks involved in taking on the project include: over-stretching IT resources for maintenance and support of new applications and failing to roll-out new online tools effectively to users.
<b>Projected Cost</b>	There will be incremental staff costs for existing FTE Application Developer – 75%, incidental Admin Staff time.
<b>Timing/Target Date</b>	Application development work is ongoing from 2015 through 2017; maintenance is ongoing.
<b>Status/Next Steps</b>	Developing individual project plans for each online service enhancement

The development of the My Voter Info application will allow voters to access their voter information, ballot return status, voter guide information, and other information of importance to the voter in a single application. This will allow for a more knowledgeable voter, reduce the call volume to the Phone Bank, allow for proactive support of the voter, and allow for more self-services opportunities for the voting public.

King County Elections will be adding two additional cameras to the website during the election cycle covering the Signature Verification and Ballot Duplication areas of the ballot processing. This will allow for more transparency and accountability.

### Strategy 3: Leverage Technology to Serve New Language and Other Under-represented Communities

The Voter Education and Outreach page of the King County Elections website contains resources, toolkits, an events calendar and links to downloadable election information materials intended to support community-based organizations, advocacy groups, educators and communities of Limited English Speakers (LES). As part of the redesigned website that was rolled out in December 2015, existing internal resources focused on additional content and application development for the page has proceeded. Included in this effort will be a minority language translation element and the publishing of interactive election-related demographic maps (to include data on Chinese, Vietnamese, Korean, and Spanish prevalence).

KCE is piloting a solution in which iPads are checked-out to community partner for “registration” parties or other gatherings where they can register voters in King County. This will increase the ease with which community-based organizations and community ambassadors can interact with their communities on behalf of King County Elections.

### Strategy 4: Continue to Improve KCE’s Web Presence

King County Elections has completed a website redesign in December 2015. The purpose of the redesign was to update the architecture and design of the current website to conform to new County website design standards. The redesign utilized user-centered and responsive design techniques to ensure the new website is optimized for viewing on a range of devices and can support additional online personalized election applications. Also, during the redesign we worked with our various stakeholders, users, and KCIT to identify opportunities to improve engagement and voter outreach.



Technology Project: Website Redesign	
<b>Anticipated Benefits</b>	Increased mobility, more user friendly interface; easier to find information leading to less need for voters to call KCE; providing access in multiple languages (English, Chinese, Vietnamese, and future Korean and Spanish).
<b>Risks</b>	If KCE doesn’t continue to add functionality, refresh and improve the web site, we risk missing key opportunities to engage with voters. The risk in continuing to expand the KCE website is the potentially inability to support regular content development and site maintenance.
<b>Projected Cost</b>	Project cost: \$143,000 plus contract web developer (cost TBD). There will be ongoing incremental Web Master staff costs – 50% FTE.
<b>Timing/Target Date</b>	Scheduled for completion 12/2015; maintenance and continuing development is ongoing.
<b>Status/Next Steps</b>	Continuously improve site

The Web Redesign project aligned with the department’s goal of providing a friendlier user interface across all devices. We anticipate lower call volumes as a result of voters finding it easier to locate information on our website.

Additional benefits of our online enhancements and website redesign will lead to an improved digital government and increase in access by lower-end devices, allowing for more usability by the citizens of King County.

### Strategy 5: Continue to Provide Accessible Voting Solutions and Explore New Options

An important question related to the new tabulation system is the future of the Accessible Voting Units (AVUs), touchscreen voting machines that allow voters to independently access and cast their ballot, and currently the County’s primary mechanism for accessible voting. AVUs have accessibility features such as high contrast screens and an audio component for visually

impaired voters. Installation of a new tabulation system will require new AVUs. The two work seamlessly together and they will need to be purchased together.

AVU's are deployed at Accessible Voting Centers (AVC's) and are available to all voters who need or want an in-person voting option. The current accessible voting system hardware is approaching its useful life cycle and the software's operating system is over ten years old. Replacement of the system as a whole is needed. The software used to operate the accessible voting solution must be compatible with the tabulation and election management systems and any new solution is subject to the same federal certification requirements and timelines.



Voters using AVUs at Accessible Voting Center

Based on these conditions, this project would replace the existing software and hardware to provide the community with an up-to-date system that is more user-friendly and accessible. King County would purchase these AVUs in conjunction with the new Tabulation System detailed above. Estimated project details are below.

Technology Project: Accessible Voting Center Technology Enhancements	
<b>Anticipated Benefits</b>	Sustained accessible voting opportunities as required by law; improved and updated user and administrator interface.
<b>Risks</b>	Purchased units may not integrate with new tabulation system if not timed successfully. AVUs may not be the most effective tool for accessible voting.
<b>Projected Cost</b>	Initial testing hardware costs coming from Operating Funds.
<b>Timing/Target Date</b>	Potential 2017-18 budget request
<b>Status/Next Steps</b>	Identify hardware; test solutions and pilot

However, there are other options available for supporting secure, independent voting in-the-field. KCE is currently working on a pilot project to deploy iPads in the field to facilitate easier voter registration and potentially accessible voting. In early 2016, KCE will evaluate whether or not iPads or another mobile solution could augment, or even possibly replace, the current approach to accessible voting.

### Goal 3: Collaborate on Innovative Solutions and Services

To improve access and education it's important that we engage residents where they are – this means more mobile options, tablets in the field for voter registration, and partnerships across King County government, with other jurisdictions, and with community partners.

## Strategy 1: Explore Opportunities for Automated Signature Verification

King County Elections strives to maintain an environment of continuous improvement and has instituted process improvements that save time and contain costs. One potential improvement is automating the signature verification function during the processing of ballots. To that end, the Department has initiated a project to evaluate the feasibility of Automated Signature Verification systems, a tool that could substantially reduce the time taken to process incoming ballots, reduce the number of election workers needed to process ballots and consequently reduce costs.



*Election workers verifying signatures*

This project won't become an option until legislative changes are made, but hypothetical details are included in the table below.

Technology Project: Automated Signature Verification (ASV)	
<b>Anticipated Benefits</b>	Increased processing speed; increased election night results; lower costs by reducing dependence on use of short-term temporary workers
<b>Risks</b>	Depending on the sensitivity settings, there could be signatures not challenged that should have been, or signatures challenged that shouldn't have been.
<b>Projected Cost</b>	Current annual cost - \$2,875 for 10,000 to 25,000 signatures (in test mode currently).
<b>Timing/Target Date</b>	TBD
<b>Status/Next Steps</b>	Dependent on legislative changes; next opportunity for research in 2017

## Strategy 2: Continuously Improve Online Ballot Marking Program

As part of a Federal Government Research and Development Grant, King County Elections in association with other counties in Washington State have joined over 30 other states that allow for the Overseas and service voters to have the option to receive an email informing them that their ballot is available. Those voters are able to go to the OBMP (an external secure website) to access their ballot, mark their selections, then print and deliver their ballot to the King County Elections office by mail, email, or fax. Elections also utilizes this tool to allow voters to have access to their ballots on Election day if they have issues with the ballot that was mailed to them, allowing for better access and engagement in the voting



process. Operating costs for the existing system are covered by the federal grant, scheduled to expire on December 31, 2018. As of 2019, the annual cost for this solution has been projected to be \$25,000 per year to support the existing Overseas and UOCAVA voter base.

Technology Project: Online Ballot Marking Program	
<b>Anticipated Benefits</b>	Sustaining opportunities for overseas and service voters; possible expansion of online ballot delivery to all voters
<b>Risks</b>	This program is critical to our military and overseas voters but it also constitutes an opportunity to increase convenience and access for the rest of our voters, which would be missed if we don't find replacement funding for this program.
<b>Projected Cost</b>	Current operating costs are funded by federal grant (set to expire 12/31/2018). Ongoing operating cost is \$25,000/year – to be part of the 2019/2020 budget.
<b>Timing/Target Date</b>	Current system development/ maintenance is ongoing. Options for the future of the program to be identified in 2018.
<b>Status/Next Steps</b>	Potential budget request in 2019-2020

The OBMP Expansion project provides opportunities for overseas and service voters to access ballot information and cast their votes while abroad. OBMP expansion could also provide a roadmap to the future of voting by increasing ballot delivery methods. By allowing the voter multiple ways of accessing their ballot, either by mail or online, it is a goal to improve voter access and engagement. This will empower voters, allowing them more engagement in the voting process. Voters in Washington State are still required to return their marked ballot to King County Elections, reducing the risk of ballot tampering, loss of voter intent, or fraudulent ballot submittal.

### Strategy 3: Leverage Enterprise Solutions in Partnership with KCIT

In order to provide excellent service, the Elections team must stay informed, engaged and connected. During 2015-2019, Elections will continue to leverage SharePoint, developing new internal applications for collaboration and information sharing. Elections will also continue to work with KCIT to implement a Call Center application compatible with the Skype for Business solution to manage the thousands of phone calls we receive during each election cycle. Finally, we plan to partner with KCIT on a limited department roll out of the enterprise Customer Relations Management (CRM) system. Internal services provided by KCIT are charged centrally and costs for these projects are part of the ongoing operating budget.

Technology Project: Enterprise Solutions	
<ul style="list-style-type: none"> <li>• SharePoint</li> <li>• Skype for Business (Call Center Solution)</li> <li>• Customer Response Management (CRM)</li> <li>• Cloud</li> <li>• Mobile Data Management</li> </ul>	
<b>Anticipated Benefits</b>	Leverage existing enterprise solutions for internal collaboration, Call Center management, Data Access, and Mobile empowerment.
<b>Risks</b>	If we do not engage with KCIT on technology solutions, we risk building solutions that cannot be supported in the environment, duplicating efforts for building solutions that may already exist in the county, and not following county standards.
<b>Projected Cost</b>	The biennium central costs for Enterprise Solutions is \$1,311,220 for 2015/2016
<b>Timing/Target Date</b>	SharePoint development is ongoing; Skype for Business is dependent on KCIT service solution.
<b>Status/Next Steps</b>	Ongoing discussions/partnerships with KCIT and their Service Owners.

King County Elections is also looking for opportunities to utilize the Cloud offerings from KCIT. In the implementation of the EIMS voter registration solution, we are initially going with a physical environment at the recommendation of the vendor, but the plan is to look to migrate to the Cloud environment when the hardware refresh occurs in 4 years. Also, our existing physical File/Print environment is in the process of being migrated into the KCIT Cloud environment. At this time, to ensure ballot security and integrity, voter privacy and perception, the isolation of the system in a physical private network does not allow for the tabulation system to be hosted in the Cloud. King County Elections continues to partner with stakeholders to identify policies and standards for technology systems.

King County Elections partners with KCIT to ensure that our technology solutions meet the security levels set forth by the KCIT Chief Security Officer. This includes standard encryption of the Wi-Fi utilized in the building, ensuring that the workstations and servers are the latest MacAfee security patches, and that we have installed Mobile Device Management on all portable devices (smart phones, iPhones, and iPads).

#### Strategy 4: Explore Online Voting Solutions

Online voting has recently received some attention, both in the press and by election administrators. While very appealing because of its convenience, ease of access and virtually immediate results, we are still a long way off from online voting being a possibility in King County. Major concerns include security and identification, voter privacy, ballot tracking, equity of access and many others. Because of these a 2015 report by the Brennan Center for Justice, "America's Voting Machines at Risk," notes that "there is overwhelming evidence that Internet voting in a national election is currently inadvisable."<sup>5</sup>

<sup>5</sup> "America's Voting Machines at Risk," Brennan Center for Justice - <https://www.brennancenter.org/publication/americas-voting-machines-risk>.

A separate report by the U.S. Vote Foundation titled, “The Future Of Voting ,” states that “the greatest concern voiced by election verification scientists, election integrity advocates, and End-2-End-Verifiable researchers is that legislators will mandate the experimentation with – or use of – internet voting before a correct, secure, open, usable, accessible End-2-End-Verifiable system exists. Aggressive early adoption of election technology must be tempered by a clear understanding that voters’ trust in their elections is hard-won and easily lost.”<sup>6</sup> That is why King County Elections wants to continue to be abreast of research but only move forward when we believe the myriad of concerns associated with security and privacy have been addressed.

What’s more, both Federal and State regulations currently prohibit the online tabulation of ballots. For example, solutions like the OBMP only allow for delivery of the ballot to the voter, not the opportunity to actually vote online. The voter must still return a ballot to King County Elections for tabulation (by fax, email, or hard copy in the mail). The ballot is then printed and tabulated on our secure tabulation system.

Thus, the scope, security requirements, and ability to conduct an election utilizing online voting are beyond the timeline of this technology plan. King County Elections will continue to research and observe trends and experiments in online voting. If and when it becomes a viable option, KCE will work with the King County Council to (a) make that policy decision, and (b) develop the appropriate policies and standards to guide the practice.

## Governance and Decision Making

### A Framework for Technology Project Decision Making

The projects reported on in this plan were developed by the Elections Leadership Team in consultation with KCIT, PSB, and the CEOC over the course of the preceding four years. During the term of this plan, we are expanding the project decision making process to include a newly formed Technology Governance Team comprised of Department operational and Technical Services staff. The Elections Technology Governance Team will be tasked with the evaluation of potential projects and development of recommendations that will be provided to the Elections Leadership Team. The Elections Leadership Team will review all technology projects to ensure that they meet the goal of increasing voter access, while maintaining security and voter privacy.

All projects approved by the Elections Leadership Team will follow the process of going in front of the KCIT Project Review Board for review and approval. King County Elections will also be working with the CEOC, Council Staff, and the Council to ensure that they are at the table for the discussion about upcoming projects, providing transparency and accountability for the work that King County Elections is undertaking to improve voter access and engagement.

Specific decisions points that will require robust input from both the County Council and the CEOC include:

- **Replacement of the Tabulation System.** This is a multi-million dollar investment with significant risks and opportunities. In particular, there will need to be careful consideration of the timing of such a replacement given the election cycle and the need for any system to be both federally and state certified. This will be a key issue both in terms of IT governance and the biennial budget process.

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<sup>6</sup> End-to-End Verifiable Internet Voting systems (E2E-VIV) allow voters to check that the system recorded their votes correctly, it includes their votes in the final tall, and count the recorded votes and double-checked the announced outcome of the election. The system needs to be secure, usable, and transparent.

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- **Accessible Voting.** Whether or not to pursue AVUs, iPads or other field tools, or some combination of the two to support accessible voting will be a critical decision for 2016.
- **Voter Engagement.** Both nationally and in King County specifically, we are seeing a downward trend in voter turn-out. While efforts to increase turnout will require a variety of strategies, information technology will undoubtedly be an important tool. It will be important over the next five years to have an on-go dialogue with Council on this issue and learn what is important to residents in each district.

## Criteria for Technology Project Decision Making

For each project evaluation criteria will include: a needs assessment, security assessment, cost/benefit analysis along with an assessment of a project's alignment to the established technology objectives outlined in this plan. Project analysis will then be presented to the Elections Leadership Team for further development and stakeholder/partner input (Council/PSB/KCIT/CEOC). Based on consultation with these stakeholders, possible funding strategies and timelines are explored. Through this process, we will continue to develop technology projects and solutions that assist us in achieving our goals and sustaining the standards of excellence we promise to voters.

## Going Forward

King County Elections will continue to partner with Stakeholders, County Council, County, State, and Federal partners, and the citizens of King County to utilize technology to further the goals of participation in the democratic process of voting, voter access and civic engagement. Monitoring technology advancements, changing demographics, and other requirements to address the needs of the public, King County Elections will work to identify solutions with our partners for the future of voting in King County.