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in the

QUAD CITIES AREA

and the

TWIN CITIES AREA

② A Summary of Proceedings of a
911 Systems Conference
Held September 8, 1977



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911 IN THE QUAD CITIES/TWIN CITIES AREA

ABOUT THIS SUMMARY

Government and industry representatives in the four-city area surrounding Moline, Illinois, and Davenport, Iowa, have recently begun planning for installation of a sophisticated 911 emergency telephone system. For several years, a similar planning process has been underway in the seven county area surrounding St. Paul and Minneapolis. On the initiative of people from the Quad Cities Area, this one-day 911 systems conference was organized to permit a mutually beneficial exchange of information between representatives from the two areas.

The Metropolitan Council hosted the meeting in its offices at 300 Metro Square Building, St. Paul, Minnesota, on September 8, 1977. The following summary is intended to give the reader a general idea of what was discussed at the meeting. The cost of publishing this summary was supported by grant funds provided the Metropolitan Council by the Minnesota Crime Control Planning Board (LEAA Grant Agreement # 2311722077).

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MEETING SUMMARY

Quad Cities/Twin Cities Area
911 System Conference
September 8, 1977

- Government Representatives:
- Mr. Norbert Schroeder, Communications Specialist, Systems Development Division, LEAA
 - Mr. Cliff Brown, Executive Director, Bi-State Metropolitan Computer Commission (Iowa)
 - Mr. Bob Jacobsen, Bi-State Metropolitan Commission (Iowa)
 - Mr. Mike Kinney, Director, Quad-Cities Law Enforcement and Criminal Justice Training Centers (Illinois)
 - Mr. Hank Sinda, Bi-State Metropolitan Planning Commission (Illinois)
 - Mr. Emil Maslanka, Bi-State Metropolitan Planning Commission (Illinois)
 - Mr. Ray Zelnio, Director of Criminal Justice Services, Bi-State Metropolitan Computer Commission (Iowa)
 - Mr. Joe Shoemaker, 911 Planner, Bi-State Metropolitan Computer Commission (Iowa)
 - Mr. Kevin Burke, Chairman, Regional Criminal Justice Advisory Committee of the Metropolitan Council (Twin Cities Area)
 - Mr. William J. Mavity, Program Manager, Public Safety Planning Program of the Metropolitan Council (Twin Cities Area)
 - Mr. Bob Scarlett, 911 Project Coordinator, Metropolitan Council (Twin Cities Area)
 - Mr. Herman G. Hamre, 911 Project Director, State Department of Administration (Minnesota)
 - Mr. Mark Westman, Staff, Commission on 911 Financing (Minnesota)
 - Mr. Jim Brekken, Chairman, Inter-County Ad Hoc Committee on 911 Financing (Twin Cities Area)
 - Mr. Ed Mattson, State Crime Control Planning Board (Minnesota)
 - Mr. Harvey Havir, City of Minneapolis
 - Mr. Lynn DeLong, Hennepin County Criminal Justice Coordinating Council
 - Mr. John O'Sullivan, Director, Hennepin County Criminal Justice Coordinating Council
- Telephone Industry Representatives:
- Mr. Warren Bosch, Northwestern Bell Telephone Company (Minnesota)
 - Mr. Dave Enright, Expanded 911 Coordinator, Illinois Bell Telephone Company (Chicago)
 - Mr. Howard Ostrom, Corporate Headquarters Northwestern Bell Telephone Company (Omaha)
 - Mr. Don Jacobsen, Northwestern Bell Telephone Companies (Iowa)
 - Mr. Bob Price, Chairman, Minnesota Telephone Association 911 Committee
 - Mr. Vern Krieger, Northwestern Bell Telephone Company (Minnesota)
 - Mr. Jack Brighton, Northwestern Bell Telephone Company (Iowa)
- Consultant:
- Mr. Dennis M. Rooney, of Michaud, Cooley, Hallberg, Erickson and Associates, Inc. (Minneapolis)

A. INTRODUCTIONS

Scarlett welcomed all meeting participants on behalf of the Metropolitan Council and thanked Cliff Brown and Norbert Schroeder for making it possible to get everyone together. Scarlett stated that people involved in 911 planning in the Twin Cities area are interested in learning what is happening in the Quad-Cities 911 project. Scarlett reviewed a tentative agenda with the participants and described the day's meeting schedule.

B. STATUS OF 911 PLANNING AND IMPLEMENTATION-QUAD CITIES AREA

Cliff Brown described the status of 911 planning in the Quad Cities area and gave background on the Bi-State Metropolitan Computer Commission, a special purpose governmental unit. He explained that the Commission had been formed by Scott County, Iowa, and Rock Island County, Illinois, to provide computer services in the four city, two county area. He pointed out that Commission's feasible service area includes five Iowa and four Illinois counties. He said the Commission is a service bureau operation that provides a law enforcement data services network and provides certain computer-aided dispatching services to local agencies. 911 planning was referred to the Commission by the Bi-State Metropolitan Planning Commission, since 911 planning required involvement in operational areas rather than pure planning and coordinating.

Brown said the project was supported by discretionary funds from the Law Enforcement Assistance Administration (LEAA) in Washington. Brown emphasized the Commission's philosophy that 911 planning requires a comprehensive systems approach. He said he did not think it was a good idea to go to the trouble of providing 911 for citizens, if you don't have systems to back it up. He described the local planning organizations in the Quad Cities area.

Ed Mattson asked Cliff Brown about the number of dispatch locations in the Quad Cities area 911 project. Brown said there are seven dispatch operations in the two county area. He said the area includes approximately 750,000 people of which 250,000 are in the "Metropolitan Area".

C. STATUS OF 911 PLANNING AND IMPLEMENTATION-TWIN CITIES AREA

Scarlett described the 911 system design for the Twin Cities metropolitan area. He said that the system had been designed to serve 28 primary public safety answering points in the seven county region. He pointed out that there were approximately 200 political jurisdictions within the region, more than 100 police agencies, over 100 fire departments, 6 telephone companies, 87 telephone exchanges, and approximately 2 million people.

Scarlett said that 911 planning in Minnesota has been supported with LEAA block grant funds provided by the state Crime Control Planning Board. He said the State Department of Administration has overall responsibility for coordinating the implementation of 911 systems in Minnesota. Scarlett described the way in which 911 planning had been organized in each county and described the approach Minnesota has taken towards financing 911. He pointed out that the Minnesota Legislature had mandated 911 service for all of Minnesota by December 15, 1986, and for the metropolitan region by December 15, 1982. He said the Legislature also appropriated funds to support the annual recurring expenses of 911 systems in operation during the two-year period ending June 30, 1979, and established a commission to study long-range 911 financing.

Cliff Brown asked whether any county systems were already up and running in Minnesota. Herman Hamre answered that Jackson County is scheduled to cut over in November of this year. He said that Steele, Olmsted, and Swift counties were close behind. Bob Price and Herman Hamre described the involvement of the telephone companies in 911 planning in Minnesota.

Scarlett pointed out that the State Department of Administration was currently preparing to promulgate rules governing design standards for 911 systems in Minnesota. Herman Hamre commented on the scope of the rules currently being drafted. Warren Bosch pointed out that the systems proposed for the out-state counties were all (simple) 911 systems.

Dave Enright asked if the entire seven-county area would be cut over all at the same time. He wondered whether Hennepin County might be cut over ahead of the others. Scarlett said this question is in the hands of policy makers right now. O'Sullivan stated that Hennepin County was involved in the regional planning process and had no current plans for cutting over to 911 before the rest of the region.

Dave Enright asked several questions about the magnitude of the front end costs for implementing 911. Jim Brekken described the 911 financing recommendations of the Inter-County Ad Hoc Committee on 911 Financing. He said that the Committee had recommended the use of state or federal dollars to fund the implementation of 911 in the region ... an estimated \$3,000,000. Scarlett stated that a coordinated grant application was being prepared; he said funds would be sought from a variety of sources; including LEAA. Scarlett said that a high priority had been given to determining a satisfactory method for financing the recurring costs of 911.

D. STATEWIDE 911 PLANNING IN MINNESOTA

Norbert Schroeder asked about the rule-making schedule in Minnesota. Hamre said he hoped the hearing process could begin as soon as mid-November; he said it would take six months to entirely complete the hearing process. He said there might be as many as five hearings. Cliff Brown described how 911 rules were established in other states. Herman Hamre said that he had reviewed rules produced in a number of states and that the rules for Minnesota would be based on the experience of other states as well as the input accumulated from local governments during the past three years.

Scarlett and Hamre discussed a state-wide approach to making rules governing the use of advanced features like selective routing. Hamre emphasized the need for a uniform set of rules that would apply to all jurisdictions, state-wide. Cliff Brown described the rule making process in Illinois and pointed out the existing conflict over the authority to regulate Public Safety Answering Points.

Schroeder asked whether the Minnesota 911 legislation required the incorporation of at least police, fire and ambulance services and permitted the addition of other services. Hamre answered that the Minnesota legislation did permit the addition of other local services, at the local option. Schroeder described the Alameda County system. He pointed out that, in some areas, services available by dialing 911 are very similar, and some are very different. Scarlett described the Minnesota approach; stating that much emphasis had been placed on local government's prerogative to plan and include local services.

Don Jacobsen asked whether the Minnesota 911 Act specified which unit of government would be responsible for developing 911 plans. Scarlett answered that the law made each county responsible for preparing tentative and final 911 plans. Jacobsen described the 911 planning process in Illinois. He pointed out that the Illinois law leaves open the question of who is responsible for planning 911.

Brekken emphasized that the Minnesota approach was to have 911 systems designed by the users and not by a state agency. Members present discussed the importance of having freedom of choice at the local level. Mr. Kinney pointed out that there is no state-wide approach under way in Iowa. He said the Quad Cities area is a kind of orphan. He said their strength lies in their ability to cooperate and act together.

E. DESIGN CONSIDERATIONS-EXPANDED 911

Kinney asked questions about Northwestern Bell's activities in Minnesota. He said people in the Quad Cities area would like to capitalize on Northwestern Bell's experience in Minnesota.

Krieger stated that Northwestern Bell's approach has been to follow the Alameda County 911 design. He pointed out that progress in Alameda County has been slow and that Bell laboratories are continually coming up with new features that may make metropolitan 911 systems less expensive.

Kinney asked how the Quad Cities area could capitalize on what was going on in Minnesota. He said there seemed to be very little Northwestern Bell 911 activity, except in Minnesota. Krieger pointed out that the existence of ESS equipped central offices in the Twin Cities Area has made 911 progress possible here.

Cliff Brown asked whether the six telephone companies involved had agreed to follow the ESS approach and turn their address files over to Northwestern Bell for selective routing purposes. Krieger answered that 911 planning has been going on here for four or five years and that there is basic agreement on the technical approach to delivering 911 services in the metropolitan area. He said that ESS tandem switches recommended to perform the selective routing function are all Bell switches.

Bill Mavity pointed out that the telephone companies in the metropolitan area have been involved in 911 planning from the very beginning. Dennis Rooney described how 911 planning was initiated in the Twin Cities area. He emphasized the importance of having local agreement on 911 operational questions before going to the telephone companies and asking for a response. He said 911 planning required more than purely technical decisions. Scarlett described the local planning process each committee went through in 1976. He asked the Northwestern Bell representatives to describe how they were handling 911 planning and coordination in Iowa.

F. 911 PLANNING IN IOWA-ILLINOIS (QUAD CITIES PROJECT)

Northwestern Bell representatives from Iowa answered that they had installed approximately 16 systems in Iowa during the past ten years. They said that, customarily, the community contacts the telephone company first. He said, once a decision is made, the telephone company will usually respond with a letter of intent and implement the service within an eighteen month period. He said the Quad Cities area represents a special problem, because of the fact that it encompasses two states and two operating companies. They pointed out that Illinois Bell has more experience with advanced 911 systems because of their involvement in the Chicago 911 project. They pointed out that Don Jacobsen has been assigned to the Quad City area and that he had been attending local planning meetings. They pointed out that they continue to await system standard offerings which are not yet available. They said they are more than willing to look at alternative methods for handling advanced 911 requirements on the Iowa side of the Quad Cities area.

Mr. Schroeder agreed with Rooney that many decisions must be made before a local 911 system can be implemented. Schroeder described the LEAA objectives in the Alameda County project. He pointed out that the LEAA experiment in Alameda County was supported with discretionary monies originating in Washington and not block grant funds administered at the State or regional level. He said he was sympathetic with those who are concerned about the delays in Alameda County project. He said that both the Chicago and the Alameda County systems are similar in concept but differing in technology. He said that local officials in the Quad Cities area convinced the LEAA administration that there was merit in looking at alternative ways of providing selective routing. He said that LEAA administration agreed to fund the Quad Cities project because they were aware that technology was advancing and that it would be wise to encourage examination of alternatives. Schroeder pointed out that he was aware that AT&T had invested considerable sums of money in the Alameda County project in a joint effort with LEAA and the county. He said he realized why AT&T would be reluctant to put additional monies into experimental projects elsewhere in the country. He said he understood that AT&T wished to get as much mileage as possible out of the Alameda County project.

Schroeder said that one of the main reasons for initiating the Quad City project was to look at the special problems that arise in areas served by more than one telephone company. He said there are many areas of the country where similar problems will have to be faced and overcome. He said LEAA looks upon the Quad Cities project as an opportunity to investigate these problems and consider solutions to the problem of interfacing multiple telephone companies in order to provide area wide 911 service. He said that although the Alameda County project and the Quad Cities project may be similar in concept, there are specific problems which make each project unique. He said it would not be safe to assume that the technology developed in Alameda County would be readily transferable to the Quad Cities area.

G. INTER-COMPANY COOPERATION

Scarlett asked Bob Price and Minnesota based-Northwestern Bell representatives to talk about the inter-company issues encountered in the Twin Cities area. Scarlett pointed out that all six serving telephone companies in the Twin Cities area had cooperated in the production of a 911 system design for the area and had quoted prices for each element of the system. He said this required a high degree of coordination between Northwestern Bell, United Telephone Company, Continental Telephone Company, Central Telephone Company, Scott-Rice Telephone Company, and Eckles Telephone Company.

Bob Price added that, as far as the independent telephone companies are concerned, there are no major coordination problems. He pointed out that Northwestern Bell is doing all of the ESS work required. He said that independent telephone companies are responsible for only three of 28 PSAP's. He said the rest is just a matter of straight switching into or through the Bell system. He said the independents had agreed with Bell and among themselves to attempt to provide the same type of PSAP equipment in all PSAP's, for the sake of compatibility.

Cliff Brown asked Bob Price whether the independent telephone companies would be providing Northwestern Bell with the necessary telephone numbers and addresses to support automatic selective routing, automatic number identification, and automatic location identification. Krieger answered that Bell System people are looking at existing data collection systems to find out which ones might fit the needs of the system. He says, right now, they are looking at directory files.

H. DESIGN CONSIDERATIONS-EXPANDED 911

Brown pointed out that directory files have not been satisfactory elsewhere. Krieger agreed. He said this is a problem that Northwestern Bell encountered sometime ago. He said many of the telephone company records do not lend themselves to selective routing purposes. He cited cases where off-premise PBX stations have addresses that are different than the actual physical location of the telephone. Brown asked whether Northwestern Bell intended to use the directory base as a file for selective routing. Krieger said much depended on the timing. He said that Northwestern Bell was looking at the mechanism of their repair records ... which will tie down the physical address of the telephone ... and depending upon the timing of the development of this new system, they will attempt to use available records ... rather than inventing a new system, from scratch. He said that, either way, there still would be some problems. He said that multi-telephone service would not deliver ANI, for example.

Brown said that he was pretty certain that, in an area like the Twin Cities, the directory addresses would not necessarily correspond with the proper location for selective routing purposes. Krieger said that Northwestern Bell planned to use an address grid to identify the calls and route them to the proper PSAP (as Alameda County has had to do).

Brown asked whether Northwestern Bell would provide this address grid and selective routing service for the independent subscribers as well. He wondered whether each independent telephone company would have to provide its own clean, up-dated file for Bell to use. Krieger said that, as it stands now, they will be using existing data systems. He said he was not certain how much "cleaning up" of the files would be necessary. He said governmental authorities would have to decide whether to go with existing systems, imperfect as they are, or to create a new and absolutely perfect record for selective routing purposes.

Scarlett pointed out that the Metropolitan Council data systems people have a geo-base file for every county in this region (or will have by 1979). He said there was a consensus that we should avoid duplicating any existing investment in adequate data base. He said that Northwestern Bell had been providing system design data so the Metropolitan Council people can look at the geo-base file and determine whether it would be suitable for selective routing purposes.

Schroeder said that substantial amounts of LEAA money have gone into the Alameda County project to develop a data base management system for Pacific Tel and Tel. He said he would hate to see additional tax monies going into the duplication of that effort. He said the ease of transferring that software depends on the practice of the different operating companies. He said it was highly desirable to avoid any duplication of this sort.

Krieger said that Northwestern Bell has been out to Alameda County to glean what they could from the data system development effort there. He said that there are differences in the hardware and operating systems, however. He said that, to the extent possible, Northwestern Bell will attempt to use essentially the same methods as are being used in Alameda County. He said it was not yet clear how Alameda County was going to handle selective routing. Schroeder agreed that there were still some faults in the Alameda County approach to selective routing. He added that a lot is being done to minimize selective routing faults; but that there are still areas where the boundary address information is not precise.

I. SHARING OF 911 SYSTEMS DEVELOPMENT INFORMATION

Scarlett asked whether the people in the Twin Cities area would have any trouble getting information on what has been developed in Alameda County. He asked whether the fact that federal funds had been used would make it obligatory for Pacific Tel and Tel and Alameda County to turn over information on their 911 system developments. He asked whether there would be any price considerations ... given the fact that the system development investment had been made with federal funds in another part of the country.

Krieger pointed out that there is a contractual arrangement between Pacific Tel and Tel and Alameda County with respect to some of the software developed which is priority in nature and that it cannot be shared without making special arrangements with Alameda County. Krieger went on to point out that the same situation exists with Chicago and Illinois Bell. He said Northwestern Bell could not go in and "lift" that system and use it here, because, after all, the people in Illinois paid for it. Scarlett asked whether this means that transfer agreements will have to be arranged between governments. Schroeder agreed to pursue it. He said he would try to determine whether the software could be transferred within the Bell System.

Enright pointed out that Pacific Tel and Tel is going to share, and has been sharing data systems information with other Bell System operating companies. He said that all that is required is a release stating that the recipient of the information is not going to come back at a later date and charge the developer for something he had already developed. Enright went on to say that it would indeed be foolish to duplicate the effort of other companies; but he said the problem is that every company has different operating systems. He said in a recent conference, it became clear that just about every Bell operating company was going to have to develop its own data management system. He said that is a Bell system operating problem; he said it should not be a problem for the governments involved in implementing 911.

Schroeder said it was important to examine the tacit assumption that what has been used in Alameda County or Chicago would be usable in all areas. He said that other approaches should be considered, since governments will be looking for ways of saving money on the recurring and non-recurring costs of 911.

Scarlett said that it is clear that some important issues remain to be resolved and that some important policies remain to be developed with respect to nationwide 911 implementation. He said that, since tax dollars were being used to develop this capability, it was extremely important that no effort be spared to avoid duplication of investment in new systems developed for the public. He asked for help in bringing this problem to the attention of the telephone industry at the headquarters level. He said he hoped there would be some way the industry could find a way to avoid duplication and redevelopment of solutions to this same problem.

Krieger said that those things developed in concert with AT&T, Alameda and Pacific Tel and Tel are going to be widely used to the extent they can be. He said it is only when you get into the unique areas that operating companies will have to go on their own. With respect to the data systems question, Krieger assesses that Northwestern Bell has addressed the question only in a very general sense. He said they have only looked into the cost of using existing data systems. He said Northwestern Bell will use any improvements that become available to it.

Krieger went on to say that governments must recognize that the telephone industry has committed a tremendous amount of resources to facilitate expansion of 911 services. He said telephone companies are forced to quote prices based on the best information available. He said that companies are reluctant to go into a well-defined data systems specification without some indication that the Alameda County system is going to fly and without determining whether the results are going to be usable elsewhere.

He said Northwestern Bell has quoted on the assumption that the existing data base and existing data systems would be the most cost effective way to go. He said that, if the agency, at the contract point, tells us that it wants an absolutely perfect address for every instrument out there, then that would require an entirely different approach. He said that, in the meantime, Northwestern Bell is still talking in terms of order of magnitude costs.

With respect to Automatic Location Identification, Schroeder said that the funds to implement this feature have just recently been awarded to Alameda County. He said that the schedule calls for an operating selectively routed system by June of 1978. He said the ANI capability will follow within six months. He said that ALI has not yet started. He said they are still in the early stages of ALI design. Schroeder added that Bell Labs were doing some work to support the Alameda County ALI system development; but that the design is not yet final.

Representatives from the Quad Cities area pointed out some of the peculiarities of the Quad Cities situation and expressed hope that the problems brought on by having to deal with two separate operating companies could be overcome by close liaison between Northwestern Bell and Illinois Bell. He said they were hopeful that the Quad Cities area 911 project would show how to go about overcoming the differences that exist between operating systems.

Scarlett asked Krieger whether there were any regulations which in any way impeded cooperation between Bell operating companies and independent telephone companies. Krieger said it was a legal matter ... to transfer proprietary information. He said it is necessary to provide for compensation to the company that develops the proprietary information. Scarlett said the problem appeared to be between Minnesota and California or between Illinois and Iowa, as well.

Brekken asked whether LEAA guidelines required the sharing of systems developed with federal dollars. Schroeder answered that federal guidelines did require this; but that local match was also involved. Schroeder said he would look into the matter.

Scarlett suggested that, at the state level, the liaison should be developed between California, Illinois, Iowa and Minnesota to see what needs to be done to permit smooth and efficient transfer between states. He said that if there is a way to save money, we had better get started on it.

Krieger pointed out that there is a lot of inter-company cooperation. He said non-proprietary information has been readily available. He said the only problem has been with the customer proprietary information. Brekken said that Hennepin County is particularly interested in exploring this question further. He said it is very much needed.

J. COORDINATING IMPLEMENTATION OF 911 FEATURES

Enright asked whether Hennepin County intended to proceed with the implementation of its 911 system on its own or whether it intended to wait and proceed as a part of a seven county 911 program. He also asked whether Hennepin County would be willing to cut over without ALI. O'Sullivan answered that Hennepin County had no intention of implementing 911 on its own. With respect to ALI, he said that Hennepin County and other governments in the region do not have enough information on ALI to make a decision. Scarlett agreed. He said that O'Sullivan's statement reflected the feeling of all seven 911 planning committees. He said ALI is looked on as strictly an optional feature. He said that the Twin Cities area 911 planners are in the process of getting additional information on ALI from Northwestern Bell.

Rooney said that it would be logical to phase in ALI over time. He said cutting over all systems and all features at the same time could cause operational problems. Enright countered that it did not seem to be that big a problem. He said Chicago turned on all elements of their system at once. He said they experienced no difficulty. He said that Alameda County is implementing 911 on a staged basis for some very good reasons. He said the Alameda County project is a standard, a trial. He said they want to evaluate each phase independently.

Scarlett said that Twin Cities area 911 people are faced with a practical problem. He said that, without accurate design and cost data, policymakers here are not going to be able to make a decision on ALI. He said that planners here have been told that they could not look at cost data until a system is developed. He said everyone on the 911 planning committees would like to see ALI implemented. He said ALI is particularly important as local governments combine and consolidate their dispatching operations. He said multi-jurisdictional dispatching creates interest in more accurate location information. He said communications people want to know exactly where that call is coming from, so that they can be sure to alert the proper responding agency.

O'Sullivan pointed out that 911, by itself, doesn't appeal to many operational people. He said its clearly an advantage to citizens; but, by itself, may complicate the way public safety services are currently delivered. He said public safety communications people are much more interested in the advanced features that become possible with implementation of 911 service (ANI and ALI). He said if it weren't possible to get these features, its doubtful that local public safety people would be interested in 911.

K. PROBLEMS OF SMALLER INDEPENDENT TELEPHONE COMPANIES

On another subject, Don Jacobsen asked whether there are any independents in the Twin Cities area who, by virtue of their central office equipment, will not be able to interface with the Bell System, without a tremendous front end investment. Krieger said the only possible problem might be in clearing the ninth level. He said the Minnesota Public Service Commission has stated they would not permit these 911 related modification costs into the telephone company rate base.

Jacobsen pointed out that they have a number of small independent telephone companies that cannot afford that initial modification cost. He asked whether Northwestern Bell would be assisting the smaller companies with the financing of these modifications. Krieger said that Northwestern Bell would not be able to assist in that way. He said they would be able to provide technical consultation and there has been no problem interfacing switches.

Rooney described the multi-year local planning effort that preceded the passage of 911 legislation in Minnesota. He pointed out that almost every telephone company in Minnesota had been consulted during the early planning process. He said that data on central office modification costs was collected also. Rooney described a number of problems faced by smaller telephone companies in Minnesota.

L. CONSOLIDATION OF COMMUNICATIONS OPERATIONS

Jacobsen asked whether there has been any attempt to consolidate public safety communications safety services in conjunction with 911 planning. Rooney answered that there was considerable interest in communications consolidation in various places around Minnesota. He said that his consulting firm recommended fifty thousand population as the minimum size for maintaining a 24 hour service. Rooney went on to discuss various factors affecting the decision to consolidate communications services. He said there were some cases in Minnesota where multi-county consolidation might be feasible. He said that 911 has accelerated the interest in consolidation in many areas. Rooney described some of the consolidation efforts under way in the metropolitan area. He said that Hennepin County had been investigating alternative methods for consolidating or clustering.

Scarlett said that the Minnesota 911 legislation makes it clear that these decisions are to be made in each county. He went on to describe in more detail, which counties were currently considering some form of communications consolidation. Scarlett added, that in order to maintain satisfactory progress toward 911 implementation in the metropolitan area, it is going to be necessary to implement 911 on a decentralized basis in some areas. He emphasized the importance of having local county and city administrative and elected officials involved in the local planning process from the very beginning. He said they are the ones that will have to vote on the plans and incur the expenses. He said they are the ones who have to deal with the problems of centralization or decentralization.

Jacobsen said that, in his experience, the cost of public safety dispatching is often hidden in various budgets. He said local units are often in disbelief when they see what it is really costing. He said that studies often omit the cost of personnel and other related costs. Rooney and Jacobsen discussed the various methods of determining situations where consolidation is warranted.

M. FINANCING CENTRAL OFFICE MODIFICATIONS

Enright asked whether it had been determined who would pay for the cost of converting telephone central offices in Minnesota. Scarlett pointed out that the Minnesota Public Service Commission had stated they would not permit incorporation of central office conversion or modification costs into the rate base. He said the PSC wished to protect subscribers of small independent telephone companies from disproportionate rate increases. Krieger added that Northwestern Bell has been implementing a substantial upgrading program in the metropolitan area and that they will be replacing all of their step offices with ESS or equivalent equipment. He said that, by 1980, they expect to have no more than six or seven step by step offices in the area. He said that company engineers do not believe that these upgrade expenses are assignable to 911.

Enright described situations in Illinois where many small companies will have to upgrade just to make room for 911. Scarlett said that 911 planners and the telephone companies are working with the Public Service Commission to develop appropriate policies for financing central office modifications. He said that, in the past, the Public Service Commission has permitted the incorporation of certain 911 related modification costs into telephone company rate bases. He expressed hope that the PSC would continue to be flexible on this question of central office modification costs. He said the PSC was concerned that, without some controls, people outside the metropolitan area would be paying for services available only in the metropolitan area. Scarlett pointed out that the Commission on 911 Financing is also looking into this question.

Jacobsen asked whether the Public Service Commission would approve the separate 911 tariff. Scarlett said that the PSC would be reviewing all 911 offerings. He said all 911 equipment would be subject to PSC regulation. He said that he expects these problems to be solved over the next several years.

Rooney pointed out that many telephone companies in the state have already adapted their equipment to make way for 911. He said, in many ways, there may be no variable cost associated with the conversion. He said the problem lies in the inequities that might result when some of the smaller companies attempt to provide 911 service. Scarlett added that cross-bar and ESS modification costs are negligible.

Don Jacobsen and Dave Enright discussed Illinois Commerce Commission regulations and 911 tariffs. Enright said he was not aware of any new tariff ... especially a new tariff for 911 trunking.

Schroeder asked whether the implementation of 911 service in Minnesota was presently constrained by the lack of appropriate equipment in central offices. Krieger answered that a substantial portion of the state could implement 911 services without any problem. He said that the metro area, for example, would have very few central offices that will not be able to handle 911 by 1980. He said that many of the necessary changes were made along with other upgrading programs. He said that since these changes were made along with other exchange modernization activities, Bell has disregarded the cost. Other telephone company representatives pointed out that it is wise to delay installation of 911 until upgrade and modernization plans are completely implemented.

Scarlett said that the Minnesota Public Service Commission had requested central office upgrading plans from each telephone company by 11/01/77. He said that, as county 911 plans come in, the PSC will be recommending a 911 implementation schedule that minimizes disruption of these plans. He said if local governments put pressure on the telephone companies to implement 911 earlier, the Public Service Commission will step in and mediate. He said this is something the PSC is well suited to do. Iowa telephone company representatives pointed out that they are usually able to implement 911 service within 18 months of order. He said that some small towns do not have ESS and will never have it.

N. MINNESOTA'S APPROACH TO 911 FINANCING

Schroeder asked about the projected annual recurring costs of 911 in Minnesota. Scarlett described what these costs were and described the meaning of the word "911 network" as used in Minnesota. Scarlett said that the Minnesota approach to 911 implementation and financing was intended to avoid a "patch work quilt or polka-dot" effect in 911 implementation. He said the existing 911 legislation makes it possible for a county to go ahead and extend 911 service to all areas of the county. He said the 911 network, as defined, includes only the trunking and outswitching equipment necessary to deliver 911 calls to the local public safety answering point. He said this definition includes automatic selective routing equipment where it is appropriate.

O. ALTERNATIVES TO DIRECT TRUNKING

Don Jacobsen asked whether 911 planners had considered the possibility of using a dedicated trunk and a switch line to provide a satisfactory minimum grade of service. Krieger answered that it is possible to do that only in a common control office. He said that it is not possible to do that in a step by step office. He said the problem is that in a breakdown the other lines will likely be busy too. He said dedicated service is the only way to ensure a given grade of service. Krieger went on to discuss other characteristics of a switched trunk network. Rooney pointed out that a number of alternatives have been explored for delivering a satisfactory minimum grade of service in the rural areas of Minnesota. He said that most desirable features would not be available on a switched trunk network.

After additional discussion on various technical matters, the meeting was adjourned. The majority of the people in attendance continued their discussion over lunch and then returned to a smaller meeting room for the exchange of addresses and telephone numbers.

All who attended agreed to continue the exchange of information.

/clp

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END