

THE  
PROPOSAL  
FOR THE  
IMPLEMENTATION  
OF A  
COUNTY-WIDE 9-1-1 SYSTEM  
IN THE  
COUNTY OF CUYAHOGA, OHIO

Prepared by:

THE 9-1-1 PLANNING COMMITTEE

January 1986

APPROVAL  
-----

This document entitled "The Proposal for the Implementation of a County-wide 9-1-1 System in the County of Cuyahoga, Ohio" is approved for distribution to the Board of County Commissioners, the legislative authority of each municipal corporation and the board of trustees for each township in the County of Cuyahoga, Ohio pursuant to Section 4931.43 (A) of the Ohio Revised Code.

Mitchell J. Brown  
City of Cleveland

John Stumm  
City of Parma

Anthony Dinagan  
Municipal Corporations

Nick C. Vodanoff  
Boards of Township Trustees

Virgil E. Brown  
Board of County Commissioners

9-1-1 PLANNING COMMITTEE

Pursuant to Section 4931.42 (A) of the Ohio Revised Code, the County of Cuyahoga's 9-1-1 Planning Committee was established, effective July 1, 1985, by the Board of County Commissioners' Resolution No. 523321 as amended by the Board of County Commissioners' Resolution No. 526327.

MEMBERS:

<u>Name</u>	<u>Representing</u>
Commissioner Virgil E. Brown, Chair	Board of County Commissioners
The Honorable John Petruska	City of Parma
The Honorable Anthony C. Sinagra	Municipal Corporations Trustee
Trustee Nick C. Vodanoff	Boards of Township Trustees
The Honorable George V. Voinovich	City of Cleveland

STAFF:

Melvin B. Mixner II  
Paul A. Alsenas  
Michael G. Coyle  
Judith L. Bohanek

TABLE OF CONTENTS

	<u>Page</u>
Approval.....	i
9-1-1 Planning Committee.....	ii
Document's Purpose and Scope.....	iv
Community-To-PSAP Territory Index.....	v
<u>SECTION ONE - EXECUTIVE SUMMARY.....</u>	<u>1</u>
1.1 - Enhanced 9-1-1.....	1
1.2 - Public Safety Answering Point.....	2
1.3 - Costs.....	2
1.4 - Planning Process.....	3
1.5 - Approval.....	3
1.6 - Implementation.....	4
<u>SECTION TWO - ENHANCED 9-1-1 DESCRIPTION.....</u>	<u>5</u>
2.1 - Public Safety Answering Point.....	5
2.2 - PSAP Equipment.....	6
2.3 - Features.....	7
<u>SECTION THREE - COSTS.....</u>	<u>12</u>
3.1 - Network.....	12
3.2 - Public Safety Answering Point.....	13
3.3 - PSAP Cost Reduction Options.....	13
<u>SECTION FOUR - PSAP TERRITORIES.....</u>	<u>15</u>
APPENDICES	
A - Primary and Alternate PSAP.....	A.1
B - PSAP Index.....	B.1

DOCUMENT'S  
PURPOSE AND SCOPE  
-----

This document has been prepared pursuant to the requirements specified in Section 4931.43 (B) of the Ohio Revised Code. It is to provide the County of Cuyahoga's Board of County Commissioners, municipal corporations and boards of township trustees with written description of the proposed County-wide 9-1-1 System, the proposed Public Safety Answering Point (PSAP) Territories, the location of the Public Safety Answering Points, the System's features and operations, and the initial and recurring costs. This written notification will allow the Board of County Commissioners, the municipal corporations and the boards of township trustees to comment on and request revisions to the proposed County-wide 9-1-1 System prior to the 9-1-1 Planning Committee adopting "The Final Plan for Implementing a County-wide 9-1-1 System in the County of Cuyahoga, Ohio". This testimony may be presented in writing or orally at the public hearing required by Section 4931.43 of the Ohio Revised Code.

The contents of this document are based on the two questionnaires completed and returned to the 9-1-1 Planning Committee by the County of Cuyahoga's 60 communities, the oral testimony received by the 9-1-1 Planning Committee's staff at 7 regional 9-1-1 informational meetings, and on the technical requirements of the Enhanced 9-1-1 System.

COMMUNITY-TO-PSAP TERRITORY  
INDEX

Community's Name

PSAP Territory's Name

Bay Village, City of  
 Beachwood, City of  
 Bedford, City of  
 Bedford Heights, City of  
 Bentleyville, Village of  
 Berea, City of  
 Bratenahl, Village of  
 Brecksville, City of  
 Broadview Heights, City of  
 Brook Park, City of  
 Brooklyn, City of  
 Brooklyn Heights, Village of  
 Chagrin Falls, Township of  
 Chagrin Falls, Village of  
 Cleveland, City of  
 Cleveland Heights, City of  
 Cuyahoga, County of  
 Cuyahoga Heights, Village of  
 East Cleveland, City of  
 Euclid, City of  
 Fairview Park, City of  
 Garfield Heights, City of  
 Gates Mills, Village of  
 Glenwillow, Village of  
 Highland Heights, City of  
 Hunting Valley, Village of  
 Independence, City of  
 Lakewood, City of  
 Linndale, Village of  
 Lyndhurst, City of  
 Maple Heights, City of  
 Mayfield, Village of  
 Mayfield Heights, City of  
 Middleburg Heights, City of  
 Moreland Hills, Village of  
 Newburg Heights, Village of  
 North Olmsted, City of  
 North Randall, Village of  
 North Royalton, City of  
 Oakwood, Village of  
 Olmsted, Township of  
 Olmsted Falls, City of  
 Orange, Village of  
 Parma, City of  
 Parma Heights, City of

Bay Village✓  
 Beachwood✓  
 Bedford✓  
 Bedford Heights✓  
 Chagrin Falls✓  
 Berea✓  
 Bratenahl✓  
 Brecksville✓  
 Broadview Heights✓  
 Brook Park✓  
 Brooklyn✓  
 Cuyahoga Heights✓  
 Chagrin Falls✓  
 Chagrin Falls✓  
 Cleveland✓  
 Cleveland Heights✓  
 Cuyahoga County✓  
 Cuyahoga Heights✓  
 East Cleveland✓  
 Euclid✓  
 Fairview Park✓  
 Garfield Heights✓  
 Gates Mills✓  
 Solon✓  
 Highland Heights✓  
 Chagrin Falls✓  
 Independence✓  
 Lakewood✓  
 Cleveland✓  
 Lyndhurst✓  
 Maple Heights✓  
 Mayfield✓  
 Mayfield Heights✓  
 Middleburg Heights✓  
 Chagrin Falls✓  
 Newburgh Heights✓  
 North Olmsted✓  
 North Randall✓  
 North Royalton✓  
 Oakwood✓  
 Olmsted✓  
 Olmsted Falls✓  
 Chagrin Falls✓  
 Parma✓  
 Parma Heights✓

COMMUNITY-TO-PSAP TERRITORY  
INDEX

-----

Community's Name

PSAP Territory's Name

Pepper Pike, City of  
Richmond Heights, City of  
Riveredge, Township of  
Rocky River, City of  
Seven Hills, City of  
Shaker Heights, City of  
Solon, City of  
South Euclid, City of  
Strongsville, City of  
University Heights, City of  
Valley View, Village of  
Walton Hills, Village of  
Warrensville, Township of  
Warrensville Heights, City of  
Westlake, City of  
Woodmere, Village of

Pepper Pike  
Richmond Heights  
Cleveland  
Rocky River  
Broadview Heights  
Shaker Heights  
Solon  
South Euclid  
Strongsville  
University Heights  
Cuyahoga Heights  
Walton Hills  
Beachwood  
Warrensville Heights  
Westlake  
Chagrin Falls

SECTION ONE

EXECUTIVE  
SUMMARY

This section summarizes the 9-1-1 System proposed for the County of Cuyahoga, the costs associated with implementing and operating this proposed 9-1-1 System, and the organization and responsibilities related to this 9-1-1 System in the County of Cuyahoga. In addition, this Section describes the 9-1-1 planning and approval processes, and the projected 9-1-1 implementation date.

1.1 - ENHANCED 9-1-1

The 9-1-1 Planning Committee has decided that the Enhanced 9-1-1 System should be implemented on a county-wide basis within the County of Cuyahoga and that the following enhanced 9-1-1 features would be available to each of the County's 60 communities (cities, villages and townships):

- Selective Routing (SR).
- Automatic Number Identification (ANI).
- Automatic Location Identification (ALI).

The actual Enhanced 9-1-1 features that would be available in a given community would be dependent upon the equipment the community obtains for its Primary Public Safety Answering Point (PSAP). At a minimum and without the procurement of any equipment, the Selective Routing feature would be available in every community. The other possible feature combinations are Selective Routing and Automatic Number Identification, and Selective Routing, Automatic Number Identification and Automatic Location Identification. Refer to Section Two for a description of the Enhanced 9-1-1 features and to Section Four for the equipment necessary for all three features to be available in all of the County of Cuyahoga's communities.

The Enhanced 9-1-1 services will be provided by the Ohio Bell Telephone Company, the sole telephone company in the County of Cuyahoga.

1.2 - PUBLIC SAFETY ANSWERING POINT

Under the Selective Routing feature of the Enhanced 9-1-1 System, all 9-1-1 calls originating in a pre-defined geographic area are automatically routed to a pre-defined location for answering. This single answering point is called the Primary Public Safety Answering Point (Primary PSAP), and the geographic area is called the PSAP Territory. In Section Four, it is proposed that the County's 60 communities be grouped into 47 PSAP Territories with each having their own Primary PSAP.

Other types of PSAPs, which are defined in Subsection 2.3, are Alternate PSAP, Default PSAP and Secondary PSAP.

1.3 - COSTS

The 9-1-1 implementation and operational costs relate to the 9-1-1 Network and its Data Management System, and to the PSAP equipment. In each of these two areas there are initial and ongoing costs.

The estimated initial cost of installing the 9-1-1 Network and establishing the Data Management System is \$3,650,218. The cost of maintaining the 9-1-1 Network and the Data Management System is estimated to be \$938,856 per year.

The initial cost of the Primary PSAP equipment necessary to provide the Selective Routing, Automatic Number Identification and Automatic Location Identification features in all communities is estimated to be \$992,001. The initial cost of the equipment of the independent Secondary PSAPs is estimated to be \$244,060. The estimated initial cost of the equipment for the Default PSAP is \$20,612. Thus, the total estimated initial cost of the PSAP equipment as presently proposed is \$1,256,673. The ongoing annual cost of maintaining this PSAP equipment is estimated to be as follows:

<u>PSAP Type</u>	<u>Annual Cost</u>
Primary	\$ 566,196
Secondary	138,624
Default	<u>11,736</u>
Total	\$ 716,556

The above PSAP cost estimates are based on leasing the equipment from the Ohio Bell Telephone Company per the present P.U.C.O. tariffs.

Am. Sub. H.B. 491 defines the manner in which the 9-1-1 costs are to be distributed. The State of Ohio shall give the Ohio Bell Telephone Company a tax credit for the initial cost of the 9-1-1 Network and Data Management System. The ongoing costs of the 9-1-1 Network and the Data Management System are charged to all telephone subscribers in the County. Based on the present cost estimates, this surcharge would be 12 cents per line per month. The communities are responsible for all costs associated with equipping and maintaining a PSAP.

1.4 - PLANNING PROCESS

This document, the 9-1-1 Implementation Proposal, represents the first official step in the planning process as defined in Section 4931.43 of the Ohio Revised Code. At least 30 days but not more than 60 days after this 9-1-1 Implementation Plan has been mailed to the Board of County Commissioners, the legislative authorities of the municipal corporations and the boards of township trustees, a public meeting shall be held on the 9-1-1 Implementation Proposal. Up to and including the date of this public hearing, requests for revisions to the proposed 9-1-1 System from the County's communities will be considered.

After the public hearing, the 9-1-1 Final Plan shall be prepared for the consideration of the 9-1-1 Planning Committee. Within 9 months of its establishment, the 9-1-1 Planning Committee must adopt by majority vote the 9-1-1 Final Plan. If the 9-1-1 Planning Committee fails to adopt the 9-1-1 Final Plan within this 9 month period, it ceases to exist and the entire planning process must be repeated. Based on the July 1, 1985 establishment of the County of Cuyahoga's 9-1-1 Planning Committee, the County of Cuyahoga's deadline for adopting the 9-1-1 Final Plan is March 31, 1986.

All activities up to the point of the 9-1-1 Final Plan's adoption do not represent the approval of any of the County's 60 communities. On adoption of the 9-1-1 Final Plan, the approval process described in the following subsection is started.

1.5 - APPROVAL

The adopted 9-1-1 Final Plan is mailed to the Board of County Commissioners, the legislative authorities of the municipal corporations, and the boards of township trustees. These legislative authorities must accept or reject the 9-1-1 Final Plan within 60 days of its receipt. Failure to take action within 60 days is considered rejection.

The 9-1-1 Final Plan is approved if approved by the following:

1. Board of County Commissioners,
2. Cleveland City Council, and
3. Legislative authorities, including Cleveland City Council, of municipal corporations and townships representing at least 60 percent of the County's population.

The approval of the 9-1-1 Final Plan has the following significance:

1. The PSAP Territories and Primary PSAP will be implemented as specified in the 9-1-1 Final Plan.

2. No changes in PSAP Territories nor the Primary PSAP until after the 9-1-1 System is implemented.
3. The Selective Routing, Automatic Number Identification and Automatic Location Identification features will be available in all communities.

In regard to the latter item, the Enhanced 9-1-1 features only will be available to the communities. Whether the communities utilize all features is dependent on how they equip their Primary PSAP. At a minimum, all communities will have Selective Routing without obtaining any PSAP equipment. With Selective Routing only, all 9-1-1 calls originating in a PSAP Territory will be routed to a regular telephone instrument at the Primary PSAP.

#### 1.6 - IMPLEMENTATION

The Ohio Bell Telephone Company estimates that the County-wide 9-1-1 System can be implemented in the County of Cuyahoga 14-18 months after the 9-1-1 Final Plan is approved. Thus, it is feasible that 9-1-1 services will be available to individuals in the County of Cuyahoga during the last quarter of 1987.

SECTION TWO

ENHANCED 9-1-1  
DESCRIPTION

It is proposed that the Enhanced 9-1-1 System, as compared to the Basic 9-1-1 System, be implemented in the County of Cuyahoga since it does not require a central 9-1-1 call answering point, it provides the communities with control of their emergency call answering and emergency unit dispatching functions, and it can provide the telephone number and address from which a 9-1-1 call is being made. The remainder of this section describes the Enhanced 9-1-1 System, its equipment and its features.

2.1 - PUBLIC SAFETY ANSWERING POINT

Public Safety Answering Point or "PSAP" is the location to which a 9-1-1 call is routed for answering. The following paragraphs identify and define the various types of PSAPs and define the term "PSAP Territory".

PRIMARY PSAP

The Primary PSAP is the PSAP to which a 9-1-1 call is initially routed for answering. A Primary PSAP must be staffed 24 hours per day and 7 days per week. There is a "Night Service" option under which all calls will automatically be transferred to the PSAP's Alternate (see the following Item No. 3). There can only be one Primary PSAP per PSAP Territory. Refer to Appendix A for a list of the proposed Primary PSAPs.

SECONDARY PSAP

The PSAP to which the Primary PSAP may transfer 9-1-1 calls. A Secondary PSAP may be a Primary PSAP in a different PSAP Territory, and may serve as a Secondary PSAP for a number of Primary PSAPs. Appendix B identifies the proposed Secondary PSAPs.

#### ALTERNATE PSAP

The PSAP to which 9-1-1 calls are routed when the lines are busy or there is an equipment failure at the Primary PSAP. Every Primary PSAP must have an Alternate PSAP which must be staffed 24 hours per day and 7 days per week. An Alternate PSAP may be a Secondary PSAP in the same PSAP Territory or a Primary or Secondary PSAP in a different PSAP Territory. Refer to Appendix A for a listing of the proposed Alternate PSAPs. Refer to Subsection 2.3 for additional information on the Alternate Routing feature.

#### DEFAULT PSAP

The PSAP to which the 9-1-1 call is routed when the Enhanced 9-1-1 System cannot determine the PSAP Territory in which the 9-1-1 call is originating and, thus, the Primary PSAP to which the 9-1-1 call should be routed. It is proposed that the DECOMS CENTER PSAP serve as the Default PSAP for the entire County.

#### PSAP TERRITORY

The geographic area from which all 9-1-1 calls are routed to the same Primary PSAP. Refer to Section Four for a list of the proposed PSAP Territories and the communities included in each.

### 2.2 - PSAP EQUIPMENT

The equipment installed at a PSAP determines the Enhanced 9-1-1 features (see Subsection 2.3) that will be available to the individual answering the 9-1-1 call. At a minimum, no equipment other than a regular telephone is needed. To take advantage of all the Enhanced 9-1-1 features, the PSAP will need both ANI and ALI equipment. In addition, a printer may be installed at a PSAP to provide a hard-copy record of the 9-1-1 call activity. The following paragraphs describe the Enhanced 9-1-1 equipment.

#### ANI EQUIPMENT

The minimum ANI equipment for a PSAP is the ANI Controller, the ANI Transfer/Display Unit, and a regular telephone instrument on which the call is actually answered. In addition, an ANI Auxiliary Controller and ANI Additional Trunk Equipment may be required dependent on the number of incoming trunk lines and the number of ANI Transfer/Display Units at the PSAP.

The ANI equipment is needed for the 9-1-1 System to display at the PSAP the telephone number from which the 9-1-1 call is being made, and for the Alternate Routing Call Transfer, Forced Disconnect, Call Hold, Call Return and Hard Copy Record features (see Subsection 2.3).

## ALI EQUIPMENT

The ANI equipment is a prerequisite for the ALI equipment which at a minimum would consist of the ALI Controller and the ALI Display Unit. In addition, ALI Miscellaneous Wiring is needed for each ALI Display Unit. Also, an ALI Auxiliary Controller may be needed depending on the number of ALI Display Units at the PSAP.

The ALI equipment is needed in order for the 9-1-1 System to display at the PSAP the address from which the 9-1-1 call is originating.

For those communities considering a computer-assisted dispatch (CAD) system, the ALI Display Unit and the ALI Miscellaneous Wiring is displaced by the CAD System's visual display terminal.

## PRINTER

It is possible to hook a computer printer to the ANI Controller to provide a hard copy record of the 9-1-1 call activity (see Subsection 2.3). The level and volume of 9-1-1 call activity at the PSAP will determine the print speed required on the hard-copy printer.

With just the ANI equipment, the printer will print the number from which the 9-1-1 call is being made, the date of the 9-1-1 call, and the call ring, call answered, call transferred and/or call terminated times. With the ANI and ALI equipment, the printer will print on demand the address from which the call is being made.

## TRUNK LINES

New trunk lines will be installed at the PSAP for incoming 9-1-1 calls. Once the 9-1-1 System is operational, a community may reduce the number of present incoming trunk lines they have for incoming emergency calls. However, a community must maintain at least one seven digit telephone number and the related trunk line.

## 2.3 - FEATURES

The Enhanced 9-1-1 features available at a PSAP are directly dependent on the equipment installed at the PSAP. The table following this page lists the Enhanced 9-1-1 features and the equipment required for each feature. The narrative in this subsection describes the Enhanced 9-1-1 features.

SELECTIVE ROUTING

This feature automatically routes the 9-1-1 call to the Primary PSAP for the PSAP Territory in which the 9-1-1 call is originated. This feature will be available to all communities independent of how their Primary PSAP is equipped.

AUTOMATIC NUMBER IDENTIFICATION (ANI)

This feature displays the telephone number from which the 9-1-1 call is being made on the ANI Transfer/Display Unit at a PSAP.

ENHANCED 9-1-1 FEATURES  
EQUIPMENT REQUIREMENTS

---

Feature	-----PSAP EQUIPMENT-----		
	Telephone	ANI	ALI Printer
Selective Routing	X		
Default Routing	X		
Automatic Number Identification	X	X	
Call Transfer	X	X	
Call Hold	X	X	
Call Return	X	X	
Forced Disconnect	X	X	
Alternate Routing	X		
Automatic Location Identification	X	X	X
Hard Copy Record w/o Address	X	X	X
Hard Copy Record w/ Address	X	X	X

#### AUTOMATIC LOCATION IDENTIFICATION (ALI)

This feature displays on the ALI Display Unit at a PSAP the telephone number, address, type of telephone (residential, business, pay) from which the 9-1-1 call is being made and displays the police, fire and emergency medical service providers for this address.

#### ALTERNATE ROUTING

If the 9-1-1 lines are busy at the Primary PSAP, this feature will automatically route the 9-1-1 call to the 7-digit telephone number at the Primary PSAP. If the 7-digit telephone number is also busy, this feature will automatically route the 9-1-1 call to the Alternate PSAP defined for the Primary PSAP.

If there is an equipment or line failure at the Primary PSAP, this feature will automatically route the 9-1-1 call to the Alternate PSAP defined for the Primary PSAP.

#### DEFAULT ROUTING

When the 9-1-1 System can not determine the PSAP Territory from which a 9-1-1 call is originating and, thus, the Primary PSAP to which the 9-1-1 call is to be routed, this feature will automatically route the 9-1-1 call to the Default PSAP for answering. The Default PSAP would answer the 9-1-1 call, determine the nature and location of the emergency, and would contact via telephone or radio the appropriate dispatch center for the dispatching of the appropriate emergency unit. It is proposed that the CECOMS CENTER PSAP would serve as the county-wide Default PSAP.

At this time, it appears that 9-1-1 calls originating from cellular telephones will be routed to the Default PSAP. However, research is in progress with the objective of routing such 9-1-1 calls to the appropriate Primary PSAP.

#### CALL TRANSFER

When the Primary PSAP is not responsible for dispatching the appropriate emergency, this feature of the ANI Transfer/Display Unit is to transfer via "one-button-transfer" the 9-1-1 call to the PSAP equipment or to a telephone at the appropriate dispatch location. The ANI Transfer/Display Unit has a capacity of 8 pre-programmed "one-button-transfers". When the 9-1-1 call is transferred, the Primary PSAP operator may stay on the line or hang up.

If the Primary PSAP does not have an ANI Transfer/Display Unit, it will be necessary for the PSAP operator to transfer the 9-1-1 call via the regular telephone system or radio, or to take the information from the 9-1-1 caller if possible and transmit it in some manner to the appropriate dispatch center.

#### CALL RETURN

If a Primary PSAP with an ANI Transfer/Display Unit routes a 9-1-1 call to an incorrect Secondary PSAP which is also equipped with an ANI Transfer/Display Unit, the operator at the Secondary PSAP may return the call to the Primary PSAP or to another pre-programmed PSAP via "one-button-transfer".

If the PSAP incorrectly receiving a 9-1-1 call does not have an ANI Transfer/Display Unit, then the operator must transfer the call to the appropriate PSAP via the regular telephone equipment.

#### CALL HOLD

The operator at a PSAP may place a 9-1-1 caller on hold. The telephone number and address displays will reappear on the display units at the PSAP when the 9-1-1 caller is taken off hold if the 9-1-1 caller has not hung up the telephone.

#### FORCED DISCONNECT

This feature of the ANI Transfer/Display Unit permits the PSAP operator to clear a 9-1-1 line into the PSAP whenever necessary to prevent an individual(s) from tying up the 9-1-1 lines. It should be noted that the misuse of the 9-1-1 system is a felony.

#### HARD-COPY RECORD

This feature permits the production of a hard-copy record of the 9-1-1 call activity, if the PSAP has at least the ANI equipment. Refer to Subsection 2.2 for additional information on this feature's capabilities.

SECTION THREE

COSTS

The cost of implementing and operating the Enhanced 9-1-1 System relates to the 9-1-1 Network and its Data Management System, and to the equipment installed at the Public Safety Answering Points (PSAP). This section defines these costs and indicates who is responsible for them. It should be noted that Am. Sub, H.B. No. 491 specifies who is responsible for the various cost elements.

In addition, suggestions are provided on how the County's communities may reduce their 9-1-1 costs.

3.1 - NETWORK

The Enhanced 9-1-1 System will require the installation of a separate trunk line network in the County and the installation of additional trunk lines at the PSAP. Also, if sufficient space is not available on the present telephone sets at the PSAP, larger telephone sets must be installed. Additional trunk lines and telephone sets installed after the 9-1-1 implementation are also included in these costs.

The Data Management System is Ohio Bell's computer system which determines the telephone number from which a 9-1-1 call is being made and the Primary PSAP to which the 9-1-1 call is to be routed, and which links the telephone number to the address and the emergency service providers for the address. Prior to the implementation of the Enhanced 9-1-1 System, the data base required by the Data Management System must be established. After the 9-1-1 System is implemented, this data base must be updated daily to assure the Enhanced 9-1-1 System's Selective Routing, Automatic Number Identification and Automatic Location Identification features provide accurate information.

The one-time cost of installing the 9-1-1 Network and establishing the Data Management System's data base is estimated to be \$3,650,218. The State of Ohio will pay this cost via a tax credit to the Ohio Bell Telephone Company. The estimated annual cost of maintaining the 9-1-1

Network and the Data Management System's data base is \$938,856. All telephone subscribers in the County of Cuyahoga will equally contribute to this ongoing cost at the rate of 12¢ per line per month.

### 3.2 - PUBLIC SAFETY ANSWERING POINT

The Public Safety Answering Point's (PSAP) costs are primarily related to the equipment installed and maintained at the Primary, Secondary and Default PSAP. Subsection 2.2 describes the various PSAP equipment and Section Four presents the proposed equipment configuration for the PSAP Territories and their included PSAP. The equipment configuration presented in Section Four is based on the data obtained from the questionnaires completed by the communities and on the PSAP having all of the Enhanced 9-1-1 features.

The installation and monthly lease costs provided in Section Four are for the lease of the ANI and ALI equipment from the Ohio Bell Telephone Company pursuant to the present P.U.C.O. tariff for this equipment. Included in this lease cost is the maintenance of the equipment.

The ANI and ALI equipment may be purchased, but not from the Ohio Bell Telephone Company. The purchase price of a minimum ANI/ALI equipment configuration would be \$200,000-\$250,000 plus approximately \$600 per month for maintenance. The lease of this same minimum configuration would be \$18,526 one-time installation charge and \$895 per month.

In regard to the printer, the installation cost quoted in Section Four is for the purchase of a low-speed printer from a local computer store. The cost would be greater than \$400 if a higher speed printer is needed.

Based on the equipment proposal presented in Section Four, the county-wide costs of equipping and maintaining the PSAP are as follows:

<u>PSAP Type</u>	<u>Installation</u>	<u>Monthly Lease</u>
Primary	\$ 992,001	\$ 47,183
Default	20,612	978
Secondary	<u>244,060</u>	<u>11,552</u>
TOTAL	\$ 1,256,673	\$ 59,713

### 3.3 - PSAP COST REDUCTION OPTIONS

The PSAP costs are influenced by the manner in which a PSAP is equipped, Secondary PSAP, and the number of communities in the same PSAP Territory.

Changes in any of these items can reduce or increase the PSAP costs. The various options available, short of not implementing 9-1-1, are presented in the following paragraphs.

#### PSAP EQUIPMENT

The equipment needed at a PSAP is directly related to the Enhanced 9-1-1 features wanted at the PSAP. The equipment configurations in Section Four are based on all features being installed. The table included in Subsection 2.3 indicates the equipment required for the Enhanced 9-1-1 features.

It is each community's decision as to what features it wants available at its PSAP. Using the table included in Subsection 2.3, a community can determine the reduction in the costs quoted in Section Four that can be accomplished by eliminating features and, thus, equipment.

If a community does not want any additional costs as the result of 9-1-1, then they will only have the Selective and Default Routing features available.

#### SECONDARY PSAP

If a Secondary and Primary PSAP are located in the same building, they will both utilize the same ANI and ALI Controllers. Thus, the savings of eliminating the Secondary PSAP would only be the cost of the ANI Transfer/Display and ALI Display Units located at the Secondary PSAP.

However, if the Secondary PSAP is located in a different building than its Primary PSAP, a significant cost reduction can be realized by eliminating the equipment at the Secondary PSAP. With the elimination of such a Secondary PSAP, it should be remembered that all Enhanced 9-1-1 features will still be available at the Primary PSAP and, thus, no 9-1-1 information will be lost to the PSAP Territory.

#### PSAP TERRITORY

If communities A, B and C are each separate PSAP Territories, each will have their own Primary PSAP with a combined minimum installation cost of \$55,578 and a combined minimum monthly cost of \$2,685. If the 3 communities combined into a single PSAP Territory with a single Primary PSAP, the total minimum costs for the 3 communities would be reduced to \$18,256 for installation and \$895 per month. However, this cost reduction would not be realized if a Secondary PSAP were equipped in the 2 communities in which the Primary PSAP is not located.

SECTION FOUR

PSAP  
TERRITORIES

As indicated by the Community-To-PSAP Territory Index included on Pages v and vi of this document, it is proposed that the County of Cuyahoga's territories be divided into 47 Public Safety Answering Point (PSAP) Territories with the boundaries of these PSAP Territories following established municipal corporation and township boundaries and a single county-wide Default PSAP.

Following in this section are PSAP Territory Proposal Sheets which present the following information for each of the 48 PSAP Territories:

- Included municipal corporations and/or townships.
- Primary PSAP.
- Alternate PSAP.
- Secondary PSAP, if any.
- Description of how 9-1-1 communications would function.
- Cost Summary and Allocation.
- PSAP Equipment and Costs.
- Five Year Costs.

Immediately following this page is a list of the PSAP Territories and the communities included in each. The "PSAP Territory Proposal Sheets" are in alphabetical sequence by PSAP Territory Name. It should be noted that there is a "Cuyahoga County" PSAP Territory. This PSAP Territory is for only "Default Routing" to the CECOMS Center which would serve as the County-wide Default PSAP.

PSAP TERRITORY-TO-COMMUNITY  
INDEX

<u>PSAP Territory's Name</u>	<u>Communities Included in the PSAP Territory</u>
Bay Village	Bay Village
Beachwood	Beachwood, Warrensville Township
Bedford	Bedford
Bedford Heights	Bedford Heights
Berea	Berea
Bratenahl	Bratenahl
Brecksville	Brecksville
Broadview Heights	Broadview Heights, Seven Hills
Brook Park	Brook Park
Brooklyn	Brooklyn
Chagrin Falls	Bentleyville, Chagrin Falls, Chagrin Falls Township, Hunting Valley, Moreland Hills, Orange, Woodmere
Cleveland	Cleveland, Linndale, Riveredge Township
Cleveland Heights	Cleveland Heights
Cuyahoga County	Cuyahoga County
Cuyahoga Heights	Brooklyn Heights, Cuyahoga Heights, Valley View
East Cleveland	East Cleveland
Euclid	Euclid
Fairview Park	Fairview Park
Garfield Heights	Garfield Heights
Gates Mills	Gates Mills
Highland Heights	Highland Heights
Independence	Independence
Lakewood	Lakewood
Lyndhurst	Lyndhurst
Maple Heights	Maple Heights
Mayfield	Mayfield
Mayfield Heights	Mayfield Heights
Middleburg Heights	Middleburg Heights
Newburgh Heights	Newburgh Heights
North Olmsted	North Olmsted
North Randall	North Randall
North Royalton	North Royalton
Oakwood	Oakwood
Olmsted Township	Olmsted Township
Olmsted Falls	Olmsted Falls

PSAP TERRITORY-TO-COMMUNITY  
INDEX

---

<u>PSAP Territory's Name</u>	<u>Communities Included in the PSAP Territory</u>
Parma	Parma
Parma Heights	Parma Heights
Pepper Pike	Pepper Pike
Richmond Heights	Richmond Heights
Rocky River	Rocky River
Shaker Heights	Shaker Heights
Solon	Glenwillow, Solon
South Euclid	South Euclid
Strongsville	Strongsville
University Heights	University Heights
Warrensville Heights	Warrensville Heights
Walton Hills	Walton Hills
Westlake	Westlake

APPENDIX A

PRIMARY AND ALTERNATE PSAP

The following indicates the population (1980 Census), Primary Public Safety Answering Point (Primary PSAP), and Alternate Public Safety Answering Point (Alternate PSAP) for each Public Safety Answering Point Territory (PSAP Territory):

<u>PSAP Territory</u>	<u>1980 Census Population</u>	<u>Primary PSAP</u>	<u>Alternate PSAP</u>
Bay Village	17,846	Bay Village Police	Westlake Police
Beachwood	11,623	Beachwood Police	Pepper Pike Police
Bedford	15,056	Bedford Police	Bedford Heights Police
Bedford Heights	13,214	Bedford Heights Police	Bedford Police
Berea	19,567	Berea Police	Brook Park Police
Bratenahl	1,485	Bratenahl Police	East Cleveland Police
Brecksville	10,132	Brecksville Police	Independence Police
Broadview Heights	24,570	Broadview Heights Police	North Royalton Police
Brooklyn	12,342	Brooklyn Police	Parma Heights Police
Brook Park	26,195	Brook Park Police	Middleburg Heights Police
Chagrin Falls	11,821	Chagrin Falls Police	Solon Police
Cleveland	574,428	Cleveland Police	Cleveland Fire
Cleveland Heights	56,438	Cleveland Heights Police	Cleveland Hts./Shaker Hts. Fire
Cuyahoga County	N/A	CECOMS Center	N/A
Cuyahoga Heights	3,968	Cuyahoga Heights Police	Garfield Heights Police
East Cleveland	36,957	East Cleveland Police	Bratenahl Police
Euclid	59,999	Euclid Police	Euclid Fire Station #1
Fairview Park	19,311	Fairview Park Police	Rocky River Police
Garfield Heights	34,938	Garfield Heights Police	Cuyahoga Heights Police
Gates Mills	2,236	Gates Mills Police	Mayfield Heights Police
Highland Heights	5,739	Highland Heights Police	Richmond Heights Police
Independence	6,607	Independence Police	Brecksville Police
Lakewood	61,963	Lakewood Police	Rocky River Police
Lyndhurst	18,092	Lyndhurst Police	Mayfield Heights Police
Maple Heights	29,735	Maple Heights Police	Bedford Police
Mayfield	3,577	Mayfield Police	Gates Mills Police
Mayfield Heights	21,550	Mayfield Heights Police	Lyndhurst Police

<u>PSAP Territory</u>	<u>1980 Census Population</u>	<u>Primary PSAP</u>	<u>Alternate PSAP</u>
Middleburg Heights	16,218	Middleburg Heights Police	Brook Park Police
Newburgh Heights	2,678	Newburgh Heights Police	Cuyahoga Heights Police
North Olmsted	36,486	North Olmsted Police	Fairview Park Police
North Randall	1,054	North Randall Police	Shaker Heights Police
North Royalton	17,671	North Royalton Police	Strongsville Police
Oakwood	3,786	Oakwood Police	Bedford Police
Olmsted	6,976	Olmsted Township Police	Olmsted Falls Police
Parma	92,548	Parma Police	Parma Fire
Parma Heights	23,112	Parma Heights Police	Brooklyn Police
Pepper Pike	6,177	Pepper Pike Police	Beachwood Police
Richmond Heights	10,095	Richmond Heights Police	Highland Heights Police
Rocky River	21,084	Rocky River Police	Westlake Police
Shaker Heights	32,487	Shaker Heights Police	Warrensville Heights Police
Solon	14,833	Solon Police	Chagrin Falls Police
South Euclid	25,713	South Euclid Police	University Heights Police
Strongsville	28,577	Strongsville Police	North Royalton Police
University Heights	15,401	University Heights Police	South Euclid Police
Walton Hills	2,199	Walton Hills Police	Bedford Police
Warrensville Heights	16,565	Warrensville Heights Police	Shaker Heights Police
Westlake	19,483	Westlake Police	Rocky River Police

APPENDIX B

PSAP INDEX  
-----

The following lists the proposed Public Safety Answering Points (PSAP) and indicates the function(s) each will serve.

<u>PSAP Name</u>	<u>Functions</u>
Bay Village Police	Primary for Bay Village PSAP Territory
Beachwood Police	Primary for Beachwood PSAP Territory Alternate to Pepper Pike Police PSAP
Bedford Fire	Secondary for Bedford PSAP Territory
Bedford Police	Primary for Bedford PSAP Territory Alternate to Bedford Heights Police PSAP Alternate to Maple Heights Police PSAP Alternate to Oakwood Police PSAP Alternate to Walton Hills Police PSAP
Bedford Heights Fire	Secondary for Bedford Heights PSAP Territory
Bedford Heights Police	Primary for Bedford Heights PSAP Territory Alternate to Bedford Police PSAP
Berea Fire	Secondary for Berea PSAP Territory
Berea Police	Primary for Berea PSAP Territory
Bratenahl Police	Primary for Bratenahl PSAP Territory Alternate to East Cleveland Police PSAP
Brecksville Police	Primary for Brecksville PSAP Territory Alternate to Independence Police PSAP
Broadview Heights Police	Primary for Broadview Heights PSAP Territory
Brooklyn Fire	Secondary for Brooklyn PSAP Territory
Brooklyn Police	Primary for Brooklyn PSAP Territory Alternate to Parma Heights Police PSAP
Brook Park Fire	Secondary for Brook Park PSAP Territory

COUNTY OF  
CUYAHOGA

<u>PSAP Name</u>	<u>Functions</u>
Brook Park Police	Primary for Brook Park PSAP Territory Alternate to Berea Police PSAP Alternate to Middleburg Heights Police PSAP
Chagrin Falls Police	Primary for Chagrin Falls PSAP Territory Alternate to Solon Police PSAP
Cleveland EMS	Secondary for Cleveland PSAP Territory
Cleveland Fire	Secondary for Cleveland PSAP Territory Secondary for Beachwood PSAP Territory (Warrensville Township) Secondary for Bratenahl PSAP Territory Alternate to Cleveland Police PSAP
Cleveland Police	Primary for Cleveland PSAP Territory
Cleveland Heights Police	Primary for Cleveland Heights PSAP Territory
Cleveland Hts/Shaker Hts. Fire	Secondary for Cleveland Heights PSAP Territory Secondary for Shaker Heights PSAP Territory Alternate to Cleveland Heights Police PSAP
Cuyahoga County - CECOMS Center	Default for Cuyahoga County PSAP Territory
Cuyahoga Heights Fire	Secondary for Cuyahoga Heights PSAP Territory
Cuyahoga Heights Police	Primary for Cuyahoga Heights PSAP Territory Alternate to Garfield Heights Police PSAP Alternate to Newburgh Heights Police PSAP
East Cleveland Fire	Secondary for East Cleveland PSAP Territory
East Cleveland Police	Primary for East Cleveland PSAP Territory Alternate to Bratenahl Police PSAP
Euclid Fire	Secondary for Euclid PSAP Territory Alternate to Euclid Police PSAP
Fairview Park Fire	Secondary for Fairview Park PSAP Territory
Fairview Park Police	Primary for Fairview Park PSAP Territory Alternate to North Olmsted Police PSAP
Garfield Heights Fire	Secondary for Garfield Heights PSAP Territory
Garfield Heights Police	Primary for Garfield Heights PSAP Territory Alternate to Cuyahoga Heights Police PSAP
Gates Mills Police	Primary for Gates Mills PSAP Territory Alternate to Mayfield Village Police PSAP

<u>PSAP Name</u>	<u>Functions</u>
Highland Heights Police	Primary for Highland Heights PSAP Territory Alternate to Richmond Heights Police PSAP
Independence Fire	Secondary for Independence PSAP Territory
Independence Police	Primary for Independence PSAP Territory Alternate to Brecksville Police PSAP
Lakewood Police	Primary for Lakewood PSAP Territory
Lyndhurst Police	Primary for Lyndhurst PSAP Territory Alternate to Mayfield Heights Police PSAP
Maple Heights Fire	Secondary for Maple Heights PSAP Territory
Maple Heights Police	Primary for Maple Heights PSAP Territory
Mayfield Police	Primary for Mayfield PSAP Territory
Mayfield Heights Fire	Secondary for Mayfield Heights PSAP Territory
Mayfield Heights Police	Primary for Mayfield Heights PSAP Territory Alternate to Gates Mills Police PSAP Alternate to Lyndhurst Police PSAP
Middleburg Heights Fire	Secondary for Middleburg Heights PSAP Territory
Middleburg Heights Police	Primary for Middleburg Heights PSAP Territory Alternate to Brook Park Police PSAP
Newburgh Heights Police	Primary for Newburgh Heights PSAP Territory
North Olmsted Fire	Secondary for North Olmsted PSAP Territory
North Olmsted Police	Primary for North Olmsted PSAP Territory
North Randall Police	Primary for North Randall PSAP Territory
North Royalton Police	Primary for North Royalton PSAP Territory Alternate to Broadview Heights Police PSAP Alternate to Strongsville Police PSAP
Oakwood Police	Primary for Oakwood PSAP Territory
Olmsted Falls Police	Primary for Olmsted Falls PSAP Territory Alternate to Olmsted Township Police PSAP
Olmsted Township Fire	Secondary for Olmsted Township PSAP Territory
Olmsted Township Police	Primary for Olmsted Township PSAP Territory Alternate to Olmsted Falls Police PSAP

COUNTY OF  
CUYAHOGA

<u>PSAP Name</u>	<u>Functions</u>
Parma Fire	Secondary for Parma PSAP Territory Alternate to Parma Police PSAP
Parma Police	Primary for Parma PSAP Territory
Parma Heights Fire	Secondary for Parma Heights PSAP Territory
Parma Heights Police	Primary for Parma Heights PSAP Territory Alternate to Brooklyn Police PSAP
Pepper Pike Police	Primary for Pepper Pike PSAP Territory Alternate to Beachwood Police PSAP
Richmond Heights Police	Primary for Richmond Heights PSAP Territory Alternate to Highland Heights Police PSAP
Rocky River Fire	Secondary for Rocky River PSAP Territory
Rocky River Police	Primary for Rocky River PSAP Territory Alternate to Fairview Park Police PSAP Alternate to Lakewood Police PSAP Alternate to Westlake Police PSAP
Shaker Heights Police	Primary for Shaker Heights PSAP Territory Alternate to North Randall Police PSAP Alternate to Warrensville Heights Police PSAP
Solon Police	Primary for Solon PSAP Territory Alternate to Chagrin Falls Police PSAP
South Euclid Fire	Secondary for South Euclid PSAP Territory
South Euclid Police	Primary for South Euclid PSAP Territory Alternate to University Heights Police PSAP
Strongsville Fire	Secondary for Strongsville PSAP Territory
Strongsville Police	Primary for Strongsville PSAP Territory Alternate to North Royalton Police PSAP
University Heights Fire	Secondary for University Heights PSAP Territory
University Heights Police	Primary for University Heights PSAP Territory Alternate to South Euclid Police PSAP
Walton Hills Police	Primary for Walton Hills PSAP Territory

COUNTY OF  
CUYAHOGA

PSAP Name

Functions

Warrensville Heights Fire

Secondary for Warrensville Hts. PSAP Territory

Warrensville Heights Police

Primary for Warrensville Hts. PSAP Territory  
Alternate to Shaker Heights Police PSAP

Westlake Fire

Secondary for Westlake PSAP Territory

Westlake Police

Primary for Westlake PSAP Territory  
Alternate to Bay Village Police PSAP  
Alternate to Rocky River Police PSAP