

General Aviation Facilities. T-hangar and executive hangar infill development is programmed for the existing east side general aviation development area, with a future general aviation expansion development area, consisting of approximately 86 acres, being identified within the southeast quadrant of the airport, on the south side of Runway 08/26 and east of Runway 17/35. Additional access road and vehicle parking are also recommended in conjunction with this proposed development.

Expansion of the existing corporate aviation development area is also recommended within the northwest quadrant of the airport. Approximately 40 acres has been designated for these uses.

Commercial Passenger Terminal Facilities. An expansion area, consisting of approximately 20 acres has been designated adjacent to the existing passenger terminal building. This area is provided with excellent vehicular access from Airdustrial Way via Terminal Street S.W., and can accommodate the expansion of both airside and landside facilities associated with terminal area complex.

Aviation-Related or Non-Aviation Industrial/Commercial Facilities. Approximately 112 acres located within the southeast quadrant of the airport is designated for aviation-related/non-aviation industrial or commercial development. Vehicular access would be provided from 88th Avenue S.E. and Old Highway 99 S.E. In addition, a future aviation-related industrial area, consisting of approximately 70 acres, is located within the southwest quadrant of the airport. Vehicular access to the area is provided from Armstrong Road S.W., which intersects 83rd Avenue S.W. to the north and 88th Avenue S.E. to the south. In addition, an approximate 7-acre tract of future non-aviation industrial development is located southwest of the intersection of 83rd Avenue S.W. and Armstrong Road S.W., with an additional 17-acre tract located southeast of the approach end of Runway 35 and south of 88th Avenue S.E.

Support Development:

Multi-Use City Fire Station/ARFF Facility. The Port has identified a potential location for a new multi-use fire station/ARFF facility located within the southwest quadrant of the airport, at the northeast corner of Armstrong Road S.W. and 88th Avenue S.E. From this location, the City of Tumwater could easily expand future fire protection services associated with future property annexations, as well as provide ARFF services to the airport. Prior to the development of this new facility, airport fire protection services will be provided from a newly constructed fire station located on Capital Way. Therefore, a new ARFF emergency access road, linking Old Highway 99 S.E. with the approach end of Runway 17, is required to meet the specified ARFF response times. In addition, the Port has identified the location of a new controlled access emergency response road linking 88th Avenue S.E. with 93rd Avenue S.E. through the Runway 35 RPZ.

Airport Office/Maintenance Facility. The Port has identified a new development area for the Airport Administration Office/Maintenance Facility located southeast of the intersection of

Terminal Street S.W. and 78th Avenue S.W. The site is provided with excellent landside/airside access, and would not conflict with the long-term expansion requirements of the passenger terminal area.

Wash Down Facility. The Port has identified a future general aviation wash down facility located within the east side general aviation development area, at the east end of T-hangar “C”. An alternate location has also been identified on the east side of T-hangar “G”.

Property Acquisition:

Runway 17 RPZ. Approximately one acre of RPZ easement acquisition is recommended within the future Runway 17 RPZ.

Runway 35 RPZ. Approximately twelve (11.7) acres of property acquisition is recommended within the existing and future Runway 35 RPZ.

Roads. Closure of the east/west portion of 88th within the runway safety zones for the shifted 17/35, as well as portions of Case and Tilley roads will be necessary to shift Runway 17/35 south.

With the shift of the Runway 17/35 to the south 758 feet, the associated object free and safety areas, and runway protection zone, must also shift to the south. These roadways are located within Thurston County and are planned to be annexed into the City of Tumwater as part of the Urban Growth area.

The impacted roadways are Case, Tilley, and the east to west portion of 88th that traverses these protection zones. These roads are important collectors for south Tumwater and also provide vital emergency services linkages, particularly to the Armstrong Road area neighborhood Scheller Park. Three alternative conceptual alignments for Tilley road have been identified, and a replacement connection for Case Road. The three alternatives are illustrated at the end of this chapter as Alternative One, Two and Three, and a Case Road Realignment.

VII. On-Airport Land Use

Land use on the airport is defined by the character, function, and business activity taking place at that location. As the airport has grown over the years, the character of on-airport development has evolved into areas of homogeneous activity and uses. The pattern of development has not taken place solely out of happenstance but via a general yet informal land use strategy managed by the port. To date there have been no formally defined land use districts on the airport or Airdustrial park. The port has undertaken a comprehensive land use planning effort for all port properties and is in the process of updating this effort simultaneously with the Airport Layout

Plan Update. Each study has benefited from policy, development strategy, and technical findings of the others undertaking with findings being utilized in the preparation of each respective document. On-airport land use is shown on the attached drawing, entitled On-Airport Land Use. The on-airport land uses described below are consistent with the port comprehensive land use plan.

The area on the airport along Old Highway 99, known as the general aviation flight line, will continue to be developed to support the private aircraft owner and the FBO functions located there.

The area on the airport west of Runway 17-35 and north of Runway 8-26 was formerly known as Planning Area 2. Under the comprehensive land use plan, the area will continue to be developed to support the corporate aircraft owner and airline passenger terminal functions. The corporate aircraft area is defined as the *Airport-Oriented Corporate District*. The northern portion of the corporate district may be utilized for airport support functions. The passenger terminal area is defined in the land use plan as *the Terminal Center District*.

The area west of Runway 17-35 and south of Runway 8-26, formerly known as Planning Area 3, will continue to be developed to support and aviation-related, commercial aviation businesses, and the corporate aircraft owner. This area is defined as the *Airport-Oriented Industrial District*.

The area east of Runway 17-35 and south of Runway 8-26, formerly known as Planning Area 4, will continue to be held in reserve for future aviation and light industrial development land uses. The area is divided into two distinct land uses. The northern portion is defined as a general aviation reserve area for future general aviation developments. The southern portion of the area is defined as the *Warehouse, Distribution and Light Industrial District*.

The following tables E 1-3 are a spreadsheet representation of all of the projects necessary to implement the Airport Lay-out Plan, and many of the projects described above. As these projects are programmed into specific years for implementation, they will be moved into the annual budget and facility plan contained in Chapter 5.

Table E1
PHASE I (0-5 YEARS) DEVELOPMENT PLAN PROJECT COSTS
Olympia Regional Airport Layout Plan Update

Project Description	Note	Total Costs	Recommended Financing Method		
			Sponsor (a)	Private (b)	Federal (c)
2001 Projects					
**A.1 Acquire Property for Runway 35 RPZ & Approach Protection (Approx. 11.7 Acres)		\$1,200,000.00	\$120,000.00	\$0.00	\$1,080,000.00
**A.2 Acquire RPZ Easement for Runway 17 (Approx. 1 Acre)		\$44,000.00	\$4,400.00	\$0.00	\$39,600.00
**A.3 Relocate Segment of Case Road & Extend Armstrong Road Linking 88th Ave. S.E. with 93rd Ave. S.E.		\$470,000.00	\$47,000.00	\$0.00	\$423,000.00
**A.4 Close Segment of 88th Ave. S.E., Tilley Road, and Case Road, Including Pavement Removal		\$2,120,000.00	\$212,000.00	\$0.00	\$1,908,000.00
**A.5 Relocate Runway 35 Localizer Antenna Array		(FAA Funded)	\$0.00	\$0.00	\$0.00
A.6 Ph. I Install 6 - 20 ft. Sliding Gates with Electronic Access Phase II in 2003 - See A.27		\$32,000.00	\$0.00	\$0.00	\$32,000.00
A.7 Install Water Meter & Hook-ups for East Side Buildings		\$10,000.00	\$10,000.00	\$0.00	\$0.00
A.8 Install Walk-Through Access Gates (Phase I)		\$2,250.00	\$2,250.00	\$0.00	\$0.00
A.9 Install 6 20' Sliding Gates		\$20,000.00	\$20,000.00	\$0.00	\$0.00
A.10 Purchase Truck: Manlift		\$32,000.00	\$32,000.00	\$0.00	\$0.00
A.11 Purchase Towable Runway Sweeper		\$10,465.00	\$10,465.00	\$0.00	\$0.00
A.12 Purchase Truck: Mid-Sized (one add-new hire)		\$28,000.00	\$28,000.00	\$0.00	\$0.00
Sub-Total/2001 Projects		\$3,968,715.00	\$486,115.00	\$0.00	\$3,482,600.00

Notes

- (a) Sponsor Funding - current revenues, cash reserves, general fund, bonds, etc.
- (b) Private Funding - funded from non-government sources or revenue bonds.
- (c) Federal Funding - FAA/AIP and other federal funding programs.
- (d) Project not required based on FAA parallel taxiway criteria evaluation.
- ** Runway Threshold Project

Cost estimates, based upon 2000 data, are intended for preliminary planning purposes and do not reflect a detailed engineering evaluation.

Table E1
PHASE I (0-5 YEARS) DEVELOPMENT PLAN PROJECT COSTS
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2002 Projects					
**A.13 Reconstruct Segement of Runway 17/35 to Meet Runway Line-of-Sight Criteria		\$0.00	\$0.00	\$0.00	\$0.00
**A.14 Construct 758-Foot Runway Extension with HIRLs & REILs Relocation at South End of Runway 17/35		\$1,270,000.00	\$127,000.00	\$0.00	\$1,143,000.00
**A.15 Upgrade Existing Runway 17/35 MIRLs with HIRLs		\$225,000.00	\$22,500.00	\$0.00	\$202,500.00
**A.16 Install MALS to Runway 35		\$335,000.00	\$33,500.00	\$0.00	\$301,500.00
**A.17 Upgrade & Relocate Existing Runway 35 VASIs with PAPIs		\$115,000.00	\$11,500.00	\$0.00	\$103,500.00
**A.18 Repair/Reconstruct Taxilane #2		\$89,350.00	\$8,935.00	\$0.00	\$80,415.00
A.19 Purchase Tractor: Kabota 90HP		\$58,428.00	\$58,428.00	\$0.00	\$0.00
A.20 Repair/Reconstruct Taxilane #1		\$56,960.00	\$5,696.00	\$0.00	\$51,264.00
Sub-Total/2002 Projects		\$2,149,738.00	\$267,559.00	\$0.00	\$1,882,179.00
2003 Projects					
**A.21 Relocate/Extend Segment of Taxiway "F" to Connect New Runway 35 Approach End with Runway 08/26		\$2,580,000.00	\$258,000.00	\$0.00	\$2,322,000.00
**A.22 Remove Segment of Taxiway "F"		\$110,000.00	\$11,000.00	\$0.00	\$99,000.00
**A.23 Extend Taxiway "W" to Serve New Runway 35 Approach Threshold		\$680,000.00	\$68,000.00	\$0.00	\$612,000.00
**A.24 Relocate the Runway 17 Threshold 677' to the South		\$140,000.00	\$14,000.00	\$0.00	\$126,000.00
**A.25 Upgrade/Relocate Portions of the Runway 17 MALSR		(FAA Funded)	\$0.00	\$0.00	\$0.00
**A.26 Relocate Taxiway "B" with MITLs to Connect the Relocated Runway 17 Threshold with Taxiways "E" & "W"		\$860,000.00	\$86,000.00	\$0.00	\$774,000.00
A.27 Install New Electronic Gate Apparatus' Phase II (Phase I - See A.6)		\$150,000.00	\$15,000.00	\$0.00	\$135.00
A.28 Remove Existing Open Hangars		\$50,000.00	\$50,000.00	\$0.00	\$0.00
A.29 Construct Two 7-Unit T-Hangars with Taxiway Access		\$1,905,000.00	\$0.00	\$1,905,000.00	\$0.00
A.30 Extend Taxiway "F" with MITL to					

	Connect Runway 08/26 with Taxiway "C"	\$710,000.00	\$71,000.00	\$0.00	\$639,000.00
A.31	Purchase Mower: Kabota Diesel Front	\$22,663.00	\$22,663.00	\$0.00	\$0.00
A.32	Purchase Car (Airport Office)	\$17,000.00	\$17,000.00	\$0.00	\$0.00
A.33	Construct New Helipad With Two Parking Positions	\$335,000.00	\$33,500.00	\$0.00	\$301,500.00
<hr/> Sub-Total/2003 Projects		\$7,559,663.00	\$646,163.00	\$1,905,000.00	\$4,873,635.00

Notes

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- (b) Private Funding - funded from non-government sources or revenue bonds.
- (c) Federal Funding - FAA/AIP and other federal funding programs.
- (d) Project not required based on FAA parallel taxiway criteria evaluation.
- ** Runway Threshold Project

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Table E1

PHASE I (0-5 YEARS) DEVELOPMENT PLAN PROJECT COSTS*Olympia Regional Airport Layout Plan Update*

Project Description	Not e	Total Costs	Recommended Financing Method		
			Sponsor (a)	Private (b)	Federal (c)
2004 Projects					
**A.33 Relocate the Segmented Circle		\$15,000.00	\$1,500.00	\$0.00	\$13,500.00
**A.34 Remove Abandoned Segments of "B," "C," & "D"		\$455,000.00	\$45,500.00	\$0.00	\$409,500.00
**A.35 Install Runway 17 PAPI		\$110,000.00	\$11,000.00	\$0.00	\$99,000.00
**A.36 Groove and Seal Runway 17/35		\$1,670,000.00	\$167,000.00	\$0.00	\$1,503,000.00
**A.37 Install Runway 17/35 Centerline Lights, Runway 17 RVR & Runway 17 Touchdown Zone Lights		\$1,750,000.00	\$175,000.00	\$0.00	\$1,575,000.00
**A.38 Construct New ARFF Access Road N Linking Old Highway 99 S.E. with the Approach End of Runway 17 & Install Electronic Access Gate		\$365,000.00	\$36,500.00	\$0.00	\$328,500.00
**A.39 Expand Perimeter Fencing		\$441,150.00	\$44,115.00	\$0.00	\$397,035.00
A.40 Construct North Perimeter Road		\$227,825.00	\$22,782.50	\$0.00	\$205,042.50
A.41 Construct New Segment of Taxiway "F" with MITLs Linking Taxiway "C" with Taxiways "B" & "E"		\$480,000.00	\$48,000.00	\$0.00	\$432,000.00
A.42 Taxiway E Rehabilitation, Central GA Apron Reconstruction		\$881,880.00	\$88,188.00	\$0.00	\$793,692.00
A.43 Purchase Tractor/Mower TIGER T3F- 282C		\$97,000.00	\$97,000.00	\$0.00	\$0.00
A.44 Purchase Van (Operations)		\$25,000.00	\$25,000.00	\$0.00	\$0.00
Sub-Total/2004 Projects		\$6,517,855.00	\$761,585.50	\$0.00	\$5,756,269.50
2005 Projects					
A.45 Construct One 10-Unit T-hangar		\$1,330,000.00	\$0.00	\$1,330,000.00	\$0.00
A.46 Purchase ARFF/Maintenance Equip.		\$1,000,000.00	\$100,000.00	\$0.00	\$900,000.00
A.47 Construct General Aviation Wash Rack		\$325,000.00	\$325,000.00	\$0.00	\$0.00
A.48 Remove Abandoned Portion of Runway 08/26 Pavement		\$205,000.00	\$20,500.00	\$0.00	\$184,500.00
A.49 Construct Terminal Building Vehicle Parking (65 Spaces)		\$178,000.00	\$17,800.00	\$0.00	\$160,200.00
A.50 Repair/Reconstruct Taxilane #2		\$89,350.00	\$8,935.00	\$0.00	\$80,415.00
A.51 Install Utilities within Airport- Oriented Industrial District (Phase I)		\$105,000.00	\$105,000.00	\$0.00	\$0.00
A.52 Construct Multi-Use City Fire Station/ ARFF Facility		\$10,000,000.00	\$10,000,000.00	\$0.00	\$0.00

A.53	Construct New Airport Administration Office/Maintenance &n SRE Facility	\$4,000,000.00	\$4,000,000.00	\$0.00	\$0.00
A.54	Construct Terminal Building Refuse Container Facility	\$22,350.00	\$0.00	\$22,350.00	\$0.00
A.55	Construct Terminal Building Restaurant Upgrades	\$67,000.00	\$0.00	\$67,000.00	\$0.00
A.56	Purchase Utility Vehicle (Emer. Ops)	\$35,000.00	\$35,000.00	\$0.00	\$0.00
Sub-Total/2005 Projects		\$17,356,700.00	\$14,612,235.00	\$1,419,350.00	\$1,325,115.00
Sub-Total/Phase I		\$37,552,671.00	\$16,773,657.50	\$3,324,350.00	\$17,319,798.50

Notes

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- (c) Federal Funding - FAA/AIP and other federal funding programs.
- ** Runway Threshold Project

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Table E2

PHASE II (6-10 YEARS) DEVELOPMENT PLAN PROJECT COSTS*Olympia Regional Airport Layout Plan Update*

Project Description	Note	Total Costs	Recommended Financing Method		
			Sponsor (a)	Private (b)	Federal (c)
B.1 Construct Vehicular Access Road, Utilities, & Taxiway to Serve Future Corporate Aviation Facility		\$1,605,000.00	\$0.00	\$1,605,000.00	\$0.00
B.2 Extend East Perimeter Road with Auto Parking to Serve General Aviation Expansion Area		\$830,000.00	\$830,000.00	\$0.00	\$0.00
B.3 Realign/Reconstruct Taxiway "G" with Edge Reflectors		\$1,740,000.00	\$174,000.00	\$0.00	\$1,566,000.00
B.4 Extend Taxiway "F" with MITLs to Connect with Runway 08/26		\$580,000.00	\$58,000.00	\$0.00	\$522,000.00
B.5 Remove Abandoned Segments of Taxiway "G"		\$230,000.00	\$23,000.00	\$0.00	\$207,000.00
B.6 Expand T-hangars "F" & "G" with Taxiway Access to Provide 6 T-hangar Units		\$900,000.00	\$0.00	\$900,000.00	\$0.00
B.7 Implement General Aviation Apron/ Taxiway Pavement Maintenance Projects		\$500,000.00	\$500,000.00	\$0.00	\$0.00
B.8 Construct General Aviation Based Aircraft Apron to Provide Approx. 15 Tiedowns		\$200,000.00	\$20,000.00	\$0.00	\$180,000.00
B.9 Construct Four T-hangar Facilities with Taxiway Access to Provide Approx. 46 T-hangar Units		\$3,635,000.00		\$3,635,000.00	
B.10 Overlay Taxiway "W" (North Segment)		\$265,800.00	\$26,580.00	\$0.00	\$239,220.00
B.11 Construct General Aviation Apron Area Adjacent to Wash Rack		\$360,960.00	\$36,096.00	\$0.00	\$324,864.00
B.12 Consolidate/Relocate State Aviation Facilities (WSP & DNR)		\$1,116,800.00	\$111,680.00	\$0.00	\$1,005,120.00
Subtotal		\$11,963,560.00	\$1,779,356.00	\$6,140,000.00	\$4,044,204.00

Notes

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Table E2 (Continued)

PHASE II (6-10 YEARS) DEVELOPMENT PLAN PROJECT COSTS*Olympia Regional Airport Layout Plan Update*

	Project Description	Note	Total Costs	Recommended Financing Method		
				Sponsor (a)	Private (b)	Federal (c)
B.13	Expand Terminal Aircraft Apron Area		\$641,050.00	\$64,105.00	\$0.00	\$576,945.00
B.14	Reconstruct Taxiway "A" & Shoulder		\$401,000.00	\$40,100.00	\$0.00	\$360,900.00
B.15	Repair/Reconstruct Taxilane #4		\$84,900.00	\$8,490.00	\$0.00	\$76,410.00
B.16	Repair/Reconstruct Taxilane #5		\$41,350.00	\$4,135.00	\$0.00	\$37,215.00
B.17	Repair/Reconstruct Taxilane #6		\$50,000.00	\$5,000.00	\$0.00	\$45,000.00
B.18	Install Transient Apron Lighting (Phase I)		\$16,750.00	\$1,675.00	\$0.00	\$15,075.00
B.19	Construct Waste Oil/Solvent Contain- ment/Disposal Facility		\$16,750.00	\$16,750.00	\$0.00	\$0.00
B.20	Repair/Crack Seal Taxiway "C"		\$19,000.00	\$1,900.00	\$0.00	\$17,100.00
B.21	Install Utilities within Airport- Oriented Industrial District (Phase II)		\$313,850.00	\$313,850.00	\$0.00	\$0.00
			\$1,584,650.00	\$456,005.00	\$0.00	\$1,128,645.00
Sub-Total/Phase II			\$13,548,210.00	\$2,235,361.00	\$6,140,000.00	\$5,172,849.00

Notes

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