

**APPENDIX B**

**STAKEHOLDERS INTERVIEW  
NOTES/MEETING MINUTES**

**B**

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### **APPENDIX -**

#### **B. STAKEHOLDERS INTERVIEW NOTES / MEETING MINUTES**

## INTERVIEW SUMMARIES

On June 8, 1994 and June 9, 1994 the first round of interviews was held in Rochester. The following agency representatives participated:

Mr. Neil Jaschik, Director  
Genesee Transportation Council (MPO)  
65 West Broad Street

Mr. Frank Dolan, Director  
Monroe County Department of Transportation  
350 East Henrietta Road

Mr. John Thomas, Transportation Specialist  
City of Rochester  
Bureau of Engineering Services, Department of Environmental Services  
City Hall  
30 Church Street

Lt. John M. Girvin  
Research and Evaluation Section  
Rochester Police Department  
City Public Safety Building  
Civic Center Plaza

Mr. William Evans, Director of Evaluation and Development  
Rochester-Genesee Regional Transportation Authority  
1372 East Main Street

Mr. Peter White, P.E.  
Regional Highway Maintenance Engineer, Region 4  
New York State Department of Transportation  
1530 Jefferson Road

Mr. David Goehring, P.E.  
Traffic Engineering and Safety, Region 4  
New York State Department of Transportation  
1530 Jefferson Road

Mr. Larry Sherman, P.E.  
Regional Traffic Engineer, Region 4  
New York State Department of Transportation  
1530 Jefferson Road

All participants were asked the same set of questions. The questions addressed such issues as:

Customers: (Who are they? What are their needs relative to ATMS/TIM? Are their needs being met?)

Current and future ATMS/TIM activities

Coordination with other agencies

Funding sources

Role of private and other institutional sectors  
A copy of the interview agenda is attached.

The following are the summaries of the individual interviews.

Mr. Neil Jaschik, Director  
Genesee Transportation Council (MPO)

According to Mr. Jaschik, the MPO is unusual in that it provides direct services, such as ride-share matching through “project connect” (which matches people with transportation problems) and mobility training for the developmentally disabled, and a rural user-side subsidy through connect-a-ride, funded by the Monroe County Development Administration.

The MPO serves all transportation users in the Genesee/Finger Lakes region, ranging from the freight and shipping industry to the general public.

He says that their ATMS potential is not currently being met. Since information is currently received only through radio announcements and via VMS during construction activity, the availability of real-time information will be a big benefit, both in terms of routes and modes.

They are currently not involved with any ATMS activities, although some are planned in the TIP and in the congestion management component of the Long Range Plan.

He expects the ATMS to provide more comprehensive coverage, both in terms of geography and technology, with improved communication at critical points to allow people to make intelligent decisions. The coverage should reflect a “seamless” coordination of services.

The agency is not interested in expanding services, since they are a provider of last resort, They will coordinate to get data and they see coordination as a funding mechanism. He feels that the Expressway Committee should be kept abreast of the study’s findings.

Funding is currently provided through the County with some federal matching funds of \$350,000/year. In the future, funding for engineering and construction will come from the Federal Government, while funding for operation and maintenance should come primarily from the State.

He mentioned that other participating sectors could include RIT and General Railroad Signal, telephone, radio and cable TV companies, as well as citizens.

He advised that the system needs to be implemented and maintained well and should include incident management and a transit tie-in.

Mr. Frank Dolan, Director  
Monroe County Department of Transportation

The Monroe County DOT serves motorists by responding to incidents, and assists industrial customers who rely on the system for goods movement. Mr. Dolan's function is to advise the County Executive and legislature on transportation issues and provide operating assistance to transit. While there are currently no major congestion areas in the County, the region could reach congestion levels soon due to its growth.

Mr. Dolan stated that the DOT currently has a UTCS, which dates back to 1970-80. He stressed that the system does not include the expressway system and that an Expressway Committee has been formed to coordinate efforts. The committee includes City, State, and local law enforcement bodies, the Public Safety Office, and the Monroe County DOT,

He believes that a coordinated effort is needed between the state and MCDOT to decide how to handle incidents and improve communication. There are control signals in the city and some surrounding areas, but there is a need to coordinate the entire system. He feels that the system should include early weather detection, improved management of VMS for rerouting and a way of getting messages to industries regarding traffic conditions. There are also small pocket areas that have special needs and requirements for ATMS, such as a closed loop system for Henrietta's Market Place Mall.

In terms of public safety, the area could use the system to provide evacuation routes for the nuclear power plant in case of an emergency and as an early warning system for chemical spills and other major disasters.

Mr. Dolan believes a traffic control center is the appropriate place for centralization, since the County has a good working relationship with the State. He is concerned with how this centralization could be accomplished, for example, with State staffing in a central or remote area. The City's signals are on the County's central control system, which currently has room to expand. He added that UTCS is completely funded by the County.

Since the coordination of ATMS is very formal, there is a written agreement for UTCS. He suggests that future coordination for incident management should also be very formal.

The current funding for UTCS is from the County with reimbursement from the State for its part of the system (14%). By October 1994, operational costs will be federally funded. The capital funding from the County totals \$800,000~\$1 million and provides for traffic engineering improvements such as signals, new installations, and loop detectors. In the future, NYSDOT will be eligible for ISTEA funds, with the county probably providing the local share. Mr. Dolan added that MCDOT provides traffic engineering at no cost to the city.

Mr. Dolan cautions that the TIP must be balanced between different modes in order to provide investment choices. It is important to reflect both the costs and benefits so that

the community as a whole can see the benefits.

Mr. Dolan mentioned that RIT (industrial management) is interested in playing a future role. Corporations such as Kodak, Bausch & Lomb, and General Railway Signal Company could play a role in product development for ATMS. The success of future activities will depend heavily on the use of the best communication available.

MCDOT owns 50 miles of coaxial cable and is contemplating installing fiber optics. They have conduit availability and own their own microwave system.

He doesn't see any issues that would preclude public/private partnerships.

Mr. Dolan concluded by saying that we need to have a workable system; one that is proven. It also has the potential to be used for weather detection, such as detection around runways for the Department of Aviation. He feels that a completed project is needed after all of the past frustration.

Mr. John Thomas, Transportation Specialist  
City of Rochester  
Bureau of Engineering Services, Department of Environmental Services

Lt. John M. Girvin  
Research and Evaluation Section  
Rochester Police Department

Mr. Thomas sees the customers as city residents, commuters/workers (the percentage of workers who live in the city is small), the trucking industry, neighborhoods (dealing with incident management), Kodak, downtown parking garages, the Police, emergency services, and the media. He feels that UTCS needs enhancement, such as by applying the current techniques to the expressway.

Mr. Thomas is currently involved in digital mapping to visualize communication to the media and the public.

Mr. Thomas expects that Rochester will take advantage of its strong imaging industry and utilize this technology in command and control programs. The system should be built around the weather and should include ice sensors for freeways and other major City arterials. The system should also include digital mapping and improved communications.

The county is applying for a signal preempting system for emergency services, beginning with the fire department, Law enforcement has also shown an interest. The initial grant would include both fire and transit.

Mr. Thomas feels that any new system should build upon the existing systems. Plans should be prepared for freeways to ensure emergency preparedness for nuclear power plant incidents, as well as floods.

Mr. Thomas offered that MCC has a training center that can provide technical management training.

Mr. Thomas feels that there is currently good intergovernmental coordination, partly due to the City's Traffic Control Board that serves as an intergovernmental decision-making body to evaluate new traffic control plans in the City.

The City Engineer's office would want to be involved in digital mapping since the City has a GIS map and the County does not.

Lt. Girvin would like to see police involvement in new programs for the expressway. There is already good cooperation, with the State Police patrolling Routes 490 and 390 by contract and being radio-dispatched by City dispatchers.

The role of the Expressway Committee needs to be expanded since it is currently floundering. Issues to be addressed include who should be involved and what role NYSDOT should play. The system also needs oversight of operations and maintenance.

There is shared funding with money from the county for signals and from the state for signs and cameras.

Lt. Girvin believes that they have an image to overcome when determining investments; proposed projects must show clear benefits to the community so that they will not force the funding issues of ATMS and other needs. The new program must include a marketing element.

Mr. Thomas thinks public/private partnerships are limited but does hope to be sponsored by Kodak, Xerox, University of Rochester, and RIT on technology issues. In addition, the media may provide free cable and air time.

Mr. Thomas advised that there is a need for better communication and that transit must be built into the study. He also suggested considering courtesy vans.

Mr. Thomas feels that it is important to keep in contact with 911, the Office of Emergency Preparedness, and the local governments involved in the study.

Mr. David Goehring, P.E.  
Traffic Engineering and Safety, Region 4  
New York State Department of Transportation

Mr. Larry Sherman, P.E.  
Regional Traffic Engineer, Region 4  
New York State Department of Transportation

NYSDOT serves the motoring public, commuters, the trucking industry, a large percentage of the elderly, and transit. They utilize UTCS centrally and on a few arterials. They are also involved in highway maintenance and operation.

The County presently has about 60 State signals on the UTCS. NYSDOT would like to extend its role to become more involved in operational issues. NYSDOT is responsible for approving phasing and hardware changes, and also coordinates issues pertaining to State signals. They feel that it is important to increase informal cooperation as well.

They believe that there is a need for a central control of operation and maintenance conducted by the State, as well as central control of the police and traffic.

In addition to ISTEAF funds, most of the funding is from the state. They suggest that in the future, the percentage of funding from the State could be proportional to the miles it has on the system.

They stressed that the public needs to be shown early on that the project is worthwhile. There should be utilization of all available techniques and integration of ATMS into each project.

They feel that one of the goals should be to develop public/private partnerships, especially since Rochester is the imaging capital of the world.

They advised that the project needs strategic direction and should focus on operational issues. Incident management, traffic monitoring and weather monitoring should be tied into one system. There also is a need to get incident information out to transit.

Finally, the NYSDOT system needs to accelerate the implementation of time-based coordination and utilize closed loop technology as soon as the statewide license for closed loop software makes it available. In addition, significant improvements on the arterials will be warranted.

Mr. Peter White, P.E.  
Regional Highway Maintenance Engineer, Region 4  
New York State Department of Transportation

According to Mr. White, the NYSDOT customers are the traveling public. ATMS is needed by employees in the maintenance section, the regional director and others in the Department, although he does not deal with it directly.

Weather monitoring is conducted with a Roadway Weather System (RWS) on Irondequoit Bay Bridge on Route 104. They did testing and evaluating equipment, with the 1987 FHWA SHRP H207 and with SHRP H208, they are evaluating benefits and data received from the RWIS that is two miles east of the bridge.

The system provides weather and pavement temperature prediction. Other decision-making and roadway uses for RWIS include pavement sensors. Mr. White mentioned that NYSDOT had the first installation in the State.

RWIS is a very useful tool in predicting pavement temperature since many hours may elapse between a drop in the air temperature and changes in the pavement temperature. Use of RWIS saves staff resources and reduces the use of chemicals. RWIS gives the capability to predict pavement temperature up to 24 hours in advance and allows for real-time decisions. Using RWIS as an anti-icing strategy requires far less resources because it is pro-active. Timing pavement conditions as an anti-icing strategy provides for the proper use of chemicals.

The system needs to be applied State-wide and have proper equipment for pre-application. Modifications need to be made to the equipment to allow the use of calcium chloride for liquid rock salt. There is also a need to hold chemicals on the pavement as well as considering the problem of refreezing.

Mr. White anticipates refining and revising traffic advisories with new monitoring systems. He notes that Germany has travel advisory signs based on pavement temperature monitoring.

Mr. White noted that pavement predictions are only done by a few companies. While the US National Weather Service does not make pavement predictions, a national weather group in Europe does make predictions based on multiple RWIS's.

Surface Systems, Inc. provides ScanCast (which was originally developed for airports) with equipment through the State. He believes it is uncannily accurate, predicting 12 to 24 hours ahead while it is only one or two degrees off.

Mr. White believes that there is a need for about 25 sites (including 7 in the county region) that are: representative of conditions in the region; special problem situations; and locations where the city and county could tie into the system. A solar system could be

used to collect data, and a 2-way radio could be used to transmit to another location and then back to the operating center.

Mr. White stated that the US is far behind Europe. Although New York is leading in research data, Minnesota is far ahead in application of the technology. New York State is number two or three in providing research information to TRB and FHWA.

Mr. White mentioned that NYSDOT gets requests from the media concerning lake effect snow and that all NYSDOT maintenance centers have monitors that pick up lake effect snow. Channel 13 has its own C-band radar and the Department has a relationship with another TV station that has a traffic advisor.

Mr. White feels that there is a question of how the program should be marketed, in terms of whether they should analyze the data or just give the raw information to the media and public. There are legal issues in data sharing as well as the question of what value the data is to the public. In light of that issue, a demonstration project in Denver gave pavement temperatures on TV, but only provided "the facts."

Mr. White believes that the data should tie into VMS and HAR.

Since phone lines are too expensive and not very reliable, the Department is switching to two-way radio with continuous duty. Fiber optics would be ideal, but they are not where they are needed (i.e., there aren't telephone lines or electricity located near them). Adequate communications is vital, however it may be the most difficult issue and should be addressed early on.

The current Pavement Management program is a 12 year pavement management plan using GIS. The state DOT uses ArcView (for dynamic segmentation), and the city uses ArcInfo. He believes that a good job has been done on roads and bridges, but not for anything else.

Resident highway maintenance engineers are the key components of the capital and maintenance programs. Highway maintenance is funded to its maximum capabilities in terms of human and equipment resources, but it is possible to transfer capital funds to maintenance funds. Region 4 has a \$100 million capital program that is not meeting the demand and projects are being deferred because of the length of the process and the standards. Since maintenance is not required to do this, it is 25% of the capital program.

Mr. White concluded that the situation in the region is unique.

Mr. William Evans, Director of Evaluation and Development  
Rochester-Genesee Regional Transportation Authority

The RGRTA is active in five of the eight counties in the area. In Monroe County, they provide fixed route service 21 hours a day, totalling 55,000 trips a day, primarily radial to the downtown. While half of these are work trips, RGRTA also provides service for colleges and school districts. The majority of the ridership is captive. RGRTA competes with low parking rates. They can aggregate markets with as few stops as possible. The headways during rush hours are 20 minutes.

The City does have a small project for vehicle preemption, particularly emergency and transit vehicles, in which RGRTA is willing to cooperate.

RGRTA is presently installing a Vehicle Tracking System in its entire large bus, fixed route fleet. They will be conducting a \$2.5 million project to test the Vehicle Tracking System on a 225 vehicle bus system as soon as they receive one more piece of funding. The system will take between 1 and 1 1/2 years to install and will run for 12 to 15 years. The system will consist of satellite-based GPS antennas and will be used to transmit position and operating data. The command system will have a GIS base and would be able to send information to bus shelters. The buses do not operate on freeways, but serve as a radial system on local streets. The system will allow RGRTA to deliver service with increased reliability.

They do have an extensive park and ride system.

RGRTA is trying to comply with ADA by announcing routes, major intersections, and stops via electronic signs on the outside of buses. The announcement will be triggered by GPS; once the driver turns the system on, it works automatically. The project will start with 10 buses and will serve as a national test for the industry.

RGRTA is looking for improvements in speed, on-time performance, and dissemination of schedule information. They are trying to achieve a seamless system where the customer can pay fares as simply as possible, such as by using Smart Cards. In such a system, buses would have electronic boxes to read cards and verify fares.

RGRTA currently has strong ties with the police to develop plans for emergency-preparedness and facility programming, but are focused on passenger transit. They will share AVL benefits with the community by reporting fires and suspicious activities. The system can also be used for message support and can be linked to the dispatcher from the control center.

During snow emergencies, RGRTA suspends normal operations.

Mr. Evans sees the biggest gain of ATMS as the ability to know where vehicles are in the system. RGRTA's operating philosophy is to tell the passenger what the driver is

supposed to be doing. Information concerning the pavement conditions won't be helpful because the buses stop so often.

Mr. Evans feels that agencies want to work together but can't find a common language. He also feels that many agencies don't have the "Big Picture".

Lake Avenue could be improved by pre-emption. Bus lanes are supposed to be self-policing.

The technology they will be using will provide some value.

Mr. Evans mentioned that user needs could be served by other elements, such as routes south of the city where there is heavy congestion and priority or exclusive bus lanes. ATMS can contribute to incident management by predominantly providing a link to the police in the city, as well as to the sheriff and troopers.

The existing system of shelters, though not equipped for real-time, has the capability for advertising. Mr. Evans doesn't expect that there would be any problem from FTA.

RGRTA will need communications at proposed transit centers. They would like to put into operation a route to the University of Rochester, in addition to two other projects that are already funded but have not yet completed the site selection process.

Mr. Evans indicated that real time scheduling for the disabled is a problem.

He noted that transit side suppliers include Westinghouse, Illuminator, Motorola, Harris and General Railway Signal, although the latter has moved away from buses.

Mr. Evans would prefer not to duplicate expenses and activities.

On August 15, 1994 and August 16, 1994 the second round of interviews was held in Rochester. The following agency representatives participated:

Ms. Mary Louise Meisenzahl, Administrator  
Monroe County Office of Emergency Preparedness  
111 Westfall Road

Mr. Joseph Doyle, Superintendent  
Monroe County Department of Public Safety, Communications Division  
1530 Highland Avenue

Ms. Elaine Tette, Central Police Services Administrator  
Department of Public Safety  
386 East Henrietta Road, Iola Campus, Building #7

Allan Kronenberg, Transportation Systems Integration Manager  
New York State Department of Transportation, Information Management Division  
1220 Washington Avenue, Albany, NY 12232

Mr. Frank Dolan, Director  
Monroe County Department of Transportation  
350 East Henrietta Road

Mr. James Pond, Senior Traffic Engineer  
Monroe County Department of Transportation  
350 East Henrietta Road

Mr. Lewis Gurley  
Regional Director, Region 4  
New York State Department of Transportation  
1530 Jefferson Road

Mr. Peter White, P.E.  
Regional Highway Maintenance Engineer, Region 4  
New York State Department of Transportation  
1530 Jefferson Road

Mr. Gerald Kerwin  
Assistant Regional Highway Maintenance Engineer, Region 4  
New York State Department of Transportation  
1530 Jefferson Road

Michael Manning, Zone Commander  
New York State Police  
Calkins Road

The participants in the second round of interviews were asked the same questions with a special emphasis on the communications aspects of ATMS. The following are the summaries of the individual interviews.

Ms. Mary Louise Meisenzahl, Administrator  
Monroe County Office of Emergency Preparedness

Mr. Joseph Doyle, Superintendent  
Monroe County Department of Public Safety, Communications Division

The Office of Emergency Preparedness is the functional control room for emergency response to any incidents at the nearby nuclear power facility and other emergencies.

The Communications Division of the Department of Public Safety is responsible for the communication systems of all the emergency services. The Department owns and maintains the lines and equipment but leases them to the police. The Department has VHF/UHF bands in the public arena.

According to Mr. Doyle, the Department has a microwave system that runs east to west. They currently have a 96 channel analog system, but will soon change to a 632 channel digital system. The Department is on a hub system, with Cobb Hill being the principal hub. There are five major sites with towers and microwave and 40 minor sites. The generators take 30 seconds to cut over and they self test once a week. Every month the Department does an on site check to make sure that the system works. There is a good working relationship with the fire departments concerning tower use.

They currently use a voice system and are installing 456 mobile data terminals in police vehicles, along with six fixed sites. Completion of the 800 MHz nine channel system is expected in April 1995.

The "human interaction" system will have calls dispatched via the mobile data terminal (MDT). 911 calls to police will show up on a monitor in the car, while priority "one" calls will also go out by voice. Messages are sent to the car and the car sends messages back.

Mr. Doyle mentioned that they have begun discussions with the Pure Waters people, who have an elaborate north/south fibre optics system.

The Office of Emergency Preparedness (OEP) provides emergency and contingency planning for the county. There are 25 public and private agencies involved in emergency responses for natural and technological disasters. The people staffing the center can make agency decisions and receive training twice a year. OEP is integrated into the 911 protocol and functions as an alternate site for the county government.

OEP is working to duplicate all communications. EOC can be brought to towns if they need it. OEP provides partial back up communications for 911 if they are forced to evacuate. Amateur radio has a radio station at EOC and provides primary and back up links.

Ms. Meisenzahl feels that there is extensive Amateur Radio coverage. OEP is considering

doing a video and linking up with other counties and agencies. The county support for OEP's programs is strong.

EOC can be fully staffed in one hour and within a half hour on a working day. Call in is done by pagers, with personal acknowledgement, and telephone.

In Hazardous Materials situations, OEP acts as a liaison. There is a field response at HazMat Level 1.

OEP has dealt with traffic problems as part of other problems, such as Hazardous Materials incidents or storms. OEP is in communication with fire departments, EMS, and law enforcement. On less traumatic calls, OEP sends staff to the field to see if help can be provided without activating the OEC.

The OEP staff has attended the FHWA Incident Management Seminar. There are established Incident Management practices, such as towing contracts between the Sheriff's Department and towing companies.

OEP is currently working on five Incident Plans which include: traffic control (traffic control points with equipment), alternate routes, signal changes, canal bridges, and railroads. OEP uses the network links of Traffic Net, Inc. to get the word out.

Ms. Meisenzahl mentioned that other highways of traffic include canals and waterways. Ms. Meisenzahl suggested that use of video monitoring during emergencies would be helpful and mentioned that Greater Rochester Cable has a camera on a huge downtown tower.

There is currently discussion about building a Public Safety Training Center. This new center could include video feeds on a special channel and have an upgraded EOC.

Ms. Meisenzahl feels that everyone is congenial and works together well within the County. The presence of the nuclear power plant drives the sophistication of this cooperation.

The Communication Division has a trailer which provides a major communication network. It can respond to any emergency and travels to wherever it is needed.

The Thruway is a major link to the rest of the world and is situated south of the urban area. The NYSTA has formed an emergency plan with OEP for sheltering stranded motorists. Major tie-ups on the expressway are mainly local.

During the 1991 ice storms, OEP ran for 13 days and neither EOC nor the major communications hubs lost service, partly due to the fact that Cobb Hill has a 9 day fuel supply. During that emergency period, traffic lights were down and major communication sectors were working on redundant systems.

Although most of the central offices had generators, telephone service was not functioning because the lines were down. Since Rochester Telephone only has a four hour back up at its cellular sites, the cellular service was also basically useless.

Some of the funding for OEP' s programs are from the capital budget, but the majority of funding comes from the nuclear power facility, in addition to a special grant for amateur radio and FEMA grants.

Ms. Elaine Tette, Central Police Services Administrator  
Department of Public Safety

Ms. Tette stated that the communications system is shared by all 12 police agencies. Presently it is a 100% voice communication system, but they are in the process of converting to a 800 MHZ Mobile Data Terminal system. Mobile Data units will be installed in approximately 500 vehicles and 94 fixed station sites. There will be vehicles equipped with PC units in each of the 12 police forces, as well as in firehouses and EMS facilities. Fire and EMS personnel will get hardcopies. They hope to have 1200 units in police cars, ambulances and firehouses by 1997 or 1998. Unfortunately, the county is unable to get anymore voice lines.

A new 911 center opened in June 1994.

Ms. Tette mentioned that some members of the Expressway Committee are concerned about evacuation routes during an emergency.

Ms. Tette feels that the ATMS can help early morning commuters with roadway conditions during extensive snow storms. 911 staff gives roadway conditions to the media. She noted that one of the issues discussed is if the media can and/or should be plugged into the system. Information can be passed onto police via the MDT. Ms. Tette suggested that there should be a way to give motorists information prior to their entering bad sections of road.

She also mentioned that the fire department is investigating a mechanism of priority treatment (pre-emption) for emergency vehicles and is curious as to the costs and benefits of this program.

According to Ms. Tette, coordinators from the police, EMS, and fire department report to the Director of Public Safety. The Department deals with 80 public safety agencies, including the Monroe County Department of Transportation. The Department is trying to convince the fire department and EMS to use digital pagers, but are finding resistance. Ms. Tette feels that they have a way to go to bring people up to speed on the technology.

The Department's operating and capital budgets come from the County as part of the Five Year Capital Plan. The 911 Center is staffed by City employees who are paid by the County. The City built and maintains the new building while the County is responsible for the equipment. The staff, approximately 150 people, is divided into telecommunicators and dispatchers. There are approximately 9-10 telecommunicators and 17 dispatchers per shift.

Several of the towns and villages still do their own dispatching, although some of these will be moving over to the 911 Center by January 1995. Ms. Tette indicated that there are problems, such as agencies still wanting separate control and a lack of standardization of

procedures and protocol. In addition, calls are not always responded to correctly.

The Department formed a Users' Committee of the police departments. A video was made to explain the future system and to try to dispel concerns about the new technology.

The cut-over to the new CAD system went relatively smoothly despite some problems with the geo-code system between the freeway and interchanges and Automatic Call Distribution (ACD).

The \$12 million budget is divided into \$3 million for 911, \$4 million for MDT, \$2 million for microwave, and \$0.5 million for the ACD system.

Ms. Tette feels that decision makers need to be shown that the life cycle of the equipment is shorter than the life of the bonds which provides funding for the purchase of the equipment.

Ms. Tette questions how much technology and information is really needed and is curious as to the costs and benefits of additional technology. She feels that the County can't keep up with the technology and wonders how far it should go; What level of technology should the County acquire? What is essential data and what is its cost? Basically, what is the best way to provide good public safety service to the community?

Ms. Tette believes that there needs to be coordination between the federal, state and local governments so that the majority of the cost does not wind up on the local level.

Ms. Tette indicated that there is money available for a study about Public Alerting Systems and their most efficient design, such as whether to advocate staying indoors or evacuating, and how to notify volunteers and alert the public.

ALI and ANI are not possible on cellular phones. They are trying to get cellular phone sites.

Ms. Tette feels that there is a need to coordinate infrastructure in order to move technology. There should be one system on which everyone can piggyback, and the various systems should work as spokes off the hub.

Allen Kronenberg, Transportation Systems Integration Manager  
Information Management Division  
New York State Department of Transportation

Mr. Kronenberg is currently working on techniques that could be funded and used. He ran a test on INFORM to Albany. Transmission was via compressed video using Rainbow and Empirenet and a 38 GHZ microwave, point-to-point, which works well for video. In Manhattan, transmission was handled through Manufacturer Hanover for 20 miles and was converted to T1. The transmissions went through seven microwave hops and into a fiber link, and then on TW Pair and was decompressed. The compression equipment, provided by the GPT division of Plessey, was excellent, but only 12 out of the 32 cameras worked. It is a very cumbersome system and needs much maintenance. Mr. Kronenberg feels that they need a better quality and maintenance system.

Mr. Kronenberg explained that PBQD chooses what to send to the media and Rainbow chooses what they want to show.

Mr. Kronenberg would like to get more capacity out of the current system. Empirenet provides data communication for the state through 6,000 circuits. IBM, NY Telephone, and Eastern Microwave are very reliable. Multiplexed 4 video pictures at INFORM were compressed and sent in free bandwidth to Albany. Mr. Kronenberg feels that they need a simpler organization to provide more reliable, better quality service.

TRANSCOM has installed Autoscope and is using it for intersection control. It can also be used for traffic counts.

Mr. Kronenberg reported that the Department has been playing with some "exotic things". Networks have been installed between the main office and the 11 regional offices using a 56 kilowatt bandwidth. They can share business data, CAD and compressed video. They expect to go to T1 in another year.

The video for the compressed system, which gives slow motion at either end of an incident is being supplied by the GPT division of Plessey. Mr. Kronenberg was concerned that the coordinating signals can be very expensive. He noted that there is a question of who controls the switch when visuals for all signals are located in one place. He feels that there is a need to assign a hierarchy of data control.

Mr. Kronenberg discussed another video project that is located on the Van Wyck Expressway. The State installed the system and the City maintains it. The bottom of the equipment cabinets have been eaten away by sulfuric acid from car exhausts because the cabinets were located on the edge of the road at ground level.

Each region has a LAN which is tied back to the main office in Albany, allowing any terminal to talk to any other region in the State. The transmissions can be degraded. The SNA network has been installed to about 60 "residency" locations but it's dormant. It is

being turned by functional applications.

Empirenet, with 6,000 lottery terminals, is distance insensitive. Multi points don't have to be in the same geographical area, allowing point of presence terminals at "Mom and Pop" grocery stores. They are going from 1200 sync to 9600 sync.

There are SWAT teams of tow trucks with geo-positioning. INC Inc. of New Jersey uses a data system that's really good. The State will probably run some tests soon on video conferencing. Individual buildings have token Novell networks.

Empirenet has terrific reliability. Remote multi-drop sites cost about \$300/month. NYNEX is trying to get into picture transmission. Mr. Kronenberg feels that the environmental and economic costs should be evaluated.

The ideal video camera comes in a 4x3 case. The camera should be turned 90 degrees on its axis for better vectoring applications. He mentioned that they can be used for license plate reading and that users shouldn't be afraid to compress the video.

Mr. Frank Dolan, Director  
Monroe County Department of Transportation

Mr. James Pond, Senior Traffic Engineer  
Monroe County Department of Transportation

Communications are located along or near the expressways at interchanges. There are 55 miles of coaxial cable for the arterial system. The County is looking for an incident management plan to come from this study.

They explained that there are 367 intersection controllers (UTCS), with 18 on a microwave system. The data rate on the coaxials is 56,000 bytes/second and each controller is polled twice per second. There are about 100 controllers on each leg, which can run up to 600 lights with about 150/leg. The system was designed in 1978. They began to bring on sections of the system in 1982, and on July 1 1985, MCDOT took control of the system.

Since there are spare communication capabilities on the existing system, video can be added. There are spare bands on either end and in the middle.

The system is comprised of standard TV amplifiers that use 56-72 MHZ. The band is between 50-300 MHZ (Pilot at 217 MHZ) inbound and between 10-35 MHZ (at 17 MHZ using 4 cameras about 800 KHZ) outbound.

MCDOT would like to fade out coaxials. Current costs for Remote Communications Units are \$5,000-6,000/unit/intersection, and they often have trouble purchasing the units. They indicated that the 13 year old system has served the county well, but is getting to be too expensive. They would like to switch to fiber optics.

MCDOT has a 30 year agreement with RG&E for 3" conduits and are currently 9 years into the agreement. They have grandfathered rights to most of the downtown.

Pure Waters installed a 1" innerduct in the conduit and pulled fibre optics through. They are adding a conduit with street construction and trench space will be shared with street lighting. A portion of the cable is overhead at Carlisle along Route 104 over the railroad tracks.

All NEMA intersection controllers are used in the MCDOT system. State intersections were converted to NEMA TS1 type, while other local and state intersections are on 170/179 controllers. Future controllers will go to TS2.

There is funding in the 1998/1999 TIP for the City Fire Department to implement an emergency vehicle pre-emption system and Congress is being lobbied to speed up the funding. The City is looking to implement pre-emption on some major arterials, but the question remains as to the priority of who's going on the system. While the real need is for the fire apparatus, there is also a possibility of utilization in the bus system in some

areas. There is a lot of interest in the pre-emption system and it will eventually be implemented. They added that STP funds for operational assistance will be available in October.

There are about 13 staff members at MCDOT, including 5 technicians and 2 electronics foremen who perform routine repair work. The control center has a manager, 2 operators and an engineering aide with a budget of \$300,000 per year. The signal section has a foreman and 3 mechanics who pull cable, upgrade signal equipment, and assist contractors with new installation

The computer maintenance contract costs \$23,000 per year, while the computer software support contract costs \$5,000 per year. The total budget is approximately \$1.4 million per year.

They replace 2030 intersection controllers per year. They are on a 20 year replacement cycle of signal heads, mast arms, and span wire.

When they mill out or repave/saw cut, they do loop repair work, although pre-formed loops haven't been used. MCDOT was the first to use microwave and it was very reliable, however, it doesn't work well with a one lane approach.

MCDOT mostly uses asphalt with portland cement for bridge decks. They don't use Autoscope. They tried to install CCTV cameras in the 1980's but there wasn't any funding.

They feel that there is a lot of interest at the County Executive level for a Traffic Management system.

Lewis Gurley  
Regional Director, Region 4  
New York State Department of Transportation

Mr. Gurley stated that the customers of NYSDOT are the traveling public, motorists and transit users, local municipalities and emergency services providers.

Mr. Gurley needs information for the project. He feels that the consultants should look into ways to better communicate how the system can be used.

According to Mr. Gurley, Rochester has an independent traffic reporter with a spotter and 13 media outlets. The traffic reporter has a good dialogue with the State. While congestion is not currently a significant problem, Mr. Gurley wants to take steps to see that it doesn't become a problem due to future growth. There is a need to integrate with the transit system so people will perceive use of the buses as an attractive option. Obstacles to this include the low cost of fuel, free or very inexpensive parking, a "rush minute", and one of the strongest luxury car markets in the country. Snow removal technology, such as the SHRP project (sponsored by FHWA), may improve public acceptance.

Mr. Gurley was aware of a few other ATMS projects. The Transit Authority is ordering high tech buses and a local high school is putting together a display model for trains and buses. The community has shown some interest in these projects.

In terms of formal agreements, Mr. Gurley mentioned that State signals are on the County UTCS system. There are also a variety of agreements at the town level for snow removal.

When the "Can of Worms" project was built, a conduit was installed to allow for the placement of weather detector equipment.

Recognizing that transportation is a 24 hour operation, NYSDOT is moving towards a 24-hour operation center.

The Department has a very good relationship with the transportation director and the County Executive of Monroe County. The MPO is very active and is chaired by the County Executive. Mr. Gurley would prefer to keep all coordination informal as long as it works.

Mr. Gurley indicated that the type of funding needed will depend on how the system is designed. For example, they could use maintenance funds if weather detection was part of the system. There currently is some money from the State to keep the system running well. Mr. Gurley would like to build on the success the Department has had with the signal system and the good working relationship with successive County executives. He feels that the system must clearly show benefits. In the past, funds have been transferred from capital to maintenance budgets. There is a sense that you can't build things that won't be maintained.

Mr. Gurley mentioned that RIT has a definite interest in IVHS. He has not had any direct contact with Kodak or Xerox.

Mr. Gurley acknowledged that there is recurring congestion at certain intersections, but it is short lived. He suspected that parallel routes are not congested.

Mr. Gurley feels that there is a need to address the issue of whether to do a system-wide project or just one piece for a demonstration project. He believes that whatever is done, it must have a good impact and capture the imagination of people, as well as being useful and functional.

In terms of private/public partnerships, Mr. Gurley indicated that there are community quality teams. For example, Brockport wanted a traffic light at a high school, but it was not warranted. Through a partnership of the college, local school board, police, and local development corporation, a new college entrance and a park-and-ride lot allowed the light to be installed. He fully supports public/private partnerships and feels that the stronger it is the better the project. Any combination of partnerships should address the pros, cons and legislative needs. The idea of barter and any new and original ideas should also be discussed.

Mr. Peter White, P.E.  
Regional Highway Maintenance Engineer, Region 4  
New York State Department of Transportation

Mr. Gerald Kerwin, P.E.  
Assistant Regional Highway Maintenance Engineer, Region 4  
New York State Department of Transportation

Nationally, one third of maintenance budgets are spent on snow and ice control. Roadway Weather Information Systems (RWIS) is a key component in how to approach ice and snow removal. RWIS gives the actual temperature, moisture and saliency readings of pavement and allows for 12-24 hour pavement condition predictions. The new technology is allowing states to become pro-active. Wisconsin and Minnesota have a couple of systems, while Ohio and Pennsylvania are just starting their systems.

While the technology is new to highway departments, its major use has been in airports. There is one U.S. supplier, Surface Systems, Inc of St. Louis, Mo.

They explained that de-icing is the removal of ice once it has formed, whereas anti-icing is preventing ice from forming. Anti-icing entails the use of less chemicals.

Rochester (Webster) has a unique RWIS site on Route 104, the expressway to Xerox, and the bridge over the bay. RWIS impacts the decision making regarding the use of chemicals and equipment modifications and is needed for safety and capacity. The Department is looking to expand the system and offer this capability to all operating facilities as part of the forecast model. They would like to make it available to highway maintenance supervisors, and thus to the public.

Research is currently being done into finer grain salts, sludge and certain liquids. They hope to expand to all maintenance facilities.

In the future, they would like to make the information available to the public, although there is the issue of legal liability. There is also the media issue that if they share to one, they have to share to all. They are looking into ways to deliver messages to the public, such as automatic speed limit changes based on the temperature of the pavement.

The current system has one bridge and one at-grade location. The bridge has eight surface sensors, one subsurface sensor and one set of atmospheric sensors. The at-grade location has two surface sensors in asphalt concrete and two in portland concrete. It also has two subsurface probes, two sets of loop detector counters and speed detectors, one set of atmospheric sensors and a remote camera to transmit visual data if existing conditions and LOS to dispatchers and other decision makers.

The Department conducted a field trip for the consultant team.

Michael Manning, Zone Commander  
New York State Police

Mr. Manning stated that the customers are everyone who passes through the region. The State police in the Rochester barracks cover the 3 county area of Livingston, Monroe and Ontario.

Mr. Manning feels that there is a good working coordination with the other jurisdictions. The Police's only dedicated function is the Interstate Patrol on Rochester Expressways within the City. They patrol the Greater Rochester interstates, 490 inner loop, 590, and 104, with two cars a day. The cars are equipped with "push bumpers". Except for the Interstate Patrol, they are not part of 911. The State Police hope to be part of the MDT system.

During Incident Management, jurisdiction goes to whoever gets there first. All supervisors have attended an incident management program at MCC and are part of OEP. His definition of Incident Management is to clear traffic as fast as possible. He feels that sometimes there are jurisdictional disputes. The protocol allows the first police entity on the scene to call in the fire department and ambulances. The State Police dispatcher monitors 911 and also receives direct calls.

Mr. Manning feels that RWIS would be most helpful since it would allow the police to be totally reactive. Since timely information is another requirement, they want to be included in 911. The County does not want the State Police on the 911 network, but the City does. If the State Police were on 911, it could provide better coordination and eliminate the chance of all police agencies (town, village and park police forces) responding to the same calls.

There is no State Police funding for MDT. The State Police must maintain a radio system that functions statewide.

Mr. Manning feels that having access to speeds by link/segment/time of day/time of year would be very helpful. He would also like to see a crash truck for responses to be used by all. The County controls everything through communications. They would like a true focus of their job in the County.

Between July and September 1994, the following participants were interviewed by telephone. They were asked the same set of questions as all other participants.

Thomas George, Owner  
Traffic Net

Vern Roberts  
WHAM

Leonard DePrima  
Division Director  
New York State Thruway Authority

Michael Petromallo  
AAA

Judy Walsh  
Monroe County Information Services (GIS)

Daryl Maslanka  
Pure Waters

Paul Johnson, Director  
Monroe County Planning Department

Charles Goodwin  
Rochester Transportation Club

Major Richard Schaff  
Monroe County Sheriffs Department

The following is a summary of the telephone interviews.

Thomas George, Owner  
Traffic Net

Mr. George stated that the business has been in existence for nine years, during which time he has created a network to gain traffic information. Included within this network are the police, 911, NYSDOT, CB radio users, cellular phone calls, relationships with businesses and homes near high incident intersections, and spotters.

Traffic Net supplies 14 radio stations and two TV stations with traffic information. In the future, he would like to increase the network and reduce the time it takes to get more correct information. In short, obtain information quicker and get it out on the air faster.

Traffic Net has no air component since many of the worst driving conditions occur in winter when it is not possible to fly. He commented that two seasons exist in Rochester, construction and winter.

Tom George is interested in having Traffic Net be a part of the Rochester ATMS and would like to be involved and updated.

Vern Roberts  
WHAM

Mr. Roberts' current sources of information are CB radio, cellular phones, construction offices, NYSDOT, and 911 operators. In the past, WHAM has flown and had a vehicle cruising the roads, although neither exists today. They do work loosely with Traffic Net, although Traffic Net would be considered their competitor.

He would like to see improved communications between agencies overseeing construction projects and himself. While WHAM is usually informed of projects, sometimes they are caught by surprise and are unable to warn motorists before back ups occur. He certainly would like to see an increase in the amount of incoming information.

He believes a vehicle cruising roads and/or planes/helicopters could be a source of information. A vehicle is not only an information source, but is also able to help motorists.

He sees a possible public/private partnership, but is not the person who would make that decision for WHAM. More information would be required to make that decision.

He services three stations and. Channel 10.

Leonard DePrima, Division Director  
New York State Thruway Authority

Mr. DePrima indicated that there is a need to implement many of the ATMS strategies now rather than continue studying them. In particular, he felt that implementation of Incident Management techniques, including coordination between agencies and providing information to the public through Highway Advisory Radio (HAR) or other means, is very important. He cited the example of a recent incident in Buffalo where the Thruway had to be closed because of a hazardous spill. The local police were not notified of the incident and did not close the local bridge over the spill, resulting in people gathering to see what was happening.

Mr. DePrima indicated that the Thruway Authority will be installing HAR along the entire length of the Thruway, as well as their E-Z Pass program for toll collections. He offered to work with the Rochester area ATMS to coordinate the Thruway's activities with those that will be implemented in the Rochester area. In particular, activities that would relate to drivers entering and exiting the Thruway at the I-490 and I-390 interchanges, both with respect to the HAR system and possibly monitoring traffic using the E-Z Pass identification, should be coordinated. He asked to be kept informed of the study progress and will be willing to discuss specific issues related to implementation of any recommended programs.

Michael Petromallo  
AAA

Mr. Petromallo reported that AAA provides emergency road service. Calls usually originate from either AAA members or the police. AAA has 190,000 members in a five county area, with a concentration in Monroe County. Their trip planning, safety and travel services (based on a computerized system) are only available to members and the public.

Mr. Petromallo was aware of the study because he is on the Expressway Committee, which is working out well. The Committee doesn't need an expanded role, but would like to be kept informed.

AAA keeps a log of incidents to which they have responded and would be willing to supply this information for the study. It would be difficult, but they probably could get information regarding accident calls.

Mr. Petromallo sees AAA's future role as one of getting everyone to work together to take care of incidents more quickly.

He feels that the focus should be on peak traffic hours and that notification should be given in advance of the problems. He also mentioned that on-line communications would be useful in the winter when storms force road closings.

Judy Walsh  
Monroe County Information Services

Judy Walsh is working on a communication plan for the County. The County Information Services is about to go to bid for a Communications Infrastructure Plan which has the goal of being a communications network. The plan is to be completed this year.

Ms. Walsh's focus is the internal needs of the County. She expects that requests would come from NYSDOT to her. She wants to be sure that the county is cabling for tomorrow. She also wants to decide on what protocols will be used and how they will communicate with each other.

She feels that Information Services would be interested in the workshop, but doesn't know exactly how they would be involved.

Communication needs would originate from NYSDOT or the Office of Public Safety and Information Services would see how the project could be implemented. She feels that there would have to be some kind of standard activity.

Ms. Walsh would like to learn what NYSDOT wants to do regarding funding cycles so that Information Services can put it into the program.

Ms. Walsh suggested that there be a customer support group with someone responsible for transportation and someone responsible for public safety.

Daryl Maslanka  
Pure Waters

Mr. Maslanka works with fiber optic installations around the County and is the primary contact for the Environmental Services Fiber Optic Network.

Monroe County Department of Environmental Services has two divisions. Pure Waters is responsible for wastewater treatment while Solid Waste handles landfills and recycling. Pure Waters has three treatment plants and a deep tunnel system for Rochester and elsewhere in the country.

Mr. Maslanka indicated that the biggest cost for fiber optics installation is obtaining the right-of-way. Pure Waters has many sewer ROWs, especially the CSO Deep Tunnel Systems that are 50-150 feet below the surface. In the past they have used pipes to run the fiber optics. Their goal is to link the treatment plant near Lake Ontario to the operation center near Route 390 and East Henrietta Road. This major north/south run is approximately an eight mile corridor through the center of the City. Half of this was distance accomplished through deep tunnels and others through surface duct banks.

Mr. Maslanka mentioned that they have interfaced with the traffic people in the past. Since they need only one or two of the 18 fibers, traffic information could be run on the remaining fibers.

He feels that many things could be done in the future. Since the route pops up at different points in the City, patches can be run into the system at each point. Pure Waters coordinates with Frank Dolan's office at MCDOT. Rochester Gas & Electric also has duct space. The City leases traffic signal interconnects.

Mr. Maslanka indicated that there is a map available. Pure Waters has worked with the County on a data management plan. The telecommunication coordinator for the county is Earl Hall at the Information Services Department. He is trying to look at all resources and come up with a plan for coordinating services. He will be glad to help in any way.

Paul Johnson, Director  
Monroe County Planning Department

According to Mr. Johnson, the Planning Department is involved in the front end of planning for transportation issues and is a member of the MPO. The Department assists MCDOT with their projects in the planning phase and helps with public participation. They also review development at the local level and make comments regarding highway access and other issues related to development.

Mr. Johnson mentioned that during the peak hours there are some well-known traffic “hot spots”, some of which are due to design problems where demand exceeds capacity. He feels that there is not any major congestion since it’s a “20 minute town”, but the travelling public perceives that there is congestion,

Alternate routes are handled by the transportation department and emergency preparedness people. He has not been asked to be involved.

The Planning Department has some concerns related to economic development and business impacts, such as congestion problems and construction impacts that impair site access. He believes that businesses can be kept happy by a reduction in construction delays and the number of detours. Ideally, there should be no adverse impacts on businesses.

They refer to the Transportation Department for safety and traffic issues.

They have desktop GIS capability and a development land use database that is set up to work with real property systems. The database is made available to the transportation department. The Planning Department is moving towards a county-wide GIS system, but aren’t there yet.

Mr. Johnson feels that the long range plan needs to deal with the question of whether it is better to maintain the current system or expand, and whether there is a mode shift preference.

Mr. Johnson believes that anything that serves as a tool for better use of the existing infrastructure and defers major investments is a plus. The County is not in a mindset to spend money on capacity improvements left and right, but prefers to improve the existing system. He commented that the County wants both capacity improvements and traffic management and feels that it can’t build its way out of the problem indefinitely,

Mr. Johnson added that they are unsure about their expanding role but would be happy to contribute anything they have.

Charles Goodwin  
Rochester Transportation Club

The Transportation Club has a membership of 450 transportation people in a nine county region. Half of the members are people who manufacture products and the other half are shippers, including fifty motor carriers. Crushed stone, blacktop, and paving are less involved with the club, which is more concerned with Dolomite products.

According to Mr. Goodwin, time savings are really critical for local delivery services.

In the Rochester area, seven or eight private companies, such as UPS and Fedex, have scanners and satellite tracking instruments, **but** the club has not gotten too involved in these areas yet.

Some of the issues that the club is involved in are the tandem trucks on Route 81 and truck parking in the downtown.

Mr. Goodwin believes that the Club would be interested to some extent in ATMS, but would be less so if the system was localized.

Major Richard Schaff  
County Sheriffs Office

Major Schaff described the role of the County Sheriffs Office in incident response. If an accident or problem is reported via 911, cars are dispatched. There are procedures for emergency responses **and** incident management, as well as response time logs kept by 911 and the officers. The Sheriffs Office is not coordinated with NYSDOT except for compiling accident statistics. He added that secondary accidents are often caused by rubberneckers or people seeing the cars too late.

The Sheriffs headquarters is in downtown Rochester. Since there are three substations outside the City, 911 routes the accident call to the proper location.

The State Police have 40-50 police, mostly in the inner loop and the City of Rochester, who are mainly involved in traffic enforcement.

Major Schaff noted that there are ten other police departments and that the Sheriffs Office covers areas that lack their own police departments. In addition, some of the towns have asked the Sheriffs Office to deal with automobile accidents on the Expressway. While not every police department has automated their reports, the State has automated their accident reports.

Major Schaff said the local Expressway Committee has talked about various types of traffic control devices.

Major Schaff can't think of anything the system could do for the Sheriff's Office since they generally have no problem finding out about accidents. Automated speed limit signs to low down traffic if there are accidents ahead, as well as weather advisories, might be helpful. He also mentioned that any kind of electronic billboards to notify drivers of alternate routes would be useful.