



WATSONVILLE MUNICIPAL AIRPORT MASTER PLAN

2001-2020

The preparation of this document was financed in part through an Airport Improvement Program grant from the Federal Aviation Administration (FAA) as provided under Section 505 of the Airport and Airway Improvement Act of 1982. The contents of this report reflect the views of the City of Watsonville, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policy of the FAA. 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 development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with Public Laws 91-190, 91-258, 94-353, and/or 90-495.

Public Review Draft

**Prepared for: Watsonville Municipal Airport
August 2002**

Prepared by:
Watsonville Municipal Airport
Graphics by City of Watsonville GIS

TABLE OF CONTENTS

1. SUMMARY 1
 MASTER PLAN OBJECTIVES 1
 MASTER PLAN APPROACH 2
 SUMMARY 3
 Planned Improvements 3

2. INVENTORY 6
 LOCATION AND SETTING 6
 CLIMATE 9
 GEOGRAPHY 9
 SOILS AND GEOLOGY 9
 GROUND ACCESS 9
 AIRPORT HISTORY 10
 AVIATION FACILITIES 10
 Airfield Area 11
 Runways 11
 Runway Approaches and Obstructions 13
 Terminal Area 13
 Airspace/Navigational Facilities 15

3. AVIATION FORECASTS 17
 AIRPORT SERVICE AREA 17
 SOCIOECONOMIC DATA 17
 AVIATION TRENDS 18
 Aircraft Activity 20
 Based Aircraft 21
 AVIATION FORECASTS 23

4. AVIATION REQUIREMENTS..... 25
 AIRCRAFT/AIRPORT CLASSIFICATIONS 25
 Aircraft Approach Category 25
 Airplane Design Groups 26
 Airport Types 26
 AIRPORT SERVICE ROLE 27
 AIRFIELD CAPACITY 27
 Runway Use 27
 Airspace and Air Traffic Control 28
 Ceiling and Visibility Conditions 28
 Aircraft Mix 29
 Hourly Runway Capacity 29
 Annual Service Volume 30
 FACILITY REQUIREMENTS..... 31
 Airfield Analysis..... 31

Airfield Design	31
Runways	34
Taxiways	36
Visual Aids/Lighting	37
Terminal Area	37
Airplane Parking and Tiedown Aprons	38
Buildings and Hangars	38
Roads and Auto Parking	39
Support Facilities	39
Airspace/Navigation Aids (Nav aids).....	41
5. AIRPORT PLANS	44
LAND USE PLAN.....	45
Airfield.....	45
General Aviation Commercial	47
General Aviation Non-Commercial	47
Airport Support.....	48
Aviation-Compatible	49
Habitat Protection, Open Space	50
Summary of On-Airport Land Use.....	51
AIRSPACE PROTECTION PLAN	53
TERMINAL AREA PLAN	55
ACCESS PLAN.....	59
AIRPORT LAYOUT PLAN	61
OFF-AIRPORT LAND USE PLANNING	61
Aircraft Noise	62
Airport Operations	62
Preparation of Cnel Noise Exposure Maps	67
Noise Conclusions	72
Safety	73
Land Use Control Strategies	73
6. IMPLEMENTATION PLANS	76
CAPITAL IMPROVEMENT PROGRAM.....	76
Stage Development.....	76
Cost Estimates	79
FINANCIAL PROGRAM	80
Local Benefits Assessment	80
Financing Considerations	82
Cash Flow Analysis.....	84

Appendix A: Airport Layout Drawing
Appendix B: Airport Obstruction Map

LIST OF TABLES

TABLE 1: PLANNED IMPROVEMENT PROJECTS..... 4
TABLE 2: CAPITAL IMPROVEMENT PROGRAM COST SUMMARY 5
TABLE 3: RUNWAY CHARACTERISTICS 11
TABLE 4: PAVEMENT STRENGTH 11
TABLE 5: RUNWAY APPROACH SLOPES 13
TABLE 6: BUILDING INVENTORY 15
TABLE 7: HISTORICAL AND PROJECTED POPULATION TRENDS 18
TABLE 8: NATIONAL ACTIVE GENERAL AVIATION AIRCRAFT 20
TABLE 9: HISTORICAL AIRCRAFT OPERATIONS 21
TABLE 10: AIRCRAFT OWNERS BY LOCATION 22
TABLE 11: FORECAST OF BASED AIRCRAFT 22
TABLE 12: AIRCRAFT & OPERATIONS FORECAST 24
TABLE 13: AIRCRAFT APPROACH CATEGORIES 26
TABLE 14: AIRPLANE DESIGN GROUPS 26
TABLE 15: EXISTING RUNWAY USE..... 28
TABLE 16: AIRCRAFT MIX 29
TABLE 17: HOURLY RUNWAY CAPACITY 30
TABLE 18: ANNUAL SERVICE VOLUME 30
TABLE 24: RUNWAY SEPARATION STANDARDS FOR AIRCRAFT APPROACH..... 32
TABLE 25: PRECISION INSTRUMENT RUNWAY DESIGN STANDARDS FOR AIRCRAFT APPROACH 33
TABLE 26: NON-PRECISION INSTRUMENT AND VISUAL RUNWAY DESIGN STANDARDS FOR AIRCRAFT
..... 33
TABLE 27: RUNWAY SETBACK REQUIREMENTS..... 34
TABLE 19: RUNWAY LENGTH AND STRENGTH REQUIREMENTS 35
TABLE 20: RANGE IN ACCEPTABLE EXIT LOCATIONS 37
TABLE 21: AVAILABLE AIRCRAFT PARKING FACILITIES 38
TABLE 22: GENERAL AVIATION TERMINAL AREA OPERATIONAL FACTORS 39
TABLE 23: GENERAL AVIATION FACILITY REQUIREMENTS SUMMARY 40
TABLE 28: APPROACH SURFACE DIMENSIONS 41
TABLE 29: RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS 42
TABLE 30: TYPICAL INDUSTRIAL/COMMERCIAL DEVELOPMENT POTENTIAL..... 50
TABLE 31: LAND USE SUMMARY 51
TABLE 32: ASSUMED AIRCRAFT OPERATIONS 63
TABLE 33: RUNWAY USE ASSUMPTIONS 64
TABLE 34: TIME OF DAY ASSUMPTIONS – TAKEOFFS AND LANDINGS 65
TABLE 35: ASSUMED FLIGHT TRACK USE..... 66
TABLE 36: LAND USE COMPATIBILITY GUIDELINES 71
TABLE 37: PHASING PROGRAM..... 77
TABLE 38: CAPITAL IMPROVEMENT PROGRAM COST SUMMARY 80
TABLE 39: MULTIPLIERS FOR FUTURE CONSTRUCTION COSTS 80
TABLE 40: POTENTIAL GENERAL AVIATION AIRCRAFT EXPENDITURES 82
TABLE 41: MAJOR REVENUE ASSUMPTIONS 86
TABLE 42: MAJOR EXPENSE ASSUMPTIONS 87
TABLE 43: CASH FLOW ANALYSIS 88

LIST OF EXHIBITS

Exhibit 1: Location Map8
Exhibit 2: Airport Photomap12
Exhibit 3: Terminal Area Photomap14
Exhibit 4: Area Airspace43
Exhibit 5: Land Use Plan52
Exhibit 6: Airspace Protection Plan54
Exhibit 7: Terminal Building Site Concept57
Exhibit 8: Terminal Building Plan Concept58
Exhibit 9: Access Plan.....60
Exhibit 10: Current CNEL Contours68
Exhibit 11: 2010 CNEL Contours69
Exhibit 12: 2020 CNEL Contours70
Exhibit 13: Airport Environs Plan Map.....74
Exhibit 14: Stage Development Plan78