"911--How It Got Here And What It Is"

Prepared by

John J. O'Malley

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Mr. John J. O'Malley
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554
(202) 632-7500.

Significant developments in 911 which have occurred since the paper was prepared are as follows: The City of Philadelphia, Pennsylvania, cut over to 911 in March, 1974, adding approximately 2 million persons to those receiving 911 services; and Montgomery, Alabama; Juneau, Alaska; Monterey County, California; Broward County, Florida; Indianapolis, and Muncie, Indiana; Montgomery County, Maryland; Lowell, Massachusetts; and Newark, New Jersey are among the major cities and counties which are scheduled for 911 service during 1974 or 1975.

As of March, 1974, within Bell System territories alone, there were 314 911 systems serving nearly 27 million people, with 77 more systems scheduled to serve an additional 5.5 million people. In independent telephone company territories there are at least 152 cities representing a population of over 2.2 million people where 911 is either in service or firmly scheduled.

John J. O'Malley

Thank you for inviting me to speak on Emergency Telephone Number 9-1-1.

In the two years that I have been with this program (on a part-time basis), I have spoken before a number of groups--most of which were involved in one way or another with telecommunications.

It is always difficult for me to know exactly what to say about 911--especially to an organization as diverse as this one--which is composed of "administrators, engineers, dispatchers, and technicians".

This is because so much has recently been published on the subject in telephone industry journals, local newspapers, and law enforcement publications, that there must be a wide variation of knowledge and opinion regarding 911, within groups like this one.

In addition to published information in trade journals, a growing number of Federal departments and agencies are involving themselves with 911. The Department of Commerce has an Information Center; the Department of H.E.W. has a major role to play applying 911 to Emergency Medical Service communication systems; the Department of Transportation has been involved with 911 under its responsibilities for enforcement of the Federal Highway Safety Act; and the Law Enforcement Assistance Administration should be included, also. I won't go into the role played by those agencies because, first, this would take quite some time; and second, it would more properly be done by the agencies themselves, before an audience concerned with a particular aspect of 911.

Apart from the Federal role that I have just mentioned, there is an important role which has been played by the states, the telephone companies, and some private engineering firms, which should not be ignored. Despite all this activity on a nationwide scale, I have found, surprising as it may seem, that there are some serious misconceptions, even among sophisticated audiences, as to how the 911 concept got started in the United States, and what it really means.

In the time that has been allotted to me, I would like to touch on those areas, and also speculate as to how I see the future of 911.

First, 911's past:

As some of you may know, the number "999" has been in use in Great Britain for over 30 years as the universal telephone number for calling police, fire, or rescue assistance. Not only do the dials of all British telephones have this number imprinted on them, but that number is also listed in the front pages of British telephone directories--with the cautionary note that "999" should not be used for non-urgent calls. The distinguishing feature of the British system is that telephone company operators handle the emergency calls, whereas under the "911" concept a designated public safety agency receives the calls.

Other telephone codes for calling emergency help are used on the continent of Europe. In Paris "17" is the emergency police number and "18" is the one for fire calls. There is no 2-digit number especially ear-marked for ambulance calls. In Vienna, the cover of the telephone directory lists "122" for police, "133" for fire, and "144" for rescue assistance. In Moscow "01" is the emergency fire number, "02" the

emergency police number, "03" the emergency ambulance number, and "00" calls the telephone operator.

I suppose that I could go on at some length describing the various telephone numbers employed in the principal cities and countries in the world to summon police, fire or rescue assistance. I think that I have said enough, though, to convey the impression that two-or-three digit telephone numbers are quite commonly employed especially in large cities throughout the world for summoning help in an emergency.

It is only fairly recently, however, that a special three-digit emergency telephone number has come into use in the United States. The fact that the impetus for such a special emergency telephone number did not develop in the United States until the late 1960's may be attributed to the fact that the United States telephone companies had widely advertised for a number of years that in the event of an emergency the telephone operator was available 24 hours a day, seven days a week to help render emergency calling assistance.

I think that we would all agree that the telephone company operator served the public well as an emergency operator in those days when most central offices were manually operated. I should add that reporting an emergency to the telephone operator was not the only way of summoning police, fire or rescue assistance. In most, if not all, cities and larger towns throughout the United States there were fire telegraph systems with street telegraph stations, "fire boxes", covering entire municipalities,

and in many of the large cities police telegraph stations with either keys or levers for turning in a "citizen's alarm" were also located on city streets. With the passage of time, however, the relative use of these telegraphs systems has declined with greater emphasis on radio and telephones.

I suppose that the telephone operator would still be the focal point for handling emergency calls today were it not for the fact that with the increasing use of automatic switching equipment by the telephone companies there has been a commensurate decrease in the number of operators. This, in turn, has led to a consolidation of operator locations so that today, in many large towns and moderately sized cities there are no telephone operators at all. So the local telephone operator who, thirty years ago, might have personally known where "12 Middle Street" was located because this was in her home town, which was also her place of employment, could not be expected to have such information today. This is because the "local operator" may be 50 or 100 miles away. But even if she is close by, the wide geographical area that she might have to serve would make it impossible for her (or him) to provide emergency assistance without more detailed information than she would have required 30 years ago.

With the great population movements within the United States since World War II, telephone boundaries have become less and less coincident with political boundaries. This condition has become particularly pre-

valent in suburban areas of large cities. So, even in areas where there are local telephone operators, if a person dialled "Operator" to report a fire at "12 Middle Street", the question the operator might have to ask is "Which City?" Perhaps, there were two or three "Middle Streets" within the boundaries of her service area, all served by different police and fire departments. In addition, after determining the correct city which the caller was located another problem might be introduced if an ambulance was requested, because in Community A the emergency ambulance service might be the responsibility of the police department; in Community B, the fire department; while in Community C it might be provided by a volunteer rescue squad or a private company.

In order to facilitate calling for emergency assistance, in light of these developments, the telephone companies commenced a few years ago to list the emergency telephone numbers of public safety agencies on the inside covers of their telephone directories. This is because 7-digit numbers are not easy to remember under stress. While this is, of course, very helpful it is easy for a person to dial the number of the wrong public safety agency under the stress of an emergency. Listing of these numbers is of value only if the calling party knows his location and a telephone directory is immediately available. If he is travelling and is not sure of the particular community he is in, a listing of emergency telephone numbers in a directory is not of much use, even if the directory is handy.

While a good deal of thought had been given to these problems from the late fifties onward, it was not until the crime wave started to engulf the major cities that intense interest was focused on the problem of communicating emergency messages quickly and effectively to the appropriate public safety agency. Congressman Roush of Indiana has been from the outset, and still is, actively interested in this problem, and has been very instrumental in promoting the implementation of 911 on a nationwide scale.

On the Federal Executive Branch side, the President's Commission on Law Enforcement and the Administration of Justice, in considering the ways and means that law enforcement could be made more efficient and effective, decided in 1967 that the response time to complaints could be significantly shortened, particularly in large cities, by the adoption of a single, nation-wide emergency telephone number which could be used for summoning police assistance. That Commission transmitted its finding to the FCC for appropriate attention. (Prior to 1967, the President's Commission on Civil Disorder had made a similar finding.)

Both Presidential commissions felt that the use of either a multiplicity of 7-digit emergency telephone numbers or the telephone company operator introduced delays in the response of police assistance which could be avoided by the use of a single, nationwide emergency telephone number, answered by a person specially trained in handling emergency calls.

Of course, the question of whether there should be a single, nationwide police emergency telephone number led to the further thought that perhaps there ought to be nationwide emergency telephone numbers for summoning fire and rescue assistance, also.

It became quite apparent to AT&T that the development of three separate nationwide emergency telephone numbers terminating in perhaps three different locations in every municipality in the United States could create some very complex technical problems which, first, would not be solvable without the expenditure of prohibitive amounts of money; and, second; involve unacceptable delays in implementing a nationwide program.

With these considerations in mind, AT&T in early 1968 concluded that it was feasible to reserve "911" as a nationwide emergency telephone number to be used in summoning police, fire, or rescue assistance.

On January 11, 1968, AT&T publicly announced its 911 decision.

The AT&T policy decision of January 1968, simply stated, means that generally throughout the United States the 911 code has been reserved to be used by public safety agencies for the receipt of emergency calls for police, fire, or rescue assistance. Present policy requires, first, that the initiative for the adoption of the 911 code in a particular area come from the city, town, or county concerned; and, second, even though three different services are involved--police, fire, and rescue--that all 911 calls in a particular area must terminate in a single answering point.

We recognize that while the concept of a single, nationwide, emergency telephone number has great appeal and makes good sense, there are some problems involving the adoption of "911" on a nationwide basis which are not within the competence of any single agency or organization to solve. First, we recognize at the FCC that this is primarily a local, rather than an interstate, matter; that the decision to adopt "911" in a particular area should come from the communities involved rather than from the telephone company or the Federal Government; and that there are technical problems such as the modification of telephone company central office equipment which can be very costly, especially for small, rural telephone companies. I should not gloss over this point--Conversion costs to accomodate 911 were estimated by AT&T to be $50 million. Some people considered that to be excessively high, but perhaps it was a bit low, if anything. The New York Public Service Commission in its study of 911 estimated conversion costs within New York State alone to be about $5 million. GTE has furnished us with cost figures recently which showed conversion costs for its system to be about $23 million for about 6 million c.o. lines. The cost for establishing coin-free 911 service (DTF) it estimated to be over $48 million. So you see costs to the telcos are a significant item. A lack of congruence between exchange boundaries and those of municipalities can also prove to be a serious problem (as I have already noted); and last but not least,

rivalry between public safety agencies can make the achievement of the 911 objective virtually impossible. What it all comes down to is that if the objective of a single, nationwide emergency telephone number is to be achieved, it can only come about by the voluntary, patient, cooperative efforts and good will of the public safety agencies concerned, the telephone companies, and the regulatory commissions.

I am happy to report that this cooperative effort has been fruitful.

As of last December, (1973), I have been advised that in AT&T operating company territories alone there were 311 "911" systems in operation serving nearly 27.5 million people. Sixty-two systems were also under development, to serve nearly 4 million more people.

While our figures are not as complete for the independent telephone companies, our best estimate is that there are about 1.5 million more people served by 911 in independent territories. So, as of now, about 29 million people receive 911 service throughout the U.S., with preparations underway to serve at least 4 million more. Now, one can be optomistic or pessimistic about these figures. To take the pessimistic side first, one could observe that since AT&T announced its "911" policy in 1968--over six years ago--only about 14% of the United States population is served by 911--or to put it another way: Six years after the 911 policy was announced about 86% of our people still do not have 911 service. The optimistic side is that during the past 6 years growth has not been even (or linear). It appears to be accelerating substantially, as more and more large cities and metropolitan areas--even states--give

it serious consideration. From the First Quarter of 1972 (when there were 227 systems in operation) to the Fourth Quarter of 1973 (when there were 311 systems in operation in AT&T territories alone) the growth was about 37%--or about 20% per year.

To me this looks very promising--particularly when it is considered along with the large amount of coverage that 911 is now getting in telecommunications periodicals alone. It seems that the tempo of public interest and press coverage of 911 is becoming increasingly greater.

One of the most influential groups that is becoming increasingly more interested in 911 on a national scale is the medical profession--especially, those physicians who are interested in emergency medical treatment--cardiopulmonary resuscitation and emergency cardiac care.

I would not be at all surprised if, over the next several years, that those physicians and the local heart associations might not be more influential in the national development of 911 than any other single group--Federal or local.

As many of you know, the interest of the medical profession in the passage of the Emergency Medical Service Systems Act of 1973 has been considerable. That legislation contains a specific reference to 911. Section 1206(b)(4)(c)(iii) provides that every emergency medical services system shall be supported by a central communications system, so that requests for emergency assistance can be handled by a communications facility which utilizes or within such period of time as the Secretary of H.E.W. prescribes, will utilize, 911.

H.E.W. representatives can, more appropriately state H.E.W. policy regarding implementation of 911 as it relates to emergency medical systems.

My point here is that I consider passage of the EMS Act with 911 language in it as perhaps the most significant development to date on the Federal level with regard to 911.

Things have been happening at the state level also. As many of you may know, the New York State Public Service Commission on November 20, 1973, after considering a staff report recommending adoption of "911" on a statewide basis, ordered all telephone companies in that state to install the necessary facilities so that "911" will become the statewide telephone number for reaching an operator at an emergency report center where such facilities exist, or reaching a telephone company assistance operator where no such facilities exist.

In all common control central offices, as well as all progressive control central offices where no major modifications are required, 911 service is required to be instituted on or before November 20, 1975.

All other central offices must be modified so that "911" service is available throughout New York State on January 1, 1978.

When "911" service is completely implemented in New York State about 10% of the United States population will be covered by 911 by that state's action alone. California, in addition to the Federal Government, has enacted legislation looking toward implementation of 911 throughout that state by 1982. The California legislature is required under the terms of the legislation to approve funding for the individual 911 systems, before

the system can be finally implemented. The matter of funding will be considered by the California legislature in 1977 after a final statewide system plan has been prepared and approved.

The State of Florida is also moving forward with a 911 study for that state, and studies looking toward implementation of 911 are going forward in Chicago, Minneapolis, Baltimore, and other places. The Oregon Public Service Commissioner in July, 1973 in a Pacific Northwest Bell rate case required that company to "move as rapidly as possible" toward converting public pay telephones to Dial Tone First and implementation of 911 throughout the State of Oregon. Since New York City cut over to "911" in July 1968 a number of other large cities, including Washington, D.C., Birminghan, Denver, Boston, Seattle, Detroit, Bridgeport, Connecticut, Jackson Missippi, and Omaha, among others, have adopted the number. The State of Tennessee alone had 42 systems in operation as of last June 30, including its three principal cities- Memphis, Nashville, and Knoxville. Several large counties have adopted "911" including Prince Georges County, Maryland; Suffolk and Nassau counties in New York; and Monterey County, California. We are not aware of any community having adopted 911 that later discontinued it.

I feel quite confident that within the next five years at least 50% of the United States population will be served by 911.

As I noted earlier, the problem in the last analysis is primarily a local one. But it is also national in scope, because its objective is to enable an individual wherever he is in the United States, to go to a telephone, dial "911" , and be put in touch with a person who is skilled in handling emergency calls, and who can, directly, or indirectly, provide emergency assistance to him.

With our population becoming increasingly mobile who can say that the concept is not a good one. I think that we will all agree that it is good to have a single, simple, easy-to-remember number to use for police, fire, or rescue assistance. However, to avoid any misunderstanding, it should be stated that if a community adopts "911" it does <u>not</u> mean that the local telephone company operator would be prohibited from continuing to provide emergency assistance if called; that local public safety agencies would have to give up their seven-digit numbers; that police, fire, and ambulance dispatching services would have to be combined; or that elaborate communications terminals would have to be installed.

The concept, pure and simple, is that the public be offered the "911" code in as many jurisdictions as possible, and as soon as feasible, to be used as an <u>additional</u> means for summoning emergency assistance. The amount of publicity to be given to "911," as well as decisions whether to modify communications facilities or abandon existing systems or 7-digit telephone numbers would be for the localities themselves to decide.

Before I close, I would like to touch on one thought that has bothered me about 911 that may be a common public misconception. That is, that 911 will solve all of an area's emergency problems.

Of course, it won't. 911 is only an easily accessible gateway to emergency help. It can cure response time problems only if the response problem was created by poor access to the public safety agency. (And it need not be the only gateway, or entry point.)

911 is only one link in the chain of events which starts with the detection of the emergency by someone; that person locating a telecommunications facility (radio, telephone, municipal fire box, etc.); transmitting an alarm or emergency message; its receipt by the public safety agency concerned; the prompt dispatch by that agency (or agencies) of appropriate emergency vehicles; their prompt arrival on the scene; and, finally, their disposition of the emergency condition.

It's a complex process involving good communications facilities, as well as high morale and competence in public safety personnel.

The best example of this that I have seen recently was in a newspaper article concerning an incident which took place in Birmingham, Alabama less than two months ago.

At 11:25 a.m. on Thursday, March 21, a Birmingham housewife walked into her kitchen loaded with groceries she had just purchased on a shopping trip. Unkown to her, there was a wasp in one of the grocery bags that flew out and stung her.

This particularly terrified the woman because she had been informed by her physician about 10 years before that she had an allergy to wasp stings, and that allergy could cause sudden death unless she received prompt medical attention.

The reaction to the wasp sting was so fast that even though she immediately started toward the telephone in the living room to call for help, she commenced to black out, and her throat began to tighten.

911 is in operation in Birmingham, and she remembered to dial that number, and she asked for the fire medics.

(Birmingham in the Fall of 1973 instituted a new fire rescue service which will eventually be composed of three rescue units in the city manned by specially trained medical technicians--"fire medics".)

Before she could give her address, she passed out. The time was 11:28 a.m.

In the meantime the emergency 911 operator had brought the fire department dispatcher on the line, and the housewife regained consciousness long enough to give him an address.

Afterwards, she was able to crawl to the kitchen door to unlock it and let the fire department personnel in. She then went to the refrigerator for ice to put on the site of the wasp sting, but passed out on the floor.

Meanwhile, the Birmingham Fire Department lost no time in responding.

A rescue unit was dispatched from downtown Birmingham, and an engine company dispatched from her section of the city. A Birmingham district fire chief heard the commotion on his radio and took off in his car from a meeting in downtown Birmingham.

The first unit to arrive, at 11:31--3 minutes later--the engine company, found the young lady unconscious, and began administering oxygen. It also radioed to the rescue unit for instructions. The rescue unit, in turn, was in touch with a physician at a local hospital who relayed emergency advice.

After noting that her condition appeared to become critial the fire rescue team decided not to wait for an ambulance, but to rush the woman to the hospital in the Chief's car. Upon arrival at the hospital, she was given an antidote, and recovered.

The moral of the story is that 911 by itself will not save a life, but when coupled with an alert, highly responsive public safety agency, and when employed with other means of communication--like radio--it can be a very significant factor in reducing casualties.

The final thought that I would like to leave with you is that while I have mentioned the considerable influence that the medical profession will undoubtedly have in the development of 911 on a national scale, I do not mean to overlook your influence.

You are key people. If your community or county has not yet decided on whether it will adopt 911, and the time comes when your opinion

is sought, and <u>if</u> you are not completely convinced that 911 is the best thing for your area, you might remeber "the Birmingham story"; and at least give 911 the benefit of the doubt.

Thank you.

END