Review of the Feasibility of Establishing a Video Arraignment System for the Garfield Heights Municipal Court

TECHNICAL ASSISTANCE REPORT

Bureau of Justice Assistance
CRIMINAL COURTS TECHNICAL ASSISTANCE PROJECT
A Joint Program of the Bureau of Justice Assistance, U.S. Department of Justice, and American University School of Public Affairs
CCTAP Technical Assistance Report No. 98-18

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Date of Site Visit:
October 27-18, 1998

Consultants:
CCTAP Consultant:
Lawrence Siegel

The National Center for State Courts:
Willett Willis
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| Requesting Official:      | Cynthia Baker  
                           | Clerk of Courts |
| Dates of On-Site Study:   | October 27-28, 1998 |
| Consultants Assigned:     | Lawrence Siegel  
                           | Willett Willis, NCSC |
| CCTAP Staff Coordinator:  | Joseph Trotter, Jr.  
                           | Director, CCTAP Project |

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I. REPORT BACKGROUND

On July 29, 1998, the Garfield Heights Municipal Court Administrator, Ms. Cynthia Baker, requested the Bureau of Justice Assistance Criminal Courts Technical Assistance Project (CCTAP) at American University to provide outside expertise for planning a video arraignment system. The Garfield Heights Municipal Court is a multi-jurisdictional court, which serves eight cities and two additional police agencies. Specifically, in her July letter, Ms. Baker stated that some of these agencies are at a minimum of twenty miles away from the court facility and a tremendous amount of time is spent transporting defendants between the city jails and the court. In addition, the court and general government officials are concerned with the security risks associated with bringing prisoners to the court, accompanied by armed police officers, through public access hallways.

In a joint effort by the CCTAP project and by the National Center for State Courts (NCSC) on-site technical assistance services were provided to the court on October 27 - 28, 1998. The consultants selected to undertake this assignment were: Mr. Lawrence Siegel, a senior CCTAP consultant and court security and technology specialist, and Mr. Willett Willis of the National Center for State Courts, who is a court management consultant and expert in the field of technology projects for individual agency offices and entire county justice systems. In preparation for their October site visit, conference calls with CCTAP, NCSC, and the Garfield Heights Municipal Court were conducted in order to further define assignment objectives. Based upon the results of these communications, it was mutually decided that the focus of the technical assistance services would include:

1. Providing the court with an initial assessment of the desirability and feasibility of implementing a video arraignment system for the Municipal Court, given the technology and facility options reasonably available to the court and the receptivity of the communities that would be involved; and
2. Advising the court on the steps that must be taken by local officials to proceed from the initial assessment to the ultimate implementation of a remote arraignment system, if such a scheme is feasible.

During their on-site visit the consultants interviewed mayors, police chiefs, judges, and prosecutors of various cities within the courts jurisdiction. In addition, they visited the police departments of the surrounding communities which included Maple Heights, Independence, and Brooksville. (See Appendix A to view the on-site agenda.)

II. STRATEGIC PLAN FOR VIDEO ARRAIGNMENTS IN THE GARFIELD HEIGHTS MUNICIPAL COURT

The time is opportune for moving to video arraignment: local governments within the jurisdiction are aware of its benefits, and competent technology is available. This combination of circumstances bodes well for the success of a carefully-tailored process to 1) design the operations, 2) select the equipment, and 3) install the system. These notes elaborate on the strategic plan for carrying out this three-stage process.

III. BACKGROUND TO THE VIDEO ARRAIGNMENT CONCEPT

Video arraignment is a shorthand reference to a method of conducting the arraignment proceedings in which newly-arrested defendants are taken under the jurisdiction of the Municipal Court and various procedural steps are carried out. The technology is more widely known as video conferencing, and is becoming almost commonplace. When arraignments are conducted using video techniques instead of personal appearances by defendants in a courtroom, defendants generally remain in confinement within a holding facility (in this context located in a police station) while the proceedings take place in the municipal courtroom. Video equipment installed in both locations transmits and instantaneously presents in the courtroom pictures and sound of the defendant, and in the holding facility pictures and sound from the courtroom. The purposes of this application are several:
• limiting the security risks entailed in transporting defendants in custody between the holding facilities and the courtroom,
• reducing the cumulative police workload of providing transportation and custody,
• reducing the unseemliness of parading defendants in custody before the public in the courtroom and courthouse,
• providing daily times-certain for holding arraignments so as to simplify the scheduling of police time and court time and guarantee the timely appearance of defendants before the court.

In the process, some saving of comprehensive police department costs is anticipated which will offset some of the costs of installing and operating the video arraignment system.

Arraignments through video or personal appearance should satisfy a number of needs, some technological, some operational, and some juridical, in order to meet constitutional and judicial system muster. Video technology can bring newer and more effective operations by eliminating the delays and mutual inconveniences inherent in most personal appearances, but the technology should not be allowed to vitiate the necessary elements of proper judicial process.

IV. STAGE ONE: DESIGN THE OPERATIONS

A. Technical Aspects

To set the stage for the strategy of developing and installing the system, we first review its technical aspects. The system being considered will contain a central node at the Garfield Heights Municipal Court, which will communicate with seven police facilities in other municipalities. Conceivably, this network might grow, for example if local mayors opt to communicate with their police departments or if local police departments decide to communicate with each other.

Each node will contain one or more units consisting of a video camera, video display, and voice communications equipment; and video/audio communications links. A useful range of equipment choices and major
communications choices are available, offering a variety of cost and performance options.

Having this range of choices is beneficial, but there may well be different capabilities and preferences among the participants which could lead to different choices by different users; potentially a recipe for failure. A system-wide level of performance should be chosen that will provide adequate system operation. Because it is connected to each of the other nodes, the court node must offer at least this performance level both in its equipment and its communications capabilities, but it is conceivable that some of the municipalities could be connected by higher speed communications links or have higher performance equipment. If so, those nodes must be capable of operating at the base level so that they can communicate with the court node.

To make these choices, a steering committee should be established with representation from all the municipalities and the court, and chaired by the chief clerk of the court. In addition to the court’s members, membership should include representatives of each police department, mayor’s office, prosecutor’s office, and the private bar.

B. Operational Aspects

In simple terms, a video arraignment should provide all the features and safeguards necessary in a personal appearance arraignment.

All rights of counsel should apply, including opportunities for private conferences between defense counsel and clients at all required stages of the proceedings. The American Bar Association is in the process of taking a position on video proceedings in a proposed standard 6-1.8 regarding the special functions of a trial judge in criminal cases. (See Appendix B). Among other factors, it argues that the “venue transmitted or recorded should reflect the decorum of the courtroom”. The proposed ABA standard may have relevance to the operations developed for the Garfield Heights Municipal Court. Monitors of adequate size should be provided in the courtroom for the judge, prosecuting and defense attorneys, and spectators and in the lockup studio for defendants. Audio quality at both locations (courtroom
and lockup) should be clearly understandable, of adequate loudness, and free of distortion. The video transmitted from the courtroom should contain sufficient information to identify to defendants the courtroom, the court participants, and the nature of the proceedings.

It appears desirable to schedule all arraignments at times certain so that lockups and court schedules can be regular and reliable. The court should coordinate the docket prior to each scheduled arraignment time, and it may be helpful to follow the same sequence in calling lockups for all appearances.

V. STAGE TWO: SELECT THE EQUIPMENT

A. Communications Links

Several options should be explored by the court and communities when selecting the communications connection for the video arraignment system. The first step is determining the required video/audio quality. Video quality is tightly linked to the power and sophistication of the hardware; several options are discussed later. Quality also increases as system bandwidth increases, improving from little more than stop action to near television quality. Among the means of connecting the court to the various police jails are phone lines (ISDN, DSL, or other), microwave or laser transmission, coaxial cable, or fiber optic cable.

1. Phone Lines (ISDN or DSL)

While rudimentary video conferencing can be conducted over normal telephone lines, quality is poor because of their limited bandwidth, but higher bandwidth telephone services such as ISDN or DSL (see below), offer workable video conferencing. (Bandwidth is the amount of data that can be sent through a given communications circuit per second). This is a field of considerable interest at the moment, with new capabilities for video conferencing being introduced every few months by telephone and other communications companies, although those offered by some companies may not be available from every company in every location.

ISDN refers to the Integrated Services Digital Network, digital telecommunications lines that can transmit both voice and digital network services and are much faster than the highest-speed modem. ISDN lines are
offered by many telephone companies in bandwidths ranging from 64 Kbps [kilobits per second], 1 channel, to 128 Kbps, 2 channels, and upward from there as lines are added.

Digital Subscriber Line or Digital Subscriber Loop (DSL) is a way of sending digital data over regular copper telephone lines. The first technology based on DSL was ISDN, although ISDN is not often recognized as such nowadays. Since then a large number of other protocols have been developed, collectively referred to as xDSL, including HDSL, SDSL, ADSL, and VDSL.

Asymmetric Digital Subscriber Line, (ADSL) is beginning to make inroads in this fast-growing market, especially for Internet connections. Bandwidths of up to 1.5 Mbps (megabits per second), which is adequate for video conferencing, are available at monthly costs of approximately $60, and start-up costs of about $300 for Internet hookups.

At the low cost end the video arraignment system will require a connection providing a minimum of 128 Kbps bandwidth, but this is not likely to be successful in conveying adequate images of the court and the defendant. Preferably 384 Kbps or higher bandwidths are necessary, which can be provided by multiple ISDN lines, an ADSL connection, or a T1 connection.

The T1 connection is a 1.544 Mbps (megabits per second) point-to-point dedicated line provided by the telephone companies. The monthly cost is typically based on distance. T1 lines are widely used for private networks and high-speed links to and from Internet service providers.

2. Microwave or Laser

The major drawback to using microwave or laser to connect the court and the police jails is that it requires a clear line-of-sight between the two locations. This technology can provide more than sufficient bandwidth, 10 Mbps, for a video arraignment system, but the determinant factor in
establishing a line of sight is the height above ground of the two antennas. The antennas at the various police departments may be adequate platforms for line-of-sight between them and the court, but this would have to be established by surveys before such a system could be considered. A minor drawback is that some weather conditions can cause difficulties which could limit the distance between sites for successful communications. As a rule of thumb, line of sight communications can be established according to the height of antennas above ground level and the distance between communicating antennas using the formula: \( d \text{ miles} = \sqrt{\frac{h}{60}} \) (e.g., if each antenna is 30 feet high, the radio line of sight is about 7.7 miles).

3. 

Coaxial Cable

In some instances it is possible to use the local cable company's existing coaxial cable to carry video conferencing signals using a dedicated "public access" channel. Using the cable company's cable this way provides excellent quality. However, there could be significant costs in equipment and for switching services.

4. Fiber Optic Cable

During our site visit we were informed that the local cable companies are installing a fiber optic cable ring as part of their franchise agreement. The fiber optic cable will run to the property edge of local government facilities at no charge. The fiber link must be requested and the local government is responsible for connecting their buildings' internal networks to the fiber ring. If such an arrangement is available, the communication costs could be very reasonable for a very high bandwidth. Fiber optic cable provides very high bandwidth data transmission, 100 Mbps. With a fiber connection between the court and the various police jails, virtually any video arraignment system could be implemented.

B. Hardware/Software

There is a great range of equipment available for video conferencing, ranging upward in cost and capability from desktop computers to closed circuit television equipment. On the basic end of the spectrum, desktop
computers can be used. Although desktop computer systems operating alone are limited in the number of devices that can participate, usually only two, the most advanced equipment can link multiple devices and provide multiple images on a single screen; some systems automatically enlarge the image of the party speaking. With such a range of options the court will have to identify its needs and select the equipment to meet them.

1. **Performance Requirements for Frame Rates**

   The following requirements are recommended, however the court's unique situation may make some excessive and others inadequate.

   The video arraignment system should provide a frame rate of 30 fps (frames per second) to give the best video quality. The higher the frame rate the smoother the motion appears; 30 fps approximates real time, and is comparable to broadcast television standards. This performance measure is influenced by many elements in the system, such as cameras, transmission devices, transmission system bandwidths, and reception/display devices. The image should fill at least half, but preferably the full screen. The system should provide full duplex audio to prevent the voice cutout often experienced in conference calls.

2. **Desktop Computer**

   Desktop computers are the least expensive option available to courts. While desktop computer video conferencing is inexpensive, the quality currently is marginal, usually limited to the very jerky images produced at 15-20 fps. Many desktop computer video conferencing systems are limited by cameras which are based on the low bandwidth needs of most home computer users. Better cameras and more powerful processors can yield higher frame rates when coupled with higher communications bandwidths. A significant downside to current desktop computer video conferencing is that it is limited to only two participating locations or devices, but this liability can be overcome by placing the camera to capture multiple parties at each location.
3. **Dedicated Video System**

Dedicated video systems can be more expensive than desktop computer video conferencing but provide much better video quality. Dedicated video systems range from single-point to single-point connections to multiple-point connections. The video quality on most dedicated video systems rivals broadcast television.

Some advanced video systems require a control unit to select which cameras to use. Known as a video multiplexer, it combines multiple video inputs into a single video output. The video multiplexer can provide a composite video output consisting of multiple video inputs for split-screen ability, including automatic screen switch capability, and character generator, date and time. Multiple video inputs can be used allowing the court great flexibility during different court proceedings.

The judge's or clerk's desk, or both, should provide a control console custom fitted for the control of selected audio and video portions of the courtroom system. Specifications of the control features (audio muting, video muting) are listed under the Audio System section of these specifications. The clerk's panel can provide for control of the recording equipment for the purpose of courtroom logging and documenting.

4. **Recommended Courtroom Configuration**

The courtroom should have the following equipment: monitor, microphone, and camera for each participant (judge, defense attorney, prosecuting attorney and court clerk). The system should provide each courtroom with the capability of connecting to the various sites. If the court desires video-recording capabilities, videocassette recorder (VCR) requirements must be added into the configuration at each courtroom location.

5. **Video Cameras:**

Cameras should produce full color and be aimed at the appropriate speaker to provide a head and shoulders view of the speaker. Cameras
should be mounted at each speaker's location or in a single, probably ceiling mount, with a wide-angle of view.

6. Video Equipment:

If VCRs will be used to record the court proceedings the system should allow VCRs to access the video. These units should be wired to allow one VCR to act as the primary recording unit, a second to act as a redundant (backup) recording unit, and a third as a playback unit.

Individual video monitors should be provided for viewing by the judge, defense attorney, prosecuting attorney, and public in each courtroom location. The size of these monitors should be a minimum of 17 inches. The monitor for public viewing should be larger than 17 inches to allow all persons in the courtroom to see it. The monitors can be located on existing furniture, on a ceiling or wall, or placed on a movable cart.

7. Audio System

The court should consider the feasibility of integrating the existing courtroom sound system with any video arraignment system. Muting capabilities should be available for the various microphones. Additionally, if the defense attorney is to be present in the courtroom there will need to be a private audio link (such as a private telephone) for attorney/client communications.

8. Recommended Jail Configuration

The jail studio should have the following equipment: monitor, camera and microphone in a secure encasement. This equipment should meet the same minimums as the courtroom equipment. The jail systems must be completely compatible with the courtroom system. An additional consideration for the jail studio is the acoustics of the room used. Generally jail walls are solid and acoustically reflective which creates problematic echoes for a video arraignment system. This situation can be remedied using sound absorbing wall hangings in the jail studio, carefully testing to determine the best location of subject and microphone, and using directional or clip-on microphones.
9. Other

A consideration for the court may be to rent or lease equipment rather than buy it. The advantages to renting or leasing are smaller initial capital outlays and the replacement or upgrading of obsolete equipment on a regular basis. As an example see http://www.nuvisiotech.com.

VI. STAGE THREE: INSTALL THE SYSTEM

Although several different strategies could be followed for purchasing and installing the system, it might be the wisest course to install one court-lockup link first and conduct operational tests before completing the specification, purchase, and installation of the complete system at all nodes. Use this period to define and validate operational procedures at both nodes (the court and the lockup), working out the details of calling cases, moving prisoners to and from the lockup studio, and testing the placement and operation of equipment. When confidence in both the technical and operational approach has been reached, the remainder of the system (and any changes in the initial installation) can be put in place.

The steering committee should remain active during the installation so that the information disseminates to all municipality and court participants and should continue to serve thereafter as an evaluative body to keep the system operating optimally.
APPENDICIES

Appendix A: On-Site Agenda

Appendix B: Standard 6-1.8. Proceedings in and outside the courtroom
Appendix A

GARFIELD HEIGHTS MUNICIPAL COURT
5555 Turney Road
Garfield Heights, Ohio 44125

Cynthia A. Baker
Clerk of Courts

October 19, 1998

Joseph A. Trotter, Jr.
Criminal Courts Technical Assistance Project
200 Independence Avenue,
Washington, DC 20016-8159

Dear Mr. Trotter:

I am looking forward to meeting with Mr. Willis and Mr. Siegel on October 27th and 28th. The agenda that I propose is as follows:

October 27, 1998
8:00 a.m.  Meet at the Holiday Inn
9:00 a.m.  Observe arraignments at the Garfield Heights Municipal Court
10:30 a.m.  Visit Maple Heights Police Dept.
noon  Lunch
1:15 p.m.  Visit Independence Police Dept.
2:30 p.m.  Visit Brecksville Police Dept.
4:00 p.m.  Return to the Holiday Inn

October 28, 1998
9:00 a.m. -  Meeting with Mayors, Police Chiefs, and Prosecutors of various cities of the courts jurisdiction
11:30 a.m.  Meet with Judge Straka and Judge
11:30 a.m. -  Time to discuss any questions that need to be addressed
12:30 p.m.

My home phone number is (440) 717-0717. Please have the consultants call me when they arrive at their hotel so that we can touch base and set up where to meet on Tuesday morning.

Please call me if I can be of any further assistance.

Sincerely,

Cynthia A. Baker
Clerk of Courts

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October 2, 1998

Mayor Santo I. Incorvaia
City of Maple Heights
5353 Lee Road
Maple Heights, Ohio 44137

Dear Mayor Incorvaia:

Since my March letter, we’ve been busy researching the possibilities of making video arraignments a reality at the Garfield Heights Municipal Court. The reason for the delay is that we have applied for a grant through American University in Washington, DC and after months of discussions, they are ready to move forward. We decided to apply for a grant to reduce the cost of this proposed project, in order that an enormous burden not be placed on Garfield Heights and the other communities that the Court serves.

Two consultants from the Criminal Courts Technical Assistance Project will be in our area on October 27th and 28th, to visit some of the police departments and meet with you to discuss this project. Please let Cindy Baker, the Clerk of Courts, know by Tuesday, October 12, 1998, if you, or your representative, would be able to attend a meeting on Wednesday, October 28, 1998, at 9:00 a.m. at the Garfield Heights Municipal Court.

Thank you for your prompt attention to this matter.

Sincerely,

Kenneth R. Stralka
Presiding Judge

cc: Michael Ciaravino
From February 1999 Draft of Proposed Revisions to the ABA Criminal Justice Standards on the Special Functions of the Trial Judge

**Appendix B**

**Standard 6-1.8. Proceedings in and outside of the courtroom [NEW]**

(a) The trial judge should maintain a preference for live public proceedings. Relevant decisions in proceedings not on the record should be reflected in the record.

(c) The trial judge should place or permit counsel to place any germane matter on the record which has not been previously recorded.

(d) When electronic procedures for transmission or recording are used, the proceedings transmitted or recorded should reflect the decorum of the courtroom. When the right to counsel applies, such procedures should not result in a situation where only the prosecution or defense counsel is physically present before the judge.
Standards for Video Proceedings

Guidance restricting the use of video technology in criminal arraignments and other proceedings has been adopted by NLADA and is in the process of adoption by the American Bar Association.

The NLADA Board of Directors in March 1990 resolved that the Association "strongly opposes the employment of closed circuit television for criminal arraignments because of the adverse impact on the accused's Sixth Amendment right to the effective assistance of counsel."

The Standards Committee of the ABA's Criminal Justice Section is currently in the process of revising its standards regarding the special functions of the trial judge in criminal cases. Proposed new standard 6-1.6 provides that "[t]he trial judge should maintain a preference for live public proceedings in the courtroom with all parties physically present."

The draft standard goes on to provide: "When electronic procedures for transmission or recording are allowed and utilized, the venue transmitted or recorded should reflect the decorum of the courtroom, and, when the right to counsel applies, should not result in a situation where only the prosecution or defense counsel is physically present before the judge."

Draft commentary states that "if the defendant and defense attorney are not physically present before the judge, then the prosecution should also appear via video linkup." It adds that "the provisions of this section are not intended to interfere with the advance of technology which may make possible procedures not inconsistent with the spirit of this section."

Other commentary is planned to discuss "the possibility of waiver of the requirements of this rule."

In August, these standards had their first reading before the ABA Criminal Justice Council, and no objections were raised to the quoted language. The Standards Committee includes representatives of the National District Attorneys Association, the National Association of Attorneys General, the U.S. Justice Department, NLADA, the National Association of Criminal Defense Lawyers, and various judges. The membership of the Criminal Justice Council is similarly varied. The Council's second reading is scheduled for November 1998, with final adoption by the House of Delegates expected in February 1999.