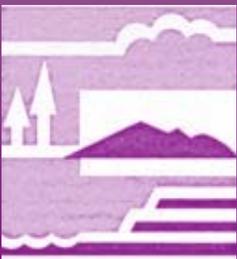


# Tusayan Area Plan & Design Review Overlay



**An Amendment to the Coconino County Comprehensive Plan**

**Development by the Residents of the Red Lake Area  
with assistance of the County Community Development Department**

**Area Plan Approved by the Coconino County Board of Supervisors April 7, 1995  
& Amended May 5, 1997; Design Review Overlay Approved October 16, 1995**

# Tusayan Area Plan & Design Review Overlay

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## TUSAYAN AREA PLAN ADOPTED BY

The Tusayan Planning Committee  
April 7, 1995

The Planning & Zoning Commission  
April 25, 1995

The Coconino County Board Of Supervisors  
June 19, 1995

Amended May 5, 1997

## DESIGN REVIEW OVERLAY ADOPTED BY

The Tusayan Planning Committee  
July 12, 1995

The Planning & Zoning Commission  
August 29, 1995

The Coconino County Board Of Supervisors  
October 16, 1995

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**NOTE:** The Tusayan Study Area Map (page 5), Area Planning Committee Survey Results (pages 14-21), and the Committee Addendum (pages 31-33) are not included in this electronic version of the Plan. These materials may be obtained from the Coconino County Community Development Department.

## TUSAYAN VISION STATEMENT

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As the principal gateway to the Grand Canyon, the community of Tusayan plays an important role in the provision of goods, services, and information to tourists and visitors. In addition to having a tourist focus, Tusayan is home for approximately 550 residents and employees. Because the private land base is severely restricted, to a mere 144 acres in the developed core, and is surrounded by U.S. Forest Service and Park Service lands, interaction with other agencies plays a key role in growth and development.

### **Tusayan as a Model Gateway**

This vision foresees Tusayan as a major orientation and staging center for visitors to Grand Canyon National Park. As travel into the park by automobile becomes more difficult or impossible, Tusayan may want to provide the means for tourists to stop, park, become educated about the Park and its resources, and be transported into the Park by a variety of transit modes.

The aesthetic quality of Tusayan would be very high to present a favorable impression with tourists as the stop or pass through. Appropriate architectural designs, excellent and extensive landscaping, and restricted signage will provide the much improved appearance desirable for a major park entry.

As an information center, Tusayan would contain diverse tourist services especially related to the natural, cultural, and historic aspects of the area. Education rather than entertainment would be the focus.

Tusayan would be a world model community that leads the way in environmental consciousness. The protection of existing natural resources and the use of technological innovation in managing water, wastewater, and solid waste would be a high priority.

### **Tusayan as a Community**

The needs of the community's residents are also important. It should be a place where people can live a long time, raise families, and have the foundation and fabric that hold a community and neighborhood together. Facilities such as schools, churches, parks, and a library would be readily available, as would such accepted town service as police and fire protection and emergency medical services.

The provision of decent, affordable housing for all employees as close as is feasible to the employment centers is the most basic community and resident need. New commercial projects shall provide housing as they are developed. Existing housing shall be continuously upgraded to improve the overall sense of community.

Goods and services essential to the daily life of residents should be provided. Small businesses that do not change the small-town character of Tusayan are appropriate. To some extent, support services for the community's residents should be separate from visitor services.

Citizens will have a voice in the planning and future development of Tusayan and representation in the processes and plans affecting the community. Residents will have pride in being part of the community and in being involved.

### **Tusayan as Provider of Visitor Services**

Tusayan will provide a positive visitor experience, leaving tourists glad that they stopped. The community will continue to provide a range of opportunities for lodging, eating, and limited shopping. The addition of new educational attractions such as museums or cultural and historic centers is encouraged, including those with a focus on native peoples.

Additional trails and bike paths would improve visitors; enjoyment of the natural resources as would orientation and educational facilities which are "resource-based."

While Tusayan will continue to provide essential services to Park visitors and while the quality of these services will be improved and some services may be expanded as Park visitation increases, the uniqueness of Tusayan, including its restricted land base, lack of water, and rural environment, must be recognized in establishing reasonable limits on future growth.

### **Tusayan as Cooperator with Other Agencies**

The community of Tusayan is surrounded by lands controlled by the U.S. Forest Service, National Park Service, and Arizona Department of Transportation. Each of these agencies and private land owners have plans, management policies, and operations that significantly affect Tusayan. This vision foresees Tusayan playing a major role in the plans and actions undertaken by these entities.

Because the Park Service is currently preparing a new General Management Plan for Grand Canyon National Park which may recommend moving functions and services out of the Park to Tusayan, the community should continuously interact with Park officials.

Similarly, Forest Service management plays a significant part in shaping Tusayan. The Tusayan District of the Kaibab National Forest envisions a model district for interpretation and educational opportunities. In addition, major projects have been proposed for which the Forest Service will actively seek comments from local residents.

The ADOT-owned Grand Canyon Airport also has a major influence on Tusayan. Tusayan residents and ADOT officials and the aviation industry must work together as the airport grows to meet increasing demands.

With cooperation and coordination, Tusayan and the other major governmental entities will work together to solve common problems and to improve the level of services for both visitor and resident.

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## INTRODUCTION

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On February 16, 1993, the Board of Supervisors appointed a nine-member citizens Committee, with two ex-officio members, to study various planning-related issues and to develop policies to guide future growth and development in the Tusayan Community. With two resignations and four new appointments within the first couple of months, the Committee ended up with eleven voting members and two non-voting members. The committee identified the issues of concern including infrastructure, housing, community, public safety, transportation, area planning, natural resources and environmental quality, and land use. The committee conveyed for the first time on March 3, 1993 and 40 times over the following two year period, concluding on April 7, 1995.

### **Study Area**

The study area was established by the committee at its first meeting. The area extends three miles north to the Grand Canyon National Park boundary, and four miles south of the existing community and five miles on either side of Highway 64 (*see map on page 5*).

### **Resident Survey**

In June, 1993 the Committee developed, administered, and tabulated a resident survey which included not only Tusayan residents but residents of Grand Canyon Village, Woodland Ranch, and Valle. The results are included after the History Section of this Introduction and are referred to throughout this plan.

### **Flexibility and the Dynamics of a Plan**

During the two year process of developing the plan, several new projects were approved and there were a considerable number of changes in and around the community. As an example, a second water well was drilled in Tusayan and two wells were installed in Valle. The Holiday Inn Express, an adjacent all suites hotel, and employee housing projects were all approved by the Board of Supervisors during the planning process. The text preceding the goals and policies in each section may not represent an up to the minute statement of conditions as they exist on the date of plan adoption.

The plan has no established time period. The last Tusayan plan, the South Grand Canyon Specific Area Study, was adopted by the Board in 1978. Ideally, this plan will be updated and amended regularly. A major rewrite of the plan would most likely require the appointment of another citizens' committee. A "minor" amendment could be requested by an individual and processed in conjunction with a zone change application. It is possible, in fact likely, that not all policies have been perfectly formulated, necessitating, the need for reassessment and amendment.

### **Implementation**

The Tusayan Area Plan contains goals and policies. The goals provide a direction for the community. The policies were designed by the planning committee to support, and be complementary to, the goals. The policies are statements of intent to accomplish the goals.

Upon adoption, this Plan becomes a part of the Coconino County Comprehensive Plan and serves as the official guide for future development. The Coconino County Zoning Ordinance and Subdivision Ordinance contain provisions that decisions made by the Planning and Zoning Commission and Board of Supervisors shall be consistent with the General Plan. In order to approve development projects, the following findings must be met:

Implementation of the Plan can be achieved through the application of conditions of approval which address the goals and policies in the plan.

For zone changes:

That the change is consistent with the goals, objectives, and policies of the General Plan and this ordinance.

For conditional use permits:

That the proposed conditional use is consistent with and conforms to the goals, objectives, and policies of the General Plan or specific plan for the area.

For subdivisions:

That the proposed subdivision conforms to the goals, objectives, and policies of the Coconino County Comprehensive Plan and its amendments.

Most decisions concerning zoning changes, subdivisions, and conditional use permits made by the Planning and Zoning Commission and Board of Supervisors contain conditions of approval which must be met either prior to or during construction. These typically include acquisition of necessary health and building permits, landscaping, lighting, roads, parking, grading and excavation, drainage, and signs.

## **Tusayan: Then and Now**

*By Ronald L. Warren*

No history of Grand Canyon National Park would be complete without mention of the enclave of private property at the National Park's south boundary which is now known as Tusayan. The community's history dates back almost to the beginning of Grand Canyon National Park in 1919.

From 1905 to 1919, George Reed was one of the few forest service rangers working in the Tusayan Forest Reserve (now called the Kaibab National Forest). Stationed at Hull Tank Cabin, he patrolled the forest south of the Grand Canyon. In a remote corner of the forest, the Iowa-born Reed saw potential for a successful vegetable farm in the rich soil of the Coconino Wash. Reed quit the forest service and in April 1920, the same month that Grand Canyon was formally dedicated as a National Park, homesteaded a 160 acre tract of land in Sections 23 and 24 of Township 30, some seven miles south of the Grand Canyon Village.

Along with his wife, Mable, the 40-year old Reed grew whatever would grow, primarily potatoes, in the natural clearing along the Coconino Wash. He was a good farmer. In addition to feeding his own family, he sold his surplus crop to the hotels in the National Park. Reed's fresh vegetables were soon in such demand that, in March 1927, he applied to the forest service for a five acre permit to farm on government land west of his homestead and on portions of four other homestead entries.

But getting his vegetables to Grand Canyon Village was more of a problem. The nearest "highway" connecting Grand Canyon with the "outside world" followed the railroad tracks from Williams by way of Anita Station and Rowe's Well. Another came from Maine (Maine, Arizona -- not the state!) and connected with the Desert View road near Grand View Point. Branching off the road from Williams to Grand Canyon, a dirt trail led east, up the

Coconino Wash, to the Reed Homestead. The trail was the handiwork of one of the mining and lumbering camps which operated in the forest south of Reed's farm. Since George Reed didn't have an automobile (few people did) during his first years of farming, he made the seven mile journey to the Grand Canyon Village by horseback or in a mule drawn wagon.

Reed's transportation problem was solved in 1928, when the federal government agreed to build a new highway to the Grand Canyon from Williams as part of a deal for the National Park Service to acquire ownership of the Bright Angel Trail which was, at the time, owned by Coconino County. Unlike today, in the 1920s and 1930s, there were many "inholdings" of private and County property inside the boundaries of Grand Canyon National Park. At a total construction cost of \$750,000, the June 1928, road alignment skirted across the west edge of the Reed Homestead and provided paved access to Reed's farm. Today, parts of the old roadbed are still visible running through the Canyon Pines Mobile Home Park and north through Long Jim Canyon toward the Grand Canyon Village. The Park's South Entrance is now approximately one mile northwest of its 1928 location.

With the new highway came new neighbors for the Reeds. The first was Rudolph "Chick" Kirby who opened a store and campground in August 1928, on 10 acres of land leased from the forest service approximately where the Moqui Lodge is today. Kirby would no doubt have preferred to build his campground closer to the Grand Canyon Village, but was unable to secure a permit from the National Park Service. A few years after building the campground, Kirby sold his business to Charles Green and, by 1934, the place was known as "Moqui Camp." In the late 1930s, Civilian Conservation Corp workers constructed the first rock cabins of the present Tusayan District Administrative Office of the forest service.

Not everyone thought moving outside the National Park was a good idea though. In January 1929, Grand Canyon Postmaster Art Metzger had asked the forest service to survey a 10 acre parcel adjacent to Kirby's store for a place to build an American Legion Clubhouse. Park Service rules prohibited even civic associations like the Legion from building inside the Park's boundaries. The "Legion Hut" was never built, however, because of objections from members who felt it was too remote!

When the 21st Amendment to the U.S. Constitution ended the nation-wide prohibition on the sale of alcohol, Tony Galindo leased a portion of the Reed Homestead to build a bar and tourist motel. The site chosen was along the east side of the new highway on a rocky outcropping above the Coconino Wash which periodically flooded from summer thunderstorm downpours. Besides, George Reed considered the good meadow farmland too valuable to waste on a bar and auto court. The new business, which Galindo named the "Tusayan Bar" (after the surrounding National Forest) was a popular "watering hole" for Santa Fe Railroad employees and neighboring ranch cowboys on paydays. The State of Arizona, in accordance with its custom, installed a sign alongside the highway to identify the private property. They could have used Reed's name, but instead posted a sign adjacent to the bar identifying the area as "Tusayan." After being open only a few years, however, the bar was burned to the ground by a fire of mysterious origin. The business was never rebuilt, but its rock fireplace still stands in the middle of what is now known as the Canyon Pines Mobile Home Park.

Farming the land was hard work under the best of conditions. As George Reed grew older, the rigors of his farming life became less tolerable to him. So, when the Ten X Cattle Company offered to buy his homestead in the 1930s, Reed called it quits and sold out. For the next decade, Reed's homestead was used as a cattle ranch. Not much happened in Tusayan, or for that matter, the Grand Canyon, during the war years of the 1940s. Automobile gasoline was rationed because of the war and tourist visitation to the Park declined to almost nothing. After the war, though, visitation to Grand Canyon quickly exceeded its pre-war

levels. Both locals and returning veterans were quick to see the business potential of tourism to the National Park.

One of those who saw potential at the Grand Canyon was Ed Montgomery who owned Arizona Helicopter Service, one of the first helicopter businesses in the United States. Headquartered in Tucson, Montgomery would take his Bell Model 47 helicopters wherever there was business. In 1948, he had been hired by an Episcopal missionary to "sling load" a surplus military quonset hut to Havasupai Canyon to be used as a chapel. The charter didn't go well as Montgomery's under-powered helicopter crashed (neither pilot nor quonset hut were hurt) some mile and a half north of the Red Butte airfield, but the idea of carrying tourists (who weighed less than the quonset hut!) on sightseeing tours over the Grand Canyon stuck with him and in May 1950, Montgomery leased the site of the old Tusayan Bar for a summer helicopter sightseeing business. It was soon a popular diversion for Canyon visitors and local residents alike. Getting spare parts to Grand Canyon, and the pursuit of other more profitable business interests, combined to close the fledgling air tour company within two years, however.

Indeed, the early to mid-1950s was a time of changing directions for Tusayan. The Ten X Cattle Company realized that more money could be made by selling off the land than by ranching on it. One of the first organizations to move there was the Grand Canyon Post of the American Legion, still without a permanent home inside the National Park. Buford Belgard had been elected president of the local chapter in 1950 and was determined to find a place for the Legion Post to call home. As one of his first official duties, he began negotiation with the Ten X Cattle Company to buy a part, or even all, of Tusayan. After two years of wheeling and dealing, the Legion finally bought two acres, including George Reed's original home, in 1952. The house was converted into the Legion Hut, but is today the site of the Quality Inn Grand Canyon. Belgard himself bought land adjacent to the Legion Hut and built a house which he later sold to Franz Rotter, owner of the Quality Inn.

As a side note, buying the property was easier than getting clear ownership to it. Due to the death of some of the principals in the Ten X Cattle Company, and the snaillike pace of the legal process, it took Belgard over eight years to finally clear the title to the land.

The biggest population boom in the 30-plus year history of Tusayan came a year later in 1953, when the Golden Crown Mining Company, owners of the "Hogan's Orphan" uranium mine on the rim of the Canyon near Powell Point, purchased a 10 acre parcel on the northwesterly side of the meadow for a campsite to house their mine employees. After the mine closed, the campsite was used as a religious retreat for a few years. Later, in the 1980s, the "U" shaped campsite building somehow became known locally as "Ed's Beds," a nondescript name since there was never a person named "Ed" involved with the property. The Quality Inn office and restaurant now cover the site of the retreat.

A corner of the campsite property, fronting on Highway 64, was leased by "Preacher" Paul Milton, a former manager for Grand Canyon Airlines, and his wife Kay, for a gift shop they named "The Western Village." In 1967, the entire 10 acre campsite (and the "Orphan" mine adjacent to Powell Point inside the National Park) was sold to the Cotter Corporation, another uranium mining business. It was resold in 1982 to airline owners John Seibold and Elling Halvorson.

The balance of the Reed property was bought from the Ten X Cattle Company by R.P. "Bob" Thurston, a prominent Williams businessman and rancher, who had been ranching in the area west of the Reed Homestead since the 1920s. R.P. Thurston's acquisition of the property, and his family's foresight, would prove to be a key factor in the development of Tusayan.

In 1951, the State of Arizona decided to improve Highway 64 to accommodate the ever increasing number of cars traveling to the National Park. Bob Thurston offered to "sell" the state a right-of-way for \$1 if they would realign Highway 64 to run directly north through the middle of the homestead. Having served on the Coconino County Road Commission, Thurston knew the

value of highway frontage. The Highway Department quickly agreed, and in 1953-54 the new highway was built where it is today. It was this realignment that provided enough roadside frontage for Tusayan to be developed.

With a modern new highway bringing tourists to the Canyon, the Thurston family built the Red Feather Lodge in 1963-64 on a small rise in the middle of the valley. On the opposite side of the highway from the Lodge, they built the "White Service Station," selling fuel and providing vehicle maintenance. The service station site is now occupied by the TWA Services Trading Post and McDonald's Restaurant. To the south of the Lodge a new "Tusayan Bar" finished the first of Thurston's tourist ventures. This "new" Tusayan Bar, after operating under several managements (Kay and Pete Jennings, Jim and Regina Clift, Tom and Regina Jaworski, John Thurston, Clarinda Vail, and possibly others) and names ("The Tusayan Steak House and Social Club," "The Spot"), finally closed in 1993 and is now the site of a Holiday Inn Express hotel expected to open in 1995.

Even before the highway was built through Tusayan, the U.S. government announced plans in the spring of 1952 to build a new public, all-weather airport to serve the Grand Canyon National Park. At the time, the only two airfields in the South Rim area, one at Red Butte and the other at Valle, were both privately-owned, and neither was an all-weather facility. Good intentions, however, didn't get the airport built. Not until 1964 did the State of Arizona actually start construction on a new airport. The site chosen was a meadow alongside Highway 64 stretching southward over a mile from the edge of the Reed (now Thurston) property to the edge of "Rain Tank" property. Primarily on forest service land, a portion of the property needed at the north end ran onto Thurston property. Bob Thurston immediately realized a new airport would increase the value of his neighboring land and once again cooperated with the state in getting the property needed for the airport.

After the new airport was built, tourist-oriented businesses were quick to lease or buy land in

Tusayan from "Bob" Thurston and his family.. Among the first were two Bonanza Airlines (later Hughes Air West) pilots, brothers Boyce and Royce Fish, who built a small, single story motel at the south end of Tusayan on property purchased from Bess (Mrs. R.P.) Thurston. Their initial building is now the "100" building for the Grand Canyon Squire Inn Best Western. The most ambitious project, a 200-plus space RV park, general store, and restaurant complex, was started within a few years on the east side of the highway by the Babbitts, a pioneer Coconino County ranching and mercantile family. Catering to locals and tourists alike, Jack and Betty Settles opened a small grocery market which they named the "Food Mart" (now known as "Stix Food Mart"). At the same time, the Thurston family, together with Bob Kendall as the manager, opened the South Rim Mobile Home Park for housing employees of the new businesses. "South Rim," as the mobile home park was known locally, was later split and sold to Wayne Learn who kept the original park name, and Elling Halvorson who kept the smaller "front" parcel, known locally as "Halvorson Park" and used exclusively by Halvorson's employees.

An innovative young contractor, Elling Halvorson had come to the Grand Canyon in 1964, the successful bidder on a massive Park Service project to rebuild the Park's trans-Canyon water pipeline. Needing a site to park the helicopters used on the project, Halvorson Lents Construction acquired a small parcel of land adjacent to R.P. Thurston's White Service Station in the spring of 1965. When not being used on the pipeline project, the helicopters were used for sightseeing air tours. Papillon Grand Canyon Helicopters, as Halvorson's business is now known, occupies the site. Soon, two other air tour companies tried to join in the aerial sightseeing business, neither successfully. With private land available after the realignment of Arizona Highway 64, more growth occurred in Tusayan between 1964 and 1969 than in its entire history up to that point.

Tusayan continued to grow. Local hotel development continued in an effort to keep up with increasing tourist demand for accommodations, including expansions of the Grand Canyon Squire Inn Best Western in 1974

and again in 1992, construction of the Quality Inn -- Grand Canyon by the Rotter family, and construction of the Seven Mile Lodge by the Slayton family, both in the 1980s. In the summer of 1994, ground was broken on a 129 guest room expansion of the Red Feather Lodge. In 1995, a Holiday Inn Express hotel, mentioned earlier, is also expected to open.

A McDonald's fast food restaurant came in to existence in the early 1980s to complement the various hotel restaurants, as did a pizza restaurant. The "Tusayan Steak House" moved from its original location to a new facility on the site of the former forest service district headquarters and directly across from the IMAX Theatre. In 1993, a Taco Bell Express opened at the IMAX Theatre and, in 1994, the Red Feather Lodge restaurant became a Denny's Restaurant franchise.

The Grand Canyon IMAX Theatre opened in 1984 on the site of the old "Western Village" gift shop. Towering above the Tusayan skyline, the massive IMAX Theatre featured a 35 minute movie, Grand Canyon -- The Hidden Secrets, and quickly became one of the most popular tourist attractions at Grand Canyon.

The expression "people go where the jobs are" holds true for Tusayan, notwithstanding there was no place for them to live. Unlike more established communities, very little housing has ever existed due to the shortage of privately-owned property. Though thousands of acres of undeveloped forest service land surround it, none of the public land has yet become available for residential housing. As a result, some Tusayan area employees chose to commute from the City of Williams. Most, however, took residence in one of the several employer-owned mobile home parks or apartment buildings. The first of the employer-owned facilities was built for Red Feather Lodge employees. Since that first "apartment building," three others have been constructed by McDonald's Restaurant, the Galaxy ("Domes"), and the Canyon Squire Best Western. In 1985, Grand Canyon Airlines built the 28-unit "Canyon Pines Mobile Home Park" for its employees.

That most lived in employer-provided housing does not mean that there were, or are, no privately-owned residences in Tusayan. All of the privately-owned residential housing in the community is clustered on a shaded hillside on the west edge of Tusayan, generally in the area of the original Reed cabin. The Franz Rotter family purchased the home originally built by Buford Belgard.

As the owners of the majority of the Tusayan property, the Thurston family built a rambling brick ranch-style residence adjacent to the Belgard/Rotter home. In the early 1960s, Bess Thurston sold a one acre parcel on the westerly side of the meadow to Emery Kolb, owner of Kolb Studios inside the National Park. Kolb only got as far as excavating a basement vault for storing his photographs in the rocky outcropping before dropping the house-vault idea. The home of John Thurston, grandson of R.P. Thurston, now occupies the Kolb site. Another acre site was sold to Mrs. Betty Verkamp (who, in 1994, sold the property to the Rotter family). Three one acre parcels were sold to the widow of the Thurston's South Rim Mobile Home Park manager, Bob Kendall, but the properties were never developed. In the 1980s, Bill Thurston, R.P. Thurston's son, sold two more acres west of the Thurston family home to Franz Rotter, who built two homes on them for his grown children. A third lot was sold to Joe Babbitt, owner of the Babbitt RV Park, who constructed an expansive log cabin-style home and guest house. The Babbitt home is now owned by Tom & Regina Jaworski, owners of the "new" Tusayan Steak House and operators of the Tourist Center owned by Elling Halvorson. Finally, the Slayton family, owners of the Seven Mile Lodge, constructed a personal residence southwest of the Thurston and Rotter homes.

In addition to lack of residential housing, a second limiting factor on new development in Tusayan has been water, not having enough of it locally to supply the residents and visitors, and what to do with the water after it has been used. Historically, the ranchers and farmers, like George Reed, made do with the rainwater and snow-melt they could capture in tanks. Since there was so little drinking water, getting rid of wastewater was not a

problem. Commercial developments, on the other hand, require a great deal more water. The problem of an adequate water supply was originally solved by R.P. Thurston, who set up a trucking business to haul water the 60 miles from Williams to Tusayan. Later, businesses either bought water from Thurston, or hauled their own. Some water was sold to the community by the National Park Service through an intermediary non-profit association, the Tusayan Water Development Association, but even then the cost of water was extremely high. In 1987, using a combination of practical "guesswork" and sophisticated satellite photos, a partnership consisting of several local businessmen drilled the first successful water well in Tusayan. While a vast improvement over hauling water from Williams by truck, the amount of water in the quarter-mile deep well is unknown and water conservation continues to be a high priority for Tusayan residents and businesses.

The problem of what to do with Tusayan's wastewater resulted in privately-funded construction of a sanitary treatment facility in 1972. Later, operation of the facility was taken over by the locally elected South Grand Canyon Sanitary District. Since the original construction the facility has been enlarged twice to accommodate on-going community growth.

Visitation to the National Park grew rapidly in the 1980s and the State of Arizona widened Highway 64 (US 180) to four lanes of traffic through Tusayan in 1987. Part of the multi-million dollar project included installation of sidewalks, but not the community requested street lights. Through the lobbying and self-help of Tusayan residents and businesses, street lights were finally installed by the Tusayan Lighting District.

During 1991-1992, a major improvement project at the Grand Canyon National Park Airport added new access roads and increased automobile parking to meet the needs of the growing air tour industry and to provide a new location for helicopter sightseeing companies which were being squeezed out of Tusayan by continued commercial development. It is expected that the two helicopter companies operating in the Tusayan community (Papillon Grand Canyon

Helicopters and Kenai Helicopters) will have moved to the Grand Canyon Airport by 1997 to join a third helicopter company (AirStar Helicopters) already operating there.

A frequent question by visitors to Tusayan is "what" are the large domes located directly across Highway 64 from the Grand Canyon Squire Inn Best Western? Intended originally as an Omnimax movie theatre, the project, originally known as the "Galaxy Theatres," languished after completion of the competing IMAX Theatre a half mile away. The unusual looking structure has been used at various times as a gift shop, restaurant, arcade, and bar.

In a narrow view, the very existence of Tusayan can be attributed to federal money to improve public road and air access to the Grand Canyon National Park. With a wider perspective, however, Tusayan should be seen as a community of opportunity and enterprise. Had George Reed not homesteaded the meadow in the Coconino Wash, had R.P. Thurston not understood the value of frontage on public highways, and had numerous entrepreneurs not been willing to take a business risk on the continued growth of tourism to Grand Canyon, there would be no Tusayan, at least not as it exists today, nor as it will be tomorrow.

The author wishes to extend recognition to Sheryl Carrick, Jack Verkamp, Buford Belgard, and Teri Cleeland, for their assistance in the preparation of this article.

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## Thurston Family Pioneered the Community of Tusayan

As printed in the Williams-Grand Canyon News on October 6, 1994

Any historical celebration of Grand Canyon National Park would be remiss without mention of the small community of Tusayan, located one mile south of the park's south entrance station. Tusayan was pioneered by R.P. Thurston, who moved from Williams to the area in the early 1930s, after purchasing a ranch located 12 miles west of the park.

R.P. "Bob" Thurston first moved to Williams from Ash Fork in 1927. He was previously employed as a signalman and at one time, had worked for all three of the State's railroads. After his move to Williams, he began selling automobiles at Bill Wilson Ford. According to his daughter, Roberta Fain, he also took care of the garage. When owners of the garage went on vacation, they never returned and Thurston started running it.

In 1929, Thurston built the Whiting Brothers Hotel next to the Sultana Bar, and also constructed 18 stone cottages, complete with hot and cold running water. He worked as a distributor for Shell Oil, and at one time, owned a service station, garage, car dealership and hotel. According to his son, Bill, in a taped interview conducted on Aug. 26, 1981, his dad was Mayor of Williams when he was "framed for bootlegging." Bill said his dad was the middle man and bought a bottle of whiskey for two men, who turned out to be federal agents. They wanted him to plead guilty to bootlegging, but R.P. refused. He spent the six months in the Prescott County Jail for his offense. During his incarceration, he still ran the City of Williams and every two weeks, city officials took

the payroll to him for his signature. Elections came up while he was still in jail, and R.P. was re-elected as Mayor of Williams by the residents. In 1932, prohibition was repealed.

Thurston moved his family to the area that is now Tusayan in 1935. He loved the area and decided to buy the only private land closest to the park. Fain said that her father bought the "old Reed place" which was an old homestead consisting of 160 acres. Her mother also bought property adjacent to her husband's, which was located where Grand Canyon National Park Airport is now. According to Bob's granddaughter, Bess Thurston, old Tusayan was first located where the Canyon Pines trailer park is now. The dirt road from Williams to the Grand Canyon followed the railroad tracks. Later, her grandfather persuaded the state to build the highway right through the middle of his property so that he would have highway frontage on both sides of the new road.

The first businesses constructed in Tusayan around 1956-1957 were a Shell gasoline station and the Tusayan Steak House, which was a bar and a cafe combined. They were built by R.P. Thurston and his longtime friend, Jim Kennedy. Kennedy was reportedly one of the first employees of Grand Canyon Airlines. The twosome then built the Red Feather Lodge in 1963-1964, the first hotel built outside the national park's boundaries in Tusayan. Bo Fain, Thurston's grandson, recalls that the Red Feather was built without any formal blueprints.

In the 1960s, Bob convinced the state to build Grand Canyon National Park Airport in its present location. They had originally intended to build near what is now Valle. The forest service wanted the airport to be closer than Valle, and they worked a trade with Bess Thurston (Bob's wife) for her land and, thus, the airport was constructed one mile south of Tusayan. R.P.'s son Bill and his wife Bonnie arrived in Tusayan about the same time the Red Feather was built. Bonnie ran the office and served as the hotel's only maid. Bill hauled water back and forth from Williams. Bonnie and Bill, who both died in the late 1980s, have three children: John, Bess, and Clarinda, who along with their uncle, Chris, who was born when R.P. was 72 years old, are the only Thurstons who still reside in Tusayan. R.P.'s daughter (Bill's sister) Roberta Fain, shares business interests in Tusayan. The Fain family still resides in Williams. Bess concluded, "It's a wonder any of us kids were ever conceived! Dad was always driving truck and Mom was working at the hotel--their paths hardly ever crossed!"

## **INFRASTRUCTURE**

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### **Water**

Water supply has historically been a limiting factor in the growth and development of Tusayan. There are no local sources of surface water available, and groundwater aquifers are located at such a depth that drilling wells has been cost prohibitive. Until recently, when the Canyon Squire successfully drilled a well in Tusayan, most of the water supplies have been hauled by truck from the Williams and Bellemont areas. Also, a limited amount has come from Grand Canyon National Park.

Prior to 1978, all of Tusayan's water supplies were provided by private suppliers in Williams and Bellemont. In 1978 the Tusayan Water Development Association (TWDA) was established as a non-profit organization to protect the town's water rights and as a legal entity to acquire water from the Park. The organization owns no assets other than a Certificate of Convenience and Necessity (CC&N). When and if Tusayan incorporates, the CC&N would transfer to the Town of Tusayan. Since its formation in 1978, it has been the responsibility of the TWDA to find alternate water sources and to communicate that information to its members. TWDA is under no legal obligation to provide water.

There are two existing privately-owned water systems in Tusayan, one owned by the Red Feather Inn and the other owned by the Canyon Squire Inn. The Red Feather system was built in the mid to late 1960's, and the Canyon Squire system was established in 1978. Existing storage capacity is 300,000 to 350,000 gallons for the Red Feather system,

3,650,000 gallons for the Canyon Squire, and an additional 500,000 gallons storage at Moqui Lodge which has its own separate system. The two water systems are interconnected to ensure water service to all customers in the event of a shut-down of either system. The Canyon Squire system serves Canyon Pines, Papillon Grand Canyon Helicopters, the Tourist Center, Union 76 station, Steak House, Halvorson Trailer Park, IMAX, Quality Inn, and John Thurston's house. The Red Feather serves everyone else.

In 1992, 44 million gallons of water were used in Tusayan. Almost half of that amount, 21 million gallons, was supplied by the Canyon Squire Well which is at a depth of 3,400 feet. Thirteen million gallons were hauled from Williams and Bellemont, and ten million came from Grand Canyon National Park. The Park provides water to Tusayan only during the winter months when they have a surplus.

The Park uses 600,000 gallons per day during mid-summer. There is 14 million gallons storage at the South Rim. The water supply is pumped from Roaring Springs in the Canyon by way of an eight inch pipeline. The Park also supplies water year-round to the U.S. Forest Service ranger station at Tusayan and the Ten-X campground. Grand Canyon Airport hauls water and also collects water through a catchment system at the end of the runway. The airport has 530,000 gallons of storage.

Water availability will continue to be an important factor in any new development proposals in Tusayan. Even with the Canyon Squire well, most of the water being used now is trucked in from outside sources. In addition, existing storage capacity is

inadequate. Additional wells in the area may be a possibility. However, a detailed study is necessary to determine possible impacts of such wells, especially impacts on springs in Grand Canyon National Park and on Reservation lands.

### **Water Goals**

1. To develop a permanent water supply and efficient distribution system for the community.
2. To develop adequate water storage capacity for the community.
3. To seek coordination and cooperation with the National Park Service and other agencies to develop permanent water supply alternatives in a manner that is sensitive to the area's resources.
4. To develop a water system for domestic use and fire protection.

### **Water Policies**

1. Adequacy of water supply shall be considered in the review of all major developments requiring Commission or Board approval.
2. Water conservation measures shall be included in all major development proposals requiring Commission or Board approval. Such measures may include the use of reclaimed water for nonpotable uses, low water using plumbing fixtures and drought tolerant landscaping.

### **Wastewater**

The South Grand Canyon Sanitary District owns and operates the wastewater treatment plant in Tusayan. The facility, for which an upgrade was approved by the Planning and Zoning Commission in 1990 and ADEQ in 1991, currently has a capacity of 150,000 gallons per day. The system utilizes an extended aeration process and ultraviolet light for treatment of wastewater. The system is designed to be expanded in phases up to an ultimate capacity of 600,000 gallons per day. It currently serves the airport as well as the community of Tusayan. The Forest Service ranger station compound and Moqui Lodge are on a separate system.

Reclaimed water from the treatment plant is available for sale, but there is a limited distribution system from the plant. Recent hotel additions have been double-plumbed to use reclaimed water for toilet flushing and landscaping. Reclaimed water from the Park is also used. The Sanitary District is considering the possibility of constructing a reclaimed water storage tank as well as a distribution system for non potable uses.

Sludge disposal is an issue that must be addressed in the near future. The short-term solution is to haul it to landfills in Flagstaff or Bullhead City. However, ADEQ requires a long-term Sludge Management Plan. A possible solution is a composting system to convert the sludge to humus for agricultural and horticultural use, thereby converting a waste product into a marketable commodity.

Future development in Tusayan, especially intensive uses such as restaurants and hotels, will be dependent on adequate wastewater disposal activity. Also, the development of a reclaimed water storage distribution system will become increasingly important for non potable uses and fire suppression as new development occurs.

## **Wastewater Policies**

1. Approval of new developments shall be contingent on access to adequate community wastewater treatment facilities.
2. New commercial and industrial developments shall use reclaimed wastewater for nonpotable uses such as toilet flushing, landscape irrigation, and fire protection. New multiple family residential shall use reclaimed water if legally and reasonably available. *(Amended 5/97)*
3. Major new developments shall be required to construct their fair share of facilities for a reclaimed water storage and distribution system.
4. The South Grand Canyon Sanitary District shall be encouraged to establish a sludge composting system.
5. New development shall conform to all SGCS D policies, rules, and regulations.
6. Cooperation, common management, and joint sharing of wastewater facilities shall be encouraged for all new development.

## **Utilities**

Electric service is provided by Arizona Public Service Co. (APS) with the primary power source being the Cholla Power Plant near Holbrook. Cholla is a coal-fired plant. According to APS, the Grand Canyon substation will probably never reach capacity, but the Tusayan substation will need to be upgraded as demand increases. The line into Tusayan is currently at 80% capacity, and APS estimates that the development of three

more major hotels would put it at capacity. As development occurs and facilities gradually reach capacity, APS pays for the necessary upgrades as needed. However, when major new development occurs, such as a new planned community, the developer pays for the upgraded facilities.

U.S. West provides telephone service to the area. In 1991, they upgraded the switch that feeds the Park. They continue to work on various upgrades and lines in the area. However, with relatively few subscribers in the area, approximately 600, and millions of calls coming in, there are frequent problems with what U.S. West refers to as "inward call volume blockage." The problem will likely be exacerbated by future development.

## **Utility Policies**

1. Wherever possible, the underground placement of utilities shall be required for all new developments.
2. Major new developments shall be encouraged to incorporate energy conservation measures through the use of passive solar design and appropriate site planning, landscaping, and building materials.
3. Major new developments shall be required to provide the necessary utility upgrades to telephone and electric services to service the development in a manner that will not degrade the environmental quality or adversely affect the existing community.

4. Major new developments that include high volume telephone usage shall be encouraged to locate their reservation number outside the area unless the developer can demonstrate that it will cause no significant impact on the community.

## **Solid Waste**

The solid waste generated by the community is hauled to a County-operated transfer station on "Dump Road" approximately three miles southeast of town. The County then hauls it to the Cinder Lake landfill near Flagstaff. In 1992, 1,924 tons were hauled.

The transfer station is on Forest Service land, and operates under a special use permit. Tipping fees were recently implemented by the Board of Supervisors for all transfer station users. The station was primarily designed for residential users, but does allow commercial users, at least for the time being. Super Trash is the only commercial solid waste collection company in Tusayan. The Park has their own landfill.

The transfer station represents an annual cost to the County of \$126,000. That includes \$67,000 hauling costs to the Flagstaff landfill and \$58,000 operating costs, including salaries for two employees. The facility cost \$120,000 to build. By comparison, a new landfill would cost millions to establish.

As the City of Flagstaff's landfill approaches capacity, there is no guarantee that the City will continue to accept County-generated solid waste. The existing landfill has between eight and 25 years capacity left. Recycling is being promoted in the City of Flagstaff to reduce the waste flow into the landfill. Super Trash, working with DOW Chemical, has established a recycling program in the Park, which has already reduced the waste flow there.

As solid waste disposal costs increase, trash composting may become more economically feasible as an alternative to traditional landfill disposal. A composting system could include composting of sludge from the wastewater plant as well as municipal solid waste. Such a system could cost \$2 to \$3 million, but combined with a recycling program, would dramatically reduce the solid waste flow into the landfill.

## **Solid Waste Policies**

1. Recycling shall be encouraged in order to reduce the solid waste flow into regional landfills.
2. New solid waste disposal facilities that require Commission or Board approval shall include a composting system, including sludge composting, if technically and economically feasible.
3. A regional approach to solid waste management and solid waste disposal between Tusayan, the National Park, and surrounding communities shall be encouraged.

## HOUSING

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When the South Grand Canyon Specific Area Study was written in 1977, approximately 30 acres of land within Tusayan proper were designated for low or high density residential development. According to the plan these areas were established "in response to local residents who realized that additional housing would be required for employees of proposed tourist-oriented operations." This acknowledgement for a need to house employees was far-sighted and profoundly accurate. Unfortunately, however, development did not occur in accordance with this plan. In fact, addressing employee housing is one of the primary problems the businesses in Tusayan must face when first establishing an operation and when expanding. The survey of residents completed in July, 1993 identified housing as the number one problem in Tusayan. Furthermore, the vast majority of respondents rated the current situation related to both rental housing and home ownership as "poor." Not surprisingly, there was great support by residents for the development of both single family homes and apartments in Tusayan.

The ability to provide employee housing in a manner consistent with the County's Zoning Ordinance requirements, in a manner that is adequate for employees' needs, and such that it satisfies the concerns and needs of the employer is a difficult task given the constraints in Tusayan. These constraints include the limited amount of private land available for development, the absence of a local community water source and limited water availability, and the landowners' priority for developing commercial uses first.

Also, due to the tourist-oriented nature of the businesses in Tusayan, there is a seasonal fluctuation in the number of employees. Most businesses cut back on the number of employees during the off-season and increase the number during the busy summer months. Some businesses close down completely during the winter months. This varying work force no doubt compounds the problem of providing adequate employee housing since it could result in vacancies for a period of several months. Also, employees who are only around a few months are no doubt more willing to put up with marginal living conditions than permanent year-round employees would be.

Since the focus on the housing situation is employees, it is important to know the size and source of the labor pool. The 1990 census counted 604 residents in the Tusayan area. Since this count is made in the spring (April) it does not account for the seasonal influx of workers during the peak summer months. Based on the estimates given by the employers surveyed this year, the year-round population is easily doubled if all seasonal employees were new additions to the community. However, since some of the seasonal work force is made up of local residents who already have a primary employer, spouses of employees who work inside the Park, teenagers from the community, and commuters from Flagstaff, Williams, and Valle, the impact may not be quite that drastic. However, if the commercial and service related uses continue to increase, the number of employees will also continue to grow.

## Background

When the businesses in Tusayan were first established (starting in the late 1960's) employee housing was generally addressed by setting travel trailers to the rear of the business, but not on the same lot. These were generally approved by the County through a Conditional Use Permit and considered to be temporary arrangements until permanent housing was provided elsewhere. Unfortunately, some employee housing provided in this manner was not only substandard but would be considered intolerable by most standards.

Two mobile home parks were established in the late 1960's and early 1970's that were not on the same site as a commercial operation. These are the South Rim Mobile Home Park (UP-68-8) and Halvorson's Mobile Home Park (UP-71-12). Canyon Pines Mobile Home Park, located in the western end of Tusayan, is the only other residential housing development established in Tusayan which was not part of a commercial development. It was established in 1984 and 1986 in conformance with the County's Mobile Home Park Zone. Sage Valley Mobile Home Park is located approximately 17 miles south of Tusayan at Woodland Ranch. Established in 1985, this Park has taken much of the overflow housing from Tusayan.

There are only a handful of lots within Tusayan that are zoned for Single Family Residential use. The first residential subdivision in Tusayan was approved in 1992 (S-92-4) for nine lots on three acres. The existing Single Family Residential lots are primarily owned and occupied by local business owners.

## Current Situation

In January and February, 1994, an informal telephone survey of the majority of businesses in the Tusayan area was conducted by Community Development staff. The purpose of this survey was to get a more accurate picture of the employee housing situation. The employers were asked for the number of employees during the peak season, if employee housing was provided, and where employees lived.

The survey included 22 local businesses, including the Moqui Lodge and businesses operating at Grand Canyon Airport. In addition to these private businesses, the Grand Canyon Airport, which is operated by the state, and the U.S. Forest Service (USFS) were also surveyed. The Forest Service rents to the Coconino County Sheriff, DPS, and FAA; these were all counted under USFS housing. The housing inside Grand Canyon National Park was not included, although spouses of many National Park Service employees work in Tusayan and live in the Park. A list of the employers surveyed is attached.

Just over half of the employers surveyed provide employee housing to some extent. This means that housing is made available (some on a limited basis) but does not necessarily mean that it is paid for by the employer. In general, most of the housing is rented to the employee or is considered through reduction in pay. Some employers who do not provide housing stated that they compensate employees for lack of housing with higher wages. Some employers who have employees commuting pay mileage or provide commensurate compensation.

The Airport is the only employer surveyed who currently has 100% of its employees housed on site. Moqui Lodge can accommodate 100% and possibly also the USFS, although the Forest Service has three employees who live in housing provided by their spouse's employer.

All of the seven major employers (over 70 peak season employees) provide some housing, ranging from 100% for Moqui to less than 30% for the IMAX complex (including Taco Bell and Gifts Ltd.). Most of the employers who don't provide any housing have less than 10 employees.

Housing is a real mixed bag, particularly for the larger employers. All of the major hotels have some form of dormitory housing supplemented by mobile homes either on site or in one or more of the area parks. Eight of the 12 businesses that provide employee housing maintain at least a portion on site or adjacent to the commercial use. The Canyon Squire has a 39-room dormitory and 22 trailers on site; the Red Feather leases the 12 apartments behind the domes, the Quality Inn has a 40-room dorm; McDonald's has six four-bedroom apartments behind it; the Trading Post has four apartments; the Tourist Center and gas station each have one mobile home; and Babbitts's has two mobile homes behind their store. In most situations housing involves putting anywhere between two to six employees in the mobile homes or apartments.

However, most of the employers that provide housing appear to make arrangements for couples or families to have individual units.

The 1990 census identified 297 housing units in the area, which is consistent with the 301 units staff's survey indicated. The Sage Valley Mobile Home Park adds 45, for a total of 346 units. This figure does not include any of the Single Family Residential lots in Tusayan proper. What is significant is that out of these 346 units, only 136 are located off

site from a commercial use. Of these 136, approximately 15% are privately owned; the majority are owned by area businesses.

## **Future**

With the continuing expansion of existing businesses and proposals for new development, the employee housing situation can only become more strained. Providing back-lot housing in travel trailers or mobile homes is no longer consistent with the County's Zoning Ordinance. It also takes up area which property owners would no doubt rather utilize for revenue-generating businesses or necessary parking areas.

There have been several attempts to address the employee housing situation. Most of the proposals involve housing away from Tusayan; these include Tom Jaworski's request for rezoning (Z-93-12) at Woodland Ranch to accommodate high density residential (RM-10/A, maximum 10 units per acre). This request was denied by the Board of Supervisors due to inconsistency with the County Comprehensive Plan. A similar request is pending for 18 acres west of Tusayan south of Forest Road 328. This request is to rezone to RM-20/A, which allows a density of 20 units per acre, and for a Conditional Use Permit for 208 apartment units. Staff's initial review of this request found numerous inconsistencies with the County Comprehensive Plan which make this proposal undesirable as well. A third proposal which has been made is part of a conceptual master plan development at Valle Airport. The development proposal includes 67.81 acres for mobile home park and 145.31 acres for a Single Family Residential Subdivision in the RS-36,000 Zone (36,000 square foot minimum lot size).

One of the primary reasons Valle has not developed much residentially in the past, and

which is a significant concern with this pending proposal, is the lack of a local water supply.

Another attempt at addressing employee housing is with the proposed development which may come about as the result of a pending Forest Service land exchange. The Canyon Forest Village project has been touted by its proponents as a means of addressing the housing problem, not only for Tusayan but the National Park as well. One of the ideas Canyon Forest Village has proposed includes setting aside an area for development by the NPS for employee housing outside the Park. There is also currently a request by Elling Halvorson to purchase 190 acres of State Trust Land approximately 11 miles south of Tusayan fronting on the east side Highway 64.

During the summer of 1994 Nava-Hopi tours initiated a commuter shuttle for a 90 day trial basis, operating between Flagstaff, Williams, Tusayan, and Grand Canyon National Park. The shuttle was meant to provide employees from Flagstaff and Williams transportation to the Tusayan and Grand Canyon area, thus reducing the need for employee housing locally. Unfortunately, according to the operator, the effort failed miserably. Such a service can only be successful with full cooperation from all participating employers.

Unfortunately none of the proposals currently on the table solves the housing problem in Tusayan. The proposals for high density residential in remote outlying areas is expanding the problem to new areas, not resolving anything. To rely heavily on bussing employees from outlying areas would make Tusayan a community lacking a central element -- residents.

## **Employers Surveyed for Housing Status**

Canyon Squire  
Red Feather  
Quality Inn  
Moqui Lodge  
Canyon Area Shuttle  
Papillon Grand Canyon Helicopters  
Kenai  
Airstar  
Grand Canyon Airlines  
Grand Air  
Scenic Air  
Air Nevada  
Eagle Airlines  
Air Vegas  
Dollar Rental Car  
Budget Rental Car  
Transworld Express/South Rim Travel  
Babbitt's  
Tourist Center/Steak House  
Trading Post  
IMAX, Taco Bell, Gifts Ltd.  
McDonald's  
Forest Service  
Grand Canyon Airport

## **GOALS**

1. Providing adequate and affordable housing for employees, existing and future, shall be a priority of the community.
2. A comprehensive housing needs assessment shall be conducted to identify the current and future community needs.

## **POLICIES**

1. All new developments shall be encouraged to provide employee housing as close as is feasible to employment centers (see also p. 40, paragraph 4).
2. In order to ensure that housing is available for employees, a plan shall be provided to limit the use of new housing to persons who are employed year-round or seasonally in the Tusayan/Grand Canyon area.
3. The existing trailers which are located on the site of commercial uses shall be phased out over time and replaced with housing in Tusayan or as close as is feasible.
4. Any proposal to house employees outside of the Tusayan community (e.g., Woodland Ranch, Valle) shall be evaluated to ensure that such proposals are in the best interest of both Tusayan and the area proposed.
5. High density residential uses shall be discouraged in remote areas and in areas where U.S. Forest Service roads provide the only access.
6. All residential developments shall be designed to be compatible with the character of the area and in consideration of their location in proximity to the Grand Canyon National Park.
7. Adequate open space areas and buffers from commercial uses shall be incorporated into development of residential areas.
8. A mix of housing types including dormitories, apartments, townhomes, and single family dwellings shall be provided to meet the employee housing needs.
9. Concurrently with rezoning areas presently zoned multiple family to commercial, alternate lands within the community must be provided for housing.
10. New housing developments and new subdivisions for employees and residents shall be favored over housing for second homes or recreational use.

## COMMUNITY

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The second section of the Tusayan Vision Statement, developed by the Committee in the initial stages of the planning process, addresses Tusayan as a community. Rather than serving only as a commercial core, the vision is of a community with residential neighborhoods and other services and amenities that tie a community and its inhabitants together. Besides decent, affordable housing and town services like police and fire protection and emergency medical services, which are addressed in other sections, desirable facilities include schools, churches, a library, parks, and a community center.

The Committee has wrestled with how to achieve a sense of community in an area with such a severely restricted land base where land values are extremely high. There appears to be a significant difference between what the residents want and what the property and business owners are willing to provide. While there are only a small number of major owners, Tusayan is not like one of the many company towns dotting Arizona. In current or former mining towns like Clarkdale, Bagdad, San Manuel, and Ajo, the mining company provided schools, parks, community pool, a clinic or hospital, a department store, and inexpensive housing. In other words, a community was created. The purpose was to attract and retain good employees. In Tusayan, individual business owners show little interest in providing amenities that do not generate income. While strides have been taken to improve employee housing, little has been done to offer other community features.

In the residential/worker survey there were several questions that revealed residents' desires. In Question 3, "What are the main problems and issues that you see in Tusayan?," housing ranked as number one. Lack of services such as recreational facilities, restaurants, police, fire, banks, laundry, etc., was about tied with water as the second most important. In Question 8, "Which of the following uses do you think would be appropriate in Tusayan besides additional housing?," a large majority supported day care facilities and such community commercial uses as auto repair center and laundry. A close majority opposed additional motel rooms, and large majorities did not favor more gift shops and helicopter tour operations. In Question 9, "What types of commercial uses would be appropriate?," those favored were facilities for the residents, such as laundry, banks, shopping, and a movie theater. In response to Question 19 a large majority thought there was a need for a park in the Tusayan area.

Either through an incorporated town government or through an association, creative alternatives need to be explored to provide facilities and services that residents want. In Tusayan the free enterprise system is not likely to work to provide these facilities. Funds will have to be raised, whether through business owner contributions or through taxation, to develop the amenities necessary to improve the sense of community.

In the following sections, certain specific community facilities are addressed. Most of these are now provided in Grand Canyon Village. In the future, with proposed and potential development, the population of Tusayan could easily surpass that of the South Rim, indicating that some of these facilities might better be located in Tusayan.

### **Schools**

When the South Grand Canyon Specific Area Study was done in 1978, enrollment at the Grand Canyon schools was 220 students, of which approximately 55 were from Tusayan. The plan stated that the district had the capacity for 400 students, but that enrollment was declining. In August 1993, School Superintendent John Vest reported to the Planning Committee that enrollment was 366, with approximately half from Tusayan. Enrollment the previous year was 320; there had been a 60% increase in enrollment over the previous three years. He said that with new facilities being added as a result of a recently approved bond, the district should be in good shape for about eight years, after which they would likely be looking at a school in Tusayan, either on exchange land or on Forest Service land. In addition to Tusayan, he said there are students attending Grand Canyon schools from outside the district; for example, there are about 20 from Woodland Ranch because the parents work for businesses in Tusayan or at the Park. He added that there is a continual demand to expand services.

### **Churches**

The community is currently served by an interdenominational facility inside the Park, the Shrine of the Ages. While a range of church choices is not likely in either Grand Canyon or Tusayan because of the low population, certainly it would be desirable for residents of Tusayan to be able to attend

certain services in the community. This may not require church buildings, but could also be accommodated through use of other community buildings, schools, or even commercial buildings. Efforts could probably be made to offer meeting and church service locations.

### **Library**

The community library was formerly located in the old Babbitt Trading Post building inside the Park until the building was recently destroyed by fire. In a letter to the Committee a library representative acknowledged the lack of library services to Tusayan and proposed a couple of alternatives which were either a branch library or a bookmobile. The former could be started in a corner of a store or in an office and possibly expand to a stand-alone library building at some point in the future. The Planning Committee supported working with the Library Board to improve service to Tusayan residents.

### **Parks**

Sixty-three percent of respondents to the resident survey said there was a need for a park in the Tusayan area. The most frequently mentioned locations for a park were between IMAX and Moqui and adjacent to Hit-the-Spot. The survey did not follow up on the type of park desired or the types of facilities in a park. Typical community or city parks range from small or large grassy areas with a few benches and picnic tables, to playgrounds, to active recreational facilities such as baseball or soccer fields and tennis courts. The Sanitary District was at one point considering a park adjacent to the wastewater treatment facility. Proposed uses included picnic tables with barbecue facilities, a volleyball court, and restrooms. This site or a site on Forest Service land makes more sense than a location in the commercial core.

There are at least three proposals currently being discussed in the community that could address some or all of the community needs. The first is the Canyon Forest Village proposal which includes lands (40 acres) designated for such community facilities as library, post office, 400-student school, police station, fire station, medical clinic, three churches, and a community center. The second is the Townsite Act by which an incorporated municipality or other taxing authority or subdivision of the state could purchase U.S. Forest Service lands for community facilities. Such lands could be utilized for the same sorts of facilities as listed in the Canyon Forest Village proposal, as long as the facilities were town-owned. In addition to those listed, a park would be an additional possibility on Townsite Act land. The third is the American Legion's proposal to develop a large building with Legion facilities on the second floor and community center functions such as library, police, fire, visitor information, and offices on the first floor.

## **POLICIES**

1. Proposals to develop such community facilities as a school, library, or community park, etc. shall be strongly encouraged.
2. Major new developments on lands outside of the 144 acre core shall be required to set aside lands for community uses.
3. Development of community facilities and services shall occur at the same pace as commercial development.

## **GOALS**

1. The sense of community in Tusayan shall be retained, with a mix of uses in addition to commercial to include residential neighborhoods, school, library, churches, community center, and parks.
2. If and when the land base expands, lands shall be identified and set aside for all future community uses.
3. Development of a sense of community between Tusayan and Grand Canyon Village shall be encouraged.

## **PUBLIC SAFETY**

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Protection of the public health, safety, and welfare is the basis and justification for planning and zoning. During the information-gathering stages of the Planning Committee's work, major deficiencies in fire protection and the provision of emergency medical services were noted. Tusayan itself does not provide these services and so must rely on outside providers such as Grand Canyon National Park and Grand Canyon Airport to respond to fire and medical emergencies. These shortfalls were raised in the 1978 South Grand Canyon Specific Area Study, and have been exacerbated by major growth in population, numbers of tourists, and commercial activity since then.

### **Law Enforcement**

The Coconino County Sheriff's Office is responsible for law enforcement services and protection in all unincorporated areas of the County which includes Tusayan. These services include, but are not limited to, patrol services, criminal investigations, civil process, maintenance and operation of the County jail, and search and rescue operations. There are currently three officers stationed in Tusayan, one more than when the previous plan was written in 1978. These officers work under the Williams substation.

According to Sheriff Joe Richards, a 1992 Activity Analysis showed that 7.71% of crime within Coconino County originated in Tusayan. In the Tusayan area theft is the highest activity and traffic accidents are second. These are followed by a variety of property crimes, DUIs, and domestic violence. Tusayan accounts for 87% of the activity, Grand Canyon 11%, and other areas 2%. The Sheriff told the Committee that law

enforcement activity is different in Tusayan than other small communities; in Tusayan the large transient population causes the majority of the problems. If Tusayan incorporates, the town government will have the option of establishing its own police department or contracting with the Sheriff's Office for continued service by the County. Without a contract, the Sheriff would reduce manpower and services in Tusayan.

Three other agencies provide law enforcement services in the area. The Department of Public Safety, which has one officer stationed at Tusayan, is primarily responsible for Highway 64, accidents, and the flow of traffic.

The officer also assists the Park Service and Sheriff's Office on investigations and tactical and air rescue operations. There are about ten accidents per year in Tusayan that are investigated by DPS. One officer is not sufficient, but backup assistance is provided by Williams and Flagstaff.

The National Park Service has an Intergovernmental Agreement (IGA) with the Sheriff's Office for law enforcement. The primary role is inside the Park, but in 1992 Park Service rangers responded to 107 calls in Tusayan, a small fraction of the total 4,000 calls. If Tusayan incorporates, an IGA between the Park Service and the community would be appropriate and highly desirable.

The Kaibab National Forest provides law enforcement on U.S. Forest Service lands. They have a cooperative agreement with Coconino County and are establishing one with the Park Service. With increased use of forest lands, the law enforcement program is being re-evaluated.

## **Fire Protection**

There is no organized fire protection officially serving Tusayan. Response to fires is made by outside agencies, all of which have primary responsibility elsewhere. These include the National Park Service, Grand Canyon Airport, Forest Service, and Grand Canyon National Park Lodges (Fred Harvey).

The Park Service will respond to structural fires as long as there is not a simultaneous call from within the Park. Response time is approximately 15 minutes. Grand Canyon Airport has three pieces of equipment, a 1,500 gallon foam truck for airplane incidents, a 750 gallon truck for structural fires, and a rescue vehicle used for backup. There are ten fire staff, five of whom are on duty at any given time. They can respond within the air traffic circle, which is about five miles, but must maintain a three-minute response for the airport to meet FAA requirements.

The primary responsibility of the Forest Service is wildland fires. They maintain two engines at the ranger station and an air tanker at the airport. There are about 15 fire staff during the summer fire season. Response will be made to structural fires but there must be a threat to national forest lands. Tusayan is small enough that every fire poses a threat to the forest.

Fred Harvey has a department in the park and also maintains older apparatus at Moqui Lodge. Fred Harvey would respond to a structural fire in Tusayan.

In the absence of Intergovernmental Agreements or Mutual Aid Agreements, all fire response to Tusayan is on a cooperative basis in the interests of protecting life and property. None of the agencies are comfortable with the lack of formal agreements.

If Tusayan incorporates, a municipal fire

department would be a necessary service. Another option is the formation of a fire district. A district can be formed by petition of a majority of the property owners. It is funded principally through a property tax. The range of property taxes for fire districts in Coconino County is \$.45 to \$2.60 per \$100 of assessed valuation. Districts can either form their own department complete with all their own equipment, either with volunteers or a paid staff, or a combination, or they can contract for fire services with another municipality or agency.

New construction is regulated and controlled by both planning and zoning ordinances and by building codes. Compliance with the Uniform Building Code and Uniform Fire Code is required in order to obtain a building permit. Requirements such as properly sized emergency exits, firewalls, smoke detectors, and fire sprinkler systems are designed to reduce damage potential. Zoning requirements such as minimum setbacks reduce the chance of fire spreading and allow access for emergency vehicles. For new subdivisions, water distribution systems, fire hydrants, improved all-weather access roads and streets, and street name signs all contribute to make fire protection more effective.

## **Emergency Medical Services**

Like fire protection, there is no official emergency medical responder in Tusayan. Tusayan is served by Eddingfield Ambulance Service out of Williams, but their primary duties have been transport from the clinic at Grand Canyon to Flagstaff Medical Center. First response to emergency medical situations is typically made by the National Park Service which will dispatch an ambulance with basic life support. The Park Service is very concerned with the lack of Mutual Aid Agreements for service outside

the Park. The Park Service also has a helicopter which is utilized to transport patients to Flagstaff, for which a fee is charged.

The Grand Canyon Clinic serves as a provider of primary care. The physician at the clinic told the Committee they do what they can before the patient is moved to the next level of care, usually to Flagstaff Medical Center. The clinic is operated by Samaritan Health Services as a concession within the Park. Under consideration is a part-time satellite facility located in Tusayan.

### **GOALS**

1. There shall be municipal fire protection and emergency medical services in Tusayan, either through incorporation or through the formation of a fire district.
2. The danger from fire shall be reduced through improved fire protection services, adherence to fire codes, and voluntary measures designed to lessen the chance of wildland fires.
3. Lands shall be identified to fulfill the public safety needs of the community.

### **POLICIES**

1. Absent an established fire department, all future commercial buildings shall be sprinklered.
2. Additional rezonings to commercial shall be discouraged until fire protection and emergency medical services are available.
3. Intergovernmental Agreements and Mutual Aid Agreements among the agencies with law enforcement, fire protection, and emergency medical capabilities are strongly encouraged.
4. Multiple access routes into major developments shall be strongly encouraged.
5. Adequate space shall be required between structures to inhibit the spread of fires.
6. Adequate emergency vehicle access shall be required by the Zoning Ordinance to all building sites through adoption and enforcement of appropriate property development standards.
7. Water storage shall be retained at a level that is adequate for fire fighting.

## TRANSPORTATION

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The transportation system in the Tusayan Study Area is unique in many respects compared to other study areas in Coconino County. There is one main arterial running north and south through the Tusayan business district. Highway 64 is under the jurisdiction of the Arizona Department of Transportation (ADOT). There are few other publicly maintained roadways in the study area and none in the County road system. The County does maintain Dump Road through a cooperative agreement with the Forest Service who owns the road. The Forest Service does minimal maintenance on the other roads under their jurisdiction. Canyon Pines Road is a paved, privately-owned and maintained road. Grand Canyon Airport maintains the roadways on their property. In addition to the roadway network of Forest Service, private, and State roads already mentioned, the transportation system in Tusayan includes the Grand Canyon Airport, an ADOT-owned facility, and the Grand Canyon Railway, a privately-owned historic railroad.

Major transportation issues facing the community of Tusayan include possible improvements or changes affecting the Highway 64 corridor, the possible paving of Forest Road 302, Grand Canyon Airport expansion, the proposed Grand Canyon Railway spur to Tusayan, and on-going regional transportation planning being coordinated by Northern Arizona Council of Governments (NACOG). The transportation element of the Grand Canyon General Management Plan is also extremely important in any discussion of transportation issues affecting Tusayan.

First, regarding the Highway 64 corridor, ADOT has no plans for major improvements in the Tusayan area in their current five year

plan. The existing right-of-way is 200 feet wide, and there are five traffic lanes in Tusayan, including a center turn lane. There are sidewalks on both sides, but no designated or signalized crosswalks or pedestrian bridges.

This, along with excessive speed, creates a dangerous situation for pedestrians, especially during the busy tourist season. Any future or on-going transportation planning should include provisions for enhancing pedestrian safety.

Also related to the ADOT right-of-way is that there has been some interest among certain property owners along Highway 64 about applying for an abandonment of a portion of the 200 foot right-of-way. Most recent information from ADOT is that they are not interested in abandoning any of their right-of-way at this time.

Another major transportation issue is the possible paving of Forest Road 302. The paving of any Forest Service road or the significant realignment of the State highway raises a myriad of issues especially related to potential environmental and land use impacts.

An Environmental Impact Study (EIS) would be required to study potential impacts and identify a range of possible alternatives.

The Grand Canyon Airport is an ADOT-owned facility. It has one runway 150' x 9,000' designed to handle DC-9s and 737s. Recently \$10,000,000 worth of improvements were completed, designed to increase efficiency of the facility. These improvements were realignment of, and expansion of parking, roadway, and infrastructure, which included site work for a new terminal and heliport facilities. Future

improvements include heliport facilities which will enable the helicopter tour operations to relocate from the Tusayan business district.

The Grand Canyon Railway is a privately-owned historic railroad currently carrying passengers between Williams and Grand Canyon Village. Approval of the operation, which was initiated in 1989, was based on two primary considerations: the historic nature of the train service and its potential for helping to reduce vehicle congestion in Grand Canyon Village. An additional spurline has been proposed between Grand Canyon Airport and Grand Canyon Village. The EIS for the proposed spurline was completed in 1993, and the Record of Decision issued. The selected alternative features a turnaround loop at the Airport end, two depots, phased construction of 75 acres of parking, construction of a maintenance road, and storage tanks for fuel, water, and wastewater. According to the Record of Decision the proposed spurline is not the only solution to traffic problems in Grand Canyon Village, but it has the potential to significantly reduce traffic congestion in the Park.

The Grand Canyon Transportation Study is an on-going study being conducted by NACOG with the help of representatives of a variety of land management agencies and other organizations to address regional transportation planning needs and satisfy ISTEA (Intermodal Surface Transportation Efficiency Act) requirements. The study group developed a Vision Statement which states, "To provide appropriate access to the Grand Canyon region and that World Heritage Site while preserving and conserving the environmental integrity and regional cultural and community values for this and future generations." The committee meets every three or four months. The outcome of the study would likely have many direct and indirect effects on the community of Tusayan.

One of the immediate effects is that requests for abandonment of Highway 64 right-of-way are on hold pending completion of the study.

The National Park Service is in the process of developing an updated General Management Plan for Grand Canyon. Transportation is the critical element that drives all of the alternatives under consideration. One of the biggest issues is where the interface will occur between private vehicles and public mass transit. It is quite possible that there may be a need for multiple staging areas both in Tusayan and within the Park and other possible locations. The great importance of this issue to the community of Tusayan illustrates the need for coordinated interagency planning and cooperation.

### **GOALS**

1. To promote a safe, environmentally sensitive, and efficient circulation system which gives convenient access to existing and future residential areas, employment centers, commercial areas, public facilities, recreation areas, and public lands. Planning should be such as to minimize the impact to the surrounding forest.
2. To promote a transportation system that reduces energy consumption, and noise and air pollution.
3. To promote multi-modal transportation options.

### **POLICIES**

1. Developers shall pay the cost of road improvements necessary to provide safe and adequate access to proposed developments.

2. Only very low density residential developments shall be encouraged in remote areas accessed by Forest Service roads.
3. All new major developments or major expansions of existing developments which require access or modification of access to Highway 64 shall require a traffic impact analysis pursuant to Arizona Department of Transportation requirements.
4. The visual appearance of Highway 64 in the Tusayan business district shall be improved through requirements for appropriate landscaping and signage for new developments and redevelopment or expansion of existing businesses.
5. The County, Forest Service, Park Service, and private entities shall support and promote the development of an improved bikeway system from Tusayan into Grand Canyon National Park.
6. The County shall encourage and promote cooperation between affected property owners, businesses, and ADOT to make the necessary improvements required to provide safe pedestrian crossing of Highway 64 in the Tusayan business district.
7. In order to help alleviate traffic congestion in Tusayan and Grand Canyon National Park, staging areas for public transit systems shall be developed at convenient and accessible locations in Tusayan and within the National Park and other appropriate locations.
8. Adequate off-street parking shall be required for all new developments, including accessible parking and bus parking where appropriate.
9. The County, Forest Service, Park Service, and private entities shall encourage the development of multi-modal transportation options such as bikeways, equestrian trails, railways, and other public mass transit systems.
10. The County shall continue to cooperate in interagency transportation planning efforts in the Tusayan/Grand Canyon region.
11. The County, Forest Service, and Park Service and private entities shall support and promote the development of Grand Canyon Airport as a mass transit provider for the National Park.

## **TOURISM**

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The growth of the Tusayan community over the past 25 years is directly related to the increasing tourism to Grand Canyon National Park. Tusayan relies on tourism to sustain the area businesses and residents. In this respect a healthy tourist economy is crucial to the existence of the community. However, there are impacts related to increasing tourism which can work to the detriment of the community as well. The Survey results and Vision Statement adopted by the Planning Committee reflect a desire to balance the needs of the residents with those of the tourists and also the ability to have a healthy tourist industry while maintaining environmental protection of the natural resources.

The Survey results of Tusayan-Grand Canyon residents/workers provides local insight to the issues affecting the tourist industry. The Survey results indicate that some of the most frequent criticisms of the area include: excessive costs, crowded conditions, not enough parking, and lack of information on the area. On the positive side were tourist comments relating to the natural beauty of the area.

The respondents felt that two main issues could improve the visitor experience; these were charging reasonable prices and improving employee attitudes. Some uses which were identified as inappropriate include casinos and amusement parks. With the trend toward providing more visitor services outside the National Park; i.e., lodging, restaurants, vehicle staging areas, and information/educational areas, Tusayan's role in the tourism industry will be all the more important in the future.

### **GOALS**

1. Tusayan shall work to provide a high level of service to accommodate the visitors to Grand Canyon National Park while retaining an emphasis on preserving the natural resources of the area.
2. Local businesses and governmental agencies should work together to achieve a cooperative approach toward meeting the tourists' needs.

### **POLICIES**

1. Development of tourist-related uses shall be limited to support services for Park and National Forest visitors. No new developments which would become tourist destinations themselves shall be permitted; e.g., amusement parks, casinos, convention centers, regional mall.
2. Development of educational-related tourist facilities in cooperation with other natural history related agencies and entities which focus on the local cultural, natural, and historic aspects of the area shall be encouraged.
3. Tusayan businesses shall work with the Grand Canyon National Park, Forest Service, and Grand Canyon Airport in coordinating the development of tourist support services.

4. Tusayan shall work toward developing and maintaining building design and landscaping standards which will create a favorable visual impression on tourists. The standards should be consistent with and complementary to the unique location of Tusayan at the gateway to the Grand Canyon National Park.
5. Development of programs to create regional coordination between various local and State tourism and visitor agencies should be strongly encouraged.
6. It is highly recommended that local businesses should work together to achieve a cooperative and noncompetitive approach for the betterment of the community and businesses.

# NATURAL RESOURCES AND ENVIRONMENTAL QUALITY

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With its location adjacent to a national park, the protection of natural resources and the preservation of environmental quality is essential to achieve the vision of a world model community. Environmental consciousness and the use of technological innovation in managing water, wastewater, and solid waste are declared priorities in the Vision Statement. In Coconino County the natural environment is important in fostering and attracting economic development, assuring continued growth in tourism, maintaining property values, and providing for a high quality life style. Elements for consideration include water quality, air quality, vegetation and wildlife, national forest issues, scenic highway designation, open space, aesthetics, and noise.

## **Water Quality**

In the Tusayan Planning Committee Survey of area residents, water quality ranked number one out of nine potential environmental concerns.

## **Surface Water**

The area covered by this planning document is located in the Colorado River Basin, thus all surface runoff ultimately drains into the Colorado River. The one major drainage affecting private land in the study area is Coconino Wash which bisects the Tusayan community in an east-west direction, paralleling Canyon Pines Road to the west. Coconino Wash is identified as Zone A by

FEMA, which is defined as "Areas of 100-year flood; base flood elevations and flood hazard factors not determined." Some hydrology studies have been required in conjunction with new commercial development including the Red Feather expansion and the Holiday Inn Express. Since much of the private land lying west of the highway behind the commercial development is within the Coconino Wash floodplain, development will be restricted by meeting flood hazard reduction measures.

Given the amount and intensity of commercial development existing and contemplated in the Tusayan community, there are concerns related to non-point source pollution, particularly oil and other residue from parking lots and roadways. The airport, train, and parking staging areas could be significant contributors.

## **Ground Water**

Groundwater resources have only recently been tapped within the Tusayan community; due to the depth (approximately 3,000 feet) and associated expenses, hauled water has historically been used. Given the depth, groundwater contamination is not a critical issue. However, quantity is a significant concern as there have been no hydrological reports made public identifying the resource. In this respect, quality is indeed tied to quantity.

## **Air Quality**

Air quality problems within the study area can be classified as either regional or local. On a regional basis there have been visibility issues related to the migration of Los Angeles area smog from the west and the Navajo Generating Station in Page to the east. The haze in the region attributed to emissions at the Navajo Generating Station are being addressed with the addition of scrubbers, scheduled to be completed by August, 1999. This is the result of a lawsuit filed by the Environmental Defense Fund against the EPA in 1982 for failure to enforce the Clean Air Act.

Local air quality problems can be attributed primarily to exhaust from automobile and bus traffic. Dust from traffic on unpaved Forest Service roads also contributes to air quality problems. Smoke from woodstoves and fireplaces is probably not as significant as is found in other urban areas due to the limited number of residences. However, it could pose a problem in the future if Tusayan's land base is expanded. If the railroad spur to Tusayan becomes a reality, there is a potential for further degradation of air quality in the Tusayan community.

## **Vegetation and Wildlife**

With the majority of the study area being undeveloped public lands, the human impact on native vegetation and local wildlife is probably relatively minimal. Preserving the natural environment is important and not only to provide an area for continued habitation by wildlife. By preserving the native vegetation and utilizing primarily indigenous plants with new landscaping, residents and visitors benefit as well. The development of a tree preservation ordinance and landscape requirements which emphasize indigenous plant materials will help maintain the natural

atmosphere while also addressing issues such as water conservation, which would become a concern with the introduction of exotic plant species.

## **Forest Issues**

The majority of the 70 square miles included in this study area are under the jurisdiction of the Kaibab National Forest. Issues related to Forest land include recreation opportunities, fuelwood gathering, special use permits, proposed paving of some Forest Service roads, and the pending land exchange proposal for Canyon Forest Village.

The Forest land is available to provide an alternative recreation experience to the National Park. Ten-X campground, including a proposed expansion of 250 spaces, provides formal camping opportunity, while dispersed camping on Forest land is also allowed. Other recreational uses include hunting, hiking, and biking.

The Forest Service will grant special use permits allowing private development on Forest Service land in certain cases. The Moqui Lodge is an example of an existing use, the proposed railroad spur and parking area is currently under consideration, and a community center to be built by the American Legion is also contemplated. Private development of Forest Service land is outside the scope of the County's zoning jurisdiction and until recently no such buildings required any plan review or permits by the County.

The issue of paving Forest Service roads has been discussed in conjunction with some alternatives for the Grand Canyon General Management Plan and also as a means of facilitating access to private inholdings in the area and the Havasupai Reservation. Concerns related to the proposed paving include distributing more people on the

Forest, thus increasing the potential for environmental degradation in areas which are fairly remote now, including the private inholdings.

By far, one of the most controversial issues related to Forest Service land at this time is the proposed land exchange for Canyon Forest Village. It is a matter of routine policy for the Forest Service to try to acquire private inholdings located within the National Forest. The method for doing so is through the land exchange process where the Forest Service identifies lands it wants to acquire as well as Forest Service land which they are willing to part with, generally lands which are near or adjacent to urbanized or developed areas. Currently the U.S. Forest Service is in the process of reviewing a proposal to acquire approximately 1,210 acres of private lands located in five places in the Tusayan District. In exchange, the Forest Service would release up to 650 acres, either north or south of Tusayan, for the development of a planned community. The land exchange process takes several years to complete and includes analysis through an Environmental Impact Statement, which considers possible impacts related to wildlife, vegetation, surface and groundwater, as well as transportation and regional issues.

### **National Park Issues**

Protection of the National Park was rated number three by survey respondents, behind water and air quality as a local environmental goal. Clearly, what happens on the private land outside the Park as well as activities on the Kaibab National Forest can have major impacts on the ability of the Park to meet this goal. There are transboundary issues related to environmental concerns which, if not checked outside the Park, could have negative, if not devastating effects within the Park, regardless of what Park policies are adopted to deal with these issues.

Probably the two areas which are most critical are related to air quality and water quality and quantity. Although the Park is anticipating stringent requirements such as prohibition of wood burning stoves and fireplaces in new structures, and converting busses from diesel to cleaner alternatives (possibly electric or natural gas), particulate emissions created outside the Park will still migrate over the boundary and thus counteract the Park policies.

In regard to water, surface runoff which drains into tributaries feeding the Colorado River can pose pollution problems to streams within the Canyon. Also, the National Park Service has expressed great concern over the impact the new wells which are being developed in Tusayan will have on the springs located throughout the Canyon, which are in the same aquifer.

Clearly, it is to Tusayan's benefit to ensure that the natural resources in the Park are preserved and protected since they are, in essence, what brings tourists to the area.

### **Aesthetics**

Given the location of Tusayan at the gateway to the South Rim of the Grand Canyon National Park, the aesthetic quality of the community is a very important aspect, as was reflected by the survey results. Although there are some exceptions, the general impression tourists get upon arrival in Tusayan is not consistent with its natural setting. The hodge podge of building styles, mobile homes along the highway, and amount of air traffic create an atmosphere of mass confusion. Although this is similar to how other gateway communities have evolved, the result is detraction from the National Park experience which the public is looking for.

Over 80% of the survey respondents supported the development of more specific

guidelines to control the architectural style, height, and color of commercial buildings and signs. Many respondents expressed a desire to maintain a small town atmosphere and rural setting.

Methods of protecting this gateway from the influx of unsightly and/or inappropriate distractions include the adoption of Desing Review Guidelines sensitive to the unique location of the area. These guidelines would address appropriate architectural style and design, materials, textures, colors, and lighting. These standards can then be applied to buildings, structures, signs, landscaping, site layout, and use relationships for multi-family, commercial, and public or semi-public uses.

### **Lighting**

Lighting is one of the more apparent environmental issues and one that is continuing to grow at an exponential rate. Although residents ranked it ninth out of nine environmental areas of concern, the amount of outdoor area lighting has no doubt increased substantially just within the year since the survey results were compiled. Also, the impacts of excessive lighting are more apparent to visitors to the area that are seeking an outdoor experience. Instead of stargazing and night sky viewing as it should be enjoyed in a remote location, there is a trespass of light from the strip of commercial activities. The impact and amount of light created in Tusayan is probably most apparent when viewed from the North Rim of the Grand Canyon.

Although safety concerns necessitate outdoor lighting of parking lots and walks, the excessiveness that has been the norm is inappropriate. The County's Lighting Ordinance was adopted in 1989 and was considered fairly elaborate and restrictive at the time. The impetus behind the Ordinance was maintaining low enough levels of

illumination so that the observatories would still be functional. An amendment to the Lighting Ordinance which would place greater restrictions in areas adjacent to National Parks would be one way of addressing this problem.

### **Noise**

Noise is a dominant part of the environment in Tusayan given its proximity to the airport and the location of helicopter tour operations right in the center of the community. The eventual relocation of the helicopter tour operations to the airport will work towards alleviating some of the most annoying noise in the commercial strip, but due to the amount and frequency of flights from the airport which follow flight paths directly over the central core, air traffic noise will continue to be a problem.

There have also been concerns raised related to the train whistle, particularly the fact that it can be heard in the Grand Canyon and the "piercing sound" when the train bleeds its boiler near Maswick. These concerns will be more relevant to Tusayan if and when the proposed railroad spur is developed.

### **GOALS**

1. Water quality of all surface waters and groundwaters shall be protected to preserve or improve existing quality.
2. Every effort shall be made to preserve or improve air quality.
3. Every effort shall be made to minimize the amount of outdoor lighting in order to preserve the dark night sky without jeopardizing reasonable utility, safety, and security concerns.

4. The community shall make every attempt to protect and improve the aesthetic and audio quality of the environment and to prevent negative impacts on property values and quality of life.
5. The community, including public agencies, shall protect and preserve native vegetation and wildlife habitat areas and shall especially seek to protect unique natural areas, and rare endangered plant and animal species.

### **POLICIES**

1. For major development projects that would impact drainage on adjacent properties or on roads or watercourses and which require action by the Planning and Zoning Commission, part of the application submittal shall be a drainage report which discusses how surface runoff will be accommodated and what impact it may have on adjacent property owners.
2. Developers shall be encouraged to conserve and re-use drainage or runoff water but not to the extent of decreasing natural flows.
3. Protection of the existing quality of ground and surface water resources shall be a priority factor in the consideration for approval of residential, commercial, and industrial developments within Tusayan. Applicants for major developments shall be required to show the impact of their proposed activities on the quality and quantity of surface and groundwater resources within the area.

4. Development and adoption of emission standards to mitigate the impacts of air pollution and to complement those adopted by the Park shall be pursued. Owners of commercial vehicles shall be strongly encouraged to meet or exceed the 1994 and subsequent Clean Air Act emission standards.
5. Protection of existing air quality shall be a major consideration in the review of plans for new industrial, commercial, and residential projects. Applicants for major developments shall be required to show the impact of their proposed activities on air quality within the area.
6. The County shall adopt, in conjunction with this Area Plan, a Design Review Overlay Zone which addresses architectural style, building materials, colors, signage, and other design aspects which are consistent with the character of the rural setting adjacent to the Grand Canyon National Park.
7. Landscaping standards emphasizing preservation of native vegetation and materials and the use of indigenous and low water consuming plants shall be applied to all new developments other than single family homes. Tree preservation shall be a major factor in the review and approval of new subdivisions and other major developments.

8. All new major developments shall include adequate open space area. On property consisting of one acre or less a ratio of 90/10 impervious surface/landscaped area shall be maintained, i.e., no more than 90% of the site can be covered in impervious surface with 10% landscaped; on one to three acres the ratio shall be 85/15; on three or more acres the ratio shall be 80/20.
9. The County shall rigorously enforce the Grading and Excavation Ordinance in order to prevent excess runoff, sedimentation, and channel modification in streams and washes, as well as preventing visual scars on hillsides and in other sensitive areas. For new subdivisions, a grading permit shall not be issued until after Preliminary Plat approval.
10. Revegetation of exposed steep dirt slopes and cut-and-fill areas shall be required for new subdivisions and other major commercial developments.
11. Wherever possible, the use of underground electric and communication lines shall be required in all new developments.
12. The County shall rigorously enforce the Sign Code and Zoning Ordinance in order to eliminate nonconforming signs.
13. Every effort shall be made to protect the night sky from unnecessary lighting and glare. The Tusayan Area shall conform to the provisions of Zone III of the Lighting Ordinance, but requiring that all fixtures be fully shielded.
14. The community and local agencies shall coordinate with State and Federal wildlife management agencies, conservation groups, and land management agencies to preserve important wildlife habitat areas.
15. Proposals for special use permits for development on Forest Service land should meet the standards set forth with these policies.

## LAND USE

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At the first Tusayan Planning Committee meeting held March 3, 1993, a 70 square mile study area was established (see Map 1). The predominant land uses in the study area are grazing, forestry, and recreation. In the less than quarter square mile private land core which constitutes the community of Tusayan, land uses include tourist commercial, retail commercial, and high and medium density employee housing. Adjacent to the community is the Grand Canyon Airport.

### Land Ownership

Approximately 96% of the land in the study area is controlled by the National Park Service (14%) or U.S. Forest Service (72%). About 2% is controlled by the Arizona Department of Transportation which owns and operates the Grand Canyon Airport, and 2% (844 acres) is private. Land ownership is also shown on Map 1.

### Existing Land Uses

Most of the private inholdings within the national forest are utilized for very low density residential. Within the community of Tusayan, there is a commercial strip on either side of Highway 64 containing the following businesses:

#### West Side

Canyon Squire Inn  
Seven Mile Lodge  
Holiday Inn Express (under construction)  
Red Feather Lodge  
Denny's Restaurant  
Canyon Food Mart  
Thurston's Gas and Service  
IMAX Theatre

#### East Side

Galaxy Theaters  
Kenai Helicopters  
McDonalds  
Grand Canyon Trading Post  
Papillon Helicopters  
Grand Canyon Tourist Center  
Babbitt's Supermarket  
Grand Canyon Fine Art Gallery  
We Cook Pizza, Etc.  
Steakhouse

Located off the highway on the west side is the Quality Inn and on the east side is Grand Canyon Camper Village.

There are three mobile home parks: South Rim Trailer Park, Halvorson Trailer Park, and Canyon Pines Mobile Home Park. In addition, up to 10 mobile homes have been allowed at the Camper Village RV Park and Canyon Squire has a mobile home park area for its own employees.

There are five multiple family residential developments: apartments behind Galaxy Theaters and McDonalds, two modular six-plexes adjacent to the Halvorson Trailer Park, and dormitory/apartments operated by the Canyon Squire and Quality Inn. The latter is under a lease and will revert to Red Feather in a few years. There is a sixth project approved for apartments for the Holiday Inn Express located on the north side of Canyon Pines Road.

There are eight single family dwellings, six of which are located in an approximately 15 acre area rezoned from General (10 acre minimum parcel size) to RS-10,000 (Residential Single Family, 10,000 square foot minimum) in

1984. One is in the Commercial Zone and one in the Multiple Family Zone. A subdivision has been approved to allow nine additional houses in the RS-10,000 Zone area.

At the west end of Tusayan is 8.177 acres owned by the South Grand Canyon Sanitary District which contains the wastewater plant. Portions of their property have been leased to Super Trash and to the Grand Canyon Chamber Music Festival.

### **Background -- 1978 South Grand Canyon Specific Area Study**

The 1978 area plan contained a proposed future land use map (see Map 2). Seven land use categories were identified:

1. Resort commercial, including hotels, motels, and restaurants.
2. General commercial, serving both tourists and residents and consisting of small nodes surrounded by open space.
3. RV parks and camping, for the existing RV park and possible future expansion.
4. Low density residential, defined as one to four units per acre.
5. High density residential, which would allow five to 10 units per acre.
6. Utilities, designated for the existing wastewater treatment ponds and other such facilities.
7. Open space, indicated on the map as corridors to separate the uses, and to be developed into roadways or pedestrian/bikeways.

The community has developed somewhat in conformance to this 1978 plan. The resort commercial area on the west side of the highway is developed with motels, restaurants, and the IMAX Theatre. On the east side the area so developed contains the domes. The general commercial on the east side includes the helicopter operations, restaurants, tourist centers, and the supermarket. The RV park is as shown, as is the site for utilities. There is low density residential on the west side where high density is shown, and there are other areas where high density residential at densities much greater than 10 units per acre have been developed. The open space corridors do not exist.

### **Tusayan-Grand Canyon Resident/Worker Survey**

Several questions (numbers 8-14) in the resident survey which was administered at the beginning of the planning process addressed future land uses. Question 8 asked which uses would be appropriate in Tusayan. Those uses receiving a majority of votes in favor include single family homes, apartments, trailer homes, more restaurants, day care facilities, auto repair center, and laundry. Those receiving negative votes include condominiums, cooperatives, more motel rooms, more gift shops, junk yards, travel trailers for employees, convention center, and helicopter tour operations.

In terms of which commercial uses are appropriate (question 9), those that answered listed facilities for residents such as laundry, banks, shopping, inexpensive restaurants, movie theater, auto repair, day care, and mini-storage. Inappropriate uses (question 10) included manufacturing or industrial businesses, casinos, amusement parks, auto dealers, or adult stores. Listed services which are needed (question 11) included banks,

laundry facilities, auto repair shops, and entertainment such as movie theaters and recreation centers for the residents.

A majority of respondents said they would not be opposed to additional commercial development if as a condition of the zoning, community needs such as housing, parks, schools, and other public services could be provided (question 12).

In a question (number 13) addressing where potential expansion of facilities in the area (retail, service, housing, etc.) should be located, a majority answered yes to "adjacent to the existing community" (78%), "within one mile of Tusayan" (70%), "within three miles of Tusayan" (50.4%), and "Valle" (58%). A large majority (91%) did not think an expansion of facilities should occur inside the National Park.

Fifty-six percent were opposed to industrially-zoned land in the study area (question 14). Of those who were not opposed, many indicated that commercial laundry and storage facilities would be appropriate.

### **Future Land Uses**

There are a number of factors affecting future land use besides simple market demand for additional tourist accommodations and resident desire for improved housing and more service commercial opportunities. The management plan for Grand Canyon National Park which is currently in preparation will very likely advocate relocating certain nonessential services and possibly some employee housing outside the Park. Tusayan may be the logical place to locate some of these facilities. There is one land exchange proposal (Canyon Forest Village) under consideration and an alternate proposal (Grand Canyon Improvement Association) that has been put forward. Either one of these

could radically affect future land uses because of the scope of the expansion in the private land base. In addition, a railroad spur line into Tusayan has been approved through the Environmental Impact Statement process by the U.S. Forest Service. The proposal is to construct the railroad station and a 2,000-car parking lot between the airport and Highway 64 at the south end of the community. This could be one of several "staging areas" where tourists could park and take a train, a bus, or other public transportation into the Park should there ever be vehicle restrictions in the Park. Finally, an obvious overriding issue affecting future land uses is water availability.

### **Single Family Residential**

There is definitely an unmet need for owner-occupied, site-built single family homes. In the core community land is not available for this use. Many employees have purchased land in Woodland Ranch, Valle, or even Flagstaff, in order to own their own home. The County has long been supportive of the acquisition of Forest Service land through exchange for employee housing in the areas immediately adjacent to Tusayan. The inclusion of a certain number of single family homes would certainly seem to be sensible and is strongly supported by the survey results.

In much of the rural unincorporated County, other than a few subdivisions like Kachina Village, Mountaineer, and Pinewood, single family residential development has been at low densities (one unit per acre or less). Much of the development has been through the lot split process rather than through platted subdivisions, resulting in many substandard private access roads. This type of development characterizes Woodland Ranch which has private unimproved roads and is

zoned for 10 acre parcels. In Tusayan, platted subdivisions with paved roads and all infrastructure (water, sewer, and utilities) at densities of four to six units per acre, which would fall under the County's RS-6,000 or RS-10,000 Zoning, probably make more sense given the scarcity and value of private land. This type of development also lends itself to the sense of community espoused in the Vision Statement.

If the proposed land exchange does not occur, there could be some interest in single family residential development on the private inholdings within the Kaibab Forest (for example, at Ten-X or Kotzin). While development of the infrastructure, which would necessarily include paving of the Forest Service access roads from the property to the highway, would be very expensive, such use of these private lands might be logical.

### **Manufactured Homes**

Mobile and manufactured homes are a dominant employee housing choice in Tusayan. They are relatively inexpensive (very inexpensive if used rather than new) and are simple to establish. Mobile homes and travel trailers stuck behind the commercial businesses continue to be a major factor due to the lack of alternatives. Quality manufactured homes placed in well designed parks or subdivisions will continue to be a very viable housing choice for employers and employees whether located in Tusayan, on newly acquired exchange lands, or elsewhere, such as Valle.

The Coconino County Zoning Ordinance requires 4,000 square foot minimum spaces in rental mobile home parks, which can allow a density of up to 10 units per acre, and requires 5,000 square feet per space in mobile home subdivisions. Paved roads, landscaping, off-street parking, and recreation areas are some

of the required improvements. Canyon Pines was developed under the current Zoning Ordinance standards.

### **Multiple Family Residential**

Dormitories and apartments have historically played a major role in housing employees both inside the National Park and in Tusayan.

Several of the businesses in Tusayan utilize either or both, including Canyon Squire, Quality Inn, Papillon Grand Canyon Helicopters, McDonalds, and Red Feather. An 8-unit apartment project was approved in conjunction with the Holiday Inn Express. With the exception of the latter, all multiple family housing is located directly behind or immediately adjacent to the business. In most cases this is far from ideal. While a classic zoning pattern would have commercial cores surrounded by multiple family which serves as a buffer between commercial and single family, the situation in Tusayan is different in that the multiple family is totally surrounded by commercial development. This does not create an ideal or appropriate family living arrangement nor does it necessarily improve the sense of community. If Tusayan were to be completely redeveloped, there would be a commercial core, and there would be a separate but nearby distinct, clustered area of multiple family residential development with adequate light, air, privacy, and open space, with protection from noise, direct illumination, odors, smoke, and other objectionable influences of commercial activity. This language is from the Residential Zones Section of the Zoning Ordinance under Purposes. Additional land would undoubtedly be required to achieve the goal of creating a true residential community.

The lack of additional apartment construction has not been due to unavailability of land, however. Several businesses or business owners have land which could have been, or

could be utilized for housing, and there are several acres of undeveloped or underutilized land already zoned for multiple family. In addition, a recent zone change from General to RM (Multiple Family) for the Holiday Inn Express housing was approved without objection and was supported by the County. The reason for the lack of housing has more likely been that housing does not pay. In the past, employee housing has been viewed as a "necessary evil," something that has to be done, and it has been provided as inexpensively as possible. This resulted in the use of travel trailers and old mobile homes. It has long been the position of the County that decent and proper housing should be an employer responsibility even though it will increase the cost of doing business. Most employers now realize that decent housing also results in better, more loyal employees.

There is little question that additional apartments are needed. Because many, if not most, employees could not afford market rate apartments, they will likely have to be provided by employers. Another possibility is a housing authority which could subsidize housing costs. This could only happen through incorporation.

Multiple family developments require a significant level of infrastructure, including water and wastewater, utilities, paved roads and paved parking, fire protection, and landscaping and other amenities designed to make the projects residential in nature.

Multiple family also includes individually-owned condominiums. Although no application has ever been submitted for a condominium project, these may provide a very viable option for affordable owner-occupied housing.

## **Commercial Uses**

There are essentially three types of commercial uses in the Tusayan area that exist or could exist: tourist businesses such as motels, gift shops, and helicopter and fixed-wing air tours; businesses serving both tourists and residents such as general retail (e.g., food markets), bank, gas sales, and laundry; and non-tourist support such as day care, solid waste collection, and professional services.

Along the commercial strip in Tusayan there is a supermarket and a convenience market that cater to both residents and tourists, there is a repair garage that serves mostly residents, and most of the remainder of the businesses are tourist-related.

There is commercially zoned land along the strip that is either vacant or subject to, and appropriate for, redevelopment. On the west side this includes the triangular parcel north of IMAX and the employee mobile home park at Canyon Squire. On the east side this includes the Kenai and Papillon sites after these operations move to the airport, the parcel between the Steakhouse and the old service station, the service station itself, and the domes. Tourist-related businesses are likely and probably most appropriate on all of these sites. Ideally, the non-tourist support businesses would be located off the highway.

Historically, the free market has determined the type and distribution of businesses in Tusayan. To a large extent this will continue to be the case. While a majority of residents seemed to oppose more motel rooms, there certainly seems to be a demand for additional accommodations. If the number of rooms inside the National Park remains constant and visitation increases, this demand will continue to grow. From the County's standpoint, what is most important is that future commercial

development be accompanied by employee housing, infrastructure development, and the public facilities and services needed for the additional population. Besides housing, the County's concerns have included water adequacy, wastewater capacity, fire protection, landscaping and open spaces, and aesthetics.

The Forest Service land exchange proposed by Canyon Forest Village (CFV) is certainly a major factor in the consideration of future commercial uses, as is the alternate plan put forth by the Grand Canyon Improvement Association (GCIA). The CFV plan includes several thousand motel rooms and other lodging accommodations, numerous restaurants, several hundred thousand square feet of retail, neighborhood commercial uses, and a 100-acre experiential/educational center. The GCIA proposal includes several hundred additional motel rooms and a new area for shops, gas stations, etc. With the new motel rooms there would presumably be additional restaurants. The County's interest will be to insure that such future commercial development is in the best interest of the National Park, the community of Tusayan, and the County as a whole. A very high standard of development appropriate for park gateway communities will be expected. Because the property is currently public land zoned Open Space, the standard will probably be higher than for developments on land already zoned commercial.

### **Industrial Uses**

Currently there is no industrially zoned land within the study area and no legally established industrial uses. A majority of respondents to the resident survey were opposed to industrially zoned land. The minority in favor thought a commercial laundry or storage facilities would be appropriate.

As Tusayan grows, or as the Park Service looks for sites outside the Park for

nonessential services, there could be a need for some light industrial areas. While manufacturing is certainly unlikely and probably inappropriate, other uses such as bus or truck repair, or wholesale distribution could possibly be appropriate.

### **Public Buildings**

At some point there will definitely be a need for a fire station. In addition, there could be a need for a municipal building, schools, and a visitor center or chamber of commerce which could be public or private. Clearly, a visitor information center which might be staffed by Park Service and Forest Service officials should be on or very near the highway, and probably preferably located at the south end of the community. The remainder of the public buildings are typically not on highway frontage and can be anywhere that access is good. Schools are best located within or at the periphery of residential areas.

### **Open Space/Parks**

A majority of respondents (63%) to the resident survey were in favor of a park in the Tusayan area (question 19). The most frequently mentioned location was between IMAX and Moqui Lodge. A public park with grass (irrigated with wastewater effluent), playground equipment, picnic tables, and possibly active recreational facilities like baseball or soccer fields, could serve both residents and tourists. A very attractive public park not only adds to a sense of community but can leave a positive impression with visitors. Development of such a facility is not likely to occur without incorporation and subsequent acquisition of Forest Service land.

## **SPECIAL CONSIDERATIONS**

### **Tusayan as Gateway**

The Coconino County Comprehensive Plan contains specific discussion of future development of gateway communities (page 40):

"National parks, monuments, and recreation areas in Coconino County include Grand Canyon, Walnut Canyon, Sunset Crater, Wupatki, and Glen Canyon. Development adjacent to, or on highways leading to these National Park Service areas deserves special treatment in order not to detract from tourists' overall experience. The Park Service has very strict controls over development within the boundaries of the parks, so County restrictions outside the parks are justified to prevent the creation of unsightly gateways to these tourist destinations.

"The most significant of the gateway developments is Tusayan at the southern boundary of Grand Canyon National Park. The Grand Canyon is a World Heritage Site, designating it as one of the most unique resources in the world. The park was visited by four million visitors last year [1988], most of whom travelled through Tusayan. Completion of an update to the Tusayan specific area plan and possible

adoption of a design review overlay zone containing site plan, architectural, and sign restrictions would allow for a better planned and more attractive community."

Land use policies in the Tusayan Area Plan should reinforce the concepts in the overall Comprehensive Plan.

### **Grand Canyon Airport**

Use of Grand Canyon Airport is inextricably related to land use in Tusayan. A portion of the existing core community is in the direct flight path. Potential addition of a second runway would increase this sphere of influence. There are, or will be, land uses at the airport that complement activities in Tusayan, such as fire protection, car rental, fixed-wing air tours, and eventually helicopter tours. The airport, along with the adjacent approved railroad spur and depot, could serve as one of several staging areas for public transport into the Park.

### **Parking**

The tourist commercial facilities in Tusayan necessarily require a great deal of parking not only for automobiles but for recreational vehicles and tour busses. Large areas of asphalt, unless broken by landscaping, do not present an attractive appearance and also make a community look more urban than rural. The County has been strictly enforcing the Zoning Ordinance landscaping requirements for parking lots. The standard is 10 feet in depth along the front property line (usually between the parking lot and the ADOT right-of-way) and 10 square feet per parking space to be located at the periphery or in the interior of the lot, including one 15 gallon tree per 10 spaces and per 2,000 square feet of area. It is possible that these standards

do not go far enough in breaking up the asphalt expanses. From an aesthetic standpoint, a much more attractive way to handle parking is to have the businesses at the front and parking to the rear.

Another issue related to parking concerns variances. A number of variances have been granted by the Coconino County Board of Adjustment from the required number of spaces. The justification has been the number of tour busses and the shared use of facilities on a property; that is, the same clients would be eating in a restaurant as are staying at the motel. While the County is certainly not interested in more asphalt than is necessary, there is a concern that at some point in the future there will be a shortage of spaces. There is already considerable unauthorized use of state highway right-of-way for parking.

### Densities -- Residential and Commercial

The Zoning Ordinance provides for a number of densities for residential development, from one unit per 10 acres in very rural areas to six units per acre for single family residential, 10 units per acre for mobile home parks, and 10 and 20 units per acre for multiple family residential projects. Higher densities may be possible or appropriate if enough parking, landscaping, and open space can be designed into the project.

There is no specified density for commercial projects, for example, motels. Prior to the Red Feather expansion and Holiday Inn Express, densities were as follows:

<u>Motel</u>	<u>No. Units</u>	<u>Acreage</u>	<u>Density</u>
Canyon Squire	250	11.8	21.2
Quality Inn	176	3.6	48.9
Seven Mile Lodge	16	0.3	47.1
Red Feather	101	2.48	40.73

The Red Feather expansion, with 129 units on 1.65 acres, represented a density of 78 units per acre. The Holiday Inn Express, with 164 units on 2.365 acres, had a density of 70 units per acre. Community Development staff was concerned with these proposed significantly higher densities. Controlling factors have been building height limitations, although height variances were granted for both projects, and parking and landscaping requirements. Combined with an impervious surface ratio, these may be the maximum densities possible unless allowed heights are increased. The concern with massive multi-story buildings is the urban appearance rather than a rural, park-like appearance that may be more appropriate for gateway communities.

### Redevelopment

There are a number of parcels that could very likely be subject to redevelopment. This plan not only applies to redevelopment, but should perhaps recommend it for certain properties that have not been developed in accordance with the vision of an attractive gateway community.

The Kenai and Papillon helicopter operations are slated to relocate to the airport; these properties are ripe for redevelopment. The domes should be removed in favor of commercial development that is more architecturally compatible. At the north end on the east side of the highway, the Halvorson and South Rim Trailer Parks could either be relocated or upgraded to current standards. On the west side of the highway, the Canyon Squire mobile home park should be relocated for additional commercial development. The Canyon Food Mart and Thurston's Gas could be significantly improved and upgraded. The service garage should be removed or relocated. The dormitory behind the garage should also be removed or relocated to a more compatible residential setting. There are

additional improvements that could be made off the highway as well, but to achieve the vision of an attractive gateway community, the visual impact of the highway frontage properties which create the visitor's impression are the most important.

### **GOALS**

1. Every effort shall be made to expand the core 144 acre land base to allow controlled expansion of community facilities consistent with community needs.
2. To allow and provide for growth and development which has positive benefits to community residents and land owners, to the National Park, and to the County as a whole, and which is compatible with protection of the natural environment.
3. To provide a range of residential land uses which offer diverse housing opportunities.
4. To create a true residential community.
5. To minimize conflicts between adjacent land uses.
6. To improve the overall appearance of the community.
7. To balance new commercial development with community, National Park Service, and U.S. Forest Service needs such as housing and public services.
8. Any commercial and economic development should be sustainable.

### **POLICIES**

#### ***Residential***

1. The development of new single family subdivisions for Tusayan and Grand Canyon area residents is encouraged. Subdivisions shall be placed and designed with the goal of creating a sense of neighborhood and community. Waivers may be considered for minimum parcel size and road width if the purpose is protection of open space and preservation of natural resources.
2. Adequate buffering, screening, or fencing shall be required for new residential developments which are adjacent to commercial uses.
3. New residential development shall be discouraged in the airport approach zones where noise and safety may be overriding factors. Within noise impact zones, extra insulation shall be required per FAA specifications. Avigation easements may be required within certain airport noise zones.
4. Until there is an organized fire department, fire sprinklers shall be strongly encouraged in all new single family residential development.
5. New mobile home parks and subdivisions shall be constructed in accordance with the Zoning Ordinance; that is, paved roads, landscaping, adequate space sizes, shall be required. All units shall be HUD-approved manufactured homes.
6. Mobile homes shall not be utilized for multiple family residential purposes; that is, mobiles shall not be subdivided into separate apartment units.

7. New mobile home parks shall be located such that they are not incompatible with adjacent land uses and such that a sense of community is fostered.
8. New mobile home parks and other high density residential uses shall be discouraged in remote areas, in areas where unpaved U.S. Forest Service roads provide the only access, and in areas without adequate utilities.
9. New multiple family residential developments are encouraged. Projects shall be located in areas which are compatible with surrounding land uses. Adequate open space and landscaping shall be utilized to insure an attractive residential appearance. Densities may be waived if open space and a proper residential character can still be achieved. Multiple family projects shall be limited to no more than three stories in height.
10. Should Tusayan incorporate, new multiple family projects shall be encouraged to locate within close proximity of Tusayan in order to obtain municipal services, utilities, and fire protection.
2. New commercial uses shall be tourist-related or neighborhood commercial to serve local residents. Commercial uses which are attractions in and of themselves, such as casinos, amusement parks, factory outlet malls, and convention centers, shall be strongly discouraged.
3. Commercial rezonings shall be strongly discouraged which intrude into existing or future residential areas.
4. The creation of "spot zones," isolated zone changes which are inconsistent with uses of surrounding areas, shall be discouraged.
5. Strip commercial development along Highway 64 outside of or not adjacent to the existing community core shall be strongly discouraged. Preference shall be given for the development of commercial nodes or clusters of commercial activity. Future commercial activity shall be limited to within three miles of the existing core.
6. Environmental impacts shall be carefully considered in reviewing new development projects. Those showing sensitivity to the natural environment including preservation of trees and other native vegetation shall be favored.

***Commercial***

1. New commercial development, as well as redevelopment, shall conform to design standards that achieve the vision of an attractive gateway community.
7. Requests for commercial zoning shall be limited to the land area needed and site-planned for the planned use in order to eliminate speculative rezoning.

8. Commercial development shall be discouraged in remote areas, in areas where unimproved U.S. Forest Service roads provide the only access, and in areas without adequate utilities.

### ***Industrial***

1. Industrial rezonings are considered inappropriate in the study area unless they are considered necessary to achieve other goals in this plan.

### ***Open Space/Parks***

1. Development of a community park shall be strongly encouraged.
2. Open Space zoning shall be maintained for public (state or federal) lands. When such lands become private through exchange or purchase, a zone change shall be required prior to the commencement of any development.
3. To the extent possible, open space, greenway, or pedestrian/bicycle corridors shall be retained between commercial uses or clusters of commercial uses.

### **General Considerations**

1. The County shall strongly encourage public participation in all County processes of planning, approving, monitoring, and evaluating residential, commercial, and industrial developments and land uses within the study area.
2. The County and the community shall actively seek participation in the land use planning and management processes of the National Park Service, U.S. Forest Service, Arizona Department of Transportation and Arizona State Land Department concerning administration of public lands.
3. The County shall consider the impact of its decisions on Native American peoples, cultures, lands, natural resources, and environment within and outside the study area.

## **REGIONAL PLANNING/INTERGOVERNMENTAL COOPERATION**

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The community of Tusayan is surrounded by lands administered by several different governmental agencies. The jurisdiction of the County Planning and Zoning Commission and Board of Supervisors only extends to the small amount of private land in the area. The U.S. Forest Service under the Department of Agriculture administers Kaibab National Forest lands. The National Park Service under the Department of Interior administers Grand Canyon National Park. The Arizona Department of Transportation controls Grand Canyon Airport and the Highway 64 right-of-way. The Arizona State Land Department controls numerous sections of land approximately eight miles south of the study area. Arizona Game and Fish and U.S. Fish and Wildlife Service policies and regulations, especially pertaining to endangered species such as the Mexican spotted owl, affect land management administration throughout the area. In addition, the Havasupai, Hualapai, Navajo, and Hopi Tribes have longstanding cultural interests in regional land use issues in and around the study area. Land use policies and decisions made by the various agencies often have impacts and implications extending beyond their jurisdictional boundaries. A high degree of intergovernmental cooperation and regional planning is necessary to prevent conflicts and to accomplish the goals and objectives of the different entities.

The Coconino County Comprehensive Plan identifies Tusayan as an area of special concern because of its location at the gateway to Grand Canyon National Park. Grand Canyon is a designated World Heritage Site that attracts nearly five million visitors annually. It is important that development in the nearest gateway community be compatible environmentally, aesthetically and culturally with one of the most unique natural resource areas in the world. Hopefully, implementation of the policies contained in this plan, including the design review guidelines, will result in a gateway community that is complimentary to and compatible with such an important site.

The Park Service is currently preparing a new General Management Plan for Grand Canyon. The plan may recommend moving certain functions and services out of the park and may include limitations on entry by personal vehicles. Any such policies or regulations will affect outlying communities, especially Tusayan. The possible relocation of employee housing, administrative services, visitor information services and transportation staging areas to locations outside the park will require regional planning and cooperation between the affected agencies, property owners and other interested parties.

By far, the majority of the 63 square mile Tusayan study area is under the jurisdiction of the U.S. Forest Service, and therefore, subject to the policies and provisions of the Kaibab National Forest Plan. Forest planning issues that have regional implications include recreational opportunities, special use permits, proposed paving of Forest Service roads, and the proposed Canyon Forest Village land exchange. These issues have already been discussed in the "Natural Resources and Environmental Quality" section of this plan, but it is appropriate to reiterate their importance in terms of regional planning.

Recreational opportunities on forest land, including camping, hiking, biking and hunting, provide alternatives to recreational opportunities in the Park. This use of forest land can be complimentary to similar use in the National Park and will become increasingly important as an alternative if the Park Service adopts numerical limits or a reservation system for admission to the park.

Forest Service special use permits allow private development on Forest Service land in some cases. Special use permits can be obtained for a variety of uses including utility installations (APS substation), commercial lodging (Moqui Lodge), transportation facilities (proposed railroad spur and parking area), community facilities (proposed American Legion community center), and housing (possible Park Service employee housing), among others. Such development on Forest Service land is not subject to County Planning and Zoning Commission review, but clearly has community-wide and regional impacts. Interagency cooperation and coordination in the review of special use permit applications is desirable to avoid conflicts and accomplish common goals.

The possible paving of certain Forest Service roads is another issue that has region-wide

implications. Such decisions should be made only after careful interagency review and approved only if consistent with regional land use and transportation planning goals.

The proposed Canyon Forest Village land exchange and other proposed alternatives currently under consideration by the Forest Service would undoubtedly have regional impact. The required Environmental Impact Study will consider possible impacts on wildlife, vegetation, surface and groundwater, transportation and other regional issues. While the Canyon Forest Village proposal may accomplish the goal of acquisition of private inholdings by the Forest Service in accordance with the Forest Plan, that accomplishment should be weighed against other potential regional impacts, both positive and negative, with a decision based on a comprehensive view.

National Forest land and resource management planning is an evolving process. Recent emphasis on ecosystem management and expected regulations pertaining to Mexican spotted owl habitat are bound to affect the use and management of forest lands. It appears likely that there will be less emphasis on extractive uses and more emphasis on recreational and interpretive activities. Land management policies implemented on the Tusayan District will play a significant role in shaping the future character of the study area.

The Arizona State Land Department is considering the sale of a section of state land on Highway 64 approximately eight miles south of Tusayan at the Kaibab National Forest boundary. Although outside the Tusayan study area, the possible sale of state land in the vicinity clearly has regional planning ramifications. Under state law, lands held in trust and administered by the State Land Department are to be managed for the

benefit of state-funded educational institutions. While the state may not be mandated to address regional planning considerations, the numerous sections of state land do not exist in a vacuum, and any sale of such lands should be considered from a broader perspective.

The Grand Canyon Airport, owned and operated by ADOT, is a major component of the regional transportation network. Future expansion and development of airport property and facilities will affect the Tusayan community as well as the park and surrounding area. Airport planning and development should be considered in the context of regional transportation and land use planning.

NACOG (Northern Arizona Council of Governments) has taken the lead in organizing a group of community representatives from both public and private sectors to study regional transportation issues relative to the Grand Canyon National Park. After several meetings and much debate the area identified as the Grand Canyon region for purposes of the initial planning phase is the South Rim and its "nearby" communities. This study area extends south to Williams and Flagstaff and east to Cameron. The impetus behind this regional/sub-regional approach to transportation planning is related primarily to the ever-increasing visitation to the Park and inability of the Park to accommodate the additional vehicle traffic. The Grand Canyon National Park, in their General Management Plan update process, has identified alternatives for dealing with the increasing traffic. One alternative is to place a restriction on the number of vehicles that could enter the Park. This would result in the location of staging areas outside the Park boundaries to facilitate access by some means other than private autos (e.g.: rail, shuttle bus).

As stated in a draft scope of work dated May 25, 1994 the purpose of the NACOG project is to ultimately develop an "intermodal transportation plan which focusses on possible solutions to congestion problems at Grand Canyon National Park through: 1. development of staging areas in outlying areas such as Tusayan, Cameron, Valle, Williams, and Flagstaff, and 2. development of effective efficient systems of alternative modes of transportation to the South Rim." Given the complexity of issues related to transportation and the overlapping interest of the various communities the need for interagency cooperation and involvement, including financial support, is paramount to the ultimate success of this study and final plan implementation.

Some residents of the community of Valle have requested that a specific area plan be developed for their community. Although separated by approximately 22 miles, Valle and Tusayan are interrelated in the sense that both are located on the main highway corridor to Grand Canyon and share some common problems and planning issues. It would be mutually beneficial for the two communities to identify ways in which they can coexist and work together to accomplish regional goals.

Various Native American cultures, including Havasupai, Hualapai, Kaibab Paiute, Hopi and Navajo, have historic and prehistoric connections with the study area and surrounding region. Regional planning should be sensitive to cultural concerns and issues of Native American residents. Conversely, it should be recognized that tribal plans and developments have the potential to create regional impacts. The Hualapai Tribe recently developed a master plan for possible development of resort facilities along the western rim of Grand Canyon. Such development of resorts and/or gaming operations on reservation lands could cause a

range of regional impacts. Any attempt at regional planning and interagency cooperation should include tribal representatives and tribal planning issues and should address Native American concerns to be truly comprehensive.

Secretary of Interior Bruce Babbitt recently announced a proposal to create a regional planning task force for the areas surrounding Grand Canyon National Park. Senator John McCain has expressed his support for the proposal, and has stated his belief that local participation and support for the process is vital to its success. Ideally, the task force should include all of the entities discussed in this report, other relevant state and federal agencies and local representatives from the cities of Page, Fredonia, Williams, and Flagstaff.

Environmental organizations, business groups, property owners and other interested parties should also be included if the task force is to be comprehensive in nature. It is likely that Coconino County would play a central role in facilitating such a task force.

All of the affected governmental agencies, interest groups and individuals have their own priorities and missions to accomplish. However, no single entity can pursue their own agenda without having impacts on the others. With cooperation and coordination between the various parties, an integrated approach may be taken towards addressing the needs of visitors and residents while preserving the essential environmental qualities that attract so many people to the area.

## **GOALS**

1. To achieve intergovernmental cooperation and coordination of land management decisions in the context of regional planning for the Tusayan/Grand Canyon area.

## **POLICIES**

1. The County shall actively seek and give due consideration to input from other affected agencies in the review of development proposals in Tusayan.
2. The County shall actively seek participation in other agencies' processes when their actions affect the Tusayan Area.
3. Regional impacts shall be assessed in the review of new development proposals. The County reserves the right to request additional and sufficient information to assess the regional impacts of the project.

# **TUSAYAN DESIGN REVIEW OVERLAY**

ADOPTED BY THE TUSAYAN PLANNING COMMITTEE  
JULY 12, 1995

ADOPTED BY THE PLANNING & ZONING COMMISSION  
AUGUST 29, 1995

ADOPTED BY THE COCONINO COUNTY BOARD OF SUPERVISORS  
OCTOBER 16, 1995

## DESIGN REVIEW OVERLAY ZONE FOR TUSAYAN

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### PURPOSE

In order to achieve the very high aesthetic quality identified in the Vision Statement it is desirable to establish design guidelines which would be adhered to for all new development and redevelopment of multiple family, commercial, industrial, and public or semi-public uses within the study area.

### GOAL

The guidelines which are set forth in this document are designed to achieve the effect of a model gateway community which integrates the built environment with the existing natural environment. Since Tusayan's tourism economy relies primarily on Park visitors, it is desirable to adopt design guidelines which are complementary to and compatible with architectural and design standards which the Park Service has developed for the South Rim area. By developing compatible standards, an aesthetically harmonious transition from the Tusayan community into the Park should be realized.

**NOTE:** In light of the desirability for compatible standards, some of the terms and concepts found in the National Park Service Architectural Guidelines for the Grand Canyon National Park (1994) are included in the following standards, either specifically or by reference.

Although it is unreasonable and impractical to expect all new developments to adhere to all elements of the "Grand Canyon Rustic" style, the use of the Park Service guidelines as a reference source for designing new developments is highly recommended.

### Architectural Style

There is no existing predominant architectural style found in Tusayan. A majority of the structures were built in the 1970's and are nondescript, cinder block construction. Probably many residents would agree that the most offensive architecture existing in the community is the Domes, located at the southern entrance to the community, which create an amusement park atmosphere. Although other recent developments don't include designs as objectionable, the adoption of minimum standards will help move the community toward a more cohesive appearance.

1. Architectural styles shall be respectful and compatible with the unique location of this community as a gateway to the South Rim of the Grand Canyon. Architectural building forms should express sensitivity to this unique environmental setting, while respecting the indigenous cultures. The goal is for designs which contribute to the character and quality of the built environment while in harmony with the natural environment.

Examples of undesirable designs include whimsical architecture, such as the Domes, which has no relationship to the surrounding natural, cultural, or historical environment. Modernist architecture which clashes with the natural environment is also undesirable.

2. Scale and mass of developments should be compatible with the natural environment in which the community is located and not dominate over it. Architectural features which serve to break up the massive appearance of a structure should be utilized. These features can include variation in roof forms, the use of dormers, covered walkways, and patios. All features should be in proportion to the building. All sides of a structure shall receive design considerations. In some cases it may be deemed more appropriate and desirable to use smaller buildings which are clustered rather than a single massive structure.

### **Materials and Color**

The use of natural materials, such as native stone, logs, and wood, is highly desirable due to the fact that these are most successful in integrating structures to the environment. However, conflicts arise between the promotion of these extractive resource materials and sound environmental policies. In an attempt at promoting the concept of sustainable development, the use of synthetic products, particularly those which are made from recycled materials, is also acceptable provided that such materials meet high quality standards as outlined. Although some synthetic or reprocessed materials may not be appropriate for major or primary structures, they may be highly desirable for ancillary uses such as street furniture.

1. External building materials should be predominantly those that fit the natural landscape such as native stone, logs, wood, broken-faced block, exposed aggregate concrete, and stucco. The use of other materials such as synthetic or reprocessed stone and wood may be considered, but will require that information be provided regarding manufacturing specifications, product samples, and examples of where the product has previously been utilized.
2. Earthtone colors that blend with local soils and vegetation are highly desirable. Various shades of browns and tans, subtle greens, as well as sandstone and limestone are encouraged. Bright colors such as oranges, limes, aqua blue, and white, which call undue attention to the buildings, are discouraged. Color schemes should be coordinated to complement the architectural style and mass of the buildings.
3. Roofs must meet the color requirements of the building. Aluminum, white, or reflective roofs are not acceptable. Screening of mechanical equipment is encouraged to maintain desirable aesthetic quality from street level or from adjacent structures.
4. The use of materials and colors to enhance the building design and break up the monotony of massive structures is encouraged.

## Site Design

The overall community appearance envisioned by these standards is one which emphasizes open, landscaped areas which are pedestrian friendly. The development of a pedestrian path connecting the various uses is desirable. Such a feature becomes an integrated design element that ties the community together in a visual way while being utilitarian. The generous use of landscaping is of primary importance in achieving the desired effect. A good example of the benefits of ample landscaping is the Canyon Squire property. The landscaping provided within the 50 feet of ADOT right-of-way behind the sidewalk serves the dual purpose of buffering the development from the highway traffic while providing an appealing transition zone from the highway to the hotel. These are elements of good site design. Alternatively, examples of poor site planning are abundant within Tusayan, particularly the properties which have paved the 50 foot ADOT right-of-way as well as the front setback area. The impact of this approach to site development is traffic circulation problems and the appearance of a highly urbanized area. The circulation aspect of site design is of critical concern from a safety aspect as well as aesthetics. Due to the significant number and diversity of vehicles which visit Tusayan, the interaction between RV's, busses, passenger vehicles, and pedestrians is difficult to control.

Building height is another component of site design. Most commercial buildings have been developed under the CG-10,000 (Commercial General) Zone which limits the height to 35 feet, although variances of up to 40 feet have recently been approved. There have been rezonings to CH-10,000 (Heavy Commercial) in the past few years which allows a maximum height of 50 feet, though the only buildings which are in that range are the IMAX Theatre and the Domes.

1. Sufficient setbacks providing access to light, air, landscaping, and views shall be incorporated into site design. The 50 foot right-of-way flanking Highway 64 shall be fully landscaped in conjunction with all new development and redevelopment. If this area is abandoned by ADOT in the future, it shall remain as a landscape buffer/transition zone between the Highway and commercial businesses. The use of this transition zone for meeting some parking requirements may be appropriate, but not within the 30 feet closest to the Highway.
2. Vehicle and pedestrian ways shall be clearly delineated to prevent congestion and conflicts. Service vehicle and delivery areas shall be located such that they are screened from view and don't interrupt the flow of traffic.
3. Parking lots shall be designed to include adequate landscaping within the periphery and interior to break up the impermeable surface coverage. Methods for achieving this include the use of landscaped islands within the parking lot, clustering parking spaces into islands rather than long rows, and utilizing a variety of landscape materials, including a mix of vegetation types and sizes, and decorative fencing.
4. Where bus and RV traffic is anticipated, site design should take into consideration the maneuverability constraints, parking, and passenger unloading needs associated with these vehicles.

5. Orientation of buildings on the site should be "user friendly." Components which will be considered for meeting this standard include entrances which are well marked and located with a logical relationship to the parking area, pedestrian walks from parking areas to businesses, and outdoor areas for the public to sit and rest.
6. Building height shall not exceed three stories above ground and 40 feet above existing grade.
7. Landscaping shall consist of indigenous plants. Exotic ornamental plants which could "escape" to the surrounding area and displace native vegetation shall be prohibited.
8. Preservation of existing trees and vegetation is encouraged. All landscaping shall include a mix of landscape materials, including variations in sizes, deciduous, evergreen, trees, and shrubs.
9. The use of potable water as the primary irrigation source shall not be authorized. Irrigation systems shall be plumbed for the use of nonpotable water. The extension of reclaimed water lines shall be strongly encouraged as soon as possible. If landscape plans suggest a permanent source of irrigation is necessary, a permanent on-site water system providing complete coverage shall be required.

## Signs

Although there are a number of existing signs which do not conform to current sign regulations, having been "grandfathered" in under previous Ordinances, by far the most problematic area is the extensive use of attention-getting devices which are not readily definable as signage. Examples include the indiscriminate use of flags, buckboards, tepees, cut-out figures, and Christmas lights year-round. When a number of properties participate in utilizing these attention-getting devices the atmosphere becomes cluttered and the advertising ineffectual. Developing guidelines which would define and limit the use of attention-getting devices would go a long way toward achieving the high aesthetic quality envisioned by this planning document.

1. All provisions of Section 16, Signs, shall be applicable except as may be modified herein.
2. Signs shall not be attached to or painted on natural objects such as trees or rocks.
3. Portable sandwich-type signs shall not be permitted except for real estate "open house" signs identifying property which is for sale or lease.
4. Signs with highly reflective surfaces or bright metal shall not be permitted.
5. The use of banners, pennants, whimsical attention-getting devices such as wooden cut-out figures, wagons, and tepees shall not be permitted, unless it can be demonstrated that the use of such is integral to a particular use.

6. Flags shall be limited to one Arizona flag and one U.S. flag, maximum. Flag poles shall meet the 40 foot maximum structure height adopted through this DRO. This shall not apply to future public spaces such as transportation center, visitor center or roadway medians.
7. Outdoor internally illuminated signs shall be constructed with an opaque background and translucent letters and symbols. Such signs shall be turned off at 11:00 PM or when the business closes, whichever is later.
8. The use of lighting as an attention-getting device which is not related to an approved sign or for architectural illumination shall not be permitted.
9. Signs shall utilize and emphasize the same materials specified in the DRO for buildings. Colors such as "day-glo" shall be prohibited. Signs and the color of signs shall be compatible and consistent with the architectural style of the building or portion thereof to which it relates.
10. Externally lighted signs may be permitted for signs constructed of natural materials providing such lighting is directed and shielded so that direct rays do not project above the horizontal or reflect onto adjacent properties or rights-of-way.
11. The base of a freestanding sign shall be located in a planter box or landscaped area.

## **Lighting**

Providing adequate lighting for safety purposes while protecting the night sky from invasive light pollution is a difficult balancing act. Both are critical concerns for achieving the community envisioned in this planning document. The Park Service has introduced some guidelines in their design plan (1994) which when applied in conjunction with the County's Lighting Ordinance should help achieve an acceptable balance.

1. All outdoor lighting shall comply with the provisions of Section 17 of the County Zoning Ordinance except as modified herein.
2. Outdoor lighting shall meet the regulations for Zone III except that all lighting that is permitted shall be fully shielded.
3. Poles and fixtures should be compatible to the architectural styles of the development.
4. Lighting should be designed to fit the development; poles should not be higher or lighting more extensive than is necessary.
5. Parking lot light standards should only be as high as required to accomplish the necessary illumination while being in scale with the surrounding landscape and structures. For example, pole heights could be 25-30 feet in areas where existing tree stands effectively camouflage the poles; lower standards would be more appropriate in open areas.

6. Light fixtures illuminating pedestrian walks or plazas should not exceed 12-15 feet in height in order to be appropriately scaled to the pedestrian and still out of reach of vandals.
7. Low level bollard type light fixtures should be considered where they can be effective without becoming too dominant in the landscape.
8. Ornamental luminaries with exposed light sources are not acceptable.
9. All exterior lighting, including landscape lighting, shall conform to the DRO standards.

### **Environmentally Sensitive Development**

Since the DRO guidelines are applicable only to new development and redevelopment, they in essence acknowledge that further growth is inevitable. Sustainable growth is, however, a contradictory term. Sustainable implies maintaining a certain balance of resources used and resources replenished, a concept contrary to that of growth. However, since sustaining a true balance is not possible, the use of environmentally sound practices which minimize the use of finite natural resources and that consider the overall potential impacts of the development on the environment are the next best thing and are fully supported. Although the DRO guidelines could be interpreted as implying that the aesthetics of a development are of most importance, that is not the intent. The integration of energy efficient designs such as solar access, and methods of recapturing snow and rainwater for landscape irrigation are examples of environmentally sensitive measures that are encouraged to be incorporated into new development plans.

1. The use of these guidelines in designing development plans shall not be interpreted as discouraging or prohibiting designs which are environmentally sensitive. Developments which incorporate energy conservation measures, water reuse, and material recycling are strongly encouraged.

### **Implementation**

The Tusayan Planning Committee expressed concerns regarding the implementation and enforcement of these DRO guidelines. The Committee recommends the following alternatives as possible mechanisms for resolving any potential conflicts.

1. The County should consider an amendment to the Zoning Ordinance to create a separate Design Review Committee to hear all DRO applications.
2. The County should consider continued use of the Tusayan Planning Committee for reviewing plans for conformance to the intent of these DRO standards whenever a dispute arises between an applicant and staff regarding conformance with the DRO guidelines.