Chapter Six
Environmental Overview

INTRODUCTION

This environmental overview examines the environmental impacts associated with the proposed airport improvements listed in the capital improvement plan (CIP) included in Chapter 5. This chapter is intended to provide an overview of the potential impacts and identify additional environmental documentation that may be required as a prerequisite to development. If an action is included in one of the categories of categorical exclusions (CATEX) and no extraordinary circumstances apply to the proposed action, the FAA can take action without further environmental review. For proposed actions subject to NEPA that do not qualify for categorical exclusion, an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) is required. The purpose of an EA is to determine whether a proposed action or its alternatives has the potential to significantly affect the environment. If the FAA has decided to prepare an EIS, it does not need to prepare an EA. If the EA on the proposed action indicates that the action will not result in significant impacts, the responsible FAA official prepares a Finding of No Significant Impact (FONSI). The purpose of this section is determine which determination is applicable for each project.

AIR QUALITY

The Clean Air Act of 1970 was enacted to reduce emissions of specific pollutants via uniform Federal standards. These standards include the National Ambient Air Quality Standards (NAAQS) which set maximum allowable ambient concentrations of ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb) and particulate matter 10 microns or smaller (PM_{10}). Section 176(c) of the Act, in part, states that no Federal agency shall engage in, support in any way or provide financial assistance for, license or permit or approve any activity that does not conform to the State Implementation Plan.

Federal Aviation Administration Order 5050.4A and 1050.1E requires air quality analysis for projects in areas not in compliance with the Environmental Protection Agency (EPA) approved State Implementation Plan (SIP). Because the entire area is considered in attainment with the SIP, no further air quality analysis is required.

Construction emissions, specifically dust, are not long-term factors. These emissions are described in the "Construction Impacts" section of this Chapter. The necessary permits will be obtained before construction begins and construction projects will conform to FAA Advisory Circular (AC) 150-5370-10A, *Standards for Specifying Construction of Airports*.

The following best management practices are recommended to minimize construction emissions:

I. Site Preparation
   A. Minimize land disturbance;
   B. Use watering trucks to minimize dust;
   C. Cover trucks when hauling dirt or debris;
   D. Stabilize the surface of dirt piles and any disturbed areas;
   E. Use windbreaks to prevent any accidental dust pollution; and
   F. Segregate storm water drainage from construction sites and material piles.

II. Construction Phase

A. Cover trucks when transferring materials; and
B. Minimize unnecessary vehicular and machinery activities.

III. Completion Phase
A. Revegetate any disturbed land not used;
B. Remove unused material and dirt piles; and
C. Revegetate all disturbed areas if appropriate.

Correspondence was sent to the Arizona Department of Environmental Quality, Air Quality Division concerning any actions that should be taken before improvements begin. To date, no response has been received from Arizona Department of Environmental Quality.

COASTAL RESOURCES

There are no coastal zones associated with the proposed development. Therefore, compliance with the Coastal Zone Management Act of 1972 and the Coastal Barriers Resources Act of 1982 is not a factor.

COMPATIBLE LAND USE

Land use compatibility considerations include safety, height hazards and noise exposure. Although extremely rare, most aircraft accidents occur within 5,000 feet of a runway. Therefore, the ability of the pilot to bring the aircraft down in a manner that minimizes the severity of an accident is dependent upon the type of land uses within the vicinity of the airport. Land uses are reviewed in three zones surrounding the airport: the Runway Protection Zone (RPZ), the Approach Zone and the Flight Pattern Zone. The RPZ is a trapezoidal area extending 1,200 feet beyond the ends of the runway and is typically included within the airport property boundary. Residential and other uses that result in congregations of people are restricted from the runway protection zone. The approach zone generally falls within the FAR Part 77 Approach Surface area. Within the approach zone, public land uses, such as schools, libraries, hospitals and churches should be avoided. New residential developments should include avigation easements and disclosure agreements. The flight pattern zone is generally the area within one mile of the airport. Within the flight pattern zone, avigation easements should be considered and disclosure statements required. A recommended Compatible Land Use and Height Restriction Zoning Ordinance is included in Appendix C of this report. The closest populated areas to the Kayenta Airport are located in Kayenta and along Highway 160 and 163, surrounding existing and planned land uses are commercial, industrial and light residential. A copy of the draft land use plan prepared by Community by Design is included in appendix K at the end of this report. approximately 2,400 feet north of Runway 5. These areas technically meet FAA land use compatibility guidelines as they are not located within RPZ's or the 65 DNL noise contour; however there locations lend themselves to frequent over flights and higher accident risk potential (University of California at Berkley 1993). Therefore a right-hand traffic pattern to Runway 5 and shifting the Runway 1,190' feet to the northeast are recommended, according to FAA advisory circular 150/5300-13, FAR Part 77 and FAA Part 150, the existing trailer park is not located in an area, which could be determined incompatible. The planned airport development will occur within the existing airport property boundary and will not cause the occurrence of incompatible land uses.

Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*, provides imaginary surfaces surrounding an airport that should be protected from penetration by objects. These include the approach surface, horizontal surface and conical surface. These surfaces

were described in Chapter 4. Proposed structures in the vicinity of the airport should be reviewed against the Part 77 criteria to ensure hazards to air navigation are not created. Objects penetrating these surfaces could result in a hazard to air navigation.

It is recommended that flight and traffic patterns be oriented to the south of the airport (i.e. left hand traffic patterns for Runway 23 and right hand traffic patterns for Runway 5) with approach and departure procedures designed to avoid residential areas. The calm wind runway should be designated as Runway 5.

CONSTRUCTION IMPACTS

Local, State and Federal ordinances and regulations address the impacts of construction activities, including construction noise, dust and noise from heavy equipment traffic, disposal of construction debris and air and water pollution.

Construction operations for the proposed development will cause specific impacts resulting solely from and limited exclusively to the construction period. Construction impacts are distinct in that they are temporary in duration and the degree of adverse impacts decreases as work is concluded. The following construction impacts can be expected:

- A temporary increase in particulate and gaseous air pollution levels as a result of dust generated by construction activity and by vehicle emissions from equipment and worker's automobiles;
- Increases in solid and sanitary wastes from the workers at the site;
- Traffic volumes that would increase in the airport vicinity due to construction activity (workers arriving and departing, delivery of materials, etc.);
- Increase in noise levels at the airport during operation of heavy equipment; and
- Temporary erosion, scarring of land surfaces and loss of vegetation in areas that are excavated or otherwise disturbed to carry out future developments.

All construction projects will comply with guidelines set forth in FAA Advisory Circular 150/5370-10A, *Standards for Specifying the Construction of Airports*. The contractor will obtain the required construction permits. The contractor will also prepare Storm Water Pollution Prevention and Fugitive Dust Control Plans for construction. These requirements will be specified in the contract documents for the construction of the runway and associated facilities.

DOT ACT – SECTION 4(F)

Section 303c of Title 49, U.S.C., formerly Section 4(f) of DOT Act of 1966, provides that the Secretary of Transportation shall not approve any program or project that requires the use of any publicly owned land from a public park, recreation area or wildlife and waterfowl refuge of National, State or Local significance or land from an historic site of National, State or Local significance, as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such project includes all possible planning to minimize impact.

Development of the Kayenta Airport will not require land from any public park, recreation area or wildlife and waterfowl refuge. Public recreation areas in the vicinity of the airport include the Navajo National Monument located approximately 10 nautical miles southwest of the airport.

FARMLANDS

The Farmland Protection Policy Act (FPPA) authorizes the Department of Agriculture to develop criteria for identifying the effects of Federal programs upon the conversion of farmland to uses other than agriculture.

Conversion of "Prime or Unique" farmland may be considered a significant impact. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed or fiber without intolerable soil erosion as determined by the Secretary of Agriculture. Unique farmland is land other than prime farmland, which is used to produce specific high value food and fiber crops, such as citrus, tree nuts, olives, cranberries, fruits and vegetables.

There is no farmland in the vicinity of the airport. According to the Flood Plain Management Study cropland that does exist around the Kayenta area does not meet the criteria of prime farmlands due to the lack of water supply. The low annual precipitation makes farming very marginal. The irrigation supply is unreliable due to timing of runoff in Laguna Creek and problems with keeping the irrigation water diversion and delivery system in operating condition.

FISH, WILDLIFE, AND PLANTS

This category concerns potential impacts to existing wildlife habitat and threatened and endangered species. Examining both the area of land to be altered or removed and its relationship to surrounding habitat quantify the significance of the impacts in this category. For example, removal of a few acres of habitat which represents a small percentage of the area's total similar habitat or which supports a limited variety of common species would not be considered significant. However, removal of a sizeable percentage of the area's similar habitat or habitat which is known to support rare species, would be considered significant impact. Developing the Kayenta Airport would remove approximately 53 acres of habitat. The surrounding area offers an abundance of similar habitat and the proposed action is not considered to be a significant habitat loss.

The U.S. Fish and Wildlife Service (USFWS) has been previously contacted about development in the airport area and has indicated the possible existence of three endangered species, the Peregrine Falcon, Bald Eagle and Black Footed Ferret. A biological assessment was conducted which indicated that none of these species exist in the airport area.

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to insure that "any action authorized, funded or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species . . ."

An *Endangered Species* is defined as any member of the animal or plant kingdoms determined to be in danger of extinction throughout all or a significant portion of its range. A *Threatened Species* is defined as any member of the plant or animal kingdoms that are likely to become endangered in the foreseeable future.

A list of Threatened and Endangered Species for Navajo County was obtained from the U.S. Fish and Wildlife and is included in appendix G of this report. There is no suitable habitat within the airport project area for any of the listed or candidate species, with the exception of the Black Footed Ferret and there is no evidence of prairie dog towns in the vicinity of the airport required to support the ferret. Therefore there are no significant impacts to fish, wildlife and plants (including threatened endangered or candidate species) expected from the proposed improvements.

FLOODPLAINS

Floodplains are defined by Executive Order 11988, Floodplain Management, as the lowland and relatively flat areas adjoining coastal water . . . including at a minimum, that area subject to a one percent or greater chance of flooding in any given year, an area which would be inundated by a 100 year flood. If a proposed action involves a 100-year floodplain, mitigating measures must be investigated in order to avoid significant changes to the drainage system.

As described in FAA Order 5050.4A, *Airport Environmental Handbook* and 1050.1E an airport development project such as the proposed runway construction would be a significant impact pursuant to NEPA if it results in notable adverse impacts on natural and beneficial floodplain values. Mitigation measures for base floodplain encroachments may include committing to special flood related design criteria, elevating facilities above base flood level, locating nonconforming structures and facilities out of the floodplain or minimizing fill placed in floodplains. The Kayenta Airport is not located within a designated 100-year floodplain and no floodplain impacts are expected.

According to the Flood Plain Management Study that was performed for the Kayenta Community, the airport is not located in a designated 100-year floodplain. The airport is also not expected to impact any other flood plains by the proposed actions.

HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

Four primary laws have been passed governing the handling and disposal of hazardous materials, chemicals, substances and wastes. The two statutes of most importance to the FAA in proposing actions to construct and operate facilities and navigational aids are the Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund) and the Community Environmental Response Facilitation Act of 1992. RCRA governs the generation, treatment, storage and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

There is no reason to believe that the proposed projects will be constructed in an area that contains hazardous waste.

Airport development actions that relate only to construction or expansion of runways, taxiways and related facilities do not normally include any direct relationship to solid waste collection, control or disposal other than that associated with the construction itself. The nature of the proposed airport meets these criteria and will not significantly increase net waste output for the township.

Any solid waste disposal facility (i.e. sanitary landfill) which is located within 5,000 feet of all runways planned to be used by piston-powered aircraft or within 10,000 feet of all runways planned to be used by turbine aircraft, is considered by the FAA to be an incompatible land use because of the potential for conflicts between bird habitat and low-flying aircraft. This determination is found in FAA Advisory Circular 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*. Any planned solid waste disposal facilities should be located at least 10,000 feet from the runway.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL & CULTURAL RESOURCES

The National Historic Preservation Act of 1966 requires that an initial review be made in order to determine if any properties in or eligible for inclusion in the National Register of Historic Places are within the area of a proposed action's potential environmental impact (the area within which direct and indirect impacts could occur and thus cause a change in historic, architectural, archaeological or cultural properties).

The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery and preservation of significant scientific, prehistorical, historical, archaeological or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally funded or federally licensed project.

An archeological investigation was conducted at the Kayenta Airport in 1986 by the Anthropology Department of the Museum of Northern Arizona. The Museum was contacted verifying that the information found in the previous Historical Survey is still valid and that no impacts to Historical, Architectural, Archeological and Cultural Resources are expected provided all ground disturbing activities take place within the area surveyed in 1986. A copy of this letter is provided in Appendix H of this report.

Should cultural resources be found during construction, the construction will be temporarily suspended in that area to allow for the evaluation and disposition of such resources.

LIGHT EMISSIONS AND VISUAL IMPACTS

Airfield lighting is the main source of light emissions emanating from an airport. Rotating airport beacons are provided so pilots can identify the location of an airport at night or in reduced visibility conditions. Rotating beacons consist of alternating white and green lights rotating at six rotations per minute. Beacons are typically mounted on a tower or on top of a hangar or other building. Specifications for spotting airport beacons allow the beam to be angled from 2^{o} to 12^{o} above the horizon. The standard setting is 6^{o}. If necessary, the beacon can be shielded to reduce visibility of the beacon from below the horizon line. Medium Intensity Runway Edge Lights (MIRLs) are single white lights mounted on 18-inch posts spaced at 200-foot intervals along both edges of the runway. They define the boundaries of the runway surface usable for takeoff and landing. Precision Approach Path Indicators (PAPIs) are used for visual decent guidance and consist of two light units located to the left of the runway and perpendicular to the runway centerline. The lights are directed at a glide path angle of 3^{o} above the runway. If the aircraft is above the glide path, the pilot will see all white lights. If the pilot is on the proper glide path, the light unit closest to the runway will be red and the unit farthest from the runway will be white. When the pilot is below the glide path both of the light units will be red. PAPIs have an effective visual range from the air of approximately five miles during the day and up to twenty

miles at night. These visual aids are extremely useful and enhance safety in situations where there are few visual references surrounding the airport. Runway End Identifier Lights (REILs) are synchronized flashing lights located laterally on each side of the runway threshold. They are angled upward and outward from the runway and provide rapid and positive identification of the threshold of a runway. This is especially useful in metropolitan and densely developed areas where lights in the vicinity of the airport make it difficult to identify the runway.

The planned airport improvements include the installation of REILs however impacts from the REILs are not anticipated to result in impacts to the community.

NATURAL RESOURCES, ENERGY SUPPLY, AND SUSTAINABLE DESIGN

Executive Order 13123, Greening the Government Through Efficient Energy Management (64FR 30851, June 8, 1999), encourages each Federal agency to expand the use of renewable energy within its facilities and in its activities. E.O. 13123 also requires each Federal agency to reduce petroleum use, total energy use and associated air emissions and water consumption in its facilities.

It is also the policy of the FAA, consistent with NEPA and the CEQ regulations, to encourage the development of sustainability. All elements of the transportation system should be designed with a view to their aesthetic impact, conservation of resources such as energy, pollution prevention, harmonization with the community environment and sensitivity to the concerns of the traveling public.

Energy requirements associated with airport development generally falls into two categories: 1) changed demand for stationary facilities (i.e. airfield lighting and terminal building heating) and 2) those that involve the movement of air and ground vehicles (i.e. fuel consumption). The use of natural resources includes primarily construction materials and water.

Correspondence was sent to the Navajo Tribal Utility Authority regarding any possible impacts to power supply at the airport, to date no response has been received.

Demand for aircraft fuel is expected to increase. Aircraft fuel may be stored in above ground or underground tanks at the airport and are required to conform to EPA regulations. The fuel concession may be provided by the Township or by private enterprise at the airport. Significant increases in ground vehicle fuel consumption are not anticipated.

NOISE

Noise analysis considerations include whether the Federal thresholds of noise exposure are exceeded, whether the 65 day-night level (DNL) noise contour extends beyond airport property and if there are any residences, churches, schools or hospitals within the 65 DNL noise contour.

The identification of airport generated noise impacts and implementation of noise abatement measures is a joint responsibility of airport operators and users. FAA Order 5050.4A and 1050.1E states that “no noise analysis is needed for proposals involving Design Group I and II airplanes operating at airports whose forecast operations in the period covered by the EA do not exceed 90,000 annual adjusted propeller operations or 700 annual adjusted jet operations . . .” Based on the existing activity levels at Kayenta a 65 DNL noise contour does not exist. A 65

DNL contour was developed based on the 2025 projected activity levels and is shown on sheet 6 of the ALP set. This future 65 DNL contour does not extend off airport property.

The basic measure of noise is the sound pressure level that is recorded in decibels (dBA). The important point to understand when considering the impact of noise on communities is that equal levels of sound pressure can be measured for both high and low frequency sounds. Generally, people are less sensitive to sounds of low frequency than they are to high frequencies. An example of this might be the difference between the rumble of automobile traffic on a nearby highway and the high-pitched whine of jet aircraft passing overhead. At any location, over a period of time, sound pressure fluctuates considerably between high and low frequencies. Figure 6-1 depicts a Sound Level Comparison of different noise sources.

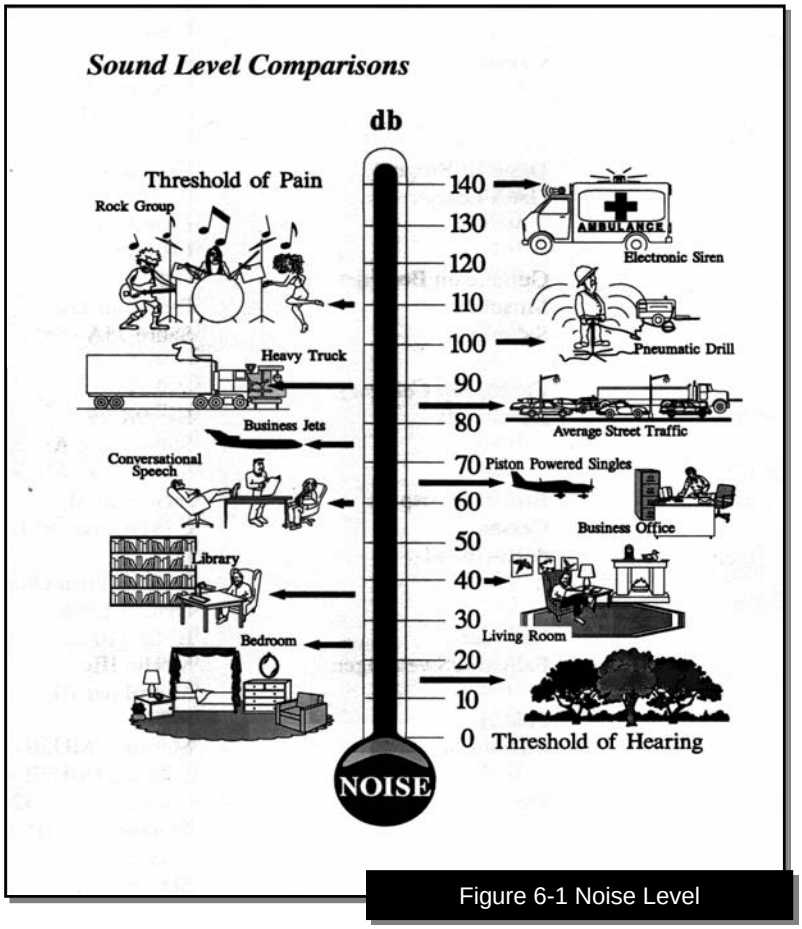

Figure 6-1 Noise Level

The airport orientation is such that flight tracks will not pass over residential areas, It is recommended that a noise abatement program be implemented and during calm wind conditions Runway 5 be utilized to reduce the amount of noise over populated areas.

VOLUNTARY NOISE ABATEMENT PROGRAM

Although the noise exposure levels will not exceed 65 DNL over any noise sensitive area, several voluntary measures can be applied to minimize noise exposure to surrounding areas. Several of these measures are listed below. It is recommended that a voluntary noise abatement program be implemented for the airport and publicized to all based and transient pilots.

Pilots:

- Be aware of noise sensitive areas, particularly residential areas near the airport and avoid low flight over these areas.
- Fly traffic patterns tight and high, keeping the aircraft as close to the field as possible.
- In constant-speed-propeller aircraft, do not use high RPM settings in the pattern. Propeller noise from high-performance singles and twins increases drastically at high RPM settings.
- On takeoff, reduce to climb power as soon as safe and practical.

- Climb after liftoff at best-angle-of-climb speed until crossing the airport boundary, then climb at best rate.
- Depart from the start of the runway rather than intersections, for the highest possible altitude when leaving the airport vicinity.
- Avoid prolonged run-ups and do them inside the airport area, rather than at its perimeter.
- Try low-power approaches and always avoid the low, dragged-in approach.

Instructors:

- Teach noise abatement procedures to all students, including pilots you take up for flight reviews.
- Know noise-sensitive areas and point them out to students.
- Assure students fly at or above the recommended pattern altitude.
- Practice maneuvers over unpopulated areas and vary practice areas so that the same locale is not constantly subjected to aircraft operations.
- During practice of ground-reference maneuvers, be particularly aware of houses or businesses in your flight path.
- Stress that high RPM propeller settings are reserved for takeoff and for short final but not for flying in the pattern. Pushing the propeller to high RPM results in significantly higher levels of noise.

Fixed Base Operators (FBOs):

- Identify noise-sensitive areas and work with customers to create voluntary noise abatement procedures.
- Post any noise abatement procedures in a prominently visible area and remind pilots of the importance of adhering to them.
- Call for the use of the least noise sensitive runway whenever wind conditions permit.
- Initiate pilot education programs to teach and explain the rationale for noise abatement procedures and positive community relations.

Airport Owner and Surrounding Jurisdictions:

- Maintain appropriate zoning in the vicinity of the airport and see that noise sensitive land uses are not authorized within pattern, approach and departure paths.
- Disclose the existence of the airport and the airport influence area to real estate purchasers.
- Publish voluntary noise procedures on the Internet.
- Publish voluntary calm runway use procedures.

Source: Aircraft Owners and Pilots Association (AOPA)

SECONDARY (INDUCED) IMPACTS

These secondary or induced impacts involve major shifts in population, changes in economic climate or shifts in levels of public service demand. The effects are directly proportional to the scope of the project under consideration. Assessment of induced socioeconomic impacts is usually only associated with major development at large air carrier airports, which involve major terminal building development or roadway alignments and similar work. The extent of the indirect socioeconomic impacts of the proposed development is not of the magnitude that would

normally be considered significant; however, positive impacts can be foreseen in the form of direct, indirect and induced economic benefits generated from the airport.

SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the accompanying Presidential Memorandum and Order DOT 5610.2, Environmental Justice, require the FAA to provide for meaningful public involvement by minority and low-income populations and analysis, including demographic analysis, that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. Included in this process is the disclosure of the effects on subsistence patterns of consumption of fish, vegetation or wildlife and effective public participation and access to this information. The Presidential Memorandum that accompanied E.O. 12898, as well as the CEQ and EPA Guidance, encourage consideration of environmental justice impacts in Environmental Assessments especially to determine whether a disproportionately high and adverse impact may occur. Environmental Justice is examined during evaluation of other impact categories, such as noise, air quality, water, hazardous materials and cultural resources.

SOCIOECONOMIC IMPACTS

Induced socioeconomic impacts are usually only associated with major development at large air carrier airports. The socioeconomic impacts produced as a result of the proposed development at the Kayenta Airport are expected to be positive in nature and would include direct, indirect and induced economic benefits to the local area. These airport improvements are expected to attract additional users and in turn to encourage tourism, industry and to enhance the future growth and expansion of the community's economic base.

If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended must be met for Federal projects and projects involving Federal funding. Otherwise, the FAA, to the fullest extent possible, observes all local and State laws, regulations and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing or implementing the proposed action.

TRANSPORTATION AND GROUND ACCESS

The major surface transportation routes in the vicinity of the Kayenta Airport are U.S. Highway 160 and U.S. Highway 163, with direct access to the airport on the access road from U.S. Highway 160. The expected increase in aircraft operations at the airport, after the construction of the airport development items, is not expected to cause a significant increase in surface traffic. Development of the airport could potentially initiate interest in commercial or industrial development, but traffic levels still would not likely increase by significant amounts. U.S. Highway 160 is a two-lane road with an estimated capacity of 20,880 Vehicles per day. Annual Average Daily Traffic (AADT) counts provided by the Arizona Department of Transportation indicated 2,500 average daily vehicles on U.S. Highway 160 near the Airport access road for an 11% demand/capacity ratio. According to the Institute of Transportation Engineers, Trip Generation, Volume V, average daily trips at general aviation airports, such as this one, are estimated at 6.067 per based aircraft. Currently 2 aircraft are based at the airport, resulting in approximately 12 daily trips. Based aircraft are forecasted to increase to 12 in 2025 resulting in an estimated 73 daily vehicle trips. This is not considered to be significant. Left hand turn lanes

and acceleration lanes are anticipated to be constructed at the intersection of the new access road with U.S. Highway 160.

ENVIRONMENTAL JUSTICE

The focus of the Environmental Justice evaluation is to determine whether the proposed action results in an inequitable distribution of negative effects to special population groups, as compared to negative effects on other population groups. These special population groups include minority or otherwise special ethnicity or low-income neighborhoods.

The proposed action is not expected to result in significant negative impacts to any special population groups and therefore, would not result in disproportionate negative impacts to any special population group. Socioeconomic and induced economic impacts are expected to be positive in nature and are expected to benefit all population groups in the area.

CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Pursuant to Executive Order 13045, Protection of Children from the Environmental Health Risks, Federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. Agencies are encouraged to participate in implementation of the Order by ensuring that their policies, programs, activities and standards address disproportionate risks to children that result from environmental health risks or safety risks.

The proposed action is not expected to result in any environmental health risks or safety risks on children.

WATER QUALITY

Water quality considerations related to airport development often include increased surface runoff and erosion and pollution from fuel, oil, solvents and deicing fluids. Potential pollution could come from petroleum products spilled on the surface and carried through drainage channels off of the airport. State and Federal laws and regulations have been established to safeguard these facilities. These regulations include standards for above ground and underground storage tanks, leak detection and overflow protection. An effective Storm Water Pollution Prevention Plan (SWPPP) identifies storm water discharge points on the airport, describes measures and controls to minimize discharges and details spill prevention and response procedures. A SWPPP should be prepared and implemented for the Kayenta Airport.

In accordance with Section 402(p) of the Clean Water Act, a National Pollution Discharge Elimination System (NPDES) General Permit is required from the Environmental Protection Agency for construction projects that disturb one or more acres of land. Applicable contractors will be required to comply with the requirement and procedures of the NPDES General Permit, including the preparation of a Notice of Intent and a Storm Water Pollution Prevention Plan, prior to the initiation of construction activities.

Recommendations established in FAA Advisory Circular 150/5370-10, *Standards for Specifying Construction of Airports*, Item P-156, *Temporary Air and Water Pollution, Soil Erosion and Siltation Control,* will be incorporated into the project design and specifications. The design and construction of the proposed improvements will incorporate Best Management Practices (BMP) to reduce erosion, minimize sedimentation, control non-storm water discharges and to protect the quality of surface water features potentially effected. These practices will be selected based

on the site's characteristics and those factors within the contractor's control and may include: construction scheduling, limiting exposed areas, runoff velocity reduction, sediment trapping and good housekeeping practices.

Correspondence was sent to the Arizona Department of Environmental Quality, Water Quality Division concerning any actions that should be taken before the improvements proceed; however to date no response has been received.

Fuel storage and dispensing facilities will be designed, constructed, operated and maintained in accordance with Federal, State and Local regulations. Waste fluids, including oils, coolants, degreasers and aircraft wash facility wastewater will be managed and disposed of in accordance with applicable Federal, State and Local regulations.

WETLANDS

Wetlands are defined in Executive Order 11990, *Protection of Wetlands*, as "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows and natural ponds. Jurisdictional Waters of the United States may also include drainage channels, washes and ditches, arroyos or other waterways that are tributaries to Navigable Water of the United States or other waters where the degradation or destruction of which could affect interstate or foreign commerce.

Based on site visits and reviews of aerial photography the proposed improvements are not expected to impact wetlands.

WILD & SCENIC RIVERS

The Wild and Scenic Rivers Act (PL 90-542) describes those river areas eligible for protection from development. As a general rule, these rivers possess outstanding scenic, recreational, geological, fish and wildlife, historical, cultural or other similar value.

The Wild and Scenic River list indicates only one river listed as Wild and Scenic in Arizona. The Verde River is situated approximately 220 miles to the southwest of Kayenta and is not expected to be impacted by the planned development.

MEANS TO MITIGATE AND/OR MINIMIZE ADVERSE ENVIRONMENTAL IMPACTS

Where appropriate, the mitigation or minimization of environmental impacts was noted in the discussion of impacts. These actions are summarized below:

- Maintain compatible land uses in the vicinity of the airport;
- Establish flight patterns to the south of the runway to reduce noise and over-flights of residential areas;
- Avoid any historic or cultural sites during construction;
- Adjust airport rotating beacon beam angles to avoid terrain. Shield lower beam angles if necessary;

- Prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention and Response Plan; and
- Adhere to FAA AC 150/5370-10A, *Standards for Specifying the Construction of Airports* and best management practices to minimize or eliminate impacts to water quality and air quality during construction;
- Utilize pilot controlled lighting on all airfield lighting and visual aids. Utilize timers or motion sensors on apron and automobile parking area lights.

SUMMARY AND CONCLUSIONS OF ENVIRONMENTAL IMPACTS

Table 6-1 provides a summary of the analysis ratings for the eighteen environmental impact categories with respect to the proposed airport improvements. While some categories indicate a potential impact, they are all below the threshold level that would require further analysis or a full Environmental Assessment. The selected alternatives for the development, offers the least overall environmental impact of all the potential development alternatives evaluated.

TABLE 6-1 POTENTIAL ENVIRONMENTAL IMPACTS

Impact Category	Impact Level	Description
Air Quality	Minor	Short-term dust and exhaust
Coastal Resources	None	
Compatible Land Use	None	
Construction Impacts	Minor	Short-term noise, dust, exhaust, erosion
DOT Act Section 4(F)	None	
Farmlands	None	
Fish, Wildlife, and Plants	None	
Floodplains	None	
Hazardous Materials, Pollution Prevention, and Solid Waste	None	
Historical, Architectural, Archeological, and Cultural Resources	None	
Light Emissions and Visual Impacts	None	
Natural Resources and Energy Supply	None	
Noise	Minor	Increased aircraft operations
Secondary (Induced) Impacts	Minor Positive	Economic benefit from airport
Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks	Minor Positive	Increased employment
Water quality	Minor	Storm water runoff
Wetlands	None	
Wild and Scenic Rivers	None	

Based on this evaluation, it is recommended that categorical exclusion be issued for all projects included in the CIP. None of the projects appear to exceed the specific thresholds of significance for environmental impacts nor do any of the projects fall within the types of project listed requiring an EA or EIS.