



**KING COUNTY**

1200 King County Courthouse  
516 Third Avenue  
Seattle, WA 98104

**Signature Report**

**March 29, 2010**

**Motion 13192**

**Proposed No. 2010-0085.1**

**Sponsors Patterson**

1           A MOTION accepting a report on courthouse electronic  
2           signage including multiple language options as required in  
3           Ordinance 16717, Section 112, Proviso P1.

4           WHEREAS, the King County Courthouse, located in downtown Seattle, is a  
5           protected historical landmark and King County's signature building structure, and

6           WHEREAS, a multitude of activities occur within the King County Courthouse,  
7           including court hearings and trials, council hearings, filing of claims, law enforcement  
8           investigation and evidence work and internal and public legal services and information,  
9           among countless other activities, and

10          WHEREAS, many visitors to the King County Courthouse have limited  
11          proficiency in the English language, and

12          WHEREAS, the 2010 King County Budget Ordinance, Ordinance 16717, Section  
13          112, providing the appropriation for the facilities management division internal service  
14          fund, contains a proviso requiring a report on the feasibility, cost and effectiveness of  
15          installing an electronic reader-board and signage in multiple languages to assist citizens  
16          in accessing services and court facilities in the King County Courthouse, and restricts  
17          expenditure of \$200,000 from the appropriation until the council approves the report by  
18          motion, and

19           WHEREAS, the executive has transmitted to the council with this motion a report  
20 on the feasibility, cost and effectiveness of electronic signage options in the King County  
21 Courthouse, and

22           WHEREAS, the report includes investigation of installing such signage in  
23 multiple languages;

24           NOW, THEREFORE, BE IT MOVED by the Council of King County:

25           The report on the feasibility, cost and effectiveness of electronic signage options  
26 in the King County Courthouse, Attachment A to this motion, is hereby approved.  
27

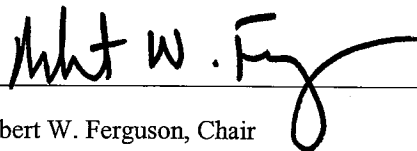
Motion 13192 was introduced on 3/15/2010 and passed by the Metropolitan King  
County Council on 3/29/2010, by the following vote:

Yes: 7 - Mr. Phillips, Mr. von Reichbauer, Mr. Gossett, Ms. Patterson,  
Ms. Lambert, Mr. Ferguson and Mr. Dunn

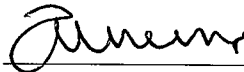
No: 0

Excused: 2 - Ms. Drago and Ms. Hague

KING COUNTY COUNCIL  
KING COUNTY, WASHINGTON

  
Robert W. Ferguson, Chair

ATTEST:

  
\_\_\_\_\_

Anne Noris, Clerk of the Council

**Attachments:** A. King County Courthouse Electronic Multilingual Signage Feasibility, Cost, and  
Effectiveness

**King County Courthouse Electronic Multilingual Signage  
Feasibility, Cost, and Effectiveness**

Proviso Response Report

King County 2010 Budget Ordinance: FMD Internal Service Fund Proviso 1

(Ordinance 16717, Section 112, Proviso 1)

January 29, 2010

## Executive Summary

The 2010 King County Budget Ordinance, Section 112, provides the appropriation for the Facilities Management Division's Internal Service Fund. Proviso 1 of the Fund appropriation reads (in pertinent part) as follows:

**“Of this appropriation, \$200,000 shall not be expended or encumbered until the council approves by motion a report on the feasibility, cost and effectiveness of installing an electronic reader-board and signage in multiple languages to assist citizens in accessing services and court facilities in the King County Courthouse. The report shall be submitted no later than January 31, 2010.”**

During the deliberations of the Public Safety and General Government Budget Panel, the County Council reviewed the Executive's proposed elimination of the King County Courthouse Information Desk position. Concerns were raised by council members regarding the difficulty of navigating the courthouse complex in general, and the importance of keeping the weapons screening area as uncongested as possible. Council members were concerned that without an Information Desk attendant, people entering the King County Courthouse (KCCH) would interrupt the security screening staff from their work to ask for directions and information. It was hoped that a technological solution was available to avoid this potential problem.

This report addresses Proviso 1. The report presents the general objectives of courthouse signage, the current signage and related information in the KCCH, and changes already underway. A detailed overview of the technology and costs for different types of electronic signage, along with anecdotal comments from other courts in the region is provided. Information on potential options to implement electronic signage in multiple languages is also presented.

Best practices advocate providing courthouse signage featuring clear visual elements to help visitors locate their designation without asking for assistance. For the KCCH, implementing such practices can be challenging because of the diverse multilingual populace visiting the facility each day, the high volume of legal proceedings heard daily, and the varied governmental functions located in the facility.

KCCH security performs roughly 6,500 screenings each day. Most screenings are for KCCH visitors. From entry onward, these guests need information about where to go and the route there. Existing signage and way finding aids consist primarily of an Information Desk staffed during business hours for an annual cost of \$60,168, building directories located on the 1<sup>st</sup> and 2<sup>nd</sup> floor, and Superior Court and District Court calendars placed in various receptacles in selected public areas. During the 2010 budget reconciliation, staffing for the Information Desk was funded at .25 FTE and \$15,042, presumably for the first three months of 2010.

Since 2004, Superior Court and the Facilities Management Division (FMD) have advanced proposals for 1<sup>st</sup> and 2<sup>nd</sup> floor electronic directory signs, development of a comprehensive

way finding system and a flat panel reader board display. While these proposals were ultimately unfunded, a general consensus exists that signage and way finding in the courthouse needs significant improvement.

Two recent efforts, already funded and underway, will improve KCCH signage. Superior Court updated selected KCCH room and door signage with additional languages using moneys allocated from the Trial Court Improvement Account (TCIA). District Court is installing reader boards displaying court calendars at each of their courthouses using moneys allocated from the TCIA. Two or three monitors dedicated to District Court calendars will be placed in the KCCH.

Electronic signage technology is increasingly common in courthouses. Pierce County's, Cowlitz County's and Snohomish County's uses of electronic signage technologies are described later in the report.

Two types of courthouse electronic signage are primarily used: 1) passive "airport" style reader boards displaying court calendars and case information, and 2) interactive touch screen kiosks providing a full array of information, i.e. court calendars, office directories, maps, directions. Electronic reader boards are large computer monitors running a display program from a remote computer. Touch screens feature interactive applications that provide specific information based on the user's requests.

Preliminary vendor information suggests that with multiple monitor purchase, reader board monitors can cost from \$2,750 to \$7,000 each. Vendor planning assumptions suggest showing the daily Superior and District Court hearings scheduled in the courthouse might require an eight monitor array. Preliminary costs for an eight monitor array from reader board display systems vendors ranged between \$53,000 and \$63,000. Annual management and maintenance can be vendor extras, as are King County project costs. Display management and maintenance can be done in house using existing resources, if the expectation is for daily updates in English. Should the information be presented in multiple languages, programming would be more challenging and could require special outside expertise. Locating reader boards on the KCCH 1<sup>st</sup> and 2<sup>nd</sup> floors may be difficult because of the courthouse's landmark designation and the limited mounting areas.

Touch screen kiosks are interactive monitors that allow visitors to pose questions and receive information at the kiosk. Touch screen kiosks have significant start up costs as vendor proprietary software is normally needed. The first kiosk is estimated to cost at least \$29,000 or more, with each subsequent kiosk anticipated at roughly \$14,000. Additional vendor charges would be required for annual programming, software upgrades and maintenance costs. None of the vendors contacted had "off the shelf" multilingual touch screens. Other than English and Spanish, vendors noted limited in-house language expertise. Non-English language programming could cost \$7,000 or more per language.

Electronic reader board systems using multiple languages are relatively straightforward to design, implement, and maintain, based on existing computer systems. County court staff in counties with electronic reader board systems reported high levels of satisfaction. There are, however, some limitations. As reader boards are not interactive, directions to specific locations and directed information regarding non-court functions located in the courthouse are difficult to provide. Courthouse signage systems providing clear visual elements that help visitors locate their destinations require multiple tools: informational signage presenting the functions and services in the facility, directional signage providing way finding and navigation, and location labeling. Reader boards satisfy one of these signage needs – the location of court proceedings and other information as displayed.

Following the analysis of reader board and touch screen applicability in the KCCH, the “next step” alternatives are as follows:

1. Discontinue staffing the Information Desk on April 1, 2010. Consistent with the 2010 budget, discontinue staffing of the 1<sup>st</sup> floor Informational Desk, relying on existing KCCH signage and court calendar placement. No action by the County Council would be required to implement this alternative.
2. Staff the Information Desk through 2010 with transitional duty staff. Initiate discussions with the affected labor bargaining unit to reach agreement providing, on an interim basis at least through 2010, transitional duty staff possibly from other bargaining units to staff the Information Desk. No action by the County Council would be required to implement this alternative, with implementation taking up to two months.
3. Installation of up to 8 flat screen monitors at the KCCH 3<sup>rd</sup> Avenue entrance. Working with Superior Court, District Court, Council, and FMD staff, acquire and install up to 8 flat screen monitors at an estimated cost of up to \$56,000, with operating costs assumed to be absorbed by these entities. Council action will be required to implement this alternative as a funding source would need to be identified and additional appropriation approved. Implementation could take up to 6 months.

Given the importance of a coordinated signage and way finding program for the KCCH, the alternative(s) selected must be coordinated with the District Court and Superior Court efforts already underway.

## **Introduction**

To evaluate the feasibility, cost, and effectiveness of potential multilingual electronic signage options in the KCCH, signage generally, electronic signage technology, and various options were considered. This report describes different types of signage, courthouse signage objectives, and how current signage compares with meeting those objectives. Passive and interactive technologies, their differences, their potential use in the KCCH, and their applicability to serving non-English speakers are described. Anecdotal information from other Washington counties and signage vendors is included as well.

Staff research and analysis concludes with a general comparison and evaluation of the potential options for improving courthouse signage. It recommends that simpler, low cost, passive directional signage be improved in the courthouse, and that electronic reader boards be considered as a major component of an ongoing program for upgrading courthouse signage.

## **Signage Types**

Signage consists of three basic types: informational, directional, and location labeling.

*Informational Signage:* Informational signage advises the user of the functions and services located in the facility. This category includes signage containing specific building activities and schedules. The KCCH, building directories, and general departmental information signs are included in this category, as well as posted court calendars, transportation information, and King County Sheriff's notices.

*Directional Signage:* Directional signage provides instruction on how to reach an intended destination, i.e., way finding orientation and navigation. These signs consist of written instructions, directional symbols, and maps. High-quality directional signage systems provide for way finding at each step in a journey: at the building entry, to the floor, and to the room. Directional signage can also instruct a visitor on what to do at a particular location, e.g. direct someone to check-in for a court hearing.

*Location Labeling:* Label signs describe the function or occupant of a particular space by identifying the location. Room numbers and window markers with departmental titles are examples of labels.

While signage and labeling provide visual and written information, the need for staffed information desks is an important component to a way finding program. Informational staff performs the functions of both informational and directional signage by helping visitors determine where to go and the route to get there.



## **Courthouse Signage Objectives and Best Practices**

KCCH signage provides the principal means of directing the public to the functions and services within the building. The signs and signage system are intended to provide a coordinated and efficient system of information, direction and recognition throughout the courthouse. Courthouse signage should achieve a series of basic objectives:

- Signage should promote welcoming and easy access to courthouse functions and departments;
- Informational and directional signage should seamlessly route most visitors to major building destinations without asking for assistance;
- Signage should easily direct all courthouse visitors to locations offering additional information and assistance;
- Signage should promote smooth circulation of pedestrian traffic, especially near building entrances, and prevent elevator queuing and lobby crowding; and
- Signage should be comprehensive, legible, aesthetically consistent, and appealing.

*Multilingual Considerations for Signage Objectives:* Overlaying the general signage objectives are the needs specific to serving a multilingual populace. Although signage in multiple languages assists readers of the provided languages, no signage can include the native languages of all courthouse visitors. Including too many languages can make signage differentiation difficult, confusing all visitors. To meet these multiple objectives, signage systems must balance their overall efficiency for all visitors against their effectiveness in providing information directed to assist users in a particular language.

*Courthouse Signage Best Practices:* Best practices in signage systems advocate that signage in public facilities provide clear visual elements that help visitors locate their destination without asking for assistance. From the courthouse entrance, courthouse environments should present a sense of safety and security while also visibly demonstrating equal access to all visitors. Doing so can be challenging in historical buildings like the KCCH, given its age, architecture, and arrangement.

The increased importance now placed on family courts and services, assisting pro-se (self-represented) individuals, mediation, and facilitation makes effective courthouse signage even more essential. Courthouse users today are more likely to be unfamiliar with the legal system and the building and less likely to be a frequent building visitor.

Co-location of the King County Council and other government functions in the KCCH increases the importance of providing sufficient information and direction to building visitors. Maintaining principles of transparency and open government requires public engagement. Visitors to the council chambers and other locations should have no difficulty locating their desired destination.

### **Perception of Current Courthouse Signage; Past Proposals; Recent Changes**

Anecdotal comments from attorneys, court visitors, and the general public suggest that courthouse information and way finding signage does not meet the objectives outlined above. Since 2004, courthouse proposals for 1) electronic directory signs for the 1<sup>st</sup> and 2<sup>nd</sup> floor, 2) the development of a comprehensive way finding system, and 3) flat panel reader board displays have been developed by Superior Court and FMD staff. While the Executive did not recommend funding for these proposals due to higher priority items, a general consensus exists that signage in the KCCH needs significant improvements.

More recently, Superior Court completed a project updating selected KCCH room and door signage with additional languages. The new signs are located at high-volume courts and services, such as the Plea Court and the Family Law Court check-in window. Superior Court allocated \$10,700 of their 2009 TCIA fund to install the multilingual signage in the KCCH, and at the Alder Youth Services Center (YSC) and the Maleng Regional Justice Center (MRJC). The TCIA is funded by the county in amounts equal to that received from the state for partial reimbursement of district court judges. Superior Court and District Court prepare recommendations for its use and the County Council approves the necessary appropriation...

Superior Court staff started the project by developing a list of locations that required replacement of the English text signs with multilingual signage. Superior Court interpreters determined the languages of need for KCCH visitors, as well as at the YSC and MRJC. The new KCCH signs include the previous English text, as well as text in Russian, Somali, Spanish, and Vietnamese. These languages were chosen by recommendation of the Superior Court Interpreter Services office as the most requested languages for Superior Court KCCH interpreter matters in 2007.

Text rendering presented challenges in creating the signage. Tailoring the font to the correct characters in the multiple languages consistent with the signage software required coordination between Superior Court staff, interpreters skilled in the languages, and KCCH Building Services staff. The KCCH portion of the multilingual signage project work was recently completed at a cost of approximately \$3,000. Work is underway for the YSC and MRJC signage.

### **Current Operations and Signage**

Roughly 6,500 people pass through KCCH security daily. KCCH visitors consist of an extremely wide range of individuals. General groups include:

✓ the general public	✓ jurors
✓ criminal defendants	✓ law library patrons
✓ lawyers	✓ parties in civil and family law cases
✓ persons seeking protection orders	✓ visitors for court or Council hearings

✓ witnesses(including law enforcement officers and the general public)	✓ users of a myriad of services: CASA programs, housing justice, etc.
✓ persons seeking information on dissolutions or other family law matters	✓ King County, State, and non-profit social service agency officials, employees, and volunteers

*Current KCCH Informational Signage:* The KCCH signage program presently features a number of general information sources and signage including the following items:

- The Information Desk, located between security and the elevator lobby on the 1<sup>st</sup> floor (with staffing limited to the first three months of 2010),
- Two building directories, located behind the Information Desk on the 1<sup>st</sup> floor and along the wall near the 4<sup>th</sup> Avenue entrance security on the 2<sup>nd</sup> floor,
- King County Sheriff's postings on the west end of the 1<sup>st</sup> floor lobby,
- County Council agendas and information across from the council chamber on the 10<sup>th</sup> floor,
- Superior Court and District Court calendar baskets, mounted on the walls in the 1<sup>st</sup> and 2<sup>nd</sup> floor elevator lobbies, containing hard copy printouts of the daily Superior Court calendar and weekly District Court calendar.

Court calendars are printed by both Superior and District Courts for the calendar receptacles in the public areas. Superior Court calendars are placed once or twice a day, in the morning and after the lunch break. Copies of the calendar are taken by the public for locating their matter and courtroom.

Superior Court's calendar lists information across a number of columns: judge name; position assigned; courtroom; whether the matter is a jury assignment or not; and a case or calendar assignment. Case and calendar assignment can be general or specific: particular trials or motions are listed by case title, but high volume calendars are listed as the calendar title, e.g. Criminal Motions, Plea/Sentence Calendars.

District Court's calendars list different information than Superior Court across the columns: the defendant/party's name; the case number; the schedule time and room number, and case type. District Court prepares its calendar weekly. A reference copy is placed in the receptacles every Monday.

*Current KCCH Directional Signage:* Directional signage in the KCCH is limited. The 1<sup>st</sup> floor directional signage is limited to a large instruction in English showing the location of the Administration Building tunnel, and a small sign next to the jury assembly room doors. Elevator lobbies have small signs in English with arrows to building room numbers. Other KCCH directional signage is in the immediate area of the particular location, e.g. next to the Family Law check-in desk, or from the hallway adjacent to courtroom 1201.

*Current KCCH Location Labels and Signs:* Almost all rooms in the building are labeled with room signs, depicted as a directional letter followed by a three-digit number, i.e. W-291. As the numbering system is not sequential, it can be confusing to visitors. Location labels for most major offices and departments in the building also include the department or general function of the area. A few locations also feature simple informational and/or directional signage: the Family Law front desk features a multilingual sign instructing persons to check-in alongside the room number and name.

*Information Desk:* The Information Desk is staffed during business hours. In 2010 staffing was reduced to the first three months in 2010. Information on the Superior Court and District Court calendars and the King County Council agenda for the day is available at the Desk. The staff person is knowledgeable about the various departments and operations in the courthouse, as well as the functions in other buildings in the county and adjoining city campuses.

*Challenges to non-English Speakers:* Many KCCH visitors are not native English speakers. Some have little to no proficiency in English. Determining where to go and navigating the KCCH can be particularly challenging for these individuals. For example, the Superior Court Interpreter Office offers services in 128 different languages to those who have Superior Court proceedings.

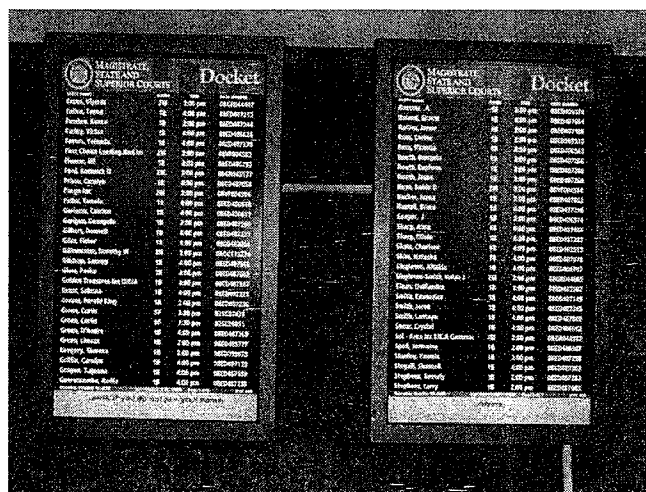
### **Electronic Signage Technologies: Passive Versus Interactive**

Courthouse electronic signage technologies generally consist of two categories: passive “airport” style reader boards displaying court calendars and case information, and interactive touch screens providing directional information to users. These touch screen systems map the pathway and give directions from the location of the touch screen to the user’s specific destination. Advanced courthouse systems link court dockets with the touch screens, allowing users to select their specific case at the touch screen and be provided routing information. Each of these technologies is described later in this section.

*Electronic Signage in Courthouses:* Use of electronic signage technology is increasingly common in courthouses. Regional county courthouses typically feature reader board systems, while Federal Courts have touch screen systems. As county courts are high-volume courts, reader boards are used as they reach a larger volume of visitors more quickly than touch screens. Another factor is cost: touch screen way finding systems, like those in the Federal Courthouses in Seattle and Portland, feature proprietary vendor software systems that are more expensive than reader board technology. As detailed later in this report, among the Washington county court systems that have implemented electronic reader board technologies, many were developed in-house to save costs.

### *Electronic Reader Board Technology*

Electronic reader boards are fixed-location display monitors. In a courthouse setting, they are usually dedicated to the display of case and courtroom calendar information. Matters appear on the monitors listed by case title and party name along with the courtroom assigned. The information shown can be much the same as the current paper copies of Superior and District Court calendars provided in the KCCH. These display monitors are akin to airport monitors displaying flight arrivals and departures with gate information, i.e. “airport-style” reader boards. For example, the picture below is the recently installed Fulton County, Georgia electronic docket display system for their State and Superior Courts, as displayed in the Justice Center Tower.



Reader board system hardware is fairly basic: the monitors, mounting hardware, a CPU (or two) with video card(s) for each of the monitors, and a data connection from the computer(s) to the network. The monitors are typically 32-inch to 50-inch LCD<sup>1</sup> flat screens. Depending on the location, the monitors may need to be placed within an enclosure to prevent damage.

The monitors are programmed and designed to display information using a web-based application. A web application is a software program or package that can be accessed through the internet, using a web browser such as Internet Explorer. The software and database reside on a central server. Because the information displayed is web-based, changing the display motif and updating the information shown can be done remotely from anywhere the server can be reached.

<sup>1</sup> A **liquid crystal display (LCD)** is a thin, flat panel used for electronically displaying information such as text, images, and moving pictures. It is an electronically-modulated optical device made up of any number of pixels filled with liquid crystals and arrayed in front of a light source (backlight) or reflector to produce images in color or monochrome. Among its major features are its lightweight construction, portability, and ability to be produced in much larger screen sizes than those practical for construction of traditional cathode ray tube (CRT) display technology.

Three electronic signage firms provided very preliminary cost information for an electronic reader board system. Basic costs for a 16 monitor "airport-style" court case display system ranged from about \$75,000 to almost \$120,000. These systems include proprietary vendor-developed display software.

Lower cost systems featuring fairly simple information displays have been created in other courthouses using in-house expertise. Vendors provide comprehensive systems, generally offering more detailed functionality and integration between different courts, locations, and display types.

*District Court Reader Board Vendor Contract:* District Court recently approved a contract to provide electronic reader boards at all King County District Court locations. Twenty-one 40-inch display monitors and vendor supplied information display software will be provided. Implementation is in two phases:

- Phase One – the vendor delivers and installs six monitors, along with mounting hardware, application development, and user training.
- Phase Two – the vendor delivers 15 monitors along with mounting hardware. Installation and system integration will be performed by county staff.

Phase One costs \$47,991. Phase One installation is scheduled for three District Court courthouses: Renton, Bellevue, and Issaquah. Each location will receive two monitors. Phase Two costs \$43,505. The schedule for the Phase Two installations has not been determined. District Court will proceed location-by-location until all courthouses have display monitors. Phase Two monitors will advance as quickly as District Court clerks at each location are prepared to implement the system and work orders for installation of the monitors are completed.

District Court's plan provides that the KCCH will be the final location to install their monitors. Flexibility included in District Court's vendor contract allows for either two or three LCD screens to be dedicated to showing District Court's matters in the KCCH. District Court has not decided where their KCCH monitors will be installed.

District Court's total vendor contract of \$91,496 was funded by their allocation from the TCIA. During contract negotiations, District Court obtained a substantial cost reduction through the use of existing county servers rather than vendor-provided servers.

The vendor reader board software will display case information by party name, room number, hearing time, and judge at each District Court. These display options may be changed or customized later as part of the system development and implementation.

*Other Washington County Court Experiences:* Discussions with other regional court administrators, signage vendors, and King County staff suggest that implementing “airport-style” electronic signage showing case information and courtroom assignments drawn from court docket databases could be a fairly simple and cost-effective improvement in KCCH signage. Pierce County, Cowlitz County, and Snohomish County have experience implementing electronic reader board systems.

*Pierce County:* Pierce County’s primary reader board system dates back to 2002. Initially, Pierce County developed system specifications, and then received vendor proposals of over \$122,000 for the projected work. After reducing the scope, Pierce County completed the job in-house at an estimated cost of \$18,000. The project hardware consisted of two PCs, twelve monitors, four network cards, two cable drops, and two cabinets holding six of the monitors each. The reader boards are driven by a web display application that was developed in a little over two weeks. Pierce County’s project had the notable benefit of Linx, Pierce County’s proprietary court docket information system, which provides case data in a uniform format used by the display application.

The Pierce County web application merges docket information from Superior and District Courts and the Tacoma Municipal Court for the courthouse reader board display. The application pulls docket information from Linx and combines it with the Tacoma Municipal Court case docket database from Washington State’s Judicial Information System. The application then displays the case information alphabetically by party name on monitor banks in the 1<sup>st</sup> and 2<sup>nd</sup> floor lobbies of the County-City Building. The information is divided up among the monitors alphabetically. Clerks update docket information throughout the day. Display updates with courtroom changes occur every 15 to 30 minutes.

Pierce County’s arraignment courtroom, which has a high volume of hearings each day, has its own set of monitors adjacent to the courtroom entry. These monitors show only the arraignments scheduled for that day. Arraignments are also shown at the main lobby monitors.

The benefit of Pierce County’s display approach is that it provides immediate information to all persons at the courthouse entry. Parties do not need to know their specific court or type of matter to find out where to go on the monitors. The reader board signage system effectively meets Pierce County’s objective of providing basic information to a large volume of courthouse visitors efficiently.

*Cowlitz County:* Cowlitz County staff is implementing their new reader board displays. When complete, the Cowlitz County system will feature up to five monitors. The system will display the court calendar for each courtroom on a dedicated monitor that chronologically lists the day’s matters. As with Pierce County, the information will update every 15 to 30 minutes. Testing of the displays is complete and monitors are being

activated this month. Staff is now working on the Superior Court display monitors. Project costs are estimated to be over \$12,500.

*Snohomish County:* Snohomish County estimates the cost of their electronic reader board project at roughly \$125,000 over the last five years. Snohomish County's costs include development costs for placing electronic reader boards in multiple buildings across the county campus, including two courthouses and their Administration Building. A total of eight courthouse reader boards are dedicated to court calendar information. The monitors are located at particular Superior Court and District Court departments. The cases displayed are first grouped according to the particular court, and then into trials and non-trial hearings. Snohomish County's system provides flexibility, allowing for a different alignment and display of court cases and calendars.

*Potential Reader Board Placement in the KCCH:* Potential locations for reader board placement are in large part determined by the type of information displayed. Generally, court display systems reference case information by party name or case title. Monitors are dedicated to specific ranges of the alphabet or specific courts and departments. The greater the number of courtrooms and court calendars, the more complex the organization. Understandably, including high-volume calendars and additional courts with separate docketing systems adds another complexity layer.

General approaches to the display of information include:

- ✓ All Superior Court and District Court Daily Calendars on the same monitor(s), either reported serially or merged together and reported alphabetically by party name. These types of monitors should be placed to be readily accessible to visitors entering the KCCH. This approach is similar to the Pierce County model.
- ✓ Case and courtroom information reported on separate monitors specifically designated for Superior Court or District Court. These types of monitors could be placed on floors specific to the court type or be placed accessible to visitors entering the KCCH. This approach is similar to the Snohomish County and Cowlitz County models and the current District Court plan.
- ✓ Monitors could also be used to aid in way finding in the KCCH by providing the location of other building tenants, i.e. the County Council, the Prosecuting Attorney's Office; the Department of Judicial Administration, the Law Library, and Superior Court's Family Law Information Center. These monitors could be separated from the courts' system(s), or could be integrated into one system.

Staff reviewed potential locations on the 1<sup>st</sup> and 2<sup>nd</sup> floors of the KCCH for reader board installation. The 1<sup>st</sup> floor presents particular challenges: the artwork throughout the lobby and along the hallway walls eliminates most surface areas from consideration. The 1<sup>st</sup> floor lobby is also a designated feature of significance in the KCCH's landmark



designation. Installation of reader board monitors could potentially require a Certificate of Appropriateness (COA), especially in the main elevator lobby.

Additionally, reader boards would need to be installed in an area that would not increase the already difficult and congested ingress and egress to the building. This is a particular problem during "rush hours" at the 3<sup>rd</sup> Avenue Entrance on the 1<sup>st</sup> floor. Safety and security is paramount, and the screening area must be kept free-flowing to the greatest extent possible given the restrictions in an historic building with century old architecture.

FMD, in response to an initiative in progress under the auspices of the Security Oversight Panel, is currently installing two flat screens at the 3<sup>rd</sup> Avenue entrance to the KCCH. Placement is as near to the entrance doors as possible. These screens will be dedicated solely to providing information on how to go through the screening process. Combining way finding information on these screens would likely cause greater congestion and slowing of screening lines, which already cause delays during peak hours. For this reason, informational monitors will have to be placed in the KCCH lobby, past the screening stations.

Staff identified 1<sup>st</sup> floor locations with enough potential space for a reader board bank of eight 40-inch screens. While the area above the elevators might work, this area could conflict with the historic preservation of the KCCH, and is not ideal. Similarly, the area currently used by the King County Sheriff and Metro for public notices and transit information would not be readily obvious to new KCCH visitors. The prime location is the area currently used by the Information Desk. The existing wall could be moved forward, with the screens then inset into the new wall.

The 2<sup>nd</sup> floor features more potential options for a reader board display though access would be limited with a 4<sup>th</sup> Avenue Entrance closure. As with the 1<sup>st</sup> floor, the 2<sup>nd</sup> floor lobby is a designated feature of significance and could require a COA. Reader boards could be installed along the entry hallway, above the elevators, or in a display mounted in the center of the lobby.

#### Electronic Reader Board Issues

*Number of Monitors Needed and Their Placement:* "Airport"-style case calendar display systems refresh regularly. The monitor displays at most courthouses continually roll over, showing additional names and locations every few moments. The timing cannot be too fast, or parties will not be able to find their names in time. Too slow, and people lose patience. Vendors suggest that monitors should roll over no faster than about every seven to ten seconds, and it should not take persons more than a minute to find their name and courtroom assignment.

With these guidelines, the number of KCCH courtrooms, and the high volume of cases, a vendors estimated that a minimum of six monitors would be needed at each reader board

bank. Depending upon the case information included, the optimal number is likely around eight. Vendor representatives provided that a rule of thumb is about one 40-inch monitor per 125 names displayed. This allows for roughly 21 lines of information (i.e. parties, case names, etc.) rolling over every 10 seconds – thereby showing the party’s name or case title once each minute for 10 seconds. As DJA estimates the average daily number of parties in Superior Court matters between 775 and 810, the need would be approximately 6 monitors using the vendor formula. Including District Court matters increases the number of monitors to eight. Adding more lines, reducing the rollover time, or extending the overall wait period to longer than a minute allows for more case information on fewer reader boards.

*Use of Multilingual Electronic Reader Board Signage:* Options for multilingual signage intrinsically depend on the type of information displayed. Electronic case calendar display boards could periodically change column headers among languages while displaying the same case information. Vendor supplied software has capabilities for multiple languages and translations.

*Electronic Reader Board System Costs:* The costs of electronic signage vary widely depending upon the specific requirements and project assumptions. To refine these costs, further detail on specific project requirements is needed. Electronic reader boards showing basic case information through simple web applications were significantly less expensive than developing or purchasing integrated multi-departmental case information display systems.

Assuming a total of eight reader boards installed at each entry, total hardware costs would likely range from \$44,000 to \$112,000. The following chart summarizes initial estimates for the potential hardware costs per entrance. Note two monitors could be provided by District Court through their existing vendor contract.

Number of Monitors				
Floor	Superior and District Courts	Council and Other	Total Monitors	Monitor Capital Cost
1 <sup>st</sup> or 2 <sup>nd</sup>	6	2	8	\$22,000 – \$56,000

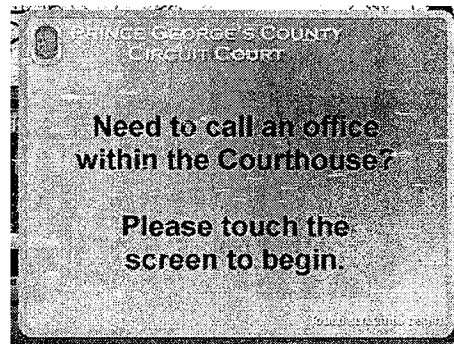
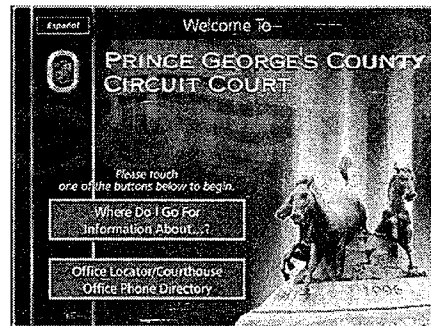
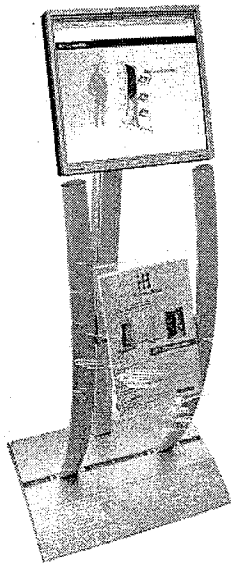
As noted above, District Court already has a total of 21 40-inch monitors included in its existing vendor contract. As the project progresses, these monitors will be allocated among District Court sites; it is assumed two or three will be installed in the KCCH.

Upfront costs for installation, programming and training are determined by the type of system installed. Initial vendor estimates for system programming and training ranged from roughly \$6,500 to over \$31,000; some vendors itemize costs for system development, while others include development costs on a per-monitor basis. Given the historic nature of the courthouse, installation costs could be above average. Data and electrical cabling alone could cost from \$5,000 to \$10,000 at each monitor array location.

Once established, it is assumed that the operating costs would be absorbed by the courts, which would be responsible for their case calendar information; the County Council, who would be responsible for the council information reported; and by FMD, who would be responsible for tenant directory information.

### *Touch Screen Technology*

A more advanced technology uses touch screen kiosks with directed way finding. In a courthouse setting, kiosks can provide interactive information to users seeking specific courtrooms, the location and time of court hearings, office locations, and phone numbers. Many touch screen systems feature directional way finding from the kiosk to the user's destination. Some systems include printers to provide written copies of information and maps. Touch screens can also be programmed to assist in multiple languages. The examples below show a typical touch screen kiosk and actual touch screens used by Maryland's Prince George's County Circuit Court.



While touch screens are utilized in some regional Federal Courthouses, they are more expensive, require greater staff and support resources, and serve lower volumes of people than electronic reader boards. Generally, touch screen systems require a vendor contract, as the routing systems are proprietary and require programming of detailed building information for way finding.

Vendor-provided touch screen hardware includes the touch screen LCD monitor and a dedicated CPU with the vendor software. Depending on the touch screen location, vendors also provide the complete touch screen kiosk: the touch screen housing, ventilation, and locked access to the monitor and CPU. Power and data to the touch screen location must be provided by King County.

A few vendors were asked to provide very preliminary cost information for a touch screen way finding system featuring two touch screens using English text and three additional languages – suggested as one with a Roman alphabet and two other alphabets. Based on preliminary vendor information, “start up” hardware and primary software costs for touch screen way finding kiosks were estimated from approximately \$20,000 to over \$30,000 for the first unit. Additional units were around \$14,000. Prices can be higher depending on the system needs. Including multilingual options can increase these costs dramatically, on the order of \$7,000 or more per additional language.

There is significant variability on how touch screen features are priced among providers: 1) between the functions packaged with the core software, 2) included as add-ons to the software, and 3) the costs for system installation. Specific kiosk options, way finding software, and language features are addressed differently by each vendor. Based on the vendor information provided, the direct vendor cost for installing a touch screen at each of the 3<sup>rd</sup> and 4<sup>th</sup> Avenue KCCH entrances would start in the range of \$38,000. This price does not include the costs for data and power to the kiosk/touch screen locations, installation, taxes, or specialized functions beyond basic way finding and building information. Also this figure is for the touch screen kiosk and software alone, and does not include related county force costs, contingencies, taxes, or installation costs.

The touch screen cost above also does not include ongoing vendor support costs. These costs can range from roughly \$1,200 to over \$4,500 annually, depending on the support services provided. Because actual costs depend so much upon the particular system specifications, a procurement process specifying the particular languages and required functions is necessary to provide a reliable quote.

*Potential Touch Screen Placement in the KCCH:* As touch screens provide specialized, detailed information to users, they should be located in easily accessible areas, but not places that are subject to crowding or high traffic volumes. In public buildings, vendors recommend installation near entrances, by electronic reader boards and information desks so that users can easily locate them. LCD screens allow for slim profile kiosks that can be placed in hallways near lobby areas, but outside the main pedestrian pathway. Kiosks can also be ADA compliant, depending on the location and functions offered.

In the KCCH, touch screens could be placed in the 1<sup>st</sup> and 2<sup>nd</sup> floor lobby areas fairly easily: across or adjacent to the Information Desk on the 1<sup>st</sup> floor, and along the wall of the elevator lobby on the 2<sup>nd</sup> floor. The artwork on the 1<sup>st</sup> floor elevator lobby may preclude placing a kiosk in that area.

*Types of Information Provided by Touch Screens and Courthouse Uses:* The interactive functionality of touch screen systems allows for a large range of options:

- Facility and “neighborhood” maps and information
- Directory information for both individuals and departments/services
- Customizable start page announcements
- Case calendar and other hearings information and location
- Way finding, with graphical and written directions to the location selected
- Direct dial phones or speakerphones individuals or departments
- Multilingual display and direction capabilities

As noted above, touch screen systems are vendor-provided. The underlying software is proprietary. Vendors then tailor their software system to the specific client, depending on the particular client needs and specifications. Adapting the software to the client requirements consists of five general aspects:

- The look and feel of the touch screen graphical interface: pictures, fonts, etc.
- Inputting directory and facility information: department locations and floor maps
- Integrating the software with docket and court calendaring information systems, if necessary for touch screen information and way finding options
- Determining processes and procedures for editing and updating changes in directory information and building layouts, e.g. user training, remote support, etc.
- Developing and including multilingual information and way finding options

In a courthouse, touch screens can usefully provide more detailed information than electronic reader boards or general signage because of their interactivity. Users confused regarding where to go can obtain directions unavailable from passive signage. Way finding maps can visually diagram the path to a particular court or office.

Other general information helpful to courthouse visitors can also be featured: transit options, traffic, and weather conditions. Touch screens are attractive in assisting multilingual users, because they can be programmed to assist persons in their native language. They also can include functions helpful for ADA-related access concerns.

### Touch Screen Issues

*Type and Amount of Information for the Touch Screen Display:* Although the advantage of touch screens is in their ability to provide individually tailored information, the level of interaction depends upon the level of detail in the system programming. For many users, providing basic answers to commonly asked questions provides sufficient information for the next step, e.g. selecting “Where can I get information on filing for divorce?”, followed by a way finding map to the Family Law Information Center. Touch screens can only be

as helpful as their programming. Providing answers to increasingly complex questions and needs, requires extensive programming and system detail – and related vendor and internal staff costs.

*Number of Touch Screens and Courthouse Placement:* A significant operational challenge for courthouse touch screens is volume of use. Because a touch screen can only serve one person at a time, touch screens are ineffective in crowded areas with large volumes of people. If other information sources are not present, people will queue for the touch screen, causing delays. For this reason, vendor representatives did not recommend the use of touch screens alone in a high-volume courthouse setting. Touch screens are better suited as a secondary system in support of other information sources and signage.

*Touch Screen Uses for Multilingual Courthouse Visitors:* An appeal of touch screens is in their potential to provide information in multiple languages to assist non-English speakers. Multilingual programming of touch screens is fairly common. However, none of the vendors contacted provided an “off the shelf” multilingual touch screen way finding system. Other than in English and Spanish, vendors apparently do not maintain staff to provide specific instructions and directions in various languages. Instead, language information is added during system development, as negotiated in the vendor contract. These software add-ons can be expensive, depending upon the number of languages and whether the information is to be provided by the vendor or provided to the vendor by King County translators and staff.

Another aspect of multilingual touch screen programming is the application. Each additional language included in a touch screen software system adds greater complexity to the system, but reaches a narrower segment of the population. No touch screen can adequately serve any more than a fraction of the 128 languages serviced by the Superior Court Interpreter’s Office.

*Proprietary Vendor Touch Screen System Costs:* As touch screen systems are proprietary, vendor contracts typically include ongoing system support costs. This support generally includes updating basic information (building name directories, judge courtroom assignments, etc.), but not changing detailed way finding information, such as altered floor maps from remodels and office moves. Clients either reprogram the information themselves, or contract with the vendor for the work. Reprogramming way finding information in multiple languages would present additional costs.

### **Summary Comparison of Electronic Reader Board and Touch Screen Technologies**

Judging the success of any electronic signage system depends upon the system goals. Comparing the positives and negatives of each technology with courthouse signage objectives as shown in the table below, illustrates the ways both technologies could improve courthouse signage.

King County Courthouse Electronic Signage Proviso Response

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Date: January 29, 2010

<b>Signage Objective:</b>	<b>Reader Board Pros/Cons:</b>	<b>Touch Screen Pros/Cons:</b>
<p>Promote welcoming and easy access to courthouse functions and departments</p>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• reader boards are easily located by general public</li> <li>• easily accommodates system changes/upgrades</li> <li>• can provide a single stop for case information from multiple sources</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• interactively provides information tailored to user needs</li> <li>• can accommodate system changes/upgrades</li> <li>• can provide a single stop for building and campus information</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• can be complex to develop and implement</li> <li>• can be hard to locate</li> </ul>
<p>Seamlessly route most visitors to major building destinations without assistance</p>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• reaches broad audience</li> <li>• may reduce court clerk workload through reduced calendar printing/posting</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• can only display limited directions / way finding</li> <li>• does not eliminate need for additional information resources</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• can provide detailed information, especially directions</li> <li>• may reduce resource workload (info. desk, call center, etc.)</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• reaches narrow audience</li> <li>• ineffective for high viewer and/or user volumes</li> <li>• may not eliminate additional informational resource need</li> </ul>
<p>Easily direct all courthouse visitors to locations that have additional information and assistance</p>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• allows for some multilingual information and direction</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• can only display simple and/or limited information</li> <li>• limited multilingual options</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• can provide detailed multilingual information and way finding</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• limited operational flexibility (esp. w/ multilingual options)</li> <li>• limited to a few languages</li> </ul>
<p>Promote smooth circulation of pedestrian traffic, especially near building entrances, and prevent elevator queuing and lobby crowding</p>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• can display real-time information (trials, hearings, locations, etc.)</li> <li>• allows immediate update of information/status changes</li> <li>• allows review of information from many angles/spaces</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• can display real-time information (trials, hearings, locations, etc.)</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• only allows one user at a time</li> </ul>

Signage Objective:	Reader Board Pros/Cons:	Touch Screen Pros/Cons:
Comprehensive, legible, aesthetically consistent, and appealing	<p>Pros:</p> <ul style="list-style-type: none"> <li>• common technology</li> <li>• relatively low cost</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• requires some maintenance and operational resources</li> <li>• installation challenges presented in a historical courthouse</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• conventional technology</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• requires ongoing maintenance and operational resources</li> <li>• high cost</li> </ul>
Assist non-English speakers in determining their destination and the easiest route there	<p>Pros:</p> <ul style="list-style-type: none"> <li>• allows some multilingual information and direction</li> <li>• non-English users know English spelling of name, room numerals</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• very limited multilingual information/way finding options</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• can provide detailed information and routes in multiple languages: locations, directions, maps</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• limited to select language set</li> <li>• advanced options limit language flexibility</li> <li>• can create false sense of sufficient non-English assistance</li> </ul>
Implementing costs and operating costs	<p>Pros:</p> <ul style="list-style-type: none"> <li>• can be inexpensive, especially when developed in-house</li> <li>• lower implementing, operating costs than touch screens</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• can include ongoing staff cost for daily information updates</li> <li>• may have lower impact on Information Desk needs, costs</li> </ul>	<p>Pros:</p> <ul style="list-style-type: none"> <li>• implementation costs scalable, especially when part of vendor contract w/ reader boards</li> <li>• likely less expensive over the long run than Information Desk FTE costs</li> </ul> <p>Cons:</p> <ul style="list-style-type: none"> <li>• expensive to implement, especially multilingual options</li> <li>• ongoing vendor operating/support costs</li> </ul>

County court staff in counties with electronic reader board systems reported high levels of satisfaction with their systems. They conveyed that the reader boards made for less clerk work in preparing the court docket (to varying degrees depending on the system), and provided sufficient way finding information to the vast majority of court visitors.

Electronic Read Board Systems using multiple languages is relatively straightforward to design, implement and maintain. There are limitations. As reader boards are not interactive, directions to desired locations and general information regarding other county functions located in the KCCH are not provided. Courthouse signage systems providing clear visual elements that help visitors locate their destinations require multiple tools; information signage providing functions and services in the facility; directional signage



providing way finding and navigation and location labeling. Reader boards satisfy one of these signage needs – location of court proceedings and other information as displayed.

Following the analysis of reader board and touch screen applicability to the KCCH, the “next step” alternatives are as follows:

1. Discontinue staffing the Information Desk on April 1, 2010. Consistent with the 2010 budget, discontinue staffing of the 1<sup>st</sup> floor Informational Desk with reliance on the available signage and court calendar placement. No action by the County Council would be required to implement this alternative.
2. Staff the Information Desk through 2010 with transitional duty staff. Initiate discussions with the affected labor bargaining unit to reach agreement providing on an interim basis at least through 2010 for transitional duty staff possibly from other bargaining units to staff the Information Desk. It is an FMD staff understanding that there are sufficient employees within the county in transitional duty state to enable the Information Desk to be staffed through 2010. As the existing appropriation covering the transitional duty staff would be used, additional appropriation authority would not be required. No action by the County Council would be required to implement this alternative. Implementation would require 1) reaching agreement with the affected bargaining unit, 2) selecting the transitional duty staff, and 3) providing the appropriate training. It is estimated that implementation would take up to 2 months should agreement be reached with the bargaining unit.
3. Installation of up to 8 flat screen monitors at the KCCH 3<sup>rd</sup> Avenue entrance. Working with Superior Court, District Court, Council and FMD staff, acquire and install up to 8 flat screen monitors for installation for an estimated cost up to \$56,000 with operating costs assumed to be absorbed by these entities. Council action will be required to implement this alternative as a funding source would need to be identified and additional appropriation approved. Updated cost estimates and adopted additional appropriation could take up to 3 months. An additional 3 months could be required for purchase, programming and installation. This alternative could be implemented in conjunction with either alternative #1 or alternative #2. In other words, the reader boards can be installed whether or not the Information Desk is staffed.

Given the importance of a coordinated signage and way finding program for the KCCH, the alternative (s) selected must be coordinated with efforts already underway by District Court and Superior Court.