

PALOUSE REGIONAL TRANSPORTATION PLANNING ORGANIZATION

REGIONAL TRANSPORTATION NEEDS, ISSUES
AND OVERVIEW OF THE PALOUSE 2040 PLAN



PALOUSE 2040
Regional Transportation Plan
(Covering Asotin, Columbia, Garfield and Whitman County)



PALOUSE 2040 PLAN

State Requirement: RCW 47.80.030

It's a 25 Years Visionary Document for the Palouse Region
(Asotin, Columbia, Garfield and Whitman County)

- Introduction and Preparation
- Policy and Goals
- Transportation Modes and Improvements
- Regions Key Issues
- Pavement Maintenance/ Preservation
- Palouse 2040 Strategies and Identified list of Projects
- Plan Implementation, Financial Plans and Resources



INTRODUCTION

- Agency Collaboration and Regional Priorities
- State Policy Goals
 - Economic Vitality;
 - Preservation;
 - Safety;
 - Mobility;
 - Environment; and
 - Stewardship.
- Regional Goals and Policies
 - 8 Goals and 5 Policies and Subpolicies





PALOUSE 2040 PLAN

- Population:

Current (2017): 73,000 Approx

Estimated (2040): 81,000 Approx

Adjacent Larger Cities- City of Moscow and City of Lewiston

- RTPO Members:

20 Cities/Towns, 4 Counties, 4 Ports, 5 Transit Agencies, and 2 WSDOT Regions

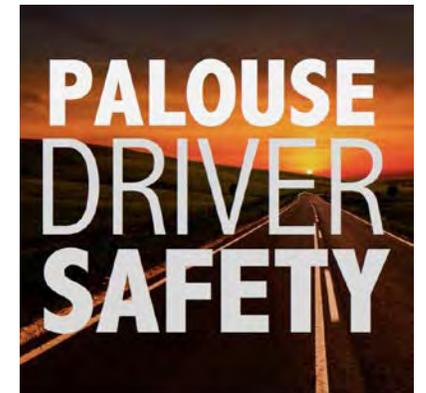
- Public Participation- One of the most engaged RTPOs in the State



PALOUSE 2040 SUPPORTING STUDIES AND EFFORTS

- Regional Freight Study
- Palouse School Walk Study
- Palouse Active Transportation Plan (Currently Ongoing)
- Palouse Driver Safety Campaign (Currently Ongoing)
- Palouse Coordinated Public Transit Human Services Transportation Plan (Currently Ongoing)

- Available Funding through Palouse RTPO
 - TAP Funding for Locally Driver Non-Motorized Projects



TRANSPORTATION MODES AND IMPROVEMENT PROGRAMS

- Roadways (State, Counties, Cities, etc)
- Freights and Goods Transportation Corridors
- Bridges
- River Navigation
- Railroads
- Airports
- Public Transportations
- Non-Motorized Modes (Trails, bike paths, etc)

Owner/Functional Classification	Asotin	Columbia	Garfield	Whitman	TOTAL
Cities (all combined)	46.78	19.01	18	202.85	286.64
County Roads					
Functional Classification					
Arterial	20.57	0	0	0	20.57
Collector	152.33	229.17	213.03	614.51	1209.04
Local Access	<u>226.35</u>	<u>271.68</u>	<u>234.08</u>	<u>1,282.68</u>	<u>2,014.79</u>
Total	399.25	500.85	447.11	1897.19	3244.4
State Roads					
Functional Classification					
Interstate Highways	-	-	-	-	0
Principal State Highways	12.19	29.02	43.18	130.71	215.1
Minor State Highways	43.19	-	-	2.31	45.5
Collector State Highways	-	<u>15.02</u>	-	<u>145.33</u>	<u>160.35</u>
Total	55.38	44.04	43.18	278.35	420.95
Other					
WA State Parks and Recreation	1.59	1.36	-	4.43	7.38
WA State Department of Natural Resources	63.86	186.26	4.43	-	254.55
WA State Fish and Wildlife	26.4	6	1.5	-	33.9
US Forest Service	22.42	49.84	39.42	-	111.68
National Fish and Wildlife Service	30.85	-	-	-	30.85
National Park Service	-	-	-	0.83	0.83
US Department of Energy	-	14.2	-	-	14.2
US Army CORPS of Engineers	-	<u>7</u>	-	<u>29</u>	<u>36</u>
Total	145.12	264.66	45.35	34.26	489.39
COMBINED TOTAL	646.53	828.56	553.64	2412.65	4,441.38

TRANSPORTATION MODES AND IMPROVEMENT PROGRAMS

- Total Roadway Miles (Palouse RTPO)

Asotin- 647 Miles

Columbia- 829 Mi

Garfield- 2413 Mi

Whitman- 4422 Mi

- Total Regionwide Centreline

Roadways- 3244 Mi (Access and Arterial Roads)

- Regionwide 73% of county roads are unpaved Including 445 mil of unpaved arterial county roads

Owner/Functional Classification	Asotin	Columbia	Garfield	Whitman	TOTAL
Cities (all combined)	46.78	19.01	18	202.85	286.64
County Roads					
Functional Classification					
Arterial	20.57	0	0	0	20.57
Collector	152.33	229.17	213.03	614.51	1209.04
Local Access	<u>226.35</u>	<u>271.68</u>	<u>234.08</u>	<u>1,282.68</u>	<u>2,014.79</u>
Total	399.25	500.85	447.11	1897.19	3244.4
State Roads					
Functional Classification					
Interstate Highways	-	-	-	-	0
Principal State Highways	12.19	29.02	43.18	130.71	215.1
Minor State Highways	43.19	-	-	2.31	45.5
Collector State Highways	-	<u>15.02</u>	-	<u>145.33</u>	<u>160.35</u>
Total	55.38	44.04	43.18	278.35	420.95
Other					
WA State Parks and Recreation	1.59	1.36	-	4.43	7.38
WA State Department of Natural Resources	63.86	186.26	4.43	-	254.55
WA State Fish and Wildlife	26.4	6	1.5	-	33.9
US Forest Service	22.42	49.84	39.42	-	111.68
National Fish and Wildlife Service	30.85	-	-	-	30.85
National Park Service	-	-	-	0.83	0.83
US Department of Energy	-	14.2	-	-	14.2
US Army CORPS of Engineers	-	<u>7</u>	-	<u>29</u>	<u>36</u>
Total	145.12	264.66	45.35	34.26	489.39
COMBINED TOTAL	646.53	828.56	553.64	2412.65	4,441.38

FREIGHTS AND GOODS TRANSPORTATION SYSTEM

Table 5. Freight and Goods Transportation System of County Roads

FGTS Truck Route Class	County				Total
	Asotin	Columbia	Garfield	Whitman	
T-1; > 10 million tons/year	-	-	-	-	-
T-2; 4 - 10 million tons/year	0.15	-	-	-	0.15
T-3; 300,000 - 4 million tons/ year	22.95	10.3	-	3.4	36.65
T-4; 100,000 - 300,000 tons/year	19.98	49.1	10.13	37.97	117.18
T-5; 20,000 tons in 60 days	-	146.81	125.75	248.08	520.64
T-6; > 100,000 tons, (not every year)	14.34	-	-	-	14.34
T-8; Will be if no barges on Snake	-	-	-	5.74	5.74
TOTAL F&GS Mileage	43.08	206.21	135.88	289.45	674.62
Total Adequate	37.62	11.2	113.03	36.04	197.89
Percent Adequate 2016	87.33%	5.43%	83.18%	12.45%	29.33%

SOURCE: County Road Log Certified 1/1/2016, CRAB 2016 Annual Report

Adequacy defined by Cost Responsibility Study - All Weather Roads

Table 6. Freight and Goods Transportation System of State Roads

FGTS Truck Route Class	State Routes				Total
	Asotin	Columbia	Garfield	Whitman	
T-1; > 10 million tons/year	-	-	-	-	-
T-2; 4 - 10 million tons/year	0.39	-	-	82.82	83.21
T-3; 300,000 - 4 M tons/ year	54.74	44.04	43.18	155.01	296.97
T-4; 100,000 - 300,000 tons/year	0.25	-	-	40.52	40.77
TOTAL F&GS Mileage	55.38	44.04	43.18	278.35	420.95

BRIDGE DATA AND REPLACEMENT COSTS

Table 8. Bridge Data by County

Counties	Year	County Owned Bridges	Bridges Posted or May Consider Posting		Bridges with Posting Not Required		Deficient Bridges *
			FAR	NFAR	FAR	NFAR	
Asotin	2016	18	0	0	13	5	2
Columbia	2016	60	2	2	30	26	9
Garfield	2016	32	1	0	19	12	5
Whitman	2016	239	7	7	112	113	56
Total		349	10	9	174	156	72

Source: CRAB Annual Reports 2016

Notes: Bridges 20 Feet or Greater in Length

FAR = Federal Aid NFAR = Non-Federal Aid

* Deficient Bridges are listed as Structurally Deficient or Functionally Obsolete



Table 9. Bridge Replacement Cost

County	County Owned Bridges	Bridges Posted or May Consider Posting				Bridges with Posting Not Required				Deficient Bridges *	Total Sq. Ft	Total Replacement Cost (In Millions)
		FAR	Sq. Ft	NFAR	Sq. FT	FAR	Sq. Ft	NFAR	Sq. FT			
Asotin	18	0	0	0	0	13	129,858	5	9814	2	139,672	\$ 90.78
Columbia	60	2	3722	2	2059	30	53693	26	38949	9	98,423	\$ 63.97
Garfield	32	1	1695	0	0	19	17117	12	12538	5	31,350	\$ 20.38
Whitman	239	7	16905	7	5753	112	216852	113	148199	56	387,709	\$ 252.01
Total	349	10	22322	9	7812	174	417520	156	209500	72		

Table 10. Small Structures by County

	Asotin	Columbia	Garfield	Whitman	TOTAL
Number of Small Structures < 20 ft.	25	175	8	62	270

WATERWAYS AND AIRPORTS

Table 11. Total Commodities Shipped Through Area Locks

Year	Lower Monumental		Little Goose		Lower Granite		Total Tonnage	Annual Percentage Change (%)
	Vessels	Tonnage	Vessels	Tonnage	Vessels	Tonnage		
2010	1044	2,554,000	928	2,226,000	873	1,265,000	6,045,000	1%
2011	967	2,325,000	884	2,034,000	732	1,168,000	5,527,000	-9%
2012	1047	2,776,000	930	2,593,000	830	1,510,000	6,879,000	24%
2013	954	2,529,000	863	2,281,000	714	1,312,000	6,122,000	-11%
2014	948	2,489,000	884	2,325,000	826	1,345,000	6,159,000	1%
2015	821	1,994,000	794	1,880,000	636	1,044,000	4,918,000	-20%
2016	1000	2,314,000	925	2,115,000	738	1,118,000	5,547,000	13%

(Resource: Navigation Data Center)



Airport	Year Data Recorded	Annual Operations	Operations Breakdown (see Note 1)					Total General Aviation (%)
			Military (%)	Air Taxi (%)	Commercial (%)	Local General Aviation (%)	Transient General Aviation (%)	
Lewiston-Hez Perce	2016	28,835	1	12	6	32	49	81
Little Goose	2015	300					100	100
Lower Granite	2015	300					100	100
Pullman-Moscow Regional	2014	29,200	<1%	15	8	41	44	85
Rogersburg	2015	100					100	100
Rosalia Municipal	2015	7,665				58	42	100
Port of Whitman Business Air Center	2010	14,965				73	27	100
Willard Field	2015	9,490				76	24	100

Resource: airnav.com

PUBLIC TRANSPORTATION SERVICES

Five Public Transportation Agencies

- Asotin County PTBA
- Columbia County Public Transportation
- Garfield County Public Transportation
- Pullman Transit
- COAST Transportation



REGIONS KEYS ISSUES- MULTIMODAL TRANSPORTATION

Maintenance and Preservation for Multimodal Transportation System- Next 20 year horizon is vital for the region.

- **Road Maintenance** – 70%+ are unpaved, almost 15% are arterials that do not necessarily meet current design standards
- **Bridges and Small Structures-** More than 70 bridges are deficient (almost 20%)
- **Safety and Associated Projects** – Old Roads, Topography makes roadways having vertical and horizontal alignment and around rivers, streams through the valleys, with Narrow Travel lanes, and at times no shoulders. (Sight distance, truck turning, etc)
- **High Risk Corridors** due to old age, poor sight distances, lanes, shoulders, etc. Need to focus on Head on and Across Median Crashes, Improving design and intersections, Bike-ped Crashes, and Speed limit and weather condition related crashes
- **Access Management-** Done by the WSDOT, leaving chances of higher collisions with improved access, need additional investment for further safety
- **Substandard and Older Roadways** – Farm equipments, trucks, etc are getting bigger but roadways are still older
- And finally **Funding-** HUGE Issue for everyone in the state, need to find ways for low life-cycle cost, and maintenance upkeep to ensure efficiency. Preservation cost is constantly increasing!!

INFRASTRUCTURAL NEEDS AND MAINTENANCE

- System Capital Needs for Railroads
- Bike and Pedestrian Accommodations
- Public Transportation Services
- Airport Improvements
- Pavement Management
 - Historical Expenditures and Forecasts
- Safety and Roadway Geometry- Crash Improvements
- Economic And Freight Impact of the Snake River
 - 1 Barge = 37.5 Hopper Rail Cars and 150 Semi Trucks (25 Ton trucks)

PALOUSE 2040 NEEDS AND STRATEGIES

- Months long discussions with all local government agencies to identify their vision and project needs:
- Regionally Identified Needs
 - Railroad Improvements
 - Economic and Freight Impact of the Snake River
 - Bike /Ped Accommodations and developments
 - Improved Public Transportation Services
 - Airport Improvements (Over the next four years, almost \$120+ Million is being spent in Whitman County alone)
 - Increased Stormwater Management for Construction Activities
 - Assessment of Historical Expenditures and Revenue Forecast
 - Regionwide Cost to pave Gravel Arterials (Almost \$44 Million in 2017 Dollars)
 - Improve Access to roads, adjacent counties, etc., and
 - Conduct future Studies

CRASH DATA AND SHOULDER IMPROVEMENT COSTS

Table 24 Shoulder Improvement Costs

County Roads					Total
	Asotin	Columbia	Garfield	Whitman	
Total Miles	399.25	500.85	447.10	1897.19	3244.39
Total MVMT	149.13	57.15	70.62	235.45	512.34
Total Accidents (2014 - 2016)	182.00	69.00	36.00	232.00	519.00
Accidents / MVMT	1.22	1.21	0.51	0.99	0.98

State Roads					Total
	Asotin	Columbia	Garfield	Whitman	
Total Miles	55.38	44.04	43.18	278.35	420.95
Total MVMT	115.28	94.45	84.30	723.11	1017.13
Total Accidents (2014 - 2016)	278.00	132.00	95.00	1055.00	1560.00
Accidents / MVMT	2.41	1.40	1.13	1.46	1.60

Note: Whitman County city road mileage and accidents also include Washington State University.

City Roads					Total
	Asotin	Columbia	Garfield	Whitman	
Total Miles	46.78	19.01	18.00	202.85	286.64
Total MVMT	235.14	210.42	205.56	88.74	739.85
Total Accidents (2014 - 2016)	185.00	22.00	11.00	630.00	848.00
Accidents / MVMT	0.79	0.10	0.05	7.10	2.01

Source: WSDOT Online Traffic Data Portal

Low Range	Paved County Roads					
	Asotin			Columbia		
Deficient Width	Miles Deficient	Cost/0.10 Mile	Total Cost	Miles Deficient	Cost/0.10 Mile	Total Cost
2	35.355	\$23,750*	\$8,396,813	3.45	\$23,750	\$819,375
4	26.744	\$31,250	\$8,357,500	42.9	\$31,250	\$13,406,250
6	7.95	\$40,000	\$3,180,000	35.36	\$40,000	\$14,144,000
8	12.264	\$48,750	\$5,978,700	39.13	\$48,750	\$19,075,875
10	4.962	\$56,250	\$2,791,125	0.16	\$56,250	\$90,000
12	11.65	\$65,000	\$7,572,500	0.22	\$65,000	\$143,000
14	8.718	\$72,500	\$6,320,550	0	\$72,500	\$0
16	2.916	\$81,250	\$2,369,250	0	\$81,250	\$0
18	4.705	\$88,750	\$4,175,688	0	\$88,750	\$0
20	3.878	\$97,500	\$3,781,050	0	\$97,500	\$0
22	0.426	\$106,250	\$452,625	0	\$106,250	\$0
24	0.61	\$113,750	\$693,875	0	\$113,750	\$0
26	1.149	\$122,500	\$1,407,525	0	\$122,500	\$0
Grand Total	121.33		\$55,477,200.00	121.22		\$47,678,500.00

Low Range	Paved County Roads					
	Garfield			Whitman		
Deficient Width	Miles Deficient	Cost/0.10 Mile	Total Cost	Miles Deficient	Cost/0.10 Mile	Total Cost
2	36.9	\$23,750*	\$8,763,750	74.96	\$23,750	\$17,803,000
4	31.89	\$31,250	\$9,965,625	99.34	\$31,250	\$31,043,750
6	8.69	\$40,000	\$3,476,000	34.62	\$40,000	\$13,848,000
8	0.45	\$48,750	\$219,375	11.54	\$48,750	\$5,625,750
10	0.46	\$56,250	\$258,750	0.4	\$56,250	\$225,000
16	0	\$81,250	\$0	0.29	\$81,250	\$235,625
Grand Total	78.39		\$22,683,500	221.15		\$68,781,125

PALOUSE 2040 VISION AND PROJECTS

- Hundreds of Strategies have been documented including over 250+ public comments (Refer the Palouse 2040 Plan document)
- Regionally Significant Projects
 - Pullman Bypasses
 - Moscow Pullman Airport Realignment Project
 - Colfax US395 and SR26 Intersection Update
 - Pullman Airport Road Widening Project
 - US 12 Road Widening in Clarkston

Project Description	Cities, Counties or Ports Impacted
"Blue Bridge" efficacy and interchange study	City of Clarkston, Asotin County, Port of Clarkston
Clarkston signal synchronization evaluation	City of Clarkston, Asotin County, Port of Clarkston
Detailed Pullman truck flow analysis (Terre View Dr, and Grand Ave/Paradise St Emphasis)	City of Pullman, Whitman County, Port of Whitman
US 195 and SR 26 intersection realignment	City of Colfax, Whitman County
US 195 and SR 272 intersection evaluation for safety and efficacy	City of Colfax, Whitman County
US 195 and South Main St Intersection traffic flow evaluation	City of Colfax, Whitman County
SR 272 Mill St to Hauser Heights roadway Improvement Project	City of Colfax, Whitman County
WIM Railroad Benefit Cost Analysis	WSDOT, City of Palouse, Whitman County
P&L Railroad Bridge replacement and rehabilitation	WSDOT, Whitman County
P&L/WIM track rehabilitation	WSDOT Whitman County
Palouse intermodal connectivity assessment (accessibility of rail loading facility)	City of Palouse
Palouse Bridge Street assessment for large truck/farm implement capability	City of Palouse
Port of Columbia Railroad Benefit Cost Analysis	Port of Columbia, City of Dayton, Columbia County
US-12 (Emphasis in Dayton and Waitsburg) oversize/over-length load compatibility study	City of Dayton, City of Waitsburg, Columbia County
Highway Bridge Replacement/Rehabilitation Program (with coordinated county prioritization) Whitman - 56 Bridges; Asotin 2 Bridges; Columbia 10 Bridges; Garfield 6 Bridges	All Counties
Seasonal road closure reduction program (increasing Inventory of all-weather roads)	All Counties
Almota grade (SR 194) structural and safety improvement	Whitman County, Port of Whitman

2040 FREIGHT RELATED PROJECTS

Agency	Project name
City of Pullman	South Bypass
Whitman County/City of Pullman	North Bypass
City of Pullman	Golden Hills Drive extension
City of Pullman	Northwest Ring Road
City of Colfax	US 195 and SR 26 Intersection Modernization
Town of Tekoa	Tekoa Truck Route Alternate
Colfax- Albion- Pullman (Efforts led by Pullman Civic Trust)	Colfax- Albion- Pullman (CAP) Trail
Dayton- Waitsburg (Efforts led by Walla Walla Community Council)	Dayton- Waitsburg- Walla walla Trail

Agency	Project name
Whitman County/ Pullman	North Pullman Bypass
Whitman County	Johnson Road Upgrade
Whitman County	Almota-Wawawai Connector Road
Whitman County	Viola-Beeson-Estes Bypass
Whitman County	Wawawai Road Upgrade
Whitman County	Rosalia Underpass
Whitman County	South Colfax Bypass
Whitman County	Fairbanks Road Upgrade
Whitman County	Uniontown East Resurfacing
Whitman County	Pullman Airport Road Reconstruction

2040 PROJECT LIST

Agency	Project name
Asotin Co.	Southway Bridge Resurfacing
Asotin Co.	Critchfield - 129 Intersection
Asotin Co.	Clarkston Heights sidewalk infill
Asotin Co.	Snake River Road Improvements
Asotin Co.	Wenatchee Creek Bridge Replacement
Asotin Co.	Paving of Grande Rhonde Road
Asotin Co.	Paving of Peola Road
Port of Clarkston	Freight Dock Improvements
Port of Clarkston	Bike/Pedestrian improvements - TP
Port of Clarkston	Address non-dredging ways to address sediment build-up along Port of Clarkston shoreline
Port of Clarkston	Address non-dredging ways to address sediment build-up along Port of Clarkston shoreline

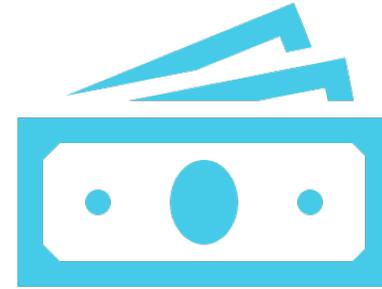
Agency	Project name
Port of Clarkston	Freight Dock Improvements
Port of Clarkston	Bike/Pedestrian improvements - TP
Port of Clarkston	Address non-dredging ways to address sediment build-up along Port of Clarkston shoreline
Port of Clarkston	Address non-dredging ways to address sediment build-up along Port of Clarkston shoreline

2040 PROJECT LIST

PLAN IMPLEMENTATION AND FUNDING NEEDS



Performance Monitoring



Identify Needed Funding for
the Region

PALOUSE 2040 SUMMARIZED NEEDS (IN 2017 DOLLARS)

- \$69 Million is desired in State Highway Capacity Projects (Passing lanes, Four lanes highways, safety Improvement, etc)
- \$1.7 Million Annual regionwide increase for Pavement Preservation and Maintenance
- \$43 Million to Pave Existing Gravel Arterials
- \$35 Million to Preserve Rail Lines
- \$194.6 Million to Widen Narrow Roadways, and Improve Shoulder Width
- \$427 Million to replace the deficient bridges (Repair costs maybe lower than the estimated)
- State and federal Investments in Regionally Significant Projects
- Additional consideration is needed for-
 - Need Local Taxation and Funding Improvements
 - And, Small Structure dedicated funding

QUESTIONS?

- Thank you for your time.

Shaun Darveshi

Transportation Engineer and Director,

Palouse RTPO