

CHAPTER TWELVE:
WENDOVER AIRPORT INDUSTRIAL PARK PLAN



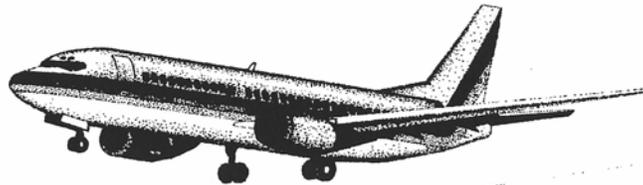
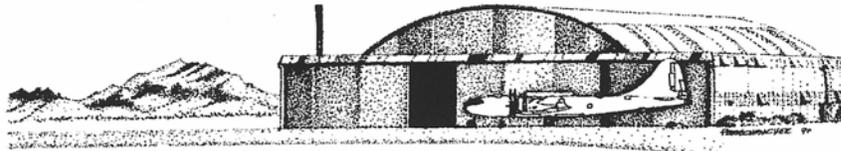
Tooele County Airport

Wendover, Utah

Airport Industrial Park Plan

Compatible Land Use Plan

Prepared for
Tooele County, Utah
City of Wendover, Utah
Elko County, Nevada
City of West Wendover, Nevada



Sponsored By Federal Aviation Administration



I. INTRODUCTION AND BACKGROUND

Location and Overall Description

Wendover, Utah is a unique community located on the Utah-Nevada border along Interstate 80. Wendover, an oasis located in the Great Salt Lake Desert, offers small-town friendliness with big-city style. Close to several mountain ranges, the community maintains a high desert landscape, while bordered on the east by the world famous Bonneville Salt Flats. The Toana Mountain Range rises 5,000 feet above the desert to the west of Wendover. Northwest of Wendover, 10,000-foot Pilot Peak provides a landmark and culinary water for the city below. To the south, the 12,000-foot Deep Creek Mountains are among the highest in the state.

Wendover is located in Tooele County, approximately 120 miles west of Salt Lake City and 300 miles east of Reno, Nevada. West Wendover, Nevada borders with Wendover, Utah. A major portion of the area is unpopulated mountain and desert wilderness. Tooele County experienced an overall growth increase of 14 percent between 1970 and 1994, while Wendover's population increased almost 40 percent from 781 in 1970 to 1,232 in 1994.

As Wendover is located at an elevation of 4,320 feet above sea level, the residents of Wendover enjoy a spectacular seasonal climate. Temperatures range FROM the high 90s in the summer to single digits in the winter. The spring and fall seasons are especially pleasant with high temperatures ranging between 65 and 80 degrees.

Recreational enthusiasts have an abundance of activities readily accessible FROM Wendover. Two scenic drives in the area are specifically noted for their panoramic views; the Deep Creek Mountain Back way and the Silver Island Mountain Loop. The Silver Island drive takes one near the path of the ill-fated Donner Party. The mountains, to the south, north and west, provide trails for hiking, nature walks and biking. Wendover's blue skies and climate are ideal for playing at the Toana Vista 18-hole championship golf course.

Due to the diverse terrain that surrounds Wendover,

many different types of wildlife inhabit the area. Mule deer, elk, mountain lions and bighorn sheep inhabit the mountain ranges, while antelope occupy the lower desert country. Between mid-August and mid-October, thousands of hawks fly over the Goshute Research Site during their annual migration. An average of 100 to 200 raptors are counted daily.

During the warmer months Wendover offers a number of festivals and events. The first weekend in May provides activities for professional and novice bike racers in the Bordertown Mountain Bike Challenge. Races include a 15-mile cross-country race, a high-speed 1.5-mile downhill sprint FROM Wendover Peak, and 50- and 75-mile road races. With the large Hispanic population of Wendover, Cinco de Mayo (Fifth of May) is a large event including a parade, fiestas and Mexican dances. In the third week of August, a large motor vehicle speed event, Speed Week, brings hundreds of cars and motorcycles to race on the salt flats.

Over the century, Bonneville Salt Flats Raceway has boasted many world land speed records. In 1914, the first record of 141 mph was set. Over the decades, speeds have increased until cars were traveling over 600 mph on the salt raceway. The Bonneville Speedway Museum, located in Wendover, displays America's love affair with cars and fascination with speed. Photos, as well as antique cars, present the drivers and the machines that were used in setting the raceway world records.

The historic Wendover Airfield hosts the Wendover Air Races and Show every few years. National guard and air force teams are shuttled here for training and air maneuvers. The first annual Wendover Air Races and Show was held in 1988. Today this event attracts over 30,000 spectators and participants and has surpassed the long-running Bonneville Races in terms of popularity and economic benefits.

During World War II the Wendover Air Base was a site of heavy activity. As many as 19,000 airmen were stationed at the base during the war. High-altitude bombers trained over the salt flats. The base was also the location of the "special operations" of the 509th Composite Group. This group included both the Enola



Gay and Bockscar that eventually helped to end the war by dropping the atomic bombs on Japan in 1945.

After World War II, the military use of the Wendover Air Base included rocketry and guided missile training. Military utilization of Wendover Airfield continues through the early 1960s but the airfield sat virtually unused during most of the 1960s and 1970s. Many of the remaining structures of the original air base were placed on the National Register of Historic Places in 1975. The Hall of Honor Museum pays respect to those who served on the air base during World War II. The museum is dedicated to presenting the drama and dedication of the airmen who trained at the air base for the final missions to end the war.

In 1977, the air base was deeded to the City of Wendover. In 1998, the City turned the air base over to Tooele County, Utah. Today, the airport serves the aviation needs of Wendover, Utah and West Wendover, Nevada, and portions of Tooele County, Utah and Elko County, Nevada. A primary use of the airport is to bring passengers from over 150 cities to Wendover to partake in gaming casinos in West Wendover, Nevada. The service has grown substantially to make Wendover Airport the second busiest commercial service airport in Utah. The airport also accommodates significant general aviation activity as well as continued itinerant military aircraft.

Planning Guidelines

It is the intent of Tooele County to develop an industrial park on currently available airport property. Industrial park development planning must be based on the following:

Land use within the industrial park must be compatible with airport operations;

The development and expansion of the industrial park should not be a limiting factor to plans for airport improvements;

The industrial park should meet the demands of industry and business, should generate revenues for its future development, and should be a component of the

overall financial plan for the airport;

Where possible, development lots should have access to the airfield; this will be possible for the South Wendover site.

Business and Economic Climate

Labor and Employment

The population of Wendover and Tooele County has continued to grow and in the past decade growth has increased in modest but consistent patterns (Table 1). Between 1970 and 1994, Tooele County experienced an overall growth increase of 14 percent, while Wendover's population increased almost 40 percent from 781 in 1970 to 1,232 in 1994.

The Wendover age group mix (Table 2) shows an availability of a potential labor base. Up to 54 percent of the total population is within the available age labor segment of ages 18 through 64 years.

The business and economic climate in Wendover and Tooele County has historically been driven by mining and manufacturing. Table 3 describes the employment population percentage for each industry. As with many communities throughout the state, Tooele County has seen moderate growth of its economic base in recent years. Growth of local business has occurred in the trade and service industries. Government, trade and services employ most of the population within the county. In 1995, total nonagricultural employment recorded a 1.4% gain, rising by nearly 135 positions. This places total employment in Tooele County at just below 9,800. Tooele County's unemployment rate in 1995 was the same as the national average at 5.6%.

Education and Training

The Wendover area offers quality education and training opportunities for its residents. Comprised of the Elko County School District (Nevada) and the Tooele County School District (Utah), education is available from preschool through high school. Future plans include the building of several new schools to better serve the Wendover area.



Table 1 Population growth						
	1990	1993	1994	1995	2010	2020
West Wendover	2,030	2,260	2,582	2,830		
Wendover	1,129	1,196	1,232	1,272	1,302	1,571
Tooele County	26,700	28,100	29,600	31,080	36,523	49,022

Table 2 Population by age group	
Age group	Wendover / Tooele County
0 - 4 yrs.	8.70
5 - 17 yrs.	27.40
18 - 29 yrs.	16.30
30 - 39 yrs.	14.60
40 - 64 yrs.	24.30
65+ yrs.	8.60

Table 3 1995 Employment by industry		
	Tooele County	Utah
Services	14%	26%
Transportation and Utilities	13%	6%
Finance, Insurance and Real Estate	2%	5%
Manufacturing	11%	14%
Mining	2%	1%
Trade	16%	24%
Construction	6%	6%



The Northern Nevada Community College (NNCC) serves the Wendover area. NNCC works with industry to ensure that business and education are partners in providing a skilled work force for a strong economic future. “Developmental Education” courses focus on basic skills, mathematics, writing, critical thinking and reading. The NNCC Job Placement Service works closely with prospective employers to develop students’ skills for jobs.

An important role of the college is to help companies meet the educational needs of their employees. Special courses have been offered at the employer’s location in subjects such as computer programming, English as a second language and welding, among others.

Business and Industry

Due to Wendover’s proximity to West Wendover, the economic climate of Wendover is affected by West Wendover. The economy of West Wendover is based mainly on gaming, tourism, industry and commercial users of interstate-80. The majority of West Wendover’s visitors are either out-of-state tourists or guests from the metropolitan area of Utah along the Wasatch Front. Additionally, West Wendover is a convenient resting point for commercial traffic because of its large number of hotels and restaurants. The gaming industry has experienced significant growth since West Wendover housed the first casino in Nevada. Gaming has been legal in Nevada since 1931 and is regulated by a five-member State Gaming Commission and a three-member State Gaming Control Board appointed by the governor. These bodies investigate and approve all licenses, establish operating rules and collect taxes for the state. In addition to the state taxes, the county and West Wendover City also levy taxes and impose certain regulations on gaming establishments.

The industrial bases of Wendover and West Wendover are growing. Continental Lime, a national mining company, completed a \$13 million plant in West Wendover and has approximately 50 employees. SAL TS, a large mineral extraction plant, employs approximately 25 and Imsamet, an aluminum hot plant, has approximately 43 employees. Located in Wendover,

Reilly Wendover has operated a \$20 million fertilizer plant since 1930 and has approximately 56 employees.

Wendover City and Tooele County are working on a number of economic initiatives designed to create new economic opportunities. Among these initiatives are improvements to the Wendover Airport and the development of an Industrial park. The Wendover Airport contains two county owned parcels of land available for potential industrial park development. Both sites have good access to the surface road system and limited access to Interstate 80. One site also has possible rail access as well. The addition of an Industrial Park to Wendover will diversify the local economy and will be a major enhancement to the long-term viability of the community.

Economic Development Resources

A variety of business resources are available at the state and local level from which companies can obtain assistance. Following is a partial listing of agencies for business assistance. Generally, industrial development in the airport industrial park area will be subject to the jurisdictions of Tooele County. Development in the surrounding communities would also be subject to Tooele County regulations and any other applicable local municipality.

Utah state legislature revised and expanded the existing Utah Enterprise Zone Program. New tax credits were added and under the new program eligible municipalities and counties may be designated as enterprise zones upon approval of the rural resettlement zone application. Municipalities located in an eligible county and in a non-metropolitan area with a population under 10,000 may apply for the program. Tooele County is one of the seventeen counties in Utah which classifies as an enterprise zone.

Other state and federal programs which offer financial assistance include:

- . Community Facilities Loans,
- . Rural Development Grants,
- . Nonprofit National Corporation Loans and Grants,
- . Economic Development Grants for Public Works and Development



Site No.2, the North Wendover Site, is anticipated to be zoned manufacturing/industrial by Tooele County. The purpose of the manufacturing zone is to provide suitable areas for the location of the various types of commercial activity needed to serve the people and commerce of the City and County. Suggested future land uses include non-aeronautical commercial and industrial: general offices, manufacturing, fabrication, wholesale storage, open storage, warehouse, repair, rental, servicing and restaurants.

II. PLAN DETAILS (Figure 2)

General Description of Sites

Site No.1, the South Wendover Site, located in the eastern section of the airport, is a rectangular shaped parcel containing approximately 131 acres of relatively flat open space. World War II hangers, including the historic Enola Gay Hanger, are situated to the west of the site. A new runway, currently under construction, borders the southern end of the site. Imsamet Recycling and Reilly Industries are located to the north and east respectively.

Site No 2, the North Wendover Site, is a 60-acre-parcel located on the eastern edge of the City, south of the Union Pacific Railroad, north of Airport Way and between Eighth and Eleven Streets. Approximately half of the site is open space while the other half is developed land contains World War II barracks and some industry including a concrete manufacturing plant. The surrounding area consists of air force barracks to the south, Union Pacific Railroad to the north and industry to the east and west including Imsamet Recycling and Reilly Industries. The surrounding industries provide a possible source of raw materials for a future industrial development.

Zoning

Site No.1, the South Wendover Site, is anticipated to be zoned commercial manufacturing by Tooele County. The purpose of the commercial zone is to provide suitable areas that will accommodate the need for manufacturing and its associated accessory uses. Suggested future zoning includes aeronautical industrial uses: fixed base operations, fuel sales, tied own, hangar, aircraft storage, flight training, aircraft sales, air cargo, aircraft maintenance, associated offices, restaurants, and terminal parking. Aeronautical uses are permitted in a manufacturing zone with the approval of a Special Use Permit.

Access

Access to either site from Interstate 80 must travel through the center of Wendover to 1st Street and then to Airport Way. As the sites develop, a new industrial access road is proposed for heavy truck traffic.

Rail service is available to both sites, although a spur would be required to reach the South Wendover site.

Commercial and general aviation services are also available to both sites, with the North Wendover site a half mile further away.

Water

Although Wendover is in an arid area with less than 14 inches of annual precipitation, the city enjoys an abundant permanent supply of water. Thoughtful planning has secured an adequate future supply of water for the city, as a result, industrial and residential development has the necessary resources to ensure its future success.

The current overall water supply to Wendover, provided by the Pipeline Authority, is approximately 2100 gallons per minute (GPM). The Pipeline Authority is jointly owned by the cities of Wendover and West Wendover. Approximately 400 GPM is provided by the city of Wendover and the remaining 1700 GPM is supplied by West Wendover. 800 GPM is available immediately from West Wendover.

Water is supplied to the perimeter of both sites through six-inch and eight-inch cast iron pipes. In order to



develop these sites, the existing water lines will need to be extended and an upgrade in pipe size may be necessary.

Sanitary

The City of Wendover supplies sanitary service for this area. Primary treatment of the sanitary sewer system is provided by two sewage lagoons located to the east of the two sites. The lagoons currently operate well below capacity. The available capacity of the system is more than adequate to support any industry planning to occupy these sites. A lift station, dedicated to the City by the Pipeline Authority, is located between the sites. The total lift station pump capacity is 150 gallons per minute and is operating well below capacity and the excess is more than adequate to support industrial development.

Site No.1, the South Wendover site, would require an extension of the existing interceptor line to provide service directly to the site. Site No. 2, the North Wendover site, has an eight-inch-line running through the middle which connects to a 15-inch-line and then flows southward to the lift station.

Storm Drainage

Both sites will require an on-site storm drainage system as extending the City of Wendover's system would be cost prohibitive.

Streets

Access to both sites is available through City maintained streets which will need to be upgraded with curbs, gutters and sidewalks. The South Wendover site does not have any internal streets while the North Wendover site has a complete network.

Electrical Power

Wells Rural Electric supplies electrical power to the City of Wendover. A 138 kilovolt (KV) transmission line delivers approximately 25 megawatts (MW) to the Wendover and West Wendover area. Approximately 40 percent of the total power available is consumed,

leaving 10 MV available for future development.

Electric power is not currently located on either site. The nearest overhead 3-phase power line is located along A Street on the northern edge of the South Wendover site (No. 1) and along D Street on the northwestern boarder of the North Wendover site (No.2). The nearest underground lines are 6,000 feet and 3,500 feet from Site No.1 and Site No.2, respectively.

Natural Gas

The City of Wendover does not currently have a natural gas distribution network in place. Propane of Wendover supplies propane to the City. The propane is transported to Wendover by truck, stored in a large holding tank and then distributed by pipe to most areas in the City. Natural gas is the preferred fuel source for large industrial users.

Colorado Natural Gas Company owns a line running parallel to Interstate 80 which extends to the eastern Wendover City limit approximately two miles east of the Utah-Nevada border. Propane of Wendover owns the franchise for the distribution of natural gas. However, if a large natural gas user moves to Wendover, the Colorado Natural Gas Company will provide a local distribution company a by-pass line directly to the industrial site. An industry is considered a large user if they consume more than one million cubic feet of natural gas per year.

III. INDUSTRIAL PARK INDUSTRIES AND NEEDS

The industrial park should be planned for a variety of uses such as general business offices, heavy light industrial, assembly/ fabrication, high tech, distribution, and aviation uses. However, rather than attempting to make more specific recommendations concerning land use and recognizing the desire of being potentially able to accommodate a variety of different users (while minimizing negative off-site impacts), the industrial park plan should incorporate a flexible approach to land use.

At this stage of planning land uses within the industrial park, only broad descriptions of uses should be



proposed such as areas set aside for industrial uses or areas to be reserved for aviation uses. This plan recommends that the South Wendover Site (131 acres) be set aside for aviation uses since it is adjacent to Runway 8-26 and connecting taxiways or taxilanes are possible. The North Wendover Site (60 acres), especially the northern portion, is more ideally suited for industrial or assembly/fabrication uses since it is adjacent to the railroad.

Industrial Use Descriptions

Heavy Industrial (H.I.):
 Site Size: 7 - to 10- acre minimum
 Lot Coverage: 25% building coverage; large yard areas
 Access: Rail and industrial access most important
 Utilities: High users of water and sewer
 Employment: Typically 24-hour operation; “shifted” employees
 Other: Specific zoning required; environmental issues such as emissions, etc., are a concern
 Examples: Primary raw material processing and manufacturing (i.e., lumber mill)

Assembly/Light Industry (L.I.):
 Site Size: 2-acre minimum
 Lot Coverage: 30-35% building coverage; docks and drive-in doors are more typical than yard areas
 Access: Road access most important
 Utilities: Water, sewer, and power are subject to use
 Employment: High number of employees
 Other: Greatest flexibility in terms of use; distribution, high-tech

Distribution (Dist):
 Site Size: 4-acre minimum
 Lot Coverage: 35-40% building coverage
 Access: Road (general and freeway) and rail access are important
 Utilities: Highest user in terms of storm discharge due to greatest amount of impervious surface; low user of all other utilities
 Employment: Lower number of employees
 Examples: Shipping and receiving

High Tech Manufacturing (H. T.):
 Site Size: 2-acre minimum - wide range depending on use (i.e. manufacturing or research facility)
 Lot Coverage: 25-30% building coverage
 Access: Airport and road access important, but not necessarily freeway access
 Utilities: Highest user of water, sewer, and power
 Employment: Highest number of employees; “shifted” and flexible employment possible
 Other: Surrounding environment great concern (vibration from rail lines, noise and air quality, etc.) Land cost is not important.
 Examples: Wide range of uses



from production/ manufacturing of product(s) to research facilities

the north and east respectively. Wetlands are identified in the southern portion of the site.

Wendover Industrial Park Plan

Zoning

Food Processing (F.P.):
Site Size: 4-acre minimum
Lot Coverage: 25-30% building coverage; on-grade shipping/receiving more important than docks
Access: Road and rail access necessary
Utilities: High user of water, sewer, power and gas
Employment: "Shifted" employment; 24-hour operation during peak season
Other: Water treatment/disposal high concern
Examples: Food processing, shipping, packaging

The site is to be zoned manufacturing by Tooele County. The purpose of the manufacturing zone is to provide suitable areas that will accommodate the need for manufacturing and its associated accessory uses. Suggested future zoning includes aeronautical/industrial uses: fixed base operations, fuel sales, tiedown, hangar, aircraft storage, flight training, aircraft sales, air cargo, aircraft maintenance, associated offices, restaurants, and terminal parking. Aeronautical uses are permitted in a manufacturing zone with the approval of a Special Use Permit.

Access

The property is located to the south of interstate 80 with indirect access to the property available by way of First Street and Airport Way. As the site develops, a new industrial access road is recommended to convey heavy truck traffic. Existing roads need improvements, including the addition of curb and gutter and the repaving of the roads.

Individual Site Information

SITE NO.1: SOUTH WENDOVER AREA - SITE DESCRIPTION

General Description

The South Wendover site (Figure 2) is a parcel located in the eastern section of the Wendover Airport, within the city limits of Wendover. The old northeast-southeast runway has been removed and a new east-west runway is under construction. The new runway forms the southern border of Site No. 1. The property consists of undeveloped land owned by Tooele County.

Rail service to the area is provided by Union Pacific Railroad. To provide direct rail access to the site, the construction of a half-mile-spur to the Union Pacific line is recommended. Excellent general and commercial aviation services are available at the Wendover Airport, located adjacent to the site.

Power

Electric power is not currently located on-site and the nearest overhead 3-phase power line is located along A Street. An underground line is located on the western edge of the airport. The construction of a new substation is not anticipated with the addition of a new industrial park.

Physical Characteristics

The rectangular-shaped parcel contains approximately 131 acres of relatively flat open space. World War II hangers, including the historic Enola Gay Hanger, are situated to the west of the site. A new runway, currently under construction, borders the southern end of the site. Imsamet Recycling and Reilly Industries are located to

Natural Gas

If a large natural gas user moves to Wendover, the



Colorado Natural Gas Company will provide a local distribution company (LDC) by-pass line directly to the industrial site. An industry is considered a large industrial user if they consume more than one million cubic feet of natural gas per year.

Water

Currently water service is not provided directly to the site. Two lines, a 6-inch line along Fourteenth Street and an 8-inch line running east adjacent to the hangars, are located approximately 500 feet from the northwest section of the site. If the site is fully developed, existing water lines will need to be extended and an upgrade in pipe size may be necessary.

Sanitary

A 1,200-foot-extension of the interceptor line, located along Airport Way, is recommended to provide service directly to the South Wendover site.

Storm

Currently no storm drainage system is installed on site. The development of the site will increase runoff and with the already low permeability soil, and on-site retention pond is proposed. The on-site system requirements will be dictated by the amount of impermeable improvements on the site, as well as the low permeability of the soil found on the site.

Topography

The site slopes gently toward the southwest at an approximate slope of 0.5%. Storm water runoff can be accommodated due to the favorable slope of the ground. Placement of any large footprint will need to be engineered to provide a level pad.

Noise Impacts

The airport-generated noise on the industrial park will not be significant. The projected year 2015 DNL 60 and 65 contours will be confined to just off the runways sideline. None of the projected improvement areas for the industrial park would be exposed to DNL values greater than DNL 60 and most of the site would

be exposed to noise pressures of less than DNL 55. According to the FAA Advisory Circular AC 150/5020-1, Noise Control and Compatibility Planning For Airports, 1983, all commercial and industrial development sites are acceptable at DNL 65 or lesser noise pressure levels. Typical industrial facility construction has a noise screening effect of 20 db which would further minimize the impact of development in the industrial park areas. In summary, airport noise will not be a limiting factor for development of this area.

Height Control

Structures in the proposed industrial park would be subject to the height limitations of Federal Aviation Regulation Part 77. For example, the maximum height of buildings adjacent to full-parallel taxiways will be 32 feet above the airport elevation. Buildings could increase in height by one foot for every seven feet horizontally beyond the building restriction line.

Environmental Issues

A preliminary assessment! site investigation (PA/SI) was conducted in December 1994 to determine if there are any areas within the airport that could contain hazardous substances. None of the areas identified are located within the boundaries of the South Wendover Site NO.1. However the PA/SI did recommend that appropriate environmental and health and safety controls should be used to monitor and minimize any potential human exposure to hazardous substances during construction activities.

Possible wetlands are located in the southern portion of the site. A wetland study is recommended to determine whether the site falls under the jurisdiction of the U.S. Corps of Engineers Section 404 permitting process.

SITE NO.2: NORTH WENDOVER AREA - SITE DESCRIPTION

General Description

The North Wendover site (Figure 3) is a 60-acre parcel located within Tooele County and the Wendover City Limits. The entire property is owned by Tooele County.



Physical Characteristics

The site is located on the eastern edge of the City, south of the Union Pacific Railroad, north of Airport Way and between Eighth and Eleventh Streets. Approximately half of the site is open space, while the other half is developed land, containing World War II barracks and some industry including a concrete manufacturing plant. The surrounding area consists of air force barracks to the south, Union Pacific Railroad to the north and industry to the east and west including Imsamet Recycling and Reilly Industries. The surrounding industries provide a possible source of raw materials for future industrial development.

Zoning

The site is to be zoned industrial by the County. The purpose of the industrial zone is to provide suitable areas for the location of the various types of commercial activity needed to serve the people and commerce of the City and County. Suggested future land uses include non-aeronautical commercial and industrial: general offices, manufacturing, fabrication, wholesale storage, open storage, warehouse, repair, rental, servicing and restaurants.

Access

The site already contains a complete network of streets. Local access to the property is available by way of Airport Way, Skyhawk Drive and First Street. No direct access from the site to Interstate 80 exists. Traffic must travel through the center of Wendover to access the Interstate FROM the North Wendover Site. If the site develops with heavy industry or distribution, a new industrial access road to Interstate 80 is proposed to convey heavy truck traffic.

Rail service is provided directly to the site by Union Pacific Railroad. General and Commercial aviation services are available at the Wendover Airport approximately one-half mile to the south.

Power

Wells Rural Electric supplies electrical power to the City of Wendover. A 138 kilovolt (kV) transmission line delivers approximately 25 megawatts (MW) to the Wendover and West Wendover area. Approximately 40 percent of the total power available is consumed, leaving 10 MW available for future development.

Electric power is not currently located on site, but a 3-phase line running along D Street could be extended to bring overhead power lines to the site. The nearest underground line is located at the west side of the property. The construction of a new substation is not anticipated due to the addition of a new industrial park. Two feeders are available to service the City of Wendover. Currently only one feeder is used.

Natural Gas

The City of Wendover does not currently have a natural gas distribution network in place. Propane of Wendover supplies propane to the City. Due to the expense of propane as a fuel source, natural gas is the preferred fuel source for large industrial users.

The Colorado Natural Gas Company owns a natural gas line running parallel to Interstate 80 which extends to the eastern Wendover City limit, approximately two miles east of the Utah/Nevada border. Propane of Wendover owns the franchise for the distribution of natural gas. However, if a large natural gas user moves to Wendover, the Colorado Natural Gas Company will provide a local distribution company (LDC) bypass line directly to the industrial site. An industry is considered a large industrial user if they consume more than one million cubic feet of natural gas per year.

Water

Currently, water service is provided to the site by the City of Wendover. An 8-inch cast-iron pipe (CIP) conveys water from the western side of the property to three 6-inch CIPs along A, B and D Streets. The 8-inch CIP is fed by a main trunk line northeast of the site.

An extension of the existing 8-inch line is recommended along with an upgrade in pipe size to provide culinary water service to the site.



Sanitary

The City of Wendover provides sanitary service to the site. An 8-inch sewer line runs through the middle of the site between Eighth and Eleventh Streets, connects to a 15-inch line and then flows south to a lift station. The lift station, dedicated to the city by the Pipeline Authority, pumps wastewater to two lagoons located to the southeast of the site. The total lift station capacity is 150 gallons per minute (GPM). Currently the pump is operating well below capacity and the excess capacity is more than adequate to support any industry planning to occupy the site.

Storm

The City of Wendover's storm drainage system does not extend south of the Union Pacific Railroad tracks. Since the cost to extend a storm drain line to the South Wendover site is not feasible due to topography, on-site improvements are recommended. The on-site system capacities and requirements will be dictated by the amount of impermeable improvements required at the site, as well as the low permeability of the soil found on the site. A retention pond could be designed with the dual application of a water feature to attract future tenants to the site.

Topography

The site slopes gently toward the southeast at an approximate slope of 1 percent. The low gradient will facilitate industrial development with a minimal amount of grading for drainage and utilities.

Power

Wells Rural Electric supplies electrical power to the City of Wendover. A 138 kilovolt (kV) transmission line delivers approximately 25 megawatts (MW) to the Wendover and West Wendover area. Approximately 40 percent of the total power available is consumed, leaving 10 MW available for future development.

Electric power is not currently located on site, but a 3-phase line running along D Street could be extended

to bring overhead power lines to the site. The nearest underground line is located at the west side of the property. The construction of a new substation is not anticipated due to the addition of a new industrial park. Two feeders are available to service the City of Wendover and currently only one feeder is used.

Environmental Issues

Potential contamination of portions of this site may have occurred in connection with some historical use. The PA/SI conducted in 1994 identified a fire drill pit in the southern portion of the site as a potential concern and recommended that appropriate environmental and health and safety controls be exercised during construction activities. Also the PA/SI recommended that further study and possible remedial action ensue. If cleanup is required and responsible parties are not able to pay the cost of remediation, it's possible that federal "brown field" monies may be available to help.



TOOELE COUNTY AIRPORT Wendover, Utah

COMPATIBLE LAND USE PLAN

Prepared by

Wasatch Front Regional Council 420 West 1500
South, Suite 200, Bountiful, Utah 84010

in Association with

Airport Development Group, Inc. 1776 South
Jackson Street, Suite 200 Denver, Colorado 80210

January 31, 1999



This Compatible Land-Use Plan for the Tooele County Airport located in Wendover, Utah, was prepared under the provisions of FAA Project Number 3-49-K851-MF. This plan reflects the views of the Wasatch Front Regional Council and Mountain Association of Governments, who are responsible for the facts and accuracy of the data presented herein. The contents do not, necessarily, reflect the official views or policies of the FAA or other federal, state or local governmental agencies. Acceptance of this report by the FAA does not, in any way, constitute a commitment on the part of the United States to participate in any project, nor does it indicate that any recommendations are environmentally acceptable in accordance with applicable Public Laws.

BACKGROUND

Throughout the United States, population growth and economic expansion are increasing the value of undeveloped land near airports. Incompatible land use around airports is one of the greatest challenges facing our national and state airport systems. The Federal Aviation Administration (FAA) assists airport sponsors, usually city or county governments, in developing airports to meet community needs by funding approximately 90 % of project costs; however, the FAA relies on local governments to protect the substantial federal investment in airports from incompatible development.

Airports are extremely valuable assets to communities. They provide rapid and safe access to major population centers and enhance business growth and economic opportunities for all citizens. Airports also provide key links for emergency services, such as air ambulance, fire fighting and disaster relief, particularly in remote areas.

Unfortunately, many citizens and elected officials are not aware of the threat posed by development which is not compatible with present and future operations at their airport. Rural and remote airports are as susceptible to encroachment and incompatible development as major airports located

in urban areas, perhaps more so. Large commercial service airports are usually owned by large cities which have strict zoning laws vigorously protect their investment in the airport. Smaller communities with an airport may not be aware of the importance of their airport and may enact zoning changes detrimental to the airport, either through lack of knowledge or desire for growth and increased revenue.

Each airport faces a slightly different set of land-use challenges, however, one common thread exists at all airports - incompatible land use is the single most common reason for airport closure, and no airport has been re-opened once closed by incompatible development. Each community with an airport must weigh land use and zoning decisions against their possible effects on their airport. Failure to do so usually leads to irreversible decisions which threaten the airport's existence.

SCOPE AND METHODOLOGY

This plan was prepared to provide both general and specific tools for land use and zoning near the Wendover Airport. This airport is unique in the United States in that it sits astride the Utah-Nevada border and is affected by land use decisions made in four local jurisdictions: the City of Wendover and Tooele County, Utah, and the City of West Wendover and Elko County, Nevada. Improper land use planning decisions and zoning in any of these jurisdictions could easily effect the future of this airport, which is vital to the future of the entire Utah-Nevada border area. State laws in Utah and Nevada vary widely and lead to economic disparities between the two cities. These differences compound the problem of intergovernmental cooperation and fuel cross-boarder rivalry. Despite these challenges, both communities sense the importance of the Wendover Airport to their future growth and prosperity .

This plan was first envisioned in 1995 when 2-3 commercial service flights per day were operating from the Wendover Airport. In February 1996, Wasatch Front Regional Council proposed preparing this plan as part of the 1996 Work Program. The FAA Denver Airports District Office approved this proposal and issued a planning grant for this work on March 25,



1996. The work approved work scope is presented in Appendix 1.

Commencement of this project was delayed by other priorities at the Wendover Airport, including efforts to obtain funding for the new Runway 08-26 project. Following transfer of ownership of the Airport to Tooele County, this project recommenced in September 1998. Airport Development Group (ADG), the planning and engineering consultant for Tooele County was selected to assist WFRC in preparing zoning recommendations, land use maps and graphics presented in this plan. ADG was selected for this work because of their knowledge of local issues and availability of resource materials in their possession. A land use concept and outline of this plan was developed during September and October 1998. This concept plan was presented to a special meeting of the Tooele County Airport Board on November 10, 1998, where elected officials and staff from the City of West Wendover, Nevada and Elko County were invited to participate.

During this meeting, it became evident that the City of West Wendover, Nevada had approved certain zoning changes and development which were clearly incompatible with the Airport. Several follow-up meetings were held between representatives of Tooele County, West Wendover and the developer to resolve these issues. Unfortunately, common ground could not be found, and this specific matter is under litigation in federal court.

The original intent of this project was to develop a basic land use and zoning concept for the four local jurisdictions. This was to be followed with a public process leading toward implementation of specific land use policies and zoning in each jurisdiction. In the current climate, this is impossible; therefore, this plan is being published as a concept and general guideline for the future. After resolution of the current controversy, local governments should return to this plan as the basis for development of comprehensive land use policies.

FACTORS AFFECTING LAND USE COMPATIBILITY

From an airport perspective, there are three main factors which determine compatible development in the environment of the airport: (1) the safety of aircraft, (2) the safety of persons on the ground, and (3) the impact of aircraft noise. Federal Aviation Regulations (FAR) Part 36, Noise Standards, and FAR Part 150, Airport Noise Compatibility Planning, specify methods for calculating aircraft noise impacts on the ground, based on forecasted operations, and remediation. Likewise, FAR Part 77, Objects Affecting Navigable Airspace, establishes protected surfaces above and around the airport to prevent obstructions to the aircraft traffic pattern and runway approach/departure paths. FAA Aviation Circular 150/5300-13, Airport Design, requires airports to maintain protected areas on the ground around the airport to provide a safe operating environment. This circular defines Runway Protection Zones and Safety Areas for each runway as well as other surfaces which must be kept clear of obstacles. The size and extent of the RPZ depends on the type of aircraft expected to use that runway and the types of approaches available.

Federal funds are a necessary part of airport improvements if the airport is to remain safe and vital. The FAA recognizes the important linkage between airport and community planning and has made it an integral part of the grant-in-aid program. The FAA grant-in-aid program is described in FAA Order 5100.38, the Airport Improvement Program Handbook. Section 1521 of this Order requires airport sponsors receiving federal grants from the Airport Improvement Program (AIP) to ensure compatible use of land adjacent to or in the vicinity of the airport. The FAA, justifiably, uses these grant assurances to protect the large federal investment in airports and prevent incompatible land use. This plan has been prepared for the Tooele County Airport to assist in meeting that requirement.

Approximately 60% of commercial and general aviation aircraft accidents occur during take-off or landing. Airport sponsors can incur liability by not meeting FAA design standards. Airport sponsors may also be liable for airport noise impacts if levels exceed that forecasted for their airport or where compatible land use plans aren't followed. Reducing exposure to such liability makes good business sense for the airport



and the community.

COMPATIBLE LAND USE STRATEGIES

Communities and airports have a variety of tools available to ensure compatibility between the airport, other community interests and future development. These tools fall into two basic groups: preventative measures and corrective actions.

Preventative measures are always preferred. These include:

Comprehensive planning. Communities should adopt an airport land use plan and map which has been thoroughly coordinated with adjacent jurisdictions and the airport.

Intergovernmental coordination. Communities should establish a procedure to mutually review and comment on plans. The jurisdiction owning the airport should be included in this review. Community development plans should be reviewed by the airport and airport plans should be reviewed by the community.

Adoption of zoning ordinances. Communities should adopt zoning ordinances which prevent incompatible development and establish of a procedure to mutually review and comment on proposed changes to zoning.

Adoption of an airport overlay zone ordinance. Communities should adopt such an ordinance, which is: based on the build-out of the airport, preserves land for future airport development, restricts land uses that could be hazardous to aircraft in flight, and establishes height restrictions which comply with FAR Part 77.

Land acquisition. Land can be acquired for public purposes and developed in a manner compatible with the airport. Examples might include public utilities, golf courses, parks. See Appendices 2 and 3.

Aviation Easements. Such easements can be a cost effective and permanent way to control land use and limit liability where acquisition is infeasible. Easements can be tailored to fit specific needs and can be restrictive or general depending on circumstances.

Purchase of development rights. Communities or airports can purchase development rights to a parcel to ensure development is compatible with the airport.

Corrective Actions are those measures which are taken after development has occurred. They generally fall into four categories: mitigation, changes in operational procedures, agreements and litigation.

Mitigation. Mitigation is normally associated with soundproofing structures to limit exposure to objectionable aircraft noise. It may apply to other areas as well. For example, objectionable light emissions might be corrected with shielding, and a road might be restricted from public use.

Changes in operational procedures. These usually refer to restrictions placed in aircraft operations by the airport to limit specific impacts on the community. Examples include: restrictions on engine run-ups at night, changing traffic patterns, establishment of “quiet hours” for specific community outdoor events, etc. Modifications to normal operating procedures should only be considered when all other remedies have failed, since safety and utility may be compromised.

Agreements. Post facto agreements may be used to reduce an airport’s liability when incompatible development cannot be prevented. Two types of agreements that might be executed between airports and property owners are hold harmless

agreements and fair disclosure statements attached to title deeds. Hold harmless agreements generally relieve the airport from liability for a specific hazard or conflict. Fair disclosure statements are generally attached to title documents to ensure that future buyers are aware of an incompatibility between the property and the airport.

Litigation. Should all avenues to agreement fail, both property owners and airports may be forced to rely on the courts for resolution. Airports which are in the National Plan of Integrated Airports System (NPIAS) may, generally, seek the jurisdiction of federal courts.



WENDOVER LAND-USE ISSUES

With all of the open space near the Wendover Airport, one might wonder why land use is an issue. Unfortunately, the amount of undeveloped land nearby raises concern rather than diminishing it. Unless land use plans are developed, coordinated and adhered to in the future, there is a real possibility for serious conflicts to arise.

Wendover Airport is a vital transportation link which is instrumental to the existence and development of the greater Wendover area including, Wendover, Utah; Tooele County, Utah; West Wendover, Nevada and Elko County, Nevada. The Wendover Airport provides an economic benefit through direct jobs on the airport and immediately surrounding the airport, and indirectly through business interests in the Wendover area. The airport provides safe, easy transportation access. Future growth and increased prosperity are linked to the airport since most multi-state businesses requires access to an airport as part of their operational criteria.

Growth will occur in the areas surrounding the airport. The casinos in West Wendover and the casino-related business in the Wendover area have shown robust growth and will need to expand operations. If the airport is not properly protected by a compatible land use plan, airport growth will be limited, and the communities surrounding the airport will be affected by airport activity.

Wendover Airport affects multiple jurisdictions, each with different laws and perceptions. All jurisdictions must recognize the importance of the Wendover airport compatible land use plan for the program to be successful. The Wasatch Front Regional Council recognizes the importance of a unified approach to community planning to assist the surrounding communities and keep the airport as a vital beneficiary to the greater Wendover area.

Community growth has primarily been around the gaming industry and related support industries. The casinos in West Wendover have brought more jobs

and population to the Wendover area, and have helped to stabilize the surrounding communities. However, diversification of jobs, economic development and job growth are desired by both communities. The Wendover Airport has tremendous multi-modal potential which is an asset to both communities and can be marketed to bring in new businesses and industries which can tap on the areas resources, as well as to augment the existing casinos and casino support businesses. This will lead to residential growth, more amenities and an improved quality of life for both the Wendover and West Wendover communities.

EXISTING STATUTES

The following are the existing Federal, State, County, and Municipal Statutes which must be considered when preparing the Wendover Compatible Land-Use Plan:

Federal Statutes

Federal Aviation Regulations. Part 77: Objects Affecting Navigable Airspace Establishes Standards for determining obstructions to navigable airspace and provides for aeronautical studies of obstructions to air navigation to determine the effect on safe and efficient use of airspace.

Federal Aviation Regulations. Part 150: Airport Noise Compatibility Planning Prescribes the procedures, standards, and methodology governing the development of airport noise compatibility programs.

FAA Order 5100.38A: The Airport Improvement Program Handbook Provides guidance and sets forth policy and procedures to be used in the administration of Federal airport aid.

FAA Advisory Circular 150/5300-13: Airport Design Contains the FAA's standards and recommendations for airport design.

State Statutes

Utah Code 17A-2-1519



Allows for the creation of airport zoning by the governing jurisdictions surrounding airports.

Nevada Revised Statutes. Title 44 Aeronautics. Chapter 497 Zoning

NRS 497.040 Gives every political subdivision within an airport influence area the authority to adopt, administer and enforce airport zoning regulations.

County Statutes

Tooele County, Utah: Uniform Zoning Ordinance

This ordinance is for the purpose of providing for the health, safety, comfort, convenience, order, prosperity, aesthetics and welfare of the present and future residents of Tooele County. This is accomplished, in part, by safe approaches to the airports and by encouraging compatible land uses in the airport influence area.

Elko County, Nevada: Uniform Zoning Ordinance

This ordinance is for the purpose of providing for the health, safety, comfort, convenience, order, prosperity, aesthetics and welfare of the present and future residents of Elko County. This is accomplished by safe approaches to the airports and by encouraging compatible land uses in the airport influence area

Municipal Statutes

Wendover, Utah: Uniform Zoning Ordinance

This ordinance is for the purpose of providing for the health, safety, comfort, convenience, order, prosperity, aesthetics and welfare of the present and future residents of the City of Wendover. This is accomplished, in part, by safe approaches to the airports and by encouraging compatible land uses in the airport influence area.

West Wendover, Nevada: Uniform Zoning Ordinance

This ordinance is for the purpose of providing for the health, safety, comfort, convenience, order, prosperity, aesthetics and welfare of the present and future residents of the City of West Wendover. This is accomplished, in part, by safe approaches to the airports and by encouraging compatible land uses in the airport influence area.

EXISTING PLANS

The following plans and supporting documents should be reviewed when preparing compatible land-use plans, zoning changes, and similar plans.

Wendover Airport Master Plan

In accordance with FAA guidelines, provides a plan to upgrade the facility to meet existing and future aviation activity and successfully compete with other airports and best serve the surrounding communities. This plan includes various companion studies such as an Environmental Assessment and FONSI, Historical Properties Management Plan, Section 404 permit and other supporting documents.

Wendover Airport Layout Plan (ALP)

The most recent ALP for the Wendover Airport was approved by the FAA in October 1997. Communities should always consult the most recent version of the ALP since these drawings are updated frequently.

Wendover General Plan

The general plan shall show the city planning commission's recommendations for the development of the City that designates the proposed general distribution and location and extent of uses of land for housing, business, industry, agriculture, recreation, education, public buildings and grounds, open space, and other categories of public and private uses of land as appropriate. The standards of population density and building intensity and building use recommended for the various land use categories covered by the plan.

West Wendover General Plan

The general plan shall show the city planning commission's recommendations for the development of the City that designates the proposed general distribution and location and extent of uses of land for housing, business, industry, agriculture, recreation, education, public buildings and grounds, open space, and other categories of public and private uses of land as appropriate. The standards of population density, building intensity and building use recommended for the various land use categories are covered by the plan.



WENDOVER AIRPORT GROWTH ESTIMATES

The most recent FAA Terminal Area Forecasts for the Wendover Airport indicate significant growth in commercial aircraft operations and passengers commencing in 1999. The airport also plans to host more military aircraft using nearby training ranges, and these numbers are shown in the forecast. See Appendix 4 for a description of growth in aircraft and operations through the year 2020.

Airport Growth and Development 1999-2020

Although there are no commercial service operations today, the forecast indicates commercial passenger service operations averaging 12 per day in the year 2005, and up to 16 per day in 2015. With this level of activity, the Wendover Airport would serve approximately 250,000 passengers per year by 2015. It is expected that military operations will increase significantly as the airport provides services for these aircraft. General Aviation is expected to increase operations from the 1995 level of 18,540 operations per year, to a projected 20,300 operations for the year 2005 and 22,430 for 2015. These growth factors include: 5 -10 year planned development, demographics, community long-range plans, and anticipated business development.

Exhibit II shows the airport built to meet the needs of the planning period to 2005, with runway 8-26 at 10,000 feet long, and full parallel taxiways to allow proper capacity and ensure safe operations at the forecasted activity levels. Exhibit V shows the recommended land use plan for this phase of development.

Ultimate Wendover Airport (year 2050) projection.

Airport land use planning should be tied to distant future (50 years) or full build-out because of future costs and community impacts. The cost and community impacts of implementing an airport compatible land use plan now will be significantly less than once the affected areas have been further built up. The concept for the ultimate build- out is for the airport at it's highest anticipated use. This level of construction will require considerable study and justification before it can be built, but planning for this anticipated land use can be accomplished now without

impacting the surrounding communities.

Exhibit III shows the airport built out to the highest anticipated standard, with a new 14,000 foot runway which could handle fully loaded aircraft from the Pacific Rim carrying passengers for the casinos or freight to or from a freight handling facility which would capitalize on the airports ready access to rail and highway. Exhibit VI depicts the Ultimate land use plan which would be compatible with this development.

THE AIRPORT INFLUENCE AREA

The Airport Influence Area is defined as the surface area within the outer ring of the FAR Part 77 surfaces, or which underlies the FAR Part 77 approach surfaces. The areas may also be thought of as located underneath the "traffic pattern" for the airport. See Appendix VI for a depiction of these surfaces. These areas are most likely to be affected by aircraft activity. Since these areas include most of the cities of Wendover and West Wendover, it is important that land use and zoning consider airport impacts. Any projects within this area must be in compliance with Part 77 for building heights, and aviation easements should be acquired to

ensure proper land use. Prohibited land uses within the airport influence area include those uses which, in the opinion of the FAA, may be considered to be a dangerous activity, hazard, or obstruction, producer of communications, illumination or visibility hazard or electromechanical interference with approaching or departing aircraft. In addition, the table in Appendix 2 to this report should be consulted to determine noise impacts and whether noise sensitive development should be prohibited or discouraged.

Areas requiring protection outside airport boundary will be provided for by several means, including zoning restrictions, land-use and height restrictions, and building codes which take the airport impacts into consideration such as soundproofing.

The airport land use plan will encourage and plan for compatible development in the communities general plans and economic development



plans. Public ownership of critical land is recommended and can be achieved by retaining land which is currently public owned and by acquiring identified land in critical areas or with significant noise impacts through FAA grants. Land in critical areas should be put into compatible use with the airport.

Airport noise abatement procedures need to be developed which will minimize impacts on the surrounding community while maintaining safe operating practices. These procedures may include traffic pattern restrictions and avoidance of noise sensitive areas. Certain types of operations may be restricted, particularly during evening hours. These procedures will be incorporated in the airport operations manual.

IMPLEMENTATION PLAN

SPECIFIC RECOMMENDATIONS

That all jurisdictions having zoning authority in the Wendover Airport influence area adopt comprehensive zoning ordinances to prevent development which would be incompatible with the Airport.

That all jurisdictions having authority over building permits adopt codes that protect the public from undue noise.

That all jurisdictions within the Wendover Airport influence area assist the Wendover Airport in obtaining necessary fee title land or aviation easements through the exercise of eminent domain, if necessary .

That all jurisdictions consider airport compatibility when preparing or approving development plans.

That land identified as critical for public ownership be obtained by the appropriate jurisdiction and used for purposes compatible with the airport.

That the Wendover Airport adopt incorporate recommended noise abatement procedures in the airport operations manual.



Images of the past at Wendover Airfield



APPENDIX 2

FAR Part 150, Appendix A, Table 1, Compatible Land Uses per DNL Sound Levels

LAND USES	Yearly Day-Night Average Sound Level (DNL) in Decibels				
	55-65	65-70	70-75	75-80	80+
RESIDENTIAL					
Residential other than mobile homes, transient lodging	Y	N ¹	N ¹	N	N
Mobile home parks/mobile homes	Y	N	N	N	N
Transient lodging (motels, hotels)	Y	N ¹	N ¹	N	N
PUBLIC USE					
Schools	Y	N ¹	N ¹	N	N
Churches, auditoriums, concert halls, nursing homes	Y	25	30	N	N
Government services	Y	Y	25	30	N
Transportation/ Parking	Y	Y	Y ²	Y ³	Y ⁴
COMMERCIAL					
Offices-business and professional	Y	Y	25	30	N
Wholesale/retail materials, hardware and farm equipment	Y	Y	Y ²	Y ³	Y ⁴
Retail trade-general	Y	Y	25	30	N
Utilities	Y	Y	Y ²	Y ³	Y ⁴
Communications	Y	Y	25	30	N
MANUFACTURING					
Manufacturing-general	Y	Y	Y ²	Y ³	Y ⁴
Photographic and optical	Y	Y	25	30	N
Agriculture (except livestock) and forestry	Y	Y ⁶	Y ⁷	Y ⁸	Y ⁸
Livestock farming and breeding	Y	Y ⁶	Y ⁷	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y
RECREATIONAL					
Outdoor sports arenas/spectator sports	Y	Y ⁵	Y ⁵	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N
Nature exhibits and zoos	Y	N	N	N	N
Amusement parks, resorts, camps	Y	Y	Y	N	N
Golf courses, riding stables, water recreation	Y	Y	25	30	N



Appendix 2
FAR Part 150, Appendix A, Table 1, Compatible Land Uses per DNL Sound Levels

KEYS TO PRECEDING TABLE

Y (YES)	Land use and structures compatible without restrictions.
N (No)	Land use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) should be achieved through incorporation of noise attenuation into the design and construction of the structure.
DNL	Average Day-Night Sound Level
25, 30, 35	Land use and related structures generally compatible; measures to achieve NLR of 25, 30 or 35 dB must be incorporated into the design and construction of the structure.

NOTES TO PRECEDING TABLE

1. Where the community determines that residential or school uses must be allowed, measures to achieve and outdoor to indoor Noise Level Reduction of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20dB, thus the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. The use of NLR criteria will not, however, eliminate outdoor noise problems.
2. Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
3. Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
4. Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
5. Land use compatible provided special sound reinforcement systems are installed.
6. Residential Buildings require an NLR of 25 dB.
7. Residential Buildings require an NLR 000 dB.
8. Residential Buildings not permitted.



APPENDIX 3
Compatible Land Uses Per FAR Part 77 and Safety Areas

LAND USES	FAR Part 77 Surfaces					Safety Area and RPZ
	Primary Surface	Transitional Surface	Horizontal Surface	Conical Surface	Approach Surface	
RESIDENTIAL						
Residential other than mobile homes, transient lodgings	NC	NC	#	C	#	NC
Mobile home parks, mobile homes	NC	NC	#	C	#	NC
Transient lodgings	NC	NC	#	C	#	NC
PUBLIC USE						
Places of public assembly (nursing homes, schools, hospitals, churches, auditoriums)	NC	NC	#	C	NC	NC
Government Buildings	NC	#	C	C	#	NC
Transportation facilities (parking, highways, bus and rail terminals, aviation terminals)	NC	#	C	C	#	#
COMMERCIAL						
Offices - business and professional	NC	#	C	C	#	NC
Wholesale/retail - materials hardware and farm equipment	NC	#	C	C	#	NC
Retail trade - general	NC	#	C	C	#	NC
Utilities	NC	#	#	#	#	#
Communications (telephone exchanges, relay and transmission towers)	NC	#	#	#	#	NC
MANUFACTURING						
Manufacturing - general	NC	#	#	#	#	NC
Agriculture (except livestock)		#	C	C	C	#
Livestock farming and breeding	NC	#	#	C	#	NC
Resource extraction (mining)	NC	NC	#	#	#	NC
Forestry	NC	#	C	C	#	NC
RECREATIONAL						
Outdoor sports arenas, amphitheaters	NC	NC	#	C	NC	NC
Nature exhibits, zoos	NC	NC	#	C	NC	NC
Amusement parks, resorts, camps	NC	NC	#	C	NC	NC
Golf courses	NC	#	C	C	#	#
Parks	NC	#	#	C	#	#



APENDIX 3 Compatible Land Uses Per FAR Part 77 and Safety Areas

KEY TO PRECEDING TABLE

- C Generally compatible land use
- NC Incompatible or prohibited land use
- # Not clearly compatible or incompatible, requires site-specific analysis or study

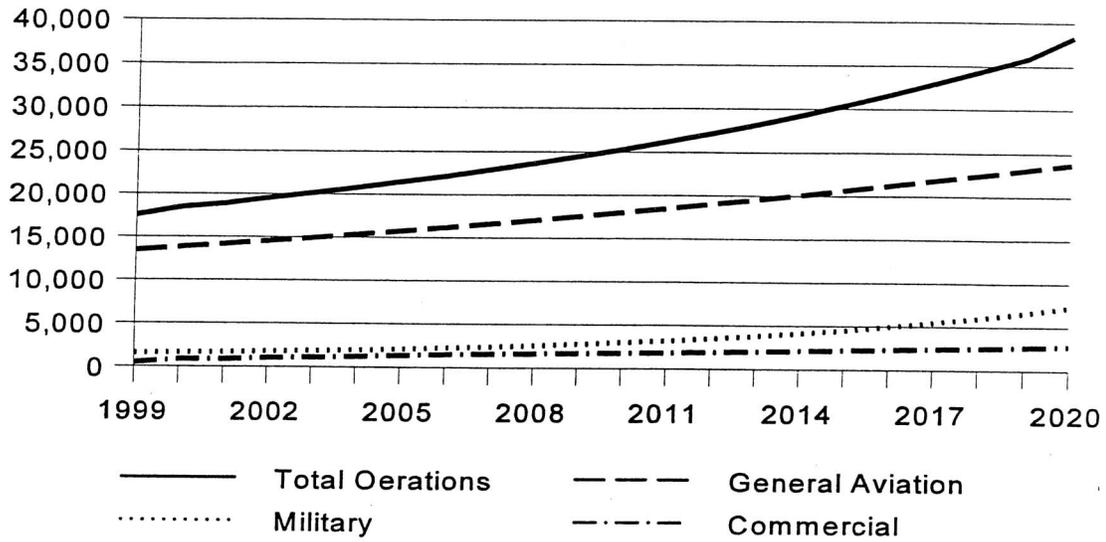
OTHER COMPATIBILITY FACTORS

1. Doesn't exceed height standards
2. Doesn't attract large concentrations of people.
3. Doesn't attract birds
4. Doesn't emit distracting light or glare
5. Doesn't emit smoke
6. Doesn't cause electrical interference.
7. Meets compatible DNL sound levels

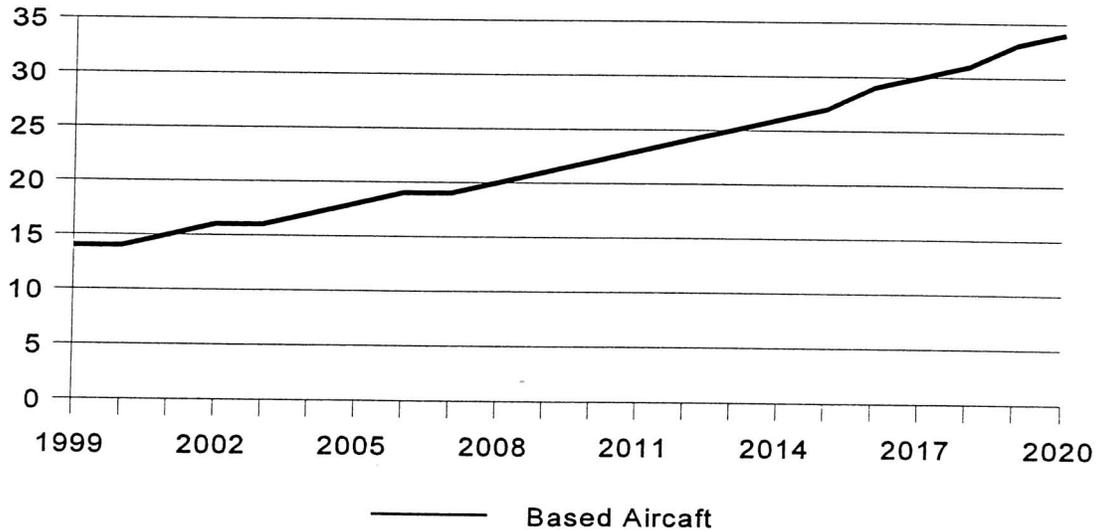
The preceding table was prepared from various sections of FAR Part 77 and FAA Aviation Circular 150/5300-13, with Change 5. Where land use compatibility is unclear, local jurisdictions should consult the airport manager or other professionals familiar with airport compatibility before approving building plans or zoning changes. In some cases, more detailed analysis or a formal study may be required to determine compatibility or incompatibility of a proposed project or action.

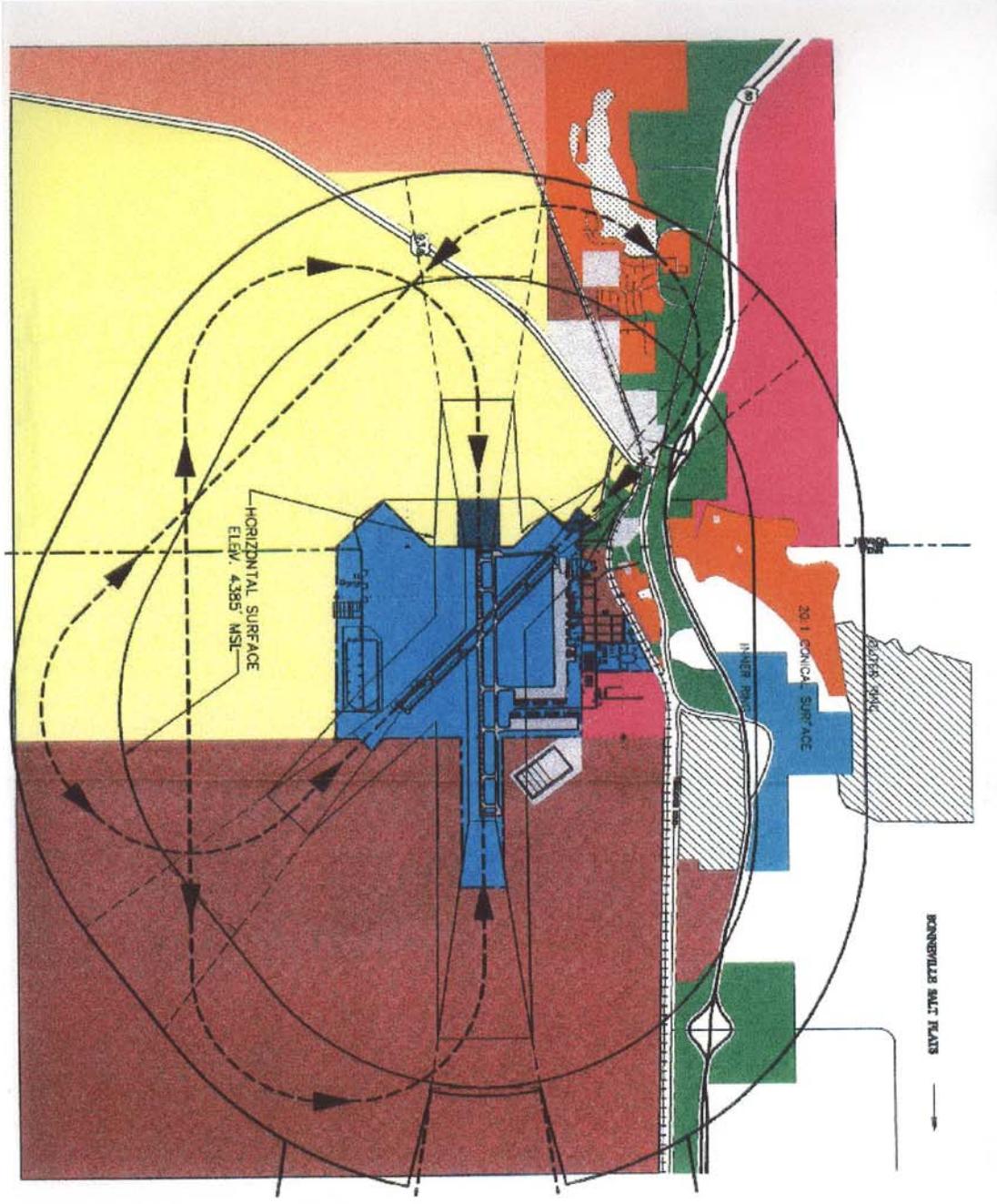


Wendover Airport Operations Forecast 1999-2020



Wendover Airport Based Aircraft Forecast 1999-2020





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