

ENGINEERING ANALYSIS STUDY
EMERGENCY MEDICAL AND CRIMINAL JUSTICE
COMMUNICATIONS SYSTEM
FOR THE STATE OF ALASKA

58647

prepared by
ELEC-COMM, INC.
ANCHORAGE , ALASKA

ENGINEERING ANALYSIS STUDY

**EMERGENCY MEDICAL AND
CRIMINAL JUSTICE COMMUNICATIONS
SYSTEMS
FOR STATE OF ALASKA**

NCJRS

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ACQUISITIONS

Prepared By

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Anchorage, Alaska
June 1978

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The technical material and data contained in this report were prepared under the supervision and direction of the undersigned, whose seals, as professional engineers licensed to practice as such in the State of Alaska are affixed below.



A handwritten signature in black ink that reads "Wayne Kincheloe". The signature is written in a fluid, cursive style.

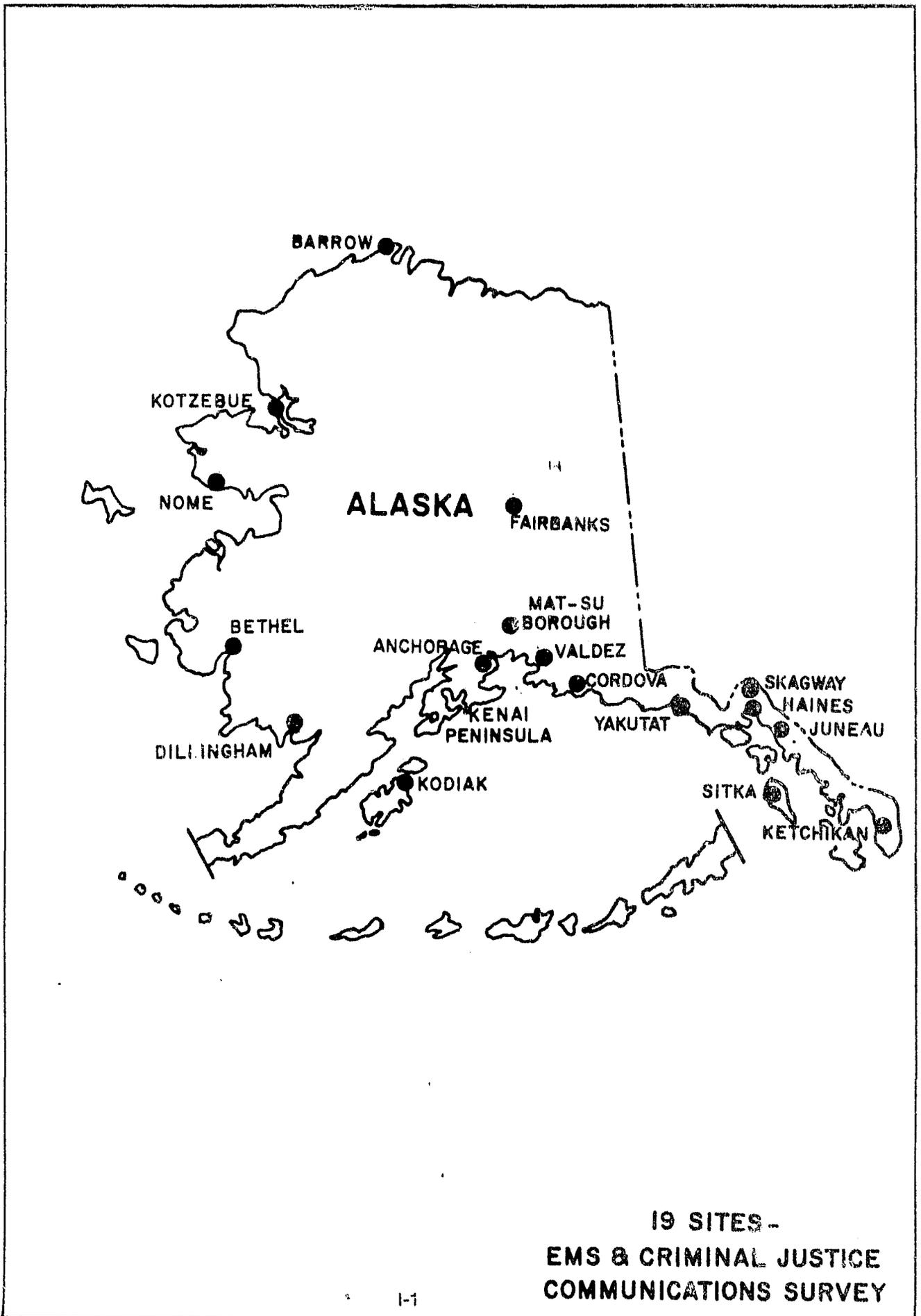
Wayne Kincheloe, P.E.
Wire Communications, Inc.

FOREWORD

The State of Alaska Office of Telecommunications requested technical assistance concerning a plan for a statewide system of emergency medical and criminal justice communications. In response to this request, Elec-Comm, Inc., under the conditions of the State of Alaska service contract, provided M. Wayne Kincheloe as consultant to prepare a plan document. This document summarizes the status of emergency medical and criminal justice communications and outlines recommendations for system improvements for 19 locations throughout Alaska. This contract period covers from December 1, 1977 through June 30, 1978. Funding for this project was provided by the State of Alaska Emergency Medical Services Section and the Criminal Justice Planning Agency. This project was supported by Grant Number **76-A-035**, awarded by the Governor's Commission of the Administration of Justice of **(Criminal Justice Planning Agency)**, with funds available from the Law Enforcement Assistance Administration under the Crime Control Act of 1976. Points of View of opinions stated herein are those of **(M. Wayne Kinihelor Elec-Comm, Inc.)** and do not necessarily represent the official position of the Governor's Commission on the Administration of Justice.

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19 SITES -
EMS & CRIMINAL JUSTICE
COMMUNICATIONS SURVEY

A. Scope

This report summarizes findings and recommendations of emergency, medical and criminal justice communications for 19 locations throughout Alaska (see map). In each location, the following procedures were completed:

- information gathered on existing communications, including systems operated by municipalities, and state or federal agencies;
- information on facilities and capabilities compiled according to service;
- methods of operation and existing system(s) described;
- recommendations made.

B. Summary of Communications Survey

Table I-1 presents an overview of citizen access numbers from the 19 designated locations. Although a large percentage of Alaska's population is covered by emergency telephone number "911, most localities are not. Furthermore, even some places which have "911" do not advertise or utilize "911" as the **single** access number, e.g., Dillingham, Bethel. Table I-2 summarizes primary radio frequencies for police/fire/ambulance for the 19 locations. Most ambulances in Alaska utilize the state-designated EMS frequency, 155.160 MHz. Local fire and police frequencies greatly vary. In the cases of a few smaller communities, the frequencies are shared, or the local police utilizes the AST Simplex frequency.

C. Summary of Area Recommendations

Following is a summary of recommendations by community. Please read the appropriate section in Chapter II for discussion and rationale.

Anchorage

- Create a new dispatch center
- Incorporate Fire Dept. dispatching
- Establish operations & administrative board for dispatch center
- Install center-dedicated computer system (computer aided dispatch)
- Install Automatic Call Distributing System
- Install instruments to allow display of caller's number
- Ensure that no alarm automatic dialers are connected to 911 lines
- Provide patrol officers with UHF portable radios
- Provide capability for outlying area ambulances to communicate directly with Anchorage hospitals
- Review ambulance dispatching on EMS frequency
- Equip ambulances with APDI and AST Simplex frequencies

Girdwood

- Install EMS base station in Hope area
- Equip ambulance with AST Simplex frequency
- Purchase portable pagers for EMT's
- Install EMS transmitter with pager encoder at the ambulance facility
- Purchase portable pagers for firefighters
- Retain 7-digit conference lines for back-up

Chugiak

- Equip ambulance with AST Simplex frequency
- Purchase 10 portable radios with page capability for EMT's
- Install base radio which can be accessed by seven-digit telephone number
- Purchase pagers for firefighters.

Barrow

- Retain common dispatch center
- Install 2 "911" lines with number I.D. Capability
- Install 2 7-digit business lines
- Review feasibility of G.T.'s upgrading telephone switching system
- Print individual telephone book
- Convert hospital-ambulance frequency to 155.160 MHz
- Add 155.160 MHz transceiver to center

Barrow, continued

- Add recording capabilities
- Add single tone signalling to hospital satellite system
- Add remote monitoring in hospital emergency room
- Provide pagers for physicians
- Equip ambulance with portable
- Install receiver on Wainwright VHF frequency (the Barrow dispatch center must switch their base radio to 155.25 MHz to talk with Wainwright and, therefore, they do not normally monitor the Wainwright frequency).
- Review SSB system
- See recommendations re: satellite system

Bethel

- Convert to 911 for police/fire/ambulance
- Utilize 911 for all ambulance calls
- Advertise 911
- Record 911 telephone lines and radio channels
- Utilize 911 for AST off-hours
- Equip center with base station on hospital frequency
- Upgrade ambulance & equip with portable radio on hospital frequency
- See recommendations re satellite system

Cordova

- Install mountain-top base radio on 155.250 MHz
- Co-locate public safety base radios
- Provide stand-by power for remote base radios
- Install a second crystal (155.250) in all city police cars
- Install HF in AST office
- Install 40 ch CB in AST office
- Install encoder/decoder ambulance-to-hospital radio system
- Install emergency base on 155.250 in Public Safety Building

Dillingham

- Establish report-in system for AST
- Install second 911 line
- Renovate dispatch center
- Add ambulance to be located at fire station
- Equip ambulance with 4-channel mobile with single tone encoder
- Equip Kana Kanak with EMS base radio
- Equip EMT's with EMS monitors
- Retain only day-time dispatchers & increase police force
- See recommendations re satellite system

Fairbanks

- Add state radio to Control Center
- Provide 911 call transfer capability to the State
- Add second recorder to telephone instruments
- Repair instant-recall recorders
- Upgrade alarm system
- Upgrade "call-box" system
- In the long-term engineer and plan to replace most of the Control Center equipment
- Install 155.160 MHz base stations near Donally Dome, Dot Lake, Beaver Creek
- Install 155.160 MHz and multi-tone encoders in Fbks. ambulances.

Haines

- Review possible installation of telephone/radio network
- Install 155.160 MHz frequency in clinic and ambulance
- Review feasibility of common dispatch for city Police/fire/ambulance and AST
- Install 155.250 MHz frequency in ambulance
- Review feasibility of areawide dispatch center
- Improve Skagway/Haines/Juneau police communications

Juneau

- Establish 911
- Establish common dispatch
- Add single tone encoders to ambulance radios
- Add decoder to hospital radios
- Add paging capability to hospital channel
- Equip on-call MD's with portable with paging capabilities

Kenai Area

- Install CB's in AST vehicles
- Encourage volunteer monitoring of CB channel 9

Soldotna-Kenai-Nikiski

- Establish common dispatch
- Install 911
- Consolidate police frequencies
- Consolidate fire frequencies
- Establish dispatch center as control point for EMS radio system
- Establish dispatch center as control point for AST peninsula radio repeater system
- Establish UHF paging

Seward

- Formalize common dispatch
- Establish dispatch center as control point for EMS radio system
- Establish UHF paging
- Install multi-channel recording

Homer

- Formalize common dispatch
- Install 911
- Establish dispatch center as control point for EMS radio system
- Establish UHF paging
- Install multi-channel recorder

Ketchikan

- Establish common dispatch
- Install 911
- Install AST repeater near airport
- Change EMS frequency to 155.160 MHz
- Equip hospital radio with tone decoder
- Equip ambulance radios with tone encoders
- Equip police officers and AST with portables with built-in pagers and lapel mikes
- Install CRT terminal at center
- Install continuously running recorder at center
- Make available stand-by power for center
- Establish operational administration boards

Kodiak

- Evaluate & upgrade equipment
- Improve dispatch center environment and security
- Staff full-time AST dispatch
- Conduct AST remote communications system
- Provide AST hotline to Anchorage

Kotzebue

- Install 3 911 lines
- Advertise 911
- Dispatch AST by common dispatch
- Record all radio and emergency telephone lines
- Equip center with EMS base station
- See recommendations re satellite system

Mat-Su Borough

- Establish a borough-wide common dispatch center
- Install area-wide 911
- Establish operating procedures and document in a manual for area wide dispatching
- Establish a two-tiered board for the dispatch center - one for administration and policy, one for operations
- Install a dual continuously running recorder to record all emergency telephone lines and radio channels

Palmer

- Install a tone decoder on Palmer's Hospital's 155.160 MHz base radio
- Disconnect the Anchorage AST extension 745-3333 and utilize that facility for an extension at Palmer AST connected to the Anchorage AST telephone switch
- Study the feasibility of replacing the above RCA leased facility with a state-owned facility

Willow/Trapper Creek/Talkeetno

- Install paging system for EMT's
- Purchase two portables for on-call EMT's at each location
- Purchase papers for all EMT's\$us

Butte

- Purchase papers for all firefighters

Nome

- Convert to 911
- Advertise 911
- Assure ambulance calls come in via 911
- Record 911 lines and radio channels
- Receive AST emergency calls via 911
- Equip center with EMS base station
- See recommendations re satellite system

Sitka

- Relay calls to fire station via one 911 line
- Replace signal circuit with 2-way ringdown
- Install caller telephone number display capabilities
- Establish 155.160 MHz as EMS frequency for both hospitals
- Equip ambulances with 155.160 MHz
- Equip ambulance mobile radios with encoders
- Equip hospital radios with decoders/encoders
- Install continuously running recorder attached to all 911 lines and radio channels
- Establish central dispatch

Skagway

- Add extension to city's administration line
- Install 911
- Add second emergency line
- Install 155.250 MHz in mobiles
- Install 155.250 MHz in police base radio
- Equip ambulance with 4-channel radio
- Advertise 911
- Incorporate police department into ambulance/fire dispatch loop

Tok

- Install Dot Lake EMS base control link to TOK clinic
- Install encoder/decoder on above circuit in clinic
- Install EMS base in TOK clinic
- Install UHF state paging transmittal/receiver in TOK
- Provide UHF pagers for firefighter & EMT's
- Install at least one VHA mobile in one fire vehicle operating on the state simplex frequency, 155.250 MHz

Tok, continued

- Provide written operating procedure for dispatchers
- Provide recorder in dispatch centers
- Install state AST repeater and EMS base radio between Glennallen and TOK
- Install 911 in TOK

Delta

- Provide "911" for Delta
- Establish 24-hour common dispatch
- Install EMS base radio with control link at Delta clinic and FMH
- Install tone encoder/decoder in clinic
- Install tone encoder in ambulance
- Provide written operation manual for dispatcher

Glennallen

- Provide two portables with page operating on the UHF paging transmitter/receiver for on-duty EMT's
- Provide pager-activated receiver in hospital
- Promote advertising for "911"
- Increase range of EMS base radios by removing them to: Toisona Mountain, Ernestine Mountain, one along the Richardson Highway and one along the Tok Highway
- Provide dispatchers a written operations manual
- Replace fire department VHF pagers with UHF pagers
- Provide UHF pagers for Copper Center firefighters
- Install continuously running recorder

Valdez

- Equip AST vehicles with radar units
- Create library-type atmosphere for dispatch center
- Establish operations board and administration board for common dispatch center
- Install additional 911 line
- Install continuously running recorder
- Install EMS base radio in hospital
- Equip ambulance radios with tone encoders
- Install remote CB, channel 9 along Glennallen highway
- Provide caller number ID on 911 lines

Yakutat

- Install 2-frequency base station at 3 locations
- Install paging encoder to proposed W.B. base radio
- Retain fire/ambulance paging system on 154.445 MHz
- Install vehicular type mobile repeaters in both AST vehicles
- Equip AST officer with UHF portable with pager
- Establish 911

D. SUMMARY OF RECOMMENDATIONS

1.0 Mobile Dispatching

- add second 911 trunk
- provide 3-digit codes for line answering
- install portable panic button

2.0 Citizen Access-Highways

- install remote CB base stations along highways with tone decoder
- advertise emergency CB system for citizen use
- provide citizen instruction
- install CB radios in AST vehicles with Ch 9 scan

3.0 Satellite System

- insure SES reliability
- add 3-digit touch tone selective signalling to PHS circuit
- install UHF transmitters/receivers in villages
- equip medical field personnel with portable radios with pagers
- connect authorized agents communications into PHS circuit
- add remote AST communication to PHS system

4.0 Highway Micro-wave System

- install micro-wave links along Alaska major highways for public safety use

5.0 Common Dispatch

- where possible establish common dispatch centers
- provide common citizen access through 911
- provide caller number identification on 911 lines
- install continuously running recorder
- provide paging capabilities for fire fighters and EMT's
- provide on-duty EMT's with portables
- promote advertising for 911
- promote adequate radio coverage for all public safety agencies

6.0 Common Dispatch Center Operational and Administrative Management

In order for the common dispatch center to effectively function free from political and regional influence and to allow for equal input from the various agencies, it is envisioned that they shall be structured as a separate quasi-governmental entity manned by civilians and managed by two boards of commissioners. One would provide operational control and management direction. A second board would be responsible for administrative support and budgetary development and funding.

It is envisioned that the operational board would be composed of fire chief or chiefs, police chief or chiefs, medical representatives and state trooper representatives. The second board would be composed of representatives from the cognizant government entities responsible for providing emergency services.

KEY TO ABBREVIATIONS

ACD	Automatic Call Distributing (System)
AJIS	Alaska Judicial Information System
AST	Alaska State Troopers
CB	Citizen's Band (Radio)
CDC	Central Dispatch Center
CJPA	Criminal Justice Planning Agency
CRT	Cathode Ray Tube
DOT	Department of Transportation
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
FAA	Federal Aviation Administration
FD	Fire Department
F&W	Fish & Wildlife
HF	High Frequency
PD	Police Department
PMS	Public Health Service
Rx	Receive
SES	Small Earth Station
SSB	Single Side Band
Tx	Transmit
UHF	Ultra-High Frequency
VHF	Very High Frequency

TABLE I
SUMMARY OF CITIZEN ACCESS TELEPHONE NUMBERS

Location	Ambulance	Fire	Police	AST
Anchorage Borough				
Anchorage	911	911	911	264-5511 911
Girdwood	783-6911	783-6611	—	783-6565 264-5511
Chugiak	688-2555 or 911	688-2555 or 911	911	264-5511 911
Barrow	852-4111	852-4111	852-6111	852-6700 (term)
Bethel	543-2251	911	543-2500	543-2295
Cordova				
Dillingham	911 842-5201	911	911	842-5641
Fairbanks	911	911	911	452-1313
Haines	911	911	911	766-2552
Juneau Borough				
Juneau	586-1414	586-3000	586-1414	586-2433
Douglas	586-1414	586-1922	586-1414	586-2433
Glacier Valley	789-9512	789-9511	—	586-2433
Auke Bay	789-9512	789-0121	—	586-2433
Lynn Canal	789-9512	789-0121	—	586-2433
Kenai Peninsula				
Moose				282-3136
Kenai	283-4866	283-4829	283-4866	262-4452
Nikiski	776-8200	776-8200	AST	262-4452
Soldotna	262-4500	262-4500	252-4334	262-4452
Homer	235-8300	235-8300	235-8113	235-8239
Seward	224-5241	224-5630	224-5201	224-3033
Ketchikan	225-9611	225-9611	225-6634	225-5118
Kodiak	911	911	911	911
Kotzebue	442-3473	442-3473	442-3473	442-3222
Mat-Su Borough				
Palmer	911	911	911	911 or 745-3333
Wasilla/Big Lake	911	911	—	911
Willow	911	911	—	911
Trapper Creek/Talkeetna	733-2256	733-2311	—	911 or 733-2256
Butte	911	911	—	911
Sutton	911	911	—	911
Nome	443-2013	443-2211	443-2414	443-2835
Sitka	911	911	911	911
Skagway	983-2300	983-2300	983-2301	766-2552
Tok/Delta Glennallen				
Valdez	911	911	911	835-4359
Yakutat	—	784-3200	—	784-3330

TABLE II
SUMMARY OF RADIO FREQUENCIES FOR POLICE/AMBULANCE/FIRE

Location	Amb-Hosp EMS	Fire MHz	Police	Ast
Anchorage Borough Anchorage Municipality	155.160	AFD1 154.130 AFD2 154.175	APD1 155.010 APD2 155.340 APD3 155.430	155.250 Rpt. Sys.
Girdwood	155.160	AFD1 154.130 AFD2 154.175	AST	155.250 Rpt. Sys.
Chugiak	155.160	CB, ch 9	AST	155.250 Rpt. Sys.
Barrow	154.445	154.445	155.010	
Bethel	CB	154.235	155.250 155.100 (Airport)	155.250
Cordova				
Dillingham	CB	154.955	F1 154.770 (T) 155.595 (R) F2 155.595	155.250 Rpt. Sys.
Fairbanks	155.280	155.430	155.010 155.370	155.250 Rpt. Sys.
Haines	155.160	155.010	155.760	155.250
Juneau Borough Juneau Municipality	155.160	JFD1 155.760 JFD2 154.965	JPD1 156.210 JPD2 155.130 (T) 156.210 (R) Control 155.290 Tac 155.370	155.250 Rpt. Sys.
Glacier Valley, Auke Bay, Lynn Canal	155.160	155.955	AST	155.250
Douglas	—	154.965	City P.D.	155.250
Kenai Peninsula Soldotna-Kenai- Nikiski	155.160	155.355 154.145 154.383	154.725 155.250	155.250 Rpt. Sys.
Seward	155.250 155.160	154.980 154.430	155.250	155.250 Rpt. Sys.
Homer - Anchor Point	154.415	154.415	155.250 155.310	155.250 Rpt. Sys.
Ketchikan	155.350	154.205	154.725	155.250
Kodiak	155.160	155.955	155.250 155.550 (Tac)	155.250
Kotzebue	155.160	154.965	154.965	155.250
Matanuska - Susitna Borough Palmer	155.160	154.370	155.370	155.250 & Rpt. Sys.
Wasilla/Big Lake	155.160	154.350	AST	155.250 & Rpt. Sys.
Willow	155.160	—	AST	155.250 & Rpt. Sys.
Trapper Creek/ Talkeetna	155.160	CB	AST	155.250 & Rpt. Sys.
Butte	—	154.400	AST	155.250 & Rpt. Sys.
Sutton	—	154.370	AST	155.250 & Rpt. Sys.
Nome	155.160	155.550	155.550	155.250
Sitka	155.760 (PHS) 155.340 (Comm. Hosp.)	155.715	155.250 155.200	155.250
Skagway	158.940	158.940	F1 154.770 (Tx) 155.595 (Rx) F2 155.595 (Tx) 155.595 (Rx)	None
Tok/ Delta/ Glennallen	155.250 155.160 154.250 155.160	— 154.250 155.245	AST AST AST	155.250 Rpt. Sys.
Valdez	155.160	154.100	154.100	155.250 Rpt. Sys.
Yakutat	154.445	154.445	AST	155.250

ANCHORAGE

ANCHORAGE

1.0 Description

The urbanized area of the Municipality of Anchorage is bounded by the Cook Inlet and the Chugach Mountains. The other settled areas beyond these boundaries are Indian-Bird Creek, Girdwood and Portage to the south, and Eagle River and Chugach to the north. All are accessible via the existing highway.

Anchorage serves as Alaska's major transportation center and as an important supply and distribution center for much of the development of Alaska's natural resources.

Approximately 185,000 live in the Anchorage Municipality, about 45% of the State's population. About 84% of the Anchorage population live in the Anchorage bowl area, about 5% in the Eagle River — Chugiak Area, about 10% on military bases, and a small percentage along Turnagain Arm to the south of the bowl.

Anchorage serves as a secondary and tertiary health service center for much of Alaska, in addition to providing all levels of health care to the Municipality residents. Four hospitals (2 private, 1 military and 1 PHS) with a total of 282 beds are located in Anchorage. Anchorage also has four long term care facilities with a total of 232 beds. Approximately 317 physicians practice in Anchorage.

The recent history of the Anchorage economy has been one of tremendous growth. Between 1973 and 1976, the population grew 24% and employment grew 45%, but growth leveled off in 1976 with the end of the pipeline construction. The future growth of the conomy is uncertain and is primarily dependent upon the level of resource development.

2.0 Citizen Access

Most of Anchorage residents can reach police, Fire and Ambulance by the 911 emergency access telephone number.

3.0 Anchorage Fire Department

3.0.1 General

The Anchorage Fire Department service area covers from Portage Bay to the Knik River at Eklutna. The services include eleven (11) fire stations in the Anchorage area, one of which is in Eagle River, one auxilliary department in Girdwood and one volunteer fire department in Chugiak.

The Anchorage Department employs 200 firefighters and 36 paramedics. All of its 51 emergency fire vehicles and five DOT ambulances are radio-equipped.

3.0.2 Vehicle Radios

Most of the radios in the fire vehicles are four-channel equipped with AFD 1 (main fire channel, 154.130 MHz) and AFD2 (backup fire channel 154.175 MHz). The ambulance radios have eight channel capability equipped with the two fire frequencies and the ambulance-to-hospital frequency, 155.160 MHz, with the following signalling tones:

- A 1050 Hz Providence Hospital
- B 1200 Hz Alaska Hospital
- C 1350 Hz Alaska Native Medical Center
- D 1500 Hz (not in use)
- E 1650 Hz (not in use)

3.0.3 Dispatch Center

The Dispatch center includes two identical radio dispatching positions. Both positions have access to the main and backup fire frequencies and to the EMS radio channel. Both positions are equipped with telephone instruments with the following two-way ring-down lines:

- Two to the 911 answering positions in the police dispatch center
- One to Providence Hospital
- One to Alaska Hospital
- One to Alaska Native Medical Center
- One to Elmendorf Air Force Base Fire Department
- One to Alaska State Troopers
- One to International Air Port Security
- One to Merrill Field
- One to EMS Quarters, Station #1
- One to Alaska General Alarm Company
- One to Fort Richardson Fire Department
- One to Elmendorf Air Force Base Hospital

3.0.4 Paging Equipment

The Dispatch Center utilizes two paging systems: the Plectron System with approximately 70 paging receivers and the Motorola system with approximately 20 paging receivers.

Each fire station is equipped with a receiver (not a paging receiver) on the main frequency, 154.130 MHz, and each fire vehicle is assigned a pager on the main fire frequency.

Five fire stations have two paramedics on duty 24 hours a day. Each of these five stations is equipped with a receiver on the EMS channel, 155.160 MHz, and each paramedic is equipped with a pager on the EMS channel.

3.0.5 Base Stations

The EMS main base station is located at Fire Station #5, at the intersection of McRae and Spenard Roads. The EMS backup radio is located at the Public Safety Building.

EMS base stations are also located at Providence Hospital, Alaska Hospital, Alaska Native Medical Center, and the Elemendorf Hospital. The base station at Providence Hospital is also used as backup for the Dispatch Center.

(See section 3.0.2 for the single frequency tones used by the ambulances to signal the hospitals on the EMS channel.)

The main fire base station is located at Russian Jack (Debarr and Boniface Avenues). The backup base station is located at Fire Station #5. Both the main and backup standby bases are located at the Public Safety Building.

4.0 Police Department

4.0.1 Introduction

Of the total area population of 212,000, the Anchorage Police Department (APD) currently serves a population of 108,000. After July 1978 this number will increase to 172,000 with the opening of the station at the Muldoon/Sand Lake area.

The service area of the APD covers 31 square miles, to increase by another 17.25 square miles after July 1978. Also, the addition of Eagle River in April 1979 will add another 45 square miles.

APD employs 176 commissioned officers. Fifty-one (51) officers will be added by April 1, 1979.

The 95 APD vehicles will increase by 32 by July 1978 and will increase by another 10 by April 1979.

4.0.2 Mobile Radios

Each vehicle is equipped with a four-channel VHF radio with scanner. The channels are as follows:

- APD 1 155.010 MHz
- APD 2 155.640 MHz
- APD 3 155.430 MHz
- AST Simplex 155.250 MHz

4.0.3 Base Stations

The three radio dispatch positions have access to base radios equipped as follows:

- APD 1 155.010 MHz
- APD 2 155.640 MHz
- APD 3 155.430 MHz
- AST Simplex 155.250 MHz

An additional radio dispatch position is equipped as follows:

- Anchorage Street Department
- APD 1 Stand-by Base Radio (backup)
- Anchorage Telephone Utility
- Anchorage Municipal Light & Power

The locations of the base stations are as follows:

- APD 1 at Russian Jack
- APD 2 at Fire Station #5
- APD 3 at Public Safety Building
- APD 1, 2 & 3 standby radio transmitters are located at the Public Safety Building.

The following radio channels and telephone lines are connected to the recorders:

- APD 1 155.010 MHz
- APD 2 155.640 MHz
- APD 3 155.430 MHz
- AST 155.250 MHz
- 911 telephone instrument A
- 911 telephone instrument B
- Dispatch Telephone Instrument A
- Dispatch Telephone Instrument B
- Dispatch Telephone Instrument C
- Civil Defense Telephone Circuit
- City switchboard
- Time and date
- 911 telephone instrument C
- 911 telephone instrument D
- 911 telephone instrument E

5.0 Girdwood Fire Department

5.0.1 General

The Girdwood Fire Department is an auxiliary of the Anchorage Fire Department and employs twelve paid volunteer firefighters. The Auxiliary Department operates a 1000 gallon/minute pump, and a 500 gallon/minute pump with a 300 gallon tank mounted on a jeep.

5.0.2 Citizen Access

The Girdwood and surrounding area residents access the fire department primarily through the fire emergency telephone number, 783-6611. This number rings in six homes, the fire hall, the bake shop and the hotel.

Secondary citizen access is through CB to whomever is monitoring.

5.0.3 Radios

All vehicles are CB equipped, and the 1000 gallon/minute pumper is equipped with a four-channel radio with the two Anchorage fire frequencies and the EMS frequency. The Department has no paging capability.

5.0.4 Dispatching

Whoever receives the fire call goes to the fire station, hotel, bakeshop or chief's house to operate a switch which sets off two sirens located in the area. Whoever hears the sirens responds and communicates with other responders via CB radio.

6.0 Girdwood Ambulance Service

6.0.1 General

The twelve Girdwood EMT's are volunteers independent from the Fire Department. Their one D.O.T. ambulance is equipped with an eight-channel radio with the following frequencies:

- AFD 1 154.130 MHz
- AFD 2 154.175 MHz
- Ambulance to Hospital 155.160 MHz

The ambulance to hospital frequency is equipped with four Anchorage area hospital tones (See Section 3.0.2).

The EMT's have no paging equipment.

6.0.2 Citizen Access

Primary access is via the telephone number, 783-6911, on a conference type line which rings in at eight homes.

Secondary access is via CB radio.

6.0.3 Dispatching

The person who receives the call alerts the other volunteers by CB or telephone. In the event of only one EMT responding, the EMT alerts the Anchorage Fire Department via telephone, 277-5571, ext. 117. The Anchorage ambulance then responds and the EMT with a medical bag responds in his/her own vehicle. The Girdwood ambulance is not used if only one EMT responds.

If more than one EMT responds, one will drive to the ambulance (takes from 2-10 minutes) and the Girdwood ambulance will then respond to the call.

7.0 Chugiak Fire Department

7.0.1 General

The Chugiak Fire Department is staffed by 40 volunteers, 25 of which are EMT's. The Department is responsible for the area from the north edge of Eagle River to the Matanuska River bridge on the Glenn Highway. The three fire stations are equipped as follows:

Latimar Fire Station (Located at 17.5 mile on the Old Glenn Highway)

- one 750 gallon per minute pumper with a 1,000 gallon tank;
- one DOT Chevrolet Suburban Ambulance.

Birchwood Fire Station (Located about halfway around the Birchwood Loop Road)

- one 1,750 gallon per minute pumper with a 1,000 gallon tank;
- one 1977 Cadillac ambulance.

Hill Fire Station (Located about two miles north of Peters Creek)

- one 2,000 gallon tanker with a 250 gallon per minute pump;
- one 1,200 gallon tanker with a 100 gallon per minute pump

7.0.2 Mobile Radios

All fire fighting vehicles are equipped with CB radios only. Each of the two ambulances is equipped with a CB radio and a VHF radio with the State Ambulance-to-Hospital frequency, 155.160 MHz, and tone encoders for the four Anchorage hospitals. Most of the volunteers' private vehicles are equipped with CB radios.

7.0.3 Base Radios

CB base radios are located in several volunteers' homes.

7.0.4 Citizen Access

Primary access is via telephone number 688-2555. The caller connects to a 30 party conference line — all 30 phones ring simultaneously.

Access may also be via "911" into the Anchorage Dispatch Center. The Anchorage dispatcher relays the information via 688-2555 to the Chugiak Fire Department.

Finally, access may be via CB radio, channel 9. Several volunteers monitor channel 9.

6.0.5 Method of Dispatch

Eight volunteer dispatchers take turns monitoring the telephone and CB channel 9. A five to seven member crew remains on duty for a week at a time.

In case of fire, the dispatcher receives the information and alerts the duty crew via telephone. The crew responds to the appropriate fire station to get the fire vehicles. Enroute each crew member goes "in service" with the dispatcher on CB channel 9. They also go "in service" once enroute with the fire vehicles. All non-duty firefighters report directly to the scene of the fire.

In case of need for ambulance service, the EMT's are dispatched in the same manner.

8.0 Recommendations - Anchorage

8.0.1 Construct a new Dispatch Center.

The control center should be located in one room characterized by a library-type atmosphere. For example, acoustical tile and other acoustical aids, including carpeting, should be installed to curtail extraneous noise. The background light level should be subdued with individual work areas spotlighted.

8.0.2 The Fire Department dispatching should be incorporated into the same control center.

8.0.3 Administration and operational procedures of the Dispatch Center should be determined by a Board, on which at least the Police Chief and Fire Chief serves.

8.0.4 Install in the Dispatch Center a center-dedicated computer system utilizing CRT's at the 911 and radio dispatch positions.

This system would eliminate the need for cards and instead display formatted information on screen. The system should have the capability to transfer and simultaneously display information between the 911 operator and radio dispatcher. The capability should also extend to AST. The computer should be a foreground/background type of machine, and the City should engage a consultant programmer to set up the administrative programming.

The computer should be connected via high speed data links to three other computers: the telephone computer system, the city's data processing system, and AJIS. It is envisioned that the geo coding program would reside in the city's processing system and be accessed by the center's computer.

8.0.5 Install in the Dispatch Center an Automatic Call Distributing System (ACD).

This system automatically distributes incoming calls to the primary operators. If all operators are busy, the system stores the calls and releases them in the order of arrival.

8.0.6 Install in the Dispatch center 911 telephone instruments which allow the display of the caller's telephone number.

8.0.7 The following data should be printed daily from the computer-aided dispatch system.

- 911 maximum in use at any given time and time of occurrence;
- maximum time span from the first ring to the time answered and time of occurrence;
- Average of issue and answering times;
- Maximum handling time for a call and time of occurrence;
- Average handling time;
- Total 911 calls per day;
- Maximums and averages by answering position.

8.0.8 The city by ordinance should ensure that no alarm automatic telephone dialers are connected to the 911 lines.

In the event of even a minor earthquake, it is possible to trigger an automatic telephone dialer. An automatic dialer will dial and redial until turned off at the remote location. Thus, a number of these could easily tie up a 911 system for a considerable amount of time. As an alternative, the city should provide two seven digit numbers connected in rotary for automatic telephone dialers.

8.0.9 The city should provide each individual patrol officer with a UHF portable radio.

The radio should be six-channel equipped with a built-in pager. While the officer is on duty, the radio should be attached to the belt and the microphone attached to the lapel. While the officer is off duty, the radio should be placed in a charger and in the page mode. The size of the radio should be kept to a minimum, and the microphone should have a "stub-type" antenna (see discussion in Fairbanks report).

The city will need from two to four channels to cover the area, but could initially start with one. A voting receiver system will be required for city-wide coverage. Eventually, the city could be divided into four radio districts with every officer equipped with a UHF portable radio. It may be possible at that time to eliminate the VHF system. (Note: UHF gives markedly improved communications from within a building.)

8.0.10 Anchorage has currently installed an Ambulance-to-Hospital remote base station at Knik to cover the Palmer area. The capability for ambulances to communicate directly to Anchorage hospitals via existing hot lines at the Dispatching Center should be made possible.

8.0.11 Review dispatching of ambulances on the Ambulance-to-Hospital frequency for potential interference problems.

8.0.12 Equip all ambulance radios with the APD 1 and AST Simplex frequencies.

8.1 Recommendations - Girdwood

8.1.1 Install an Ambulance-to-Hospital base station in the Hope area and provide capability for Girdwood area ambulance to communicate directly with Anchorage hospitals.

8.1.2 Equip the Girdwood ambulance radio with the AST Simplex frequency.

8.1.3 Purchase portable pagers on the Ambulance/Hospital frequency for EMT's. If possible, purchase portable radios with page capabilities (EMT's could be dispatched from Anchorage Dispatch center via proposed Hope base station.)

8.1.4 Install EMS transmitter/receiver with pager encoder at the Girdwood ambulance facility.

8.1.5 Purchase portable pagers on the AFD1 frequency for Girdwood firefighters. Firefighters could be dispatched from Anchorage Dispatch Center via proposed Hope base station.

8.1.6 Retain two seven-digit conference lines for back-up.

8.1.7 Install "911" into Anchorage dispatch center.

8.2 Recommendations - Chugiak

8.2.1 Equip the Chugiak ambulance radios with the AST Simplex frequency.

8.2.2 Purchase 10 portable pagers on the Ambulance-to-Hospital frequency for Chugiak EMT's. The pagers would be encoded from the Anchorage Dispatch center via the new base station at Knik.

8.2.3 Purchase two portable radios with page capability for EMT duty crew.

8.2.4 Install a base radio which can be accessed by a seven-digit telephone number in the Fire Department, and purchase pagers on the same frequency for firefighters.

This system would allow the dispatcher to directly dispatch the duty crew. The dispatcher could, by dialing the seven-digit telephone number, trip the paging encoder, thus allowing the dispatcher to alert the crew and transfer the information.

BARROW

BARROW AND THE NORTH SLOPE BOROUGH

1.0 Description

The North Slope Borough covers a large portion of Northern Alaska, ranging 650 miles from Point Hope on the Chukchi Sea to the Canadian Border. The region covers 88,281 square miles, over 15% of the State's area. The Borough population is approximately 9,000, nearly a third of which resides in Barrow.

Since the entire North Slope is situated above the Arctic Circle, the sun does not set for four months — from mid-April to mid-August. Likewise, the sun does not rise for 56 days during the winter season.

Barrow, the Borough seat and largest city, is the transportation and service center for 7 villages. None of the villages have connecting roads. All transportation is by plane or snowmobile. Barrow, itself is isolated from other major cities except by air transport.

Barrow's employment is primarily supported by government, the Naval Arctic Research Lab, ITT, FAA, PHS, Weather Bureau, Navy/Coast Guard and the DEW Line.

2.0 Barrow Police Department

2.0.1 General

The Barrow Police Department is staffed by 14 commissioned officers (7 of which are EMT's), four dispatchers and one records clerk. The Director of Public Safety, the village officers supervisor, and seven other officers are located in Barrow. Two are located in Wainwright, one in Anaktuvuk Pass, and two in Point Hope.

The Department maintains two patrol vehicles, one standby patrol vehicle, one administration vehicle, one International truck and five snowmachines.

2.0.2 Mobile Radios

Each of the three patrol vehicles is equipped with a two-channel radio on the police frequency, 155.010 MHz (F1) and the fire frequency, 154.445 MHz (F2). The Department also has ten two-frequency portables on F1 and F2. Ten police officers have Plectron receivers in their homes. These receivers operate on the police frequency, 155.010 MHz.

3.0 Dispatch Center

The Barrow Police Department maintains 24-hour common dispatch for Fire/Police/Ambulance.

3.0.1 Radios

The Center has a four-channel base radio equipped with three frequencies:

F1 Police 155.010 MHz

F2 Fire 154.445 MHz

F3 AST 155.250 MHz (Used to communicate with Wainwright).

The Center usually operates on F1. F2 is monitored via a monitor receiver, and the dispatcher switches the base radio to F2 if a fire call is received. The police officers can also switch from F1 to F2. Wainwright also has a radio and converses with Barrow on the 155.250 MHz frequency.

The Center is also equipped with a paging encoder for fire dispatch.

3.0.2 Telephone

One telephone instrument is located at the Center and is equipped as follows:

line 1 852-6111 Police

line 2 852-6112 Police

line 3 852-4111 Fire & Ambulance

RCA Intercom Line

Police Building Intercom Line

3.0.3 Recording

The Center does no recording.

4.0 Barrow Fire Department

The Barrow Fire Department is maintained by 23 volunteers, none of which are EMT's. The Department is equipped with one track vehicle, a 1,000 gallon per minute pumper with a 1,000 gallon tank, one pumper truck with a 1,000 gallon per minute pump and 1,000 gallon reservoir, and one D.O.T. ambulance.

4.0.2 Mobile Radios

Each of the three vehicles is equipped with a two-frequency radio on the City fire and City police frequencies. The ambulance utilizes the fire frequency, 154.445 MHz.

The Department has four portables, each equipped with City police and fire frequencies. The Department also has one air-to-ground portable.

4.0.3 Paging

Most volunteers have Plectron receivers in their homes. Additionally, the ambulance crew is equipped with five portable pagers.

5.0 PHS Hospital

The PHS Hospital Nurses Station is equipped with one satellite telephone. Currently, this is used for only one village, Nuiqsut. Anaktuvak is also equipped with a satellite telephone but usually calls Tanana. A remote control console connected to a SSB radio is used to converse with Wainwright on 3385 KHz, LSB.

The Hospital also has a Motorola paging transmitter (no receiver) with two pagers used to page either the on-call physician or maintenance man. A two-frequency Motorola Mocom 35 Transmitter/Receiver is equipped with the fire frequency, 154.445 MHz.

The Emergency Room is equipped with a telephone instrument and no radios.

6.0 Dispatching

6.0.1 Police

Requests for police service are received via telephone number, 852-6111 by the dispatcher, who in turn dispatches to the scene the on-duty officer. In case of a major event, the dispatcher can via the Plectron pager dispatch off-duty officers.

6.0.2 Fire

Requests for fire service are received via telephone number, 852-4111 by the dispatcher, who in turn alerts the volunteer firefighters via the Plectron system. Once the volunteers are enroute, they communicate with the dispatcher via mobile radios on the fire frequency.

6.0.3 Ambulance

Requests for ambulance service are usually received via police emergency telephone number, 852-6111. The dispatcher first dispatches the on-duty police officer and then the fire department ambulance crew via the Plectron system. The dispatcher also notifies the hospital via telephone that the ambulance is responding and advises the hospital of the nature of the incident.

7.0 Recommendations

7.0.1 Retain the Common Dispatch Center

7.0.2 Install two 911 lines with number identification capability.

7.0.3 Install two seven-digit business telephone lines for non-emergency calls and out-going calls.

7.0.4 Review the feasibility of General Telephone's upgrading the Barrow telephone switching system.

7.0.5 Print individual telephone books for Barrow, Nome, Seward and Bethel. Make the necessary corrections for emergency telephone numbers. Delete 852-6700, which is listed as AST, because of the absence of AST coverage in Barrow.

7.0.6 Convert the hospital-ambulance frequency to 155.160 MHz, and add a 155.160 MHz transceiver to the Dispatch Center.

7.0.7 Add recording capabilities to the Dispatch Center.

7.0.8 Add single tone signalling to hospital base radio.

7.0.9 Add remote monitoring on the 155.160 MHz frequency to the Hospital Emergency Room.

7.0.10 Equip each physician with a pager on the 155.160 MHz frequency.

7.0.11 Equip the ambulance with a portable on the 155.160 MHz frequency.

7.0.12 Install a receiver on the Wainwright VHF frequency to allow the Dispatch Center to monitor Wainwright calls.

7.0.13 Review the new SSB system for possibilities of modification and/or expansion of utility.

7.0.14 See SES recommendations, Chapter III, Section 3.0

BETHEL

BETHEL AND THE YUKON-KUSKOKWIM REGION

1.0 Description

Bethel, with a population of approximately 3,000, is the communication and trade center for fifty villages in the Yukon-Kuskokwim Region. The region has an estimated population of 14,000 and covers 55,988 square miles in the western part of Alaska along the lower Yukon and lower Kuskokwim Rivers. The land is mostly flat tundra, dotted with numerous lakes and streams.

Nearly half of the adult population is employed by the government, Trade Services. Transportation, communication and utilities together employ about 30%. Although the subsistence economy is gradually changing to a cash economy, fishing and hunting remain the predominant work activities in the villages outside of Bethel.

Transportation is by air or sea although a few short roads connect some villages. Most villages have air strips or are located near water where float planes can land. Flying conditions are hazardous about 30% of the time. Almost all of the towns have telephones or radios for communication, and some have radio and television reception. The area is served by two newspapers.

2.0 Bethel Fire Department

2.0.1 General

The Bethel Fire Department employs a fire chief and one firefighter. It is also staffed by 28 volunteer firefighters, ten of which are EMT's.

The Department maintains one 250 gallon per minute pumper with a 750 gallon tank, one 1,000 gallon per minute pumper with a 1,000 gallon tank, one 2,600 gallon tanker, one 2,000 gallon tanker, and one rescue truck.

2.0.2 Mobile Radios

The two pumpers and the rescue truck are each equipped with a single frequency, 154.235 MHz. Each of the three is also equipped with a portable with three frequencies: 154.235 MHz (fire), 155.250 MHz (police) and the City Water Department frequency. The two tankers are soon to become radio-equipped.

2.0.3 Dispatching & Paging

The firefighters are dispatched by the Bethel Police Department dispatcher. A Plectron paging transmitter (a transmitter and encoder, not a transmitter/receiver) is located at the Fire Station. The fire base station (transmitter/receiver) with an encoder is located at the Police Department. Each firefighter has a portable-type pager, and a few have the Plectron type receivers in their homes. All pagers are connected in the group page mode; a firefighter cannot be paged individually.

2.0.4 Citizen Access

Citizen access is via 911 into the City Police/Fire Dispatch Center at the Police Department.

3.0 Airport Fire Department

3.0.1 General

The airport maintains a 500 gallon per minute pumper with a 500 gallon tank, foam producing truck. This is staffed during the day by Wien employees. During the night, the city responds to any fire calls and also responds during the day if notified.

3.0.2 Mobile Radios

The fire truck is equipped with a two-frequency radio on the airport security frequency (155.100 MHz) and the city fire frequency (154.235 MHz). The truck is also equipped with an aircraft-type air-to-ground radio.

3.0.3 Alerting System

The Federal Aviation Administration (FAA) keys a siren to alert Wien personnel in an emergency. The Wien personnel, in turn, call the City Fire Department via telephone to alert them.

3.0.4 Portable Radios

The airport manager has two two-frequency portable radios on the airport security frequency (155.100 MHz) and the city fire frequency (154.235 MHz).

4.0 Bethel Police Department

4.0.1 General

The Bethel Police Department employs one chief, one sergeant, six patrol officers and one police secretary. The Department maintains three police vehicles.

4.0.2 Mobile Radios

Two of the three vehicles have a four-channel radio equipped with only one channel on the police frequency, 155.250 MHz (also the AST Simplex channel). The Department also maintains four portable radios.

4.0.3 Dispatch Center

The Dispatch center has one dispatch position, two base stations (city police - 155.250 MHz, city fire - 154.235 MHz), and one telephone instrument with the following telephone lines:

Police Emergency: 543-2500

Police Business: 543-2296

Fire Emergency: 911

Intercom Line

Three other identical telephone instruments are located in the police building. Telephone service is provided by General Telephone Co.

4.0.4 Citizen Access

Although the telephone numbers 543-2500 for police emergencies and 911 for fire emergencies are listed in the City of Bethel telephone book, most emergency calls come into the dispatch center via the two business lines -2296 and -2275. The telephone number 543-2275 is listed in error in the telephone book as 543-2295, which coincidentally is the number of the Alaska State Troopers.

4.0.5 Recording

The Center has no recording capabilities.

4.0.6 Dispatching

The dispatcher receives requests for police services on one of the city's dispatch center lines and then dispatches the on-duty officer.

The dispatcher receives requests for fire services in the same manner and then dispatches by operating the radio paging system. Responding firefighters report in service back to the dispatcher.

During the day the dispatcher is usually the police secretary. During off-hours, the dispatcher is the jailer. (The city maintains a 24-person capability jail.)

5.0 Alaska State Troopers

5.0.1 General

The Alaska State Troopers Post is currently staffed with one corporal and four troopers. The area of coverage is about 81,000 square miles and includes 57 villages. AST maintains four vehicles and one airplane.

5.0.2 Mobile Radios

Each of the four AST vehicles has a two-channel radio equipped with one channel, AST Simplex, 155.250 MHz. (The Bethel Police Department also operates on this frequency.)

5.0.3 Citizen Access

AST has two telephone lines connected in rotary with a pilot number of 543-2294. The lines ring in at both the office and the corporal's home. During the day, the office personnel answers the calls; during off-hours, the corporal answers the calls. If the caller does not get an answer, he/she calls the Bethel Police Department. The dispatcher then notifies the on-call trooper.

6.0 Hospital & Ambulance

The PHS Hospital utilizes the satellite system which is currently connected to 12 villages. The other villages maintain contact by single side band (SSB). The PHS hospital also maintains an ambulance which is only CB radio equipped. Generally, the ambulance responds with one person who is usually not an EMT.

Most requests for ambulance services comes directly into the hospital. When calls are received by the police dispatcher, the dispatcher in turn calls via telephone the hospital. Usually, the fire department is not called even though it has EMT-trained personnel and has medical supplies.

7.0 Recommendations

7.0.1 Convert to a 911 system for citizen access for Police/Fire Ambulance.

7.0.2 All ambulance calls should come into the Dispatch Center via 911. The ambulance should then be dispatched via use of a portable radio with a built-in pager.

7.0.3 911 should be advertised for Police/Fire/Ambulance.

7.0.4 911 telephone lines and radio channels should be recorded.

7.0.5 During off-hours, requests for the Alaska State Troopers should come into the center via 911. The dispatcher should be able to page the on-call trooper via the use of a portable radio with a built-in pager.

7.0.6 The Dispatch center should be equipped with a base radio on the hospital frequency.

7.0.7 The ambulance should be upgraded to minimum DOT standards (including staffing as well as equipment) and equipped with a portable radio on the hospital frequency.

7.0.8 Please see Chapter III, Section 3.0 for recommendations concerning village to regional center communications.

CORDOVA

CORDOVA

1.0 Description

Cordova, located on the Prince William Sound, has a population of approximately 2,500. It has no road link with the rest of the State and can be reached only by boat or plane, weather permitting. It is often inaccessible for periods of days.

Cordova has a small hospital and provides most modern services to the immediate area. The economy of the area is dependent mostly on the rich fishing in the Prince William Sound.

2.0 Cordova Fire Department

2.0.1 General

The Cordova Fire Department is staffed by one paid fire chief, 18 volunteers, and 12 EMT's. One fire station provides borough-wide fire and ambulance services. The Department has the following equipment:

- 1 1,250 gallon per minute pumper with 1,000 gallon tank
- 1 750 gallon per minute pumper with 500 gallon tank
- 1 500 gallon per minute pumper with 300 gallon tank
- 1 250 gallon per minute pumper with 300 gallon tank
- 1 rescue vehicle
- 1 DOT - approved ambulance
- 1 Fire Chief vehicle

2.0.2 Mobile Radios

The 1,250 gallon per minute pumper and the 750 gallon per minute pumper are each equipped with a vhf mobile radio operating on 154.965 MHz. The 1,250 gallon per minute pumper's radio also has a paging encoder. The rescue vehicle and the chief's vehicle are each equipped with portable radios on the 154.965 MHz frequency, and the rescue vehicle is also CB-equipped. The other pumpers are not radio-equipped.

The ambulance is equipped with a CB, a four-channel radio with one operating frequency, 154.965 MHz, one portable on 154.965 MHz, and one portable operating on 155.160 MHz (exclusive communications with the hospital).

2.0.3 Base Stations

The base station, operating on 154.965 MHz, is located on a mountain top near town with a central circuit to the dispatch center. The fire department and the police department both operate on the same frequency and use the same base stations.

2.0.4 Paging

The Fire Department has 24 portable pagers used by the firefighters and EMT's.

2.0.5 Citizen Access

Citizen access is via "911" into the common dispatch center.

2.0.6 Method of Dispatch

Fire: Requests come into the center via "911. The dispatcher pages the firefighters and sets off the sirens. Drivers respond to the fire station and notify the dispatcher when in-service, responding. The other firefighters respond directly to the scene.

Ambulance: Requests come into the center via "911. The assigned driver responds to the fire station and notifies the dispatcher when in-service, responding. The other EMT(s) report directly to the scene.

3.0 Cordova Police Department

3.0.1 General

The Cordova Police Department employs seven commissioned officers, including the chief, and five dispatchers. The Department maintains three vehicles.

3.0.2 Mobile Radios

Two of the vehicles are each equipped with a two-channel radio, operating on one frequency, 154.965 MHz. One of these vehicles is also equipped with a 40-channel CB.

The Department also has seven two-channel portables operating on the 154.965 MHz frequency.

3.0.3 Base Station

See 2.0.3 under "Fire Department.

4.0 Dispatch Center

4.0.1 Radios

The Dispatch Center has one radio operating position with access to the following radio channels:

City Police & Fire 154.965 MHz

CB

State Repeater System

High Frequency - Single Side Band :

2509 KHz 3201 KHz

2182 KHz 4383 KHz

2638 KHz

4.0.2 Telephone

The Center has one telephone instrument equipped as follows:

- City Police Business 424-3673, 424-7475

- City Fire Business 424-3232

- Ring down circuit to harbor (for fire)

- Two "911" lines

4.0.3 Recording

The Center has no recording capability.

5.0 Hospital

Cordova has two physicians and a 20-bed hospital. Each physician has a pager on the fire/police frequency.

The hospital has a VHF radio on the 155.160 MHz frequency and has a CB.

6.0 Alaska State Troopers - Cordova Post

6.0.1 General

The post is staffed by one Fish & Wildlife corporal, two Fish & Wildlife Officers, and one motor vehicles clerk. In addition, a 65-foot Fish & Wildlife boat with four officers is stationed at Cordova.

6.0.2 Vehicles

The post has two Fish & Wildlife vehicles, a 1973 Scout, which was assigned to the Trooper previously assigned to Cordova, and air craft.

6.0.3 Mobile Radios

Each of the three vehicles is equipped with the standard four-channel AST radio with scanner. Normally, they operate on the AST repeater channel F2, which is controlled from the City Dispatch Center and also from the AST office.

6.0.4 Portables

The post has one GE "Porta-mobile, operating on the 155.250 MHz frequency.

6.0.5 Telephones

The AST office is accessed by three published telephone numbers:

AST 424-7331

F & W 424-3184

DMV 424-3167

6.0.6 Method of Dispatch

Usually, an emergency call comes into the center via "911. The dispatcher answers the call and dispatches the officer via the State radio. After hours, the dispatcher calls the officer at home.

7.0 Recommendations

7.0.1 Install on a mountain top a base station operating on 155.250 MHz with control circuits to the dispatch center and AST office. This would allow for the separation of city Police from city Fire and Ambulance radio traffic and also allow interagency communication between troopers and City Police.

7.0.2 Co-locate the 155.250 MHz base station, the State repeater and fire base station in a location that provides necessary radio coverage.

7.0.3 Provide an adequate environment for all remote base radios.

7.0.4 Provide stand-by power for remote base radios.

- 7.0.5 Review control link reliability.
- 7.0.6 Install a base radio in the dispatch center building operating on 155.250 MHz for emergency stand-by with control links to dispatch center and AST office. This base would also allow communications among AST office, dispatch center and the 65-foot AST boat.
- 7.0.7 Improve dispatch center CB system.
- 7.0.8 Install a second crystal on 155.250 MHz in all city police radios.
- 7.0.9 Install a hot line between AST office and City dispatchers.
- 7.0.10 Install an encoder on the ambulance radio and decoder on the hospital radio.
- 7.0.11 Install HF-SSB in AST office for communication with the AST boat and for use in the case of telephone facility failure. (This might be the only way to communicate outside Cordova if all else fails.)
- 7.0.12 Install VHF on the repeater channel and the simplex channel, 155.250 MHz, in the aircraft.
- 7.0.13 Install a 40-channel CB radio in the AST office. (This would be used to communicate with 400-500 vessels on the float near Cordova.

DILLINGHAM

DILLINGHAM AND THE BRISTOL BAY REGION

1.0 Description

The Bristol Bay area is located at the northern end of the Alaskan Peninsula and covers 40,647 square miles. The area, located in the southwest portion of Alaska, is bordered by mountains on three sides and the ocean on the fourth.

Dillingham is the primary transportation and service center for the region. Its population fluctuates from about 1,300 in winter months to over 3,000 during the summer. This fluctuation is caused by the annual salmon and shell fish harvest.

The government employs about 40% of the work force, and manufacturing industries (fish processing) employs about another 20%. Smaller villages still rely upon subsistence activities.

There are few roads in the area, with a total length of less than 40 miles. Most of the smaller villages have small airports which are situated near water, so that small floatplanes can land. Communication is by RCA or military communications system or radio. There is a weekly newspaper, mail and telegram services.

2.0 Dillingham Police Department

2.0.1 General

The Dillingham Police Department is staffed by four commissioned officers, including the chief, and three full-time dispatchers. The Department is responsible for about 23 square miles. It maintains two police vehicles.

2.0.2 Mobile Radios

Each of the two vehicles is equipped with a four-channel radio with the following frequencies:

F1 City Police Transmits 154.770 MHz; Receives 155.595 MHz

F2 City Police Transmits & Receives on 155.595 MHz

F3 AST Simplex Transmits & Receives on 155.250 MHz

F4 City Fire Transmits & Receives on 154.055 MHz

Each radio is equipped with a telephone-type touch tone encoding pad which is used to place telephone calls from the mobile radio. The police officers also have two hand-held portables equipped like the mobile radios

3.0 Dispatch Center

3.0.1 General

The Dillingham Dispatch Center has one police base station on the F1 set of frequencies, a fire base station (transmitter and receiver) on the 155.595 MHz frequency with encoder, and a CB radio set on channel 9.

3.0.3 Telephones

The Center is equipped with three telephone instruments: one for line "911", one for the City police business line 842-5354, and one for the AST line 842-5641. The AST line also rings in at the AST office and at the Trooper's home.

3.0.4 Teletype

The Center has a teletype terminal connected to the Alaska Judicial Information System (AJIS).

3.0.5 Recording

The Center has no recording capability.

4.0 Alaska State Troopers

4.0.1 General

One trooper and two Fish and Wildlife Protection Officers are headquartered in Dillingham and are responsible for eight villages. AST maintains one vehicle; Fish and Wildlife maintains one vehicle and one super-cub aircraft.

4.0.2 Mobile Radios

Each vehicle is equipped with a standard four-channel mobile radio with scanner.

4.0.3 Base Radios

AST in Dillingham is equipped with a base radio on 155.250 MHz with three remote control units: one in a Fish & Wildlife Officer's home, one in the trooper's home, and one in the AST office. AST also has a HF SSB radio in the Office.

A State Trooper Repeater on the F4 set of frequencies is located in Dillingham which is connected via 72 MHz control links to an F3 repeater in King Salmon and an F2 repeater at Big Mountain. The Dillingham AST office is equipped with a fixed mobile radio to access this system. A signal accessing one repeater on its respective receiver frequency is re-transmitted by all repeaters on their respective transmit frequencies.

The system allows an officer in the Big Mountain, King Salmon or Dillingham area to talk with the Dillingham office personnel. It also allows two officers to converse via portable to portable or portable to mobile within the three areas.

5.0 Dillingham Fire Department

5.0.1 General

The Dillingham Volunteer Fire Department is staffed with 22 volunteer firefighters, four of which are EMT's. The Department is equipped as follows:

- one 750 gallon per minute pumper with a 1,000 gallon tank;
- one 250 gallon per minute pumper with a 300 gallon tank;
- one 1,200 gallon tanker;
- one 1,500 gallon tanker;
- one 55 gallon light water and 500 pound dry chemical truck;
- one crash truck (located at airport).

5.0.2 Mobile Radios

The two pumpers are equipped with CB radios. The light water truck is radio equipped on the air-to-ground 123.6 MHz frequency. The crash truck has one radio on the 123.6 MHz frequency and a four channel VHF radio equipped with the City Fire frequency, 154.055 MHz, and the State Fire frequency, 155.100 MHz.

5.0.3 Pager

The Department has five receivers located in volunteers' homes and 12 portable Motorola pagers. All paging is done on the City Fire frequency, 154.055 MHz.

6.0 Hospital-Radio Equipment

The hospital has a Motorola paging transmitter/receiver, 10 portable pagers and five portable radios with pagers.

7.0 Method of Dispatch

Emergency calls for Police and Fire are received via 911. During the day, a request for police service is received by the Center dispatcher. The dispatcher directly dispatches the on-duty officers.

During the day, a request for fire service is received by the Center dispatcher. The dispatcher then alerts the volunteer firefighters via the paging encoder on the fire frequency transmitter. The firefighter who reaches the last fire truck notifies the other firefighters via the fire frequency so that the remaining volunteers will go directly to the scene.

During non-business hours, if there is no dispatcher, 911 calls are answered by the on-duty police officer either via vehicle mobile or via the portable. If the caller requests police service, he dispatches himself. If the caller requests fire service, he dispatches the firefighters by switching his mobile to the fire frequency and relays the necessary information. Because the firefighters' pagers are not in the page mode, they hear the announcement and then respond.

Calls for AST service are received via AST telephone number, 842-5641 and are answered by either the AST, Fish & Wildlife officer, or City Dispatcher.

Calls for ambulance service are answered by Kakanak Hospital.

8.0 Recommendations

- 8.0.1 Establish a report-in system for AST and Fish & Wildlife Officers to ensure that the dispatcher knows their whereabouts.
- 8.0.2 Install a second 911 line in Dillingham to insure that the 911 is not tied up.
- 8.0.3 Renovate the City Dispatch Center.
- 8.0.4 Add an ambulance stationed at the fire station to be staffed by EMT's under the Volunteer Fire Department.

8.0.5 Equip ambulance with a four-channel mobile radio with a single tone encoder. Frequencies should be:
Ambulance-to-Hospital 155.160 MHz
City Fire 154.055 MHz
City Police 155.595 MHz
AST Simplex 155.250 MHz

8.0.6 Equip Kananak Service Unit with a base radio on 155.160 MHz with single tone decoder.

8.0.7 Since it appears that the AST radio will soon be equipped with the City Police frequency, it may be unnecessary to have the AST Simplex frequency on the City Police radios. The Simplex frequency could be replaced by the Ambulance-to-Hospital frequency. By equipping EMT's with monitors on the Ambulance/Hospital frequency, the on-duty police officer could dispatch EMT's. During the day, the dispatcher could dispatch the EMT's.

It would be preferable to equip the EMT's with portables. This would allow the EMT to verify response and minimize confusion as to whom is getting the ambulance.

8.0.8 Retain only day time dispatchers and increase size of City Police Force.

8.0.9 Please see recommendations regarding PHS satellite system.

8.0.10 See Chapter III, Mobile Dispatcher.

FAIRBANKS

4.0 Communications Control Center

4.0.1 General

The existing Communications Control Center contains two dispatch positions and one remotely located at the City Desk position, where "911" and radio calls can also be handled. The Control Center is composed of the following major subsystems:

- Telephone
- Recording
- Radio
- Alarm
- Call Box

4.0.2 Telephones

The existing dispatch positions are identical and each has a telephone instrument equipped as follows:

1. Five "911" incoming emergency trunk lines
2. One ring down line to each of the following:
 - a. Ft. Wainwright Fire
 - b. Ft. Wainwright Military Police
 - c. Alaska State Troopers
 - d. Fairbanks Fire Station #2
 - e. City Desk Position
 - f. Fire Station #3
 - g. International Airport Security
3. In addition to the above telephone instruments, each position has a second instrument equipped as follows:
 - a. Ring-down lines for ambulance
 - b. Outside commercial alarm companies
 - c. Fire Station #2
 - d. HospitalAlso, these instruments have three 7-digit lines: 452-1527, administration line, 452-1539 and 452-1150, dispatcher only lines.

4.0.3 Recording

The existing recording system is composed of six individual recorders connected as follows:

1. Three "911" telephone instruments (two for dispatcher and one for City Desk Position)
 2. Hospital base radio
 3. MUS base radio
 4. Public Work base radio
 5. Fire Base radio
 6. City Police base radio
- In addition to the six recorders above, there are two instant-replay recorders connected to the "911" instruments.

4.0.4 Radio Control Consoles

Each dispatch position has a control console equipped with five working radio systems: Hospital, MUS, Public Works, City Fire and City Police. There is one position for State Troopers; however, it is not functioning.

4.0.5 Alarm

The existing alarm subsystem is composed of five equipment cabinets, which are located in an equipment room adjacent to the Control center, and a display panel and printer located in the Control Center.

4.0.6 Call Box

The "Call Box" subsystem is made up on one telephone instrument, a control unit, and a visual display, all located in the Control center.

4.0.7 Base Stations

Currently, in addition to the base radios listed under section 4.0.3, there exists a base station at Astrid Dome on the 155.160 MHz frequency with a control link to Fairbanks Memorial Hospital. Also, there is a 155.160 MHz base station at Eilson Hospital and one at Basset Army Hospital.

On order are the following:

For Healy, a 155.160 MHz base station with tone decoder (a control link will connect to Fairbanks Memorial Hospital via. Astrid Dome.)

Tone decoders for Fairbanks, Ellson and Basset Hospitals.

Tone encoders (155.160 MHz for ambulances at Healy, Basset, Ellson, Delta and North Pole.)

5.0 Telephone

Generally, the existing telephone system is quite adequate; however, there is one major problem that should be remedied. The dispatcher should have the capability to transfer an incoming "911" call directly to the Alaska State Troopers. This capability is very important, considering that a great percentage of MUS's customers are outside the city limits. In an emergency situation, the City Dispatcher should not have to ask the incoming "911" caller to hang up and replace their call on the State's 7-digit number.

If the dispatcher positions are not staffed for any reason, the "City Desk" operator can operate the radio system and answer the "911" lines. However, it appears that the "City Desk" operator does not have the capability to answer the "Call-Box" telephone. An un-answered "Call-Box" call may present a problem.

Recording

The existing recording system appears to be adequate.

There has been much discussion as to whether it is better to have single recorders, which are started and stopped with conversation, as is the case in Fairbanks, or to have a single large multi-channel recorder which runs continuously. Under the circumstances, it appears that it is better to continue operating with single recorders.

When it's time to change out the recording system, multi-channel equipment should be reviewed in depth. The number of channels to be recorded will be a determining factor in the decision. Many professionals believe that when requirements exceed 10 channels, a multi-channel recorder should be considered.

One advantage of the continuous running recorder over the start/stop type is the continuous running gives an accurate sequence of events timing whereas the start/stop type does not. This capability may or may not be a factor in the City's selection of recording systems.

There are a few minor problems with the existing system:

1. When the dispatcher is talking on one line and then switches to another, it appears that the beginning of the second conversation is lost.
2. If one dispatcher is using one telephone instrument and either the second dispatcher or the "City Desk" operator answers another call, the capability does not exist to record the second call.
3. It appears that the "Call-Box" telephone system is not connected to any recorder.

Radio

Generally, the existing radio system is adequate. The existing consoles are "D-C" types as opposed to the newer "Tone" types. "D-C" consoles require a metallic circuit between the console and the controlled radio, whereas the "Tone" type console requires only an audio circuit.

The real problem with the "D-C" console occurs during installation or system modification. Therefore, since the system is installed and working, there is no real advantage in replacing the consoles just because they are the "D-C" type. Also, there are positions available to add both the State repeater and simplex systems. To install these systems, it would be easier to install two small local base radios in your building instead of attempting to interface directly to the State radio control circuits. Effectively, these base radios would function like a State mobile radio.

Alarm

The system contains a visual display located in the Control center and associated equipment cabinets are located in another room; therefore, a great deal of interconnecting wiring has been installed. The printer connected to this system looks like a prototype and currently is not functioning.

Due to the design of this system, it's age, all of the interconnecting wiring, and lack of adequate documentation, this system represents maintenance and reliability problems.

Call-Box

This system requires a number of telephone pairs connected to the control unit and visual display in the Control center, and because of the wiring, equipment age, and lack of adequate documentation, the system represents maintenance and reliability problems.

Base Stations

Currently, the Fairbanks ambulances are being dispatched on the fire frequency via the 155.280 MHz base station at Murphy Dome with a control console in Fairbanks Memorial Hospital.

6.0 Discussion of Recommendations

Much of the equipment is approaching 10 years in age. It is starting to reach the end of its useful life; however, it's conceivable that it could serve moderately well for the next 3 to 5 years. Some time during the next 3 years, a major upgrade. This would entail the engineering design, development and preparation of contract documents for a new Control center. A further recommendation is the replacement of the "Alarm" and "Call-Box" system at an earlier date - with the intention of incorporating these subsystems into the new Control Center at a later date.

Before designing the Control Center, the City should first engage a qualified consultant to aid in the system analysis, preliminary design, detailed design, and construction engineering. A qualified consultant will assure that the proposed system meets the technical requirements of the Police and Fire Departments and that it will be developed in an orderly, expeditious and economical manner.

The City should seriously consider converting to a 450 MHz system, replacing the present 150 MHz system. A 450 MHz system would provide better communications in the Core area and also from within large buildings within the City. This conversion could be instigated at a time when many of the currently used radios are due to be replaced.

Fairbanks is one of the few cities that operates with the radio connected directly to the officer at all times. Most cities utilize portable, but they usually end up in the officer's coat pocket or in his hand, and this method of operation is less desirable than Fairbanks probably has the optimum method of operation. If the officer leaves his car in a hurry, his radio is with him - he doesn't have to think about it. By operating on a 450 MHz system, by incorporating the radio antenna into the lapel mic/speaker cable and by incorporating a few voting receivers into the system, the City may not need a mobile in the vehicle. The elimination of the mobile would make conversion to a 450 MHz system that much more economically feasible.

As an interim step, the City might want to equip the emergency truck with about 10 450 MHz portables and a 450 MHz to 150 MHz mobile repeater. The repeater could be selectively connected into the City Police, Fire, or State Troopers radio system. This would give the portables the capability to either talk among themselves, or by selection from the portable, to talk on the City Police, Fire, or State Trooper radio systems.

The City should install the capability to transfer calls directly to the Alaska State Troopers. In the future, this capability to transfer calls to the Fire Department might be added.

One recorder should be connected to one of the dispatcher's telephone instruments and a second recorder to the second dispatcher instrument and the "City Desk" instrument. The instant-recall recorders should be repaired.

Both State radio systems should be installed into the radio consoles.

The alarm system should be replaced by a modern system with printer only, deleting the visual display. For the printer, I recommend a "Teletype, Model 37RO, which is very reliable and if need be, can be easily repaired in Fairbanks.

Replacing the call box system should be replaced by one which does not require the existing visual display box. The existing display could be replaced with a small digital read out device. The upgrade of this system and the alarm system will eliminate the need for most of the interconnecting cable into the Control center. This will simplify the Control Center wiring, thereby improving the reliability and the maintainability of the Center.

7.0 Recommendations

7.0.1 Install 155.160 MHz base stations on:

Donnally Dome, near Delta

Dot Lake, near Tok

Beaver Creek, near Canadian border

All three control circuits would go back to Fairbanks Memorial Hospital and would have tone decoders.

7.0.2 Install 155.160 MHz frequency plus multi-tone encoders in city ambulance radios.

7.0.3 Add State radio to Control Center.

7.0.4 Provide "911" call transfer capability to the State.

7.0.5 Add second recorder to telephone instruments.

7.0.6 Repair instant-recall recorders.

7.0.7 Upgrade alarm system.

7.0.8 Upgrade "call-box" system.

7.0.9 In the long term, engineer and plan to replace most of the Control Center equipment.

7.0.10 Provide caller number identification on 911 lines.

HAINES

HAINES

1.0 Description

The greater area of Haines has a population of 1,980. Transportation is provided by daily air service, truck, bus, taxi, ferry and barge service. Communications are provided by newspaper, television, Juneau radio, telephone and RCA Alaska Communications.

Haines has one privately owned health center and a 3 bed emergency facility.

The economy is based primarily upon wood products, fisheries, tourism and crafts production.

2.0 Haines Police Department

2.0.1 General

The Haines Police Department employs four commissioned officers, including the chief and one CETA employee, and three dispatchers. The City also employs a harbormaster. The Department maintains three vehicles.

2.0.2 Mobile Radios

Each of the three vehicles is equipped with a two-channel radio with the following operating frequencies;

City Police 155.010 MHz

City Fire 155.760 MHz

The Police Department also has three two-frequency portables.

2.0.3 Citizen Access

Citizens' access police service via one "911" line. The "911" line is also connected to a telephone instrument in the contract dispatcher's home and one in the fire chief's home.

2.0.4 Dispatch Center

The center has one "911" telephone instrument and two base radios - City police and fire. The contract dispatcher has a police radio and a fire radio with encoder. The fire chief has a fire base radio with encoder.

2.0.5 Method of Dispatch

Once a call for assistance is received via "911" the dispatcher, between 9:00 am and 1:00 am, dispatches the on-duty police officer. Between the hours of 1:00 am and 9:00 am, the contract dispatcher dispatches the on-duty or on-call police officer.

3.0 Haines Fire Department

3.0.1 General

The Haines Fire Department is staffed by one paid firefighter/mechanic and 33 volunteers. Seven of the firefighters are EMT's.

The department is equipped as follows:

- 1) 1,500 gallon per minute pumper with 500 gallon tank.
- 1) 1,250 gallon per minute pumper with 500 gallon tank.
- 1) 1,000 gallon tanker with 500 gallon per minute pump.
- 1) 1,150 gallon tanker with 500 gallon per minute pump.
- 1) 750 gallon per minute pumper, no tank.
- 1) Civil Defense jeep, 300 gallon per minute pump and 300 gallon tank.
- 1) 4,200 gallon tanker with 500 gallon per minute pump.
- 1) GMC DOT-approved ambulance.

3.0.2 Mobile Radios

Each of the above vehicles except ambulance is equipped with a single channel VHF mobile radio on the 155.760 MHz frequency. The ambulance is equipped with a two-channel radio with the following operating frequencies:

City Fire 155.760 MHz

State EMS 155.160 MHz

3.0.3 Pagers

The Department has 33 Plectron paging receivers assigned to firefighter/EMT's. The dispatcher can page all or any one of five groups: (1) paid firefighters; (2) fire siren; (3) physician; (4) fire officers; (5) EMT's.

3.0.4 Portables

Of the Department's 11 portables, seven are assigned to EMT's and four to fire officers.

3.0.5 Citizen Access

Citizens access fire service via "911.

3.0.6 Method of Dispatch

Calls for service are received via "911. Between 9 a.m. and 1 a.m. the on-duty dispatcher pages either EMT's or firefighters; Between the hours of 1 am and 9 am the contract dispatcher does the paging. During the day the fire siren is also set off by the dispatcher.

In addition, the fire chief has the capability to answer the "911" line and page fireman/EMT's from his house.

4.0 Medical Facilities

Haines has one clinic, two physicians and a nurse. The clinic has a base radio with one installed operating frequency 155.760 MHz.

5.0 Alaska State Troopers

5.0.1 General

The Haines Post has one Trooper and one Fish and Wildlife Officer. They both have radio equipped vehicles and the F&W officer also has a State radio-equipped boat. A dispatcher is on duty during office business hours.

5.0.2 Mobile Radios

Each vehicle is equipped with the standard four channel AST VHF radio and a highway maintenance radio. The boat is equipped with an AST VHF radio, a marine VHF radio and a CB.

5.0.3 Dispatch Center

The dispatch center is equipped with a base radio on the AST Simplex frequency, 155.250 MHz, and also equipped with a "highway maintenance" radio. Via the highway radio, Haines personnel can talk with highway maintenance dispatchers in Juneau. Each officer has a radio remote control console in his home which is connected to the 155.250 MHz base station at the AST office.

The AST dispatch center has telephone instruments with two lines: one for AST (766-2552) and one for F & W (766-2533). Each officer also has a telephone instrument in his home connected to the appropriate line.

The center has a teletype connected to A JIS.

6.0 Recommendations

6.0.1 Review possibility of installing telephone/radio network with modifications of currently marketed systems. (See Chapter III, Section 1.0 for discussion.)

6.0.2 Equip clinic and ambulance radios with 155.160 MHz.

6.0.3 Equip ambulance radio with 155.250 MHz

6.0.4 Review possibility of common dispatch for police/fire/ambulance/AST.

6.0.5 Determine feasibility of an areawide (Skagway-Haines) dispatch center.

6.0.6 Upgrade police communications among Skagway, Haines and Juneau.

JUNEAU

JUNEAU BOROUGH

JUNEAU-DOUGLAS-GLACIER VALLEY-AUKE BAY-LYNN CANAL

1.0 Area Description

The Juneau Borough (which includes Douglas, Juneau, Glacier Valley, Lynn Canal and Auke Bay) has an estimated population of 19,000. The Borough has no rail transportation but does have six trucking services; air flights daily to Anchorage, Seattle and throughout Southeast Alaska; three barge landing facilities, a deep water port and a ferry terminal. Juneau Borough is not accessible by road. The Borough supports two AM radio stations, one FM station, one Television station, a cable system and one daily newspaper.

A 67-bed hospital is located at mile 4 north of Juneau. Thirteen physicians and nine dentists practice in Juneau and a PHS clinic employs three physicians and two dentists.

Government is the major employer in Juneau. Juneau, the state capital, has approximately 2,850 state employees, 1,000 borough employees, and 1,100 federal employees. This comprises more than 50 percent of the Juneau work force.

The population is highly mobile and seasonal. Tourism is a rapidly growing industry (tourist expenditures in 1970 more than doubled that of 1964). Legislators reside in Juneau four to six months of the year, and consequently Juneau receives many visitors, lobbyists and interest groups throughout the session.

2.0 Citizen Access

In an emergency citizens in the Juneau and Douglas areas can reach the Police Department and Ambulance by dialing 586-1414. This seven-digit number connects to a total of three lines in rotary. In outlying areas citizens can reach the Alaska State Troopers Dispatch Center by dialing 586-2433 connecting to two lines in rotary.

To reach the Fire Department in an emergency, citizens in Juneau dial 586-3000 connecting to two lines in rotary; Douglas residents dial 586-1922, which is received by the Juneau Fire Department. Glacier Valley residents must dial 789-9511 for the Fire Department and 789-9512 for Ambulance. Residents near Auke Bay and Lynn Canal dial 789-9512 for Ambulance (Glacier Valley Ambulance) and 789-0121 for Fire Department (789-0121 rings in on 789-9511, the Glacier Valley Fire Department).

All total, visitors and the 19,000 residents of the Juneau Borough must utilize seven different seven-digit emergency access telephone numbers in trying to contact Police, Fire, Ambulance.

3.0 Telephone Equipment & Systems

3.0.1 Juneau Police Department

The Juneau Police Department has one police dispatch position equipped with telephone and radio facilities. Two identical telephone instruments are available, one for actual dispatch and the other for backup.

Both telephones are equipped with the following line capabilities:

- a) Pilot number 586-1414 with -1412 and -1413 in rotary;
- b) Extensions 10, 11 and 12 for City and Borough business lines;
- c) A Paging line;
- d) Two dedicated Police Department non-emergency numbers: 586-2177 and -2155;
- e) Fire Department hot line and signal button;
- f) Alaska State Trooper three mile ring down;
- g) Alaska State Trooper dispatcher hot line and signal button;
- h) and two intercom lines.

3.0.2 Juneau Fire Department

The Juneau Fire Department has five telephone instruments located in the Fire Hall to answer fire-related calls. Two lines are connected in rotary, one line receives calls from Douglas, and the fourth line is a hot line from the Police Department.

3.0.3 Glacier Valley Fire Department

The Glacier Valley Fire Department has two telephone instruments, both without dials, to answer fire and ambulance calls. (Covers Auke Bay and Lynn Canal).

4.0 Radio Systems

4.0.1 Juneau Police Department

The Juneau Police Department Dispatch Center has three two-frequency transmitters. The first Base Station has the following capabilities: Channel 1, the normal operating channel, transmits and receives on 156.210 MHz. Channel 2, the Alaska State Troopers Simplex, transmits and receives on 155.250 MHz.

Channel 1 on the Second Base Station is the control station for the Juneau Police Department repeater on Lena Point. Channel 1 transmits on 155.130 MHz and receives on 156.210 MHz. Channel 2 is designated as the Juneau Police Department tactical frequency and transmits and receives on 155.820 MHz.

The third Base Station's Channel 1 is the State Command and Control frequency, 155.295 MHz. Channel 2 is Juneau's new tactical channel with a frequency of 155.370 MHz.

All three Base Stations have a two-frequency single transmitter, but all have two receivers. Juneau Police Department also has a Motorola paging system with four pagers.

Each vehicle of the Juneau Police Department has a four-frequency radio equipped as follows:

JPD Simplex transmits and receives on 156.210 MHz
JPD Repeater transmits on 155.130 MHz
JPD Repeater receives on 156.210 MHz
AST Simplex (Statewide) 155.250 MHz
JPD Tac Channel 155.820 MHz

Juneau Police Department also has one four-channel scanner unit and one eight-channel scanner type radio.

The Department also has an eight channel continuous running recorder which records the following:

Channels 1-3 Switchboard extensions 10, 11 and 12
Channel 4 586-2177
Channels 5-7 Three rotary emergency lines
Channel 8 All radio channels by multiplex

4.0.2 Juneau Fire Department

The Juneau Fire Department has a six channel base station, its primary frequency being 155.760 MHz and its secondary frequency, 154.965 MHz for the Douglas Fire Department. It also includes the Glacier Valley Fire Department frequency, 155.955 MHz and the Juneau Police Department 156.210 MHz. The Juneau Fire Department has no spare receivers. The Department uses the Plectron paging system, which can be used on both the Juneau and Douglas frequencies.

All mobile equipment has four channels as follows:
Juneau Fire Department 155.760
Juneau Police Department 156.210
Glacier Valley Fire Department 155.955
Douglas Fire Department 154.965

The ambulance is equipped with an eight channel radio and utilizes the following frequencies:

Juneau Fire Department 155.760 MHz
Douglas Fire Department 154.965 MHz
Glacier Valley Fire Department 155.955 MHz
Juneau Police Department 156.210 MHz
Alaska State Troopers 155.250 MHz
Bartlett Memorial Hospital
(State Ambulance to Hospital frequency) 155.160 MHz

The Juneau Fire Department has an eight-channel scanner which monitors the hospital frequency, the three fire frequencies and the power company frequency. The Department's two channel recorder records the two fire lines (Juneau and Douglas) on one track and the hot line from the Juneau Police Department radio on the other track.

4.0.3 Douglas Fire Department

The Douglas Fire Department has a four channel base station but utilizes only the Juneau fire frequency (155.760 MHz) and the Douglas fire frequency (154.965 MHz). Additionally, both pumpers are equipped

with four channel radios, utilizing the three fire frequencies and the AST frequencies. The Douglas Fire Department also has four five channel/portables.

4.0.4 **Glacier Valley Fire Department**

The Glacier Valley Fire Department has a five frequency, switch selectable radio base station with the following frequencies:

Glacier Valley Fire Department Operating Frequency 155.955 MHz

Juneau Fire Department Operating frequency 155.760

Alaska State Troopers Simplex 155.250MHz

Bartlett Memorial Hospital 155.160 MHz

State Disaster Frequency 155.295 MHz

The Department also has a Citizen's Band (CB) radio on which it monitors channel 9.

Each mobile radio of the Fire Department is a four channel radio with the following frequencies:

Glacier Valley Fire Department Operating Frequency 155.955 MHz

Juneau Fire Department Operating Frequency 155.760 MHz

Douglas Fire Department Operating Frequency 154.965 MHz

Alaska State Troopers Simplex 155.250 MHz

The ambulance contains a mobile eight-channel radio equipped with the following frequencies:

Glacier Valley Fire Department 155.955 MHz

Juneau Fire Department 155.760 MHz

AST Simplex 155.250 MHz

Bartlett Memorial Hospital 155.160 MHz

Juneau Police Department 156.210 MHz

Douglas Fire Department 154.965 MHz

The radio is also equipped with a scanner.

4.0.5 **Auke Bay-Lynn Canal**

Auke Bay has no base station in its fire hall, but does have a radio-equipped vehicle on the Glacier Valley Fire Department frequency, 155.955 MHz. All pagers are also on Glacier Valley Fire Department frequency. The Auke Bay volunteer fire fighters are dispatched by the Glacier Valley Fire Department.

Lynn Canal will have a building and radio-equipped vehicle by the end of the 1978 calendar year.

5.0 **Other Resources: Personnel & Equipment**

Juneau Police Department employs twenty-four (24) commissioned officers, including the chief, six dispatchers, one police records clerk and one switchboard operator/clerk. All of its ten vehicles are equipped with four channel radios. (See Section 4.0.1).

Juneau Fire Department employs twelve (12) paid fire fighters and also has thirty-six (36) volunteer firefighters. All have Plectron receiver pagers (which are gradually being replaced by portable type pagers) Juneau Fire Department operates three pumpers, one aerial truck and one salvage van, each equipped with a four-frequency radio (See Section 4.0.2). The paid firefighters of Juneau Fire Department operates the one ambulance, which is equipped with an eight channel radio (See Section 4.0.2).

Douglas Fire Department is maintained by twenty-five (25) volunteer fire fighters — all have Plectron receivers. The Department operates two pumpers, both radio equipped with four channels (See Section 4.0.3). The Douglas Fire Department also has four five-channel portables and one four-channel base station (equipped with Juneau and Douglas fire frequencies).

Glacier Valley Fire Department employs eleven (11) paid fire fighters and also has forty-five (45) volunteers. GVFD operates two pumpers, one salvage van, and one power generating truck. All are equipped with a four channel radio. The GVFD fire fighters operate the one ambulance that is equipped with an eight-channel radio with the same capabilities as Juneau's ambulance radio (see Section 4.0.4).

Auke Bay has twenty-five (25) volunteer fire fighters, all with Plectron receivers on Glacier Valley fire frequency. Auke Bay operates two pumpers, both equipped with four-channel radios (same as Glacier Valley) (See Section 4.0.5).

Lynn Canal has fifteen (15) volunteer fire fighters, each with a Plectron receiver on Glacier Valley fire frequency. By the end of the calendar year 1978, Lynn Canal will have a building and one pumper (radio equipped) and two portables.

6.0 Methods of Operation

6.0.1 Juneau Police Department

In an emergency residents of the Juneau Douglas area contact the Juneau Police Department by the seven-digit telephone number, 586-1414. The dispatcher answers and immediately dispatches a unit (or units). If an overflow should occur, a back-up person takes the information, relays the information to the dispatcher, who in turn dispatches the unit or units. If an emergency call should come in on a city business line, the receiver of the call can immediately transfer the call to the dispatcher.

When an emergency call requests an ambulance, the dispatcher receives the information, rings the Fire Department on the hot line, and repeats the information to the Fire Department dispatcher, who in turn, dispatches the ambulance. Bartlett Memorial Hospital is then notified.

When an emergency call requires the Alaska State Troopers, the dispatcher receives the information, rings the Alaska State Troopers on the hot line, and repeats the information to the Alaska State Trooper dispatcher, who in turn, dispatches an AST vehicle or vehicles.

The Juneau Police Dispatch Center maintains a radio log and also utilizes a cathode ray tube (CRT)-type computer terminal connected to the Alaska Judicial Information System (AJIS).

6.0.2 Juneau Fire Department

Fire calls are received on 586-3000 for the immediate Juneau vicinity. The fire dispatcher/fireman receives the information and immediately dispatches the fire vehicles. An audible siren, coded by area, is always sounded, and the fire fighters are notified through the Plectron pagers.

6.0.3 Douglas Fire Department

Fire calls from the Douglas vicinity are received by the Juneau Fire Department dispatcher through the 586-1922 telephone access number. Through the Plectron alerting equipment, the Juneau fire fighters dispatches the Douglas volunteers on the Douglas fire frequency. The Douglas fire fighters "10-8" (in-service responding) back to the Juneau Fire Department on the Douglas Fire frequency.

6.0.4 Glacier Valley Fire Department

Fire calls from the Glacier Valley vicinity are received by a GVFD dispatcher fireman on 789-9511 telephone access, the dispatcher receives the information and immediately dispatches the fire vehicles. An audible alarm is sounded the the Plectron system is activated.

Fire calls from Auke Bay and Lynn Canal are received on 789-0121, which rings in on Glacier Valley's Fire line, 789-9511. The dispatcher receives the information and through the Plectron system, alerts and dispatches information on the Glacier Valley fire frequency to the volunteers of Auke Bay and Lynn Canal. The fire fighters "10-8" (in-service, responding) back to the Glacier Valley Fire Dispatcher. Ambulance calls for Glacier Valley, Auke Bay and Lynn Canal areas are received by the Glacier Valley dispatcher on the 789-9512 telephone access number. The dispatcher receives the information and immediately dispatches the ambulance. The dispatcher then notifies Bartlett Memorial Hospital that the ambulance has been dispatched.

The Glacier Valley Fire Department utilizes a two-channel audio recorder, which is voice activated, and records information from the emergency telephone lines and all radio traffic.

7.0 Recommendations

- 7.0.1 Establish "911" as the uniform emergency access telephone number for Police/Fire/Ambulance to cover the entire Juneau Borough, including Auke Bay, Glacier Valley, Lynn Canal, Douglas and Juneau.

"911" is the nationally recognized emergency number rapidly being established nation wide. The number is simple, switches faster and greatly reduces the time for citizen access. Currently, in the Juneau Borough a person in distress must determine from seven different seven-digit telephone numbers in order to reach Police, Fire, Ambulance. The person in distress is many times confused and cannot react in a methodical, rational manner. A well-advertised, displayed "911" number can eliminate in an emergency having to find the telephone book and looking up and deciding which 7-digit number to call. The dialing of three as opposed to seven digits also reduces dialing time.

As discussed in Section 1.0, Juneau has a large percentage of seasonal residents and thousands of visitors annually. In addition to not knowing any of the current emergency numbers, these people may also not know which of the numbers to call because of unfamiliarity with the area boundaries.

7.0.2 Establish a common dispatch center for the Juneau Borough. The dispatch center for Juneau Police Department is subject to numerous distractions. Furthermore, the relaying of information to Juneau Fire Department or AST can easily lead to confusion, may cause errors and uses valuable time. Common dispatch has proven to be more efficient and effective.

The common dispatch center should be located in one room characterized by a library-type atmosphere. For example, acoustical tile and other acoustical aids, including carpeting, should be installed to curtail extraneous noise. The background light level should be subdued, with individual work areas spotlighted.

Two "911" instruments should be installed which, whenever possible, display the incoming caller's telephone number. Six dedicated trunks should come into the Center — two from Juneau, two from Douglas, two from the area of Auke Bay, Lynn canal and Glacier Valley. Each instrument should also have transfer capability.

The Center should be staffed with two people (operator/dispatchers) twenty-four hours a day. These operator/dispatchers should be well paid, highly trained, and responsible. The Center should be equipped with an emergency power supply, a stand-by generator. A continuous running recorder attached to all telephone lines and radios should be installed. A CRT terminal with access to the Alaska Judicial Information System (AJIS) should also be included as part of the Center's equipment.

In order for the common dispatch center to effectively function free from political and regional influences, and to allow for equal input from the various agencies, it is envisioned that they shall be structured as a separate quasi-governmental entity manned by civilians and managed by two boards of commissioners. One would provide operational control and management direction. A second board would be responsible for administrative support and budgetary development and funding.

It is envisioned that the operational board would be composed of the fire chief, police chief, a medical representative and a state trooper representative. The second board would be composed of representatives from the cognizant government entities responsible for providing emergency services.

Finally, the Center should have control of all radios — Police, Fire, Troopers and Hospital.

7.0.3 Add single tone encoders to the radios in the ambulances.

7.0.4 Add a decoder to the radio(s) in the hospital.

The addition of the encoders and decoders would allow the ambulance to signal the hospital and would eliminate designated monitoring of the radio.

7.0.5 Add paging capability to the hospital channel.

7.0.6 Equip each on-call physician with a portable radio with paging capabilities.

7.0.5 and 7.0.6 are recommended to allow direct communication (especially while the physician is enroute to the hospital) and to minimize time.

7.0.7 See Anchorage command dispatch discussion.

KENAI

1.0 Description

The Kenai Peninsula Service Area, south of Anchorage via the state highway system, is for the most part, lightly populated. However, three relatively heavy population groups exist in the central and southern portion of the peninsula, consisting of:

- (1) Kenai-Soldotna-Nikiski Group
- (2) Seward Group
- (3) Homer-Anchor Point Group

The balance of the population resides in small concentrations in close proximity to the highway system and in scattered fishing villages and individual residences remote from the existing roadways. The existing dispatch facilities located in the three large population centers outlined above are operated essentially independent of each other. The facilities are adequate for individual emergency type exchanges within each area. However, coordinated emergency reactions are hampered due to the absence of fully integrated central dispatch centers and "911" type emergency facilities.

2.0 Kenai Peninsula Area Description

2.1 Soldotna-Kenai-Nikiski Area

This area is served by three dispatch centers connected to the public telephone system by **three different seven digit** telephone numbers for police emergency request and another **three different seven digit** telephone numbers for fire and ambulance emergency request. Additionally, they operate on **six different** police and fire radio frequencies. (Police 154.725 MHz, 155.250 MHz and the State Repeater System frequencies. Fire 154.355 MHz, 154.145 MHz and 154.383 MHz).

Each center dispatches as follows:

- (1) Soldotna: Police, Fire, Ambulance, and State Troopers
- (2) Kenai: Police, Fire and Ambulance
- (3) Nikiski: Fire and Ambulance

2.2 Seward Dispatch Center

The Seward area is served by one dispatch center connected to the public telephone system by two police emergency four-digit telephone numbers and one fire four-digit telephone number. The City Police and Ambulance operate on the AST simplex radio channel, 155.250 MHz. The Fire Dept. operates on 154.980 and 154.430 MHz. The State Troopers in the Seward area are dispatched by three means:

- (1) Direct call to their home from citizens or the Seward Police Dept.
- (2) Radio dispatch from the Seward P.D. Dispatch Center.
- (3) Radio or telephone dispatch from the Soldotna Dispatch center.

2.3 Homer Dispatch Center

The Homer area is served by one dispatch center connected to the public telephone system by a group of four telephone lines connected in nrotary and accessed by one seven-digit telephone number.

City Police operate on the State simplex channel, 155.250 MHz. The Fire Department and Ambulance operate on 154.415 MHz. Homer is in the process of relocating and upgrading its dispatch center. They are adding a police frequency, 155.310 MHz, for the City's operation.

3.0 Discussion and Summary

3.1 General

It appears that it is not practical to build and operate one common dispatch center for the whole Kenai Peninsula area. Emergency telephone lines "911" type would have to be trunked from the three areas to a common dispatch center located somewhere on the Peninsula. Radio control circuits and telephone lines would have to be installed from the dispatch center back to the three areas. The distances involved would make it necessary to construct and operate microwave systems between the various areas. If the inter-area communication failed, this concept would create a situation that would leave an area without contact between its citizens and emergency help.

At this point in time, it does not appear that the construction of microwave systems for Police, Fire and Ambulance is justifiable. The Police, Fire, and Medical radio coverage for the area can be provided for the most part without a new microwave system. However, in the future, it might be desirable to install some microwave facilities to replace existing 72 MHz and 450 MHz radio control banks and also allow for additional circuits as required.

KENAI

It appears that the best approach is to operate three dispatch centers; one for the Homer Area, a second for the Seward Area and a third for the Nikiski-Kenai-Soldotna Area. Also, along with the operation of three area dispatch centers, another high priority item should be a move toward "911" in all areas. Coordination between the three CDC's can occur via telephone or via the State Trooper Radio Repeater System.

Homer and Seward presently have common control centers requiring few improvements to bring them to an acceptable level of capability; however, a common dispatch center should be constructed for the Nikiski, Kenai, Soldotna (Core Area) on a priority basis.

In order for the Common Dispatch centers (CDC's) to effectively function free from political and regional influences, it is envisioned that they should be structured as a separate quasi-governmental entity manned by civilians and managed by two Boards of Commissioners; one would provide operational control and management direction. A second Board would be responsible for administrative support and budgetary development and funding.

The operational Board would be composed of the individual Core Area fire chiefs, police chiefs, a medical representative and State Trooper representatives. The second Board would be composed of representatives from the cognizant governmental entities responsible for providing these emergency services.

3.2 Soldotna-Kenai-Nikiski Area

3.2.1 General

A Common Dispatch Center (CDC) should be constructed or located preferably in an area that will provide good radio coverage for the whole area and at the same time have ready access to the local commercial telephone system. It is not necessary that this facility be co-located with an existing Police or Fire facility. Of major importance in this dispatch area (as well as all others) is the elimination of the horrendous combination of telephone numbers which must be utilized to contact the appropriate emergency facility. The installation of "911" facilities in each area is critical to their effective performance.

The CDC would be composed of two fully equipped operating positions and a third partially equipped position. Based on the population of the particular area, it appears that during normal conditions one dispatcher would effectively handle the work load.

3.2.2 Telephone Facilities

The CDC should be equipped with one "911" group containing five incoming emergency trunk lines, or at the very least, one seven-digit line followed by four additional lines connected in rotary so that all emergency calls from the Core Area would come into the CDC via one telephone emergency number. The telephone company must ensure sufficient dedicated emergency trunks between the various telephone exchanges in the area, and impose high priority guidelines concerning the availability, reliability and redundancy of their inter-exchange trunks. Additionally, one two-way ring down telephone circuit should be installed between the CDC and the following locations:

- (1) State Trooper dispatch center in Anchorage
- (2) Soldotna Fire Department
- (3) Soldotna Police Department
- (4) Kenai Fire Department
- (5) Kenai Police Department
- (6) Nikiski Fire Department #1 and #2
- (7) Soldotna Hospital
- (8) FAA
- (9) State Troopers Headquarters in the Core Area.

3.2.3 Recording

The CDC should contain one multi-channel continuous running recorder with back up. The following communication circuits should be connected to this recorder:

- (1) All "911" telephone trunk lines
- (2) The following radio channels:
 - a. City Police
 - b. State Repeater System
 - c. Fire
 - d. Hospital

(3) Two way ring down telephone circuits as follows:

- a. State Dispatch Center - Anchorage
- b. State - Soldotna
- c. Kenai P.D.
- d. Soldotna P.D.
- e. Soldotna Hospital
- f. Kenai Fire
- g. Soldotna Fire
- h. FAA

The continuous running recorder is a very essential item in the dispatch center because it maintains a record of what was said as well as the sequence of events based on real time. These tapes are usually changed on a 24-hour basis and are retained for a predetermined period of time - usually 30 to 60 days.

The CDC should also be equipped with an instant recall recorder which is used as a working tool for the dispatchers. It would be connected to a conversation on any "911" trunk. If the dispatcher misses data from the incoming call, he can instantly replay the call for review.

3.2.4 Radio

Figure 1 illustrates the proposed radio base stations required in the CDC. They are as follows:

- (1) Core Area City Police: 154.725 MHz
- (2) Core Area Fire: 154.355 MHz
- (3) State Trooper peninsula repeater system
- (4) State Trooper simplex channel: 155.250 MHz
- (5) Hospital to ambulance: 155.160 MHz

Note: This radio will be connected to the hospital by the control center dispatcher. (Future: Two remote base stations on 155.160 - one near Coopers Landing and a second between Soldotna and Homer)

- (6) State UHF paging transmitter
- (7) FAA air-to-ground: 121.9 MHz
- (8) Citizens Band - Ch. 9

In addition to the radio base stations required in the CDC, Fig. 1, illustrates that the proposed system would include the following redundant base stations:

- (1) One operating on 154.725 MHz in the Soldotna P.D. and a second on the same channel in the Kenai P.D.
- (2) One operating on 154.355 MHz in each Fire House (Kenai, Soldotna, Nikiski #1 and Nikiski #2)
- (3) A fixed mobile installed in the State Troopers administration offices.

The proposed system design combines the police dispatcher centers on one common frequency, allowing the Kenai and Soldotna P.D.'s to communicate with mobiles, each other, and the CDC via the common radio system. It also combines the fire dispatch in one common frequency (154.355 MHz) which would allow the other two currently used frequencies to be reallocated as fire tactical frequencies.

This mode of operation provides a great deal of flexibility and would also be an asset in the event of a situation that disables the telephone system or a situation requiring mutual aid.

Since the State UHF paging system can handle several additional pages, it appears that the State might be willing to share this asset and allow others in the Core Area to be added to this system. By moving paging to a UHF channel, interference would be minimized on the VHF dispatching channels, and the paging reliability would be improved since UHF penetrates buildings and vehicles better than VHF.

Some paging units may be required as a sub-unit to a portable radio. It may be required for the paged person to verify his page and discuss the situation with the CDC via radio.

3.3 Seward Area

3.3.1 General

For the most part, the Seward Police Department is already operating as a Common Dispatch Center. This method of operation should be formalized and the citizens in the Seward Area should be advised to call one emergency telephone number for all emergency service requests.

All requests for service from within the area served by the Seward area telephone company should be handled by the Seward area CDC.

3.3.2 Telephone Facilities

The CDC should be equipped with one "911" group containing three incoming emergency trunklines, or at the very least, one seven-digit line followed by two additional lines connected in rotary. All emergency requests from the Seward Area would come into the CDC via one telephone number.

3.3.3 Recording

The CDC should contain one multi-channel continuous running recorder with back up. The following communication circuits should be recorded:

- (1) All "911" telephone trunk lines.
- (2) The following radio channels:
 - a. City Police
 - b. State Repeater System
 - c. Fire
 - d. Hospital

The CDC should also be equipped with an instant recall recorder.

3.3.4 Radio

Figure 2 illustrates the proposed radio base stations required in the CDC. They are as follows:

- (1) City Police: 155.250 MHz.
- (2) City Fire and Public Works: 154.908 MHz
- (3) Fixed Mobile: State Trooper Repeater System
- (4) Hospital-to-Ambulance: 155.160 MHz
- (5) UHF Paging Transmitter/Receiver
- (6) Citizens Band - CH 9

The Trooper fixed mobile radio in the CDC will be used to communicate with Area State Troopers as well as the CDC in Nikiski-Kenai-Soldotna Area.

The Hospital-to-Ambulance base radio should be controlled by the CDC and located in an area which provides coverage for the Seward Area and also provides coverage along the highway out of Seward as far as practical. This radio will be connected to the hospital via telephone cable pair. At the hospital, a telephone type control unit, equipped with a bell and light, will be installed. This telephone circuit shall operate as a remote control circuit for the Hospital-to-Ambulance radio as well as a two-way ring-down circuit between the hospital and CDC. The hospital shall be equipped with a base radio on the Hospital-to-Ambulance frequency which would be used in the event of a telephone cable pair failure.

The paging system will be utilized to page any entity in the Seward Area requiring paging — City Police, Government and Fire; Doctors; Medics; State Troopers and Rural Fire. For some paging units, it may be required to include the pager as a sub-unit to a portable radio. It may be necessary for the paged person to verify his page and discuss the situation with the CDC via radio. The hospital will be able to request doctors to be paged via the two-way ring-down telephone hot-line.

3.4 Homer Area

3.4.1 General

The Homer Police Department is operating as a common Dispatch Center. All requests for emergency service from within the area served by the Homer area telephone company should be handled by this CDC.

3.4.2 Telephone Facilities

To handle emergency requests for service, the CDC is equipped with a seven-digit numbered telephone line followed by additional lines connected in rotary. The installation of "911" facilities in this area would improve performance and the City should work with the local telephone company to implement "911" at the earliest practical date.

3.4.3 Recording

The CDC should contain one multi-channel continuous running recorder with back up. The following should be recorded:

- (1) All emergency telephone lines
- (2) The following radio channels:
 - a. City Police
 - b. State Repeater System
 - c. Fire
 - d. Hospital

3.4.4 Radio

Figure 3 illustrates the proposed radio base stations required in the CDC. They are as follows:

- (1) City Police: 155.250 MHz
- (2) City Fire: 154.415 MHz
- (3) Public Works: 158.940 MHz
- (4) Fixed Mobile: State Trooper Repeater System
- (5) Hospital-to-Ambulance: 155.160 MHz
- (6) UHF Paging Transmitter/Receiver
- (7) Citizen Band: Ch 9

To minimize CDC radio traffic, the Public Works radio system will have radio remotes in Public Works locations in the City. Conversation can be carried on between these remote dispatch points and mobile units in the field without the aid of the CDC dispatcher. However, at night, the CDC dispatcher may be the only person on duty, and in this case, communications with mobile units and the base would be handled by the CDC dispatcher.

The Trooper fixed mobile radio in the CDC will be used to communicate with area Troopers as well as the CDC in the Nikiski-Kenai-Soldotna area.

The Hospital-to-Ambulance base radio should be controlled by the CDC and located in an area to provide Homer area coverages as well as coverage along the Soldotna-Homer highway as far as practical. The radio should be connected to the hospital via telephone cable pair. At the hospital a telephone type control unit with light and bell will be installed. This telephone circuit shall operate as a remote control circuit for the Hospital-to-Ambulance radio as well as a two-way ring-down circuit between the Hospital and CDC.

The Hospital shall be equipped with a base radio on the Hospital-to-Ambulance frequency which would be used in the event of a telephone cable pair failure.

The UHF paging transmitter/receiver will be utilized to page any entity in the Homer Area requiring paging — City Police, Government and Fire; Doctors; Medics and State Troopers. For some paging units, it may be required to include the pager as a sub-unit to a portable radio. It may be necessary for the paged person to verify his page and discuss the situation with the CDC via radio. The hospital would request the CDC to do their paging via the hospital-to-CDC hotline.

4.0 Recommendations

4.1 General

- 4.1.1 Install Citizen Band radios in State Trooper vehicles. These units should have the channel 9 scan capability.
- 4.1.2 Along all Peninsula highways, encourage volunteer CB Channel 9 monitor groups. Volunteer CB monitors and the State Trooper, if CB equipped, may be the only link between those involved in a highway emergency situation and those who can help them.

4.2 Soldotna-Kenai-Nikiski Area

- 4.2.1 Establish one Common Dispatch Center.
- 4.2.2 Install "911" or, at the very least, install a group of lines connected in rotary and accessed by one common telephone number.
- 4.2.3 Consolidate Police radio frequencies.
- 4.2.4 Consolidate Fire radio frequencies.
- 4.2.5 Establish the Common Dispatch Center as the control point for the Hospital-to-Ambulance radio system.
- 4.2.6 Establish the Common Dispatch Center as the control point for the State Trooper peninsula radio repeater system.
- 4.2.7 Establish UHF paging.

4.3 Seward Area

- 4.3.1 Formalize Common Dispatch Center.
- 4.3.2 Install "911" or, at the very least, install one seven-digit line followed by additional lines connected in rotary.

4.3.3 Establish the Common Dispatch Center as the control point for the Hospital-to-Ambulance radio system.

4.3.4 Establish UHF paging.

4.3.5 Install multi-channel recorder.

4.4 Homer Area

4.4.1 Formalize Common Dispatch Center.

4.4.2 Install "911, or, at the very least, install one seven-digit line followed by additional lines connected in rotary.

4.4.3 Establish the Common Dispatch Center as the control point for the Hospital-to-Ambulance radio system.

4.4.4 Establish UHF paging.

4.4.5 Install multi-channel recorder.

KETCHIKAN

KETCHIKAN

1.0 Description

Ketchikan, one of Alaska's larger communities, has a population of 10,587, and is located at the southern end of the Southeast panhandle.

Ketchikan supports four trucking services, one bus service, a ferry terminal, a charter air and cruise ship service. Scheduled flights to Anchorage, Seattle and throughout Southeast are available daily. Radio, television, and newspaper services are all provided in Ketchikan.

A 105-bed hospital and two clinics are located in Ketchikan. Twelve physicians, six dentists and one veterinarian serve the area.

Ketchikan provides K-12 schooling and supports a community college. The economy of the area is primarily based upon the wood products industry and fishing.

2.0 Agencies with EMS Responsibilities

Several agencies in the Ketchikan area have emergency responsibilities: **Ketchikan Fire Department** — The Fire Department is staffed by 10 paid fire fighters including the chief, one paid dispatcher and approximately 45 volunteers. They provide fire service within city limits from a main and an ancillary fire station. In addition, the Department provides ambulance services to the entire borough. They have one DOT-approved ambulance staffed by trained emergency medical technicians.

Shoreline Fire Service District — This Department is staffed by approximately 15 active volunteers who provide fire services for the area between approximately the Ketchikan city limits and 16 miles on the North Tongass Highway. Three of these volunteers are EMT's. They are dispatched by the City Fire Department via "Plectron" tone-activated receivers. The Department has one pumper and two tankers.

Each of these vehicles is equipped with a two-frequency mobile radio (Ch 1-KF, Ch 2-SSD "frequency unassigned). They have 10 "Plectron" receivers — 2 located in businesses where they are monitored during the day and 8 others located in homes. When they go "in service, responding to a fire, they notify the KFD.

Pond Reef Fire Department — This private subscription fire department consists of approximately 50 volunteer fire fighters, dispatched by the Alaska State Troopers. Six of these volunteers are EMT's. They provide fire services from five fire houses to the Pond Reef area. The service area lies between approximately 7 miles and 13.5 mile on the Tongass Highway. They operate 12 radio-equipped fire fighting vehicles. The Chief's vehicle has a four frequency radio (AST, HOS, KDF, and PFD 154.400 MHz); two vehicles have two frequency radios (PRFD and KFD); one vehicle has a two frequency radio (PFFD and HOS) and the others have single frequency radios on PFFD.

The paging tones being transmitted by AST are not being used to page, but as alerting tones. The fire fighters all have four-frequency scanners (AST, PFFD, KFD, and KPD) instead of Plectron receivers. The Chief has a 2-frequency base radio in his house (PFFD and KFD).

City Police Department — The City Police Department employs 20 commissioned officers including the chief, 6 dispatchers and 1 chief clerk. They provide police services within the Ketchikan City limits.

Alaska State Troopers — The Alaska State Trooper Post headquartered in Ketchikan employs eleven commissioned officers, three of which are Fish and Wildlife Officers, and five dispatchers. They provide services to the Ketchikan Gateway Borough with the exception of the area within the City limits. They also provide services in Petersburg, Wrangell, Craig and other small towns in the area.

Hospital — Ketchikan has one hospital which provides full-time emergency medical facilities.

3.0 Dispatch

In the Ketchikan area, there are three dispatch centers from which fire, ambulance and police services are mobilized: the Ketchikan Fire Department, the Ketchikan Police Department and the Alaska State Troopers.

4.0 Ketchikan Fire Department

4.01 General

The Ketchikan Fire Department provides ambulance services for the entire borough, and fire services within city limits out of two station locations. Additionally, they page through their Plectron system the Borough Fire Department which provides fire services only. The dispatch center is located in their main fire station at 319 Main Street. During the day, there is a dedicated dispatcher to receive calls and alert

responders. At night, fire department live-ins are awakened by loud bells connected to the emergency input facilities. Only the main station is routinely staffed.

4.0.2 Citizen Access

The Ketchikan Fire Department receives citizen calls for ambulance services from the entire borough, and for fire calls from all areas except that served by Pond Reef through the following mechanisms:

(a) **Telephone:** The emergency phone number is 225-9611 which is received by the fire department dispatcher on a phone with three lines connected in rotary. There is also a business phone with the number 225-9616.

(b) **Telegraph system:** Throughout the City, there are 43 alarm boxes, mostly public access, connected to the fire dispatch center via a common direct current circuit. When an alarm occurs, a location code is printed on tape in the fire dispatch center. This system was installed as a fire reporting system and cannot differentiate between fire, ambulance and police calls for service.

(c) **Alarm Radio System:** Alarm boxes on 72.5 MHz are located at 29 locations around town. Each has three buttons — one for fire, one for ambulance, and one for police. Alarms are received only by the Ketchikan Fire Department and not by the police, but types of calls can be differentiated so that appropriate responders may be alerted.

4.0.3 Radio Base Stations

Each of the two fire stations has a two frequency base station, with fire frequency of 154.205 MHz and City Police frequency of 154.725MHz. Normally, the fire frequency is the one monitored.

4.0.4 Radio Paging

Through a Plectron system on the fire frequency, city fire and ambulance personnel and Borough fire department members are paged. For this purpose, individuals are equipped with tone alert-type radio receivers.

4.0.5 Mobile Communications

Each of the fire trucks has one radio with the fire frequency to allow communications with the dispatcher and with other mobile units. In the ambulance, there is a 2-frequency, 2-way mobile radio in front with fire and police frequencies and a 4 frequency 2-way mobile in back with fire, police, Alaska State Trooper and hospital frequencies.

4.0.6 Recording

A 2-channel, voice-activated audio recorder is connected to two of the three emergency telephone circuits and to the fire frequency, 154.205 MHz.

5.0 City Police

5.0.1 General

The police department employs 20 commissioned officers, 6 dispatchers and one chief clerk. They provide police service only to the area within the city limits. Their dispatch center is staffed 24 hours a day, 7 days a week.

5.0.2 Citizen Access

Calls for service are received through one emergency telephone line on 225-6634. The police department also has three business lines connected in rotary - 225-6631, 2, and 3. No input is received directly by the police dispatcher from the alarm boxes; however, the fire department relays police box alarms to the department via radio or telephone.

5.0.3 Base Radios

The dispatch center is equipped with a switchable two-frequency base radio (Police channel 154.725 MHz and Fire channel 154.205 MHz). Normally they operate on the police channel.

The center is also equipped with a tone alert "Plectron" receiver on the fire frequency and a continuously monitored receiver on the Alaska State Trooper simplex frequency - 155.250 MHz.

5.0.4 Radio Paging

For alerting selected officers, the dispatch center is equipped with a Motorola paging system operating on the police radio channel.

5.0.5 Mobile Communications

The department is equipped with 6 police vehicles. Three of the vehicles are equipped with 2 frequency mobiles (Ch 1 - City Police; Ch 2 - City Fire) and the other 3 vehicles are equipped with 4 channel mobiles (Ch 1 City Police; Ch 2 - City Fire; Ch 3 - AST and Ch 4 - Police TAC channel).

5.0.7 **Communications With Other Agencies**

The police department monitors the fire and ambulance frequency through their "Plectron" receiver. They also monitor AST through a monitor receiver set up for this purpose. Telephone hotlines connect them with the State Jail and through a State-National hotline, with civil defense agencies all over the country. They also have a CRT terminal connected to the State Criminal Computer System (AJIS).

6.0 **Alaska State Troopers**

6.0.1 **General**

The State Troopers maintain a 24-hour 7 day a week dispatch center. This center dispatches both Troopers and Pond Reef fireman.

6.0.2 **Citizen Access**

Access is achieved through three emergency telephone lines connected in rotary 225-5118, 9 and 10. The published emergency number for Troopers is 225-5118 and the published emergency number for Pond Reef Fire Dept. is 225-5119. There are also, on a separate phone, two business lines in rotary 225-4101 and 4201.

6.0.3 **Base Radios**

The dispatch center is quipped with a base radio operating on the AST simplex frequency, 155.250 MHz. Also, the dispatch center is equipped with a second base radio on the Pond Reef fire frequency, 154.400 MHz. Additionally, there is a SSB radio in their dispatch center.

6.0.4 **Radio Paging**

Through a Motorola encoder connected to the Pond Reef radio base station, the State dispatcher pages and dispatches the Pond Reef firemen. This is the extent of the center's page capability.

6.0.5 **Mobile Communications**

Six State Trooper vehicles are radio equipped. These radios are equipped with two frequencies (AST simplex channel 155.250 MHz and City Police Channel 154.725 MHz).

6.0.6 **Communications With Other Agencies**

The State Troopers have a CRT terminal connected to the State criminal computer system (AJIS).

7.0 **Ketchikan Hospital**

The hospital is equipped with a base station on 155.350 MHz. Through this radio, the ambulance communicates with hospital personnel in the Emergency Room. When an ambulance is dispatched, the fire department calls the hospital by telephone, alerting them to monitor the radio. The hospital is also equipped with a Motorola paging encoder which is used by the hospital to page the doctor on call. The on-call doctor carries a 2-way portable with pager for this purpose.

8.0 **Recommendations**

8.0.1 **Establish Common Dispatch**

8.0.2 **Install "911"**

It is recommended that all emergency services described - the Ketchikan Fire Department, the Borough Fire Department, the Pond Reef Fire Department, the City Police, the Alaska State Troopers and possibly the hospital - establish a common dispatch center using 911. This would reduce present costs by allowing one staffed dispatch center to replace the three presently in operation; would simplify citizen access by reducing the four telephone numbers now used to one; and would allow common use of standby power, a tower and continuous running recorder. In order to avoid confusion, 913, which is presently published on pay phones for both telephone information and emergencies should be omitted as an emergency number.

The center should include the following equipment:

- a. City fire department transmitter/receiver on 154.205 MHz with paging capability.
- b. Alaska State Trooper transmitter/receiver on 154.725 MHz with page.
- c. City police transmitter/receiver on 154.725 MHz with page
- d. Pond Reef transmitter/receiver with page.
- e. Hospital transmitter/receiver on 155.160 MHz.
- f. State UHF paging transmitter/receiver.

- g. Two telephones to receive four 911 trunks in rotary.
- h. One continuously running recorder connected to all radio channels and telephone lines.
- i. All alarm reporting equipment now at the fire station.
- j. One CRT terminal.

Concerning staffing, one dispatcher per shift would be adequate on a routine basis. A second control position, however, with access to all radios and telephone lines and a third position with telephone access only would be advisable to allow bringing in additional dispatchers in case of a larger scale emergency.

It is recommended that the dispatch center be installed somewhere near a good telephone cable interface and in an area that provides good radio coverage. It need not be co-located with any other agency.

Standby power should be available for the dispatch center, the remote site and the hospital radio, and if feasible, for the base stations at the police, fire and Trooper station.

Chiefs of the responder agencies involved could form an operational board to determine policy on running the center including such aspects as hiring practices, recruiting employees, and training needs. Under their direction, administration could be delegated to an administrative board composed of City Management.

8.0.3 Install an AST repeater near airport

To allow more complete highway coverage for the Troopers, a repeater should be installed, probably in an area somewhere above the airport, connected to the Central Dispatch Center by a 450 MHz or microwave control link. If this is done, the mobile radio equipment in the Trooper vehicles would also have to be replaced with the "existing standard" 4 channel State Trooper mobile radio.

8.0.4 Establish 155.160 MHz as the EMS Frequency

In most cases, currently used frequencies would not need to be changed. It is recommended, however that the hospital use the State Standard hospital ambulance frequency or 155.160 MHz. This could be accomplished by installing new crystals in the existing radios.

In addition it is recommended that the hospital radio be equipped with a tone decoder including lite & bell and the ambulances be equipped with a tone encoder. By the use of tone encode/decode, it is not necessary for the hospital to monitor the radio. The ambulance medics can directly cause a bell to ring in hospital when they wish to talk to hospital personnel. This also eliminates the need for the dispatcher to alert the hospital by telephone.

8.0.5 Move paging equipment as necessary

Paging equipment now located at the fire department, the police department and the Alaska State Troopers should be moved to the new dispatch center. Base stations now at those locations should remain where they are to allow radio communications between dispatchers and the individual responders. An exception is the Pond Reef base station now located at the Alaska State Troopers, which should be moved to the dispatch center.

8.0.6 Equip police and AST officers with portables with built-in pagers.

All city police officers and State Troopers should be equipped with portables with built-in page and lapel type mikes. Their radios should be attached to their belt. This method of operation that the officer is always radio equipped inside or outside of his vehicle. Also, when an officer leaves his vehicle, he does not have to think to take his radio with him and also his hands are free for other emergencies. Normally, their portable radios would be left in the page mode. The City Police portables would need only the City Police frequency, but the Troopers should have the State simplex, State repeater and City Police frequencies, if possible. Individual portables now used by the City, Pond Reef and Borough Fire Departments would remain the same.

8.0.7 Install a CRT terminal connected to AJIS at the common dispatch center, to be shared by police and AST.

8.0.8 Install continuously running recorder.

By substituting a continuously running recorder connected to all radios and telephone lines for the presently used voice-activated recorders, actual sequence of events could be recreated. The recreation of an event based upon real time can be extremely important and a decisive factor in court cases.

KODIAK

KODIAK

1.0 Description

The Kodiak area includes Kodiak Island, a small part of the Alaska peninsula, and several nearby smaller islands. It covers a total of 7,296 square miles and is an area of mountains drained by short, steep and swiftly flowing streams. The maritime climate of the region provides wet summers and mild winters; it is frequently windy and rainy.

The City of Kodiak covers approximately 5 square miles and the Borough covers approximately 20 square miles. The Borough has about 200 miles of main road.

The population from 1970 to 1976 has remained relatively stable — around 9,400 people. About 4,500 reside in the Kodiak Borough and about 2,200 live on the nearby military base. The rest of the area's residents live in six other, comparatively isolated communities.

Thirty-one percent of the population is employed in manufacturing (which includes fish processing), 23% are employed by government, and 13% are employed in trades.

Transportation is by air or sea, and all communities have airports. Most towns have radio reception, and use radios for communications. Telephones are available only in the larger towns.

2.0 Kodiak Fire Department

2.0.1 General

The Kodiak Fire Department employs 11 fire fighters, including the chief, and is further staffed by 10 volunteers and 12 EMT's. At least three fire fighters are on duty, 24 hours per day, seven days a week. The one fire station, which provides borough-wide fire and ambulance services, is equipped as follows:

- one pick-up truck with snorkel gun;
- one chief's car;
- one snorkel truck, 1,500 gallon per minute pump and 300 gallon tank;
- one 1,500 gallon per minute pumper with a 700 gallon tank;
- one 1,250 gallon per minute pumper with a 750 gallon tank;
- one quick response truck, 150 gallon per minute pumper at 800 psi, 300 gallon tank;
- one rescue and salvage truck;
- two D.O.T.-approved ambulances.

2.0.2 Mobile Radios

Each of the fire vehicles and two ambulances is equipped with a four-channel radio with the following operating frequencies:

City fire	155.955 MHz
City police	155.250 MHz
Marine VHF, Channel 16	156.800 MHz
Ambulance-to-Hospital	155.160 MHz

2.0.3 Base Station

The fire base station is located on a mountain top near town with control circuits to the fire station and police dispatch center.

2.0.4 Paging

The Fire Department has no paging equipment, but has a telephone conference line with telephones in the fire fighters' homes.

2.0.5 Monitor Receivers and Portables

The Department has fifteen monitor receivers and eight portables.

2.0.6 Citizen Access

Citizen Access is via 911 into the Police Dispatch Center.

2.0.7 Telephone Instruments

The Fire Station has three telephone instruments, each with three business lines connected in rotary. The pilot telephone number is 486-5728.

2.0.8 Method of Dispatch

Fire: Requests come into the Police Dispatch Center via 911. The dispatcher notifies the fire fighters via radio, via the telephone conference line, and at night also activates the bell alarm in the station. On all fire calls, the on-duty fire fighters respond with the quick response truck, 1,250 gpm pumper, and rescue truck. Off-duty fire fighters and volunteers stand by at the fire station.

Ambulance: Requests come into the Police Dispatch Center via 911. The dispatcher notifies the EMT's via radio and telephone conference call. Two on-duty fire fighter/EMT's respond with the ambulance and the third on-duty fire fighter/EMT responds with the rescue truck. Off-duty personnel and volunteer EMT's stand by at the fire station.

3.0 Kodiak Police Department

3.0.1 General

The Kodiak Police Department employs 17 commissioned officers, including the chief, and five dispatchers. The Department maintains 13 police vehicles.

3.0.2 Mobile Radios

Each vehicle is equipped with a four-channel radio with the following operating frequencies:

City Police 155.250 MHz

City Fire 155.955 MHz

Tactical Channel 155.550 MHz

Marine Coordination Channel 155.010 MHz

Also, each of the 17 commissioned officers has a two channel portable with frequencies, 155.250 MHz and 155.550 MHz.

3.0.3 Base Station

Three base station radios (City Police, City Fire, Public Works) are located on a mountain top near the center of town. The base stations have control lines back to the Police Dispatch Center. The Tac Channel base station (155.550 MHz) is located in the City Building. There is no base station for the marine coordination channel (155.010 MHz).

4.0 Dispatch Center

4.0.1 Radios

The Dispatch Center has one radio operating position with access to the following radio channels:

- City Police - Police Tactical
- City Fire - Public Works

The dispatcher has access to several SSB-HF radio channels as follows:

- Alaska Energy 4383.8 KHz
- AST 4460 KHz
- Areawide Vessel Frequency 2450 KHz
- Fish & Game 32305 KHz
- AST 74805 KHz
- AST 51355 KHz

The Center also monitors CB channel 9.

4.0.2 Telephones

Two telephone instruments are equipped as follows:

- City Police Business 486-3221
486-3222
486-3223
- Alaska State Troopers 486-4121
- Two 911 lines
- One ring down line (35 phone conference fire line)
- One ring down line (from boat harbor where they are four instruments)

The Center is also equipped with a Civil Defense circuit.

4.0.3 Recording

An eight-channel Dictaphone recorder is connected to the following telephone lines and radio circuits:

- Police Business lines 486-3221
486-3222
486-3223
- Both 911 lines
- City Police radio channel
- City Fire radio channel
- Public Works radio channel

4.0.4 Teletype

A teletype at the Center is connected to the Alaska Judicial Information System (AJIS) network.

5.0 Alaska State Troopers (Kodiak, E-Detachment)

5.0.1 General

The E-Detachment of Public Safety is staffed by:

- 1 Lieutenant, 1 Sergeant, 5 Troopers - Kodiak
- 1 Trooper - Naknek
- 1 Trooper - Dillingham
- 1 Trooper - Sand Point
- 1 Constable - Pribilof Islands
- 1 Corporal and 4 Troopers - Bethel

Fish & Wildlife

- 1 Lieutenant, 1 Sergeant, 5 F & W Officers - Kodiak
- 1 Officer - Sand Point
- 1 Officer - Dutch Harbor

Dispatchers

Three dispatchers are located in Kodiak and are on duty 7:00 a.m. - 10:00 p.m., five days a week.

Three vessels (100', 65', 42') are stationed at Kodiak and are staffed by one Lieutenant, two Sergeants, four officers, and three civilians. During the summer, a 42 footer and a 32 footer vessel staffed by Kodiak personnel and are located in Kodiak.

AST in Kodiak maintains five vehicles, a Goose aircraft and a small skiff. Fish & Wildlife maintains four pick-ups and three skiffs.

5.0.2 Mobile Radios

One of the five AST vehicles is equipped with a standard four-channel radio with scanner. The other four vehicles are equipped with two-channel radios with operating frequencies 155.250 MHz and 155.550 MHz. In addition to its normal aircraft radio, the Goose is equipped with an SSB radio.

Each of the four Fish & Wildlife vehicles is equipped with a two-channel radio with operating frequencies 155.250 MHz and 155.550 MHz. All vessels have SSB, CB and Marine VHF radios.

5.0.3 Portable Radios

AST has three large GE portables and two hand-held radios. Fish & Wildlife has three hand-held radios.

5.0.4 Dispatch Center

The Dispatch Center for AST and Fish & Wildlife is staffed from 7:00 a.m. - 10:00 p.m., 5 days a week. The Center has a base radio on the 155.250 MHz frequency and an SSB. Generally, the 4460 KHz frequency is used for E-Detachment communications.

5.0.5 Dispatch Method

Requests for AST service in the Kodiak area that come in via 911 are dispatched directly by the City Dispatcher. Routine traffic stops, wanted checks and warrant checks are also handled by the City Dispatcher. Administrative traffic from Kodiak Area Troopers are handled by the State Dispatcher. The State Dispatcher also handles SSB traffic to and from vessels, aircraft and remote posts.

6.0 Kodiak Hospitals

The Kodiak hospital has a four-channel VHF radio with the following operating frequencies:

- Channel 1 EMS with paging 155.160 MHz
- Channel 2 City Police 155.250 MHz
- Channel 3 City Fire 155.955 MHz
- Channel 4 Not used

The hospital is also equipped with:

- 9 pagers
- one SSB radio (not in use)
- medical satellite circuit (used only to communicate with Anchorage)
- hot line to physicians' clinic

7.0 Recommendations

Kodiak has "911, common dispatch, on-duty police, fire fighters and EMT's, it appears that police/fire/ambulance response time could not be further reduced. If the city had to rely upon off-duty personnel and volunteers, the response time would probably increase by 10 to 15 minutes. Furthermore, it would be difficult to make any major improvements concerning dispatching, operations and responses. However, the following recommendations should be considered:

7.0.1 Evaluate and up-grade present equipment.

7.0.2 Improve dispatch center environment and security.

Of major concern is the widespread communications responsibilities of the State Troopers and Fish & Wildlife Officers. It appears that the city should continue to dispatch AST from "911" requests. However, it also appears that AST needs to:

7.0.3 Staff a 24-hour, 7 days a week dispatch center to handle the area wide communications.

7.0.4 Conduct a detailed study to review and make recommendations on methods of providing reliable communications to remote officers working out of the Kodiak office.

The Kodiak State Dispatch center should be able to keep in ready communications with all officers, aircraft and vehicles. (The satellite system approach may be a partial solution (see Chapter III, Section 3.0).

7.0.5 Provide, if possible, a reliable hot-line from Anchorage dispatch, and an extension from the Anchorage AST switch into Kodiak.

KOTZEBUE

KOTZEBUE AND THE NANA REGION

1.0 Description

Kotzebue, the largest village in the Nana Region, has a population of around 1,900, which fluctuates during the summer because of seasonal employment. The Nana Region, bounded on the north by the Brooks Range and on the south by high areas dividing the Kobuk and Koyukuk drainage systems, has an estimated population of 4,500 and covers roughly 36,000 square miles. Most of the region's villages are located north of Kotzebue, along major river systems.

The lack of highway or rail access to or within the region makes it totally dependent upon air and water transportation. The latter is restricted by ice conditions to less than four months of the year and results in high transportation cost. Air transport is exceedingly expensive due to the region's remoteness and low traffic volume.

The climate substantially contributes to the isolation of the Kotzebue area and inevitably effects the delivery of emergency services. It often hinders radio communications between Kotzebue and the outlying villages and it can make air travel hazardous or impossible.

Kotzebue is the service center for the region. It provides health services through a PHS hospital, services through the BIA and government agencies. It also is the regional food and oil distribution center.

The economy of the region remains primarily subsistence (hunting & fishing).

2.0 Kotzebue Police Department

2.0.1 General

The Kotzebue Police Department employs nine commissioned officers and maintains three vehicles, one snow truck and two snow machines.

2.0.2 Mobile Radios

Three of the four mobile radios have a single channel on the Kotzebue Police Department frequency, 154.965 MHz. The Chief's vehicle is equipped with a two channel radio on the 154.965 MHz frequency and the AST frequency, 155.250 MHz.

2.0.3 Dispatching

The Police Department maintains a four-channel base radio equipped with one frequency 154.965 MHz with a paging encoder attached. The Department also has a Citizen's Band (CB) radio.

Emergency requests for police services are received via telephone, 442-3351.

3.0 Kotzebue Fire Department

3.0.1 General

The Kotzebue Fire Department employs one full-time fire fighter, 1/4 time fire chief and one C.E.T.A. employee. It is further staffed by 22 volunteer fire fighters, 11 of which are EMT's.

The Fire Department maintains one 150 gallon per minute pumper with a 300 gallon tank, one Flextrac 750 gallon per minute pumper with a 1,000 gallon tank, one 1,000 gallon per minute pumper with a 1,250 gallon tank, one older-type ambulance, and one D.O.T. ambulance.

3.0.2 Mobile Radios

Each of the three fire vehicles is equipped with a single-channel mobile on the Police Department frequency, 154.965 MHz.

A portable is used whenever the old ambulance is in service. The new ambulance contains a four-channel radio equipped with the 154.965 MHz frequency and the State Ambulance to Hospital frequency, 155.160 MHz.

Additionally, the Fire Chief, in his personal vehicle, has a single channel mobile on the Police Department frequency.

3.0.3 Pagers

An alert-type monitor receiver with a battery back up is located in each fire fighter's home. In addition, most fire fighters and EMT's have portable pagers.

3.0.4 Access and Dispatching

Kotzebue residents dial 442-3473 for fire and/or ambulance assistance. The call is received by the Kotzebue Police Department Dispatch Center.

In case of fire, the dispatcher pages the fire fighters and communicates on the common police and fire frequency with those who respond.

In case of an ambulance call, the dispatcher pages the EMT's. Generally, an EMT will respond directly to the scene. If the EMT at the fire station knows that another EMT is responding at the scene (he/she usually knows via use of portables) the EMT will respond with the ambulance.

4.0 Hospital Base Radio

The PHS Hospital maintains a two-frequency base radio on the 155.160 MHz and 154.965 MHz frequencies, of which they monitor 155.160 MHz. The hospital also has an encoder, several pagers and a few portables.

5.0 Alaska State Troopers

One trooper is assigned to the entire Nana Region. His vehicle is equipped with a two-channel radio on frequencies 154.965 MHz and 155.50 MHz.

Citizen access is via telephone, 442-3222. The trooper also has a pager on the Kotzebue Police Department frequency.

6.0 Recommendations

6.0.1 Install three 911 lines (Plans are in effect to have this installed by May 1978.)

6.0.2 911 for all emergencies should be advertised subsequent to the 911 installation.

6.0.3 In addition to dispatching Kotzebue police, fire fighters, and EMT's, the Police Department Dispatch Center should also dispatch the trooper via his pager.

6.0.4 All radio and emergency telephone lines should be recorded.

6.0.5 The Dispatch Center should have a base radio on the Ambulance to Hospital frequency.

MAT-SU BOROUGH

THE MATANUSKA-SUSITNA BOROUGH

1.0 Description

The Mat-Su Borough contains over 23,000 square miles and is approximately the same size as the State of West Virginia. The Alaska mountain range, the western and northern boundary of the borough, has over 20 peaks exceeding 10,000 feet; including Denali, the tallest point in North America. The Talkitna mountains border the borough on the eastern side joining the Chugiak mountains at the south-east corner of the borough.

The Mat-Su Borough includes the towns of Palmer, Wasilla, Willow, Talkeetna, Butte, Houston, Big Lake and Sutton. Palmer (population 1,643) and Wasilla (population 1,566) are the largest towns in the area and serve as retail centers of the Matanuska agricultural area. The Big Lake area is one of the leading summer recreational areas in the Southcentral region, and thus accounts for a large population influx during the summer months.

Most of the Borough's population of 14,606 is widely scattered and live in places inaccessible by road. By contrast, the southern portion of the Borough is becoming a "bedroom community" for Anchorage. During the past few years, the Borough has experienced a 20% growth rate, and this is expected to increase.

All major highway leading from Anchorage of the "Outside" pass through the Mat-Su Borough. As population in the state increases, these highways are becoming more crowded and accidents are increasing.

For the most part, the Palmer Police Department operates a common dispatch center for the Borough. Most of the area has a "911" system which is answered by the Palmer dispatchers. The "911" system extends to mile 93 of the Parks highway; the borough extends to mile 206 on the Parks highway.

2.0 Palmer Police Department

The Palmer Police Department is responsible for an area of approximately fifteen square miles. It employs seven commissioned officers, including the chief, and maintains three vehicles.

2.0.1 Mobile Radios

Each vehicle is equipped with a four-channel radio with the following operating frequencies:

City Police	155.370 MHz
AST Simplex	155.250 MHz
Ambulance-to-Hospital	155.160 MHz
Public Utility	158.250 MHz

2.1 Dispatch Center

2.1.1 General

The center answers requests for and dispatches the following:

Palmer Police/Fire/Ambulance
AST
Wasilla Fire/Ambulance
Willow Fire/Ambulance
Butte Fire/Ambulance
Sutton Fire/Ambulance

2.1.2 Base Radios

The Center is equipped with the following base radios:

City Police 155.370 MHz
City Fire 154.370 MHz
AST 155.250 MHz
Wasilla Fire 154.340 MHz
EMS 155.160 MHz

(The EMS base radio is located remotely from the center and also has a control line to the hospital in Palmer.)

2.1.3 Telephones

Two "911" telephones at the Center are equipped with the following lines:

Two "911" lines from Palmer (745 Exchange)
Two "911" lines from Wasilla (376 Exchange)
One "911" line from Big Lake and Willow (892 Exchange)

Also, two other telephone instruments at the Center are equipped as follows:

Old Fire number 745-4811
745-4812
Palmer Police Department 745-4223
745-3850

Fire Conference Line 745-3899
Intercom

2.1.4 Fire Alerting System:

The Center is equipped with an encoder connected to the City Fire base radio.

2.1.5 Recording

The Center has no recording equipment.

3.0 Palmer Fire Department

3.0.1 General

The Palmer Fire Department has one fire station and is staffed by one paid fire chief and 25 volunteer fire fighters. Fourteen of the fire fighters are EMT's.

The Department provides fire and ambulance services to the city and a service area around the city limits, a total area of about five square miles. The ambulance does respond to calls outside this area, however.

The Department is equipped as follows:

- One 750 gallon per minute pumper with a 1,000 gallon tank
- One 1,250 gallon per minute pumper with a 500 gallon tank
- One 3,000 gallon tanker with a 1,250 gallon per minute pump
- One four-wheel drive brush truck (500 gallon tank with 100 gallon per minute pump)
- One pick-up (75 gallon water, small pump)
- Two D.O.T.-approved ambulances.

3.0.2 Mobile Radios

The two pumpers and the tanker are each equipped with a four channel radio with two operating frequencies:

- City Fire 154.370 MHz
- City Gov. 155.715 MHz

The four-wheel drive vehicle has no radio. The pick up is equipped with a four channel radio with the following operating frequencies:

- City Fire 154.370 MHz
- City Government 155.715 MHz
- EMS 155.160 MHz
- City Police 155.370 MHz

Each ambulance is equipped with a four channel radio with the following operating frequencies:

- City Government 155.715 MHz
- City Fire 154.370 MHz
- EMS 155.160 MHz
- AST Simplex 155.250 MHz

(The EMS channel is equipped with Anchorage area hospital tone encoders.)

3.0.3 Paging

The Department has 20 portable pagers operating on the fire frequency, 154.370 MHz.

It also has a 20-instrument telephone conference line accessed by a seven digit number, 745-3899.

3.0.4 Method of Dispatch

Requests for fire/ambulance services are received via "911. The dispatcher takes the information, dials the seven-digit telephone conference number, and relays the information to the fire fighters, who answer the telephone. They then decide over the telephone who will drive the trucks and who will go directly to the scene.

If enough fire fighters do not respond, the dispatcher then uses the paging system.

4.0 Wasilla and Big Lake Fire Department

4.0.1 General

The Wasilla and Big Lake Area Fire Department is staffed by 22 volunteer fire fighters, 10 of which are EMT's. They provide fire service for the Wasilla and Big Lake areas; they provide ambulance service from mile 45 on the Parks highway to about mile 88. The Department maintains the following equipment

- One pick-up truck
- One 250 gallon per minute mini-pumper

One 750 gallon per minute pumper with a 1,000 gallon tank
One 3,000 gallon tanker with a 1,250 gallon per minute pump
One 2,500 gallon tanker, transfer pump
Two D.O.T. ambulances

4.0.2 **Mobile Radios**

Each of the four fire vehicles is equipped with a four channel radio with the following operating frequencies:

Wasilla Fire Dept. 154.340 MHz

Palmer Fire Dept. 154.370 MHz

The pick-up truck has a four channel radio with the following operating frequencies:

Wasilla Fire Departments 154.340 MHz

Palmer Fire Department 154.370 MHz

AST 155.250 MHz

EMS 155.160 MHz

One ambulance is equipped with a four-channel radio with scanner, and the other is equipped with an eight-channel radio with scanner. Both radios have the following operating frequencies:

EMS 155.160 MHz

AST Simplex 155.250 MHz

Wasilla Fire Dept. 154.350 MHz

Palmer Fire Dept. 154.370 MHz

4.0.3 **Paging**

The Department has 14 pagers operating on the Wasilla fire frequency of 154.340 MHz. It also has a 20-instrument telephone conference line accessed by a seven-digit number, 745-5859.

4.0.4 **Base Station**

The Department has one base station with paging encoder located at the Fire station. This base station is remoted via a 72 MHz radio control link to Palmer dispatch center where there is also located a second page encoder.

4.0.5 **Method of Dispatch**

Usually, requests for service come into the Palmer dispatch center via "911. The Palmer dispatcher via the conference line, dispatches the Wasilla fire fighters/EMT's. If the dispatcher does not receive sufficient response, he/she then dispatches via the radio paging system. The responding fire trucks and/or ambulances respond in-service via the radio to the Palmer dispatcher.

5.0 **Willow EMS**

5.0.1 **General**

Willow has one ambulance located in the Willow town site and has approximately 20 volunteer EMT's. They are dispatched by the Palmer dispatch center or by AST at Trapper's Creek. They serve the area around Willow and from approximately mile 45 to Mile 88 on the Parks highway.

5.0.2 **Ambulance Radio**

The ambulance is equipped with a four channel radio with two operating frequencies:

Ambulance-to-Hospital (with tone encoder for Anchorage area hospitals) 155.160 MHz

AST Simplex 155.250 MHz

5.0.3 **Telephone Conference Line**

Willow has a 10-instrument telephone conference line accessed by a seven-digit number, 495-6262.

5.0.4 **Method of Dispatch**

Usually, requests for service come into the Palmer dispatch center via "911. Via the conference line, the Palmer dispatcher dispatches the Willow EMT's. Calls that come into Trapper Creek AST are dispatched by their personnel from a monthly maintained call-out list.

6.0 **Trapper Creek and Talkeetna - Fire and Ambulance**

6.0.1 **General**

Talkeetna has a volunteer fire department staffed by 30 volunteer fire fighters. Trapper Creek is in the process of forming a volunteer fire department. Each area has an ambulance and together they have 25 volunteer EMT's.

6.0.2 Trapper Creek Ambulance

Trapper Creek has one D.O.T.-approved ambulance equipped with a four-channel radio with the following two operating frequencies:

Ambulance-to-Hospital (with tone encoder with only one tone) 155.160 MHz

AST Simplex 155.250 MHz

The ambulance also has a CB

Citizen access via elephone number 733-2256 (AST and ambulance). A monthly list of on-call EMT's is maintained at the AST office; this list is used to call and dispatch ambulance personnel. Also, the dispatch is backed up by a private citizen at Montana Creek equipped with scanner and UHF on 155.160 and 155.250 and in addition, a CB radio. He monitors channel 19 until 10 p.m. and they he monitors channel 9 from 10 p.m. to 8 a.m.

6.0.3 Talkeetna Fire and Ambulance

Talkeetna has one mini-pumper with a 500 gallon tank, one tanker trailer, and one D.O.T.-approved ambulance. (The ambulance, a Chevrolet Wagon, needs replacement.) The mini-pumper is equipped with a CB radio, and the ambulance is equipped with a VHF radio with the Ambulance-to-Hospital operating frequency, 155.160 MHz (no tone encoder). The ambulance also has a CB radio.

For fire service, calls come into the Talkeetna Store via telephone number 733-2311, or come into RCA via telephone number 733-2382. The store owner (also the fire chief) or RCA personnel dispatch the volunteer fire fighters via telephone and CB radio.

For ambulance service, calls come into the Trapper Creek AST via telephone number 733-2256. AST personnel dispatches on-call EMT's from a monthly maintained call-out list.

Also, the dispatch is backed-up by a private citizen at Montana Creek equipped with scanner and UHF on 155.160 and 155.250 and in addition, a CB radio. He monitors channel 19 until 10 p.m. and then he monitors channel 9 from 10 p.m. to 8 a.m.

7.0 Butte Fire Department

7.0.1 General

The Butte Fire Department is staffed by 18 volunteer fire fighters, none of which are EMT's. They are dispatched by the Palmer Police Department. The Department has no ambulance but maintains the following fire vehicles:

One 1,000 gallon per minute pumper with a 1,000 gallon tank

One 3,000 gallon tanker

One 250 gallon mini pumper

Two six wheel drive, 750 gallon tankers.

7.0.2 Mobile Radios

The 3,000 gallon tanker and the mini-pumper are each equipped with a four channel VHF radio with two operating frequencies:

Butte Fire Dept. 154.400 MHz

Palmer Fire Dept. 154.370 MHz

The other fire vehicles are each equipped with a two channel radio with one operating frequency, 154.400 MHz. None of the vehicles are CB equipped.

7.0.3 Ambulance

The Department has no ambulance. Ambulance service is provided by the Palmer Fire Department with a response time of 10-15 minutes under optimum conditions.

7.0.4 Base Radio

A base VHF radio on the Butte fire frequency, 154.400 MHz, is located at the Butte fire station.

7.0.5 Paging

The Department has no paging equipment. Butte does have a 20-instrument telephone conference line accessed by a seven digit number 745-3599.

7.0.6 Method of Dispatch

Citizen access is via "911" into the Palmer dispatch center. The dispatcher, in turn, dials the seven-digit conference telephone number and dispatches the available fire fighters. The responding fire fighters who will drive the vehicles, go to the fire station, sound the fire alarm on the building and leave in fire vehicles to the scene. They do not report "in-service" to Palmer even through some of the vehicles have this capability.

8.0 Sutton Fire Department

8.0.1 General

The Sutton Fire Department maintains two fire vehicles (a 250 gallon mini-pumper and a 1,500 gallon tanker) and is staffed by 15 volunteer fire fighters, none of which are EMT's. They are dispatched by the Palmer dispatch center. The Department has no ambulance.

8.0.2 Mobile Radios

Each of the two fire vehicle is equipped with a four channel VHF radio with one operating frequency, Palmer Fire Department frequency 154.370 MHz. The trucks are not equipped with CB radios.

8.0.3 Ambulance Service

Ambulance service is provided by the Palmer Fire Department with a response time of 12-15 minutes under optimum conditions.

8.0.4 Base Radio

The Department has no base radio.

8.0.5 Paging

The Department has 12 portable pagers (on the Palmer fire frequency) which are assigned to fire fighters. All pagers are on the group page mode; the chief's pager has individual page capability.

8.0.6 Method of Dispatch

Citizen access for the Sutton area is via "911" into the Palmer dispatch center. The Palmer dispatcher pages the Sutton volunteer fire fighters.

The responding firefighters set off the fire station siren and go "in service" with Palmer dispatch center. They also notify the Palmer dispatcher when they arrive at the scene.

9.0 AST - Palmer Detachment G

9.0.1 General

Detachment G covers the area of Wasilla, Big Lake, Willow, Butte and the area outside the city limits of Palmer. AST is staffed by fourteen commissioned officers and two clerks. Three officers are located at Trapper's Creek; three at Big Lake, and eight at Palmer. Generally, two or three officers are on the day shift, two or three on the evening shift, and one on the night shift. AST maintains fourteen vehicles.

9.0.2 Mobile Radios

Each AST vehicle is equipped with the standard four-frequency VHF radio with scanner. Also, several of the vehicles are equipped with CB radios.

9.0.3 Base Radios

The Detachment Headquarters has access to a base radio (155.250 MHz) located on a hilltop about seven miles outside of town. The headquarters also has a fixed mobile radio which accesses the repeater on Mt. Susitna on the State repeater channel F2.

9.0.4 Citizen Access

AST primary citizen access is via "911" which is answered by the Palmer Police Department dispatch center. Secondary access is via telephone number 745-3333, which rings in the Palmer Police Department, the Palmer AST office, and the Anchorage AST dispatch center. 745-3333 was the primary AST emergency number in Palmer prior to "911."

9.0.5 Dispatch Method

Usually, AST service requests come into the Palmer Police Department dispatch center via "911". The dispatcher directly dispatches the on duty officer via 155.250 MHz on the center's base radio. If the dispatcher cannot locate the AST officer, the dispatcher notifies Anchorage AST, who in turn, dispatches the officer via the State repeater system. Off-duty officers are dispatched via telephone.

10. Recommendations

Mat-Su Borough

10.0.1 Establish a borough-wide Common Dispatch Center.

10.0.2 Install area-wide "911".

Establish operating procedures and document in a manual for area wide dispatching.

10.0.4 Establish a two-tiered board for the Dispatch Center -one for administration and policy, one for operations.

10.0.5 Install a dual continuously running recorder to record all emergency telephone lines and radio channels.

Palmer

10.0.6 Install a tone decoder on Palmer Hospital's 155.160 MHz base Radio.

Willow/Trapper Creek/Talkeetna

10.0.7 Install paging system for EMT's.

10.0.8 Purchase two portables for on-call EMT's at each location.

10.0.9 Purchase pagers for all EMT's.

Butte

10.0.10 Purchase pagers for all fire fighters.

AST

10.0.11 Disconnect the Anchorage AST extension of 745-3333, and utilize that facility to install an extension at Palmer AST off the Anchorage AST telephone switch.

10.0.12 Study the feasibility of replacing the RCA-leased facility by a State-owned facility.

NOME

NOME AND THE NORTON SOUND REGION

1.0 Description

Nome, with an estimated population of 2,500, serves as the regional service and transportation center for the Norton Sound Region. The Norton Sound Region consists of 19 villages and towns and covers 23,140 square miles along the western coast of Alaska and on the southern half of the Seward Peninsula. The Region also includes the St. Lawrence Island and Little Diomed. In 1976 the population of the region was 6,644 residents, approximately one-third of which live in Nome.

Transportation is mostly by air or water, although seven of the smaller towns do not have public airports or docks. Communication in all but two villages is by telephone and radio. Most villages have radio reception, but it is not always reliable due to harsh weather conditions.

The cost of living index ranges from 25% to 54% higher than that of Anchorage, with 45% of the region's population making under \$6,000 a year.

All government agencies for the region are located in Nome. Except for government and transportation services providing the basis for the economy in Nome, most residents of the region are still largely involved in subsistence activities. Seasonal jobs in construction, freighting, fire fighting and fishing also contribute to the economy.

2.0 Nome Police Department

2.0.1 General

The Nome Police Department is staffed by six commissioned officers, four dispatchers, one airport security officer and one animal control officer. The Department maintains three police vehicles and one animal control vehicle.

2.0.2 Radios

A four-channel radio equipped with the following three frequencies is located in each of the Department's four vehicles:

- 155.550 MHz Nome Police and Fire
- 155.250 MHz Alaska State Troopers
- 155.745 MHz Public Works

The Department also maintains six portables, and the on-duty officer carries a portable with him.

3.0 Alaska State Troopers (AST)

AST employs one first sergeant and two troopers for the region. The two AST vehicles are radio-equipped, and the AST office has a base radio. All radios are equipped with the following two channels:

F1 155.550 MHz Nome Police and Fire

F2 155.250 MHz AST

Citizen access is through the telephone number, 443-2835.

4.0 Nome Fire Department

4.0.1 General

The Nome Fire Department is maintained by forty volunteers, two of which are EMT's. Three live in at the fire station.

The Department owns one rescue truck, one 55-foot snorkel truck, two 850 gallon per minute pumpers with a 850 gallon reservoir, and one pick-up with 1,600 feet of 2-1/2 inch hose.

4.0.2 Mobile Radios

Each of the two pumpers is equipped with a two-channel radio:

F1 155.550 MHz Nome Fire and Police

F2 155.055 MHz Fire Tac

Each of the other three vehicles is equipped with a four-channel radio:

F1 155.550 MHz Nome Police and Fire

F2 155.250 MHz Alaska State Troopers

F3 155.745 MHz Nome Utilities and Public Works

F4 155.055 MHz Fire Tac

4.0.3 Paging

The Department utilizes two different fire paging systems:

- a party-line telephone system with about 15 telephones

- a Plectron type radio paging system with 30 paging receivers on the Nome Police and Frequency, 155.550 MHz.
The Fire Chief and Assistant Fire Chief each has a portable pager.

Two sirens are located in Nome and are used for fire and Civil Defense alerts.

5.0 Private Ambulance Service

Nome's one ambulance is equipped with a four-channel Motorola radio using the following frequencies.

F1 155.550 MHz Nome Police and Fire

F2 155.250 MHz AST

F3 155.055 MHz Fire Tac

F4 155.160 MHz Ambulance-Hospital

Citizen access is via telephone number, 443-2013, which rings in at the Assistant Fire Chief's home. Citizens may also access the ambulance service by dialing 443-2211 (fire) or 443-2310 (police).

6.0 Dispatching

6.0.1 Capabilities

Nome's fire and police departments share common dispatching. The dispatch center has one dispatch position, three telephone instruments, and one four-channel base radio equipped as follows:

155.550 MHz Nome Police and Fire

155.250 MHz Alaska State Troopers

155.745 MHz City Government Public Works, Utilities

155.055 MHz Fire Tac

The Center also has one Citizen's Band radio on which it monitors Channel 9.

Emergency requests for fire service are received via telephone, 443-2211, and emergency requests for police service are received via telephone, 443-2414. Business requests are received by two different telephone numbers 443-2310 and 443-2065, respectively. Emergency requests are also received via CB radio, channel 9.

One two-channel, voice-activated recorder is attached to the fire and police emergency telephone lines.

6.0.2 Dispatch System

Fire: The emergency call for assistance comes into the center via telephone number 443-2211 or via CB channel 9. The dispatcher receives the information and then activates both the Plectron system and the emergency telephone system.

Police: The emergency call for assistance comes into the center via telephone number 443-2414 or via CB channel 9. The dispatcher receives the information and then dispatches the on-duty officer.

Ambulance: If a call for an ambulance comes into the center, the dispatcher first notifies the on-duty police officer and then notifies the ambulance driver via either telephone or radio.

7.0 Recommendations

7.0.1 Convert to a 911 system for citizen access for Police/Fire/Ambulance.

This system should consist of two dedicated incoming lines and number identification, if possible.

7.0.2 All ambulance calls should come into the Dispatch Center via 911. The ambulance should then be dispatched via use of a portable radio with a built-in pager.

7.0.3 911 should be advertised for Police/Fire/Ambulance.

7.0.4 Both 911 lines as well as radio channels should be recorded.

7.0.5 During off business hours, requests for the Alaska State Trooper should come into the center via 911. The dispatcher should be able to page the trooper via the use of a portable radio with a built-in pager. At the very least, this procedure should be reviewed and discussed.

7.0.6 The Dispatch center should be equipped with a base radio on the hospital frequency.

7.0.7 Signaling via UHF radios and paging on the satellite system should be considered.

Please see Chapter III, Section 3.0 under Kotzebue and the Nana Region for further recommendations regarding village to regional center communications.

SITKA

SITKA COMMUNICATIONS SURVEY

1.0 Description of Area

The City and Borough of Sitka includes seven miles of road north six miles south as well as the community of Mt. Edgecumbe on federally owned Japonski Island connected by a bridge to Sitka proper. The population approaches 8,000.

1.0.1 City Police

This department located in the City Building on Lake Street near the downtown area, includes on Chief, eleven officers and five dispatcher/clerks. They provide police services to the entire borough and have radio contact with the State Fish and Game officer.

1.0.2 Sitka Fire Department

The Fire Department, located across the street from the Police Department on Lake Street, provides ambulance service for the entire borough and fire services to all areas except Mt. Edgecumbe, unless needed to back up the Mt. Edgecumbe Fire Department. The Fire Department includes six paid personnel and thirty-four volunteers organized into rescue and fire squads.

1.0.3 Mt. Edgecumbe Fire Department

Located on Japonski Island, the federally funded Mt. Edgecumbe fire department responds to fires on Japonski Island except the the Coast Guard Air Station.

1.0.4 Alaska State Troopers

State Troopers are located in Sitka primarily to carry out training responsibilities at the State Trooper Academy, but are available to assist City Police when needed.

1.0.5 Coast Guard Air Station

The Coast Guard Air Station, located on Japonski Island, provides search and rescue and medical evacuations fo all of Southeast Alaska. They have an extensive communications system for this purpose.

1.0.6 Sitka Community Hospital

Located about one-half mile north of downtown Sitka, this city-owned and operated hospital provides 24 hours emergency medical services for residents of Sitka and outlying communities.

1.0.7 Mt. Edgecumbe PHS Hospital

Located on Japonski Island, this hospital provides medical services for federal beneficiaries including Alaskan natives and military personnel. Emergency services are available 24 hours a day.

2.0 Citizen Access

Access for fire, police and ambulance services are combined with telephone calls initially received at the Sitka Police Department. The digits 911 are used, except in Mt. Edgecumbe where residents must dial 7-911 at Mt. Edgecumbe is on a separate exchange.

Calls are answered by a clerk/dispatcher 24 hours a day who has one phone with two lines in rotary for this purpose. A separate phone has two business lines in rotary, 747-3245 and 6. There is a CB in the dispatch office as well, but it is not always monitored.

3.0 Dispatch

3.0.1 Police

City police are paged on the State Simplex frequency, 155.250, by the clerk/dispatcher. The three police vehicles are equipped with radios that can transmit and receive on four frequencies: 155.250 (police), 155.760 (PHS hospital), 155.715 (fire) and 155.295 (State command and control). Individual officers also carry 2-way portables. The State Fish and Game Officer can also be reached on this frequency through a portable unit. In addition to the base staion, there are also receivers in the police station on each of the hospital's frequencies.

A 2-channel voice-activated recorder is attached to the business lines and radio channels.

3.0.2 Fire and Ambulance

When a fire or ambulance call comes in, the dispatcher immediately relays the call to the City fire department to be dispatched there. There are two 911 lines multipled from the police to the Fire Department, each connected to a separate telephone in the fire station. One telephone is multi-buttoned, receiving a business line as well as 911. The second is 911 only. The telephones do not ring, but a signal circuit serves to alert personnel of an incoming call. Calls generally come in on the line connected to the multi-buttoned phone, so this one is answered first. When the call comes on the second phone, however, both must be tried as there is no other way to determine which phone line is being used.

Personnel: Both paid and volunteer personnel serve the Sitka Fire Department. Some respond only to fire, some only to ambulance calls, and some to both. There is, at all times, a paid engineer on duty who responds to fires, and during the day, a Chief and Fire Marshall. Additionally, three fire/ambulance responders live at the station. For fire calls, therefore, there is always an engineer available, but for ambulance calls, availability depends upon one of the live-ins being at the station.

Fire Call: When a fire call comes in, the engineer pages fire personnel through a Plectron system with an encoder and on a newer Motorola paging encoder. Both are on the main fire radio base station (155.715) and have group and individual page capabilities. Individuals receive calls on pagers, most of which can monitor only. The engineer then takes the fire truck to the scene; the 2nd engineer reaching the station takes the second truck, if needed, and the 3rd and 4th responders remain in the fire station to monitor the radio and respond if another alarm should come in. Fire trucks are equipped with radios having the fire frequency, and one truck has an AM radio on the air-ground frequency, 121.9, for communication with the airport.

If the location of the fire is Mt. Edgecumbe, members of that department are dispatched from the City Fire Station using a separate Plectron system. If, after five minutes, nobody responds from the Mt. Edgecumbe fire station, city firemen are paged to respond.

All city utilities operate on the fire frequency. In the fire station, there is also a receiver on the PHS Hospital frequency.

Ambulance Call: When an ambulance call comes in, live-ins take the ambulance to the scene and other attendants are paged to respond in their own vehicles. The engineer stays in the station. If there is no live-in at the station, the engineer must request a driver over the Plectron system as well as the attendants.

Two ambulances are housed in the fire station, each having radios with 4 frequency communication capability: fire frequency, Sitka Community Hospital (155.340), PHS Hospital (155.760) and Sitka Police (155.250).

Mobile to Hospital: Base stations at each hospital may be contacted via the ambulance radios. These radios, located in the nurses' stations, do not have tone alerts.

3.0.3 Hospital

The PHS Hospital presently has a base station on 155.760, and has plans to install on it a paging unit. At present, however, PHS physicians must be paged by Sitka Community Hospital.

The Sitka Community base station has 2 frequencies: their own, 155.340; and PHS Hospital's. They also have a monitor-receiver on the PHS frequency. A pager is connected to the base station with group and individual capabilities. Individual connected to the base station with group and individual capabilities. Individual staff members carry pagers when on call. Additionally, there are four portables without page available.

3.0.4 State Troopers

At the Public Safety Academy, there is a base station on the simplex frequency, 155.250, with paging capabilities, and pagers and portables are available for individual staff members. The base station, located in the Academy front office, is kept on all the time, but is used more for training purposes than for emergencies.

3.0.5 Inter-Agency Communication

Below are listed the main operating frequencies used by agencies discussed:

Police Vehicles - Fire/Ambulance	155.715	Through police vehicle radios to all fire radios.
Police - State Troopers	155.250	Both use same frequency as main operating frequency.
Police Vehicles to PHS Hospital	155.760	Through police vehicle to PHS base station
PHS to Fire Station	155.760	Through PHS base station to fire station receiver
Sitka Comm. to Fire Station	155.340	No receiver at fire station
Ambulance to PHS	155.760	Through ambulance mobile unit to PHS base station
Ambulance to Sitka Community Hospital to Hospital	155.340	Through ambulance mobile unit to SCH base station
Hospital to Hospital	155.760	Through both base stations
PHS Hospital to Police Station	155.760	Police Station receiver on PHS frequency
Sitka Comm. Hosp. to P.D.	155.340	Police station receiver on SCH frequency.

CONTINUED

1 OF 2

Police additionally have the State Command and Control frequency 155.295. On a routine basis, this is not used as no other local agencies have it. It is available in case of mass casualty when other agencies might come to the community.

The police station does not have a CRT terminal to AJIS, but may go to one person license position in the City Building who has teletype access to AJIS.

At the fire department there is also a Civil Defense phone connected to the State Control Center, several other state-wide locations and the North American Defense Command in Colorado.

4.0 Recommendations

Below are described to sets of recommendations for improve Sitka emergency communications. The first adds minor renovations to the existing system; the second calls for a more comprehensive change into a central dispatch system.

Renovations to existing system

4.0.1 At present, fire calls are relayed along two 911 trunks from the police station, each of which is connected to a separate phone. There is no definitive way to determine which telephone to answer.

It is recommended that one 911 line would be sufficient to connect calls to the fire station so that only one phone would need to be answered.



In the rare instance that two fire or ambulance calls come in at once, information could be taken by the police dispatcher.

It is further recommended that a 2-way ring-down replace the signal circuit. This would allow the fire station to alert the police dispatcher in addition to the present capability of the police dispatcher alerting the fire station.

4.0.2 Sitka may wish to investigate the possibility of have the 911 phone at the police station replaced by a newly developed telephone that automatically displays the telephone number of the calling party.

4.0.3 At present, each of Sitka's hospitals uses a separate frequency. Sitka Community Hospital has the PHS frequency on their radio, so by switching to this channel, can allow 2-way radio communication between the two hospitals. Neither hospital radio has a tone alert.

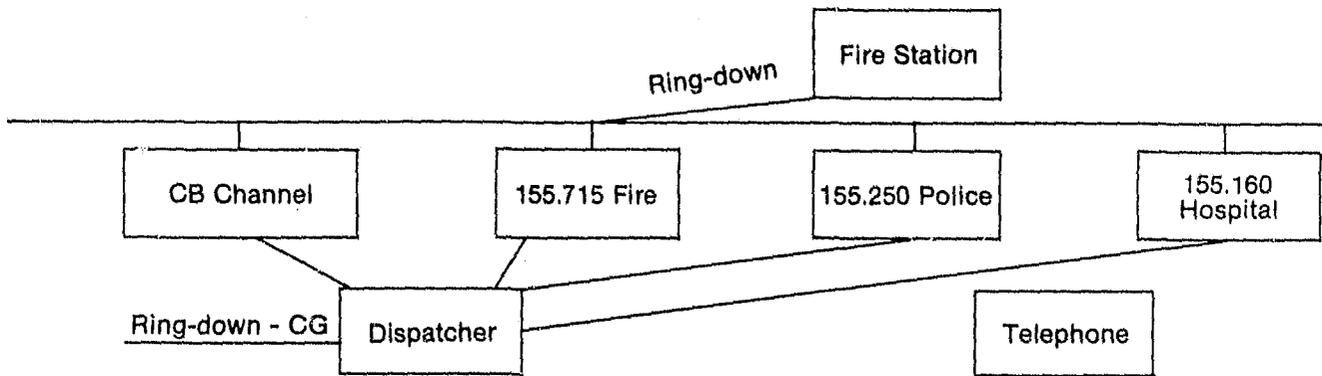
It is recommended that both hospitals, through the use of crystals, put their radios on the Statewide hospital frequency, 155.160. Ambulance and police vehicle radios would also need this adjustment, and a switch on this channel so that hospitals could be alerted separately. Vehicle radios should have encoders and hospital radios decoders so that a tone could alert hospital staff. Through installation of encoders on each hospital's radio as well, hospitals could alert one another when needing to talk to each other.

In the event of mass casualty, radios used by responding agencies coming to Sitka would most likely be adjusted to the 155.160 frequency. By utilizing the same frequency, hospital to hospital communications would also be simplified.

4.0.4 At present, both the fire department and the police department use voice-activated recorders. The fire department's is connected to one of the two 911 lines, the police department's is connected to the radio and business line, but not to the 911 lines. It is recommended that one continuously running recorder be put in the police dispatcher's station, attached to all 911 trunks, the police frequencies and the fire frequency through a monitor-receiver.

4.0.5 Establishment of Central Dispatch

Sitka now has a central access system, which could fairly simply be changed to central dispatch for fire, ambulance and police.



Location: The dispatch center should be in the downtown area, perhaps in the City Building.

Operation: A policy board composed of the Chiefs of involved agencies including the police and fire department would serve to establish operating policies. Actual administration could be delegated.

Citizen Access: Public access could be achieved through two 911 lines as at present. Channel 9 CB would also be monitored.

Dispatch: In addition to the CB, there would be three base stations in the dispatch center: one on the fire frequency, 155.715; a second on the police frequency, 155.250; and a third on the State-wide hospital frequency, 155.160. Fire and police radios would have paging capabilities.

If the dispatch center, as at present, is located in the City Building, the currently used CB and base station on 155.250 with page would remain there. A hospital base station would need to be purchased with an encoder, and a base station on the fire frequency. The fire department could retain their present base station, but move paging units to the dispatch center.

Dispatch positions: The center would require one dispatcher on duty at all times. One dispatch position would have access to all radios and both 911 lines on a push-button phone. A second position with telephone lines only would be advisable in case additional dispatch assistance is occasionally required.

Ring-downs: Telephone 2-way ring-downs between the center and the Coast Guard, fire department, and police department, if center is not located there would be advisable.

Recorder: A continuous running recorder on all radio channels and 911 lines should be installed. This has the advantage over voice activated recorders of 43-creating situations in actual time which could prove very beneficial in legal cases.

SKAGWAY

SKAGWAY

1.0 Description

Skagway, located at the northern part of the Southeast Region, has a winter population of 900. During the summer months, the population reaches nearly 2,000.

Skagway has daily scheduled air service to Juneau. It is also served by the White Pass and Yukon train route to Whitehorse and by air charter service.

Radio stations from Juneau, cable TV and one newspaper provide communication services.

The economy is based primarily upon transportation and tourism.

2.0 Skagway Police Department

2.0.1 General

The Skagway Police Department employs three commissioned officers, including the chief. One officer is an EMT. The Department maintains two police vehicles.

2.0.2 Base Radios

The Department has a radio telephone system. The repeater receives on 154.770 MHz and transmits on 155.595 MHz. The Department also has a CB base station, on which it monitors channel 9.

2.0.3 Mobile Radios

Each vehicle is equipped with a four-channel radio with the following frequencies:

F1 Tx 154.770; Rx 155.595

F2 Tx 155.595; Rx 155.595

The Department also has two portables equipped with the above two frequencies and two portables equipped with the fire frequency, 158.940 MHz.

2.0.4 Telephone System

The Police Department has one telephone line, number 983-2301, which is used for both business and emergency calls. Four telephone instruments are connected to the line one in the police station and one in each of the three officer's homes. The line is also connected to the radio repeater system.

2.0.5 Citizen Access and Method of Dispatch

For police assistance, the citizen dials the seven-digit telephone number 983-2301. The call is answered from either one of the telephone instruments or a mobile or portable via the radio telephone system.

3.0 Skagway Fire Department

3.0.1 General

The Skagway Fire Department has one fire station and is staffed by 15 volunteers, 6 of which are EMT's.

The Department is equipped as follows:

-2 1,250 gallon per minute pumpers with 500 gallon tanks.

-1 500 gallon per minute pumper with 150 gallon tank.

-1 400 gallon per minute pumper with 300 gallon tank.

-1 1,000 gallon tanker

-1 Aerial platform truck with 1,000 gallon tank

-1 Rescue truck

-2 Station wagon-type ambulances

3.0.2 Mobile Radios

The two 1,250 gallon per minute pumpers and the 1,000 gallon tanker are each equipped with a VHF radio with an operating frequency of 158.940 MHz. The rescue truck is CB-equipped.

One of the ambulances is equipped with a two channel radio with an operating frequency of 158.940 MHz. The other ambulance is used as a stand-by and has no radio.

3.0.3 Base Stations

The Department has one 158.940 MHz base radio in the fire station with control units and paging encoders located in the fire station and City Hall.

3.0.4 Paging

The Department has 20 portable pagers with a code for each of the following — group, EMT, City Manager, Public Utility and Civil Defense.

3.0.5 Citizen Access

For fire or ambulance assistance, citizens dial 983-2300. This line has four connected telephone instruments -one located at the fire station, one at city hall, one at the Klondike Hotel, and one in the Alaska Liquor Store.

3.0.6 Method of Dispatch

Requests for service are via telephone number 983-2300. If answered at the City Hall or fire station, the person pages the volunteers; if answered at the hotel or liquor store, the person activates the fire siren and waits on line until the volunteers respond to receive the necessary information.

One live-in fire fighter is located at the fire station. He is alerted via a loud bell attached to the telephone instrument.

4.0 Recommendations

- 4.0.1 Add an extension to the City's administration line, 983-2297, in the Police Department. All incoming and outgoing business calls would then utilize this line, thereby eliminating business telephone traffic from the emergency line.
- 4.0.2 Convert 983-2207 to "911".
- 4.0.3 Add a second emergency line connected in rotary. (See radio/telephone discussion.)
- 4.0.4 Install AST Simplex channel (155.250 MHz) in mobiles.
- 4.0.5 Install 155.250 MHz base radio in Police Station. This radio might be used to talk point to point with Haines AST. If so used, it could also be used for running computer checks when the Haines AST dispatcher is on duty. With the opening of the new road, the base radio would allow AST in the area to communicate with Skagway police. It might also be necessary to remote the radio to officers' homes.
- 4.0.6 Equip the ambulance with a four channel radio with the following operating frequencies:
State EMS 155.160 MHz
AST Simplex 155.250 MHz
City Fire 158.940 MHz*
*may require a second radio.
- 4.0.7 Advertise "911" for all emergencies.
- 4.0.8 Incorporate police department into ambulance/fire dispatch loop. This may require the installation of a dialable paging encoder for fire/ambulance dispatch.

TOK/DELTA/
GLENNALLEN

TOK

1.0 Description

The Tok area utilizes AST for police protection, has a volunteer fire department and a volunteer emergency medical department. The State Troopers operate a common dispatch in Tok for police, fire and ambulance on a 24-hour/7-day-a-week basis.

2.0 AST

2.0.1 General

The Trooper post in Tok is staffed by one corporal and two troopers. One trooper and a constable are located at Northway. A Fish and Wildlife officer is also stationed at Tok. Each officer has a vehicle equipped with the standard AST four-frequency radio with scanner.

2.0.2 Dispatch Center

At Tok, AST operates a common dispatch center.

2.0.3 Base Radios

The center has access via of a common radio control line to four AST repeaters located at Delta, Dot Lake, Tok and Beaver Creek. This radio system can also be controlled from Delta and Fairbanks. By the common control link Tok, Delta and Fairbanks dispatchers can also talk to each other.

The center dispatcher also has control of a local base station on the 155.250 MHz frequency (State simplex) and the "Highway" repeater located at Dot Lake.

2.0.4 Telephone

There is one instrument located in the dispatch center and a second one located in the Scales Building. These phones are equipped with the following lines:

Division of Revenue	883-4261
Police	883-2111
Revenue/Scaler	883-2222
Fire	883-2333

3.0 Emergency Medical Services

3.0.1 General

This department is staffed by 20 EMT's and has one DOT-approved ambulance stationed at the clinic. The EMT's are dispatched by the AST dispatcher, and the service covers an area from the Canadian border to DOT Lake toward Delta and to a point about 100 miles toward Glennallen on the Tok-Glennallen highway.

3.0.2 Mobile Radio

The ambulance has a four-channel radio with scanner equipped with the following frequencies:

AST Simplex	155.250 MHz
EMS (State)	155.160 MHz
	154.250 MHz

3.0.3 Base Radio

The clinic currently has no base radio.

3.0.4 Method of Dispatch

Requests for ambulance services usually come into the Tok dispatch center via the police line, number 883-2111. There is no published number for ambulance. The dispatcher first calls the ambulance driver via telephone and then calls out EMT's via telephone.

4.0 Tok Fire Department

4.0.1 General

The department has one fire station and is staffed by 20 volunteer fire fighters. They provide fire service East to about 12 miles toward the Canadian border, to the West toward Fairbanks about 12 miles and about 17 miles toward Glennallen.

The department is equipped as follows:

1 - 750 gallon per minute pumper with a 153 gallon tank
1 - 750 gallon per minute mini-pumper with a 500 gallon tank
1 - 600 gallon per minute pumper with a 500 gallon tank

- 1 - 1,700 gallon per minute two-stage pumper with a 2,500 gallon tank
- 1 - 5,000 gallon tanker with 600 gallon per minute pump
- 1 - 6x6 - 2,000 gallon tanker with a 400 gallon per minute pump

4.0.2 Mobile Radio

None of the fire vehicles are radio-equipped.

4.0.3 Method of Dispatch

Requests for fire service are received by the AST dispatcher via the seven-digit telephone number, 833-2333. The dispatcher takes the information and relays the information to the fire fighters via telephone.

5.0 Recommendations

- 5.0.1 Install a control link from proposed State EMS base at Dot Lake into the clinic at Tok. Install at the clinic an encoder and decoder. This would allow an ambulance in the Dot Lake area to communicate with Fairbanks Memorial Hospital (FMH) or the Tok Clinic, and also via control link, the Tok clinic to communicate with FMH.
- 5.0.2 Install a State EMS base station in the Tok Clinic.
- 5.0.3 Install a State UHF paging transmitter/receiver in Tok.
- 5.0.4 Provide UHF pagers for fire fighters and EMT's. (These pagers should be capable of operating in the open mode as well as the page mode.)
- 5.0.5 Install at least one mobile in one of the fire vehicles operating on 155.250 MHz (State Simplex).
- 5.0.6 Provide written operations procedures for AST dispatchers.
- 5.0.7 Provide recorder in dispatch Center.
- 5.0.8 Install state repeater and EMS base station somewhere in the middle between Glennallen and Tok.
- 5.0.9 Install "911.\$us

DELTA

1.0 Description

Police protection is provided by the AST, and fire and ambulance services by a paid/volunteer fire department. AST provides 24-hour dispatch for police, and the fire department provides 24-hour dispatch for fire/ambulance.

2.0 AST

Stationed in Delta is one corporal and one trooper and one Fish and Wildlife officer. They each have a vehicle equipped with the standard AST four-channel scanning radio.

2.0.1 AST Dispatch Center

AST operates a common dispatch center at Glennallen.

2.0.2 Base Radios

The dispatcher controls via a common control link the AST repeaters located at Delta, Dot Lake, Tok and Beaver Creek. He can also communicate with dispatchers at Fairbanks and Tok via the control link.

The dispatcher also controls an AST repeater at Black Rapids and controls a local radio on the State Simplex frequency, 155.250 MHz.

2.0.3 Telephone

The dispatch center is equipped with a telephone instrument with the following lines.

Fire/Ambulance 895-4600

AST 895-4800

The fire/ambulance's phone also rings in at RCA and the City fire station. When there is no delta dispatcher on duty, the 895-4800 lines rings in at the AST Fairbanks dispatch center and is answered by Fairbanks dispatchers.

3.0 Delta Fire Department

3.0.1 General

The fire department is staffed by three paid fire fighters and about 25 volunteers. They have 23 EMT's. They provide fire service to one area about 15 miles in radius around Delta. They provide ambulance service toward Tok to Dot Lake toward Glennallen to about Paxton, and toward Fairbanks to about the half-way point. They have two fire stations: the main station in Delta and a sub-station in Clearwater, and maintain 24-hour dispatch.

The department is equipped as follows:

Delta Station

- 1 - 400 gallon per minute mini-pumper with 250 gallon tank, and 20 gallons of foam
- 1 - 750 gallon per minute pumper with a 1,000 gallon tank
- 1 - 750 gallon per minute pumper with 800 gallon tank
- 1 - DOT-approved ambulance.

Clearwater

- 1 - 1,000 gallon tank with a 90 gallon per minute pump.

3.0.2 Mobile Radios

The mini-pumper is equipped with a four-channel radio with 2 operating frequencies: City fire - 154.250 MHz; AST Simplex - 155.250 MHz.

The 750 gallon per minute pumper with the 1,000 gallon tank is equipped with a two-frequency radio with one operating channel, 154.250 MHz.

The other 750 pumper is equipped with a four-channel radio with the 154.250 MHz frequency only.

The Clearwater tanker is equipped with a single channel radio on the 154.250 MHz frequency.

3.0.3 Base Radio

The base radio is a four-channel radio with: AST Simplex, 155.250 MHz; City Fire - 154.250 MHz; Old Delta Police -154.725 MHz. This radio is remoted to the RCA building with antennae mounted at the 300 foot level.

3.0.4 Paging

Fire fighters and EMT's have page activated receivers and scanner monitors.

3.0.5 Ambulance Radio

The ambulance is equipped with a four-channel scanning radio with the following frequencies:

City Fire	154.250 MHz
AST Simplex	155.250 MHz
EMS	155.160 MHz
FMH	155.280 MHz

3.0.6 Clinic Base

The clinic is equipped with a radio operating on the City Fire frequency 154.250 MHz.

3.0.7 Method of Dispatch

Requests for fire or ambulance services are received by the fire dispatcher through telephone number 895-4600. The dispatcher takes the information, pages the fire fighters or EMT's and relays the information to them.

4.0 Recommendations

4.0.1 Install "911"

4.0.2 Establish a common 24-hour dispatch center for police, fire and ambulance.

4.0.3 Install an EMS base station in the Clinic with a control link back to FMH. This would allow the ambulance in Delta to communicate with either the clinic or FMH. The Delta clinic could also talk to FMH via the control link.

4.0.4 Install tone encoder/decoder in the clinic.

4.0.5 Install tone encoder in ambulance.

GLENNALLEN

1.0 Description

Glennallen has two volunteer fire departments: one at Glennallen and the other at Copper Center; the EMS group is separate from both fire departments. Police services are provided by the Alaska State Troopers.

The area has "911, and ASST provides 24-hour common dispatch.

2.0 AST

2.0.1 General

The AST is staffed by one sergeant and seven troopers. Four troopers are stationed in Glennallen, one at Ernestine (halfway between Glennallen and Valdez), one at Paxton, and one at Nelchina (mile 142 on the Glenn highway).

In addition to the troopers, there are two Fish and Wildlife officers stationed at Glennallen.

In total, they have nine vehicles, all equipped with the standard 4-channel scanning trooper radios. All vehicles are also equipped with CB radios. The officers usually monitor channel 19.

2.0.2 Citizen Access

Citizen access for police, fire and ambulance is via one "911" line answered by the State dispatcher in the common dispatch center.

2.0.3 Dispatch Center

The dispatch center is equipped with one operating position and a teletype connected to AJIS.

2.0.4 Base Radio

The center operates the following base radios:

- AST Simplex 155.250 MHz
- AST repeater system with a repeater on Ernestine Mountain and Divide Summit (along the road to Valdez)
- AST repeater on Tolsona Mountain (for the Glennallen area)
- AST repeater on McCallum
- Glennallen Fire Base - 155.745 MHz
- CB - Channel 9
- SSB 2264 KHz, 4383.8 KHz, 4460 KHz
- Alyeska Sys radio
- MHF paging Tx/Rx (located on Tolsona Mountain)

2.0.5 Telephones

The center is equipped as follows: one multi-line telephone instrument for business calls: 822-3263, 822-3264, 822-3265, 822-3556

- one "911" instrument with one "911" line;
- one Valdez ring-down instrument;
- one instrument connected to the AST telephone switch in Anchorage.

2.0.6 Recording

The center has no recording capability.

2.0.7 Paging

The center is equipped with a paging encoder which can be operated on the state UHF paging transmitter/receiver on Tolsona Mountain or the Glennallen fire base radio.

3.0 Glennallen Fire Department

3.0.1 General

The department is staffed by 21 volunteer fire fighters. They cover the Glennallen area to 7 miles toward Valdez to 18 miles toward Palmer and about 3 miles toward Tok from the junction of the Tok and Richardson Highway.

The department is equipped as follows:

- 1 - 250 gallon per minute mini-pumper with a 250 gallon tank
- 1 - 500 gallon per minute pumper with 300 gallon tank
- 1 - 750 gallon per minute pumper with 160 gallon tank
- 1 - 1,500 gallon tanker with a 500 gallon per minute pumper
- 1 - 1,300 gallon tanker with a small transfer pump

3.0.2 Mobile Radio

Each of the above vehicles is equipped with a 4-channel radio with the following frequencies:

- Glennallen Fire 155.745 MHz
- AST Simplex 155.250 MHz

3.0.3 Telephone Conference Line

The department has a 20 instrument telephone conference line accessed by a seven-digit number, 822-3550.

3.0.4 Paging

The department has ten portable pagers operating on the fire frequency, 155.745 MHz, and ten portable pagers operating via the State UHF paging transmitter/receiver located on Tolsona Mountain.

3.0.5 Method of Dispatch

Requests for fire services are received via "911" by the state dispatcher. The dispatcher takes the information, pages on both radio systems, and relays the information to the fire fighters. The dispatcher then dials the conference line and relays the information to the fire fighters who have no otherwise received the information.

4.0 Copper Center Fire Department

4.0.1 General

The department is staffed by five volunteers and covers the area of Cooper Center.

The department is equipped as follows:

- 1 - 250 gallon per minute mini-pumper with 250 gallon tank
- 1 - 1,000 gallon per minute pumper with a 1,000 gallon tank.

4.0.2 Mobile Radio

Both vehicles are equipped with single channel radios operating on the State Simplex frequency, 155.250 MHz

4.0.3 Telephone Conference Line

The department is equipped with a nine instrument conference line accessed by the seven digit number, 822-3484.

4.0.4 Method of Dispatch

Requests for fire service are received via "911" by the state dispatcher. He takes the information, dials the seven-digit telephone conference number, and relays the information to the fire fighters who answer the phone.

5.0 Glennallen Ambulance Service

5.0.1 General

The ambulance service is provided by 30 EMT's with two ambulances stationed at the hospital in Glennallen. The ambulance provides service to about mile 65 on the Valdez-Glennallen Highway, up to Black Rapids on the Glennallen-Delta Highway and to about mile 80 on the Glennallen-Tok highway.

5.0.2 Mobile Radio

Currently, only the DOT-approved ambulance is equipped with a radio. This radio is a two-channel manual select type radio operating on the AST Simplex frequency, 155.250 MHz, and the State EMS frequency, 155.160 MHz. (They are planning to add scanning capability to this radio.)

5.0.3 Paging

The department is equipped with six pagers for on-duty EMT's. These pagers operate on the State UHF paging system off Tolsona Mountain.

5.0.4 Base Station

The hospital has base station operating on the 155.160 MHz frequency.

5.0.5 Portables

The hospital has two portables on the 155.160 MHz frequency.

5.0.6 Method of Dispatch

Requests for service are received via "911". The dispatcher takes the information, pages the EMT's, and relays the information to them. He then notifies the hospital.

6.0 Recommendations

- 6.0.1 Provide two portables with pagers operating on the State UHF paging transmitter/receiver for on-duty EMT personnel.
- 6.0.2 Provide a pager-activated receiver in hospital.
- 6.0.3 Promote advertising for "911."
Increase the range of the ambulance-to-hospital radio system by remoting base stations: one on Tolsona Mountain, one on Ernestine Mountain, one along the Richardson Highway and one along the Tok highway. These base radios should be controlled by the State Dispatcher and extended by hot-line or phone patch to the hospital or doctor.
- 6.0.5 Provide for dispatchers a written operating procedures guide.
- 6.0.6 Replace the Glennallen Fire Department pagers, currently operating on the fire frequency, with pagers on the State UHF system. This would put all Glennallen fire pagers on the same frequency, thereby reducing response time and confusion and creating better coverage.
- 6.0.7 Provide pagers on the State UHF system to the Copper Center fire fighters.
- 6.0.8 In the Palmer AST Department install an extension off the Anchorage AST switch. This extension will allow calls from Palmer to Glennallen via the Anchorage AST telephone switch, eliminating toll charges.
- 6.0.9 Review the load on "911. It may be desirable to add a second "911" trunk.
- 6.0.10 Install a continuously running recorder.

VALDEZ

VALDEZ

1.0 Description

Valdez, with an approximate population of 2,500, is one of the two largest communities in the Prince William Sound area. Between the Copper River Basin and the Pacific Ocean, the Chugach Mountains rise up to create a tremendous transportation barrier. Although Valdez has a road connection with the rest of the State, almost 50 feet of snow falls in Thompson Pass each year and the road is often closed.

Valdez provides most modern services in the immediate area. It is also the terminus of the Alaskan Pipeline, and a substantial oil terminal has been constructed. It is believed that larger tankers and a significant permanent population will result from this terminal.

2.0 Valdez Police Department

2.0.1 General

The Valdez Police Department employs 13 commissioned officers and five full-time and two part-time dispatchers. (The City limits of Valdez covers roughly 246 square miles.) The Department maintains seven vehicles.

2.0.2 Radios

Each of the seven vehicles is equipped with a four-channel radio with the following frequencies:

City Police/Fire 154.100 MHz

Tac Frequency

AST Simplex 155.250 MHz

The Department also has six Motorola portables equipped with the above frequencies.

3.0 Valdez Fire Department

3.0.1 General

The Valdez Fire Department employs five fire fighters, including the chief. The Department is also staffed by 58 volunteers. Twenty-nine of the fire fighters are also EMT's.

Fire Station #1 is located downtown Valdez; Station #2 is located at the airport; and Station #3 is under construction at Mile 10 on the Richardson Highway. A fourth station is being planned for Robe River, Mile 4 on the Richardson Highway.

3.0.2 Equipment and Radios

Station #1: One 1,000 gallon per minute pumper with 750 gallon tank and one mini-pumper with a 250 gallon tank are located at Station #1. Each truck is equipped with a four-channel radio on the City Police/Fire frequency, 154.100 MHz.

Station #1 maintains a four-wheel drive Blazer equipped with a two-channel radio on the City Police/Fire frequency, 154.100 MHz, and AST frequency, 155.250 MHz. Station #1 also has a four-wheel drive ambulance equipped with an eight-channel radio on the following frequencies:

City Police/Fire 154.100 MHz

Ambulance-to-Hospital 155.160 MHz

AST 155.250 MHz.

Station #2: One 750 gallon per minute pumper with 1,000 gallon tank, one 1,800 gallon tanker, one four-wheel drive pick-up (crash truck - dry chemical and light water), and one rescue truck are located at Station #2.

The two fire trucks and the pick-up are each equipped with a four-channel radio with a single operating channel on the City Police/Fire frequency, 154.100 MHz. The crash truck is also equipped with one air-to-ground radio operating on 121.900 MHz. The rescue truck is not radio equipped.

Station #3: One jeep pumper with a 250 gallon tanker, one 1,200 gallon tanker, and one GMC van-type ambulance are located at Station #3.

The ambulance is equipped with a four-channel radio with two operating frequencies: City Police/Fire, 154.100 MHz, and Ambulance-to-Hospital 155.160 MHz. Neither the Jeep nor tanker is radio-equipped.

Station #4: One 250 gallon per minute pumper with a 250 gallon tank is located at Mile 4 on the Richardson Highway. Plans are in effect to purchase a new mini-pumper and a 1,250 gallon per minute pumper with a 700 gallon tank.

3.0.3 Paging (Fire)

The Valdez Fire Department has 20 portable Motorola mini-pagers, and plans to purchase an additional 15 this year. The Department also has 25 Plectron receivers. Eight Motorola mx 350 portables with pagers are used by the fire officers. Twelve portables with pagers are used by three EMT crews, each crew consisting of four EMT's.

4.0 Dispatch Center

Valdez has common dispatch for police, fire and ambulance, and for the State Troopers after normal working hours.

4.0.1 Radio Equipment

The Center is equipped with a base station for City Police and Fire on the 154.100 MHz frequency. A base station on AST Simplex, 155.250 MHz, is used to cover the local area.

The Center also has controls for the three AST repeater systems (Valdez through Glennallen area) and are used primarily to converse with the AST along the highway between Valdez and Glennallen. Also, the Valdez City Dispatcher can talk to the Valdez State Dispatcher (while on duty) and to the Glennallen State Dispatcher via this system.

The Center has a Citizen's Bank radio and monitors Channel 9.

4.0.2 Paging Equipment

The Center has a paging encoder connected to the City Police/Fire base radio. The dispatcher pages fire fighters, the fire chief, x-ray personnel, two doctors, three EMT teams, and rescue personnel. (Rescue personnel has four pagers.)

4.0.3 Telephone Equipment

Two telephone instruments in the Center are equipped as follows:

City Administration 835-4313 (3 lines)

Police Administration 835-4560 (3 lines)

Old Fire Line 835-4500

One 911 trunk

One Intercom line

One hold button

(Six telephone instruments equipped as described above are located throughout the City building.)

The Center also has an individual telephone instrument which plugs into the AST emergency number, 835-4359, for after hour answering. The AST dispatch works only 8:00 a.m. - 4:30 p.m., 5 days per week.

4.0.4 Computer Terminal

The Center is equipped with a teletype terminal connected to the Alaska Judicial Information System (AJIS).

4.0.5 Recording

The Center does no recording.

4.0.6 Methods of Operation

City Police: When a request for police service comes into the Center, the dispatcher directly dispatches via City Police/Fire radio the on-duty officer.

City Fire: When a request for fire service comes into the Center, the dispatcher via the paging encoder dispatches the fire fighters.

Ambulance: When a request for ambulance service comes into the Center, the dispatcher encodes one of the EMT teams. The EMT's can respond to the dispatcher via their portables.

AST: When a request for AST comes into the Center, the dispatcher directly dispatches the on-duty AST officer or notifies AST in Glennallen.

5.0 Alaska State Troopers - Valdez

5.0.1 General

The AST office in Valdez is staffed by one corporal, two troopers, two Fish and Wildlife Protection officers, one administrative assistant, and four radio dispatchers. (The office also handles driver and vehicle licensing.) AST maintains four vehicles and Fish and Wildlife maintains two pick-ups.

AST is primarily responsible for the area along the highway from the Valdez City Limits to about mile 81 on the Richardson Highway.

5.0.2 **Mobile Radios**

Each of the six vehicles is equipped with the standard four-frequency AST mobile radio with scanner.

5.0.3 **Base Radios**

AST has one base station on the AST Simplex frequency, 155.250 MHz, and one control channel controlling AST repeaters on Divide (F2), Ernestine (F3), and Tolsona (F4). These repeaters cover the area around Glennallen, along the highway between Glennallen and Valdez, and the Valdez area.

5.0.4 **Dispatch Center**

The AST Dispatch Center is staffed between 8:00 a.m. - 4:30 p.m., Monday through Friday. Off hours are covered by the Valdez Dispatch Center.

6.0 **Recommendations**

6.0.1 Equip each State Trooper with a radar unit. Strick enforcement along the Richardson Highway will likely reduce the need for medical aid.

6.0.2 Create a more library-type environment for the dispatch center.

6.0.3 The Dispatch Center should be administered by both the Police Chief and Fire Chief. Both administrators should have equal say regarding the Center's operations.

6.0.4 Install one additional "911" line.

6.0.5 Install a continuous running recorder for all 911 lines and City Police/Fire and AST radios.

6.0.6 Install in the hospital a base radio on the 155.160 MHz frequency with a tone encoder.

6.0.7 Equip the ambulances with tone encoders to be used on the ambulance-to-hospital frequency.

6.0.8 Install remote CB, channel 9, with tone encoders along the highway to Glennallen for citizen access. These remote base stations should be monitored by the City Dispatch Center.

6.0.9 Provide caller number identification on the "911" lines.

YAKUTAT

1.0 Description

Yakutat is a Southeast community with a population of approximately 500, 350 of which reside within the city limits. Yakutat supports one trucking service and daily flights to Anchorage, Seattle and throughout Southeast Alaska. Yakutat also has a freight barge service, dock facilities, and a taxi service.

Radio broadcasts are received from surrounding communities, but Yakutat supports its own newspaper. The clinic is staffed with two Public Health Service Health Aids.

The economy is primarily based upon fishing and oil development.

2.0 Citizen Access

Residents in Yakutat contact the fire department through a seven-digit telephone number, 784-3200. To contact the Alaska State Trooper or the Fish or Wildlife Protection Officer, the resident dials 784-3330 or 784-3220, respectively. 3330 rings in at both the home and office of the trooper, and 3220 rings in at both the home and office of the Protection Officer.

3.0 Fire Department

The Yakutat Fire Department is maintained by fifteen volunteers of which four are Emergency Medical Technicians. The Department currently has one 250 gallon pumper with a 250 gallon/minute pump. It has on order a 1,000 gallon pumper equipped with a 750 gallon/minute pump. The Department also has plans to purchase a D.O.T. ambulance.

3.0.1 Radios - Fire, Ambulance

The pumper is equipped with one Citizens' Band (CB) radio. A base station with a paging encoder is located at the Weather Station (frequency 154.445 MHz). Yakutat utilizes a Reach alerting system with twenty-two (22) pagers distributed as follows:

- Coast Guard (1)
- Department of Highway (1)
- FAA (4)
- Alaska State Trooper (1)
- Fire fighters and EMT's (15)

3.0.2 Dispatch - Fire Ambulance

The Weather Bureau acts as a 24-hour dispatch center for the Yakutat area. A request for service comes via telephone line, 784-3200. The dispatcher then alerts the volunteers via the 154.445 base station and encoder and gives the location and nature of the incident.

4.0 Police Services

Public Safety Services are provided by two Alaska State Trooper Officers, one a trooper and the other Fish and Wildlife Protection Officer.

4.0.1 Radios - Police

The Trooper's vehicle is equipped with an older type, two-frequency mobile radio operating on the AST Simplex channel, 155.250 MHz. A 100 Watt base station operating on 155.250 MHz is located in the Trooper's home. He also has a pager which operates on the fire frequency, 154.445 MHz.

The Fish and Wildlife Officer's vehicle is equipped with Porta-Mobile type portable radio operating on 155.250 MHz. A fixed mobile radio operating on 155.250 MHz is located in the Officer's home. The Officer has no pager.

4.0.2 Dispatch - Police

The Trooper receives requests for services via telephone, 784-3330 (which rings at both the office and home), by in-person request or by CB radio.

The Fish and Wildlife Officer receives requests for services via telephone, 784-3220 (which rings at both the office and home), by in-person request, or by CB radio.

Both are dispatched by themselves or by their wives.

5.0 Recommendations

5.0.1 Install a two-frequency (EMS 155.160 MHz and AST-Simplex 155.250 MHz) base radio in each of the following locations:

- Weather Bureau
- Clinic
- Ambulance

In the Weather Bureau it is envisioned that the base radio would contain a two-frequency selectable transmitter and two independent receivers. This would allow for the monitoring of both channels.

- 5.0.2 Install paging encoder to the proposed Weather Bureau base radio to be used on 155.250 MHz for paging either or both AST Officers.
- 5.0.3 Retain the existing fire and ambulance paging system on the 154.445 MHz frequency.
- 5.0.4 Install vehicular-type mobile repeaters in both AST vehicles.
- 5.0.5 Equip each AST Officer with a UHF portable with pager to be used with the proposed mobile repeater units (5.0.4).

This equipment provides a flexible and complete communications system.

If the Officers are within 1/4 mile of each other, they could talk to each other directly via portable to portable. If they are further apart, they could talk via portable to portable using both mobile repeaters. The Officer could also talk to the base stations (Weather Bureau or home) via one mobile repeater. Additionally, the Weather Bureau would have the capability to page one or both officers.

- 5.0.6 Replace the 784-3200 telephone access number with the universal emergency 911 telephone number when the telephone company soon installs its new telephone main switch.

**GENERAL
RECOMMENDATIONS**

GENERAL RECOMMENDATIONS

911 Dispatching by Mobile Officer

Install a second 911 trunk to the automatic telephone/radio interface unit system.

Currently, the "911" line which rings into the Dillingham* dispatch center is connected to the Motorola automatic radio/telephone interface unit. When the "911" trunk rings, the ringing is transmitted on the air. One of two things then happens:

1. If there is a dispatcher on duty, she/he answers the call.
2. If no dispatcher is on duty, the police officer answers the call either from his mobile or portable radio by keying three specific digits on his radio touch-tone pad.

At this point, the caller is in direct contact with the police officer. When the conversation is over, the officer disconnects the telephone/radio connection by keying in another 3 digit code, or, as a result of no R-F from the portable or mobile radio, the interface unit times out and automatically disconnects.

A third situation can occur: The officer can connect the radio to the telephone line and place an outgoing call.

This system has one major drawback. With only one "911" trunk and if it is in use, any other caller will receive a busy signal. When one considers the possibility of a call being answered by the police officer and he, in turn, using the system to request aid, the "911" trunk could be in use for a relatively long period of time.

One solution to the problem would be to add a second "911" trunk. There would be one three digit code for answering line 1 and a second code for answering line 2.

Usually, only line 1 would be in use. However, if line 1 was in use and the second "911" line rings, a pulsed tone would be superimposed on the repeater transmitter. As soon as the officer turns to "receive, he would hear the tone alerting him that there is a call on line 2.

He could then code in and answer line 2. When the call on line 2 is completed, he would return to line 1 and continue his conversation.

This method of operation gives the officer the capability to answer a line and discuss a situation or to place outgoing calls and still leave the "911" system open for other "911" callers.

Install portable panic button which when depressed, pagers carried to all officers. The pager going off would indicate that the on-duty officer needs help.

Citizen Access

Install remote CB base stations along the highways for complete highway coverage for citizen access.

These base stations would be remotely controlled by regional dispatch centers. The audio output from the remote receivers would not be enabled unless a tone decoder is actuated.

This system would require that every citizen who wants to be able to access the emergency CB, channel 9, system would be required to purchase a CB radio and portable tone encoder. (The encoder costs about \$20.)

The citizens would be instructed to access the system only to report an emergency situation (similar to the "911).

Common Recommendations for Nome, Kotzebue, Bethel, Barrow and Dillingham

For the most part, local Police/Fire/Ambulance communications in Nome and Kotzebue are satisfactory. However, many problems exist regarding village-to-regional center communications.

In the past, single side band (SSB) radios have been used as the predominant means of communication. Because of the susceptibility to effects of atmospheric conditions and because of maintenance problems, the SSB has not been a reliable means of communication. It now appears that the use of satellite circuits with SSB back-up is the best solution.

Currently, signalling capability on the PHS satellite circuit does not exist. Initially, the SES PHS circuit was intended to be used for routine radio medical traffic between the nurses and Community Health Aids (CHA's) in the

*Also the case for Wrangell, Skagway, Whittier.

remote villages and the doctors in the regional hospital. The facility has many unused capabilities which were not initially envisioned. Thus, the following recommendations:

1. Insure the reliability of the Small Earth Station (SES) in the rural village.
2. Add three-digit touch tone selective signalling to the Public Health Service (PHS) satellite circuit.
3. Install UHF transmitters/receivers in villages which would enable signalling by code selection connected to the PHS circuit.
4. Equip medical field personnel with portable radios equipped with pagers, enabling them to talk from the portable to the hospital. This would also enable the hospital to page the village health care provider.
5. As identified, connect other authorized agents into the PHS circuit.

Others in the village (Search & Rescue) may have use for UHF portables. These people could talk portable to portable without interfering with the PHS circuit. If needed, they would have the capability of connecting into the PHS circuit and talking on the PHS circuit directly from the Portable.

In a rescue situation, the portables in the simplex mode could be used portable to portable.

6. Add remote AST communication to the PHS system.

To extend the circuit from the Alaska Native Medical Center to the Alaska State Trooper Dispatch Center, a telephone circuit is required. Using a portable radio with touch-tone capability, a Trooper in an outlying village could connect the village UHF T/R unit to the PHS circuit. The Trooper could then signal the Trooper Dispatch Center, again using the portable touch-tone unit. This would enable a conversation between the Trooper in the village (via portable) and the dispatcher in Anchorage.

The PHS circuit is currently under-utilized. By broadening its scope of utilization, communications for many agencies can be greatly upgraded and would make the circuit significantly more cost-effective. Communication priorities would have to be established prior to system's use.

Highway Micro-Wave System

In order to upgrade AST and Highway Maintenance communications and provide ambulance-to-hospital communications and allow for citizen access to the emergency system via CB radio along the Alaska highways, it is necessary for the State to install and operate a micro-wave system between the following locations:

1. Anchorage - Palmer - Fairbanks
2. Palmer - Glennallen
3. Glennallen - Valdez
4. Glennallen - Tok
5. Glennallen - Delta
6. Fairbanks - Delta - Tok
7. Fairbanks - Livengood
8. Anchorage - Kenai
9. Kenai - Seward
10. Kenai - Homer
11. Anchorage - Portage.

Some of the above links have been installed and are currently being maintained by the State.

In addition to fulfilling the above requirements these micro-links could be shared by other State agencies.

NORTH POLE

1.0 DESCRIPTION

North Pole has a municipal police and fire department with common 24 hour, 7-day a week dispatch. Emergency medical service is provided by the fire department. North Pole also has a health clinic manned by a physician's assistant. The population within the city limits is approximately 1,000.

2.0 NORTH POLE FIRE DEPARTMENT

2.0.1 General

The department has one station and is staffed by four paid and twelve volunteer fire fighters. Fifteen of the fire fighters are EMTs. They provide fire service within the city limits of North Pole and emergency medical services within the city limits and the surrounding area.

The department is equipped as follows:

- 1 - 500gmp pumper with 500 gallon tank
- 1 - 1,000 gallon tanker with 350 gmp pump
- 1 - 1,750 gmp pumper with 1,000 gallon tank
- 1 - Chief's car
- 1 - squad truck
- 1 - DOT van type ambulance
- 1 - Pontiac wagon type ambulance (used for backup)

2.0.2 Mobile Radios

The 1,750 gallon pumper is equipped with a four channel radio which is equipped with the following operating frequencies:

- North Pole Fire - 154.130 MHz
- North Pole Police - 155.130 MHz
- Fairbanks Fire - 155.430 MHz

All the other vehicles are equipped with two channel radios with the North Pole fire and police frequencies.

The DOT ambulance is equipped with a four channel scanning type radio with the following operating frequencies:

City Fire - 154.130 MHz

City Police - 155.130 MHz

State EMS - 155.160 MHz

The Pontiac is equipped with a two-channel radio with city fire and police frequencies.

2.0.3 Telephone Conference Line and Paging

The department has an eight instrument telephone conference line, number 488-2700 and they are also equipped with fifteen pagers on the fire frequency.

2.0.4 Method of Dispatch

Requests for fire service or emergency medical service are received by the common police/fire dispatcher through one "118" telephone line or through the seven-digit number, 488-2232. The dispatcher takes the information and relays the information to fire fighters/EMTs via intercom to the fire station, via telephone conference line number 488-2700 and via paging system on the fire frequency.

3.0 NORTH POLE POLICE DEPARTMENT

3.0.1 General

The North Pole Police Department employs four commissioned officers including the Chief. The Department maintains three police vehicles.

3.0.2 Mobile Radios

Each vehicle is equipped with a four-channel radio with the following frequencies:

City Police - 155.130 MHz

City Fire - 154.130 MHz

AST - 155.250 MHz

EMS - 155.160 MHz

In addition, each vehicle is equipped with a ten-channel scanning receiver with the above four frequencies installed.

3.0.3 Citizen Access and Method of Dispatch

For police assistance, the citizen dials the seven-digit telephone number 488-6902. The call is answered either by the dispatcher or the Chief from his house. The dispatcher or the Chief then dispatches the on-duty officer.

4.0 DISPATCH CENTER

4.0.1 General

The dispatch center is manned 24-hours a day, 7 days a week, except for two, four hour periods. During these hours, the on-duty fireman answers fire/ambulance calls and the police chief answers police calls through a telephone instrument in his house connected to the police line, number 488-6902. The city employs three dispatchers.

4.0.2 Base Radio

The base radio is a four-channel radio with: North Pole police, fire, AST and the emergency medical channel. Regardless of which channel the dispatcher is transmitting on, he can still receive calls on the other channels.

4.0.3 Recording

The dispatch center is equipped with voice activated recorders connected to all emergency telephone lines and audio channels.

4.0.4 Paging

The dispatch center is equipped with a paging encoder which is used to page fire fighters/EMTs.

4.0.5 Telephone

The dispatch center is equipped with a telephone instrument with the following lines:

Police - 488-6902

Fire/Ambulance - 118

Fire/Business - 488-2232

5.0 RECOMMENDATIONS

- 5.0.1 Install two "911" telephone lines
- 5.0.2 Convert and advertise one common number for police, fire and medical assistance - "911"
- 5.0.3 Investigate the possibility of installing a "911" telephone line/radio system. With this type of system, the dispatch center would probably only require a dispatcher on duty eight hours/day, 5 days a week.
- 5.0.4 Equip each police officer with a portable and lapel mic.
- 5.0.5 Purchase at least two portables for on-duty EMTs.
- 5.0.6 Install tone encoder in ambulance to be used with EMS radio channel.
- 5.0.7 Install EMS base radio with decoder and encoder in North Pole clinic. This would allow the ambulance to talk with the clinic P.A. and the clinic P.A. to talk with FMH via radio.
- 5.0.8 Convert the existing seven-digit police and fire telephone lines to business lines.
- 5.0.9 List the emergency and business line in the telephone directory correctly.

END