

McMinnville Municipal Airport
Airport Layout Plan Report

Chapter Two

Inventory of Existing Conditions



CHAPTER TWO INVENTORY OF EXISTING CONDITIONS

INTRODUCTION

This chapter documents existing conditions and aviation activity at the airport. Existing airfield facilities were examined during on-site inspections to update facility inventory data collected in prior planning efforts. Existing forecasts of aviation activity will be evaluated and updated as necessary, to identify in broad terms, anticipated trends that may affect development needs at McMinnville Municipal Airport, through the twenty-year planning period and beyond. Historical data from a variety of sources are used in this evaluation:

- **McMinnville Municipal Airport - Master Plan Update 1989-2009** (W&H Pacific, 1990)
- **McMinnville Municipal Airport - Master Plan 1990/2000** (Wadell Engineering, December 1981)
- **McMinnville Municipal Airport - Master Plan** (Bechtel, January 1973)
- **McMinnville Municipal Airport Pavement Evaluation Maintenance-Management Program** (Pavement Consultants, Inc., 2001)
- **Oregon Continuous Aviation System Plan – Volume I: Inventory and Forecasts; Volume III: Recommended Development Plan** (AirTech, 1997)
- **Oregon Aviation Plan** (Dye Management Group/Century West, © 2000)
- **FAA Airport Master Record Form (5010-1)**
- **APO Terminal Area Forecasts (TAF)**
- **Seattle Sectional Aeronautical Chart; IFR Enroute Low Altitude (L-1) Chart** (US DOT Federal Aviation Administration National Charting Office)
- **Instrument Approach Procedure Charts** (Jeppesen Airway Manual)
- **Soil Survey of Yamhill County, Oregon** (USDA Soil Conservation Service, January 1974)
- Local land use planning documents, zoning ordinances and mapping.
- Local and regional socioeconomic data.



AIRPORT LOCALE

McMinnville Municipal Airport, hereafter referred to as “MMV”, is owned and operated by the City of McMinnville, Oregon. The airport is located approximately three miles southeast of McMinnville, which is largest community and county seat in Yamhill County. McMinnville is located approximately 36 miles from Portland. A location map, site map and overview of the entire airport area are shown in **Figure 2-1**, on Page 2-8.

Yamhill County, located in northwest Oregon, is bordered by Washington County to the north; Tillamook County to the west; Polk County to the south; and Marion and Clackamas Counties to the east. Yamhill County has a land area of 718 square miles that extends from the east slopes of the Coast range east into the Willamette Valley to the Willamette River. Yamhill County is comprised predominantly of forest and agricultural lands, with several small communities located along area highways. MMV is located in an area described as the Dayton Prairie; the community of Dayton is located approximately three miles east of the airport.

MMV is located adjacent to Highway 18 (Three Mile Lane), which runs east-west along the north side of the airport connecting to Highway 99W east and west of McMinnville. Highway 18 is a primary route between the Oregon coast and the Portland Metro area. Highway 99W is the primary north-south route that extends along the western side of Willamette Valley from Portland to Eugene. Highways 233 and 231 are located east of the airport and serve communities such as Lafayette and Dayton. Highway 47 extends north of McMinnville to Forest Grove, Banks and Highway 26, west of Portland.

Cirrus Avenue is the access road for MMV that connects directly to Highway 18. Cruickshank Road, located just east of Cirrus Avenue, is a county road that provides access to the eastern section of the airport, including the airport’s glider staging area.

CLIMATE

McMinnville’s climate is characterized as marine influenced with moderately warm summers and mild winters that contribute to its prime growing conditions for wine grapes and other crops. Its location between the Coast range and the Cascade Mountains effectively shields the region from the high precipitation levels found in the adjacent coastal and mountain regions. Detailed climatic data for McMinnville was available for a 75-year period between 1928 and 2003.³ The average maximum temperature in McMinnville is 82.6 degrees Fahrenheit (July) and the average

³ Western Regional Climate Center.



minimum temperature is 33.0 degrees (January). McMinnville averages 41.38 inches of precipitation and 6.3 inches of snowfall annually. Approximately 81 percent of annual precipitation occurs between the months of October and March.

Wind data for MMV is available for the period between January 1947 and December 1951.⁴ The data indicate prevailing winds are west-southwest, however, strong southerly winds also occur seasonally.

GEOLOGY

MMV is located north of the Yamhill River, approximately 3 miles southeast of the community of McMinnville. The airport site consists of approximately 670 acres, most located south of Highway 18. The published airport elevation is 163 feet above mean sea level (MSL).

Soil survey information (a soil survey for Yamhill County) indicates that the airport is located within the Woodburn-Willamette soil association. These areas are characterized by “moderately well drained and well drained, nearly level to moderately steep silt loams and silt loams over silty clay loam.” The adjacent Yamhill River drainage that is located near the airport’s west end is included in the Chehalis-Cloquato-Newberg association, which consists of “well-drained and somewhat excessively drained silty clay loams, silt loams, and fine sandy loams.” Soil designations on or adjacent to the airport include: **Am** – Amity silt loams; **Da** – Dayton silt loams; **Dc** - Dayton silt loams, thick surface; **WuB** – Woodburn silt loam, 0 to 7 percent slopes; and **Te** – Terrace escarpments.⁵

SOCIOECONOMIC CONDITIONS

Population

According to data compiled by the U.S. Census Bureau and Portland State University Center for Population Research and Census, the population of Yamhill County in 2000 was 84,992; McMinnville is the largest community in the county with a population of 26,499. Between 1990 and 2000, the population of McMinnville has increased by 48 percent while the Yamhill County population increased by nearly 30 percent.

⁴ Source: NOAA-EDS, Ashville, NC, January 1947 to December 1951.

⁵ Soil Survey of Yamhill County, USDA SCS (January 1974)



A certified population estimate for 2002 prepared by Portland State University's Population Research Center lists McMinnville at 28,200, an increase of 6.4 percent over the 2000 census; Yamhill County's population was estimated at 87,500, an increase of 3.0 percent over the 2000 census.

In 2002, the population within McMinnville's incorporated boundary accounted for 32 percent of Yamhill County's population, up from 25.5 percent in 1980 and 27.3 percent in 1990. Yamhill County's population is projected to increase to 155,779 by the year 2040.⁶ This represents an overall increase of approximately 83 percent above 2000 levels and annual average growth of 1.53 percent. Based on current population distributions within the county, McMinnville's population would reach 49,500 by 2040, but could be considerably higher if the community's growth continues to outpace the county.

Economy

The region's economy is comprised mainly of agriculture, wood products, steel manufacturing, instruments manufacturing and private higher education. The five largest employers in Yamhill County, as of August 2002, were Cascade Steel Rolling Mills, Evergreen International/Helicopters, Linfield College, Columbia Willamette Valley Medical Center, and Wal-Mart.⁷ According to Oregon Employment Department data, the unemployment rate in Yamhill County in 2000 was approximately 4.7 percent, which was below the statewide average.

Tourism has become an increasingly significant component in the region's economy as local attractions have increased and diversified. In particular, the Yamhill County wine industry now includes more than 80 wineries and 200 vineyards and represents one-third of Oregon's wineries and vineyards.⁸ The region's ability to produce high quality wines has been a key factor in creating a prime tourist destination which has in turn supported a growing number of service businesses (hotels, bed & breakfasts, restaurants, retail shops, etc.). The Evergreen Aviation Museum, McMinnville's downtown historic district, and Spirit Mountain Casino also contribute to the area's growing tourism industry.

⁶ State of Oregon, Office of Economic Analysis.

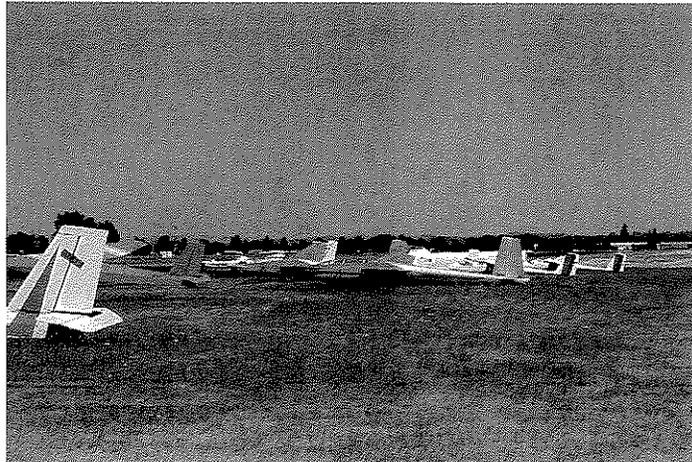
⁷ Oregon Economic and Community Development Department (2002)

⁸ Yamhill Winery Association data.

Airport History

The airport was originally constructed as a national defense project during World War II. The airport property was acquired (fee title) by the City of McMinnville in 1942 and the federal government constructed the airfield facilities. The original agreement, which remains in effect, requires that the airport “be operated for the use and benefit of the public.” The existing dual runway-taxiway configuration is largely unchanged from the original construction, although several improvement projects have been completed in recent years to upgrade the facilities.

MMV accommodates a substantial level of glider flight seeing and flight training activity. A “Glider Operations” symbol is depicted at MMV on the Sectional Aeronautical Chart and the Airport/Facility Directory includes the following remarks “*glider ops Rwy 17-35 and within 8 NM blo 8,000’ during dlght hours Mar-Oct.*”



Landside facility development at MMV has occurred in the terminal area on the north side of Runway 4/22, with road access provided directly from Highway 18. The existing airport fixed base operator (FBO) building and Quonset hangars were constructed as part of the original airport development. A variety of conventional and T-hangars have been constructed over the last fifty years. Evergreen International Aviation, an international aviation services company, was founded in McMinnville as helicopter charter company. Evergreen maintains its corporate headquarters and a variety of facilities adjacent to the north end of the airport. Evergreen maintains apron and hangar facilities on its property, which are accessed through a taxiway located on the west side of the terminal apron. The Federal Aviation Administration (FAA) McMinnville Flight Service Station (FSS) is located on the airport, providing pilot advisory services through remote communications outlets throughout Oregon.



This airport layout plan update represents the fourth master planning effort conducted for MMV since 1972. Although the 1973 Airport Master Plan⁹ recommended a landside development layout that is similar to the current facility configuration in the terminal area, the 1973 ALP also recommended some significant facility changes that were later eliminated from future plans. These included depicting Runway 4/22 with an ultimate length of 6,300 feet and constructing a 3,000-foot runway and parallel taxiway in the infield (parallel to 4/22).

The master plan update completed in 1981¹⁰ reduced the recommended ultimate length of Runway 4/22 to 6,000 feet with a parallel taxiway extension, retained the future parallel runway (4R/22L), added new hangar development areas adjacent to the future end of Runway 4 (north side) and Runway 35 (west side), and added a partial-length parallel taxiway on the west side of Runway 17/35.

The most recent master plan was completed in 1989¹¹ significantly scaled back prior expansion recommendations for MMV. The previously recommended infield parallel runway was eliminated and the hangar development areas located beyond the immediate terminal were also eliminated. The ALP depicted Runway 4/22 with an ultimate length of 5,420 feet and a 1,000-foot stopway at the Runway 4 end. The north side parallel taxiway was recommended for relocation closer to the runway (400 feet) and extended to full length. The ALP also depicted future property acquisition east of Runway 17/35 to allow relocation of the existing county road, although no airfield development east of Runway 17/35 was depicted.

It is also interesting to note that the 1989 master plan identified three different critical aircraft based on wingspan (deHavilland Dash 8); weight (Gulfstream G-II); and approach speed (Learjet 35). Although the Learjet and Gulfstream were/are aircraft types operated by Evergreen, the Dash 8 is a regional airliner. By combining these three aircraft types, the recommended future airport reference code (ARC) for MMV was D-III. The previous planning assumptions and critical aircraft recommendations will be reviewed in the forecast and facility requirements analysis phase of the update.

Notable improvements made since the last master plan was completed in 1989 include:

- Runway 4/22 - 600-foot extension and 1,000-foot stopway (Rwy 4 end)
- Extension of Taxiway A to the Runway 4 end

⁹ McMinnville Airport Master Plan (Bechtel, 1973)

¹⁰ McMinnville Airport Master Plan 1980-2000 (Wadell Engineering, 1981)

¹¹ McMinnville Airport Master Plan 1989-2009 (Wilsey & Ham Pacific and TRA Airport Consulting, 1989)



- Replacement of the airport fuel storage facilities with two aboveground fuel tanks
- Hangar construction (west hangar area & terminal area)
- Reconstruction/relocation of the center and eastern sections of Taxiway A
- Terminal area fencing and electronic gates
- Automated surface observation system (ASOS)
- Terminal area apron expansion

AIRFIELD FACILITIES

Historically, MMV has served a variety of general aviation users, including business, commercial, and recreational aviation. With its instrument landing system (ILS), MMV has also historically accommodated a significant amount of instrument flight training activity. In recent years, the ongoing development of the region's wine and tourism industries has reportedly contributed to an increase in business-related aviation activity at MMV.

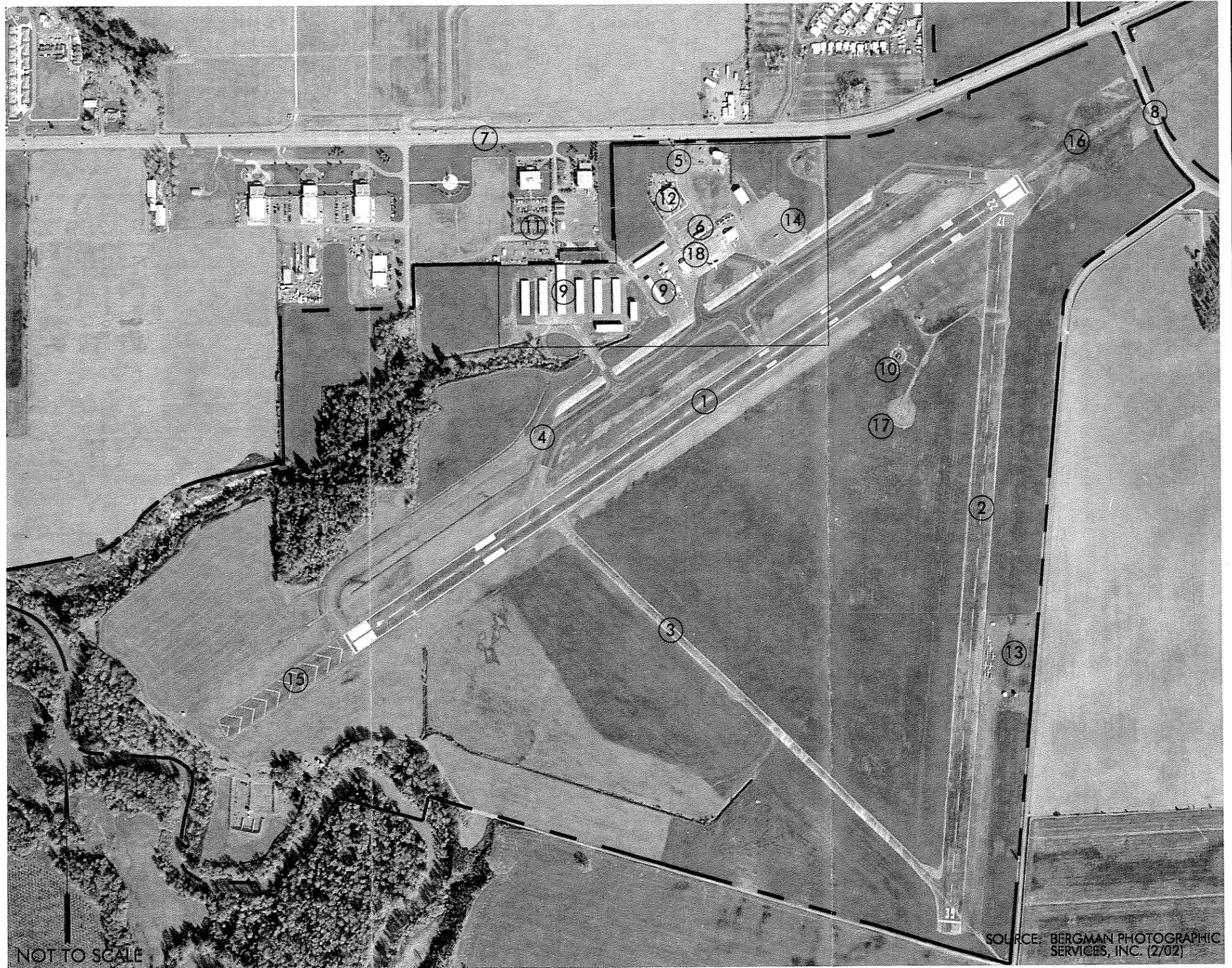
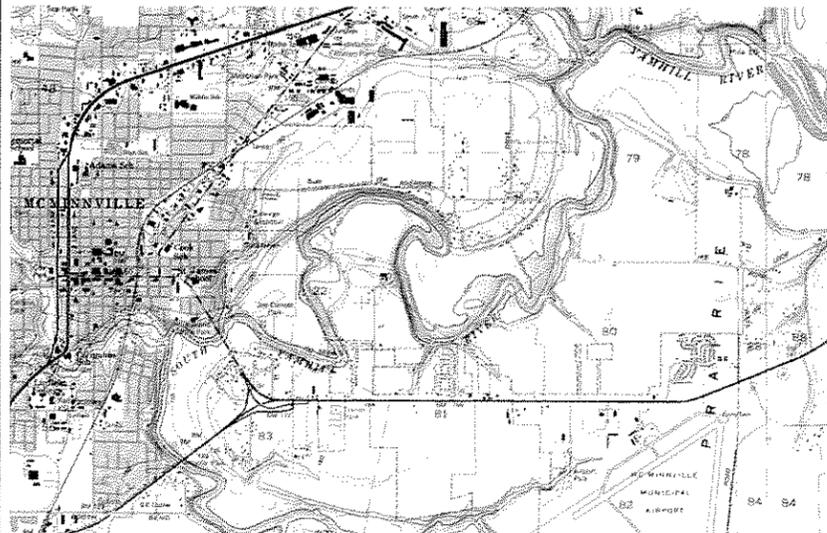
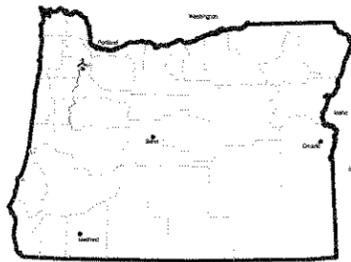
MMV formerly maintained a "Limited" FAR Part 139 certificate, which allowed limited commercial service activity, including charter flights using transport category aircraft. MMV also had a "Limited" airport rescue and fire-fighting (ARFF) index. The City of McMinnville (airport owner) has recently let its FAR Part 139 Certificate lapse due to the lack of ongoing commercial aviation activities at MMV and the expense associated with meeting FAR Part 139 regulatory requirements.

The Airport/Facility Directory includes the following remarks "*CLOSED to unscheduled air carrier ops with more than 30 passenger seats except 24 hour PPR call arpt manager 503-550-6766. Runway 17-35 and Txy A2, Txy H and Txy D not avbl for air carrier ops of acft with more than 30 passenger seats.*"

Figure 2-1 provides location and site maps of the airport. **Figure 2-2** provides a detail of existing terminal area facilities at the airport, located along the north side of Runway 4/22. **Table 2-1** summarizes airport data.

LEGEND

- ① RUNWAY 4-22: 5,420' x 150'
- ② RUNWAY 17-35: 4,676' x 150'
- ③ CONNECTING TAXIWAY D: 3525' X 50'
- ④ TAXIWAY A
- ⑤ CIRRUS AVENUE
- ⑥ FBO/TERMINAL
- ⑦ OR STATE HWY. 18
- ⑧ CRUICKSHANK ROAD
- ⑨ WEST HANGAR AREA
- ⑩ SEGMENTED CIRCLE
- ⑪ EVERGREEN AVIATION
- ⑫ FAA FLIGHT SERVICE STATION
- ⑬ GLIDER OPERATIONS AREA
- ⑭ TIEDOWN APRON
- ⑮ PAVED OVERRIDE
- ⑯ APPROACH LIGHT
- ⑰ ASOS
- ⑱ FUEL STORAGE
- TERMINAL AREA FACILITIES
(SEE FIGURE 2-2 FOR DETAIL)



NOT TO SCALE

SOURCE: BERGMAN PHOTOGRAPHIC SERVICES, INC. (2/02)



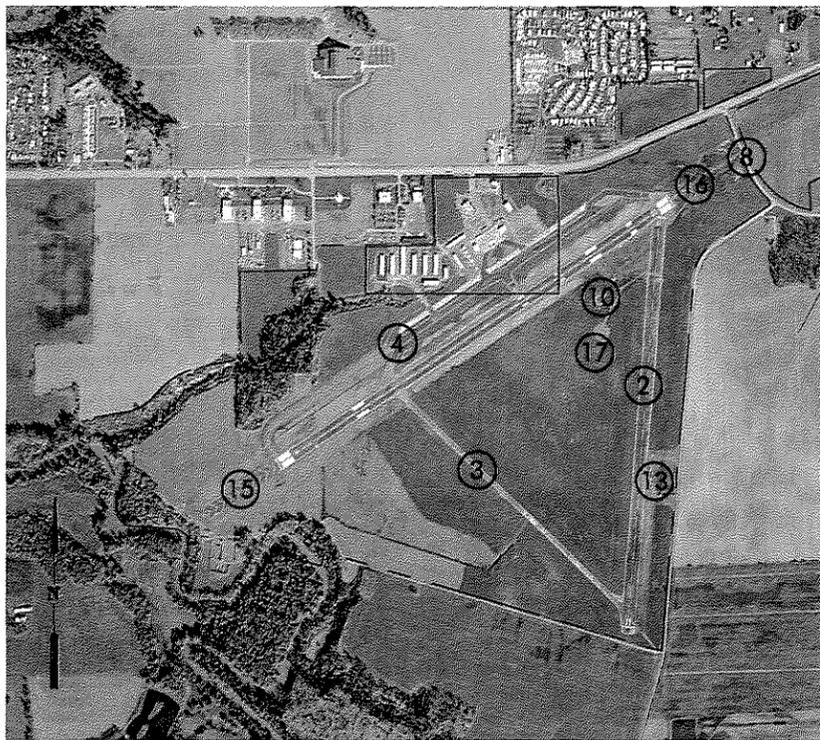
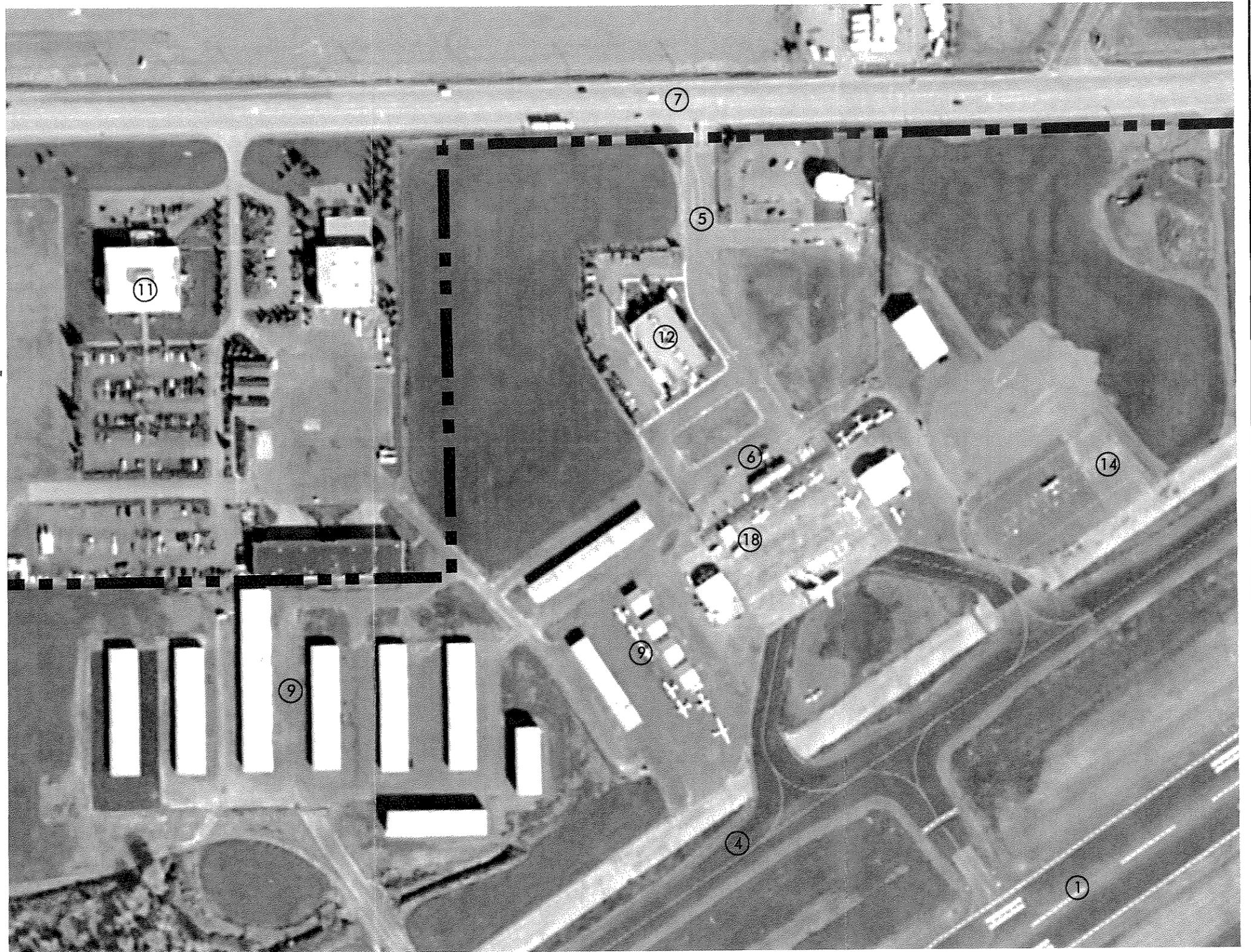
MCMINNVILLE MUNICIPAL AIRPORT SITE MAP AND EXISTING CONDITIONS

FIGURE
2-1

LEGEND

- ① RUNWAY 4-22: 5,420' x 150'
- ② RUNWAY 17-35: 4,676' x 150'
- ③ CONNECTING TAXIWAY D: 3525' X 50'
- ④ TAXIWAY A
- ⑤ CIRRUS AVENUE
- ⑥ FBO/TERMINAL
- ⑦ OR STATE HWY. 18
- ⑧ CRUICKSHANK ROAD
- ⑨ WEST HANGAR AREA
- ⑩ SEGMENTED CIRCLE
- ⑪ EVERGREEN AVIATION
- ⑫ FAA FLIGHT SERVICE STATION
- ⑬ GLIDER OPERATIONS AREA
- ⑭ TIEDOWN APRON
- ⑮ PAVED OVERRIDE
- ⑯ APPROACH LIGHT
- ⑰ ASOS
- ⑱ FUEL STORAGE
- TERMINAL AREA FACILITIES

N
1"=200'



SOURCE: BERGMAN PHOTOGRAPHIC SERVICES, INC. (2/02)



McMINNVILLE MUNICIPAL AIRPORT
TERMINAL AREA FACILITIES

FIGURE
2-2



**TABLE 2-1
AIRPORT DATA**

Airport Name/Designation	McMinnville Municipal Airport (MMV)
Airport Owner	City of McMinnville
Date Established	1942
Airport Category	National Plan of Integrated Airport Systems (NPIAS) General Aviation FAA Airport Reference Code: B-II (as depicted on 1989 ALP) Oregon Aviation System Designation: Business/High Activity General Aviation Airport (Category 2)
Airport Acreage	Approximately 673 Acres (held in fee)
Airport Coordinates	N 45°11.67' W 123° 08.16'
Airport Elevation	163 feet Mean Sea Level (MSL)
Airport Traffic Pattern Configuration/Altitude	Left Traffic - 1,100 feet above mean sea level (MSL)

LAND UTILIZATION

The total land area of MMV is approximately 673 acres, of which 74 percent is currently occupied by airside facilities (runway-taxiway system) and the associated protected areas. Approximately 12 percent of airport property is occupied by landside facilities and development reserves (terminal area and along the east side of Runway 17/35). Approximately 14 percent of the airport property consists of an undeveloped area located near the northwest corner of the airport. It is noted that the approximately 30 percent of the total land area of MMV is located between the two intersecting runways and is largely undeveloped (currently included in the airside development total). **Table 2-2** summarizes existing airport land uses based on current and previously planned airfield facility configurations. **Figure 2-3** depicts the existing land areas at MMV.



TABLE 2-2
MMV LAND USE CONFIGURATION

Existing Land Use	Acreage	Percentage of Total Airport Property
Airside (<i>Developed or Reserved</i>) Runway-Taxiway System; Runway Protection Zones, Object Free Areas, Runway Safety Areas, Obstacle Free Zones, Primary Surfaces; Runway Visibility Zone (infield).	496	74%
Landside (<i>Developed or Reserved</i>) Aircraft Apron, Hangars, Vehicle Parking, Access Roads, Undeveloped Land on the north side of 4/22 and east side of 17/35.	84	12%
Undeveloped Areas (Northwest section beyond developed portions of airfield)	93	14%
Total	673¹	100%

1. Estimated from property line depicted on 1989 Airport Layout Plan drawing.

Portions of the runway protection zones (RPZ) for all runways at MMV extend beyond airport property. The 1989 Airport Layout Plan identified future land acquisition or avigation easements for these areas. The status of the previously recommended property actions will be verified as part of the ALP update.

With the exception of glider staging facilities located adjacent to Runway 17/35, all of the airport's landside facilities are located on the north side of Runway 4/22. Approximately 63 acres is located within the terminal area and the adjacent hangar area. However, approximately 50 to 75 percent of this area is currently developed and some of the remaining undeveloped areas have limited airside access. Approximately 93 acres of undeveloped area is located along the western half of Runway 4/22. However, a drainage located within the Yamhill River floodplain runs through this area, which may contain wetlands.

It is evident that the developable areas on the north side of Runway 4/22 are relatively scarce based on physical site constraints. At the outset of the planning process, the potential impact of a planned Highway 18 corridor project and potential changes in the airport access connection at Cirrus Avenue was raised as a concern. However, after further discussion it was determined that because the corridor plan has no established schedule, development of landside facilities at the airport should continue based on existing access. Any subsequent changes in airport access should be addressed during the detailed planning and design phase of the highway project.



SCALE: 1" = 400'

SOURCE: BERGMAN PHOTOGRAPHIC SERVICES, INC. (2/02)



McMINNVILLE MUNICIPAL AIRPORT

AIRPORT LAND USE

FIGURE
2-3



Runways

MMV has two intersecting runways oriented in northeast-southwest (040/220 degrees magnetic) and north-south (170/350 degrees) directions in an open V configuration. The runways intersect at the east end of Runway 4/22 and the north end of Runway 17/35. The Runway 17 threshold markings have been modified slightly to avoid conflicting with the Runway 22 markings, since Runway 17/35 is the “lower precedence runway” at MMV. MMV has extensive directional signage for the runway-taxiway system. **Table 2-3** summarizes existing runway facilities at MMV.

**TABLE 2-3
MMV RUNWAY DATA**

Runway 4/22	
Dimensions	5,420 x 150 feet. 1,002-foot paved overrun (Rwy 4 end)
Effective Gradient	0.02%
Surface/Condition	Asphalt/Excellent
Weight Bearing Capacity (WBC)	40,000 pounds – Single Wheel; 50,000 pounds - Dual Wheel; 80,000 pounds Dual Tandem Wheel Landing Gear
Marking	Precision (Rwy 22); Nonprecision (Rwy 4). Runway markings are consistent with jet aircraft use.
Lighting	High Intensity Runway Edge Lighting (HIRL); MALSR (Rwy 22); PAPI (Rwy 22); REIL, PAPI (Rwy 4). PAPIs have 3.0-degree approach angles.
Signage	Lighted Mandatory, Location, Directional, Destination and Distance Remaining Signs.
Wind Coverage	All Weather Coverage: 86.75% at 12 mph; 90.21% at 15 mph. Source: NOAA ; 16,213 observations (January 1947 - December 1951)
Runway 17/35	
Dimensions	4,676 x 150 feet
Effective Gradient	0.04%
Surface/Condition	Asphalt/Very Poor and Failed
Weight Bearing Capacity (WBC)	40,000 pounds – Single Wheel; 50,000 pounds - Dual Wheel; 80,000 pounds Dual Tandem Wheel Landing Gear
Marking	Basic (runway numbers, threshold bar, centerline stripe)
Lighting	None
Signage	Direction Signs (north end)
Wind Coverage	All Weather Coverage: 92.38% at 12 mph; 95.17% at 15 mph. Source: NOAA ; 16,213 observations (January 1947 - December 1951)



Runway 4/22

Runway 4/22, the primary runway, is paved and lighted with a full-length north side parallel taxiway (Taxiway A) with four connecting exit taxiways. The published dimensions for Runway 4/22 are 5,420 by 150 feet. In addition, a 1,002-foot paved overrun extends beyond the end of the Runway 4. Runway 22 is the airport's instrument landing system (ILS) runway. The Runway 22 end has precision instrument markings (threshold markings, runway numbers, three sets of touchdown zone marking bars, and aiming point marking bars) located on the first 2,000 feet of the runway. The Runway 4 end has non-precision instrument runway markings including aiming point marking bars located 1,000 feet from the end of the runway. The Runway 4 paved overrun is marked with yellow chevrons.

The 1989 Master Plan recommended construction of a stopway (in conjunction with a 600-foot runway extension) to "maximize the runway length available for aircraft departing on Runway 22." However, under current FAA standards, the absence of runway safety area beyond the paved area suggests that the area is not available for use in runway length calculations. FAA AC 150/5340-1H, Standards for Airport Markings, states "chevrons are used to identify pavement areas unsuitable for landing, takeoff, and taxiing." A review of the overrun and its relationship to current/future airport design standards will be conducted in the facility requirements evaluation.

Runway 4/22 has extensive lighted signage that convey a variety of important directional, location, and clearance information to pilots. The runways and all major taxiways have directional and holding position signs and the boundaries of critical areas, such as the ILS critical area, the runway safety area or object free zone are marked. Runway 4/22 is also equipped with lighted distance remaining signs that are placed in 1,000-foot increments to inform pilots of the amount of runway remaining during takeoff and landing operations.

During a recent site inventory, Runway 4/22 was observed to be in very good condition. The markings on Runway 4/22 meet the requirements for the existing precision (Rwy 22) and circle-to-land instrument (Rwy 4) procedures. The runway markings were also observed to be in very good condition.

Runway 17/35

Runway 17/35, the secondary runway, is paved and unlighted with basic runway markings. The published dimensions for Runway 17/35 are 4,676 by 150 feet. A 3,525-foot infield taxiway (Taxiway D) connects the end of Runway 35 to Runway 4/22 at Taxiway A3. Taxiway A1, located at the threshold of Runway 22, provides access to the north end of Runway 17/35.



During a recent site visit, Runway 17/35 was observed to be in generally poor condition. The markings on Runway 17/35 are Basic, which meet the requirements for the existing visual and circle-to-land instrument procedures. The runway markings were observed to be in fair condition. The Runway 35 threshold bar has been painted approximately 75 feet from the runway end. This reconfiguration may have been due to the condition of pavement or the limited amount of runway safety area beyond the runway, although it is not referenced on the 1989 ALP.

MMV is an uncontrolled field, which effectively limits operations to one runway at a time. The runways utilize standard left traffic patterns. Pilots use the airport Unicom/common traffic advisory frequency (CTAF) for communications on the ground and in the vicinity of the airport.

Historically, Runway 4/22 accommodates a high percentage of airport operations at MMV. Runway 17/35 is used extensively by local glider operations and it also serves as a crosswind runway, particularly during periods of strong southerly winds. The airport has also historically accommodated a substantial volume of locally based and itinerant flight training. The combination of MMV's geographic location and facilities, particularly the ILS, provide a relatively uncrowded environment for instrument flight training. The 1989 Master Plan estimated that 50 percent of airfield operations were touch and go operations. It is believed that the percentage of total operations attributed to flight training has declined slightly, although recent activity counts will be reviewed as part of the forecast update to assess current activity trends.

Runway Wind Coverage

Wind data for the airport is available for the period between January 1947 and December 1951.¹² **Table 2-4** summarizes the wind data for both runways at MMV for all weather conditions combined (VFR and IFR). The data indicate that the primary runway (4/22) alone does not meet the FAA-recommended wind coverage of 95 percent for small aircraft based on its 12 mile per hour crosswind coverage or for larger aircraft, based on its 15 miles per hour crosswind coverage.

However, with the addition of a secondary runway (17/35), the combined wind coverage for MMV increases to 97.66 percent at 12 miles per hour and 98.45 percent at 15 miles per hour, which meets the FAA-recommended wind coverage for both small and large aircraft.

¹² Source: NOAA-EDS, Asheville, NC, January 1947 to December 1951.



TABLE 2-4
MMV WIND COVERAGE
(VFR / IFR / ALL WEATHER)

Runway	VFR		IFR		ALL	
	12 MPH	15 MPH	12 MPH	15 MPH	12 MPH	15 MPH
4/22	86.74%	89.43%	91.54%	93.59%	86.75%	90.21%
17/35	92.30%	94.86%	97.48%	98.05%	92.38%	95.17%
Combined	97.85%	98.43%	98.26%	98.84%	97.66%	98.45%

Source: NOAA. Observation Period: 1/47-12/51.

Taxiways

MMV has an extensive taxiway system that provides access to all runway ends. **Table 2-5** summarizes existing taxiway facilities at MMV. Runway 4/22 has a full-length parallel taxiway (Taxiway A) with four connecting exit taxiways. As part of a recent project, the eastern section of Taxiway A (from Taxiway A1 to A3) was relocated 100 feet closer to the runway to provide a standard 400-foot runway separation. The taxiway relocation enables the terminal apron to be expanded and reconfigured to better accommodate larger itinerant aircraft. The original section of Taxiway A currently remains in place and is occasionally used for temporary parking for large aircraft or helicopters; options for redevelopment of the old taxiway section will be considered in the alternatives evaluation phase of the ALP Report.

The taxiways at MMV are generally 50 feet wide, with the exception of Taxiway A3, the exit taxiway located opposite the terminal apron, which is 40 feet wide at the runway connection and widens to approximately 100 feet where it connects to the parallel taxiway. The west end of Taxiway A has two 35-foot wide pull-out areas on the outside edge of the taxiway. There are currently no holding or run-up areas located at the Runway 4 threshold, which suggests that the small pull-out areas may be used for pre-departure procedures (engine run-ups, instrument flight plan clearances, etc.) in addition to allowing aircraft to pass on the 1,900-foot section of taxiway. Most of the main taxiways at MMV are in good to excellent condition, with the exception of the infield access taxiway which was most recently rated as “failed.”

None of the taxiways are equipped with edge lighting, but all major taxiways have reflective edge markers (elevated blue 8” diameter edge reflectors). MMV has extensive directional signage on the airfield. Aircraft hold lines are painted on all taxiway connections to Runway 4/22 and are located 250 feet from the runway centerline. This distance corresponds to the outer



edge of a 500-foot wide runway object free area and runway safety area. The parallel taxiway and exit taxiways have yellow centerline and edge striping.

Aircraft access to the end of Runway 35 is normally provided by back-taxiing on the runway or Taxiway D (50 feet wide) that extends from Taxiway A3 on Runway 4/22. Taxiways B and C are the primary access taxiways connecting Taxiway A to the Terminal Apron.

**TABLE 2-5
MMV TAXIWAY DATA**

Taxiway	Description	Dimensions/Configuration
Taxiway A	Parallel taxiway for Runway 4/22.	Approximately 5,420' x 50' with four exit taxiways: A1 (Acute Angle at Rwy 22 end) A2 (90-degree exit opposite terminal area) A3 (Acute angle exit - 1,500 feet from Rwy 4 end) A4 (90-degree exit at Rwy 4 end) Asphalt surface; edge reflectors; centerline & edge stripes; aircraft hold lines at each runway connection.
Taxiway B	NW-SE angled access taxiway to Terminal Apron (connects to Taxiway A)	Approximately 350 x 50' Asphalt surface; edge reflectors; centerline & edge stripes.
Taxiway C	NE-SW angled access taxiway to Terminal Apron (connects to Taxiway A)	Approximately 350 x 50' Asphalt surface; edge reflectors; centerline & edge stripes.
Taxiway D	Infield taxiway serves Runway 35 end from Taxiway A3	3,525 x 50' Asphalt surface; edge reflectors; centerline stripe; aircraft hold lines at each runway connection.
T-Hangar Access Taxiway	Access taxiway to the hangar area from Taxiway A.	Approximately 500 x 34' Asphalt surface; centerline stripe
T-Hangar Taxilanes	Taxilanes within T-hangar development.	Dimensions vary (20 to 30 feet). Asphalt surface; Individual taxilanes between hangars.
Evergreen Access Taxiway	Access taxiway to off-airport facilities.	Approximately 20-25 feet wide; asphalt surface fair/poor condition.

Access to the main T-hangar area is provided by a single 500-foot taxiway (34 feet wide) that connects to Taxiway A, west of the terminal area. There are currently eight hangar taxilanes in the main T-hangar area that connect to a taxilane that runs along the south end of the hangars. The taxilanes located between the hangars do not extend around the north end of the buildings. Additional taxilanes serve the hangars located near the west end of the terminal apron. The hangar taxilanes range from 20 to 25 feet wide and vary in condition (fair to excellent).

A narrow taxiway (approximately 20 feet wide) extends adjacent to the west edge of terminal area to provide access to the Evergreen facilities. During a recent site visit, the taxiway was observed to be in poor condition.

Aircraft Apron

MMV'S aircraft parking aprons are located along the north side of Runway 4/22. Several sections of aircraft apron are located in the terminal area serving a variety of uses. The large center (terminal) apron is used primarily for itinerant parking, aircraft fueling, and passenger loading/unloading at the fixed base operator/terminal building. This apron is designed to accommodate larger aircraft with drive-through parking positions. The terminal apron is constructed of Portland Cement Concrete (PCC), which according to pavement records is the original apron pavement constructed in 1943. An expansion of the outer section of the terminal apron was constructed in 2004. The expanded terminal apron enables more efficient movement and parking for aircraft, including the increasing numbers of large business jets that visit MMV.



Two older sections of apron are located on the east and west ends of the terminal apron. According to pavement records, these aprons were constructed in 1950 (asphaltic concrete). These apron areas accommodate limited aircraft parking and provide access to adjacent hangars. The apron located west of the terminal apron, accommodates 8 to 10 aircraft parking positions between two hangars; the apron located immediately east of the terminal apron accommodates aircraft parking in front and behind a large conventional hangar.



A newer section of apron is located on the east end of the terminal apron that with 17 light aircraft tiedown positions configured in two rows. The outer row of tiedowns consists of five tail-in positions; the inner row of tiedowns is two-sided, with 12 nested tail-in positions. Two taxilanes provide access to the tiedown apron from the diagonal taxiway that connects the terminal apron and Taxiway A.

A large grass surfaced parking area is located on the east side of Runway 17/35 for glider parking and staging. This area routinely accommodates more than 10 aircraft during the soaring season. However, it appears that the inner half the grass area is located within the primary surface and object free area for Runway 17/35, which by FAA standards should not include parked aircraft. The configuration of the glider parking area will be reviewed in the facility requirements and alternatives analyses. **Table 2-6** summarizes existing apron facilities at the airport.

**TABLE 2-6
 AIRCRAFT APRON DATA**

Main Apron (center section)	Approximately 300 x 200' (6,700 square yards) Aircraft parking, passenger loading, fueling, Portland Cement Concrete (PCC)
Main Apron (eastern section)	Approximately 300 x 150' (varies) (4,500 square yards) Aircraft parking; hangar frontage. Asphalt Concrete
Main Apron (western section)	Approximately 370 x 250' (10,200 square yards) Light aircraft tiedowns and parking. Asphalt Concrete
East Tiedown Apron	Approximately 175 x 250' (4,850 square yards) Light aircraft tiedowns. Asphalt Concrete
Glider Staging Area	Approximately 300 x 500' (16,700 square yards) Glider parking and staging area Grass

During a recent site inventory, the aprons were observed to range from very good to very poor condition. In general, it appears that pavement maintenance has been performed on a regular basis in recent years, which includes crackfilling, vegetation removal and sealcoating.

Agricultural Aircraft Facilities

MMV does not currently accommodate locally based aerial applicators and there are currently no designated agricultural aircraft loading areas on the airport. The 1989 Master Plan stated



“Agricultural spray operations have been based adjacent to the terminal apron for some time without facilities to contain pesticide residues.” According to the FBO, MMV has not accommodated regular aerial applicator activity since the mid-1990s.

Airfield Pavement Condition

As part of the **Oregon Aviation System Plan**, the Oregon Department of Aviation manages a program of pavement evaluation and maintenance for Oregon’s general aviation airports. This evaluation provides standardized pavement condition index (PCI) ratings, pavement features and current conditions. Through the use of MicroPAVER computer software, current pavement condition ratings are entered into the system with the specifics of each pavement section. The program is able to predict the future condition of the pavements if no action is taken, based on the anticipated rate of deterioration. The program also identifies the recommended maintenance measures required to extend the useful life of the pavement section and maintain optimal condition ratings.

Table 2-7 summarizes airfield pavement conditions for MMV based on the most recent inspection conducted in 2001.¹³ The branch report contained in the pavement study indicates that MMV currently has more 2.6 million square feet (SF) of airfield pavement, which equals approximately 60 acres of surface area.

During the 2001 inspection, the majority of the airfield pavements at MMV were in “excellent” to “good” condition. Among the airfield pavements rated “poor” or worse include the infield taxiway (Taxiway D) that connects the end of Runway 35 (Failed); the older sections of apron immediately east and west of the terminal apron (Failed); the T-hangar access taxiway that extends from Taxiway A (Fair); and Runway 17/35 (Very Poor/Failed).

¹³ Pavement Evaluation/Maintenance Management Program, McMinnville Municipal Airport (2001)



**TABLE 2-7
SUMMARY OF AIRFIELD PAVEMENT CONDITION
(AUGUST 2001)**

Pavement	Section Design/Age	PCI Rating ¹	Condition
Runway 4/22	4" AC (1992); Unknown Base (1992)	92 (center 50 feet) 97/99 (outer 50 feet, either side of center)	Excellent
Runway 17/35	2" AC (1943); 6" Aggregate Base (1943); 8" Aggregate Subbase (1943); Slurry Seal (1952); Crack Seal & AC Patching (1987)	9 (center 50 feet) 23/25 (outer 50 feet, either side of center)	Failed/ Very Poor
Taxiway A (<i>new center-east section</i>)	4" AC (2001); 8" Aggregate Base (2001); 12" Aggregate Subbase (2001)	100	Excellent
Taxiway A (<i>western section</i>)	4" AC (1992); 6" Aggregate Base (1992); 8" Aggregate Subbase (1992)	96	Excellent
Exit Taxiway A1	4" AC (2001); 8" Aggregate Base (2001); 12" Aggregate Subbase (2001)	100	Excellent
Exit Taxiway A2 (<i>tapered section abutting runway</i>)	0-4" AC Taper (1992); 1" AC (1950) 7.5" Aggregate Base (1950); 6" Aggregate Subbase (1950)	82	Very Good
Exit Taxiway A2 (<i>wider section abutting parallel taxiway</i>)	4" AC (2001); 8" Aggregate Base (2001); 12" Aggregate Subbase (2001)	100	Excellent
Exit Taxiway A3 (<i>outer section abutting runway</i>)	0-4" AC Taper (1992); Slurry Seal (1952); 2" AC (1943); 6" Aggregate Base (1943); 8" Aggregate Subbase (1943)	98	Excellent
Exit Taxiway A3 (<i>inner section abutting parallel taxiway</i>)	4" AC (2001); 8" Aggregate Base (2001); 12" Aggregate Subbase (2001)	100	Excellent
Exit Taxiway A4	4" AC (1992); 6" Aggregate Base (1992); 8" Aggregate Subbase (1992)	96	Excellent
Taxiway A Pull-Outs (<i>west end</i>)	4" AC (1992); 6" Aggregate Base (1992); 8" Aggregate Subbase (1992)	92/95	Excellent
Taxiway B and C (<i>Terminal Apron Access Taxiways</i>)	4" AC (2001); 8" Aggregate Base (2001); 12" Aggregate Subbase (2001)	100	Excellent
Taxiway D (<i>infield taxiway to Rwy 35 end</i>)	2" AC (1943); 6" Aggregate Base (1943); 8" Aggregate Subbase (1943); Slurry Seal (1952); Crack Seal (1987)	0	Failed
West T-Hangar Access Taxiway	2" AC (1975); 12" Crushed Aggregate Base (1975)	51	Fair
West T-Hangar Taxilanes	2" AC and Unknown AC (varies); 6-12" (varies) Crushed Aggregate Base (1975-2000)	82-100	Very Good to Excellent
Terminal Apron (<i>center section</i>)	6" PCC (1943); 6" Aggregate Subbase (1943)	82	Very Good
Terminal Apron (<i>western section</i>)	2" AC (outer section only) (1995); other areas 1-2" AC (varies) (1950); 6" Aggregate Base (1950)	0-96	Failed to Excellent
Terminal Apron (<i>eastern section</i>)	1" AC (1950); 6" Aggregate Base (1950); Crack Seal (1987)	2	Failed
East Tiedown Apron	1.25" AC (east section) (1977); 2" AC (west section) (1996); 6-7" Aggregate Base (1977&1996)	0-100	Failed/Excellent
North T-hangar Taxilanes (<i>northwest corner of terminal area</i>)	2" AC (1985); 6" Aggregate Base (1985)	94-97	Excellent

1. The Pavement Condition Index (PCI) scale ranges from 0 to 100, with seven general condition categories ranging from "failed" to "excellent." For additional details, see *Oregon Aviation System Plan Pavement Evaluation/Maintenance Management Program for McMinnville Municipal Airport*.

The following excerpt from 2001 pavement study summarizes the findings:

“The primary distresses observed during the inspection of the asphalt concrete pavements were alligator cracking, block cracking, depressions, longitudinal and transverse cracking, patching, rutting, and weathering and raveling with isolated occurrences of oil spillage. The primary distresses observed during the inspection of the portland cement concrete pavements were corner spalling, faulting, joint spalling and small patches with isolated occurrences of joint seal damage, large patches, linear cracking and shrinkage cracks.”

The condition of the airfield pavements observed during site visits performed as part of the Airport Layout Plan Update (Fall/Winter 2002-03) were generally consistent with the most recent formal pavement evaluation conducted in August 2001.

LANDSIDE FACILITIES

Hangars and Airport Buildings

In early 2003 MMV had twenty-two aviation related buildings including the fixed base operator (FBO) building/terminal; two large Quonset style hangars, one large conventional hangar, nine T-hangars (81 spaces), two one-sided multiple unit hangars (5 spaces), four small conventional hangars, a small building located in the glider staging area, and buildings that house the glide slope and localizer for the Runway 22 instrument landing system (ILS). In 2004, two additional T-hangars, two medium conventional hangars were constructed or planned for construction in the west hangar area. Construction of one large conventional hangar was also started near the east end of the terminal apron in 2004.



When the last master plan was completed in 1989, the aviation-related buildings consisted of three T-hangars, four small conventional hangars, the FBO/terminal, two Quonset hangars and the localizer and glide slope buildings. All but one of the buildings currently located in the west hangar area were constructed after 1989, which has increased the area's storage capacity by 63 aircraft positions.

The FBO building houses office space, a pilot waiting area, and restrooms but is considered too small to effectively serve as a terminal building. The FBO building and Quonset style hangar located at the west end of the terminal apron date back to the 1940s. The front section of the west Quonset hangar includes two floors of finished interior space. The other hangars in the immediate terminal area were constructed in the 1950s or 1960s. The west T-hangar area was initially constructed in the 1970s with one 12-unit T-hangar and has been gradually expanded to its current capacity.

The airport also accommodates two buildings that do not have aircraft access. The Federal Aviation Administration's McMinnville Flight Service Station (FSS) building is located north of the terminal apron on the west side of Cirrus Avenue. The FSS provides remote flight-related information and pilot advisory services throughout Oregon and does not require airside access at MMV. A commercial building is located on the east side of Cirrus Avenue at the existing airport entrance. The building has accommodated a variety of commercial uses including once being an airport restaurant. Existing airport buildings are summarized in **Table 2-8**.





**TABLE 2-8
AIRPORT BUILDINGS**

Building	Existing Use
T-Hangar "new" (west hangar area)	Aircraft Storage
Conventional Hangar "new" (east terminal area)	Aircraft Storage
Conventional Hangar "new" (2 bldgs) (west hangar area)	Aircraft Storage
T-Hangar "Delta" (10-units) (west hangar area)	Aircraft Storage
T-Hangar "Echo" (10-units) (west hangar area)	Aircraft Storage
T-Hangar "Foxtrot" (10-units) (west hangar area)	Aircraft Storage
T-Hangar "Golf" (9-units) (west hangar area)	Aircraft Storage
T-Hangar/Conventional "Hotel" (9-units) (west hangar area)	Aircraft Storage
T-Hangar/Conventional "India" (9-units) (west hangar area)	Aircraft Storage
T-Hangar "Juliet" (10-units) (west hangar area)	Aircraft Storage
One-Sided Hangar "X-ray" (3-unit) (west hangar area)	Aircraft Storage
One-Sided Hangar "X-ray" (2-unit) (west hangar area)	Aircraft Storage
T-Hangar "Charlie" (6-units) (west end of Terminal Area)	Aircraft Storage
T-Hangar "Alpha" (8-units) (NW corner of Terminal Area)	Aircraft Storage
Conventional Hangars "Bravo" (4 building cluster)	Aircraft Storage
Conventional Hangar (Quonset west end of Terminal Apron)	Glider Operations
Terminal Building	FBO, Restrooms, Office, Pilot/Passenger Waiting Area
Conventional Hangar (Quonset east end of Terminal Apron)	Aircraft Maintenance
Conventional Hangar (NE corner of Terminal Area)	Commercial Use; Aircraft Storage
Operations Building (Glider Staging Area)	Operations
Glide Slope Building	Navigational Aid
Localizer Building	Navigational Aid
FAA Flight Service Station (FSS)	Government Operations; Office
Commercial Building	Commercial/Retail/Office; former Restaurant, etc.

Airport Lighting

MMV accommodates day and night operations in both visual and instrument flight rules (VFR/IFR) conditions. The airport beacon, lighted wind socks and visual guidance indicators (VGI) on Runway 4/22 operate on dusk-dawn automatic switches. The airport beacon is mounted on a tower near the northeast corner of the terminal area. The segmented circle and



lighted wind cone, previously located directly in front of the terminal apron, were relocated to the infield area as part of the Taxiway A reconstruction project in 2000. All airfield lighting observed during recent site visits appeared to be in good condition and operational.

The primary runway (4/22) has extensive lighting that reflects its function as a precision instrument runway. Runway 4/22 has high intensity runway lighting (HIRL) with precision approach path indicators (PAPI) on both ends. PAPIs are the current standard visual guidance indicator system for general aviation runways. Runway 4/22 is equipped with lighted distance remaining signs and extensive lighted directional/informational signage.

Runway 22 is equipped with a medium intensity approach lighting system, with runway alignment indicator lights (MALSR). The MALSR is the standard approach lighting system for general aviation runways with precision instrument approaches. The lighting system consists of green threshold lights at the runway end with several rows of medium intensity steady burning white lights followed by several sequenced flashing white lights along the extended runway centerline. The MALSR for Runway 22 extends approximately 2,500 feet beyond the runway end.

Runway 4 is equipped with runway end identifier lights (REIL), which are two sequenced high intensity strobe lights that mark the end of the runway. Runway 17/35 is not lighted. The taxiways on the airport are not lighted, although the main taxiways are equipped with reflective edge markers. Overhead lighting is available in the terminal area, fueling area, and adjacent to most aircraft hangars. **Table 2-9** summarizes existing airport lighting at MMV.

**TABLE 2-9
AIRPORT LIGHTING**

Component	Type	Condition
Runway 4/22 Edge Lighting	High Intensity Runway Edge Lighting (HIRL); Threshold Lights	Good
Taxiway Lighting	No Edge Lighting; Edge Reflectors	Good/Excellent
Lighted Airfield Signage	Mandatory, Location, Directional, Destination and Distance Remaining Signs.	Good/Excellent
Runway Approach Lighting	Medium Intensity Approach Lighting System (MALS) with Runway Alignment Indicators (RAIL) (Rwy 22)	Good
Visual Guidance Indicators	PAPI (Rwy 4 & 22)	Good
Other Runway Lighting	REIL (Rwy 4)	Good
Airport Lighting	Airport Rotating Beacon; Lighted Wind Cone	Good



AIRSPACE AND NAVIGATIONAL AIDS

The airport has three published instrument approaches, including a precision instrument approach. Two of the approaches also have global positioning system (GPS) overlay procedures, which allow aircraft to execute the same procedure with IFR-certified GPS navigational equipment. Navigation aids located on the airport include the localizer and glide slope for the instrument landing system (ILS) and the middle marker.

MMV has an automated surface observation system (ASOS) located in the infield area of the airport. The ASOS provides 24-hour weather data, which is required to accommodate instrument approaches by commercial operators under FAR Part 135. The Newberg (UGB) VOR/DME, which is located approximately 12.1 miles northeast of the airport, supports all instrument procedures at MMV. A description of existing instrument approaches is provided below. **Table 2-10** summarizes existing navigational aids and related items.

**TABLE 2-10
NAVIGATIONAL AIDS AND RELATED ITEMS**

Type	Facilities
Electronic Navigational Aids	Rwy 22 - Glide Slope and Localizer (IMMV) 110.9 MHz Non-directional Beacon (Minne) 383 LHz (serves as Middle Maker (MM) 0.4 miles from runway end) Outer Marker (LOM) 5.1 miles from runway end Newberg (UGB) VOR/DME (11.8 nm NE) 117.4 MHz Portland (PDX) VOR/DME (32 nm NE) 111.8 MHz (Low Altitude) Battle Ground (BTG) VORTAC (40 nm NE) 116.6 MHz
Instrument Approaches	ILS Rwy 22; NDB or GPS Rwy 22; VOR/DME or GPS-B
Weather Observation	ASOS on Field (135.67 MHz)
Communication	Unicom/Common Traffic Advisory Frequency (CTAF)(123.0 MHz)

Instrument Landing System (ILS) – Runway 22

The Category I ILS has a decision height (DH) of 407 feet mean sea level (MSL) (250 feet above ground level - AGL) with a ½-mile visibility requirement when the glide slope and approach lighting system are fully functional. If the approach light system (MALSR) located beyond Runway 22 is out of service, the approach visibility minima is increased to ¾ mile for the ILS approach. The final approach course for the airport is 218 degrees; the missed approach procedure routes aircraft outbound on the localizer (038 degrees) to a holding pattern at the outer marker, approximately 5.1 miles northeast of the airport at an altitude of 2,400 feet.



A localizer-only approach is also authorized (without the glide slope) that has a minimum descent altitude (MDA) of 720 feet MSL (563 feet AGL) with a ½ to 1¼ mile visibility requirement. As with the ILS, the approach visibility minima are increased up to 1 ¾ miles if the approach lighting system is out of service.

There is no published back-course localizer or ILS approach for Runway 4.

VOR/DME or GPS-B¹⁴

A VOR/DME approach is authorized as a “circle-to-land” procedure. Circle-to-land procedures allow pilots to proceed visually for landing on any runway once visual contact with the “airport environment” is made and maintained during the instrument approach. The VOR/DME directs aircraft inbound from the southwest on a final approach course of 014 degrees, which approaches the airport between Runway 4 and 35. The MDA for the approach is 900 feet MSL (737 feet AGL) with minimum visibility requirements ranging from 1 mile to 2 ½ miles, depending on the aircraft approach category. The VOR/DME approach also has a GPS overlay, which allows aircraft to execute the same procedure if their aircraft are equipped with IFR-certified navigational equipment.

Non-Directional Beacon (NDB)

An NDB approach is authorized for both a straight-in procedure on Runway 22 and a “circle-to-land” procedure. The approach uses the same inbound course and missed approach procedure as the ILS. The MDA for the straight-in approach is 1,240 feet MSL (1,083 feet AGL) with minimum visibility requirements ranging from ¾ mile to 3 miles, depending on the aircraft approach category and the availability of the approach light system. The circle-to-land approach has the same MDA, with minimum visibility requirements ranging from 1¼ miles to 3 miles.

The area surrounding the airport consists mostly of open land in agricultural use with scattered areas of urban development along the Highway 99W and 18 corridors running through the area. The 1989 airspace plan indicated “there are no known penetrations to the conical, horizontal, and transitional surfaces;” however, a 1992 survey¹⁵ later identified several obstructions that had

¹⁴ Very High Frequency Omnidirectional Range (VOR) with Distance Measuring Equipment (DME); Global Positioning System (GPS)

¹⁵ Airport Obstruction Chart, National Ocean Service (NOS), U.S. Department of Commerce (Field Survey 1992; Published February 1993)



apparently not been previously surveyed or otherwise identified. It was indicated that some penetrations existed within the approach surfaces (primarily trees and vehicles on roads). Trees located along the drainage north of the Runway 4 end have been previously identified with elevations ranging from 226 to 269 feet MSL. Trees located beyond the Runway 22 approach light system have been identified with elevations ranging from 231 to 257 feet MSL. However, in recent years, a number of trees previously noted as obstructions near the runway ends have been removed. The status of obstructions in the vicinity of MMV will be reviewed during the update of the airspace plan.

Table 2-11 summarizes notable obstructions, special airspace designations and IFR routes in the vicinity of MMV, as identified on the Seattle Sectional Aeronautical Chart. Local airport operations and flight activity is not affected by the noted airspace or obstructions located in the vicinity of the airport.

**TABLE 2-11
AIRSPACE/INSTRUMENT ROUTES/ LOCAL OBSTRUCTIONS**

Airspace Item	Description	Location
Low Altitude Enroute Airway	Victor 287 – 3,600 feet mean sea level minimum enroute altitude (MEA).	2.5 nautical miles east. Connects Newberg and North Bend VORTACs on a 183-003 degree course.
Low Altitude Enroute Airway	Victor 182 – 6,000 feet mean sea level minimum enroute altitude (MEA)	1.5 nautical miles north & west. Connects Newberg and Newport VORTAC on a 024-204 degree course.
Low Altitude Enroute Airway	Victor 495 – 4,000/3,400 feet mean sea level minimum enroute altitude (MEA)	4 nautical miles east. Connects Newberg and Corvallis VORTAC on a 024-354 degree course.
Class E Airspace	Associated with low altitude federal airways (700 feet above ground level)	Directly over airport, extends north over entire Portland-Vancouver metro area.
Class E Airspace (SFC)	Associated with McNary Field (Salem) at surface.	Northern section begins 4 nautical miles south of MMV
Tower	Single 210-foot (AGL) Tower	2 miles north
Overhead Power Line	Major Transmission Lines	1.5 miles southwest

Because the airport's runways intersect, a runway visibility zone (RVZ) is established, which should be free of obstructions to provide adequate line of sight visibility between the two runways. The 1989 airport layout plan does not depict a RVZ. However, based on the runway configuration, a triangular-shaped RVZ will extend from the ends of Runway 17 and 22 to the midpoints of each runway. No incompatible development exists within the RVZ.

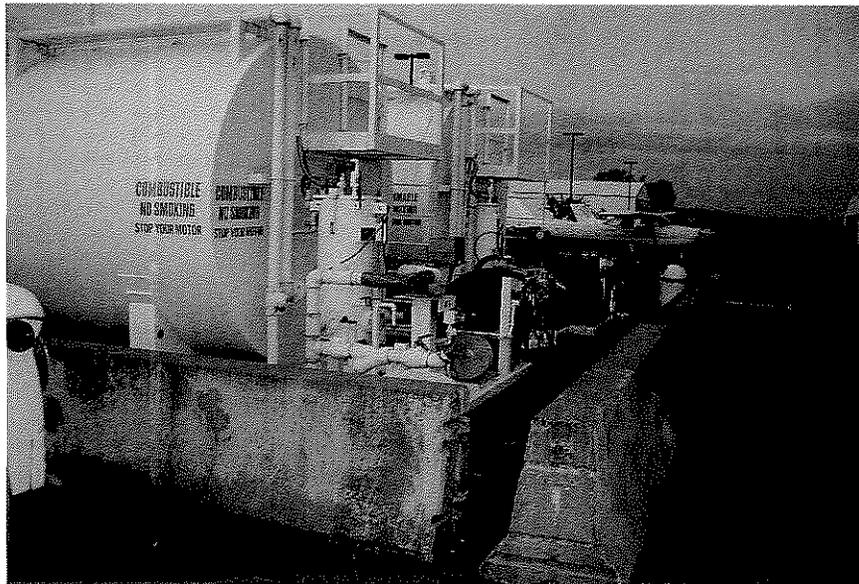
Local airport traffic pattern altitude is 1,100 feet above mean sea level (MSL) with standard left traffic. MMV is located in an area of Class E airspace with floor 700 feet above ground level,

although there are no mandatory radio communication requirements during visual flight rules (VFR) conditions.

AIRPORT SUPPORT FACILITIES/SERVICES

Aircraft Fuel

MMV has both aviation gasoline (AVGAS) and jet fuel available for sale. The airport has two 12,000-gallon aboveground tanks--one each for jet fuel (Jet A) and 100LL aviation gasoline (AVGAS). The FBO also operates a 1,500-gallon truck for Jet Fuel and a 1,250-gallon truck for AVGAS. The tanks and fueling facilities are located near the northwest corner of the terminal apron. The existing storage tanks were installed after the last master plan was completed to replace the fuel farm (underground tanks) located near the northeast corner of the terminal area, which were subsequently removed.





Surface Access and Vehicle Parking

Vehicle access to the airport is provided via Cirrus Avenue, which connects directly to Highway 18. Cirrus Avenue serves the terminal area and all landside facilities on the north side of Runway 4/22. Designated vehicle parking areas are located adjacent to the FBO/terminal building, individual hangars and the non-aviation buildings on the airport. Cruickshank Road, located beyond the end of Runway 22, also connects to Highway 18 and provides access to the glider staging area on the east side of Runway 17/35. No other public access exists elsewhere on the airport.

The Oregon Department of Transportation (ODOT) has been planning a Highway 18 corridor improvement project that may require significant changes in airport access. Preliminary evaluations indicated that the existing connections at both Cirrus Avenue and Cruickshank Road may need to be eliminated or reconfigured. However, the project as yet, has no reliable timeframe for final design or construction. The section of Cruickshank Road that connects at Highway 18 near the Runway 22 end is partially located within the extended runway safety area for Runway 4/22. Plans for realignment of the roadway outside the RSA were developed in 2002, in the event that closure does not occur.

Fencing

Fencing at the airport consists of newer sections of chain link in the terminal area and adjacent developed areas with electronic keypad vehicle gates located at key access points in the apron and hangar area. Beyond the terminal area, the majority of the airport perimeter is fenced with three or four strand wire fencing.

Utilities

The developed areas of the airport have water, sanitary sewer, electrical and telephone service. Sewer service is provided by the City of McMinnville; water and electrical service is provided by McMinnville Water and Light. Northwest Natural Gas maintains natural gas lines along Highway 18.

It was noted at the initial joint planning conference for this project that the local Fire Marshall had previously determined that only limited new hangar construction would be allowed at the airport due to water supply limitations (service pressure) for fire protection. McMinnville Water



and Light added a new 24-inch loop line to the system west of the airport (between the hospital and Evergreen) in 2004, which has increased flow pressure at the airport sufficiently to allow new construction.

The airport storm drainage system includes an underground collection system located along airfield facilities that is routed to storm drain outfall into the adjacent drainage arm of the Yamhill River.

Public telephone and restrooms are located in the airport FBO building.

LAND USE PLANNING AND ZONING

With the exception of about 7-10 acres of Runway 22's runway protection zone, McMinnville Municipal Airport is located entirely within the City of McMinnville's city limits and Urban Growth Boundary (UGB), in the General Industrial (M-2) Zone. The extreme northeast corner of airport property, in the vicinity of the intersection of Oregon State Highway 18 with Cruickshank Road, is excluded from the McMinnville City limits and UGB, and as such is subject to Yamhill County's zoning jurisdiction. The City's M-2 Zone, to which the majority of the airfield, and all buildable portions of the site are subject, allows airports as an outright permitted use. This zoning designation encompasses all of the airport property, which is currently developed, as well as those sparse locations on site where additional infill appears to be plausible. The M-2 Zone also includes the Evergreen International Aviation complex, and an Oregon National Guard Armory, northwest of the airport proper.

Lands abutting and nearest the airport on its westerly exposure bear City of McMinnville zoning districts of: Exclusive Farm Use – 40 acre minimum lot size (EF-40); Agricultural Holding (A-H); and, farther to the west, property is zoned Limited Light Industrial (M-L). Land uses here consist of agriculture and Galen McBee Airport Park, a natural area for the public's use, which is enhanced by numerous walking trails, benches, and bridges. This park is located on airport property. The Willamette Valley Medical Center is also located farther to the west on Highway 18. South and east of the airfield, zoning is predominantly Yamhill County Exclusive Farm Use – 40 acre minimum (EF-80), with a Public Works / Safety District (PWS) located immediately across Cruickshank Road from the end of Runway 22.

Highway 18 abuts the airport on the north. Across the highway, a manufactured home subdivision is located to the northeast, in the City's Multi-Family Residential (R-4) Zone, and predominantly agricultural uses under County (EF – 80) zoning. Evergreen Aviation Museum is also located in this vicinity, in the City's General Commercial (C-3) Zone.



Airport overlay zoning exists for this facility, but updated zoning is recommended to meet current airport overlay zoning requirements, based on revised airspace surfaces to be depicted in the 2003 Airport Layout Plan / Airspace Plan. City and County planners should work in accord to ensure adoption of consistent overlay mapping and ordinance language, consistent with applicable state statutes and federal airspace regulations.

Chapter Seven (Environmental Checklist & Land Use) will provide a more detailed discussion of surrounding land uses and zoning. **Table 2-12** summarizes the existing land uses and zoning in the vicinity of the airport.

**TABLE 2-12
AIRPORT VICINITY LAND USE AND ZONING**

Land Use	Zoning
<i>Airport Site:</i>	City of McMinnville General Industrial (M-2)
<i>North:</i> OR Highway 18 Stone Village Mfd. Home/RV Park Pacific RV Mobile Home Repair Agriculture Evergreen Aviation Museum	City Multi-Family Residential (R-4) City General Commercial (C-3) Yamhill County Exclusive Farm Use – 80 acre min. (EF-80) C-3
<i>South:</i> Agriculture Yamhill River Riparian Area	Yamhill County EF-80
<i>East:</i> Cruickshank Road Agriculture Single-Family Residences	EF-80, PWS EF-80
<i>West:</i> Evergreen International Aviation Oregon National Guard Armory Yamhill River Agriculture	M-2 M-2 EF-80

AIRPORT SERVICE AREA

The airport service area refers to the area surrounding an airport that is directly affected by the activities at that airport. Normally a 30 or 60-minute surface travel time is used to approximate the boundaries of a service area. **Table 2-13** lists the public airports within a 30 nautical mile radius of MMV. Despite their relatively close proximity to MMV, the surface travel times to these airports varies greatly depending on the surface route available. For example, Mulino Airport, which is located 23 nautical (air) miles from MMV, is approximately 40 road miles from



McMinnville, with a typical driving time of more than one hour. The nearest public use airports are located within 10 miles of MMV in Newberg.

MMV is categorized as a Business/High Activity General Aviation (GA) airport in the Oregon Aviation System, which means the airport accommodates a substantial level of business aviation activity in addition to a broad range of general aviation activity. The combination of airfield facilities, navigational aids, and the services available at MMV are unique in defining the airport's service area.

In addition to serving a growing business aviation market, it is important to note that MMV has successfully developed and maintained a thriving general aviation community. The number of based aircraft has nearly tripled since 1988, which appears to correspond to the substantial hangar construction activity that has occurred at the airport in recent years. The glider flights and glider training activities available at MMV are very popular and contribute significantly to the airport's reputation as a pilot-friendly facility. The airport's close proximity to the Evergreen Aviation Museum and the Captain Michael King Smith Education Institute also offers a unique opportunity for general aviation users.

MMV has historically accommodated business aviation activity, limited transport category aircraft (charters), and recreational aircraft activity. Recent activity counts indicate that MMV accommodates business jet traffic on a nearly daily basis, which includes both itinerant and locally based business jet operations. Evergreen International currently bases one Gulfstream IV and several other fixed wing and rotor aircraft at MMV. According to the FBO, the airport regularly accommodates itinerant Falcon 10, Falcon 900, Gulfstream V, and Challenger aircraft that are associated with local area businesses (wineries, hospital, Evergreen Aviation Museum, steel mill, and entertainers performing at Spirit Mountain Casino). A review of jet fuel deliveries at MMV indicates that the volume has doubled over the last five years and is now approaching 100,000 gallons annually.



**TABLE 2-13
PUBLIC USE AIRPORTS IN VICINITY
(WITHIN 30 NAUTICAL MILES)**

Airport	Location	Runway Dimension (feet)	Surface	Lighted Runway?	Fuel Available?
Chehalem Airpark (Newberg)	8 NM north-northeast	2,285 x 40	Asphalt	Yes	Yes
Sportsman Airpark (Newberg)	9 NM northeast	2,745 x 50	Asphalt	Yes	Yes
Starks Twin Oaks (Hillsboro)	16 NM northeast	2,465 x 48	Asphalt	Yes	Yes
Portland Hillsboro	22 NM north-northeast	6,600 x 150 (primary rwy)	Asphalt	Yes	Yes
Skyport (Cornelius)	23 NM north	2,000 x 60	Turf-Gravel	No	Yes
Aurora State	16 NM east-northeast	5,004 x 100	Asphalt	Yes	Yes
Portland Mulino	23 NM east	3,600 x 100	Asphalt	Yes	No
Lenhardt Airpark (Hubbard)	17 NM east	3,200 x 40	Asphalt	No	Yes
Salem McNary Field	18 NM southeast	5,811 x 150 (primary rwy)	Asphalt	Yes	Yes
Independence State	19 NM south-southwest	3,000 x 60	Asphalt	Yes	Yes