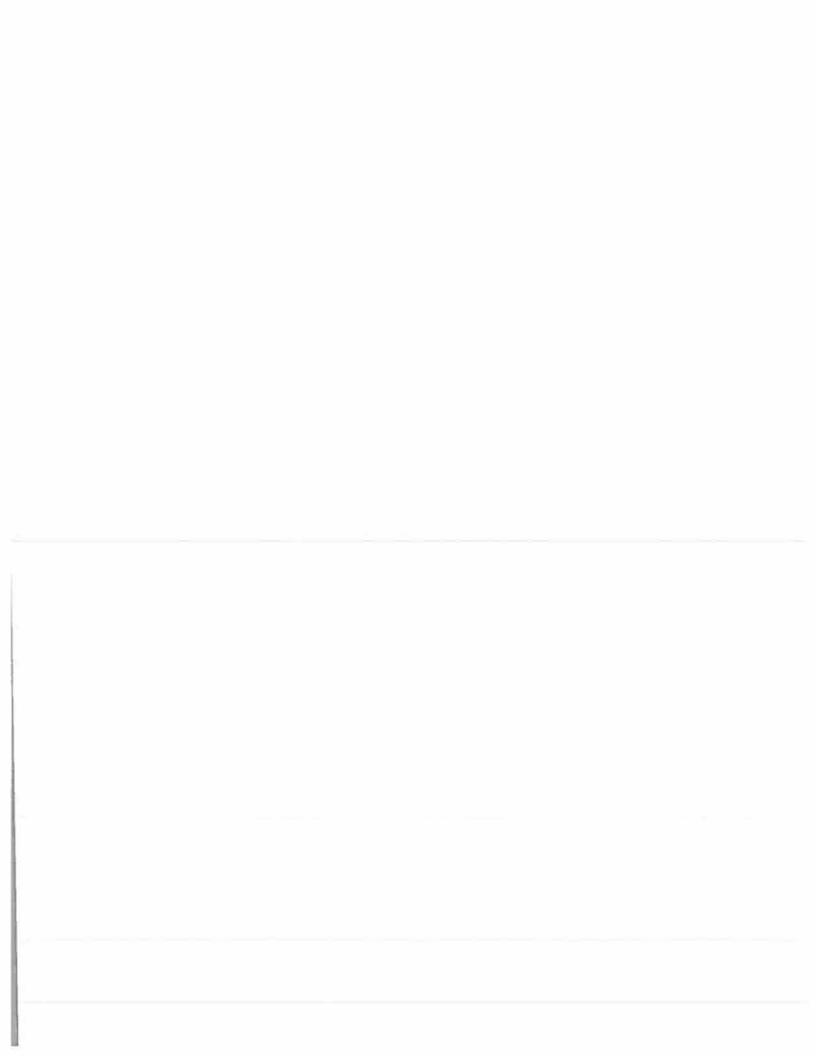
# VOLUME III PLANNING FOR RELOCATION



# TABLE OF CONTENTS

# **VOLUME III**

# PLANNING FOR RELOCATION

Chapte	Chapter							
I	INTR	CODUCTION						
II	PART	TICIPATION IN THE PLANNING PROCESS						
	<b>A</b> . 1	Introduction						
		Planning Committees						
		1. Navajo						
		2. Hopi						
		3. Navajo Relocation Planning Group						
		4. Community Involvement						
		Individual Input						
	C.	individual input						
Ш	RELO	DCATION IMPACTS						
		Effects of the Land Dispute						
		Distinct Populations						
		Problems of Relocation						
	_	1. Scudder Report						
		2. Topper Report						
		Commission Response						
		1. Counseling						
		a. Post-Move						
		b. Coordination for Follow-up						
IV	REL	OCATION SITE IDENTIFICATION						
	<b>A</b> .	Problems in Obtaining Reservation Sites						
		1. Homesite Leases						
	9	2. Allotment and Fee Patent Lands						
	В.	Hopi Relocation Site						
		Navajo Relocation Sites						
		1. Navajo Side of Former Joint Use Area						
		2. Navajo Growth Centers						
		3. The Navajo Indian Irrigation Project						
	•	4. Off-Reservation Sites						
V	REPI	ACEMENT HOUSING						
·		Replacement Home						
		1. Benefits						
		2. Quality Standards						
		Housing Availability						
		2. Conventional Housing						
		a. Existing Resale						
		b. Mobile Homes						
		c. Modular						
		d. Wood Frame						
		e. Concrete Block						
		3. Traditional Housing						
		a. Navajo						
		b. Hopi						
		4 Federally Sponsored Housing 179						

			a.	Nava																	
				• •				ing A													
								Renta													
								Help													
								mpro													
			b.	Othe																	
	C.	Inno	vativ	e Hou	sing	Deli	ivery	·													182
		1.		nmissi																	
		2.	Ener	rgy Co																	
			a.	Curre	ent P	rogi	rams														182
			b.	SOL	ERA	S an	id Of	ther l	Prog	rams											182
		3.	Ram	med l	Earth	n															183
		4.	Ram	nmed l	Earth	n Blo	ock .														183
		<b>5</b> .	Con	crete l	Pane	l Co	nstru	ictio	n											. :	183
		6.		l Fran																	
		7.		l Pane																	
		8.		abrica																	
		-																			
VI	COM	MUN	YTI	FAC	ILIT	IES	ANI	) SE	RVI	CES										. :	185
	A.			vation																	
		1.		ajo Re																	
			a.	Educ																	
								Chur													
								ols													
								(Con													
				(5)	Trib	al (F	Head	start	and	Hor	nest	art I	Pro	ram	ıs).						187
			b.	Heal																	
			C.	Wate																	
			d.	Socia																	
			е.	Tran																	
			f.	Ener																	
								 5													
								eed.													
			g.	Nava			_														
		2.		i Rese																	
		2.	a.	Geog																	
			b.	Educ																	
			c.	Healt																	
			d.	Envi																	
			e.	Com																	
			f.	Tran																	
				Natu																	
			g.																		
								• • • •													
			L.					· · · ·													
	2	Off	h.	Hopi																	
	B.			vation																	
		1.		ting F																	
		2.		nan Re																	
		3.	Six (	Comm	iunit	les.	• • • •	• • • •	• • • •	• • •	• • •	• • •	• • •	• • •	• • •	• •	• • •	• •	• • •	. :	212
****	2.77	7 - 4 -	100																		
VII																					
	Α.	Legi	slativ	e Hist	OTV.															. 2	235

		1. Section 11, Public Law 93-531
		2. Amendments 235
	B.	Identification of New Lands
		1. E.I.S. Alternatives
		a. Apache-Valencia County Ranches
		b. Farmington Alternative
		c. Bloomfield Alternative
		d. Composite Alternative
		2. Additional Alternatives
		a. Bar-N-Ranch
		b. Chambers Ranch
	C.	Overall Survey
	C.	1. General 244
		a. Arizona
		b. New Mexico
		3. Land
		a. Ownership Characteristics
		b. History
		c. Federal
		(1) Federal Fee Land
		(2) Reservation
		(a) Treaty Lands
		(b) Allotment
		(c) Fee Simple
		d. State Lands
		(1) Arizona
		(2) New Mexico
		4. Land Acquisition
		a. Navajo Acquisition
		b. Land Exchanges
		o, Dana Danangoo
VIII	DEV	ELOPMENT CONCEPTS FOR RELOCATION
V 111	A.	Housing Development
	A.	1. Traditional
		3. Cluster Housing
	В.	Community Development
		1. Chapter Resettlement Area
		2. Neighborhoods, Communities and Villages
	C.	Economic Development
		1. Navajo Tribe Viewpoint
		2. Individual Relocatees
		3. Relocation Impact
	D.	Organizational Considerations
		1. Specific Problems
		a. Property Rights on the Navajo Reservation 268
		b. Organizing to Develop New Lands
		c. Trusteeship
		d. Development Site Trusteeship
		e. Taxation
		f. State and Local Relations
		2. Planning Structure
		a. Planning Group
		b. Organizational Options
	177	New Land Facilities and Services
	E.	New Land raculties and Services

IX	INI	VOLUNTARY RELOCATION
X	CO	ST ANALYSIS273
	A.	Direct Costs,
		1. Activity Through Fiscal Year 1981
		a. Agency Administration and Operation Costs 273
		b. Relocation Advisory Assistance Services
		c. Incentive Bonus Payments
		d. Relocation Assistance Payments
		2. Commission Direct Cost Beyond Fiscal Year 1981
		a. Estimated Direct Cost Fiscal Years 1982-1987 274
		b. Basis for Direct Cost Computations
		c. Total Direct Costs
		3. Agency Operations
		4. Discretionary Funds
	В.	Other Cost Considerations

# Introduction

Public Law 93-531, as amended, 25 USC 640d-12(c), requires the submission to the Congress of a detailed plan for relocation which shall:

- 1) developed to the maximum extent feasible in consultation with the persons involved in such relocation and appropriate representatives of their tribal councils;
- 2) Take into account the adverse social, economic, cultural, and other impacts of relocation on persons involved in such relocation and be developed to avoid or minimize, to the extent possible, such impacts;
- Identify the sites to which such households shall be relocated, including the distance involved;
- 4) Assure that housing and related community facilities and services, such as water, sewers, roads, schools, and health facilities for such households shall be available at their relocation sites; and
- 5) Take effect ninety days after the date of submission to the Congress pursuant to subsection (a) of this section.

The development of a detailed and comprehensive plan for relocation has been a most difficult undertaking. The scope of considerations for relocations covers virtually every facet of functional planning. The Commission has had to develop an approach which would accommodate a scale ranging from individual family plans to and including multi-family clusters and community resettlements.

Early in the process, the Commission recognized the need for a client-centered approach. It is clearly established that all relocations during the planning process and continuing through the next four year period are of a voluntary nature. For this reason, the Commission tried to incorporate into its planning the flexibility necessary to accommodate each family and to make several options available.

The Commission has held to the principle that the decision-making process is an inherent right of the relocatee, who ultimately must accept responsibility for his/her own decisions and choices. A comprehensive analysis of the choices available and adopted by the relocatees has provided the basis for developing an overall plan to meet the needs of the families and thereby minimize hardship.

This plan is not intended to be "absolute" or "set in concrete," but rather a living document which provides a general framework and a guideline for future action. During the period of voluntary relocation, and while the Commission works with the Navajo Tribe in land selection, choice making precludes development of a precise relocation plan and warrants a "process oriented" approach.

The amendments set forth during the second session of the 96th Congress have provided further opportunities for families subject to relocation. The primary selection of land for a

three year period rests with the Navajo Tribe, in consultation with the Commission. After three years, the Commission will assume the primary role for land selection in consultation with the Navajo Tribe.

Additional reports to the Congress required by the amending legislation will serve to further strengthen and develop detail in the plan. This will occur simultaneously with land selection, mobilization of other agencies and implementation of projects to assist overall relocation.

Amendments to P.L. 93-531 enacted during the second session of the 96th Congress have served to clarify the role of the Commission. The Commission is perceived by Congress, in terms of its role in planning and implementing relocation, and also in taking more positive action in the coordination of resources. Through its discretionary funding program the Commission will have the opportunity to provide support to other agencies which may become actively involved in carrying out the relocation project. This plan, outlines the general guidelines and objectives of the Commission in its role as a coordinating resource agency.

# Participation in the Planning Process

### A. INTRODUCTION

Public Law 93-531, 26 USC 640d-12(c)(1), states that such report and plan shall:

be developed to the maximum extent feasible in consultation with the persons involved in such relocation and appropriate representatives of their tribal councils;

The Commission identified four objectives for providing an operational framework for relocation planning. First, was the need to provide a meaningful opportunity for Tribal and local input into planning for relocation. A meaningful opportunity is considered one that is culturally relevant and where appropriate issues are addressed. Second, the need was recognized for providing feedback and evaluation from the planning process and from the implementation of voluntary relocation. This meant complaints about the problems and frustrations of people who have already moved were considered to be a planning consideration. The third objective was the need to identify, develop and promote feasible economic development projects to which relocatees can relate in a meaningful way. Fourth, wherever possible, relocation planning should contribute to strengthening the local infrastructure at the grass roots level of either Tribe's social and political organization.

Participation involved relocatees, Chapter officers, Tribal leadership and offices, off-reservation community groups, and agencies of federal, state and local government.

Participation occurred at public hearings on specific issues, Commission meetings, interviews with and meetings of relocatees, Chapter meetings, meetings with other agency planners and service providers, meetings with Tribal leaders and meetings with federal, state and local agencies. In a more formal view, the Commission has requested written comment from the respective Tribes, Chapter officials, relocatees and others. Tribal comments and recommendations are included in this report.

This chapter explains the process by which the Commission has consulted with those affected by relocation in order to obtain input to minimize the adverse impacts of relocation.

The success of a comprehensive plan of any type can be in large part attributed to the degree of support that plan receives by those affected. Support is in large measure directly related to the extent to which those persons have believed themselves to be an integral part of the planning process.

# **B. PLANNING COMMITTEES**

#### 1. NAVAJO

From the inception of the Commission, individual family consultations by staff were highly emphasized. Local planning committees were organized between June 1977 and April 1978. It took 11 months to organize the committees because the local communities first had to be convinced that socioeconomic and local community development was desirable

and feasible, and that local planning committees could have tremendous impact on the execution of resettlement plans for their respective communities.

The Commission paid the planning committee members stipends and over \$200,000 went into these first efforts by the Commission. Additionally, the Commission coordinated with the Tribe in holding a needs symposium in Window Rock in 1977 and also paid for a liaison from each tribe to attend Commission meetings.

On May 15, 1978, the Ninth United States Circuit Court of Appeals vacated the judgment of partition and remanded the matter to the United States District Court for Arizona for further proceedings. An unfortunate and unexpected result of this decision was the misinterpretation by many people that the action of the Court of Appeals had put an end to relocation.

The impact of this on the planning committees was significant in that they felt that there was no longer any need for them to continue their activities. The Commission was required to undertake a program to inform residents of the formerly partitioned area that while the Court of Appeals had vacated the partition line, it had, in fact, reaffirmed the Court authority to partition the disputed land and that relocation was still going to take place.

Although the Chapter committees were discontinued, the Relocation Commission still worked with all communities to attempt securing the withdrawal of sites for relocatee housing and resettlement communities and to prepare resettlement community site plans. The planning committees, however, were moderately successful and did identify some suitable relocation sites in all the Chapter areas.

### 2. HOPI

The Hopi Relocation Planning Committee, composed of Hopi families required to move, was organized on September 15, 1977 and met 27 times. The Hopi Tribe created its own Office of Hopi Partitioned Lands, designed to prepare general land plans for its partitioned areas. This office contracted with the Commission to further assist in the relocation process.

The Hopi committee gave considerable attention to site selection and land withdrawal, and the need to plan for resettlement, and community and economic development.

# 3. NAVAJO RELOCATION PLANNING GROUP

The Commission continued its efforts to involve those impacted by P.L. 93-531. Recognizing that the success of the relocation plan would be enhanced materially, these continued efforts led to the creation of a new planning group for the Navajo. The original Hopi planning committee was still operating.

The Commission in February 1979 encouraged the formation of a Navajo relocatee input group who could work together on their common problems and concerns as well as consulting with the Commission on relocation issues. The Commission's Navajo staff took the lead in developing this program. The group eventually adopted the title Navajo Relocation Planning Group.

The goal of the input program was to include all interested relocatees. To initiate the program, however, the staff identified individuals who were from various former Joint Use Area Chapters, matriarchs of large extended families, spiritual leaders and locally respected community leaders.

It was important to assure that relocatee representation was balanced in terms of geographic area. It was equally as important that this representation be indicative of large, extended family groupings and reflective of divergent lifestyles, such as traditional, pastoral and Navajo seeking on-reservation lifestyles, versus off-reservation, sophisticated, casheconomy oriented lifestyles.

Once leaders were identified, a format was devised for securing their involvement. This included:

1) Delegation of staff responsibility for initiating contact.

- 2) Formation of specific guidelines for contact, such as informal (at home), and formal (in office) around identified planning issues.
- 3) Provision for staff direction and supervision in tasks involved in forming relationships with identified representatives.
- 4) Securing contact for continued participation in community service planning of each representative.

Once contacts were made with each person, an assessment was made using the following techniques to determine an appropriate mechanism for their involvement:

- 1. Personal contacts.
- 2. Small-group meetings with appropriate groupings of participants. These meetings could be held on or off the reservation, possibly during the evenings or weekends, as appropriate.
- 3. Public hearings on specific topics.
- 4. Group meetings usually followed by a planned social event.

Using these means, the first task was to identify community service needs. The results of this needs assessment enabled the staff to evaluate the impact of relocatees on each infrastructure, such as, host communities or model resettlement communities. This first meeting took place on April 25, 1980, and was very successful in achieving its goal. Since then, meetings have been held on an average of once a month on selected issues.

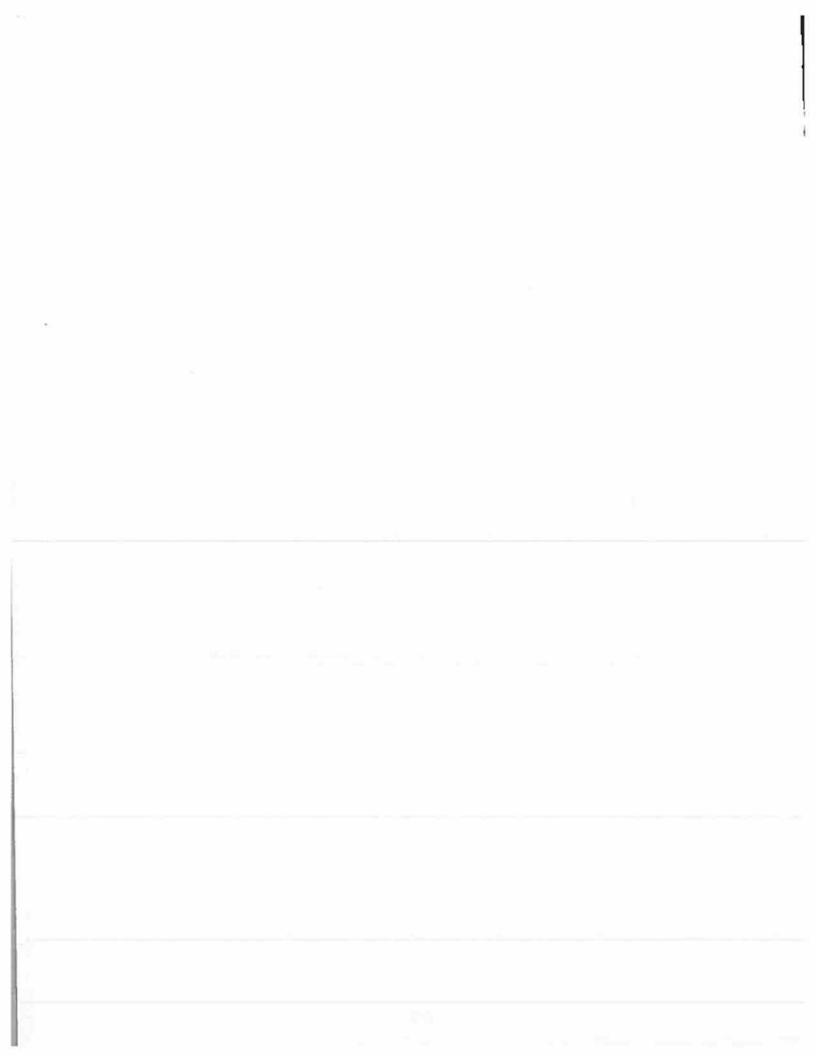
# 4. COMMUNITY INVOLVEMENT

Following steps similar to those used in securing meaningful involvement of relocatee representatives, efforts were also made to secure input from health and social service agencies both on and off reservation.

Off-reservation committees were formed in both Coconino and Navajo counties. They identified needs and resources available for responding to relocatee needs. They considered the impact of relocation service needs on their resources, as well as preparing host communities for the potential influx of relocatees. These committees have identified themselves as the Navajo County Relocation Planning Group and the Coconino County Relocation Planning Group.

# C. INDIVIDUAL INPUT

Daily contact with individuals subject to relocation provides the Commission with invaluable planning data. The options being considered by relocatees, their economic and family situations and their individual needs all contribute to a wealth of material assisting the Commission to design and carry out a realistic relocation program.





Public Law 93-531, as amended, 25 USC 640d-12(c)(2), states that such report and plan . . .

take into account the adverse social, economic, cultural, and other impacts of relocation on persons involved in such relocation and be developed to avoid or minimize, to the extent possible, such impacts.

# A. EFFECTS OF THE LAND DISPUTE

Many years of dissension and uncertainty over the partitioned lands has had an effect upon the residents of the area. Members of both the Navajo and Hopi Tribes have expressed their fears, frustrations and anxiety over the future occupancy of disputed land which they both perceive as being theirs.

When the Commission was established in July of 1975 it found itself entering the conflict long after the turmoil and confusion of the years which had impacted heavily upon the people.

Before setting the relocation in motion, the Commission analyzed the existing problems of the people of the former Joint Use Area and found:

- 1) Overcrowded and deteriorated living conditions resulting from court ordered and administratively imposed construction freezes.
- 2) Separation of the young from the elderly as the young were required to emigrate off reservation to seek housing and employment.
- 3) The deterioration of existing facilities caused by the withholding of financial support while awaiting the outcome of litigation or legislation.
- 4) The withdrawal of basic support services while awaiting the outcome of litigation or legislation.
- 5) The absolute disruption of the socioeconomic base brought about by the livestock reduction program.

As a result of these events the area was best described in terms of impoverishment. The Commission was faced with providing services to an extremely troubled population.

# **B. DISTINCT POPULATIONS**

The problem was further compounded by the fact that the Commission found it necessary to accommodate two distinct populations:

1) Those families who for the most part have maintained actual continuous residence on-reservation and their agro-grazing lifestyle

2) Those younger families who were forced to temporarily seek housing and employment away from the area pending the final outcome of the dispute.

#### C. PROBLEMS OF RELOCATION

The Commission also recognized the stress factors presented by the land dispute. Relocation, by the testimony of those involved, is traumatic and painful. The Commission has become aware that relocation significantly contributes to an alienation problem. Families subject to relocation find themselves aliented from their former friends, neighbors and the governmental agencies upon whom they have depended for support. Families subject to relocation also experience alienation from the area to which they are to move as host communities set them apart as relocatees. A certain degree of alienation even takes place between the Commission and other agencies which draw back and refrain from getting involved. The Commission found itself assuming stronger advocacy roles for the relocatees as the relocatees perceived the Commission as the single agency to whom they could express their needs and concerns.

#### 1. SCUDDER REPORT

This report is a study which discusses the impact of forced relocation, and some expected impacts from compulsary relocation of Navajos. The Scudder Report was an analysis commissioned by the Navajo Tribe and performed in late 1978 and early 1979. Its usefulness as a policy blueprint, however, is somewhat questionable since the purpose of the Report was clearly biased to provide support for repeal of P.L. 93-531. In addition, the passage of P.L. 96-305, in July 1980, addressed many of the issues such as development funds and land acquisition, which Scudder identified as causing many problems for relocatees and host communities.

The Scudder Report states:

The results of over 25 studies around the world indicate, with no exceptions, that the execution of compulsary relocation among rural population with strong ties to their land and homes is a traumatic experience for the majority of the relocatees.

Scudder identifies a transition period, never shorter than two years and frequently much longer, during which the following effects have been shown to occur:

- 1) Undermining of people's faith in themselves, and a
- 2) Tendency for relocatees to become dependent on the agency or agencies responsible for their relocation.

This work can best be summarized in terms of its emphasis upon the multi-dimensional aspects of stress associated with relocation and the phenomena of alienation which occurs in a relocation program.

# 2. TOPPER REPORT

The Commission has found the Indian Health Service to be a very valuable resource in providing insight into the health problems of relocatees. An analysis has been performed of the potential relocatees who are clients of the Indian Health Services mental health facilities at Tuba City, Arizona. This work, known as the *Topper Report*, involved a survey of mental health patients during the summer of 1979 and was conducted as a follow-up to research performed during the summer and fall of 1978.

As clearly pointed out in the Topper Report the etiology of relocatee's health problems is by no means a direct result of anticipating relocation alone. The impact of the livestock reduction, in addition to those earlier problems cited, has had tremendous impact upon the outlook and feelings of the people.

The Commission feels that Topper's message is that the sooner families know they are: 1) subject to relocation, 2) eligible for relocation benefits, and 3) provided with some idea as to where they might move, the sooner the tensions of the land dispute may start to be placed behind them.

#### D. COMMISSION RESPONSE

#### 1. COUNSELING

In the design of the relocation program much emphasis has been placed upon providing a sensitive, counseling-oriented, relocation advisory service. The Commission has made every effort within the limited scope of its authority to properly counsel relocatees and provide them with options which would enhance their adjustment upon relocation. In many instances, where the case worker recognized that the choices currently available or being considered by relocatees would further exacerbate existing problems or pose new ones, efforts were made to have relocatees wait and avail themselves of opportunities provided for in the amending legislation. Unfortunately, in some instances, relocatees have chosen to ignore these efforts and have made choices which afterwards proved to be unsatisfactory.

Post-move follow-up of relocatees by the Commission indicates that some of the families who have moved off-reservation have encountered problems; for example, some have quit or lost jobs; some have applied for and received debt consolidation loans using their replacement dwellings as collateral; some have not paid their property taxes on the date due, and there have been instances of family discord.

The land acquisition provisions which were enacted in July of 1980 may provide a positive means of providing on-reservation relocatees with options more conducive to a satisfactory adjustment. Those relocatees who were off-reservation in a temporarily away situation, have for the most part, already acclimated to off-reservation living and many have adjusted well. Notwithstanding, some of these families also were already experiencing problems of adjustment and the provision of replacement dwelling did not serve as a cure-all for their problems.

# a. Post-Move

In September 1979, staff conducted a preliminary post-relocation adjustment assessment on the first 106 families who had relocated. These families were placed in three broad categories:

- 1) Good: indicated by stable employment, lack of significant problems and family stability;
- 2) Fair: indicated by a need for referral by Relocation Advisory Service staff to human service providers (health, education, welfare and legal) and successful stabilization following referral; or
- 3) Poor: indicated by marked family instability, financial decline (major debts, mortgaging or selling replacement home), a move back to the reservation, major health problems, significant depression, suicide attempts, etc.

Findings of the initial assessments indicate 65 percent of the families have made a good adjustment - 10 percent, a fair adjustment - 25 percent, a poor adjustment.

Many of the 106 families were of the "temporarily away" category and, thus, had already been living at least part of the time off the reservation. The Commission's preliminary study

suggests further research is needed to compare the status assessment of this group with that of the general population. Research is needed to have an assessment of the more traditional population awaiting relocation. For these reasons, a cautious interpretation of the data cited here is suggested. The assessment found that post-move problems of relocatees reported in the Commission's *Interim Progress Report* have not changed during the past two years.

The major areas of need indicated by that assessment are in education (GED for adults, bilingual, elementary education curriculum provision in border-towns for children); employment (job training and experience); health care (prevention and treatment); and home maintenance.

This assessment corresponds closely to a Needs Assessment Survey of urban Indians in Coconino County, conducted by Flagstaff's Native Americans for Community Action. Six major problems identified by Native Americans for Community Action, correlated with the Commission's findings. Local Indian Health Services did not exist. Job skills and training were lacking. Acute shortage of full-time jobs. Transportation facilities were inadequate. High rate of drug and alcohol abuse. Level of education attainment was low as evidenced by many lacking high school diplomas.

Although a definitive survey has not been conducted, Commission service providers in Flagstaff and Winslow have begun to indicate an increase in requests for services from relocatee families. The Commission makes referrals to local service providers when a post-move problem is observed. It is likely these referrals will markedly increase as relocation proceeds.

It should be noted, however, that a causal relationship between relocation in itself and poor adjustment has not been demonstrated. Relocation is viewed by some as causing a person's problem when, in fact, the individual was experiencing problems before relocating.

The Commission is intensifying staff effort to identify families who are bad risks for off-reservation relocation, and to work with these families to relocate to new on-reservation homesites or to help them make better adjustments to off-reservation living. The new life estate provisions and land acquisition provisions (of P.L. 96-305) will be used to further assist these families.

### b. Coordination for Follow-up

The Commission has also intensified its efforts to achieve coordinated follow-up services to assist families experiencing problems through:

- 1) Effort at sensitizing providers of service,
- 2) Involvement with providers in preventive program planning,
- 3) Work toward the development of cohesive relocatee grouping especially in off-reservation communities toward the goal of decreasing alienation and isolation.

Contacts with existing service providers such as community counseling centers, crisis nurseries, and other agencies have indicated an increase in the use of their services by relocatees. Thus, an effect of relocation seems to indicate a need for increased human resources in the host community.

As the relocation program progresses and acceptance of the final settlement of the land dispute issue develops with Tribal authorities, it is anticipated that the new authorities given to the Commission for discretionary funds and the provision for Tribal land acquisition will work toward the alleviation of adverse impacts of the land dispute and ensuing relocation.

# Relocation Site Identification

The Commission's planning program provides for identifying potential and actual suitable sites for relocation. The Commission's overall objective is the identification of suitable sites for relocatees. Identification of relocation sites is a preliminary step to acquisition. Site identification is not acquisition. Actual acquisition of a site takes place only after careful analysis.

During the interviews with individuals, and through contact with various groups, the Commission has gained considerable insight into the types of choices individuals are making and will make. Site identification must relate in a meaningful way to the choices available to one of three initial choices about the place to which they move: 1) move to their reservation; 2) move to non-reservation sites; or, 3) wait to move to the new lands. Which of the three choices an individual makes may depend on the availability of existing housing. On reservation there may be mutual self-help housing programs or other housing developments. The acquisition of resale dwellings may be more readily available in non-reservation areas.

# A. PROBLEMS IN OBTAINING RESERVATION SITES

The process of identifying sites for relocation on the existing reservations of both tribes is very complex. This is largely because governance of land use by tribal authorities has, of necessity, established procedures which are designed to safeguard traditional use of the land with a high degree of sensitivity to local custom. For the most part the absence of comprehensive land surveys and a system of individual recorded entitlements is substituted by a concept of customary use areas which are acknowledged as extended familial holdings.

The livestock economy operates on both reservations to the extent that livestock have become a vital part of the social fabric. In all considerations of use of the land, the impact on livestock grazing constitutes one of the highest priorities. The raising of livestock primarily is a subsistance enterprise operating through a system of customary land use rights with individual family ownership of livestock. This system poses considerable problems when the withdrawal of land is considered.

#### 1. HOMESITE LEASE

Applications for homesite leases are looked at in terms of their impact upon livestock grazing. To grant a homesite lease may cause the person consenting to the lease to lose some of his grazing. The present Navajo Reservation, consisting of approximately 14,671,210 acres, although appearing able to accommodate relocatees, is in fact already utilized to the maximum degree by residents engaged in grazing. For this reason, obtaining even a one acre homesite lease is very difficult. Nevertheless, a system has been established to reach consensus for withdrawal of lands for individual homesites and other development purposes.

The process of site identification for any individual homesite is an important and personal decision-making activity for the relocatee and his family. The Commission provides technical services and team support to help the family in this process.

Once a family has selected a fairly specific site or general area in which it is interested, the process of technical evaluation is begun to determine if the site is suitable for acquisition.

This process is directed toward obtaining a homesite lease from the tribe and then planning for the provision of housing.

A technical evaluation of each site is made to determine its suitability for use as a homesite. The Commission staff makes on-site evaluation reviews of topography, soil, drainage and slope factors, road access, water and energy resources, waste disposal, adjoining land use, and accessibility to community resources. If the individual homesite is determined to be suitable, arrangements are made for archaeological clearances and surveys necessary for lease application. Individual homesite identification is an ongoing process for families who wish to relocate as a family unit. These homesites will continue to be identified.

Figure 1 shows homesites pending on the Navajo reservation. Figure 2 indicates homesite leases approved prior to construction. Figure 3 shows homesites under construction or completed as of January 1, 1981.

# 2. ALLOTMENT AND FEE PATENT LANDS

In addition to homesite leases obtained from the tribes, there are other potential site sources for individual family units within the reservation boundaries. These are individual Indian allotments and fee-patented lands. An individual Indian allotment is very similar in character to fee ownership, except the land is held in trust by the United States Government for the individual Indian. The individual can receive permission to transfer title to anyone he wishes.

Efforts to purchase existing individual Indian allotments have not proven to be a viable means of accommodating relocatees because such allotments do not exist in sufficient quantity. Lack of probate procedures also has caused fractional interests in common which seriously complicate transfer.

Fee-patented land is the rarest type of ownership within the boundaries of the reservation; however, two parcels have been identified within close proximity to the former Joint Use Area. The possibility of the Commission acquiring these lands and using them for development has been discussed and warrants further investigation.

# **B. HOPI RELOCATION SITE**

The Hopi relocatees who are ranchers wish to maintain their traditional life style. The Commission and the relocatees, working closely with the Tribe, identified an area of land within the partitioned area for resettlement. On December 15, 1977, the Hopi Tribal Council approved the overall site for use by the relocatees.

The Hopi Tribe determined that the relocatees would ranch in accordance with customary use and obtain three-acre homesite leases for residential purposes. The area selected accommodates the 14 Hopi families who have chosen to move there. The range land has undergone restoration by the Bureau of Indian Affairs and has a healthy growth of grass. The area is well suited for the Hopi families' needs and construction of relocatee housing has begun.

Located on a plateau of 6,600-6,700 feet, the area receives 12 to 15 inches of precipitation each year. The soil is loamy sand or clay type, 20 to 36 inches deep, medium textured, and moderately permeable. Surface soils are well stabilized and prone to only moderate erosion.

Available water resources are considered adequate to support both domestic and livestock requirements. The Public Health Service has utilized a combination of water storage cisterns at individual homesites and storage tanks to serve the area. Improvement of existing wells has been accomplished. Sanitation is achieved through individual septic systems at each homesite.

A grant to the Public Health Service from the United States Department of Energy has made possible the development and use of 750 watt solar photovoltaic power systems for individual houses.

A full range of community facilities, including shopping, Public Health Service hospital and school, is available 12 miles from the site at Keams Canyon. The Hopi Agency Office of

Figure 1
Pending Homesites Awaiting Tribal Approval as of January 1, 1981

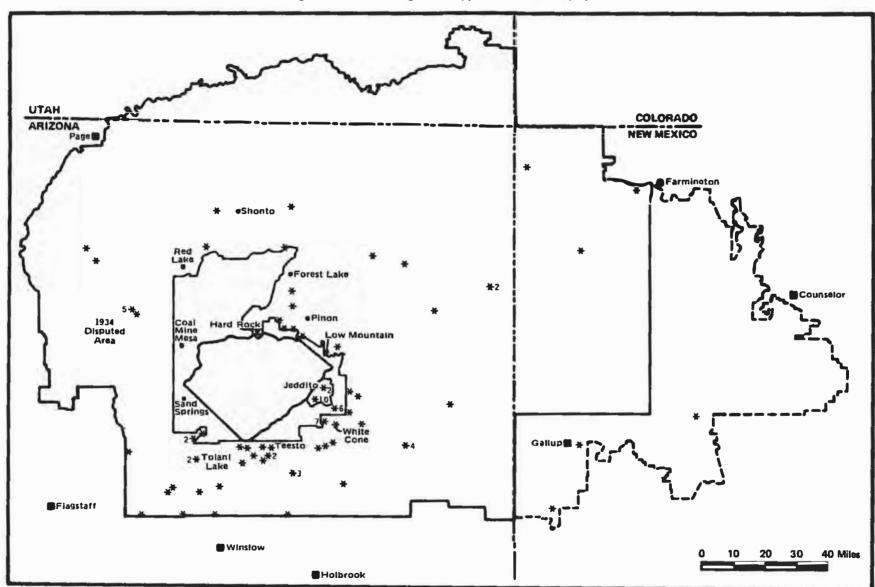


Figure 2
Homesite Leases Approved Prior to Construction as of January 1, 1981

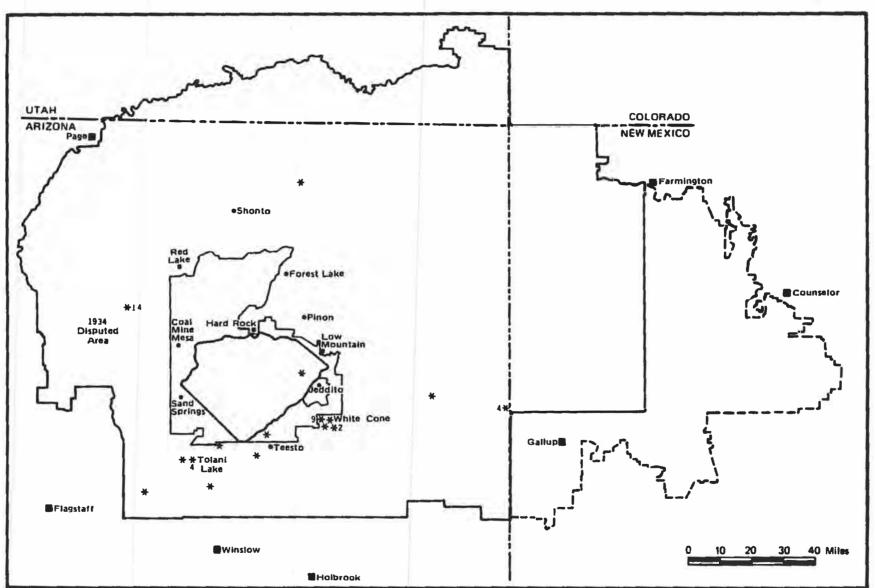
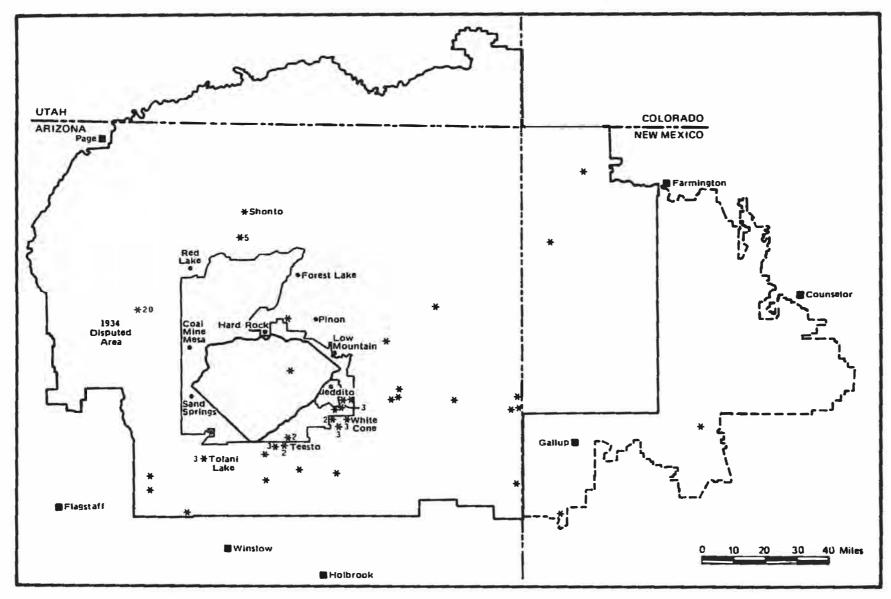


Figure 3
Homesites with Homes Under Construction or Completed as of January 1, 1981



the Bureau of Indian Affairs is located there, along with law enforcement services. Additional, though limited, shopping and services are at White Cone, approximately six miles from the site.

The remaining critical need in the area is road improvement. The Bureau of Indian Affairs has not yet been able to begin upgrading existing dirt roads.

Figure 4 shows the general location of the Hopi site. Figure 5 is a detailed map of the Hopi site.

#### C. NAVAJO RELOCATION SITES

The Navajo people are widely dispersed throughout their reservation, which is divided into small political subdivisions called Chapters. Chapters are an aggregate of people in a generally accepted area forming the basis for community decision-making. The major characteristics of a community exist within the Chapter. These may include: 1) an identified population; 2) a geographic base; 3) governmental structure; 4) strong familial ties; 5) an awareness of unity; and, 6) a capacity based on experience to handle problems. The Commission recognizes the Chapters as key agencies in solving the problems of relocation. Figure 6 is a map of the Chapters on the existing reservation.

Many of the Chapters have been contacted by individual relocatees who request permission to remain within the geographic boundaries of their Chapter on the Navajo side of the line of partitionment. Many individual relocatees have also contacted the Chapter of their spouse requesting permission to obtain a homesite into that Chapter area. Several Chapters on the reservation have accommodated families requesting individual homesite leases. For this reason, all Chapters on the reservation have some potential in assisting relocatees to find a new home.

#### 1. NAVAJO SIDE OF FORMER JOINT USE AREA

Of potential significance are the Navajo Chapters within the former Joint Use Area which have been impacted by partitionment. Families subject to relocation are members of Chapters in this area. Their strong familial, social, cultural and political ties have caused them to express preferences for remaining in close proximity to one another by "moving across the line" if possible. This is difficult, however, due to the inability to provide grazing and the very real possibility of infringement on grazing areas of residents not subject to relocation.

In some instances Chapter officials see in relocation the possibility of providing an opportunity for further development of their very remote, isolated rural communities. However, the land utilization system provides little latitude for accommodation of the families from the partitioned area. Constructive meetings with Chapter officials and planning groups have not resulted in the abandonment of this possibility. The benefits necessary to encourage trade-offs within Chapter areas must be carefully planned, analyzed and, most importantly, be viable. For this reason, the Commission has included in its plan potential relocation sites which were delineated in the *Interim Progress Report*, published by the Commission in December 1978.

The Commission emphasizes that none of these sites has completed the Tribal withdrawal process. Although the concept of "Chapter Resettlement Areas" in the former Joint Use Area may be a means of enhancing development, continued efforts are necessary to plan meaningfully with residents and Chapter leaders.

Figure 7 show the general location of the potential Navajo sites identified. Figures 8 through 23 are detailed maps of these sites.

#### 2. NAVAJO GROWTH CENTERS

An overview of Navajo Tribal planning documents reveals that the Navajo Tribe has recognized the need for developing community infra-structures throughout the reservation as a prerequisite to economic improvement. The decision to actively seek community

Figure 4
General Location of Hopi Site

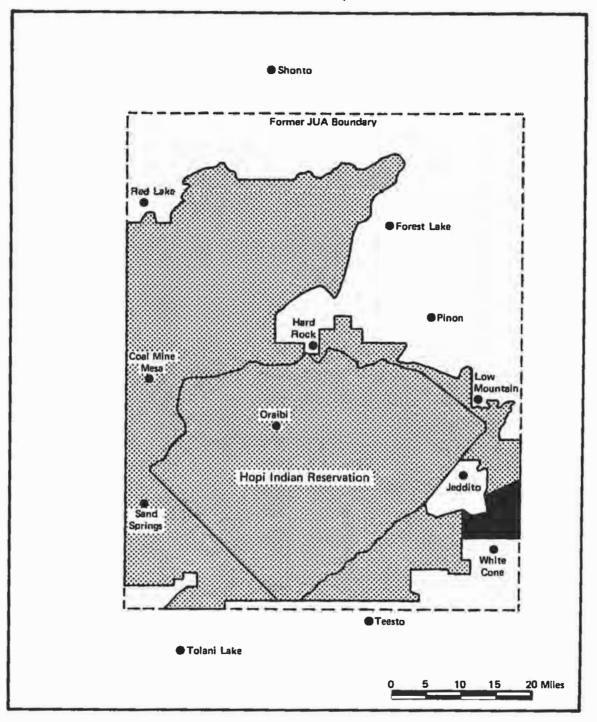


Figure 5
Detail Map of Hopi Site

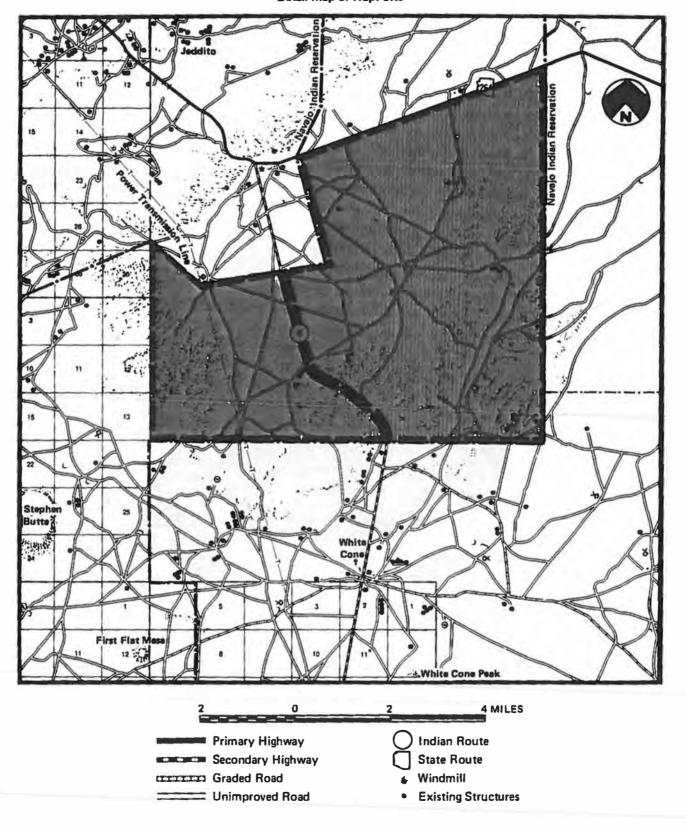


Figure 6
Chapters on the Navajo Indian Reservation

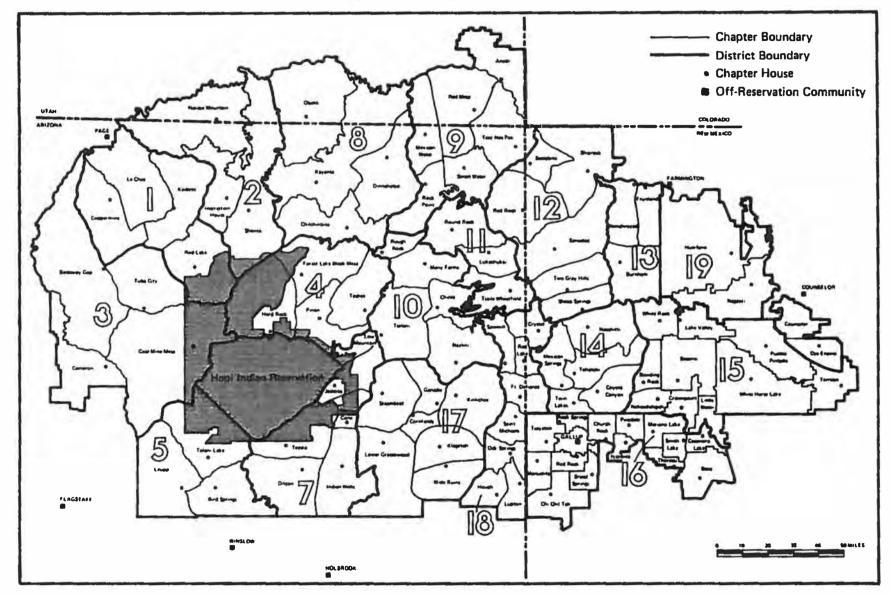


Figure 7

General Location of Navajo Sites\*

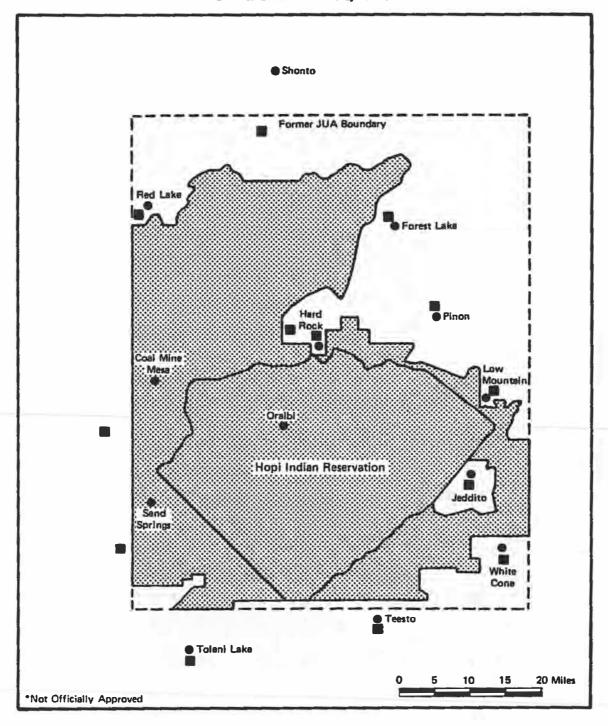
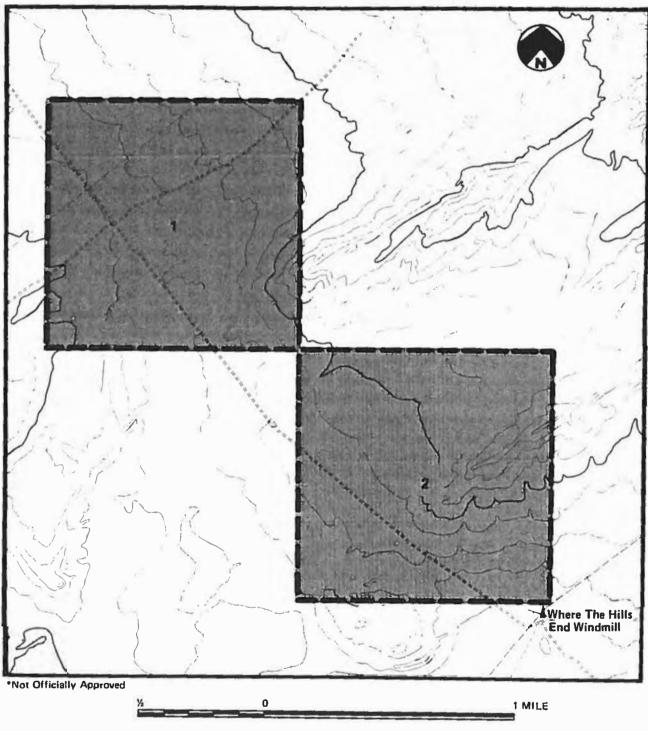


Figure 8
Coal Mine Mesa Potential Site\*



Contour Interval 20 Feet

Existing Structures

Figure 9
Forest Lake Potential Site\*

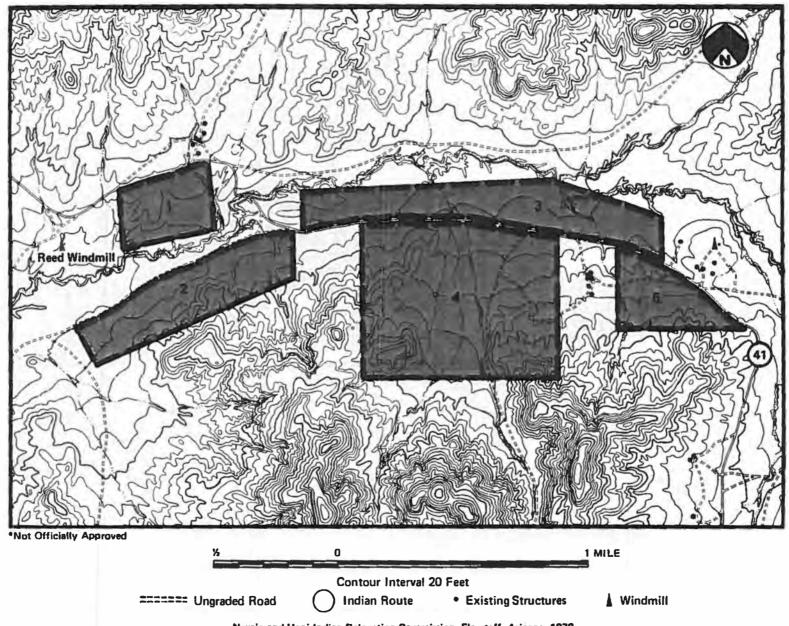


Figure 10
Hard Rock Potential Site\*

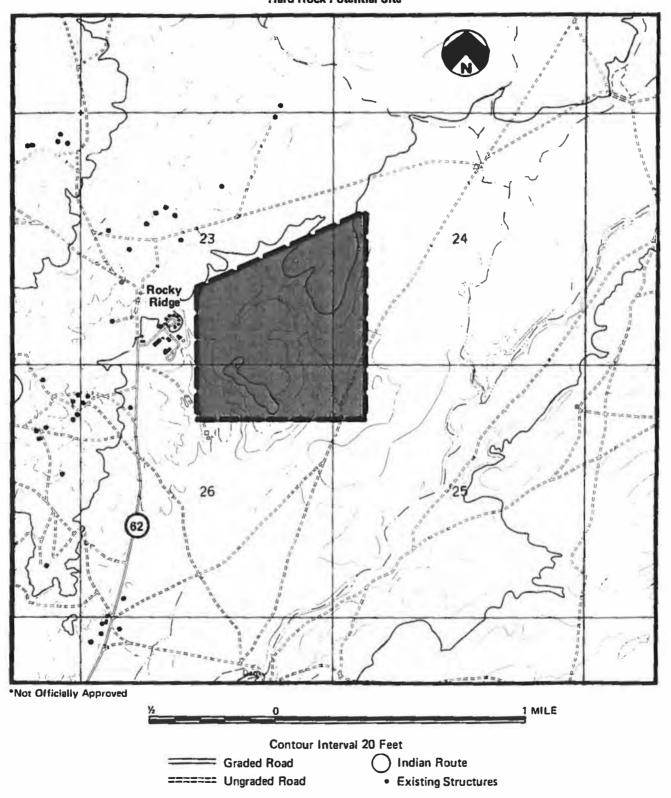
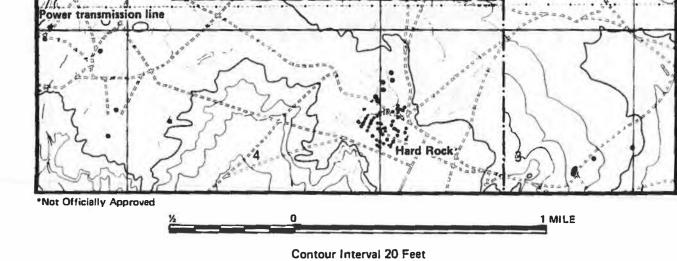


Figure 11
Hard Rock Alternate Potential Site®



Ungraded Road

**Existing Structures** 

Figure 12

Rocky Ridge-Dinnebito Potential Site\*
(Subdivision of Hard Rock)

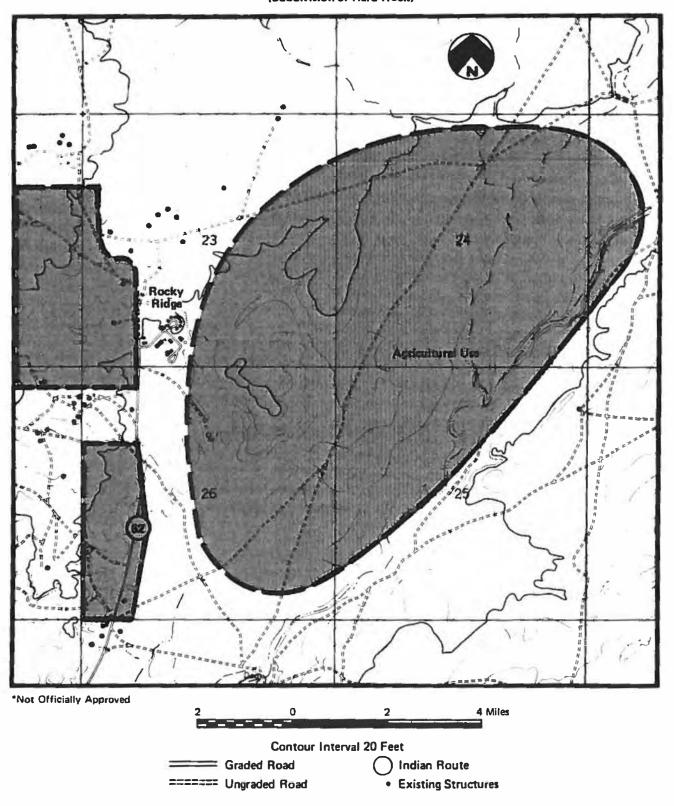


Figure 13
Jeddito Potential Site\*

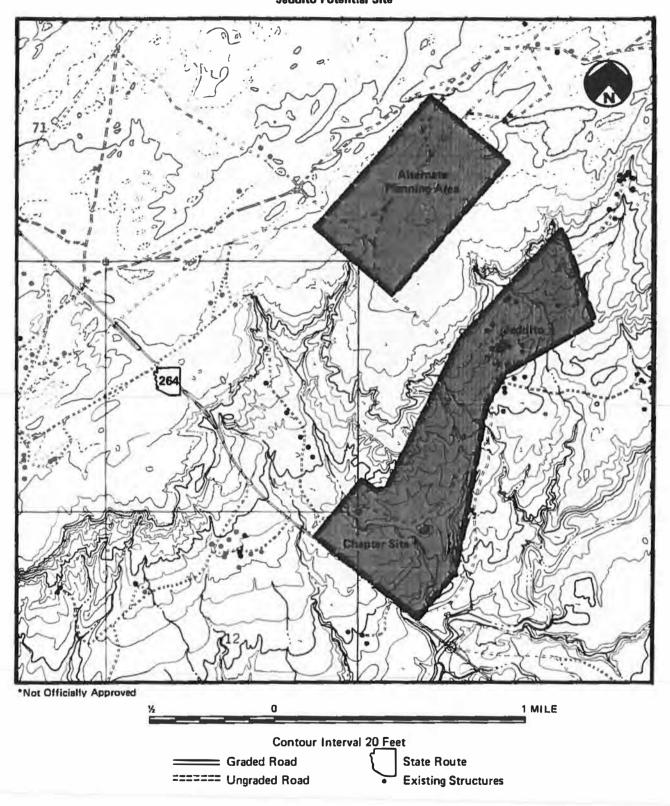


Figure 14

Low Mountain Potential Site\*

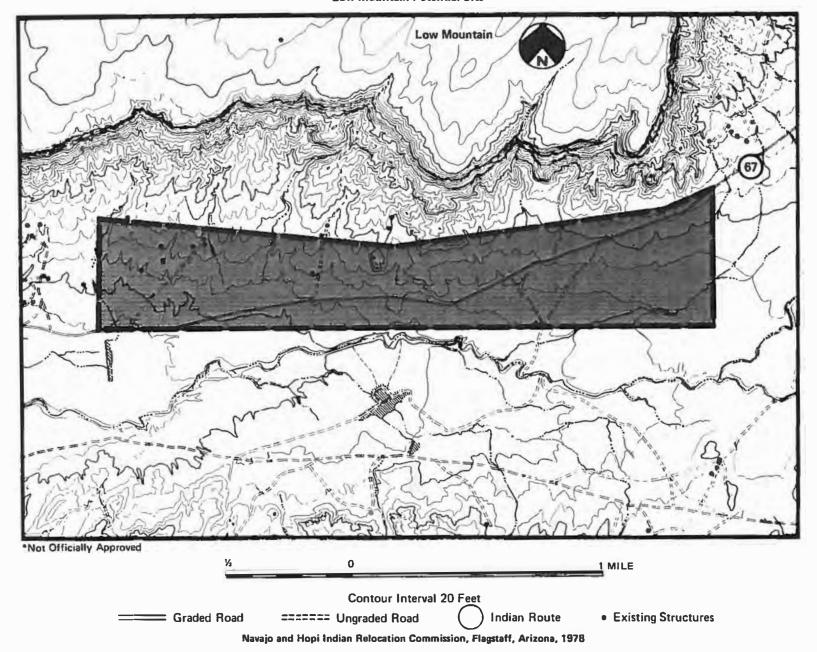


Figure 15
Pinon Potential Site\*

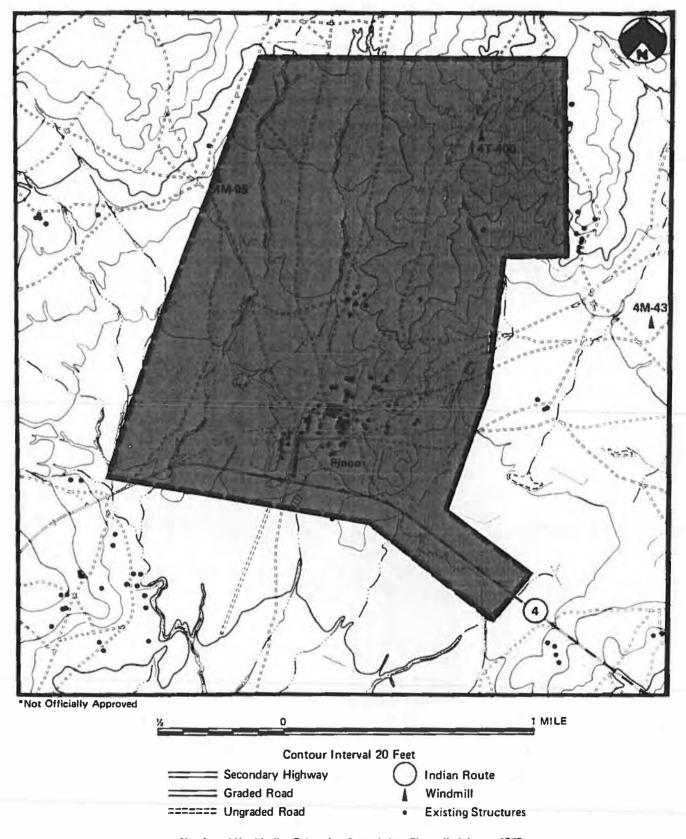
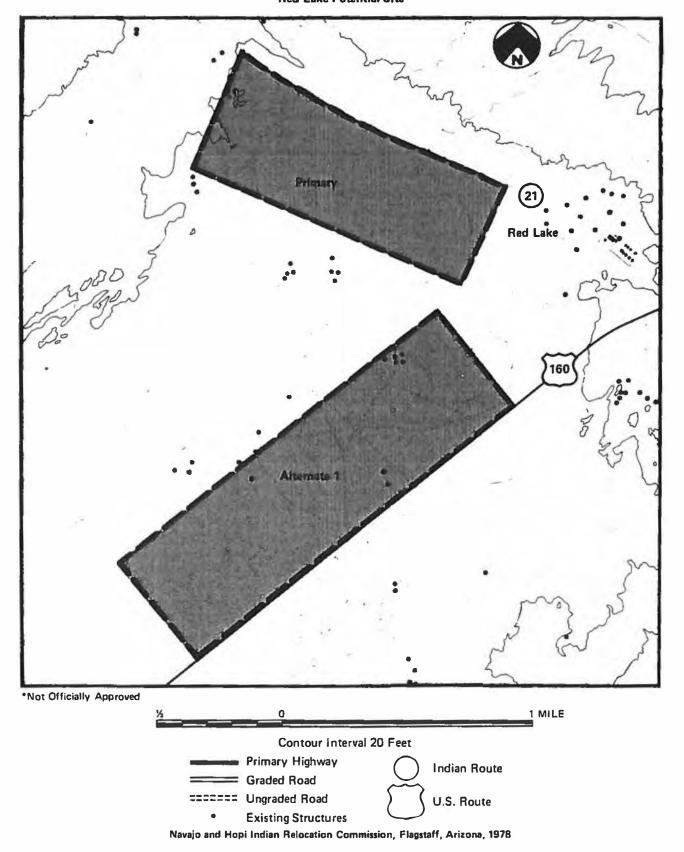


Figure 16
Red Lake Potential Site\*



Alternate 2

Figure 17
Red Lake Alternate Potential Site\*

Contour Interval 20 Feet

Indian Route

**Existing Structures** 

Graded Road

====== Ungraded Road

1 MILE

\*Not Officially Approved

Figure 18
Shonto Potential Site\*

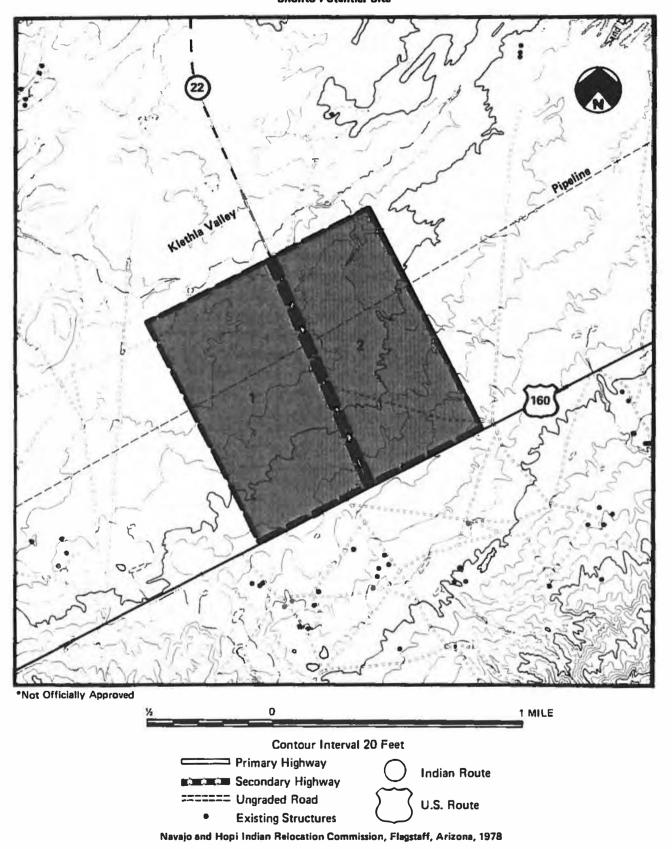


Figure 19
Teesto Potential Site\*

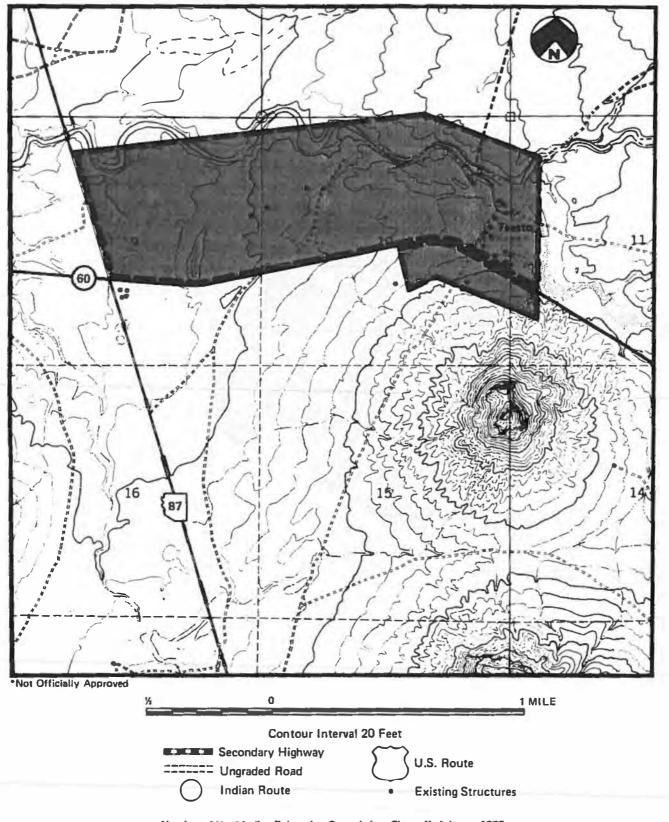
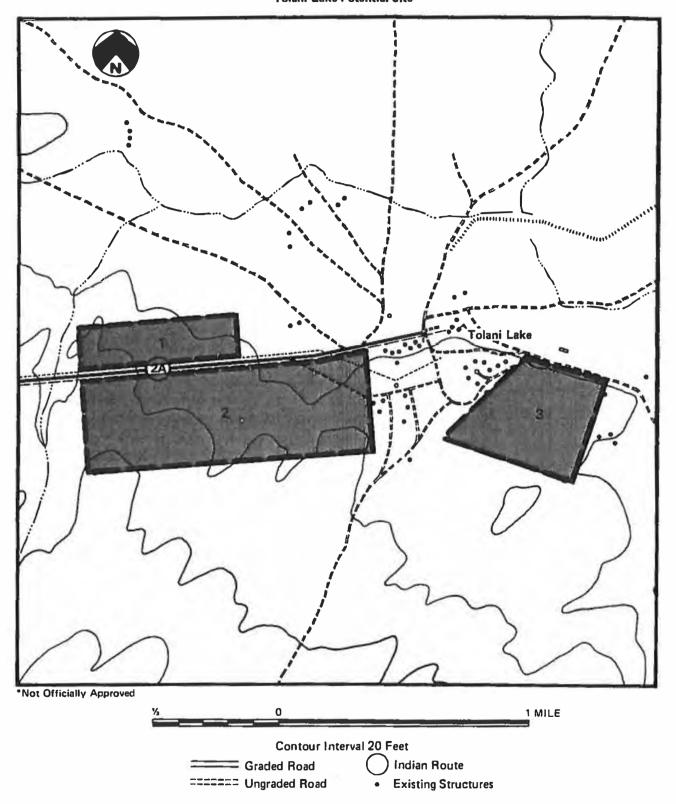


Figure 20
Tolani Lake Potential Site\*



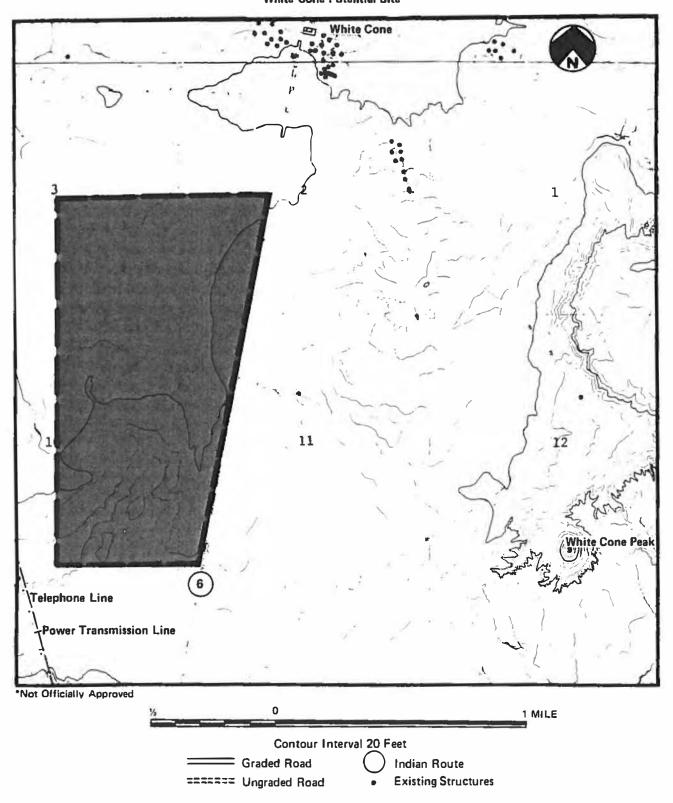
\*Not Officially Approved 1 MILE Contour Interval 20 Feet

Figure 21
Sand Springs Potential Site\*

====== Ungraded Road

**Existing Structures** 

Figure 22
White Cone Potential Site\*



Hopi Indian Reservation Navajo Indian Reservation Yellow Hair Windmill \*Not Officially Approved 1 MILE Contour Interval 20 Feet ====== Ungraded Road

Figure 23
White Cone Alternate Potential Site\*

**Existing Structures** 

development in areas where groups of people live has resulted in a "growth center strategy," which is evident in the Tribal planning work.

The Commission perceives the growth center strategy of the Navajo Tribe as another potentially realistic solution to the problem of site identification for relocatees. The impact of relocatees upon potential growth centers, if properly planned for, may constitute an asset to community development in several ways. Close cooperation between the Commission and Tribal leaders could create joint-venture planning for community development in those areas on the reservations which relocatees may choose.

The magnitude of the relocation project creates a situation in which the resources of many agencies may be brought into sharp focus upon a particular "host" community. In this context, the advent of relocation may well serve as a stimulus for assisting in the development of community infra-structures on the reservation. The Commission has included sites which have been selected as growth centers in the Tribal planning process. The sites identified fall into two general categories, major and secondary growth centers, as delineated in the planning document for 1978 and 1979, Navajo Overall Economic Development and Planning:

# Navajo Nation Growth Center Strategy

An additional expression of Navajo Nation economic development goals is contained in the Growth Center Strategy first articulated in the 1974 OEDP. Basically the Growth Center Strategy identifies a group of major and secondary growth centers in the Navajo Nation which are to receive preference in the allocation of Navajo development resources.

The Tribe is pursuing a growth center strategy in order to realize the economic benefits of aggregation. Infra-structure costs associated with developments in those areas are less, and business developments have access to fair-sized markets. While the Tribe realizes the "rural" amenities must be provided for small and isolated communities, the major portion of Tribal investment is directed at development of the growth centers.

Among the major growth centers, the centers in the interior of the reservation are distinguished. Relative emphasis must be placed on developing the interior growth centers so that Navajo economic activity will eventually be centered within the boundaries of the Navajo Nation. Products and services now provided from Phoenix, Albuquerque, Salt Lake City, and the reservation bordertowns need to be developed in the interior growth centers.

Interior growth centers have the greatest potential as Navajo Nation commercial centers. A major advantage over periphery growth centers is the relative accessibility of the interior centers to most parts of the Navajo Nation. A further consideration is that commercial centers in the interior of the reservation would keep Navajo dollars circulating in the Navajo Nation. Periphery growth centers, such as Window Rock and Shiprock, have a tendency to "leak" Navajo money to off-reservation centers such as Farmington, Gallup, and Albuquerque.

The major and secondary Navajo Nation growth centers are described below. Interior growth centers are noted . . . descriptions of the growth centers are found in the 1978 OEDP.

#### **Major Growth Centers**

#### Window Rock/Fort Defiance:

For planning purposes, because of the interrelationships between them, these communities form one growth center whose primary function is light manufacturing and the provision of government services to the Navajo people.

#### Navajo:

Regionally, somewhat of an extension of Window Rock/Fort Defiance in terms of home-work commuting, Navajo has its own commercial and recreational facilities. These facilities were set up to serve the growing Navajo timber industry and should continue to grow as linkages so that industry proliferates.

# Chinle/Many Farms:

At the heart of the Reservation, Chinle is seen as becoming the commercial center of the Reservation. Presently, it serves as the administrative headquarters for the central portion of the Reservation. Many Farms, the site of a major farming project and large Bureau of Indian Affairs boarding school, obtains most of its services from Chinle. Chinle is an Interior Growth Center.

#### Shiprock:

Shiprock, presently, holds much of the hope for the successful industrial development of the Navajo Nation. It also serves as an administrative center. Shiprock and vicinity, the site of a large Tribal industrial facility, is expected to absorb a significant part of the growth impact of the Navajo Indian Irrigation Project and the nearby energy related developments.

# Kayenta:

Located on the "Navajo Trail" (Highway 160) and near Monument Valley, Kayenta holds great promise for the development of major tourism facilities. Its present growth is primarily aimed at providing services to tourists. Kayenta is an Interior Growth Center.

#### Crownpoint:

The capital of the Checkerboard Eastern Navajo Agency, Crownpoint is located near major uranium deposits.

# Tuba City:

The capital of western-most, Tuba City Agency, Tuba City is expected to receive massive influxes of private and federal dollars to develop economic alternatives for displaced residents of the disputed Navajo-Hopi lands. (The 1934 Land Dispute may impact upon the possibility of Tuba City serving as a viable relocation site.)

#### Secondary Growth Center

# Leupp:

Because of its locational advantages—it lies near the Santa Fe Railroad, Interstate 40, and western markets—Leupp is seen as having extremely good potential for industrial growth.

#### Ganado:

The home of the College of Ganado and the Sage Memorial Hospital, Ganado is a growing community with, however, only marginal economic significance to the economy of the Reservation as a whole.

#### Traile:

Tsaile is the site of the new Navajo Community College which serves, as does the College of Ganado, the higher education and training needs of the Navajo Nation. Tsaile Lake also represents potential for recreation and commercial development.

#### Tohatchi:

The El Paso Natural Gas Company's compressor station, the industrial facilities nearby at Mexican Springs, and the large boarding school provide opportunities for growth in this community.

# Ojo Amarillo:

This new town, being built to provide residential and commercial services for the Navajo Indian Irrigation Project and the surrounding rural community, could also complement developments on the large coal leases adjacent to this area.

#### Dilcon:

Dilcon is an accessible location for the small communities in the south-west portion of the Navajo Nation. There is a boarding school located here, and some small business development is expected. The Tribe has endorsed Dilcon as the site for the proposed Indian Health Service hospital to serve this area of the reservation. BIA highway construction will soon situate Dilcon midway on a major on-reservation thoroughfare linking Window Rock and Leupp.

Figure 24 identifies the major and secondary growth centers on the reservation.

#### 3. THE NAVAJO INDIAN IRRIGATION PROJECT

The Navajo Indian Irrigation Project (NIIP), although not a community, does hold significant potential for relocation.

Congressional legislation in 1962 authorized the Navajo Indian Irrigation Project to provide irrigation to 110,630 Navajo-owned acres south and east of Shiprock, New Mexico. The irrigable lands are divided into 11 blocks of approximately 10,000 farming acres each. Project lands lie in both the Shiprock and Eastern Navajo agency and partially off reservation.

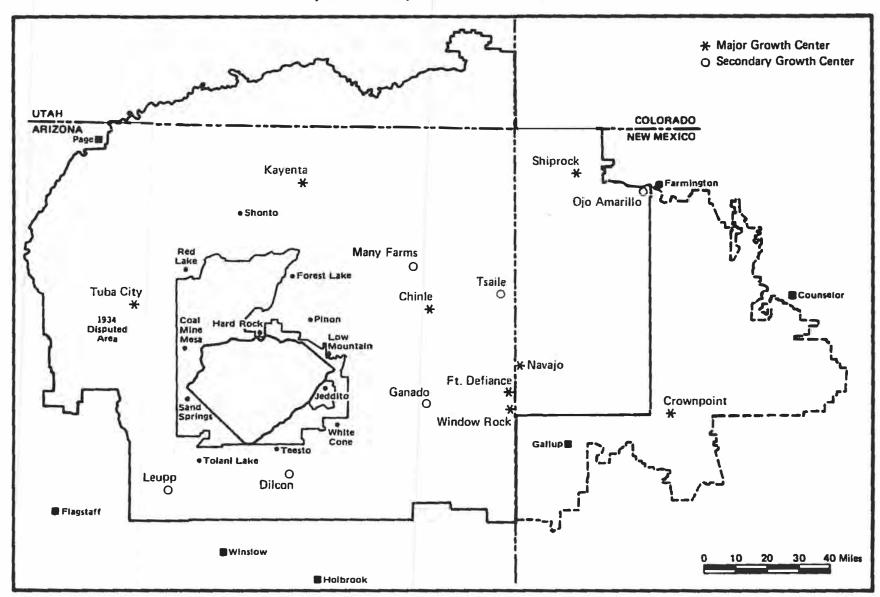
The farm lands are to be sprinkler irrigated. Water for the project is to be derived from an annual legislated allocation of up to 508,000 acre feet, impounded behind Navajo Dam. The U.S. Bureau of Reclamation has planned and is constructing a complex system of gravity-fed canals, tunnels and siphons to transport and distribute the water from Navajo Reservoir to and within the project fields.

On May 1967 the Navajo Tribal Council established the Navajo Agricultural Products Industry (NAPI) to operate the farm and to develop related agri-business. Agri-businesses planned and anticipated include a vegetable cannery and packing plant; fertilizer plants; greenhouses; feed and seed processing facilities; beverage plants; wool scouring facilities; and, a leather tannery. Navajo Agricultural Products Industry proposes a community to serve a total population of 8,000 within the project area. The Bureau of Indian Affairs will construct more than 440 miles of paved roads for the project.

When the project is fully developed, it is anticipated approximately 2,150 jobs would be created in the basic sectors of agriculture, manufacturing and contract construction. The first water flowed to Block 1 in April, 1976. Subsequent blocks have been brought into cultivation each year thereafter. In 1980 four Blocks were under cultivation.

Figure 24

Major and Secondary On-Reservation Growth Centers



The Commission has met with project board members to discuss the relocation program. The board made it very clear that the magnitude of the agricultural project required the most sophisticated corporate agricultural approaches. The board also indicated the project did not permit consideration of utilizing lands or resources to accommodate traditional agri-grazing or small farm plots.

Notwithstanding, the anticipated development holds employment potential for families who must move, and housing sites may be available.

Figure 25 identifies the general location of the Navajo Indian Irrigation Project.

#### 4. OFF-RESERVATION SITES

The "border communities" and major economic centers on the periphery of the reservation have always had a unique relationship with both tribes. The option of relocating to an off-reservation community is a viable choice for some of the families. The selection of an off-reservation site, however, requires careful consideration of other factors.

Moving off-reservation carries with it the assumption of many new responsibilities. Despite this factor, off-reservation sites will be selected by individual families. In many instances this already has been done by the families who are temporarily away from their residences in the former Joint Use Area. This preference has been expressed by approximately 40 percent of the clients who have filed applications with the Commission.

Relocatees, in principle and practice, have the option to move to any location within the Continental United States, Alaska, and Hawaii. At present, the relocation farthest away from the project area is Ironwood, Michigan, a distance of approximately 2,050 miles.

Six "border communities" have been cited with recurring frequency by relocatees as their choice for off-reservation relocation. These communities are Page, Flagstaff, Winslow, and Holbrook, Arizona; and Gallup and Farmington, New Mexico. Figure 26 shows the major off-reservation border communities and their relationship to the existing reservation.

Ute Mountain Indian Reservation

San Juan County

Ute Mountain Indian Reservation

Shiprock

Farmington

Reservation

San Juan County

Aztec

Farmington

Reservation

644

Aztec

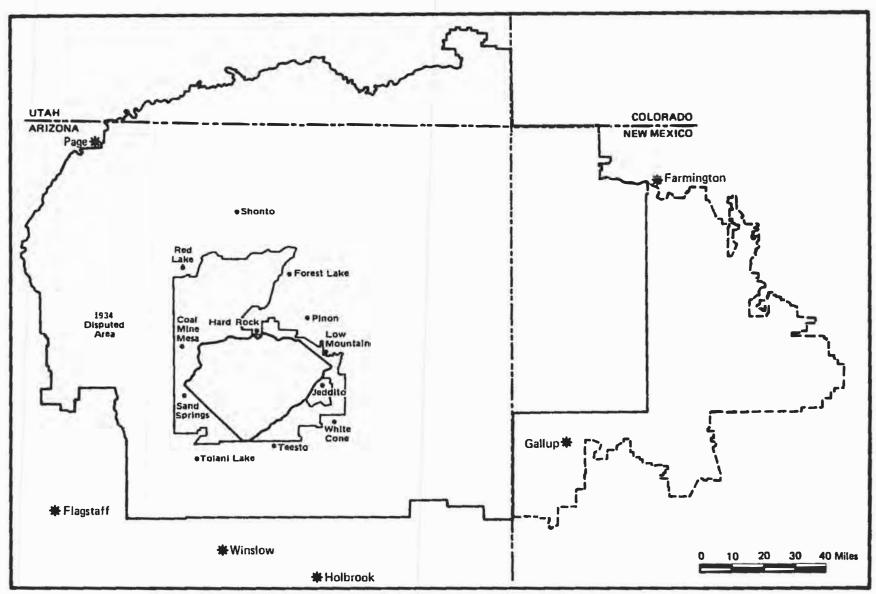
Farmington

Reservation

Figure 25

Navajo Indian Irrigation Project.

Figure 26
Major Off-Reservation Border Communities



# Replacement Housing

Public Law 93-531, as amended, 25 USC 640-d12(c)(4), directs the Commission to:

assure that housing and related community facilities and services, such as water, sewers, roads, schools, and health facilities, for such households shall be available at their relocation sites.

#### A. REPLACEMENT HOME

#### 1. BENEFITS

Replacement home benefits are addressed in 25USC 640d-14(b)(2). The Act provided for a replacement home benefit of \$17,000 for a household of three persons or less, and \$25,000 for a household of four persons or more. The Commission may annually review this benefit to reflect the changes in housing development and construction costs. This is done in consultation with the Secretary of Housing and Urban Development. Table 1 illustrates the changes made in the replacement home benefit since the start of the relocation program.

Originally \$31.5 million for housing benefits was authorized on December 22, 1974. As the table indicates, inflation has constantly pressed the cost of housing ever higher. As a result, the Commission has already expended \$21.7 million of the original \$31.5 million and, as it has continuously advised Congress, additional authorization for housing benefits must be sought for Fiscal Year 1982.

#### 2. QUALITY STANDARDS

The Commission is directed by 25 USC 640d-14(b)(2) to provide replacement dwellings which are decent, safe and sanitary. In fulfilling this responsibility, the Commission has developed standards requiring that all design and construction be performed in accordance with the Uniform Building Code; the National Electrical Code; the Uniform Mechanical Code; the ICBP Plumbing Code; the Mobile Home Construction and Safety Standards (24 CFR Part 435 effective upon final publication); and Department of Housing and Urban Development Minimum Property Standards. Water storage and septic disposal systems installed by contractors are to be built to Indian Health Service standards. In the event of conflicting standards, the stricter of those will apply. For special circumstances, waiver of these standards may be granted by the Executive Director.

Table 1
Replacement Home Benefit

As of	12-22-74	3-10-77	3-02-78	3-01-79	12-07-79	12-06-80
3 persons or less:	\$17,000	\$21,250	\$22,610	\$26,520	\$38,700	\$44,800
4 persons or more:	25,000	31,250	33,250	39,000	57,000	66,000

The Commission's standards are at least as strict as, if not stricter than, those applied to conventional non-relocation residential construction projects.

#### B. HOUSING AVAILABILITY

Assuring the availability of decent, safe and sanitary housing for relocation is one of the Commission's primary tasks.

The planning and administration of housing programs in the region have been plagued by lack of current information on the quality of housing. In some instances current information is virtually non-existent. No single agency in Arizona or New Mexico maintains comprehensive housing and related population and economic information. Government agencies that do have information unfortunately have not processed material into an inventory and forecast data format. The Commission has tried therefore, to prepare its own assessment of the availability of housing to accommodate families subject to relocation.

#### 1. COMMISSION ASSESSMENT

Housing availability fundamentally represents a "supply and demand" relationship. The "demand" side of the housing market is usually represented by households in an area having the financial resources and the desire to buy new or existing housing units. The Commission's obligation to assure decent, safe and sanitary housing and to provide financing for relocatees establishes its own "demand" side of an equation necessary for a housing market to operate. The Commission's replacement home benefit is reviewed annually to coincide with the current market so that families subject to relocation are not financially penalized by an inflationary housing market.

Relocation housing availability requires an analysis of the regional market to adequately assess the "supply" necessary to meet the "demand" created by the relocation program. Contacts with realtors, builders, and other sources of information indicate that an adequate supply of housing will likely continue to be available for the foreseeable future. However, the potentially fluid character of the housing market requires close monitoring by Commission staff to assure that an adequate number of replacement dwellings are available.

Given the current levels of national and local economic activity and barring a major recession, substantial quantities of relatively priced housing is available or can be produced in the area. In the event the housing market should change rapidly, affecting the availability of replacement homes, the Commission may elect to institute "Last Resort Housing" to assure availability.

The Commission's housing delivery system has been designed to accommodate a variety of options which relocatees exercise. Some relocatees have chosen to act as individual agents in the housing marketplace and assume a greater responsibility for house selection and acquisition. In this instance, as in all others, acquisition of the replacement home is subject to inspection and approval by the Commission, which serves as fiduciary agent for the relocatee.

# 2. CONVENTIONAL HOUSING

# a. Existing Resale

Resale homes on the Navajo and Hopi Reservations are quite rare. However, a home in a government sponsored housing project occasionally may become available. Resales are not considered a primary source of replacement homes on the reservation.

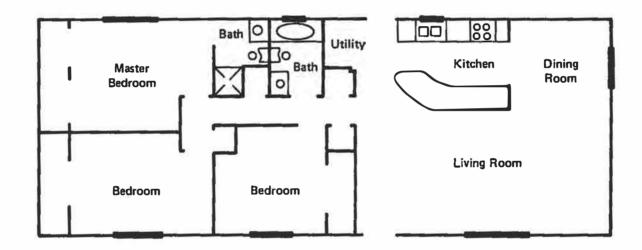
Information obtained by contacting off-reservation realtors in the region indicates resales will be available in sufficient quantity to accommodate 300 to 500 buyers per year.

#### b. Mobile Homes

Mobile homes usually are sold by a local retailer who maintains an inventory on a mobile home sales lot. Quite often they are completely furnished and have options not included in

Figure 27
Mobile Home





other types of housing. The mobile home industry is well established in the region, with retailers in all trading centers in proximity to the reservation. Availability of mobile homes for those electing this option is not a problem.

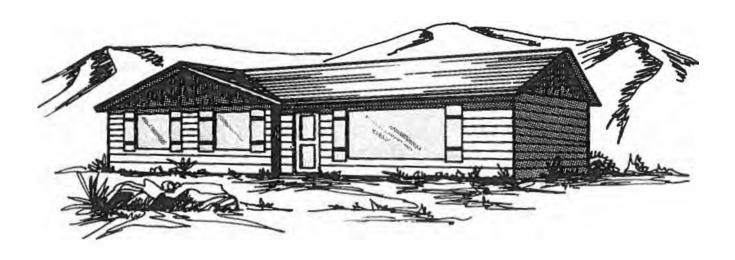
# c. Modular

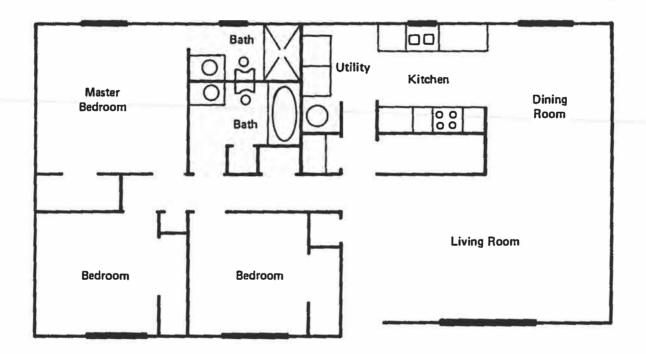
Wood sectionalized houses are produced within the protection and convenience of a factory, then transported to the site and erected quickly. Because of transportation limitations, these houses usually are built in modules usually 12 feet wide and no longer than 56 feet long. The finished house may consist of two or more modules which lend themselves to many different plans.

Modular construction provides considerable latitude for remote site locations. This concept has proven popular on the reservation, primarily because of the very short time involved in achieving occupancy. The inside is usually a plywood panelled veneer or finished sheetrock. The exterior usually consists of wood siding, although in some cases aluminum panel siding is used. Completed modular homes often include extras such as carpeting and appliances.

There are five primary suppliers of modular homes in the region who indicate they can provide in excess of 500 units per year.

Figure 28
Modular Construction



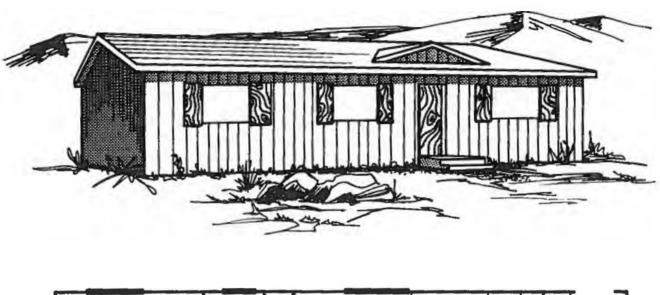


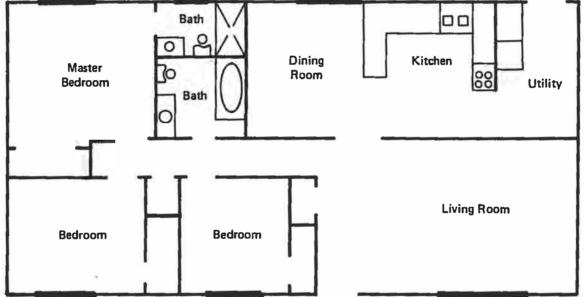
#### d. Wood Frame

This type of construction consists of single wooden members—beams, joists and studs assembled at the building site into a single monolithic frame. Once the frame is assembled, it may be completed in any number of finishes, including plywood, aluminum, plaster board and brick. The flexibility of this system can be used to build almost any plan.

The style of this type of construction is universally accepted. This type of construction is predominant in the non-reservation area of the region. The availability of general contractors is sufficient to meet relocation demands. On the existing reservation, however, there are few general contractors available.

Figure 29
Wood Frame Construction





# e. Concrete Block

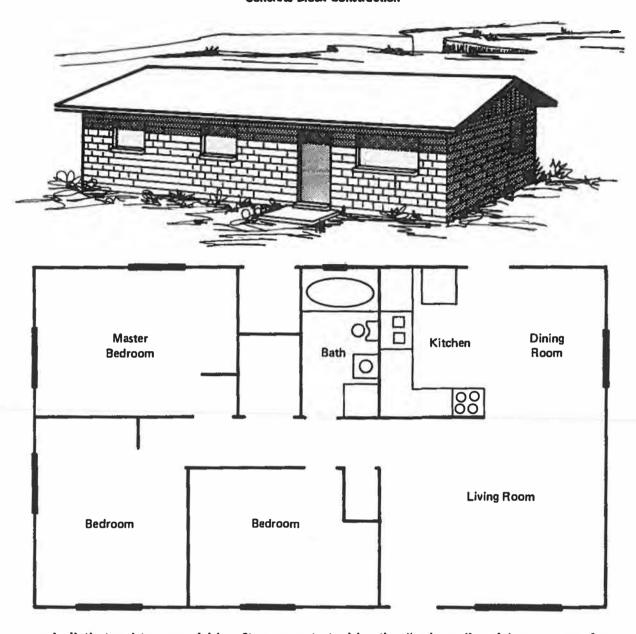
This type of construction is the most conventional of the concrete systems. Concrete, like wood frame, can be utilized in almost any plan. Because general contractors are the primary source of concrete block homes, their availability has the same limitations as conventional wood houses.

# 3. TRADITIONAL HOUSING

# a. Navajo

Traditional housing on the reservation serves the family as a place to live and represents the centerpiece of its sacred world. The "hogan" portrays the harmony between the Navajo

Figure 30
Concrete Block Construction



and all that exists around him. It represents to him the "universe" and is necessary for ceremonial purposes.

Traditional housing is constructed of materials at hand and may be any combination of wood, stone or mud. In recent years, however, "conventional," off-reservation style dwellings have been built with increasing frequency. This has been brought about by a variety of factors which include exposure to conventional housing by off-reservation employment; increase in family size which warrants larger dwellings; advent of community and economic development on-reservation which has included new housing construction; and the advent of Tribal and federally sponsored on-reservation housing programs in remote areas. Many of these homes, however, have been built in the conical or domed configurations of the traditional hogan. A recent study of Navajo Housing Authority tenants indicates . . .

a sizable majority of the people residing on the Navajo Reservation have a desire to live in modern houses. While there is a strong cultural attraction to

the traditional hogan because of its warmth, and because of its cozy atmosphere, the people interviewed indicated that the modern conveniences to be found in conventional houses far outweigh the attractions of a hogan.

The Commission has noted that the recent trend is for Navajo families to acquire "conventional" houses and to construct traditional hogans for ceremonial purposes in close proximity to the new residences. Commission rules allow Navajo families who wish to dismantle a hogan to rassemble it at the new site.

# b. Hopi

Traditional homes on the Hopi Reservation are one or two story structures of native stone, usually with two rooms with flat roofs supported by large wooden pine beams. Many of the newer stone or cinder block dwellings have been constructed to compare equally with homes in any town in the southwest. Some families still adhere to the traditional life style and choose to do without modern conveniences.

The lack of adequate housing has a significant bearing on the economic growth potential of the Tribe. The Tribal Housing Authority is organized in such a manner that the reservation qualifies for various types of housing program funding which are available through the Federal Department of Housing and Urban Development.

#### 4. FEDERALLY SPONSORED HOUSING

# a. Navajo Programs

There are currently two federally funded housing programs on the Navajo Reservation. These are the Navajo Housing Authority and the Bureau of Indian Affairs Home Improvement Program.

# (1) Navajo Housing Authority

The major housing program is the Navajo Housing Authority. This program was established under the Department of Housing and Urban Development's Public Housing Program in the late 1960's. Housing assistance through the program depends upon cooperation from other federal agencies. In particular the Bureau of Indian Affairs must assist in site selection and construction of roads, and the Indian Health Service for water and sewage services.

The Navajo Housing Authority provides the Navajo Reservation with two types of housing: Public Rentals and Mutual Help Home ownership.

## (a) Public Rental

Public Rentals are financed by the Navajo Housing Authority through the sale of notes or bonds to private investors. The Department of Housing and Urban Development pays annual contributions in an amount sufficient to assure payment of the notes and bonds which allows them to be sold at relatively low interest rates.

After the housing is completed, it is leased to Navajo families or individuals at a cost not to exceed 25 percent of their gross income. This cost includes the cost of utilities. There are currently 1,180 Public Rental units on the Navajo Reservation.

# (b) Mutual Help Housing

This program, which began in 1962, provides an individual with the opportunity for

home ownership while at the same time involves the owner in the building and maintenance of a home.

Each participant is required to contribute at least \$1,500 toward the construction of the home. This contribution may be in the form of land, work, materials, equipment, or cash. It is also acceptable for the Tribe to make contribution on behalf of the individual.

After construction is completed, the home buyer occupies the unit under a lease-purchase contract and is responsible for the maintenance of the house. The owner must also pay utility costs and make monthly payments to the Navajo Housing Authority. The monthly payments made by the owner range between 15 and 25 percent of their adjusted family income. The participant is assured of acquiring 'itle after a 25-year period, but this can occur sooner if the family's income increases, and higher payments are made.

Public Law 93-531, 25 USC 640d-14(d)(1), expressly provides that families subject to relocation may partitipate:

in a mutual help housing or other homeownership opportunity project undertaken under the United States Housing Act of 1937, (50 STAT. 888) as amended, (42 USC 1401) or in any other federally assisted housing program now or here after established.

For this reason, actual projects of this nature are included as potential sites which are available to accommodate relocatees.

Currently, there are a 1,108 Mutal Help Housing units on the Navajo Reservation. Figure 31 shows the locations of Navajo Housing Authority federally sponsored housing on the reservation.

# (2) B.I.A. Home Improvement Program

Another source of federally funded housing assistance on the Navajo Reservation is through the BIA's Home Improvement Program. In addition to providing money for home improvements for low income families, this program provides up to \$30,000 for new construction through a grant system.

Grant applications are submitted to the Bureau of Indian Affairs Area Office and awards are made by the director of that office on the basis of family income and substandard housing conditions. Labor for construction of new housing is provided by the Office of Navajo Economic Opportunity and Comprehensive Employment Training Act employees. This system is designed to provide training in the building trades for unemployed Navajo.

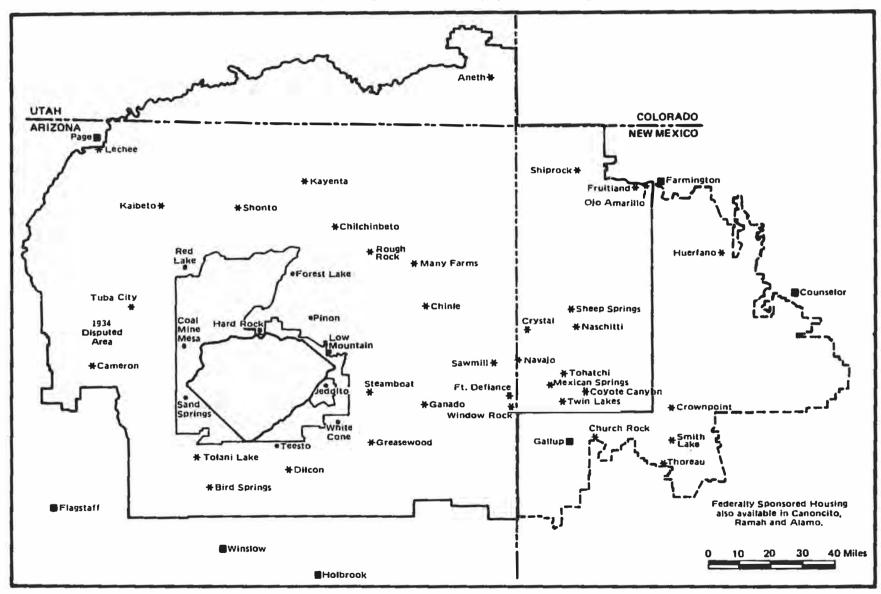
As of October 1980, the Navajo Tribe has taken over the administration of this program. There has been no new construction since then, but for a period of 10 years prior to that time, 1,773 constructions were completed.

### b. Other Programs

In addition to these programs, low interest loans can be obtained for new construction through the Veterans' Administration, Federal Housing Administration, and Farmers Home Administration programs. A private, non-profit organization, the Fort Defiance Housing Corporation, has assumed a position of intermediary between the Federal Government and the individual on the reservation in obtaining these loans.

This corporation identifies reservation communities that are both in need of, and interested in, obtaining low interest housing units. The Fort Defiance Housing Corporation then obtains homesite leases from the Navajo Tribe and secures a loan either directly from the Federal Housing Authority or from a private financing company (in which case the loan would be insured by the Federal Housing Authority). After construction houses are made available to individuals who qualify for loans through one of the low interest programs. To date, the Fort Defiance Housing Corporation has completed 137 home ownership units and 146 rental units on the reservation.

Figure 31
Navajo Housing Authority Federally Sponsored Housing



#### C. INNOVATIVE HOUSING DELIVERY

Needs of the relocatees coupled with overall housing shortages on the reservation serve as a catalyst for exploring innovative housing delivery systems.

The Commission perceives housing delivery as a short-term economic development objective which could help create employment and serve to support the long-range objectives of the Tribe. For this reason, the Commission has explored the following delivery systems which will undergo further study and possibly be a topic for demonstration activities.

# 1. COMMISSION ACQUIRED HOUSING

The Commission's experience in the voluntary relocation program served to point out that many families needed additional assistance in the acquisition of replacement dwellings. As is common in our society, many families experienced "buyers remorse" after acquisition. Although acquisitions are subject to inspection to assure conformity with established criteria, enforcement of building codes on the reservation has created some problems.

The Commission is exploring the possibility of designing and constructing a model home which could incorporate features deemed more suitable to meet relocatees' needs. These features are: durability of construction for rural and remote settings, energy efficiency and sanitation and safety. This home could be used to demonstrate to relocatees such things as energy conservation and desirable housing construction methods and could serve as an educational center for counseling the relocatees on the every day use of the home. Working drawings and specifications for the home are in the process of development.

#### 2. ENERGY CONSERVATION

# a. Current Programs

Builders who had ideas for energy efficient dwelling-structures were encouraged to make presentations at Commission meetings. During Program Year 1980 Commission staff worked with the Indian Health Service, Phoenix Area Office, and the Department of Energy to obtain a Department of Energy grant for photovoltaic systems for relocatee homes. In January 1980 Department of Energy funds were made available for a solar photovoltaic project to benefit the Hopi relocatees, a majority of whom chose replacement homesites in areas without electrical service. Each participating family obtained an electrical system capable of lighting the house with five fluorescent lights, operating a five cubic foot refrigerator, and pumping water from an underground cistern. The families received operating instructions and simple maintenance procedures.

In April 1980 Commission staff met with the Indian Health Service and nominated 19 Navajo families, relocating to areas that did not have electrical service, for immediate inclusion in a Department of Energy solar photovoltaic demonstration project. Commission staff has also nominated 56 families to be programmed for individual solar photovoltaic systems during Fiscal Year 1981 and 1982.

#### b. SOLERAS and Other Programs

The Commission is cognizant of the possibility of providing electrical energy to remote sites other than by conventional transmission lines. As noted elsewhere in this Report, the Commission has already executed contracts for the installation of solar photovoltaic units on both Hopi and Navajo residences. Such units will provide some of the power needs for residents. Perhaps holding promise as the new lands are obtained and developed is the research being conducted by the Saudi Arabian-United States Program in the Field of Solar Energy (SOLERAS). One project deals with the provision of electric power to villages remote from an electric power grid. The U.S. Agency for International Development is studing efforts with a similar connotation for other nations.

#### 3. RAMMED EARTH

Very durable homes have been constructed elsewhere in the world using available native materials. Rammed earth is one manifestation of this approach. An additional advantage of this method is that it is "labor intensive," providing the opportunity for considerable participation by the homeowner, friends and relatives. The Commission has tentatively explored this approach. The Commission believes this approach may have possibilities for this project.

#### 4. RAMMED EARTH BLOCK

The CINVA ram developed for construction of rammed earth blocks has received considerable attention in undeveloped areas. This form of construction was used with some success on the Zuni Reservation in New Mexico. Utilization of native building materials in a "block" format is highlighted by this approach. Native cements, clays and by-products of other industries may provide further opportunities for innovative housing delivery. This method or some modification of it will be further explored by the Commission.

#### 5. CONCRETE PANEL CONSTRUCTION

Off-site or on-site pre-cast concrete panels have been used in many areas for rapid construction. Utility functions frequently are cast into the panels. Openings may be cut on lot after casting. Panels frequently are used only for floors, side walls and ceilings, with other materials used to complete the construction.

#### 6. STEEL FRAME CONSTRUCTION

Steel frames are being used in the prefabrication of schools and other large buildings, allowing almost any material to be used for walls. The welded steel frame is light-weight and durable. Several companies have become preoccupied, however, with using all steel components, thereby ignoring the possibilities available with the mixture of materials. Because joints are welded, and this can be done best in the plant, most steel frame construction is done in the form of modules which are shipped to the site and joined together. They are almost never used singly, although several modules may be joined together to form a separate unit. In any case, all of the systems now being used require skilled labor.

# 7. STEEL PANEL CONSTRUCTION

This is a rare form of construction, but shows a lot of potential. Steel panels may be stamped easily, and can be sandwiched together with insulation to form wall panels in a flexible system. This has also been done with aluminum panels.

#### 8. PREFABRICATION

This type of construction is commonly referred to as prefab housing. In this system, panels are assembled in jigs at a factory and then transported flat to the building site for assembly. Prefabricated trusses and roof panels are used.

Panelized construction has the advantage of being easy to assemble and economical to transport. In this sense, some of the advantages of conventional and factory construction are obtained. The use of prefabrication jigs allows the employment of workers who can be trained effectively on the job.

Prefabrication is often used on site with self-help labor in areas where the construction of a sufficient number of houses justifies this approach.

In either event work crews are used to:

- 1) Prepare the site, foundation and plumbing;
- 2) Pour and finish foundation and floor slabs;
- 3) Prefabricate wall panels and roof trusses;
- 4) Assemble the parts; and
- 5) Finish the work.

# Community Facilities and Services

Public Law 93-531, as amended, 25 USC 640d-12(c)(4), directs the Commission to:

Assure that housing and related community facilities and services, such as water, sewers, roads, schools, and health facilities, for such households shall be available at their relocation sites.

So that options would be available to relocatees in their own planning, the Commission inventoried existing community facilities and services, both on and off-reservation. This inventory also provides a basis to plan for facilities and services not existing in areas chosen by relocatees. Development concepts appropriate to each type of relocation site, rural versus city, have been designed. Development concepts are prepared in general planning terms prior to final land selection and acquisition. After acquisition of a particular area is accomplished, the finite planning required for development activities will be prepared. Cluster housing must have community facilities and services available.

#### A. ON-RESERVATION

The Commission has surveyed facilities and services on both the Navajo and Hopi Reservations.

Generally speaking, residents on each reservation have available to them a "modicum" of facilities and services to meet their needs. The results of the information obtained do in fact indicate that the former Joint Use Area in relation to the whole of either reservation is indeed "impoverished."

The Commission has, therefore, identified facilities and services on-reservation as a category where the matching funds provision of the discretionary funding program may be utilized to good advantage.

Specifically, the Commission has determined that existing facilities and services should be utilized by relocatees to the maximum extent possible. Facilities and services where necessary should strengthen their availability, accessibility, and responsiveness to families subject to relocation.

#### 1. NAVAJO RESERVATION

The Navajo Tribe, as with all tribes, has not been able with its limited resources to obtain development of adequate community facilities and services on its reservation.

Most development has taken place in the identified major and secondary growth centers.

#### a. Education

The Tribe has established a goal of achieving a local elementary and secondary school for each community. Educational facilities on the reservation are operated under several different auspices.

The various schools do share one thing in common, difficult roads in inclement weather.

When the snow and mud arrives, the schools are faced with the problem of transporting students over impassable roads. The road conditions either prevent students from attending classes or require traveling over dangerous roads. The bad road conditions also add to the transportation maintenance costs of the school systems. Additionally, the inadequate road system increases the amount of time the students are on the buses; in some cases, students may spend 2—3 hours on the bus each day. These above-mentioned conditions tax an education system (by nature bilingual) that is just beginning to get on its feet. School bus routes still have to be identified. Some schools change their routes from year to year.

# (1) BIA Schools

1.	Navajo Mountain	19.	Beclabito	37.	Lukachukai
2.	Aneth	<b>20</b> .	Shiprock	38.	Cove
3.	Red Mesa	21.	Nenahnezad	39.	Red Rock
4.	Kayenta	<b>22</b> .	Kaibeto	40.	Sanostee
5.	Tees Nos Pos	23.	Shonto	41.	Red Lake
6.	Dennehotso	24.	Chilchinbito	<b>42</b> .	Many Farms
7.	Chinle	<b>25.</b>	Tohatchi	43.	Leupp
8.	Toadlena	<b>26</b> .	Standing Rock	44.	Seba Dalkai
9.	Huerfano	<b>27</b> .	Pueblo Pintado	45.	Dilcon
10.	Tuba City	28.	Torreon	46.	Wide Ruins
11.	Rocky Ridge	<b>29</b> .	Greasewood	<b>47</b> .	Jones Ranch
12.	Pinon	30.	Toyei	48.	Bread Springs
13.	Low Mountain	31.	Pine Springs	49.	Chee Chil Geetho
14.	Cottonwood	<b>32.</b>	Hunters Point	<b>50</b> .	Ft. Wingate
15.	Crystal	33.	Gallup	<b>51</b> .	Baca
16.	Lake Valley	34.	Crownpoint	<b>52.</b>	Winslow
17.	Ojo Encino	35.	Mariano Lake	<b>53</b> .	Holbrook
18.	Nazlini	36.	Whitehorse		

At these various locations are found the following types of schools: boarding schools, peripheral dormitory schools, reservation dormitory school and day schools.

# (2) Mission and Church Schools

- 1. Berean Mission School Bloomfield, New Mexico
- 2. Bible Baptist Shepherd School Farmington, New Mexico
- 3. Brethren-In-Christ Mission School Bloomfield, New Mexico
- 4. Brethren Navajo Mission School Counselor, New Mexico
- 5. Cathedral Elementary School Gallup, New Mexico
- 6. Immanuel Mission School Teec Nos Pos, Arizona
- 7. La Vida Mission School Farmington, New Mexico
- 8. Navajo Bible Academy School Oraibi, Arizona
- 9. Montezuma School
- 10. Rehoboth Mission School Rehoboth, New Mexico
- 11. Rock Point Mission School Rock Point, Arizona

- 12. Rock Springs Navajo Mission School Rock Springs, Arizona
- 13. Sacred Heart Cathedral School Farmington, New Mexico
- 14. Seventh-Day-Adventist Mission School Holbrook, Arizona
- 15. Southwest Indian Mission School Glendale, Arizona
- 16. St. Francis School
  Gallup, New Mexico
- 17. Twin Wells Indian School Holbrook, Arizona
- 18. St. Michaels
  Window Rock, Arizona
- 19. Zuni Zuni, New Mexico
- 20. Lake Valley New Mexico
- 21. Navajo Methodist Mission Farmington, New Mexico
- 22. Immanual Mission
  Sweetwater, Arizona

# (3) Public Schools

1.	Page	11.	Many Farms	21.	Tohatchi
2.	Kayenta	12.	Chinle	22.	Crownpoint
3.	Red Mesa	13.	Blanco	23.	Flagstaff
4.	Shiprock	14.	Lybrooks	24.	Leupp
5.	Kirkland	15.	Keams Canyon	<b>25</b> .	Winslow
6.	Farmington	16.	Navajo Station	26.	Holbrook
7.	Aztec	17.	Ganado	27.	Sanders
8.	Bloomfield	18.	Navajo	28.	Gallup
9.	Tuba City	19.	Ft. Defiance	29.	Zuni
10.	Round Rock	<b>20</b> .	Window Rock	30.	Thoreau

The public schools on the Navajo Reservation have had to make extensive use of temporary school facilities. Temporary school facilities are relatively inexpensive, prefabricated, generally relocatable, and usually substandard. The extent to which temporary facilities are used is shown in the following table:

District	Classrooms	Staff Housing
Chinle Elementary	47% temporary	46% temporary
Puerco Elementary	10% temporary	75% temporary
Tuba City Elementary	40% temporary	69% temporary
Window Rock Elementary	50% temporary	40% temporary
Tuba City High School	33% temporary	50% temporary

The use of temporary facilities is extensive in public schools.

# (4) Community (Contract) Schools

- 1) Borrego Pass
- 2) Rough Rock
- 3) Rock Point
- 4) Ramah

#### (5) Tribal (Headstart and Homestart Programs)

There are 102 Headstart school sites on the Navajo Reservation and Homestart programs at Tuba City Agency and Eastern Agency.

# (6) Other

In addition to those listed, two institutions of higher learning are on the reservation: College of Ganado and Navajo Community College at Tsaile.

# b. Health Services

On the Navajo Reservation, the primary health care providers are: Public Health Service, Bureau of Indian Affairs, Navajo Tribe and other organizations through contract arrangements. Indian Health Service hospitals provide the major medical and clinical health care throughout the reservation and the second largest provider is the Tribe's Community Health Representative Program (CHR) which primarily provides paramedical care as well as community health education.

Hospitals are becoming overcrowded, and often are understaffed and not able to provide all medical treatment. Patients are referred to the Gallup Indian Medical Center or Albuquerque Indian Medical Center for specialized surgical and medical treatment.

In the Arizona portion of the reservation, there are hospitals at Tuba City, Kayenta, and Fort Defiance to provide inpatient and outpatient care, public health, preventive health services, and other specialized care. When medical problems are too severe to be handled locally, patients are transported by air to Public Health Service/Indian Health Service hospitals in Gallup, Albuquerque, Phoenix, or other hospitals, through contract medical care services. In addition, there are field clinics which are opened twice a week at several of the small communities in each service unit area. These facilities are still a great distance from the majority of the people and are unable to meet the needs of the ever-increasing population.

Additional services are available through the emergency medical system. A roster of health service facilities follows:

# 1) Chinle Service Unit

Chinle Health Center
Many Farms Health Center
Lukachukai Health Station
Pinon Health Station
Rock Point Health Station
Rough Rock Health Station

# 2) Crownpoint Service Unit

Crownpoint Hospital
Pueblo Pintado Health Station
Rincon Marcus Health Station
Baca

# 3) Fort Defiance Service Unit

Fort Defiance Hospital Toyei Health Center Lower Greasewood Health Center

4) Gallup Service Unit

Tohatchi Health Center Pinedale Health Station

# 5) Kayenta Service Unit

Kayenta Health Center Shonto Health Center Dennehotso Health Station

#### 6) Shiprock Service Unit

Shiprock Hospital
Teec Nos Pos Health Center
Shiprock School Health Center
Sanostee School Health Center
Cove Health Station
Toadlena Health Station

# 7) Tuba City Service Unit

Tuba City Hospital
Tuba City School Health Center
Kaibeto Health Station
Dennehotso Dam Health Station
Red Lake Health Station
Page Health Station

#### 8) Winslow Service Unit

Dilcon Health Center Leupp School Health Center

#### 9) Project Hope

Sage Memorial Hospital Wide Ruins Clinic Ganado Family Clinic

- 10) Utah Co-Op Health Services
  Navajo Mountain Health Station
  Montezuma Creek Health Station
- 11) Monument Valley Hospital

  Monument Valley Hospital

#### c. Water and Sewer

The Indian Health Service estimates that there are over 160 drinking water systems and 100 sewer systems serving the Navajo Tribe. Current and projected construction schedules call for the construction of 20 new systems per year over ten years to meet the needs of the Navajo people.

At the present time, the water supply and waste disposal facilities are operated and maintained by the Navajo Tribal Utility Authority and the Navajo Tribe's Water and Sanitation Department. The Navajo Tribal Utility Authority operates 19 community systems serving an estimated 5,392 families. The Tribe's Water and Sanitation Department operates 25 small community water and sewer systems serving 1,791 families and approximately 3,381 rural wells and springs serving approximately 5,900 families as a source of water to haul to their homes.

In addition, there are two communities which operate their own systems and many privately owned water wells operated by traders, schools, and churches. The Bureau of Indian Affairs operates and maintains the water and sewer systems which serve 53 different BIA school complexes and the housing projects for their employees.

Still, approximately 80 percent of the reservation homes are without a water supply.

Growth of reservation communities has taken place in a rather slow and piecemeal manner. Water systems were often designed and developed to take care of immediate needs rather than providing for projected growth. In some communities, separate water systems were constructed to serve different types of demands causing fragmentation and decentralization. As a result, rapid population growth of job centers placed demands for water that have overtaxed the present systems.

Currently, sewage service problems are widespread and common. Services are limited to the more populated communities and furnished by the Navajo Tribal Utility Authority, Indian Health Service, and the Bureau of Indian Affairs. Some systems are very limited in size and capacity. Again, the systems are being designed and constructed to meet immediate needs without consideration of growth.

Most rural inhabitants isolated from other facilities must haul untreated water from springs and wells. For some families who live in modern houses or mobile trailers, sewage is delivered to septic tanks. Services to clean septic tanks are very difficult to obtain and this frequently causes serious problems.

# d. Social Services

Navajo people receive social welfare assistance from two agencies: 1) the Tribe, under contracts with health and social services departments of the state of Arizona and New Mexico, provides social assistance to many eligible people on the reservation, and 2) the Bureau of Indian Affairs Social Services which primarily provides general welfare assistance, child welfare, family services, and food stamps to eligible recipients under the standard eligibility criteria.

The increase in welfare recipients appears to result from lack of employment and an increase in population growth.

#### e. Transportation

Tribal planning documents report that prior to the 1950's very few all weather roads were on the Navajo reservation. Since 1950 there has been increased construction of roads. Policy

making in the area of road improvements has evolved through road planning committees and the establishment of priorities for roads improvement. Although the overall situation has substantially improved, the reservation still has a minimal percentage of linear miles of surfaced roads per square mile. Mile by mile inventories have been developed, assisting the planning process.

As of November 1975, the reservation had approximately 9,500 miles of all types of roads. Of this total, 1,500 miles are federal, state and county roads, two thirds of which are paved. Seven hundred miles of these paved roads are located in Arizona, 275 miles in New Mexico, and 45 miles in Utah. Less than 6 percent of the remaining 7,600 miles of Bureau of Indian Affairs roads are paved, leaving some 7,125 miles of primitive, substandard roads. Figure 32 shows existing roads on the reservation.

The Atchison, Topeka and Santa Fe rail systems parallels the southern boundaries of the reservation. The only passenger railroad passing through the reservation is AMTRAK Southwest Limited, which stops only at off-reservation "bordertowns" in Gallup, Holbrook, Winslow, and Flagstaff. Santa Fe offers freight service and rail lines for transporting coal exist between Tse Bonita and Gallup, New Mexico; Coal Mine Mesa and the Navajo Generating Station near Page, Arizona; and, Coal Mine Mesa and Cholla Power Plant near Joseph City, Arizona. A proposed rail line might be constructed between Thoreau and Bisti Lake, New Mexico.

The Navajo Aviation Authority was established to upgrade and administer the number of small landing strips on the reservation. Most of these are used by Public Health Service for emergency medical services. None of the air strips have regular commercial services although Window Rock has been considered for this type of service.

At the present time, the Navajo people travel on an insufficient number of all-weather roads which are poorly maintained, roads which are impassable during inclement and rough dry weather, railroads that stop only off the reservation, and airstrips that cannot be utilized during inclement weather. Figure 33 shows major transportation linkages for the area.

#### f. Energy

#### (1) Power Plants

Electrical power is derived from two power plants on the reservation. These are the Four Corners Plant in Fruitland, New Mexico, and the Navajo Generating Plant at Page, Arizona. Both of these plants use coal, mined near Fruitland for the Four Corners Plant and at the Black Mesa Mine for the Navajo Plant. The two facilities are each able to generate approximately two million kilowatt hours.

#### (2) Distribution

Distribution of electricity on the Navajo reservation is administered by the Navajo Tribal Utility Authority which purchases power from these plants through the Navajo Tribe at wholesale prices.

NTUA has two major delivery systems. The first system runs south along the east side of the Chuska Mountains and provides service to the Tohatchi, Twin Lakes area. It then moves west serving Window Rock on north to Wheatfields. The second serves Chinle Wash, and Kayenta on west to Kaibeto, This line also serves Dilkon and Toyei to the south.

NTUA distribution centers are located at Greasewood, south of Ganado, Hunters Point, Tohatchi, and Shiprock.

NTUA receives natural gas from its major east-west pipeline which is north and generally parallel to U.S. 66.

Families not served by NTUA lines use bottled liquid petroleum (LP) gas. Figure 34 shows the Navajo Tribal Utility Authority System.

Arizona Public Service Company (APS) provides electricity to Tuba City and other reservation points that parallel their western transmission line. The Eastern Navajo Area receives electrical service from the Jemez Electric Company in Grants, New Mexico.

U.S. Route
Interstate Highway
State Route
Indian Service Road ..... Gravel and Dirt Road Roads on the Navajo and Hopi Indian Reservation

Figure 32

191

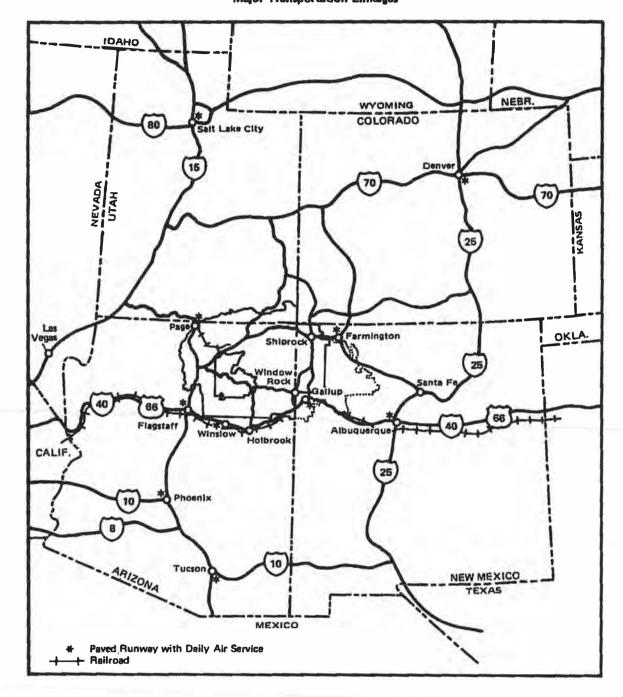
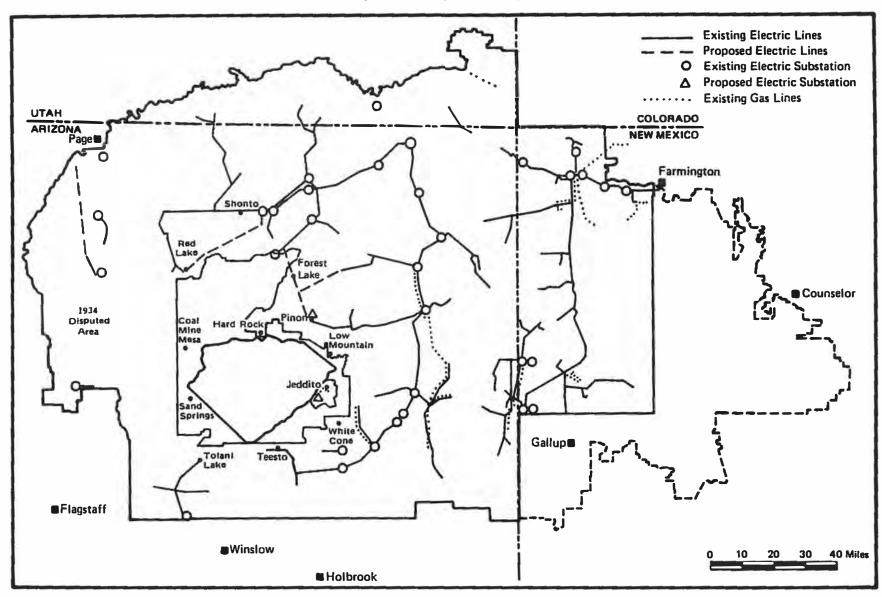


Figure 33
Major Transportation Linkages

Figure 34

Navajo Tribal Utility Authority System



# (3) Increasing Need

The majority of the Navajo families, especially in rural communities, are without electricity. Meanwhile, more and more families are erecting houses and buying mobile trailers increasing the demand for utilities. The cost for powerline extension is enormous, and funds for assistance are very limited. Thus, much of the Navajo population is without electrical or gas hookups.

Most of the Navajo families in remote or isolated areas, or even in urban communities, are still hauling coal and wood for fire, and some families use propane gas delivered from off-reservation by private oil companies at high cost. These families do not have other choices but to accept the use of expensive propane gas.

As noted elsewhere in this report, the Commission is keenly aware of the cost and environmental service to remote areas from existing power lines. Consequently, with the assistance of other federal agencies, a demonstration project has been undertaken to furnish photovoltaic units to a group of Navajo and Hopi relocatee residences. The units will furnish a portion of the residents' power needs. The Commission is also exploring the applicability of such programs as the Saudi Arabian-United States Program in the Field of Solar Energy (SOLERAS) to the areas under consideration as possible relocation sites.

# g. Navajo Tribal Planning

The Navajo Tribe has developed a systematic approach to economic planning. In December of 1980, the Navajo Tribe identified economic and community development project priorities. Overall objectives of the priorities listed were to:

Seek development of an economic system which possessed the capability to produce and deliver goods and services to the Navajo people.

Stimulate enough internal growth to bring a balance between wages earned in government and wages earned in the private sector on the reservation.

The following lists of prioritized projects were set forth by the Navajo Tribe:

## **Economic Development Projects (Prioritized)**

- 1. Tuba City Shopping Center
- 2. Kayenta Shopping Center
- 3. Shiprock Shopping Center
- 4. Crownpoint Commercial Center
- 5. A cattle feedlot operation (probably located at the NIP)
- 6. A building for Navajo Optics
- 7. A brick manufacturing plant
- 8. A solar receptor manufacturing building
- 9. A new building for the Navajo Times Publishing Company

# Future Economic Development Projects (Not Prioritized)

- 1. Antelope Point Resort
- 2. A Bean Processing Plant
- 3. A Milk Processing Plant
- 4. Phase II construction for Window Rock Shopping Center
- 5. Phase II construction of Tuba City Shopping Center
- 6. Phase II construction of Tseyi Shopping Center
- 7. A Gasohol Plant
- 8. A Wool Scouring Plant
- 9. An Oil Refinery
- 10. A Coal Mine
- 11. A Power Plant for the Navajo Tribal Utility Authority

# Community Development Projects (Prioritized)

- 1. Phase I construction of Navajo Tribal Administration Complex
- 2. A Public Safety Building in Kayenta
- 3. GD Test System and Renovations
- 4. A Bus Transit Maintenance Facility
- 5. A Crownpoint Water System
- 6. Irrigation Equipment for Cameron
- 7. A Fertilizer Storage Facility
- 8. Tsaile Irrigation Project Funding
- 9. Phase III, Window Rock Efficiency Apartments
- 10. A Heavy Equipment Building

# Future Community Development Projects (Not Prioritized)

- 1. A Grain Storage Facility
- 2. Navajo WIC Trailer Unit
- 3. Teesto Vocational Center
- 4. Sanostee Pre-School
- 5. Chinle Airport Facility
- 6. Crownpoint Airport Facility
- 7. Kayenta Airport Facility
- 8. Navajo Mountain Irrigation Project
- 9. St. Michaels Multi-Purpose Building
- 10. Shiprock Tourism Complex
- 11. Nazlini Light Industry Building
- 12. Windmill Powered Water Systems throughout the reservation

# Feasibility Studies (Prioritized)

- 1. Determination of energy development potential for the Navajo Tribe.
- 2. Determination of feasibility for development of a Navajo owned and operated coal mine.
- 3. Feasibility study for Crownpoint Commercial Center.

#### 2. Hopi Reservation

The Hopi Tribe with limited resources has not been able to obtain development of adequate facilities and service systems. This is particularly evident in the area of education and some aspects of health care delivery.

In June of 1979, the Hopi Tribe published its Annual Overall Economic Development Program updated for the period of 1979-1981. This document along with other tribal documents provides an excellent overview of conditions on the Hopi reservation and also states the problems, concerns and objectives of the Hopi people.

Much of the following material is taken directly from the Hopi Tribe's Overall Economic Development Plan, and annual report from various tribal departments.

#### a. Geography, Culture and Tradition

The Hopi Reservation encompasses parts of Navajo and Coconino counties in Arizona. It is completely surrounded by the Navajo Reservation.

Today, the size of the Hopi Reservation is approximately 1,542,000 acres, not including lands involved in the 1934 Reservation Dispute. Of this, 631,306 acres, Grazing District 6, have remained continuously under exclusive control of the Hopi Tribe. The balance was designated as a Joint Use Area for both Hopis and Navajos in a much disputed federal decision.

Recent court decisions have led to a partitionment of the Joint Use Area, approximately one-half (911,000 acres) being assigned exclusively for Hopi use; the other half for Navajo

A map of the Hopi Reservation is shown in Figure 35. This map indicates the reservation boundary set by the Executive Order of 1882, Grazing District 6, and the newly partitioned lands. The map indicates major roads, and all the Hopi population centers and nearby cities in Arizona.

The Hopi villages are situated on three rocky messs, ranging from 600 feet above the high desert plain of the Little Colorado Plateau. Elevations in the populated areas of the reservation range above the 4,000 foot level. The climate is generally arid; the average annual precipitation for the reservation is approximately 10.6 inches. Average yearly temperatures are approximately 55 degrees Fahrenheit.

Temperature variations between winter and summer are often extreme, and even daily fluctuations in temperature can be significant. Prevailing winds are from the southwest with high velocities occurring during the months of March and April. In the winter, light snow covers the ground intermittently. Occasionally, heavy snow falls, isolating the population of the reservation within the confines of their villages. It is a severe and demanding environment, but one that possesses a large measure of beauty and serenity.

The Hopi are descendents of the early house-building (Pueblo) people who inhabited the Colorado plateau and the Canyons of New Mexico and Arizona as early as the first century A.D.

The Hopis have lived in their villages continuously for hundreds of years and are for the most part, a steadfastly traditional people. Their social structure is characterized by an elaborate, matrilineal clan and kinship system. The clan is comprised of several families, the members of each family being related through matrilineal descent and taking the clan of the mother. It is the clan that determines the standing of the individual in both religious and secular matters. Thus, the clan has been and still is traditionally the heart of the Hopi social organization.

The Hopi language, a Uto-Aztecan derivative, is still spoken by most Hopis on the Reservation today. English is also spoken as a second language by an estimated 90 percent of the Hopi people.

The Hopi cultural inheritance is a deeply religious one. Hopi life revolves around a year-long ceremonial cycle, fixed by the phases of the moon. Ceremonies are prolonged and elaborate and take place in villages throughout the reservation.

Kivas built in the traditional style are to be found even in the most progressive Hopi village. The kiva plays an important part in the social and religious life of the Hopis.

#### b. Education

The formal education system which presently operates on the reservation begins with preschool and continues through the eighth grade. The Hopi Tribe operates Headstart centers throughout the reservation. Six Bureau of Indian Affairs schools and one Mennonite Mission School provide education on the Hopi reservation. The amalgamated boarding school at Keams Canyon consists primarily of Navajo students. There is no high school on the Hopi reservation; therefore, secondary education is provided in off-reservation Bureau of Indian Affairs boarding schools, public, or mission schools.

Average daily attendance in reservation schools is approximately 95% of enrollment, reflecting the importance which most Hopi families place on basic education. Enrollment figures at Bureau of Indian Affairs reservation schools are shown in Table 2 for fiscal year 1977.

The need for the development and construction of a high school on the Hopi Reservation is a Tribal priority. P.L. 96-305 requires that the Secretary of Interior "shall assign the highest priority" to the funding and construction of a Hopi high school. The impact of modern education has forced changes on the traditional way of Hopi life. The present day Hopi is attempting to retain the integrity of his/her traditional values, while acquiring the skills and knowledge necessary for success in a changing society.

Figure 35
Hopi Indian Reservation

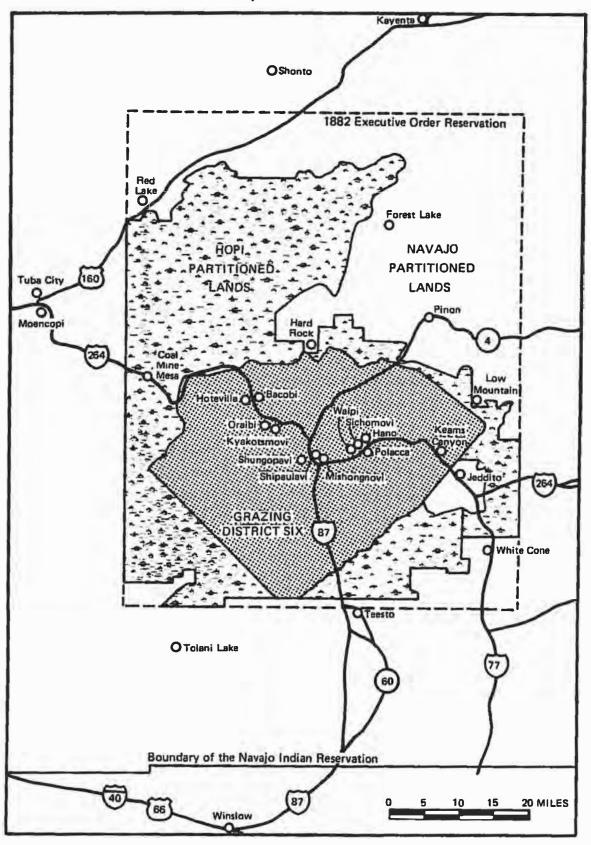


Table 2

Hopi Enrollment at Reservation Schools FY - 1977

School	Student Enrollment
Keams Canyon Boarding School (K-8)	256
Polacca Day School (K-6)	170
Second Mesa Day School (K-6)	186
Hopi Day School (K-8)	187
Hotevilla/Bacavi Community School (K-7)	107
Moenkopi Day School (K-5)	<b>59</b>
Hopi Mission School (K-8)	64
TOTAL	1,029

Source: BIA Hopi Agency, Department of Education, Hopi Mission School

### c. Health

The amendments to P.L. 93-531 enacted in 1980 specifically addressed the health needs of the Hopi Tribe. In view of these provisions, considerable detail has been devoted to the Hopi Tribe's Health Programs.

The provision of health care on the Hopi Reservation is of vital concern to the Tribe. Of particular concern to the Hopi Tribe is the development of a health care complex. Recently the Tribe has completed a feasibility study in this regard. Public Law 96-305 requires the Secretary of Health and Human Resources to assign the highest priority to the funding and construction of a Hopi Medical Center. The following verbatim information is taken directly from the Hopi Tribe's feasibility study and annual reports of the Hopi Health Department.

### **Acute Care:**

The Navajo and Hopi residents of this Service Area receive acute medical care at almost exclusively three IHS facilities, Keams Canyon and Tuba City Hospitals, and the Phoenix Indian Medical Center (PIMC). The "National Guidelines for Health Planning' state that inpatient care facilities in rural areas should be no more than 45 minutes from the majority of the population. The designated inpatient care facility for the area is Keams Canyon IHS Hospital, located on the eastern edge of the Hopi Reservation. The Tuba City Hospital is approximately one hour west of the Hopi communities. Phoenix Indian Medical Center is more than five hours drive from the area. Many times during the winter and spring, access routes are impassable due to snow, ice, mud, or flooding. Statistics show that none of these facilities provide access to acute hospital care within forty-five (45) minutes travel time for more than fifty (50) percent of the Primary Service Area's Population. Surgery (general or obstetrical) services are not available at Keams Canyon Hospital. The coronary/intensive care unit is not fully equipped or staffed. Patients requiring surgery or intensive medical care are transported to Tuba City or PIMC facilities. Many patients elect not to have recommended surgery or treatment performed due to the distance from their home and their removal from their family and cultural support systems. Acute hospital care utilization by the population reflects the deficiencies in accessibility and acceptability. Hopis receive less inpatient care than would be expected with reference to national and regional IHS utilization averages.

### **Emergency Care:**

The Emergency Medical Services System (EMSS) Act P.L. 94-573 provides guidelines for an effective emergency medical services system. In a rural

setting, up to 20 minutes is considered an acceptable response time. Accidents, (especially motor vehicle), suicides, and heart disease cause more than 40 percent of the deaths for both Hopi and Navajo. All of these occurrences require prompt, if not immediate, emergency medical care. Ambulances and the Emergency Medical Technicians (EMT) are located at the Tuba City and Keams Canyon IHS Hospitals. Response times of ambulances on the Reservation are about three times as long as the accepted value for rural communities. Statistics show that ninety (90) percent of the Service Unit population does not have access to basic emergency medical care provided by the EMT's within twenty minutes response time.

This serious unmet health need is further compounded by the fact that the closest facility, Keams Canyon Hospital, is not staffed or equipped for surgical or obstetrical emergencies. Patients requiring these emergency services are transported at least two hours to Tuba City or flown to the Phoenix Indian Medical Center. The paved airstrip, serving only light aircraft, is located thirty (30) minutes from the Keams Canyon Hospital and the unpaved access road to the airstrip is often impassable due to weather conditions. In addition, the small aircraft do not have room for an EMT to perform CPR or other emergency medical procedures.

# **Ambulatory Care:**

The principal facilities providing outpatient clinic services to this population are Keams Canyon Hospital, Second Mesa Clinic, Tuba City Hospital, Phoenix Indian Medical Center, and one day a week clinics at White Cone and Kaibeto. A full range of outpatient routine, diagnostic, curative, and preventive health services are provided by the major IHS facilities. Increased utilization of ambulatory services in both the hospital outpatient department and the health center was not planned in the initial design for the existing Keams Canyon Hospital. Consequently, corridors are utilized as waiting areas, waiting times range from 5 minutes to 4 hours, and further expansion of existing medical, dental, laboratory, x-ray, optometry, health, education, and mental health services within the Keams Canyon complex is not possible. Many other specialty services available at Tuba City Hospital are not available at the Keams Canyon Hospital due to lack of space.

Indian Health Service standards state that outpatient services should be within thirty (30) minutes travel time of all residents, therefore, outpatient health centers and field clinics have been established. The Keams Canyon outpatient clinic is located more than thirty (30) minutes travel time from seventy (70) percent of the Service Unit's population. To alleviate this, a temporary modular building has been equipped as a health center on Second Mesa. This center does not offer the full range of back-up services found at Keams Canyon, has limited patient waiting area, does not meet accredidation criteria for x-rays, and space is not available for health education classes.

### **Extended Nursing Care Facilities:**

There are no skilled or intermediate nursing care facilities on the Hopi or adjacent areas of the Navajo Reservation. Patients requiring nursing care either are kept at home with their families or placed in nursing homes located in Phoenix. The removal of these older patients from the reservation is a last resort for most families. Not only is the patient isolated from his/her family, but they are removed from their culture and language. Due to the distance from the reservation, the lack of transportation, and now the cost of transportation, visits from relatives and friends are infrequent. The Hopi

TSCHP pointed out the need for both skilled and intermediate care beds. The present Feasibility Study confirms the findings of the Comprehensive Health Plan.

# Alcoholism Rehabilitation Facility:

Alcoholism constitutes a serious and growing health problem among both Hopis and Navajos. Most traffic accidents, suicides, and homicides on the Reservation are associated with alcohol. The Hopi TSCHP pointed out the need for a comprehensive alcoholism prevention, treatment, and rehabilitation program. At this time IHS provides minimal funding for alcoholism services on the Reservation. The Hopi Alcoholism Program (HAP) is aimed at alcohol education and prevention, referral services, and limited individual and family counseling. This program is severely understaffed and exists only on temporary grant monies. Adequate or suitable space is not available to insure counseling privacy.

There is no permanent suitable structure on the Hopi Reservation for an intensive alcoholism treatment and assessment center. Acute detoxification is available at the IHS hospital - but not in an organized manner leading to rehabilitation of the alcoholic who is "dried out" at the IHS hospital has no facility to go for inpatient treatment in the first state of rehabilitation before he is ready for a half-way house type of facility.

With approximately ten (10) percent of all days spent in IHS hospitals due to alcohol related conditions, eighty-five (85) percent of the Hopi Tribal Court and Probation and Parole Service's case load involve offenses directly related to alcohol, and HAP's waiting list for counseling services; there is a very distinct need for a Alcoholism Rehabilitation Facility.

#### Mental Health:

There are few mental health services available on the Hopi or Navajo Reservations. Mental Health staffing is grossly inadequate. The TSCHP pointed out the need for a comprehensive clinically oriented mental health program on the Hopi Reservation. This includes acute mental health hospital beds, outpatient counseling services, a children's shelter for abused and neglected children and counseling services for adolescent and their families.

### Children's Shelter:

According to the Keams Canyon Service Unit, twenty (20) cases of child abuse and neglect are reported monthly. In addition, the Bureau of Indian Affairs (Hopi Agency) report 400 families with problems ranging from marital difficulties, alcoholism, child custody, child abuse, neglect and abandonment. Currently, twenty (20) Hopi children are placed in off-reservation treatment facilities due to lack of resources and programs on the Reservation. The Hopi Alcoholism Program Staff reports additional case load problems relating to alcoholism, such as child abuse and neglect and child placement.

A children's shelter would provide temporary shelter to neglected, abandoned and abused children when removal from the home is deemed necessary by the BIA Social Services, IHS Child Advocate Committee, or Hopi Tribal Courts. During their temporary placement, the children would be evaluated and receive individualized treatment prior to placement in a foster home or return to their own home. The parents of these children would also receive counseling. This would be provided through a joint Hopi Health Department and Judicial Administration's Child Advocate Program.

This type of facility or service is currently not provided. Many times, children awaiting custody determination are placed in off-reservation non-Indian homes.

# Health Systems Agency III

The Hopi Tribe on June 14, 1977 agreed to participate with HSA III which is comprised of Navajo, Apache, Coconino and Yavapai counties, including Fort Apache, Hopi, Prescott-Yavapai, and Havasupai Indian Reservations. Certain conditions by which the Tribe agreed to participate is closely monitored to ensure that the Tribe's position on such issues as sovereignty is not endangered. The major emphasis of the Tribe is to secure equal representation on the governing body and board, as the Tribe will be involved with health planning efforts of Health Service Area III. Tribal eligibility for funds for total operational costs to support their planning efforts under Public Law 93-641 requires a close working relationship with the Health Service Area III central administrative staff to maintain tribal input into decision making processes concerning the Hopi Reservation.

# **B.** Community Health Services:

# Community Health Representatives:

In 1969, the Community Health Representative Program was implemented on the Hopi reservation. The objective of the program is to provide: direct health services to the individual; direct health services and education to the communities through various community meetings; to provide basic emergency health treatments in emergency cases. To assist with various forms such as Social Security, SSI, Food Stamps, Veteran Administration, etc.

The Community Health Representatives will continue their services to develop a network of available and cooperating health resources. Primary emphasis will be placed on identification and follow-up of high risk mothers and children (WIC), building school health programs, providing health education both in the home and community, and establishing transportation and communication systems where people are underserved.

### Off-Reservation Institutions:

There is a crucial need for Hopi tribal support, responsiveness and participation in all phases of treatment planning, implementation and most importantly, monitoring of health services to identified institutionalized Hopi individuals. The Off-Reservation Institutional Liaison works in close collaboration with medical doctors and other members of the institutional health team to increase staff understanding of significant cultural factors underlying the patient's special needs and health problems. The worker also serves as a resource link between off-reservation institutions, Hopi tribal members, village organizations, Indian Health Service, Bureau of Indian Affairs, and other resource agencies.

### d. Environmental Sanitation

Each year, cases of dysentery among Hopis on the Reservation are reported. Keams Canyon Hospital estimates other important sanitation-related diseases on the Reservation. Three to four cases per month of infectious hepatitis are diagnosed, and a higher than expected incidence of skin conditions such as scabies are seen. Trachoma is still prevalent;

and salmonellosis is suspected, but laboratory facilities at Keams Canyon are inadequate to provide definitive diagnosis.

The most important program for preventing these diseases is provided by installing running water and plumbing in the houses, by making more water conveniently available for handwashing and general cleaning purposes, and by avoiding the opportunity of fly-borne disease which can be transmitted through poorly maintained food and privies.

Table 3 shows the status of water and sewer systems on the Reservation and in the village of Upper Moenkopi in 1977. Data on Lower Moenkopi were not included in this BIA inventory. Although the Hopi Tribe is making substantial progress towards its high priority goal of providing water and sewer systems there is a need for further improvement.

#### e. Communication and Utilities

Communication facilities on the Hopi Reservation are generally poor, with only about 315 residential telephone hookups. Many of these are multiple-party lines. A shortage of trunk lines make telephone communication in and out of the Hopi Reservation uncertain at all times.

Two different telephone companies serve the Hopi communities. Universal Telephone Company (UTI) of the Southwest provides service to the main Hopi Reservation. Navajo Communications Company services Moenkopi. At the present time, there are plans by the Hopi Tribe and UTI to expand and improve service to meet consumer demands. This improvement is considered a high Hopi priority.

Radio and television reception is generally poor. Only two Flagstaff television stations are received, but only with the assistance of a cable hookup or an elaborate antenna arrangement. The Tribe is presently planning to determine the feasibility of a cable television development.

Two-way radio communication is available at the Keams Canyon Hospital, Hopi Indian Agency Office, and the Tribal Health Department. These units are not fully linked for cross-communication at this time.

As with the Navajo, utilities and energy resources are limited. Arizona Public Service Company is the provider of electrical services to the Hopi Reservation. Propane gas is used frequently for cooking and heating purposes.

# f. Transportation

The major highways serving the Hopi Reservation are State Routes 264, 87, and 89. They are shown on the map of Hopi Reservation in Figure 35. The major road linking Hopi villages is State Route 264, which begins at Gallup, New Mexico and ends at Tuba City, Arizona. Highway 87 begins at Second Mesa, Arizona, and connects with Interstate 40 (old U.S. Highway 66) in Winslow, Arizona. Highway 89 links the village of Moenkopi with Flagstaff, Arizona and the Four Corners Region.

Private vehicles constitute the major mode of transportation on the reservation. It is estimated that one of every two Hopi families owns a motor vehicle.

There is no public transportation on the reservation except for a limited tribal-operated service which provides transportation for patients from the Hopi villages to Keams Canyon Indian Health Service Hospital. The nearest rail and bus service is found in surrounding off-reservation Arizona communities such as Flagstaff, Winslow, and Holbrook; 75 to 133 miles from the center of the Reservation.

A small paved runway, accessible by an unimproved dirt road and capable of receiving light aircraft, is located near Polacca on the Hopi Reservation. It is serviced by Monument Valley Airlines which primarily provides patient transportation to Phoenix Indian Medical Center. The nearest regular air service connection is at Flagstaff.

# g. Natural Resourses

A comprehensive study to inventory and categorize the natural resources of the Hopi

Table 3 Water and Sewer Systems on the Hopi Reservation - Fiscal Year 1977

	Maintenance and		Sewer	Number	Number	Private	Systems	Number o	f Hookupe	Number of
Community	Management Organization	Water Availability	Disposal System	of Wells Community	of Lagoons	Wells	Septic Tanks	Water	Sewer	Homes in Village
1st Mesa Lower (Polacca)	Polacca Water Rights Association*	Central System	Central System	1	2 cells 1A. each		37	153	116	155
Walpi		None in Village	None in Village	0	0			0	0	20
Sichomovi		Single Water Tank	None in Village		0				0	39
Tewa		None in Village	None in Village	0	0			0	0	31
Mishongnovi**	BLA	None	None	1	0		5	0	0	59
Shipaulovi**	BIA	None	None	0	0	1		. 0	0	36
Shungopavy	BIA	Under Construction	Under Construction	1	Construction		1	5	None	151
Kyakotsmovi*	Water Committee*	Central System	Central System	2	3 cells		15	96	81	108
Old Oraibi	None	None	None	0	0			0	0	28
Bacabi*	BLA	Central System	Central System	BIA 2	1 cell		0	52	52	66*
Hotevilla	BIA	Several Lines Public Use	None		0			22	0	125
Upper Moenkopi	Water Committee*	Central System	Central System		1	2 cells	0	<b>5</b> 4	84	20
TOTALS	water Committee	Бувисш	System		1	e cens	58	74 372	74 323	80 898
2.3.1.20							30	312	923	000

<sup>\*1977 —</sup> Improvement projects requested
\*\*1977 — water and sewer requested

Source: Bureau of Indian Affairs Inventory

Reservation is presently being conducted with an Economic Development Administration (EDA) grant.

A cooperative study between the Hopi Tribe and the laboratory of Native Development, Systems Analysis and Applied Technology (NADSAT), and Office of Arid Lands Studies, has been funded in the amount of \$105,865 and is presently being conducted to inventory and identify the natural resources of the Hopi Reservation. These projects are described in the Tribe's Overall Economic Development Program:

### (1) Water

Although the Hopi Reservation is located in an area that experiences chronic drought conditions, there is substantial hydrologic availability from groundwater sources, as well as seasonal precipitation. A comprehensive study to determine and identify current availability should be undertaken. Water conservation methods and techniques can be achieved if erosion and flood control structures, which would include construction of major dams and reservoirs, were to be implemented. Such a land and water management program would sustantially facilitate the effective utilization of annual surface runoff that is otherwise lost due to high intensity seasonal storms and rampart erosion of major drainages on the Hopi Reservation. Programs of this type would allow increased expansion and improvement of the livestock industry and the development of agriculture.

### (2) Mining

Although a comprehensive inventory of coal and other major minerals does not exist at the present time, plans are being researched by the Tribe to obtain this data. There is great potential in improving this industry.

The Hopi Tribe has been identified as one of three major coal producing Indian Tribes in the United States. Presently, the tribe is receiving royalties from Peabody Coal Company in the amount of \$1,000,000 annually from mining operations on the Black Mesa Lease. The Office of Surface Mining, Region V, will soon receive jurisdictional status of this Indian land from the Secretary of the Interior. The Hopi Tribe is developing the regulatory control and enforcement capability to effectively monitor and protect tribal resources and environment.

### (3) Land

With over two million acres under Hopi jurisdiction, and a population of 7,019 concentrated in less than ten major locations, there is potential for development activities on the Hopi Partitioned Lands. There are, however; serious land jurisdiction questions: (A) pending legislation 93-531 (Hopi-Navajo Land Settlement Act) and any amendments that may affect the mandated congressional purpose of the Act; (B) Land claims also exist between traditional clans, villages, and individuals. Such questions, as well as other matters related to development, shall be considered as a part of OEDP activities of the coming year.

# h. Hopi Tribal Planning

The Hopi Tribal Planning Department has set forth a balanced perspective of the overall Tribal needs, goals and objectives. The following information provides this overview.

To establish the potentials and constraints in Human Resource Planning efforts, it was necessary to keep in mind the overall Hopi cultural values and philosophy.

Human Resource Planning, as well as other departmental planning areas, recognized that

history has shown that social development without economic development can lead to dependency.

The Planning Department, therefore, has placed great emphasis on all planners to establish their objectives using a balanced approach. This includes social, as well as economic progress, and is the most cost efficient means to reduce dependency. This planning approach will, in time, enhance a healthy Hopi Tribal Planning Development Study.

Many factors contribute to Human Resource Planning and the achievable potentials for the Hopi people. The Hopi Human Resource Planner, in the development of short and long range planning, addressed what has occurred within the Hopi Tribe over recent decades. The present picture of Hopi life indicates the need to develop potentials as shown below which were quoted from the Hopi Tribal Overall Economic Development Plan:

- 1) Development of long and short range plans to eliminate the inadequate health service which exists on the Hopi Reservation. The Tribal Council has approved a specific Comprehensive Health Plan. (A feasibility study was performed in 1979. Results of this study have laid the foundation for planning the construction of a new centrally located hospital facility. P.L. 96-305 requires that the Secretary of Health and Human Services "shall assign the highest priority" to the funding of a Hopi Medical Center.)
- 2) Development of long and short range plans for facilities to correct the lack of social and health plans for neglected children and elderly Hopi Tribal people. After the completion of new medical facilities, it is possible that the old Keams Canyon Hospital could be used by the elderly.
- 3) Development of long and short range plans for the improvement of utilization of Hopi Manpower. A proper plan will offer the Hopi people of all ages adequate job training, full-time employment, better morale and social life, and finally, help retain the Hopi people on the reservation.
- 4) Development of long and short range housing plans. The housing which presently exists on the reservation is inadequate and creates over-crowding of existing households. After the completion of new educational facilities and new medical facilities, additional housing will become necessary for the Hopis returning to the reservation.
- 5) Development of long and short range plans for a much needed Hopi Jr/Sr High School. This project is at its beginning stage, and it seems that by the year 1981-1982, a Jr/Sr High School will become a reality for the Hopi people.
- 6) Development of long and short range plans for improvement of the present inadequate Criminal Justice Facility and System. Long range plans are now in the early stages for the building of a new facility to be located on land obtained near the new Jr/Sr High School.
- 7) Development of a long and short range operational plan for the recently constructed Civic Center. An operational plan should be completed by the time the Civic Center is ready for use. (Summer 1979).
- 8) Development of long and short range operational plans for a recently completed Day Care Center located in Moenkopi. Operational plans for funds are presently in process.

In order to accomplish the goals and objectives as outlined, along with other objectives, the Human Resource Planner is required to work closely with the Community Development

Planner. The existing constraints are minor, and deal mainly with information provided by each village and community concerning village needs, availability of land, and established priorities.

The Commission feels that the Hopi Tribe has developed an excellent system of establishing priorities for economic development. A description of this process with the 1979-1981 priority lists for project development follows:

The Economic Development Objective and Project Priorities were developed by the Hopi Resources Committee. Many of the ideas provided are believed to reflect commonly held opinions, which were the results of many informal discussions among committee members.

Priorities were assigned to individual projects through the use of criteria established by the committee. Each criteria utilizes a built-in point system from one to five (one meaning low or poor, five indicating a high consideration.) Intensive discussions of the results often necessitated a second voting to achieve a definite composite statement of values on the subject. When this occurs, the second voting consisted of an informal agreement, following discussion. This method has been very effective due to the fact that it provides all the committee members the opportunity to express and indicate their decisions regarding the tribal development needs.

These programs priorities herein presented are the consensus of the Resource Committee, which indicate the needs of the Hopi Reservation. Each committee member makes his choice of priorities based upon village priorities and his own knowledge and representation of the cultural cross section of the community. These priorities should indicate the desires of the Hopi Reservation at large.

The overall priorities, as established, do indicate a desire for strong economic and community development projects program.

### **EXHIBIT "A"**

### HOPI TRIBAL ECONOMIC DEVELOPMENT PRIORITY LIST

# FOR PROJECT DEVELOPMENT 1979—1981

### **PROJECTS**

- 1) Junior/Senior High School
- 2) Oraibi/Leupp Road Hopi Route 2
- 3) Comprehensive Fire Protection Program
- 4) Hopi Comprehensive Health Plan
- 5) Criminal Justice Facility (Hopi Rehabilitation Center)
- 6) Hopi Housing Development
- 7) Land Use Planning
- 8) Telephone Development
- 9) Overall Water/Sewer Development
- 10) Overall Solid Waste Development
- 11) Second Mesa/Kayenta Road
- 12) Range and Water Development
- 13) Cultural Center Renovation and Expansion
- 14) Tribal Museum and Archives
- 15) Hopi Industrial Park Development
- 16) Overall Village Road Improvement
- 17) Centralized Bank Development
- 18) Tribal Warehouse
- 19) Cable Television Study
- 20) Recreation Park Development

#### EXHIBIT "B"

# HOPI TRIBAL ECONOMIC DEVELOPMENT LIST FOR BUSINESS DEVELOPMENTS PROJECTS

### **PROJECTS**

- A. Improvement and Expansion of Hopi Cultural Center Restaurant, Kitchen, Motel Units, Arts/Craft Shop, and Museum
- B. Hopi Industrial Park Development Including locating tenant for the Hopi Industrial Park
- C. Improvement and operation of Second Mesa Campground Facilities
- D. Centralized Bank Development
- E. Moenkopi Commercial Site Development
- F. Updating Feasibility Study for Development of a New Facility Hopi Electronics Enterprise

#### EXHIBIT "C"

# HOPI TRIBAL ECOMOMIC DEVELOPMENT LIST FOR TECHNICAL ASSISTANT PROJECT

### **PROJECTS**

Natural Resources Inventory Study - Hopi Reservation

Feasibility Study for Hopi Reservation Shopping Center

Study to develop long term Economic Development Plans for Hopi Business Development

Obtain technical assistance in fully developing the Hopi Industrial Park and locating tenant

Feasibility Study of irrigation development for agricultural purposes

Research Study for need of full time veterinarian program on Hopi

Reservation

Technical Assistance Development of Operational/Organizational Plans to effectively operate the Tribal Enterprise on profitable basis

Feasibility Study to determine renewable resources which exist on Hopi Reservation and how to improve on its economic uses

Feasibility Study for Large Agricultural Development on Hopi Reservation A Technical Assistance or Civic Center Organizational Operational Plan (long range) to make the project self-sufficient

Feasibility Study on possible development of Rock Quarry Operation on Tribal Enterprise vs. Private/Village and also to determine the profitability of this operation.

### HOPI TRIBE RESOLUTION

# H-15-79

- WHEREAS, the Hopi Tribal Council is greatly concerned about Hopi interests and rights regarding the Hopi Partitioned Lands; and
- WHEREAS, after careful and detailed study, a Task Team especially appointed by the Tribal Council has recommended the establishment of a fulltime staff for the administration of Hopi Partitioned Lands; and
- WHEREAS, it is recommended that said Office be established within the Office of the Tribal Chairman.

- NOW THEREFORE BE IT RESOLVED, that the Hopi Tribal Council establishes an Office of Administration of Hopi Partitioned Lands with the Office of the Tribal Chairman.
- BE IT FURTHER RESOLVED, that the Tribal Chairman is directed to organize and establish staffing in accordance with the proposal recommended by the Joint Use Area Task Team. Funding for this Office to be provided from the Budget of the Chairman until such time as other funds are available.
- BE IT FURTHER RESOLVED, that if funding for this Office creates a deficit in the line item accounts of the Chairman's Budget, a budget supplement may be submitted to the Council for their consideration.

### FOR THE ADMINISTRATION OF HOPI PARTITIONED LANDS

### **PURPOSE:**

This Office is established to provide for the coordination and management of all activities dealing with Hopi Partitioned lands and the 1934 Boundary Case.

Its major thrust is on the negotiation of jurisdictional matters and implementation of legislation affecting the duties of other agencies and their impact on the rights of the Hopi. The Office is a central support office for the negotiation and favorable settlement of issues and problems which currently exist in the establishment of physical improvements, relocation of individuals, appraisal and disposition of property, and the establishment of services. These are the prime responsibilities of the Office.

The other focus is on long-range planning for the development and use of land areas. This effort is currently being undertaken by the Hopi Tribal Planning Department. The HPL Office will provide policy direction and close liaison to the Planning Department as they develop land use and related planning programs for partitioned lands.

### SPECIFIC FUNCTIONS

To provide a central place for the receipt, organization, and dissemination of all information dealing with Hopi Partitioned Lands.

The preparation of recommendations for enactment by the Hopi Tribal Council and implementation by the Office of the Tribal Chairman regarding policy matters and Tribal positions regarding partitioned lands.

The development of strategies and recommendations regarding all issues dealing with the 1934 Boundary Case and subsequent related legislative and judicial acts.

The monitoring of the activities of the Navajo-Hopi Relocation Commission, the Joint Use Area Office, and others involved in the partition and relocation programs, including but not limited to: stock reduction, range restoration, grazing, fencing, monumentation, law enforcement, relocation, establishment and collection of rents and fees, property appraisal and disposition.

In conjunction with the Hopi Tribal Planning Department, the preparation of a needs assessment for the Hopi Partitioned Lands.

Policy direction and liaison between the Office of the Tribal Chairman and the Hopi Tribal Planning Department in the Planning Department's program to develop a land use plan with related elements for the partitioned area.

The preparation of procedures, policies, and ordinances required to implement the land use plan.

Identification of tentative planning categories in which a work program can be developed.

# PRELIMINARY - HOPI PARITIONED LANDS PLANNING CATEGORIES

The planning categories listed below represent the major distinct planning projects ongoing and anticipated for the Hopi Partitioned area:

### LAND AND RESOURCE DEVELOPMENT PLANNING

- a. Development of water resources for irrigation and range use.
- b. Establishment of a soil conservation district on the Hopi reservation, to include the HPL.
- c. Development of sound tribal policies for mineral and resource development, primarily for application in the HPL.
- d. Reforestation and reseeding of areas that have been damaged by overgrazing and other factors (in conjunction with the BIA).
- e. Completion of the NADSAT studies of resources on the Hopi Reserva-
- f. Completion of Land Assignment Procedures to be used for issuing land assignments to Hopis on the HPL.
- g. Allocation of lands to other uses, i.e. grazing, farming, residential, etc.
- h. Full scale land use planning project.
- i. Completion of organizational development for the Hopi Agricultural Improvement Association.
- j. Incorporation of the Hopi Partitioned Lands into the tribal Range Water Maintenance Program.
- k. Completion and adoption of Hopi Range Management Plan and Hopi Range Code.
- 1. Implementation of the Hopi Tribal Enterprise Plan of Operations for Grazing in the Hopi Partitioned Lands.
- m. Implementation of tribal involvement in decision making for land conservation practices in the HPL per P.L. 96-305.

### **HUMAN SERVICES PLANNING**

- a. Completion of planning for the provision of Health Care Services to persons residing on the HPL, including services for Navajo awaiting relocation and Navajo Life Estate Tenants.
- b. Completion of updated Law and Order Plan, showing the needed services in the Hopi Partitioned Lands.
- c. Completion of the Emergency Services Plan for provision of air ambulance and emergency winter food drops.
- d. Incorporation of HPL into tribal food stamp service areas.
- e. Development of an approach for providing educational services in the HPL if a need is identified.
- f. Upgrading of the Hopi Department of Range and Livestock Services (tribal) to better meet the communications and enforcement problems in the HPL.
- g. Updating the Hopi Reservation Road Maintenance Plan for the FY 83 Zero Based Budget Sessions.
- h. Development of housing options in the Hopi Partitioned Lands including financing for individuals and planning of new community areas.

- Improvement upon the number of Hopis employed at the Peabody Coal Mine.
- j. Development of a Fire Protection Plan for the entire Hopi Reservation, including consideration of fire fighting in the HPL.
- k. Implementation of a Shrine and Ruin Protection program.
- l. Development and implementation of Public Information Programs related to HPL.
- m. Economic development planning.

### OTHER PLANNING CATEGORIES

- a. Planning for tribal control of the HPL as of April 18, 1981.
- b. Support of legal efforts of tribal attorneys related to long-term litigation and other long-term legal acitivities.
- c. Amendments to the Hopi Constitution and By-laws related to the HPL (political representation of HPL residents is an example).

### **B. OFF-RESERVATION**

# 1. Existing Facilities and Services

In the discussion of moving off-reservation it was indicated that this type of move carried with it far greater responsibilities for the relocatee. The Commission tries to emphasize this to relocatees in the counseling process. Many families have had very little experience in dealing with off-reservation community facilities and service providers which operate in a totally different context than "IHS" and the "BIA."

Generally speaking, facilities are adequate to meet the estimates of families electing to move to an off-reservation site. "Border" communities perceive themselves as growth towns and are actively seeking new development. Although some of the communities anticipate the need for additional water and sewer development, they have not indicated any desire to limit growth.

All existing service agencies identified by the Commission have expressed shortages of funding, staff, and other resources as the major problems they are experiencing. Although these factors may present a cogent reality, it is also apparent that better utilization of resources could be achieved through integration efforts. The harsh reality exists that most service providers in the area surveyed perceive the Indian client as a responsibility of the federal establishment. Although considerable progress has been made, additional efforts are necessary to adequately address this issue.

The Commission's planning for off-reservation Human Resource Services, therefore, is directed towards achieving the following goals:

- 1) Maximum utilization of existing resources to serve Indian relocatees.
- 2) Assist in developing better consolidation and coordination of services in order to avoid a fragmented approach to the Indian relocatees' service needs.
- 3) Assistance in seeking development of non-existent services which are vitally needed by the Indian relocatees.
- 4) Assistance in seeking a "heightened awareness" of the Indian relocatees and their unique constellation of problems in order to achieve greater accessibility and responsiveness from service providers.

### 2. Human Resource Services

The Congressional deliberations of P.L. 93-531 recorded in Senate Report 93-1177, set

forth guiding principles reflecting the intent of the Congress. The ninth principle has special significance to the work of the Commission:

That any such division of the lands of the Joint Use Area must be undertaken in conjunction with a thorough and generous relocation program to minimize the adverse social, economic, and cultural impact of relocation on affected tribal members. And to avoid any repetition of the unfortunate results of a number of early official Indian relocation efforts.

The delivery of Human Resource Services impinges directly upon this considered aspect of relocation.

The Commission is, however, a special purpose agency which upon completion of its assigned task will be abolished. For this reason the Commission must judiciously plan for Human Resource Services in a realistic manner which focuses attention to relocation-related needs. The Commission does not aspire to create or establish delivery systems of a service nature in excess of that required to meet the temporary needs of relocatees during the period of relocation.

Many families subject to relocation enter the relocation process manifesting a variety of significant problems which are related to diverse social, cultural, and economic factors frequently unrelated to relocation. Relocation in itself is a cause of multi-dimensional stress. This may contribute to the cause of other problems best summarized as being, in nature, problems of adjustment. For this reason, the Commission views the delivery of Human Resource Services as a means of attempting to minimize adverse impacts.

Human Resource Services generally attempt to mediate problems between the individual and his environment. The mitigation of problems is usually achieved by helping the individual improve his or her capability to provide for himself or herself, and, where possible, to modify the environment in order to bridge the gap between personal resources and needs. To the degree that these two approaches are directed towards stabilizing the relocatees while in a state of transition, Human Resource Services may make a substantial contribution to the relocation program. To the degree that these services approach the individual who is subject to relocation in an uncoordinated, fragmented manner, the services may lose their effectiveness and be of little or no value.

Human Resource Services' systems always seem to fall short of their ideal and a cursory overview of delivery systems in Northern Arizona and New Mexico, both on and off reservation, are not an exception to the rule. Although the existing delivery systems embrace a broad range of the service spectrum, there is considerable fragmentation; integration for the most part is lacking and some actual gaps exist.

The Commission staff has identified referral resources on and off the reservation to strengthen "counseling" services for relocatees. In many instances the needs of individuals far exceed the capacity of the service agencies. In such cases efforts are made to counsel the relocatees in planning for moves in a way which substantially reduces impacts, so that they remain on reservation or wait for new lands to become available where traditional lifestyles might be maintained. In other instances the Commission has identified situations in which direct support from the Discretionary Funding Program may be used to strengthen service delivery and achieve more adequate levels of service.

This survey of border communities will ultimately serve several purposes in the work of the Commission. By surveying the infrastructure, facilities, and services of each community, gaps in existing provisions will become visible and improvements may be recommended.

Publication of the individual Community Surveys also could assist those considering relocation to make their decisions. The community profiles could be made available to persons who are considering moving off the reservations, so that they might better assess which community would meet their needs. In addition, the surveys might be of value if furnished to service providers. Recognizing the gaps in identified services, local agencies could better evaluate and plan programs to meet the needs of relocatees.

### 3. Six Communities

The Commission's relocation program provides a substantial amount of information regarding choices made by clients in finalizing their own relocation plans. This information was obtained through personal interviews with families as they elected to relocate. Several off-reservation communities near to their former place of residence have been chosen with considerable frequency by relocatees. Thus, on the basis of proximity to the reservation and expressed preferences, six off-reservation host communities in Arizona and New Mexico have been selected.

### PAGE, ARIZONA

The city of Page was developed on top of an uninhabited mesa near the Arizona-Utah border in 1957. It was originally built by the United States Bureau of Reclamation for workers constructing Glen Canyon Dam. Page was incorporated in March, 1975, and serves as the principal regional center for a large number of Navajo Reservation settlements in Arizona.

The economy of Page, once dominated by "boom or bust" cycles of construction and government workers, is becoming increasingly diversified. Emphasis now lies in the sectors of retail trade, service, transportation, communications, and utilities. These sectors are responding to two major influences: energy resource development and tourism. Both influences have far-reaching implications for the community.

Source: Arizona Place Names, University of Arizona Press.

#### **MAJOR EMPLOYERS**

	Product/Service	Employees	Union
Navajo Generating Station	Utilities	750	Yes
			(some crafts)
Page Public Schools	Education	200	No
City of Page	Service	150	No
Wahweap Lodge ad Marina	Recreation	120	No
Babbitt's	Retail/Grocery	50	Option

Source: Page Chamber of Commerce

### **POPULATION**

	1970	1979	1990 est.
City	1,439	4,631	7,064
County	48,326	31,545	122,811

Source: Arizona Department of Economic Security, U.S. Bureau of Census

### **CLIMATE**

Average Temperature	January 34.5°	July 84.0°
Annual Average Rainfall	4.78 inches	•
Annual Average Snowfall	4.9 inches	

Source: Arizona Office of Economic Development Planning

## **LABOR ANALYSIS 1979**

Radius of Drawing Area: City
Civilian Labor Force: 3,911
Employed: 3,653
Unemployed: 523
Unemployment Rate: 6.5%
Right-to-Work Law: Yes

Source: Arizona Department of Economic Security, Reservation Census

Division

### PROPERTY TAX

# RATES PER \$100 ASSESSED VALUATION

4	$\sim$	_	-

City*	\$0.00
County	.85
State	1.25
Unified School District	3.64

\*The City of Page does not levy a real estate or ad valorem tax.

Source: The Arizona Tax Research Association

### UTILITIES

Electricity: Power Distributor - Arizona Public Service Company Natural Gas: Distributor - None (No natural gas lines in Page)

Water: Supplier - City of Page

Maximum Daily Capacity - 4,320,000 GPD

Peak Load - 1,344,590 GPD

Sewers: Storm Sewers - Yes (25%)

Sanitary Sewers - Yes

Treatment Plan Type - Secondary

Capacity - .50 MGD Present Load - .40 MGD

Solid Waste Disposal - Sanitary Landfill

Other Fuels: 2 LP Distributors

Source: Arizona Office of Economic Development and Planning, Arizona OEPAD Domestic Water Needs Assessment (draft), Arizona OEPAD Waste Water Needs Assessment (draft), City of Page Engineering

### MEDICAL FACILITIES

Hospitals: 1 (27 beds)

Physicians: 5
Dentists: 2
Chiropractors: 1
Ambulance Service: 1

Other: Page Office of Coconino Country Department

Lake Powell Family Health Center

Source: Northern Arizona Health Systems Agency, Arizona Office of Economic Development and Planning

### TRANSPORTATION

Highways U.S. 89, Arizona 98

Railroads: None

Bus: Continental Trailways

Airport: Page Airport. Air carrier service by Sky West Air-

lines. Charter service by Lake Powell Air Service,

City Mass Transit: None

Source: Arizona Office of Economic Development and Planning NACOG Region III Transit Development Plan (unpublished)

### **COMMUNITY FACILITIES**

Churches: 1 Catholic

1 Latter Day Saints

2 Protestant

Motels:

Hotels: None Shopping Centers: 1
Libraries: 1

Other: John Powell Memorial Museum

Carl Hayden Visitor Center

Source: Arizona Office of Economic Development and Planning

### RECREATION FACILITIES

Parks: 3
Pools: 1
Recreation Center: 1
Golf Course: 1
Tennis Courts: 2
Bowling Alleys: 1
Indoor Theaters: 1
Softball Fields: 4

Football Fields 1 regulation
Other: Wahweap Marina

Glen Canyon National Recreation Area

Source: Arizona Office of Economic Development and Planning, City of Page Comprehensive Development Plan (unadopted)

### FINANCIAL INSTITUTIONS

	Offices	Service Area
First National Bank of Arizona	1	Statewide
Valley National Bank	1	Statewide

Source: Arizona Office of Economic Development and Planning

# **GOVERNMENT SERVICES**

Local Government: Mayor, Council, City Manager

Police Department: 1 Chief, 9 Officers

Sheriff's Department: 2 Deputies

Fire Department: 1 full-time, 29 volunteers

Source: Arizona Office of Economic Development and Planning

### **EDUCATION INSTITUTIONS**

	No.	Faculty	Enrollment
Public Elementary	1	64	1,379
Public High School	1	33	578

Native American Faculty in Public Schools: 7 teachers, 33 bilingual aides English as a Second Language (ESL) Programs in Public Schools: ESL in elementary, bilingual social studies in high school.

Private and Parochial Schools:

Vocational/Technical Schools:

None
Colleges:

None

Source: Arizona Department of Education Page Public Schools

### **COMMUNICATIONS**

Newspapers: Lake Powell Chronicle (weekly)

Page Paragraph (TV guide)

Radio: 1 Local Stations
Television: 1 Local Stations

2 Cable

Telephone: Mountain Bell Telephone

Source: Arizona Office of Economic Development and Planning

### FOR FURTHER INFORMATION, CONTACT:

Page/Lake Powell Chamber of Commerce P. O. Box 727 Page, AZ 86040 (602) 645-2741

Page Guidance Center 112 6th Avenue Page, AZ 86040 (602) 645-8843

City of Page P.O. Drawer HH Page, AZ 86040 (602) 645-8861

# FLAGSTAFF, ARIZONA

An elevation of 7,000 feet, Flagstaff is located near the base of the San Francisco Peaks. Incorporated as a town in 1894, and as a city in 1928, Flagstaff has been the Coconino County seat since the county was first established in 1891. With an area of 11,886,720 acres, Coconino is the second largest county in the United States.

Today, Flagstaff is the major trade, transportation, and education center of Northern Arizona. It is the intersection of two major interstate highway, with I-40 running east and west, and I-17 running south to Phoenix.

Source: Arizona Office of Economic Development and Planning

# **MAJOR EMPLOYERS**

	Product/Service	<b>Employees</b>	Union
Flagstaff Public Schools	Education	950	No
Northern Arizona University	Education	900	No
United States Government	Service	500+	No
Coconino County	Service	500	No
City of Flagstaff	Service	400+	No
W.L. Gore	Cable/Medical	250+	No
Babbitt Brother Trading Co.	Retail/Wholesale	230	No
Southwest Forest Industries	Timber	220	Option
Mountain Bell Telephone	Communications	175	Option

Source: Flagstaff Chamber of Commerce and Individual Employers

# **POPULATION**

	1970	1979	1990 est.
City	26,117	36,027	53,394
County	48,326	81;545	122,811

Source: Arizona Department of Economic Security, U.S. Bureau of Census

# **CLIMATE**

Average Temperature	January 28.4°	July 65.8°
Annual Average Rainfall	19.80 inches	
Annual Average Snowfall	84.4 inches	

Source: Arizona Office of Economic Development and Planning

# **LABOR ANALYSIS 1979**

Radius of Drawing Area: City
Civilian Labor Force: 17,364
Employed: 16,252
Unemployed: 1,112
Unemployment Rate: 6.4%
Right-to-Work Law: Yes

Source: Arizona Department of Economic Security - Labor Division

# PROPERTY TAX

# RATES PER \$100 ASSESSED VALUATION

	1981
City	\$1.91
County	.85
State	1.25
Unified School District	4.91

Source: The Arizona Tax Research Association

### UTILITIES

Electricity:

Power Distributor - Arizona Public Service Company

Natural Gas:

Distributor - Southern Union Gas Company

Water:

Supplier - City of Flagstaff

Maximum Daily Capacity - 13,5000 GPD

Peak Load - 4,000,000 GPD

Sewers:

Storm Sewers - Yes (less than 5%)

Sanitary Sewers - Yes

Treatment Plant Type - Secondary

Capacity - 4 MGD Present Load - 4 MGD

Solid Waste Disposal - Sanitary Landfill

Other Fuels:

5 LP Distributors

Source: City of Flagstaff Utilities Department

### MEDICAL FACILITIES

Hospital:

1 (110 beds)

Physicians: Dentists:

49 24

Chiropractors:
Ambulance Service:

9

Other:

Clinical and Anatomical Laboratories Coconino County Health Department Department of Public Safety Helicopter

Department of Public Safety Helicopter Northern Arizona Health Systems Agency

Northern Arizona Radiology

Northern Arizona University Infirmary

Source: Northern Arizona Health Systems Agency, Arizona Office of Economic Development and Planning

### TRANSPORTATION

Highways:

I-40 (U.S. 66), I-17, U.S. 180, U.S. 89, U.S. 89A

Railroads:

Atchison, Topeka, and Santa Fe

**AMTRAK** 

Bus:

Continental Trailways

Greyhound

Nava-Hopi Tours, Inc.

Airport:

Pulliam Airport. Daily service by Cochise, Desert

Air and Sky West City Mass Transit:

City Mass Transit:

No

Specialized Transit:

Coconino County Community Services Hozhoni Foundation for the Handicapped Native Americans for Community Action

Source: Arizona Office of Economic Development and Planning, NACOG Region III Transit Development Plan (unpublished)

# **COMMUNITY FACILITIES**

Churches:

3 Catholic

6 Latter Day Saints

49 Protestant and Other

Motels:

57

Hotels: 2 Shopping Centers: 15 Libraries: 2

Other: Flagstaff Art Barn

Flagstaff Symphony Orchestra

Little Theater

Museum of Northern Arizona

Northern Arizona University Art Gallery

Pioneer Historical Museum Summer Arts and Music Festival

Source: Arizona Office of Economic Development and Planning, Flagstaff

**Chamber of Commerce** 

### RECREATION FACILITIES

Recreation Centers: 3 Parks: 13 Pools: 2 1 Golf Course: 12 **Tennis Courts:** 1 Ice Skating Rink: Ski Runs: 2 2 Sled Run: 2 Toboggan Run: 1 Skeet & Trap: 2 Bowling Alleys: Indoor Theaters:

Other: Arizona Snow Bowl

Walkup Skydome

Source: Arizona Office of Economic Development and Planning

### FINANCIAL INSTITUTIONS

	Offices	Service Area
Arizona Bank	2	Statewide
Bank of Northern Arizona	2	Local
First National Bank of Arizona	4	Statewide
Valley National Bank	4	Statewide
Canyon Savings & Loan	1	Statewide
First Federal Savings	1	Statewide
Pima Savings & Loan	1	Statewide
Source: Individual		

Source: Individual Banking Institutions

# **GOVERNMENT SERVICES**

Local Government: Mayor, Council, City Manager

Police Department: 50 Officers, 1 Chief

Sheriff's Department: 70 Deputies
Fire Department: 49 Men, 1 Chief
Insurance Rating: Grades 5 and 7

Source: Arizona Office of Economic Development and Planning.

### **EDUCATIONAL INSTITUTIONS**

	No.	Faculty	Enrollment
Public Elementary Public Junior	10 2	270	5,582
Public High School	2	144	2,612

Native American Faculty in Public Schools\*: 15 Teachers, 11 Aides

Bilingual ESL Programs in Public Schools: Bilingual classes in elementary

school, Title IV Counseling Program

Private and Parochial Schools: 5
Vocational/Technical Schools: 2

Colleges: Northern Arizona University

\*Flagstaff Public School District include Leupp, a Navajo Reservation Community

Source: Arizona Department of Education Flagstaff District Schools

### COMMUNICATIONS

Newspapers:

Arizona Daily Sun (daily)

Northlander (weekly)

Radio:

4 Local Stations
1 Local Stations

6 Cable

Telephone:

Television:

Mountain Bell Telephone

Source: Arizona Office of Economic Development and Planning

### FOR FURTHER INFORMATION, CONTACT:

Native Americans for Community Action, Inc. 15 North San Francisco Street Flagstaff, AZ 86001 (602) 774-2537

City of Flagstaff 15 North Beaver Street Flagstaff, AZ 86001 (602) 774-5281

## WINSLOW, ARIZONA

Winslow is 30 miles northwest of the Mogollon Rim at an elevation of 4,856 feet. Located in northeastern Arizona's Navajo County, Winslow lies in the Little Colorado River Valley 200 miles northeast of Phoenix. The town gets its name from the president of the old St. Louis and San Francisco Railroad, F. Edward Winslow. Winslow was established in 1882 and incorporated in 1900.

Winslow has a diversified economy in which transportation tourism, manufacturing, and trade are important sectors. The Santa Fe Railroad maintains a division headquarters at Winslow and is the town's largest employer.

Source: Arizona Office of Economic Development and Planning

### **MAJOR EMPLOYERS**

	Product/Service	Employees	Union
Atchinson, Topeka and			<b>.</b>
Santa Fe Railway Company	Transportation	900	Option
Duke City Lumber	Lumber	150	No
City of Winslow	Service	100	Option
Safeway Stores, Inc.	Grocery	60	Option
Wometco Coca-Cola Bottling	Soft Drinks	35	No

Source: Winslow Chamber of Commerce

**POPULATION** 

	1970	1979	1990 est
City	8,066	8,384	10,916
County	47,600	73,677	100,402

Source: Arizona Department of Economic Security, U.S. Bureau of Census

### **CLIMATE**

Average Temperature January 32.3° July 78.5°
Annual Average Rainfall 7.37 inches
Annual Average Snowfall 13.0 inches

Source: Arizona Office of Economic Development and Planning

# LABOR ANALYSIS 1979

Radius of Draw: City
Civilian Labor Force: 4,731
Employed: 4,417
Uemployed: 317
Unemployment Rate: 6.6%
Right-to-Work Law: Yes

Source: Arizona Department of Economic Security - Labor Division

# PROPERTY TAX

# **RATES PER \$100 ASSESSED VALUATION**

1980

City \$1.50
County .82
State 1.25
Unified School District 6.71
Junior College .61

Source: The Arizona Tax Research Association

# UTILITIES

Electricity: Power Supplier - Arizona Public Service Company

Natural Gas: Distributor - Southern Union Gas

Water:

Supplier - City of Winslow

Maximum Daily Capacity - 2,500,000 GPD

Peak Load - 1,328,000 GPD

Sewers:

Storm Sewers - No Sanitary Sewers - Yes

Treatment Plant Type - Activated Sludge

Capacity - 1.60 MGD Present Load - 1.0 MGD

Solid Waste Disposal - Sanitary Landfill

Other Fuels:

None

Source: Arizona Office of Economic Development and Planning, City of Winslow Sewage Treatment Plant, Arizona OEPAD Waste Water Needs Assessment (draft), Arizona OEPAD Domestic Water Needs Assessment (draft)

## MEDICAL FACILITIES

Hospitals:

1 (42 beds)

Physicians: Dentists:

3 7

Chiropractors:

Ambulance Service:

2

Other:

Navajo County Health Department Annex

Public Health Service Indian Clinic Santa Fe Clinic (Santa Fe Railway) Winslow Convalescent Center

Source: Northern Arizona Health Systems Agency, Arizona Office of Economic Development and Planning

### TRANSPORTATION

Highways:

U.S. 180, U.S. 66(I-40), Arizona 87, Arizona 99

Railroad:

Atchison, Topeka, Santa Fe

Bus:

Continental Trailways

Greyhound

Mogollon Stagelines

Airport:

Two paved runways, UNICOM radio, Cochise

Airlines (2 daily flights), Desert Air Service (3 daily

flights)

City Mass Transit:

No

Specialized Transit:

Winslow Senior Citizen's Center

Source: Arizona Office of Economic Development and Planning, NACOG Region III Transit Development Plan (unpublished)

### **COMMUNITY FACILITIES**

Churches:

2 Catholic

2 Latter Day Saints

18 Protestant

Motels:

20

**Hotels:** 

None

**Shopping Centers:** 

12 1

Libraries: Other:

Unknown

Source: Arizona Office of Economic Development and Planning

### RECREATION FACILITIES

2 Parks: 2 Pools: Drag Strip: 1 Racquetball Courts: 4 Indoor Theaters: 1 1 Drive-in Theaters: Roller Rink: 1 Bowling Alley: 1

Other: Rodeo Ground, Football and Baseball Fields

Source: Arizona Office of Economic Development and Planning

### FINANCIAL INSTITUTIONS\*

	Office	Service Area
Great Western Bank	1	Statewide
Valley National Bank	1	Statewide
Western Savings & Loan	1	Statewide

<sup>\*</sup>Navajo County, including Winslow, has been designated as a Redevelopment Area by the Economic Development Administration.

Source: Arizona Office of Economic Development and Planning

# **GOVERNMENT SERVICES**

Local Government:

Mayor, Council, Administrator

Police Department:

21 Officers

Sheriff's Department:

4 Deputies in area

Fire Department:

8 full-time, 16 volunteers

Insurance Rating:

Grade 6

Source: Arizona Office of Economic Development and Planning

# **EDUCATIONAL INSTITUTIONS**

	No.	Faculty	Enrollment
Public Elementary	3	68	1,319
Public Junior High	1	21	400
Public High School	1	44	836

Native American Faculty in Public Schools:

2 Teachers, 6 Aides

Bilingual or ESL Programs in Public Schools: None

Private and Parochial Schools: Vocational/Technical Schools:

None None

Colleges:

Northland Pioneer College

(office)

Source: Arizona Department of Education, Winslow Public Schools

### **COMMUNICATIONS**

Newspaper: Winslow Mail (weekly)

The Reminder (3 times weekly)

Radio:
Television:

1 Local Station
Local Station - No

9 Cable

Telephone: Mountain Bell Telephone

Source: Arizona Office of Economic Development and Planning

# FOR FURTHER INFORMATION, CONTACT:

Navajo County Relocation Planning Group c/o Larry Largent Community Counseling Centers, Inc. 1015 East Second Street Winslow, AZ 86047 (602) 289-3383

City of Winslow P. O. Draw L Winslow, AZ 86047 (602) 289-2422

Winslow Indian Center 529 West Second Street Winslow, AZ 86047 (602) 289-3986

# HOLBROOK, ARIZONA

Holbrook is located in northwestern Navajo County on the banks of the Little Colorado River. It is surrounded by bluffs and mesas about 300 feet higher than the town itself. Holbrook was established in 1880 when the railroad was built and was incorporated in 1917.

Holbrook is the county seat of Navajo County, and the government sector is a significant factor in employment. The location of the city on U.S. 66 (I-40) makes tourism an important contributor to the local economy, and Holbrook is also a trade center for northeastern Arizona. A large pulp and paper mill, 30 miles south of Holbrook, accounts for most of the manufacturing employment in the county.

Source: Arizona Office of Economic Development and Planning

#### MAJOR EMPLOYERS

	Product/Service	Employees	Union
Southwest Forest Industries			
(Snowflake)	Paper Mill	570	Option
Holbrook Public Schools	Education	286	No
Arizona Department of Transportation	Highways	160*	No
City of Holbrook	Service	150	No
Navajo County	Service	150*	No

<sup>\*</sup>Employees in the Holbrook area only,

Source: Holbrook Chamber of Commerce and Individual Employers.

# POPULATION

	1970	1979	1990 est.
City	4,759	5,766	8,147
County	47,600	73,677	100,402

Source: Arizona Department of Economic Security, U.S. Bureau of Census

### CLIMATE

Average Temperature January 32.9° July 77.3° 7.37 inches Annual Average Rainfall Annual Average Snowfall 4.9 inches

Source: Arizona Office of Economic Development and Planning

### LABOR ANALYSIS 1979

Radius of Drawing Area: City Civilian Labor Force: 2,170 Employed: 2,640 Unemployed: 70 Unemployed Rate: 2.6% Right-to-Work Law: Yes

Source: Arizona Department of Economic Security - Labor Division

1980

### PROPERTY TAX

# RATES PER \$100 ASSESSED VALUATION

City \$1.47 County .82 State 1.25 Unified School District 7.51 Junior College .61

Source: The Arizona Tax Research Association

### UTILITIES

Electricity: Power Distributor - Arizona Public Service Company

Natural Gas: Distributor - Southern Union Gas Company

Water: Supplier - City of Holbrook

Maximum Daily Capacity - 4,564,000 GPD (est.)

Peak Load - 986,300 GPD

Sewers: Storm Sewers - No Sanitary Sewers - Yes

Treatment Plant Type - Secondary

Capacity - .76 MGD Present Load - 1 MGD Solid Waste Disposal

Other Fuels: 2 LP Distributors

Source: Arizona Office of Economic Development and Planning, Arizona OEPAD Waste Water Needs Assessment (draft), Arizona OEPAD Domestic NACOG - Holbrook Comprehensive Development Plan (unadopted), City of Holbrook

### MEDICAL FACILITIES

Hospital:

1 (23 beds)

Physicians: Dentists: 5 2

Chiropractors:

1

Ambulance Service: Other:

Navajo County Health Department

Navajo County Preschool for Handicapped Children

**HEW Indian Health Dental Service** 

Source: Northern Arizona Health Systems Agency, Arizona Office of Economic Development and Planning

### TRANSPORTATION

Highways:

I-40 (U.S. 66), Arizona 77 and 180

Railroads:

Atchison, Topeka and Santa Fe; Apache

Bus:

Continental Trailways

Greyhound

White Mountain Passenger Lines

Airport:

Holbrook Municipal Airport

City Mass Transit:

No

Specialized Transit:

Holbrook Senior Citizens Center

Source: Arizona Office of Economic Development and Planning, NACOG

Region III Transit Development Plan (unpublished)

#### **COMMUNITY FACILITIES**

Churches:

1 Catholic

2 Latter Day Saints

8 Protestant

Motels: Hotels:

26 None

Shopping Centers:

None

Libraries: Other:

2 Museum

Fine Arts Center

# RECREATION FACILITIES

Parks:

4

Golf Course:

1 5

Tennis Courts:
Baseball Fields:

6 1

Football/Track Movie Theaters: Bowling Alleys:

1 1

Source: NACOG - Holbrook Comprehensive Development Plan (unadopted)

# FINANCIAL INSITUTIONS\*

	Offices	Service Area
Great Western Bank	1	Statewide
Valley National Bank	1	Statowida

<sup>\*</sup>Navajo County, including Holbrook, has been designated a Redevelopment Area by the Economic Development Administration.

Source: Arizona Office of Economic Development and Planning

### **GOVERNMENT SERVICES**

Local Government:

Mayor, Council, City Manager

Police Department:
Sheriff's Department:

Chief, 20 Officers

Sheriff's Department: Fire Department:

24 Deputies 24 volunteers

Insurance Rating:

Grades 7 and 9

Source: Arizona Office of Economic Development and Planning

### **EDUCATIONAL INSITUTIONS**

	No.	Faculty	Enrollment
Public Elementary	4	73	1,428
Public High School	1	45	892
Native American Faculty	in Public Schools:	3 teachers,	4 aides
Bilingual or ESL Program	s in Public Schools:	No	
Private & Parochial School	ols:	2	
Vocational/Technical Sch	nools:	1	
Colleges:		Northland :	Pioneer College

Source: Arizona Department of Education

### COMMUNICATIONS

Newspaper:

No local daily

Holbrook Tribune News (weekly)

Radio:

1 Urban station

Television:

Local stations - No

4 Cable

Telephone:

Continental Telephone Company of the West

(community college)

Source: Arizona Office of Economic Development and Planning, Continental Telephone Company of the West

# FOR FURTHER INFORMATION, CONTACT:

City of Holbrook 465 First Avenue Holbrook, AZ 86025 (602) 524-6225

Navajo County Information and Referral Service Governmental Complex Holbrook, AZ 86025 (602) 524-6161

# GALLUP, NEW MEXICO

Situated on the New Mexico-Arizona border, Gallup lies on the southwestern portion of the Colorado Plateau with elevations in the area ranging from 6,000 to 9,150 feet. Gallup

was incorporated in 1981 as a city and is the only incorporated area, as well as the county seat, of McKinley County. Portions of the Navajo and Zuni reservations lie within the county. McKinley is the only New Mexican county in which Native Americans are the majority population.

Gallup first developed as a depot station for transcontinental stagecoach lines, and expanded during construction of the Atlantic and Pacific Railroad. The economic base of Gallup is provided by the mining, government, trade, and service sectors. McKinley is an energy-rich country producing uranium, coal, natural gas, and petroleum. The government sector is an important component of the city's economy because of the federal monies directed toward improvement of conditions for the Native American population.

Source: The Impact of Energy Development on Gallup and McKinley County (MACOG); New Mexico Statistical Abstract 1979-80

### **EMPLOYERS**

	Product/Service	Employee	Union
Federal Government Agencies	Service	3,069	Option
State & Local Government Agencies	Service	1,675	No
Kerr-McGee Corporation	Uranium	1,175	No
United Nuclear Corporation	<b>Uranium Processing</b>	1,100	Yes
Navajo Forest Products	Lumber	604	Yes
Pittsburgh & Midway Coal Mining	Coal Mining	300	Yes
Atchison, Topeka & Santa Fe Railway	Transportation	250	Yes

Source: Gallup Chamber of Commerce

### POPULATION

	1970	1979 est.
City	14,596	21,000
County	43,208	67,000

Source: Gallup Chamber of Commerce

### **CLIMATE**

Average Temperature	January 27.8°	July 70.1°
Annual Average Rainfall	10.79 inches	
Annual Average Snowfall	21 inches	

Source: Gallup Chamber of Commerce

## LABOR ANALYSIS 1978

Radius of Drawing Area: County
Civilian Labor Force: 20,251
Employed: 19,058
Unemployed: 1,586
Unemployment Rate: 7.8%
Right-to-Work Law: No

Source: Gallup Chamber of Commerce, New Mexico Statistical Abstract

1979-80

### PROPERTY TAX

# RATES PER \$100 BASED ON ONE-THIRD OF THE CURRENT MARKET VALUE

### 1979

City \$11.04 per thousand in city County State 4.15 17.24 Unified School District

Source: Community Profile compiled Galinder, Inc.

## UTILITIES

Power Distributor - City of Gallup Electricity:

Continental Divide Cooperative

Natural Gas: Distributor - Gas Company of New Mexico

Water: Supplier - City of Gallup

Maximum Daily Capacity - 3,750,000 GPD

Peak Load - 2,500,000 GPD 19.

Storm Sewers - Yes (15%) Sewers:

Sanitary Sewers - Yes

Treatment Plant Type - Primary and Secondary

Capacity - 2.5 MGD Present Load - 1.1 MGD Solid Waste Disposal - Landfill

Other Fuels: 4 LP Gas Distributors

Coal Source - Local Strip Mines

Source: Gallup Chamber of Commerce

## MEDICAL FACILITIES

Hospitals: 2 (121 beds)

Physicians: 26 Dentists: 7 Chiropractors: 7 Ambulance Service:

Other: **HEW Gallup Indian Medical Center** 

**HEW Gallup Indian Medical Center Crippled** 

Childrens' Service

Gallup Community Health Clinic McKinley County Health Office McKinley Manor (long-term care)

Source: Gallup Chamber of Commerce, New Mexico Health Systems Agency

# TRANSPORTATION

Highways: I-40, U.S. 666, New Mexico 32 Railroads: Atchison, Topeka, and Santa Fe

Bus: Greyhound

Continental Trailways

Airport: Gallup Municipal Airport, commercial service by

Frontier Airlines.

City Mass Transit:

None

Specialized Transit:

Gallup Senior Citizens Dial-A-Ride

McKinley Area Service for the Handicapped

Source: Gallup Chamber of Commerce, New Mexico Directory of Commu-

nity Agencies

### **COMMUNITY FACILITIES**

Churches:

Motels:

5 Catholic

2 Latter Day Saints 30 Protestant and other

30

10

1

Hotels: Shopping Centers: Libraries:

Other:

**Convention Center** 

Museum

Source: Gallup Chamber of Commerce

### RECREATIONAL FACILITIES

Bowling Alleys: 1
Parks: 14
Pools: 2
Tennis Courts: 8
Indoor Theaters: 4
Outdoor Theaters: 1
Ball Fields: 10
Golf Course: 1

Other:

Red Rock State Park Gallup Country Club

Source: Gallup Chamber of Commerce

### **FINANCIAL INSTITUTIONS**

Offices	Service Area
1	Statewide
2	Statewide
2	Region
1	Local
1	Local
	_

Source: Gallup Telephone Directory - Mountain Bell Telephone, Albuquerque Telephone Directory - Mountain Bell Telephone

# **GOVERNMENT SERVICES**

Local Government:

Mayor, Council 79 full-time

Police Department:

37 full-time, 11 volunteers

Fire Department: Insurance Rating:

Grade 7

Source: Gallup Chamber of Commerce

# EDUCATIONAL INSTITUTIONS (McKinley County)

	No.	Faculty	Enrollment
Public Elementary*	21	340	7,726
Public Junior High	5	120	3,312
Public High School	5	140	2,700

### \*Consolidated Schools

Private and Parochial Schools:

Mon

Vocational/Technical Schools:

None

Colleges:

University of New Mexico (Branch)

Cristo Rey College Seminary

Source: Gallup Chamber of Commerce, Gallup Telephone Directory -

Mountain Bell Telephone

### **COMMUNICATIONS**

Newspapers:

Gallup Independent (daily)

Radio:

5 Local Stations
1 Local Station

Television:

10 Cable

Telephone:

Mountain Bell Telephone

Source: Gallup Chamber of Commerce

# FOR FURTHER INFORMATION, CONTACT:

Gallup Indian Community Center 200 West Maxwell Gallup, NM 87301 (505) 722-4388

Gallup Chamber of Commerce 103 West 66 Avenue P. O. Box 1395 Gallup, NM 87301 (505) 863-4102

Catholic Indian Center 506 West 66 Avenue Gallup, NM 87301 (505) 863-4763

# FARMINGTON, NEW MEXICO

Farmington is located in extreme northwestern New Mexico at the confluence of the San Juan, Animas, and La Plata Rivers. The city is set in a terrain of plateaus and mesas at an altitude of 5,395 feet. Beginning in 1876, settlers built a flourishing farm and ranch economy along the three river valleys that converge at what is now Farmington, and the town was incorporated in 1901.

Until 1950, Farmington and the surrounding region were noted mainly for a large annual fruit crop and extensive cattle and sheep raising. Large scale oil and gas development began

in the San Juan Basin that year. By 1956, over one billion dollars had been invested in oil, gas, uranium, and other mineral production in the Four Corners area.

Source: Farmington Chamber of Commerce

# **MAJOR EMPLOYERS**

	Product/Service	<b>Employees</b>	Union
	0 0 1	1 000	
El Paso Natural Gas Company	Gas Producer	1,200	No
City of Farmington	Utilities	592	No
Utah International, Inc.	Coal Mining	568	Yes
Arizona Public Service Company	Electricity	567	Yes
JESCO, Inc.	Maintenance	400	Yes
San Juan Regional Medical Center	Service	337	No
Public Service Company of NM	Electricity	300	<b>IBEW</b>

Source: Farmington Chamber of Commerce

# POPULATION

	1970	1979 est.
City	21,979	40,100
County	52,517	75,000

Source: Farmington Chamber of Commerce

### **CLIMATE**

Average Temperature	January 28.6°	July 74.1°
Annual Average Rainfall	7.5 inches	•
Annual Average Snowfall	12.3 inches	

Source: Farmington Chamber of Commerce

# **LABOR ANALYSIS 1978**

Radius of Drawing Area:	County
Civilian Labor Force:	34,842
Employed:	32,613
Unemployed:	1,932
Unemployment rate:	5.5%
Right-to-Work Law:	No

Source: Farmington Chamber of Commerce

Source: Farmington Chamber of Commerce, New Mexico Statistical

Abstract 1979-80

### PROPERTY TAX

# RATES PER \$100 BASED ON ONE-THIRD CURRENT MARKET VALUE

	1979
	(effective rate)
City	\$5.50
County	6.89
State	4.25
Unified School District	19.92

### UTILTIES

Electricity: Natural Gas: Power Distributor - City of Farmington Distributor - Gas Company of New Mexico

Water:

Supplier - City of Farmington

Maximum Daily Capacity - 24,000,000 GPD

Peak Load - 19,800,000 GPD

Sewers:

Storm Sewers - Yes (15%)

Sanitary Sewers - Yes Treatment Plant Type - Secondary

Capacity - for 50,000 people Present Load - 3.5 MGD

Selid Waste Disposal - Sanitary Landfill

Other Fuels:

4 LP Gas Distributors

Source: Farmington Chamber of Commerce

# MEDICAL FACILITIES

Hospitals:

1 (143 beds)

Physicians:

36

Dentists:

20

Chiropractors: Ambulance Service: 9

Other:

Four Corners Aviation, Inc. (air ambulance)

Health Development, Inc. San Juan County Health Office San Juan E.O.C. Family Planning San Juan Manor (long-term care)

Source: New Mexico Health Systems Agency, Farmington Chamber of

Commerce

# TRANSPORTATION

Highways:

U.S. 550, U.S. 64, State 170

Railroads:

None

Bus:

Continental Trailways

Airport:

Farmington Municipal Airport

Commercial Service - Frontier Airlines

City Mass Transit:

Specialized Transit:

Farmington Senior Citizens

Source: Farmington Chamber of Commerce, San Juan County Human Re-

source Directory

### **COMMUNITY FACILITIES**

Churches:

2 Catholic

11 Latter Day Saints

48 Protestants and Other

Motels:

20

Hotels:

None

**Shopping Cents:** 

Libraries:

Other:

Civic Center

Salmon Ruins Museum Farmington City Museum

Source: Farmington Chamber of Commerce

### RECREATION FACILLITIES

Auto Race Track: 1 2 Bowling Alleys: 2 Indoor Theaters: 2 **Outdoor Theaters:** 17 Parks: 7 Ball Field Pools: 2 8 **Tennis Courts:** 2 Golf Course: 2 Skating Rinks:

Other: San Juan Country Club

Navajo Lake

Source: Farmington Chamber of Commerce

### FINANCIAL INSTITUTIONS

	Offices	Area Served
The Citizens Bank	2	Statewide
Farmington National Bank	3	Region
First National Bank	1	Region
San Juan National Bank	1	Local
The Valley	1	Statewide
Four Corners Savings & Loan	1	Region
Sandia Savings Association	1	Statewide
San Juan Savings & Loan	1	Local

Source: Mountain Bell Telephone Directory (Farmington), Mountain Bell, Telephone Directory (Alburquerque)

### **GOVERNMENT SERVICES**

Local Government: Mayor, Council, City Manager

Police Department: 112 full-time

Fire Department: 52 full-time, 14 volunteers

Insurance Rating: Grade 7

Source: Farmington Chamber of Commerce

# **EDUCATIONAL INSTITUTIONS**

	No.	Faculty	Enrollment
Public Elementary	10	158	3,517
Public Junior High	3	86	1,784
Public High School	1	72	1,616

Bilingual or ESL Programs in Public Schools: Bilingual program at McCormic Elementary, bicultural program through Johnson O'Malley funds, Title IV Counseling in junior and senior high school.

Private and Parochial Schools 3
Vocational/Technical Schools 4

Colleges New Mexico State University (branch)

Source: Farmington Chamber of Commerce, San Juan County Human Resources Directory

# **COMMUNICATIONS**

Newspapers:

Farmington Daily Times

Radio:
Television

4 Local Stations
1 local Stations

5 Cable

Telephone:

Mountain Bell Telephone

Source: Farmington Chamber of Commerce

# FOR FURTHER INFORMATION, CONTACT:

Community Indian Center 101 East Animas Farmington, NM 87401 (505) 327-2925

National Indian Youth Council 609 South Behrend Farmington, NM 87401 (505) 327-5341

Farmington Chamber of Commerce 555 East Main P.O. Box 267 Farmington, NM 87401 (505) 325-0279