

GIS at the Crossroads

*Building Data-Driven Freight Solutions for
Pullman and Whitman County*

November 19, 2025



Who is Welch Comer?

- Civil Engineering Firm
- 46 years in business
- Offices in Coeur d'Alene, ID and Liberty Lake, WA
- 33 Employees



Melissa Cleveland

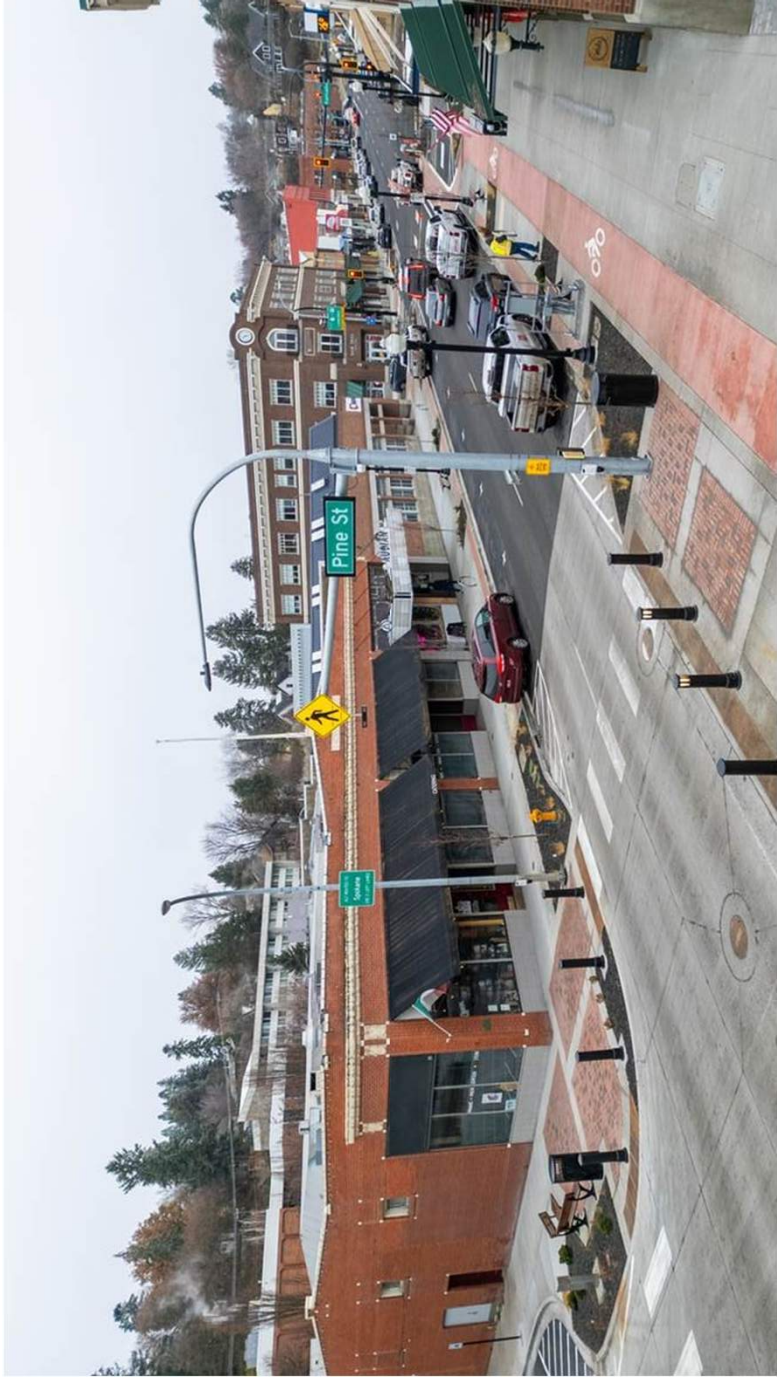


Cody Hodgson

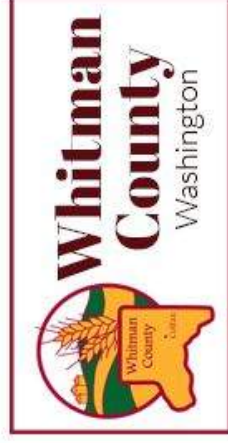


Agenda

- Background and Need
- GIS Foundations
- Outreach
- Alternatives Development
- Evaluation
- Recommendations



Partners

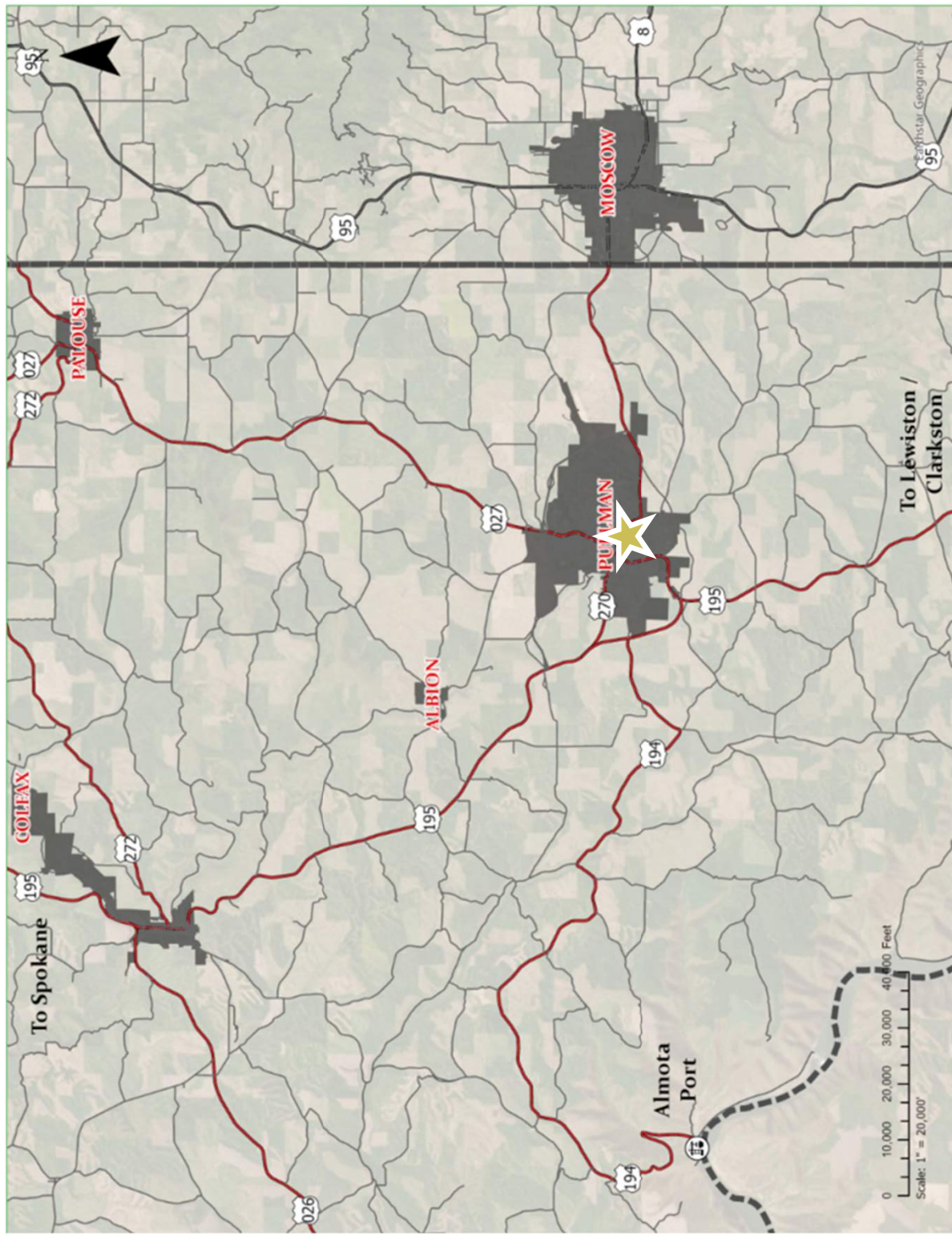


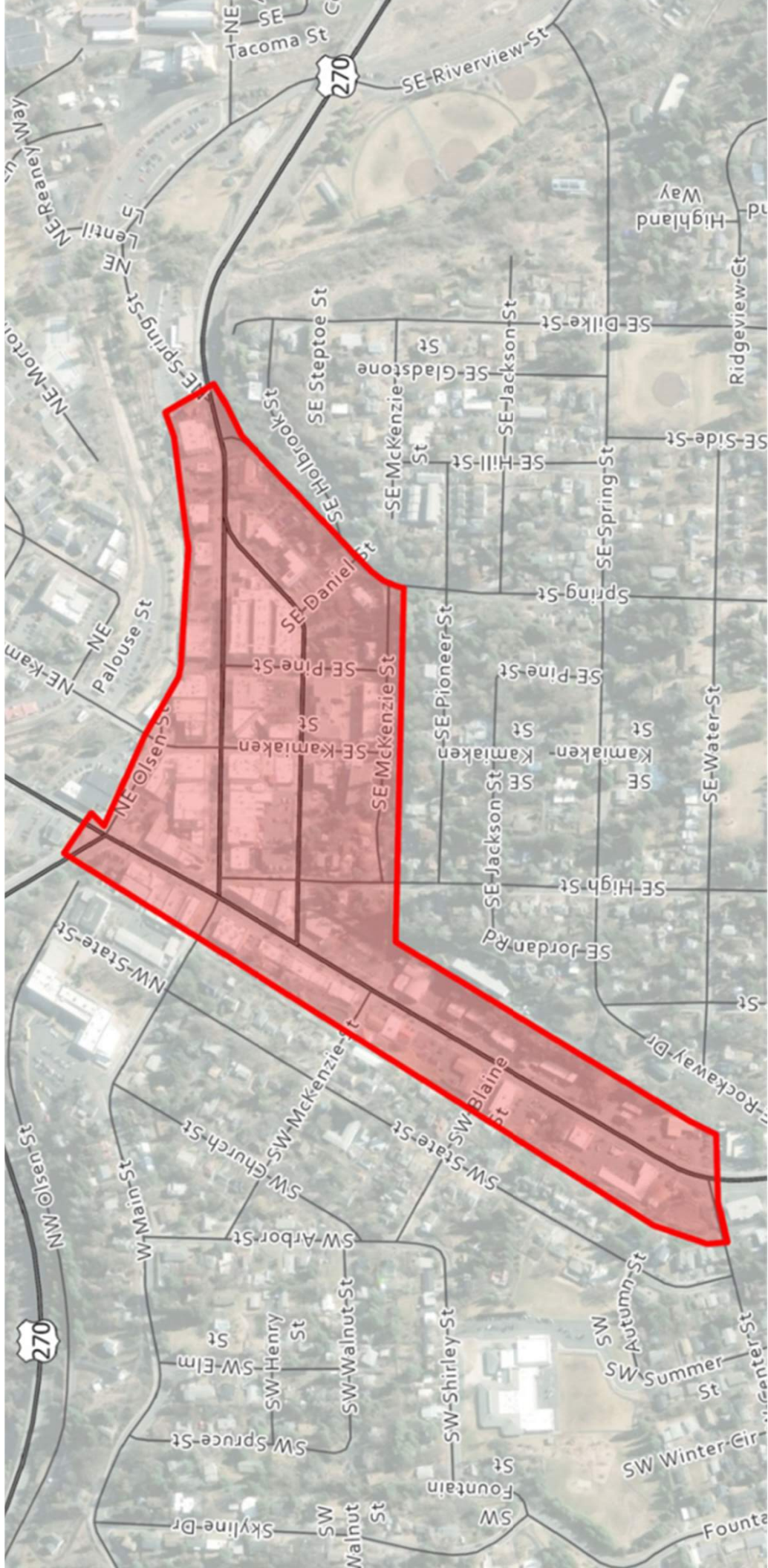
Why

- Downtown Pullman was revitalized in 2024
- Main St, Paradise St, and Grand Ave are primary corridors for freight
- **Desire to improve the pedestrian experience downtown – includes reducing trucks**



Study Area



[illegible]

Goal



Identify ***practical*** solutions that reduce or eliminate freight traffic in downtown Pullman



Practical = Implement relatively quickly & affordably

Objectives

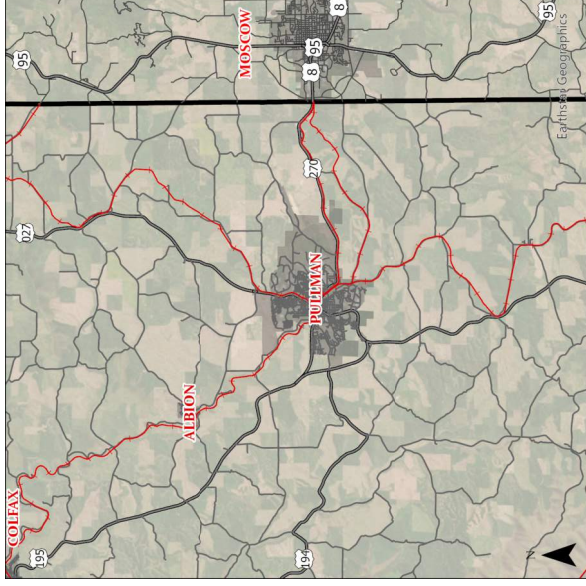
- Preserve downtown vitality
- Identify routes that meet needs of industry
- Minimize adverse impacts to surrounding areas
- Leverage existing data to inform decision making
- Engage the community and stakeholders
- Support future project development and funding applications.

Super Quick Schedule = mid-Dec kick off to final completion mid-June

GIS Foundations

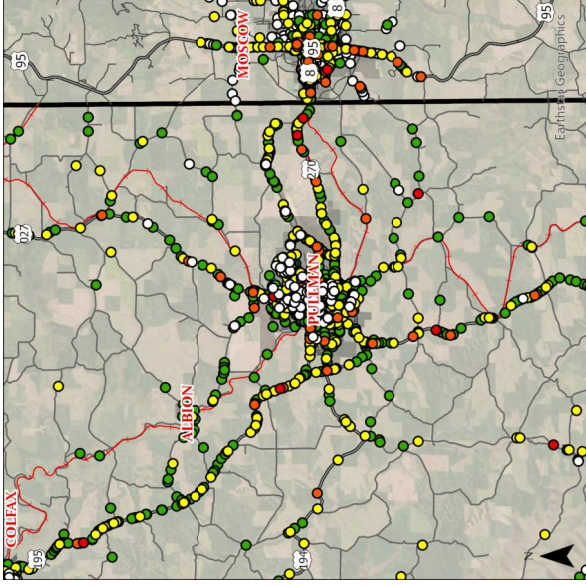
WSDOT & ITD

- Freight Routes
- Railroads
- Roads/Highways
- Bridges



Washington State Patrol & LHTAC

- Crash Data

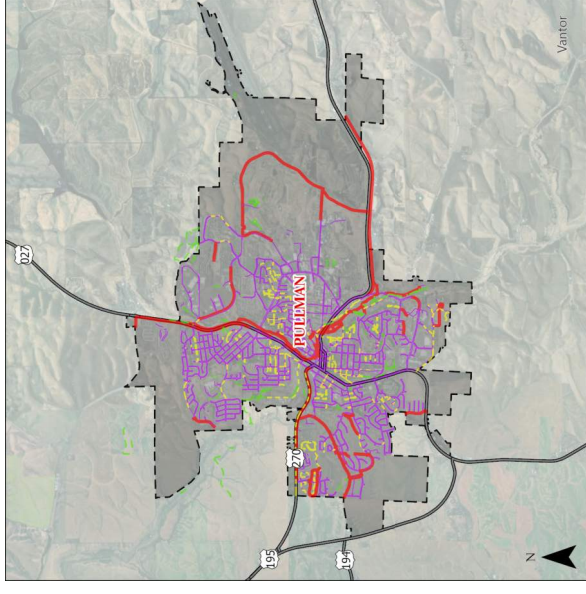


City

- Sidewalks
- Zoning

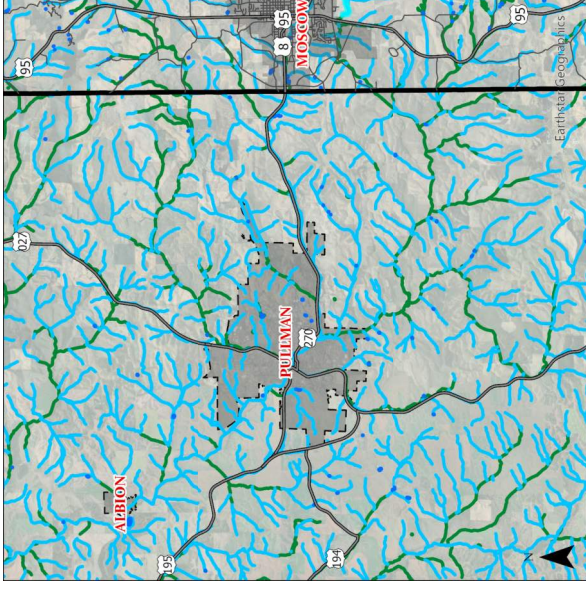
County

- Properties
- Grain Silos/Elevators
- County Boundaries



USGS

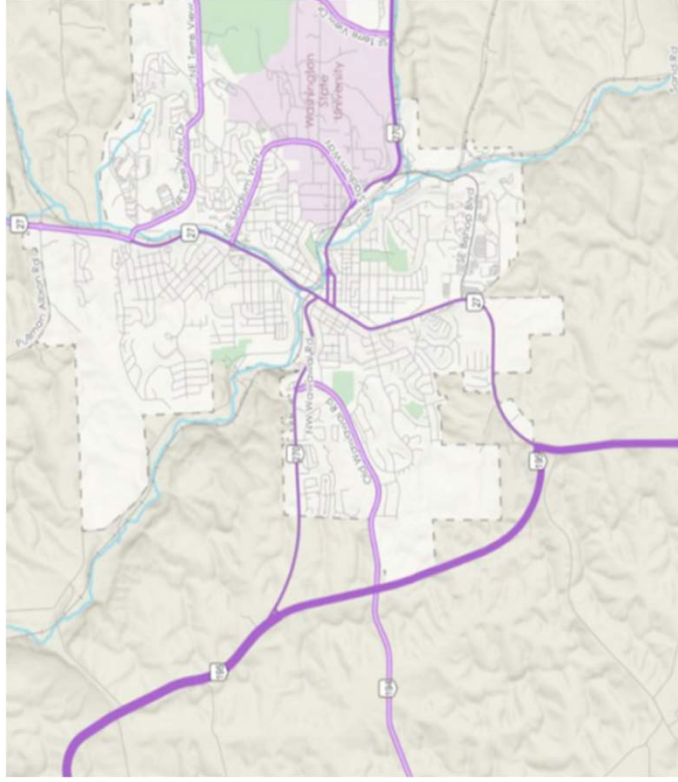
- Streams
- Lakes
- Rivers



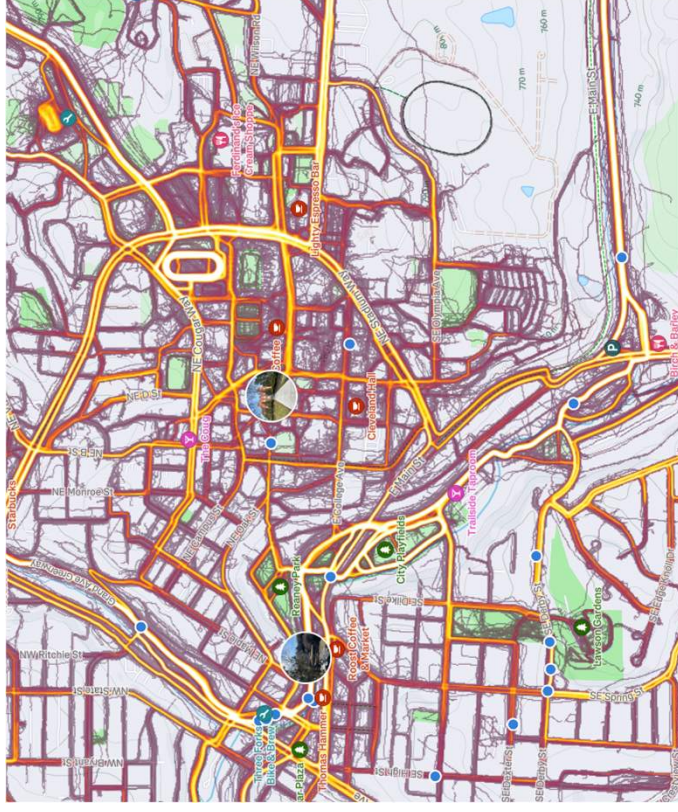
Vehicle and Pedestrian Volumes

- Replica - Motorized
- Strava – Non-Motorized

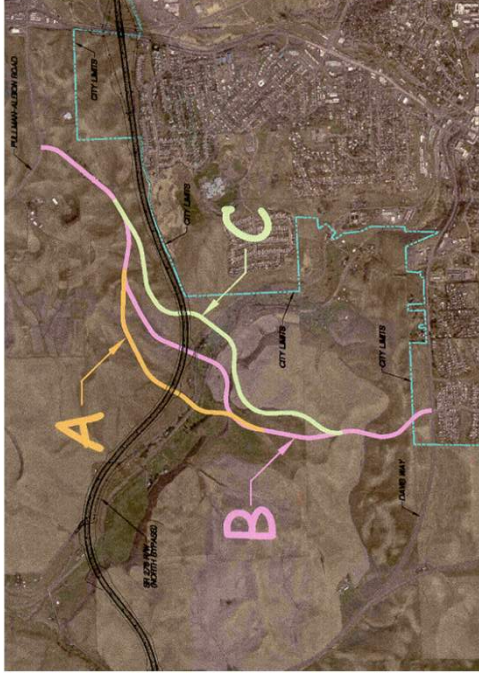
Replica Vehicle AADT Data



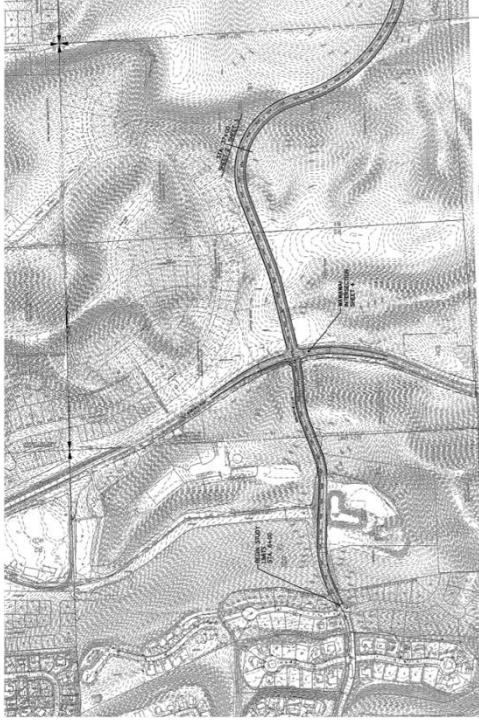
Strava Foot Sports Heatmap Data



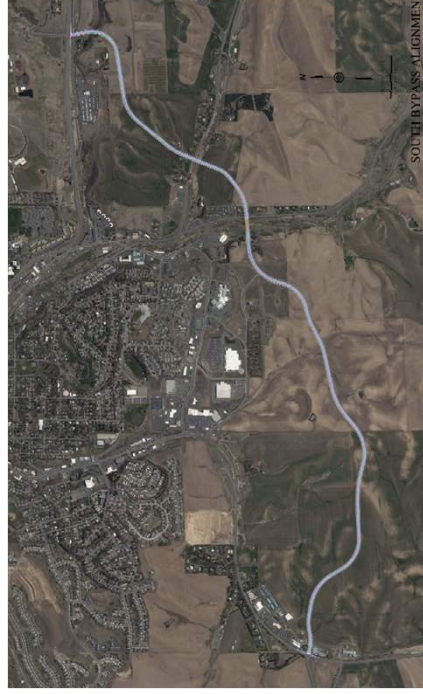
MANY Past Studies



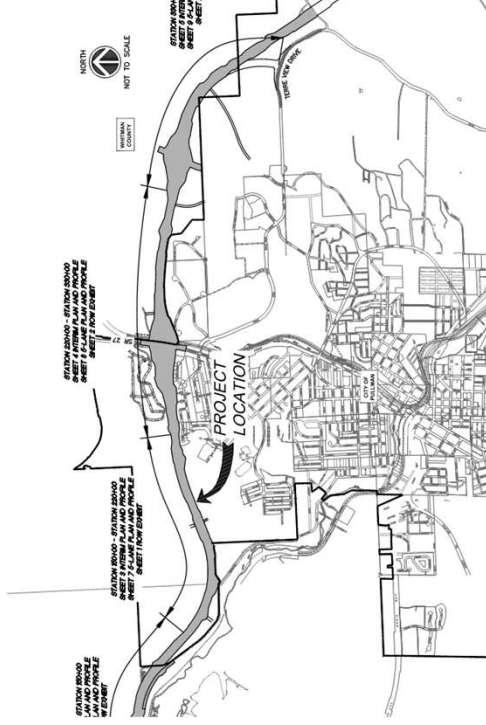
Source: Northwest Ring Road Conceptual Route Study for the City of Pullman, 2008



Source: Golden Hills Drive Roadway Study, 1997

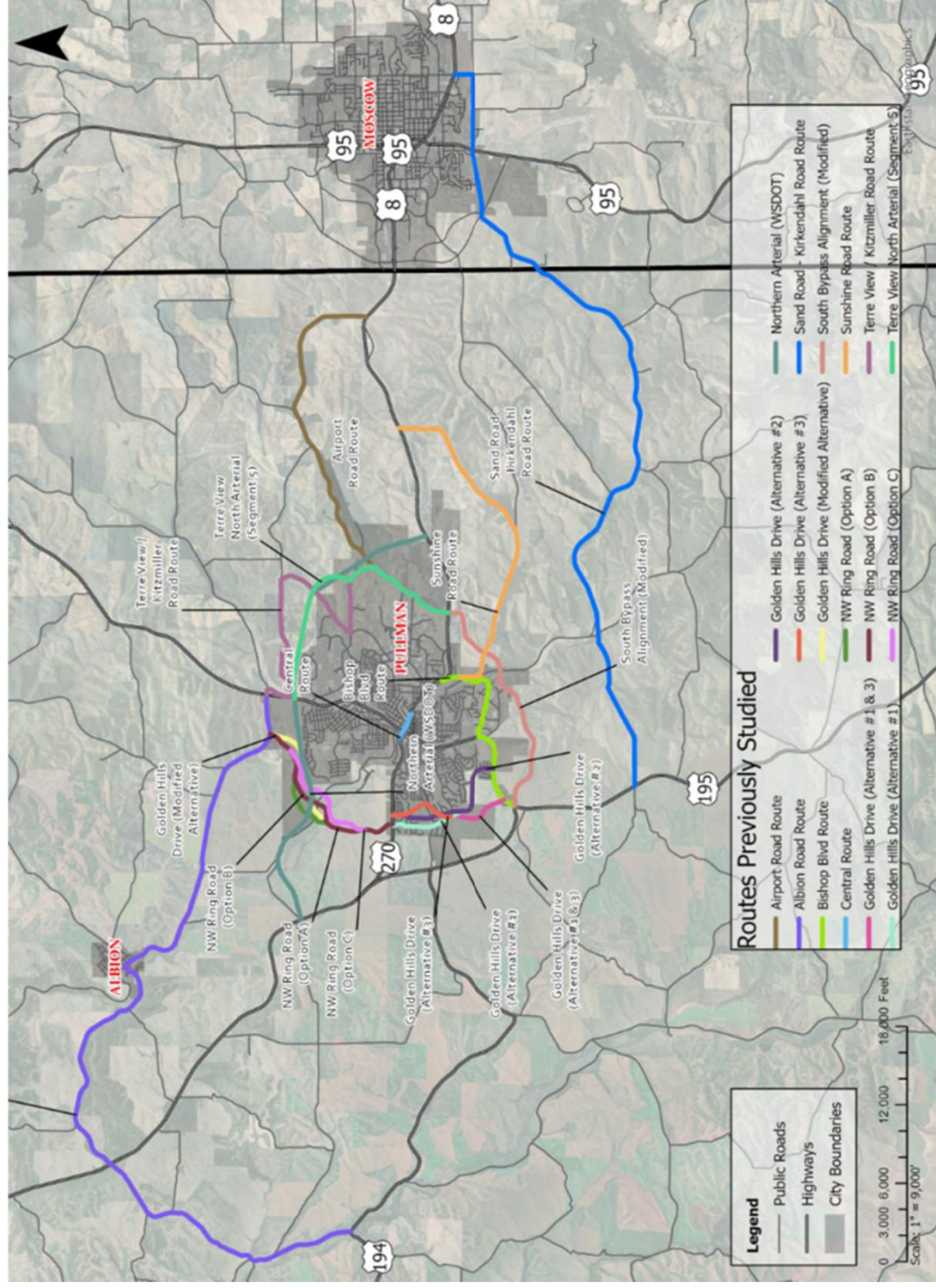


Source: South Bypass Conceptual Route Study, 2018



Source: North Arterial Technical Memorandum, 2023

MANY Past Studies



Key Takeaways



½ of freight traffic downtown has a destination downtown



Freight peaks do not coincide with car peaks



Ag contributes to surges – fertilizer in spring, hay/grain in summer/fall

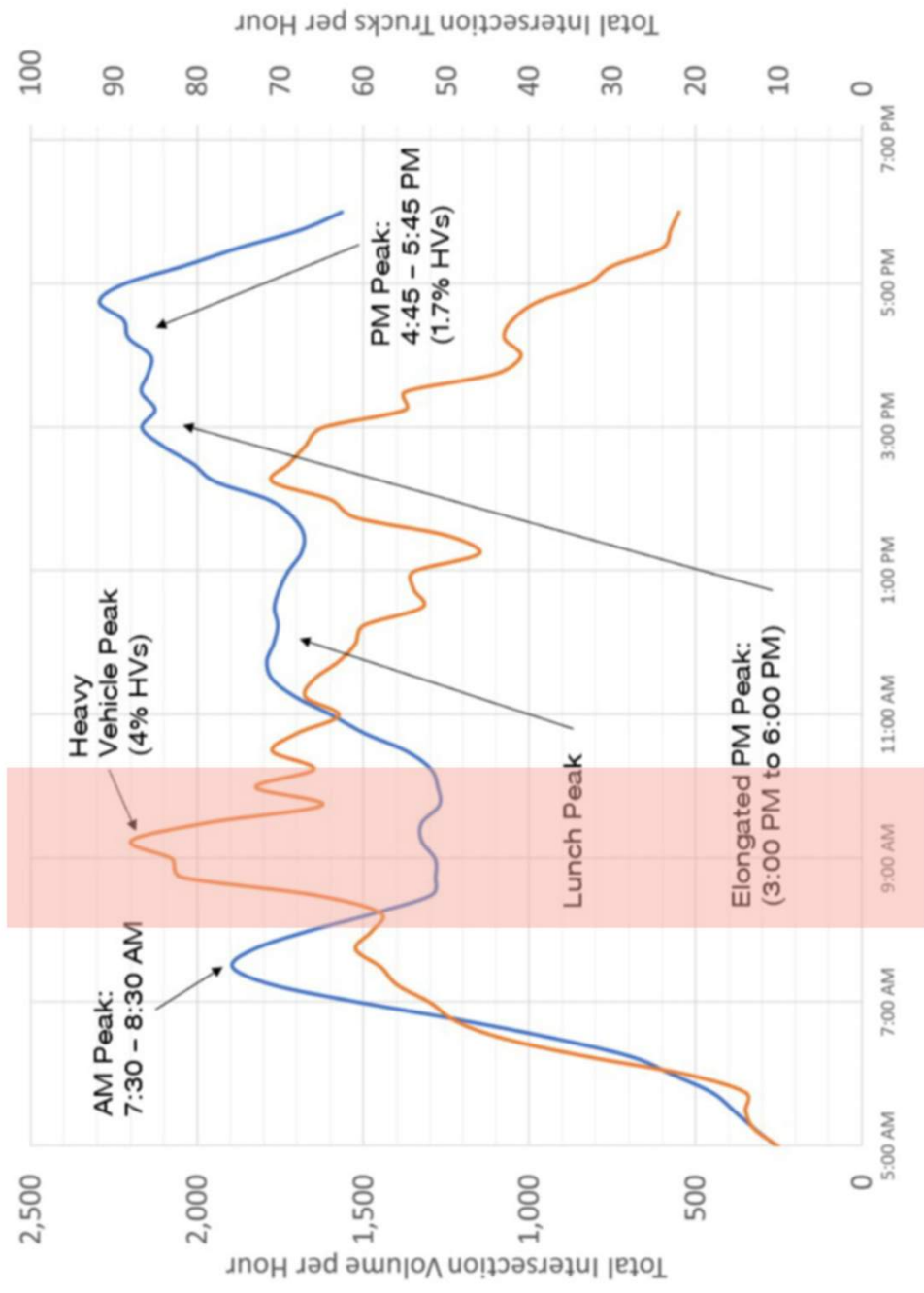


Wheat/hay originate east of Moscow and travel through Pullman to the middle of WA



Other produce originates all over the Palouse and may deliver to local silos or to Port of Almoda

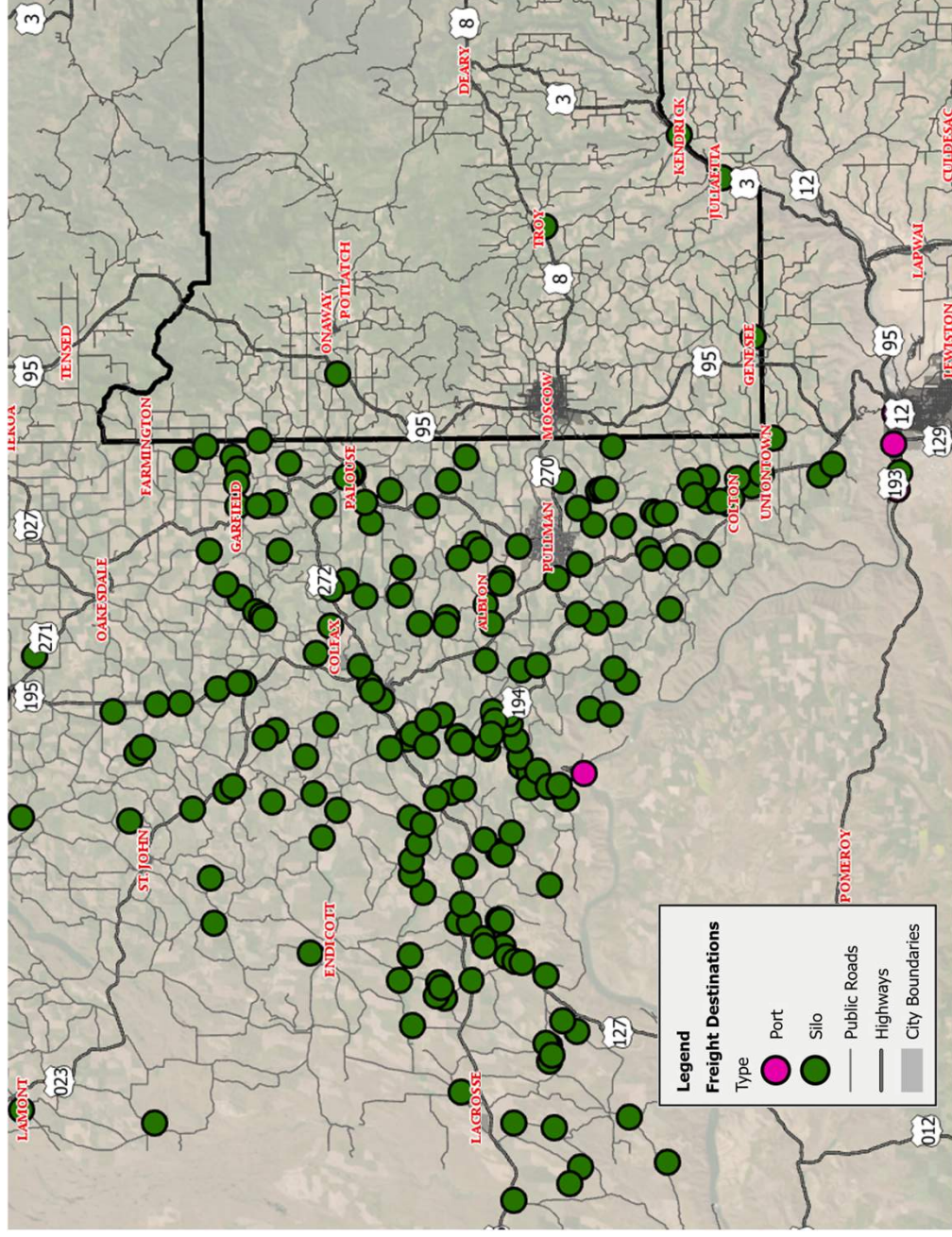
Freight Peak Compared to Car Peak



Ag Related Truck Movements

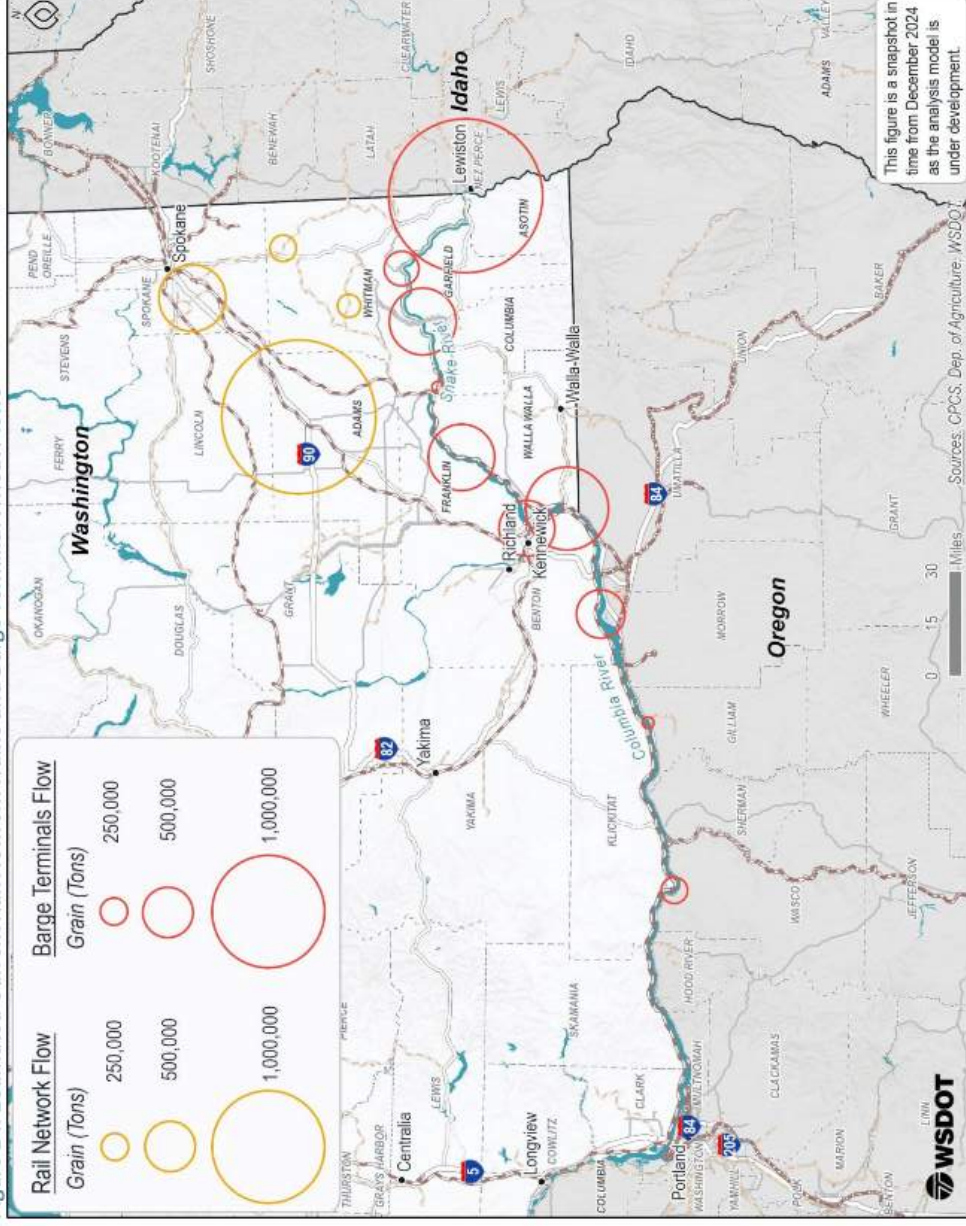
County & Stakeholders

- Interviews with Stakeholders
- Origin and Destination Analysis
- WSDOT Lower Snake River Dams Transportation Study (2024)



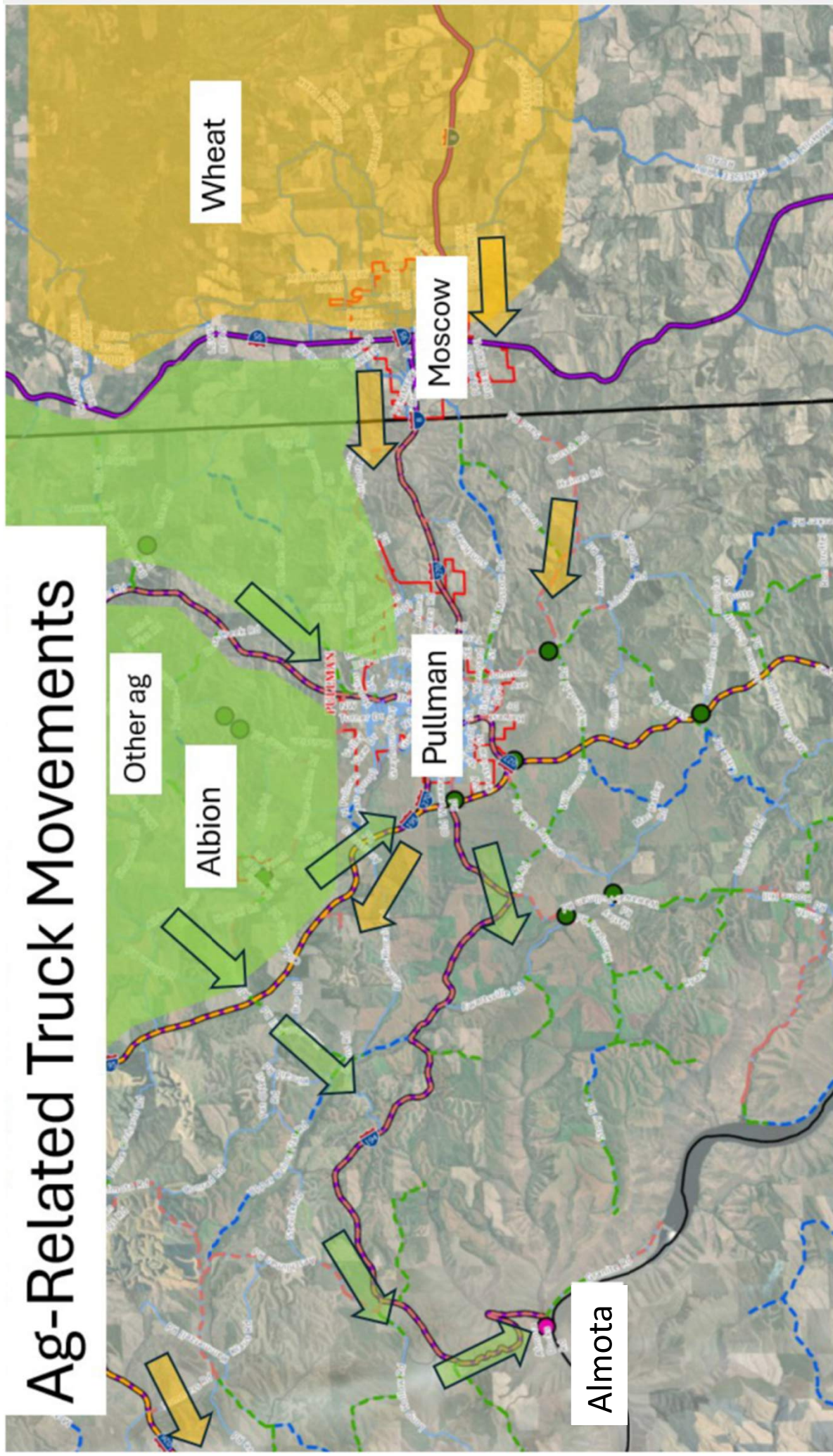
Ag Related Truck Movements

Figure 14. Estimated Current Rail Network Trains and Barge Terminal Wheat Flows



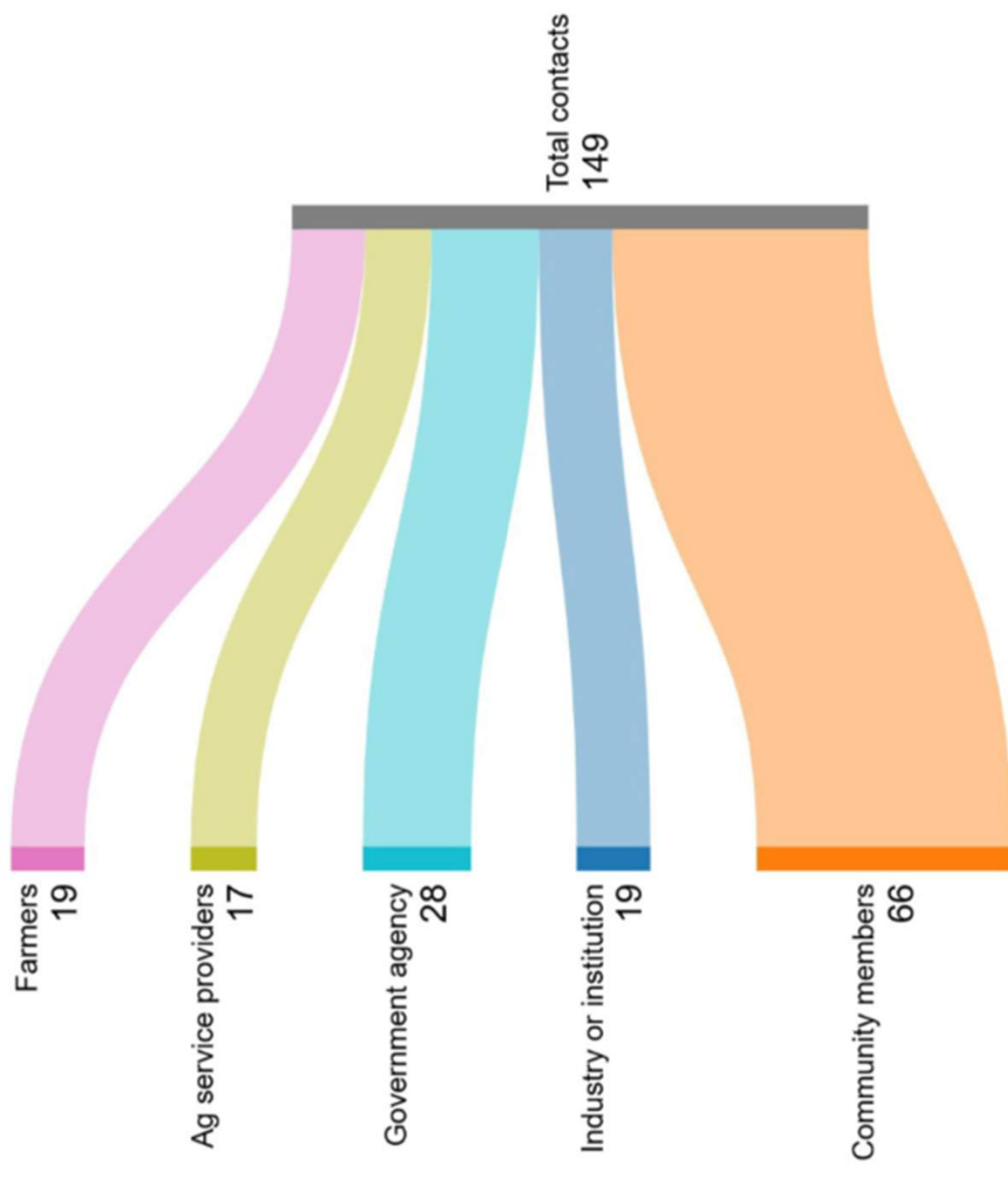
Source: WSDOT Lower Snake River Dams Transportation Study, 2024

Ag-Related Truck Movements

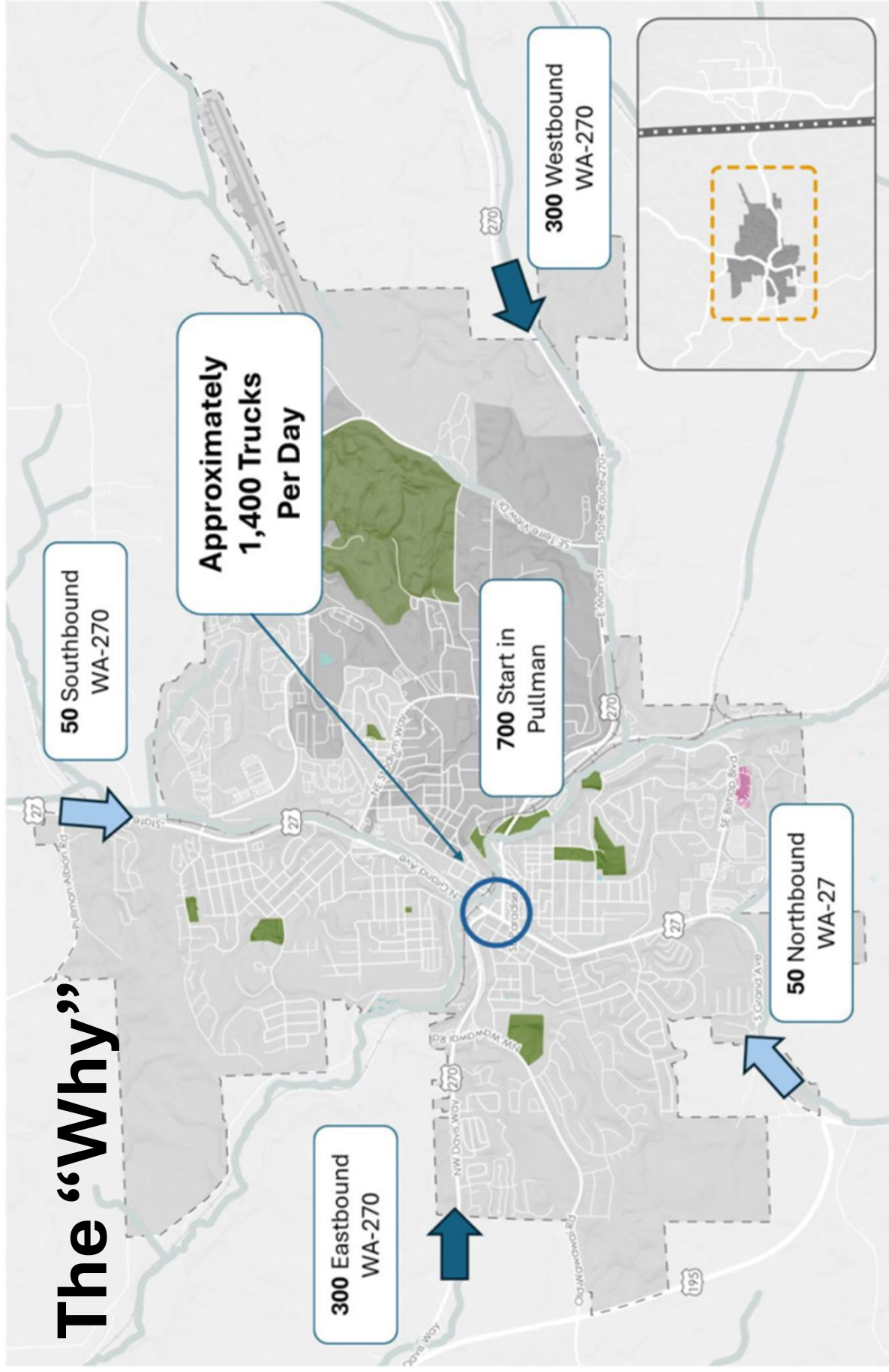


Outreach

- Advisory Group Meetings
- One-on-One
- Community Open House
- Virtual Outreach
 - Website
 - Social Media
 - Videos

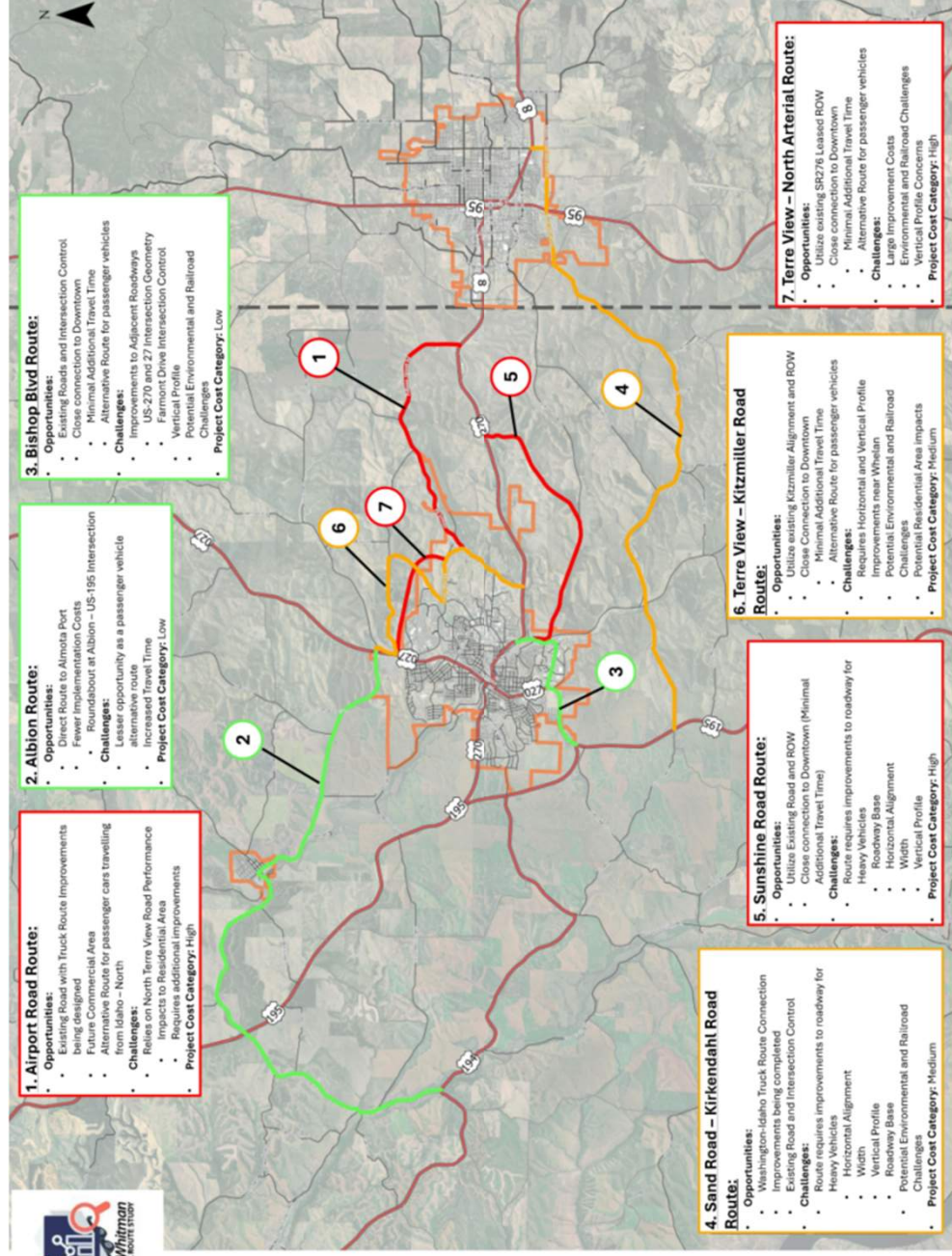


The “Why”



- 50% of traffic originates or has a destination downtown
- Focus on the other 50%





Virtual Outreach

Website

Intro video

Social Media

Newsletters

Press Releases

Final Summary Video

Whitman County Truck Route Study

Home
Schedule
FAQ
Feedback?

The Whitman County Truck Route Study will help inform future decisions about how traffic moves through and around the Pullman area.

[Sign up for our Email List](#)

Whitman County Truck Route Study Explainer Video
PULLMAN TRUCK ROUTE STUDY FINDINGS

Watch on YouTube

RTPPO WSDOT

Whitman County Truck Routes Study Adopted

The Policy Board of the Palouse Regional Transportation Planning Organization (Palouse RTPPO) adopted the final version of the Whitman County Truck and Freight Study on June 10, 2025.

[View Adopted Study](#)

Draft Study Available for Review

The Palouse Regional Transportation Planning Organization (Palouse RTPPO) is pleased to announce that the final draft of the Whitman County Truck and Freight Study is available for public review and comment.

[View Draft Study](#)

February 20 Open House

The community attended an open house event on February 20 to review the progress on the study.

[View Open House Materials](#)

Alternatives Development

Narrowing Down Alternatives

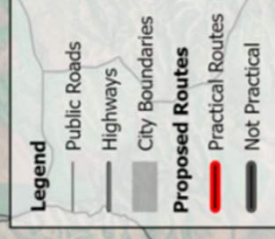
Practical

Constraints

- Cost
- Bridges
- Land Use compatibility
- Existing Crashes

Overlay Analysis

Spatial Weighting of Criteria

[illegible]

Bridges

WSDOT & ITD

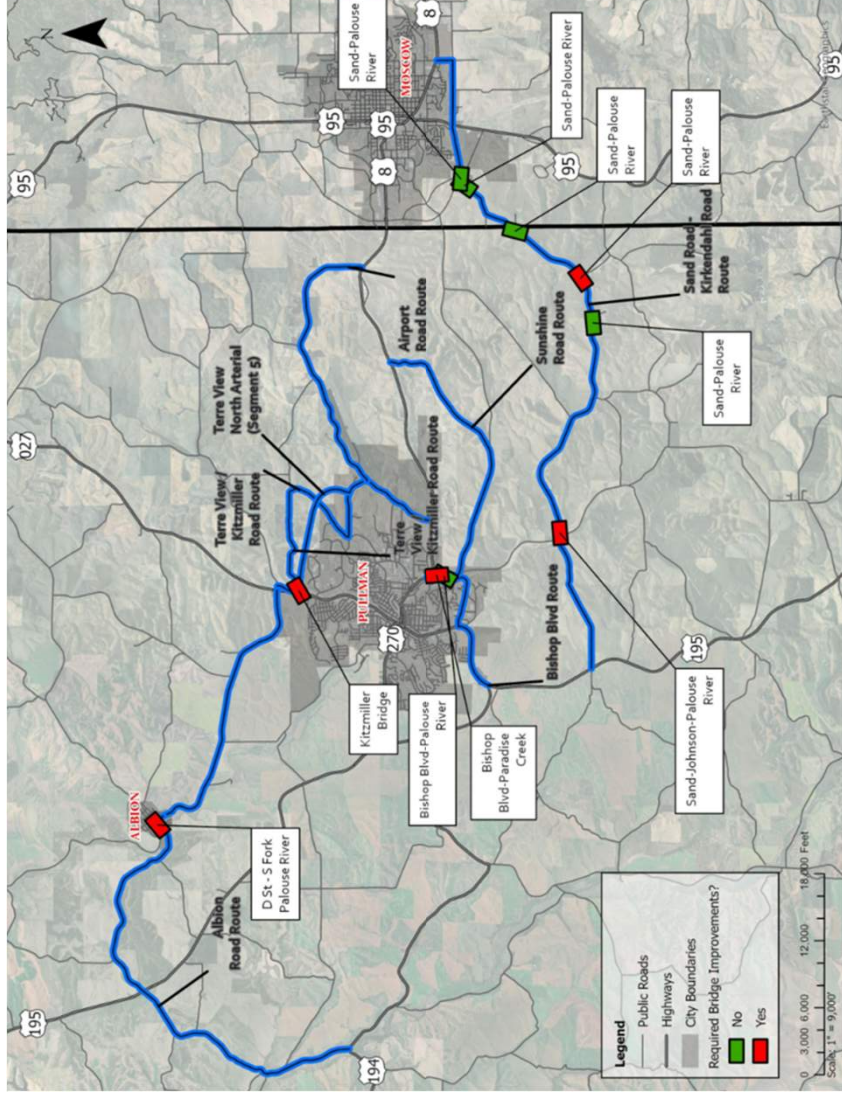
• Attribute

Table:

- Bridge Span
- Year Built
- Condition

Streetview

- Load Limits

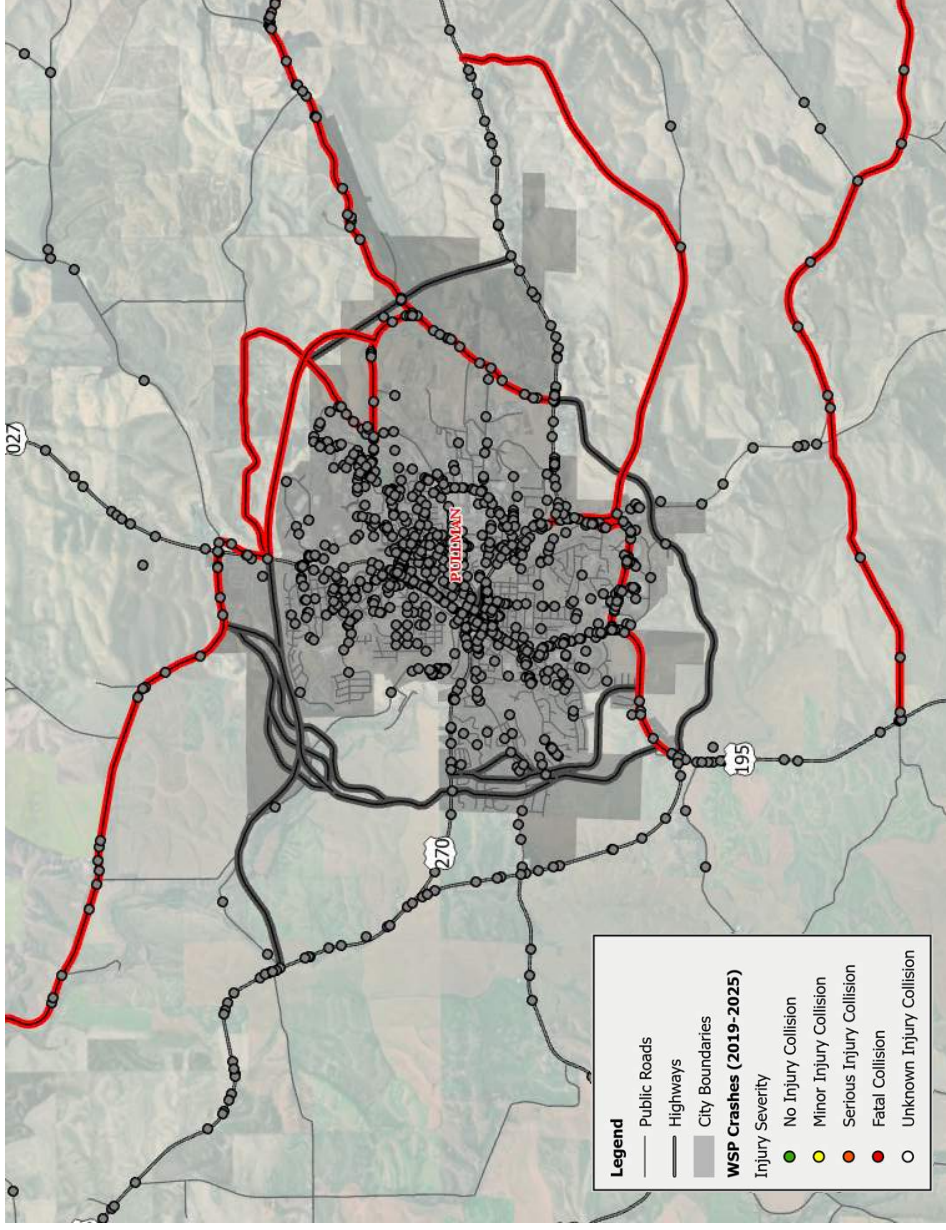


Crashes

Washington State Patrol & LHTAC

- Injury Severity
- Cause

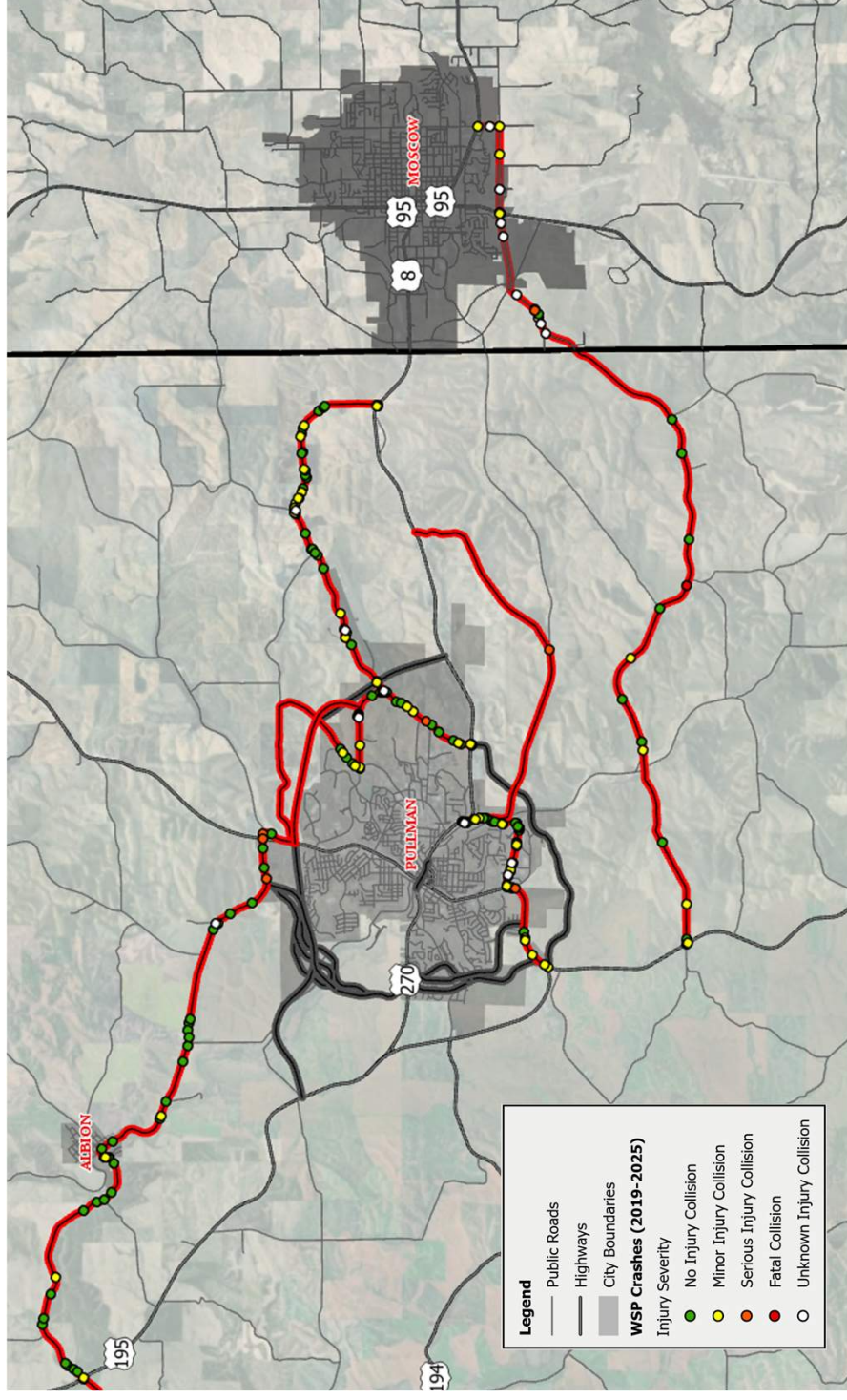
Colli_DtI_Info_State_Plane_X	Colli_DtI_Info_State_Plane_Y	Colli_DtI_Info_ObjectStruck
2491985	708026.875	
2448215.25	545438.6875	Misc Object or Debris on Road
2471698	523458.8438	
2471698	523458.8438	
2474238.75	530238.125	
2474238.75	530238.125	
2474453	472103.7813	Earth Bank or Ledge
2442450.75	683873.3125	DITC
2305277.25	546567.1875	Deer
2476007.25	489946.0938	Earth Bank or Ledge
2502173.25	531290	N/A
2502173.25	531290	N/A
2452993.5	520927.4063	Overmbankment
2425832.5	531881.3125	Overmbankment
2485720.75	530683.875	DITC
2472922.75	526694.4375	
2472922.75	526694.4375	
2478191.25	530394.625	Retaining Wall
2478191.25	530394.625	Retaining Wall
2474564	522802	
2474564	522802	
2472059.5	526407.1875	
2472059.5	526407.1875	
2472059.5	526407.1875	



Crashes

Analysis

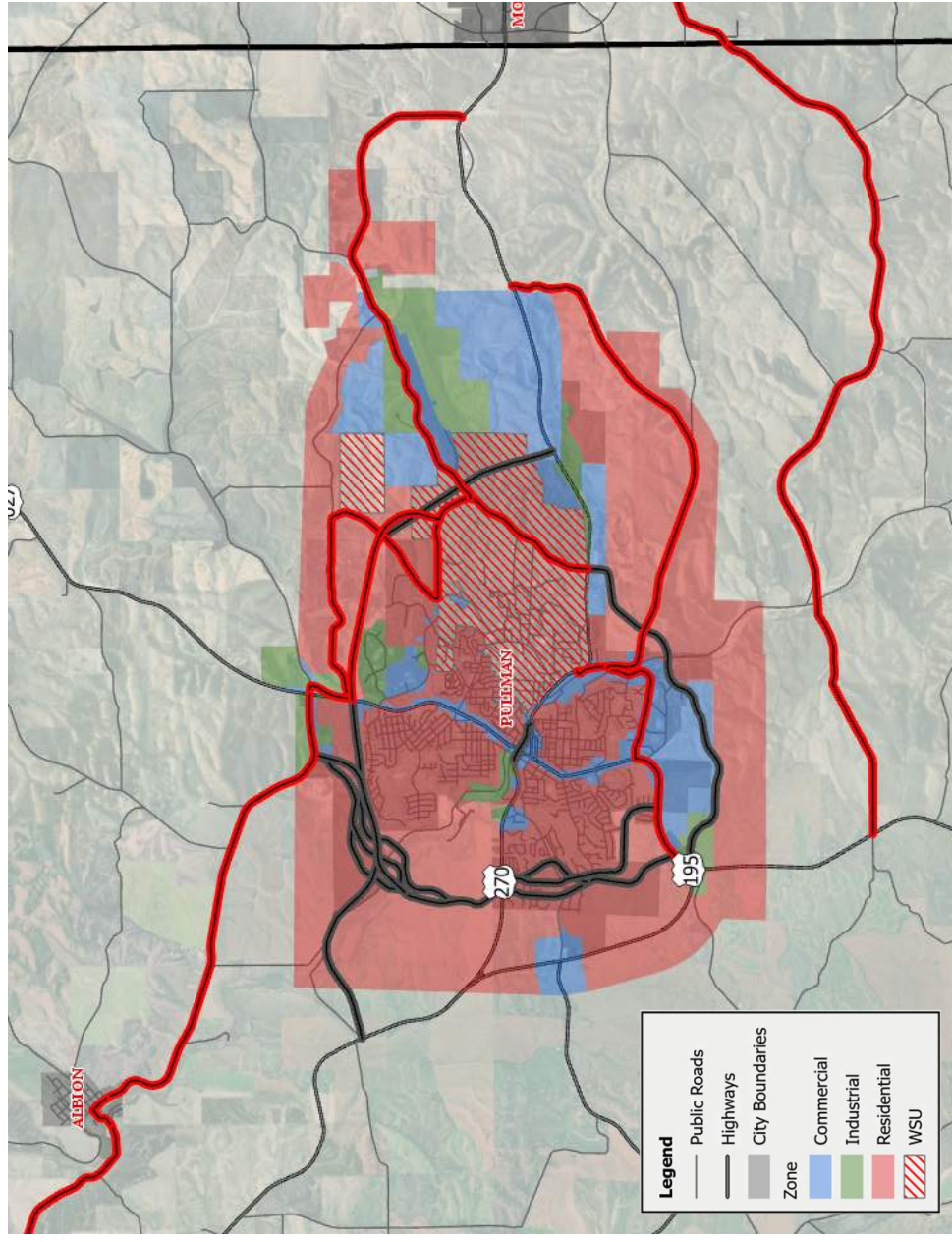
- Injury Severity
- Crashes Involving Commercial Vehicles
- Cause of Crash
 - Weather Conditions
 - Speeding
 - Improper Passing
 - Impaired Driving



Crashes

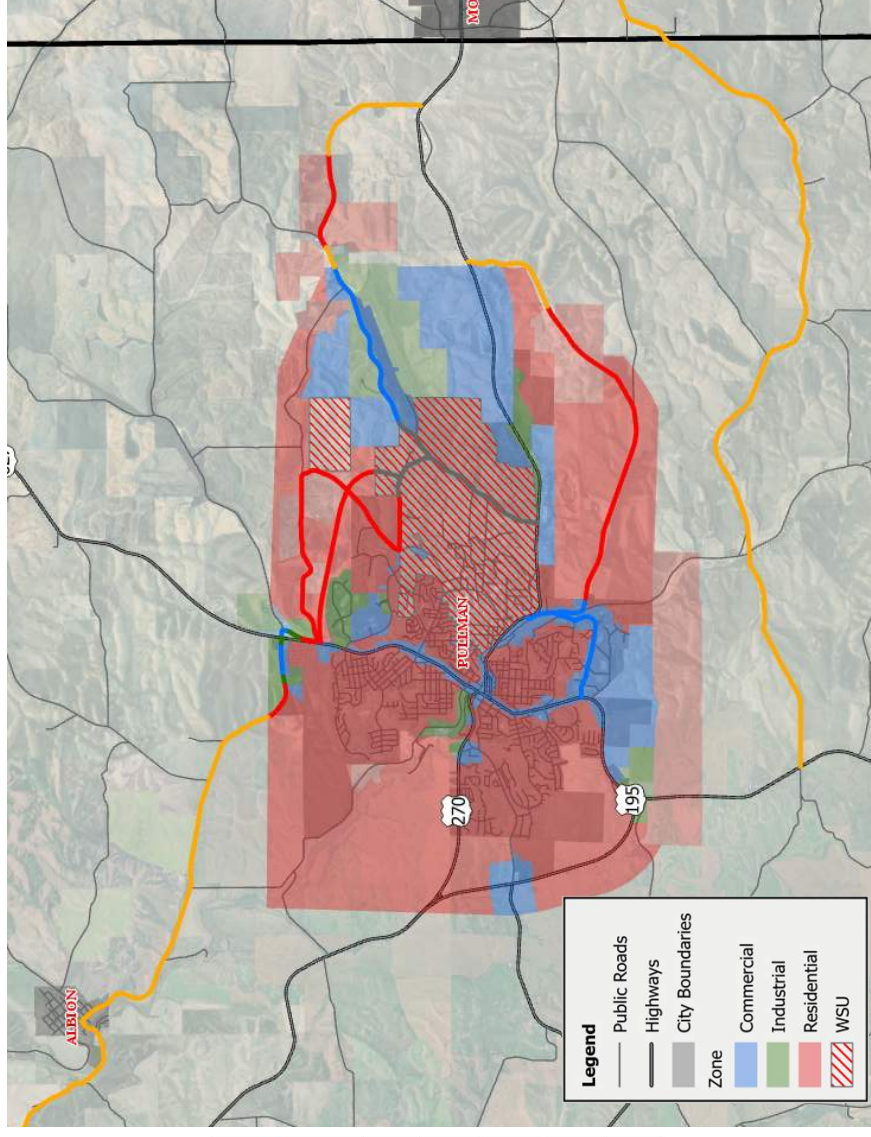
	Airport Road Route	Albion Route	Bishop Boulevard Route	Sand Road - Kirkendahl Road Route	Sunshine Road Route	Terre View - Kitzmiller Road Route	Terre View - North Arterial Route	WSDOT Societal Cost
Unknown/Property Damage	4	1	5	28	0	2	0	\$ 5,800.00
No Injury Collision	36	45	107	17	4	49	27	\$ 5,800.00
Minor Injury Collision	24	9	36	8	0	33	14	\$ 33,000.00
Serious Injury Collision	0	2	3	1	1	3	3	\$ 62,000.00
Fatal Collision	0	0	0	1	0	0	0	\$ 800,000.00
Crashes Involving Commercial Vehicles	2	5	11	2	0	2	0	-
Total	64	57	151	55	5	87	44	
Total Societal Cost	\$ 1,024,000.00	\$ 687,800.00	\$ 2,023,600.00	\$ 1,387,000.00	\$ 85,200.00	\$ 1,570,800.00	\$ 804,600.00	
Average AADT	4700	950	12000	350	100	3000	3000	
Lane Mile	4.78	12.83	2.82	12.33	4.96	6.18	3.95	
AADT / Crash	73.438	16.667	79.470	6.364	20.000	34.483	68.182	
Cost / AADT	\$ 217.87	\$ 724.00	\$ 168.63	\$ 3,962.86	\$ 852.00	\$ 523.60	\$ 268.20	
Cost / (AADT x Route Length)	\$ 45.60	\$ 56.41	\$ 59.81	\$ 321.40	\$ 171.64	\$ 84.71	\$ 67.83	
Safety Ranking	Big Green	Big Green	Big Green	Big Red	Red	Green	Green	

- # Land Use
- ## City and County
- Future Zoning GIS Data and Exhibits
 - Preferred Routes Near Commercial, Agricultural, and Industrial Zoning
 - Remaining Area Outside of Zoning is Determined as Agricultural



Land Use

	Airport Road Route	Albion Route	Bishop Boulevard Route	Sand Road - Kirkendahl Road Route	Sunshine Road Route	Terre View - Kitzmilller Road Route	Terre View - North - Arterial Route	Weighted Value
Commercial	12%	3%	100%	10%	8%	4%	0%	2
Industrial	25%	1%	0%	0%	0%	2%	0%	1
Residential	21%	3%	0%	0%	69%	64%	50%	4
WSU	10%	0%	0%	0%	0%	31%	50%	4
Agricultural	31%	93%	0%	90%	22%	0%	0%	1
Weighted Average Ranking	2.07	1.12	2.00	1.10	3.17	3.87	4.00	

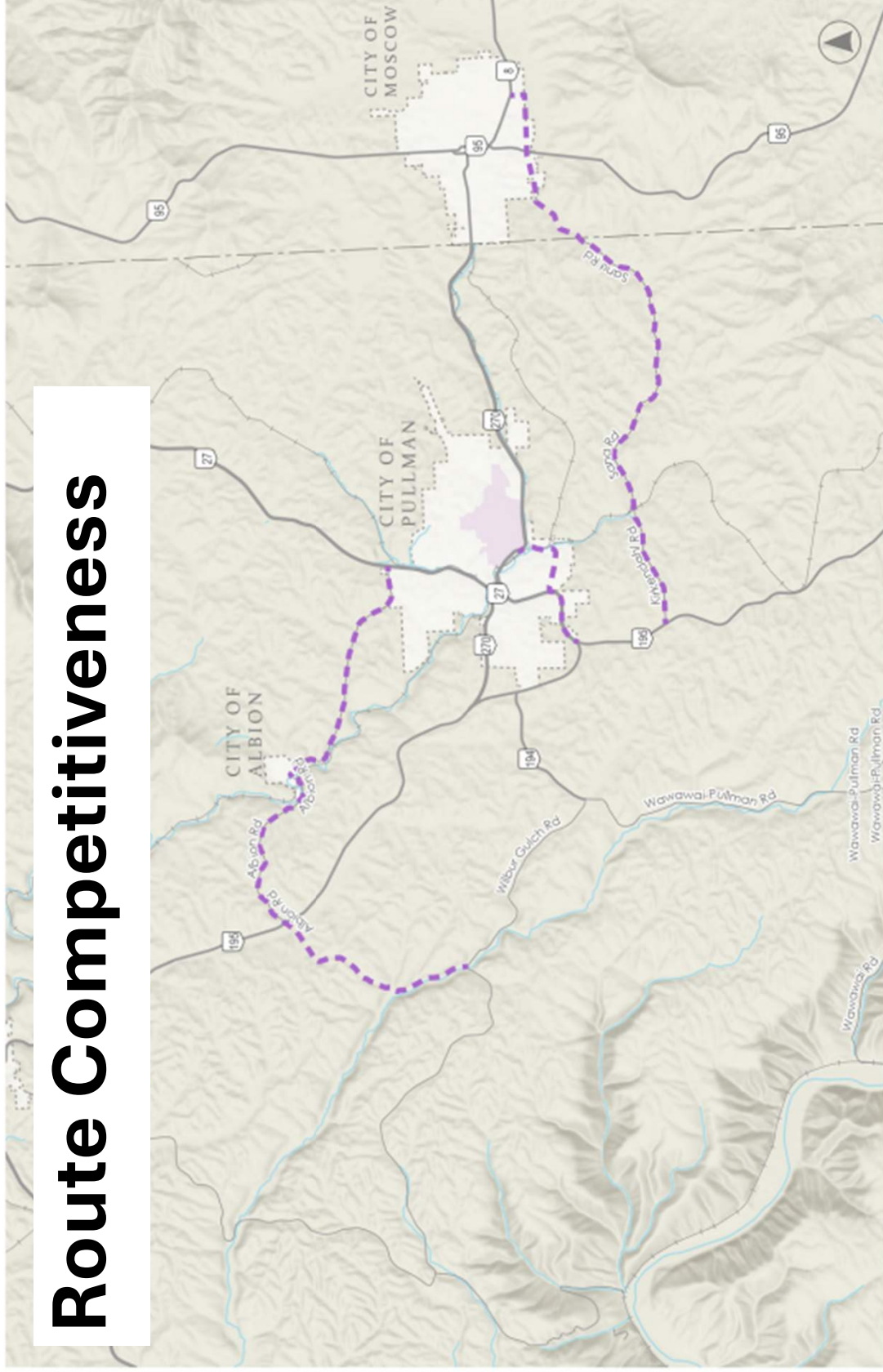


Route Competitiveness

Existing Truck Patterns

- ~1500 trucks downtown daily (100 heavy, 1400 medium)
- Group 1: 50% of trips start or end in downtown Pullman
- **Group 2: 50% start and end outside of downtown Pullman**
 - 75% travel east-west along SR270
 - Less than 10% come from the south
 - Less than 20% come from the north
 - Few trips traveling north-south (and reverse)
- Agricultural trucks are likely underrepresented in the data sets, supplemented with info from ag stakeholders

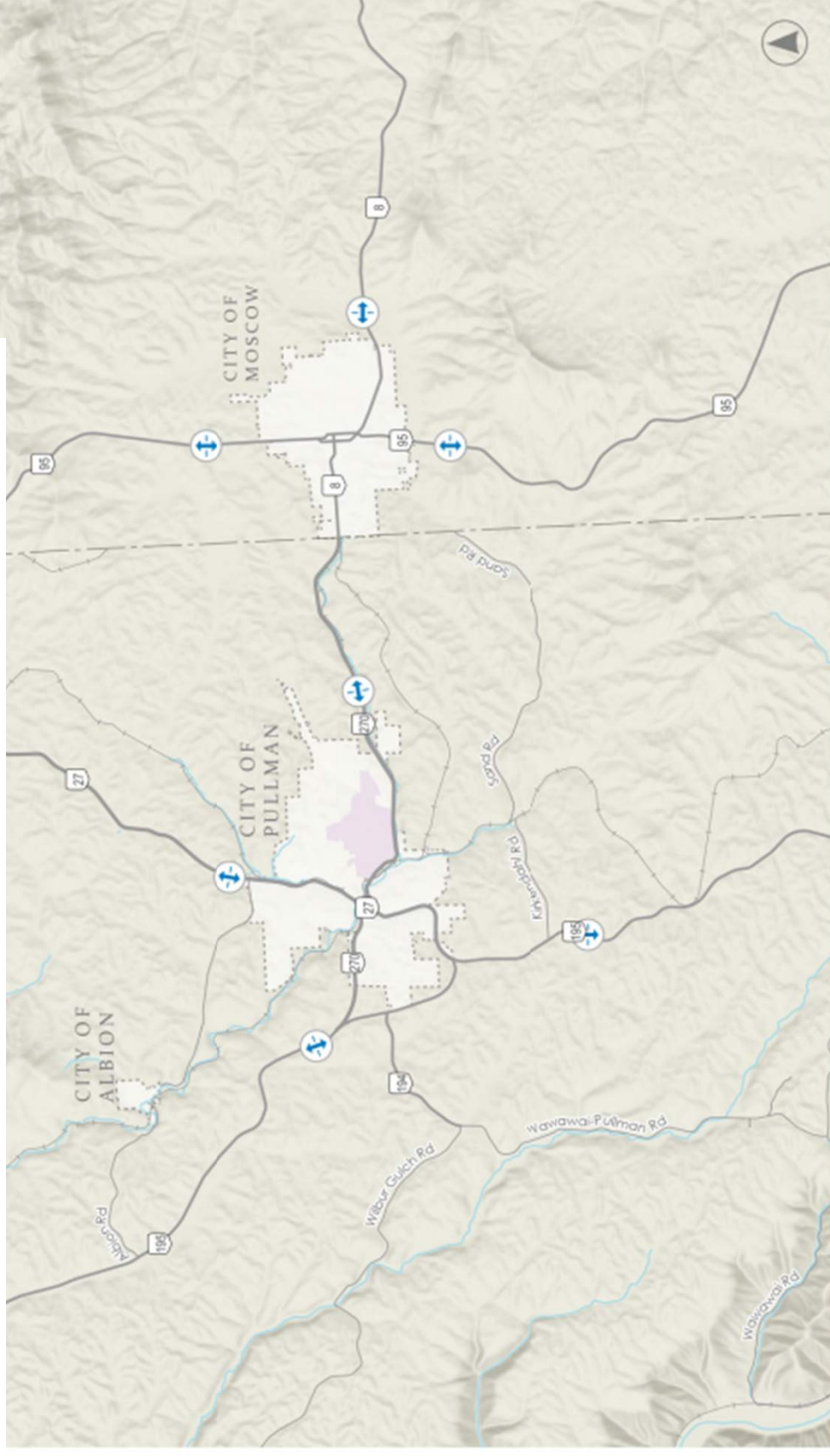
Route Competitiveness



■ Proposed Routes

Route Competitiveness

Travel times between gates

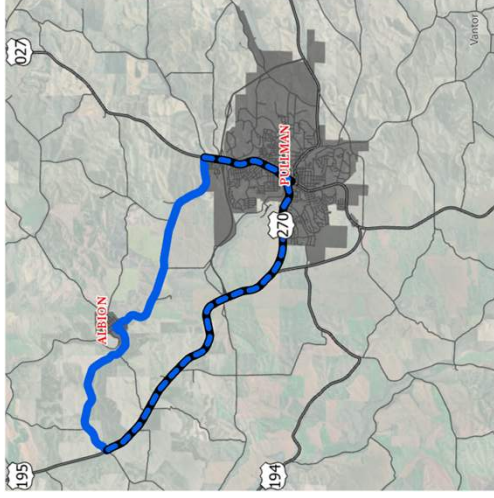


 Gateway Location

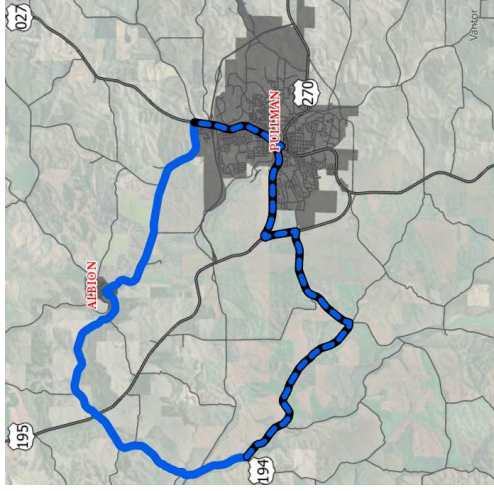
Gates for Route Testing

Alternative Route Travel Time Comparison

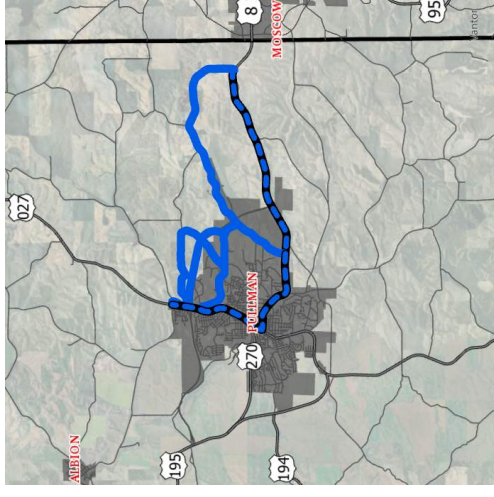
North - West Alternative Route



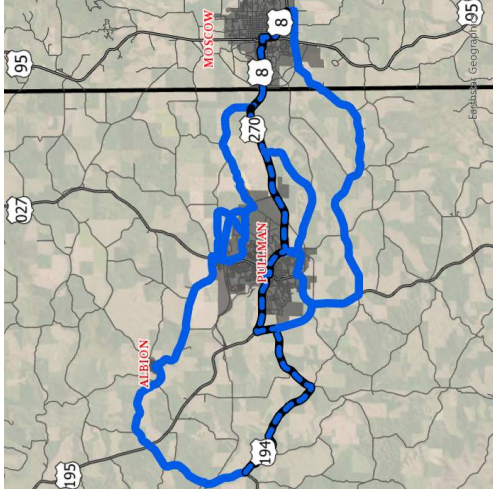
North - Almta Alternative Route



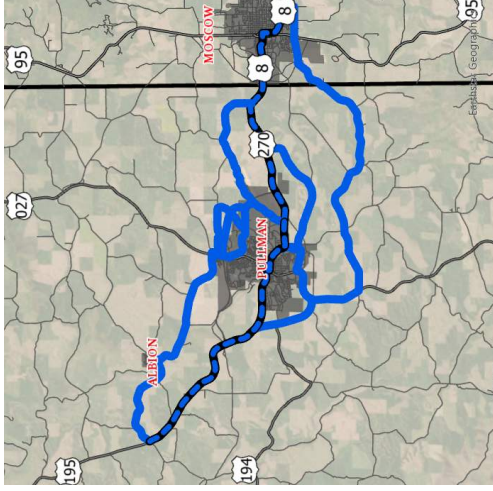
East - North Alternative Route



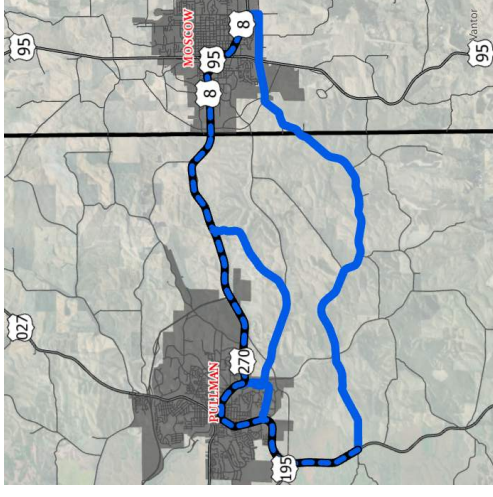
East - Almta Alternative Route



East - West Alternative Route



East - South Alternative Route



Albion Road

Primarily benefit agriculture trips from north of Pullman heading west or to Almota.

Relatively low volume of non-agriculture trucks
(**25** non-agricultural freight trips)

Bishop Boulevard

Estimated to shift approximately **400** non-agricultural freight trips.

Alternative for trucks traveling between Moscow and 195 North of Pullman and 195 South of Pullman. This includes agriculture trips traveling from west to east.

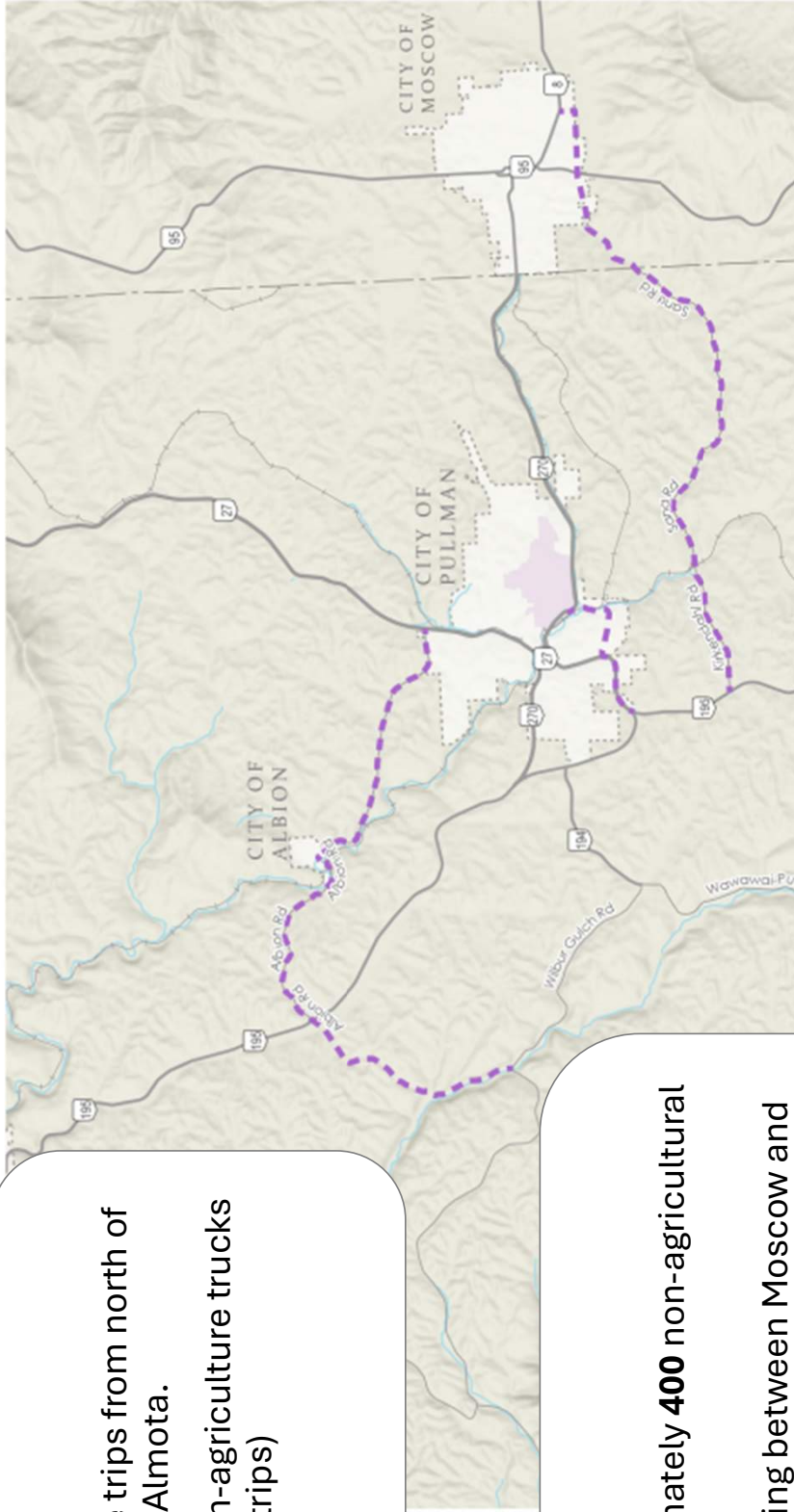
More competitive route for freight trips traveling from north of Moscow than Sand Road – Kirkendahl Road.

Positioned to reduce the impact of truck trips generated by new development along SR 270 between Pullman and Moscow.

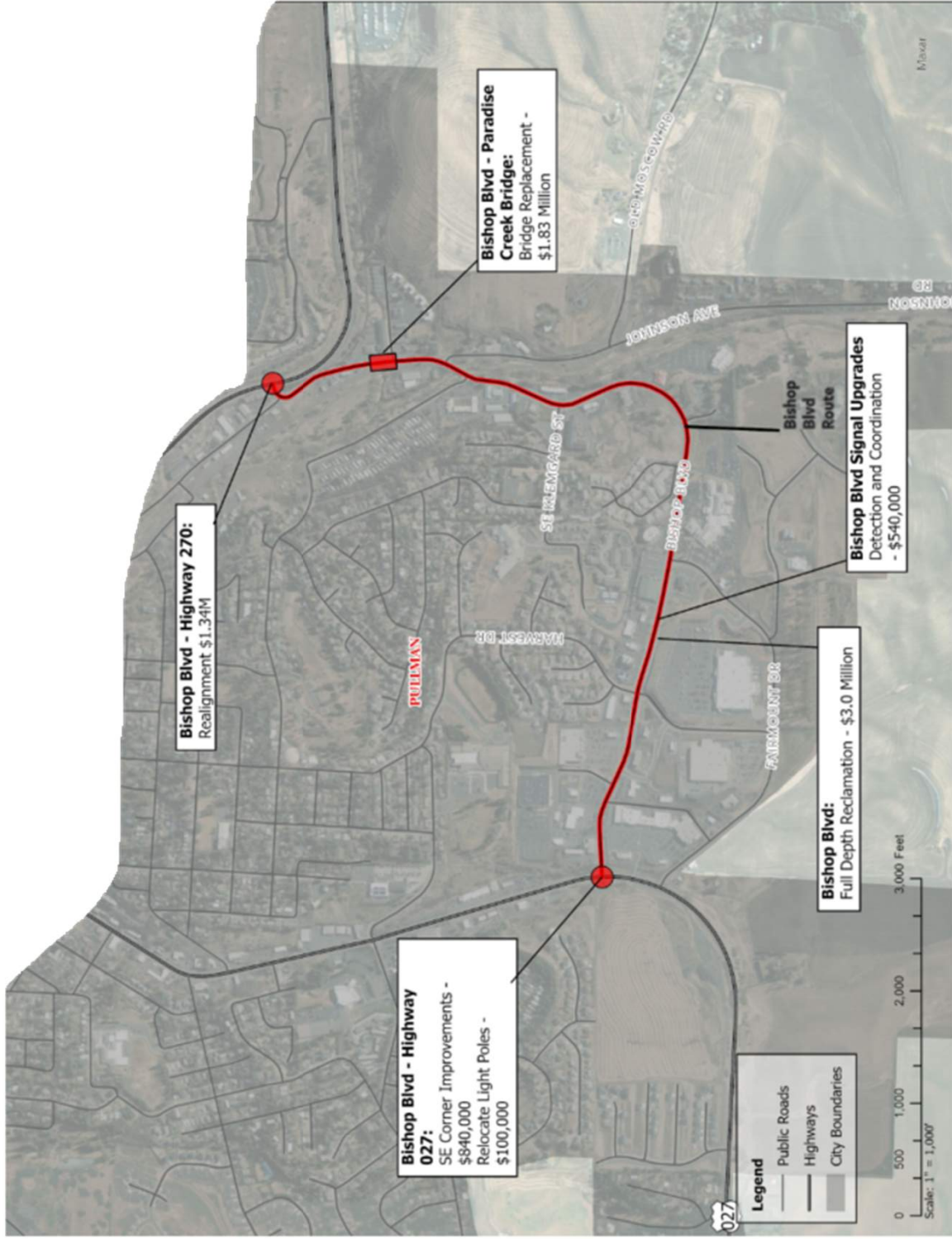
Sand Road – Kirkendahl Road

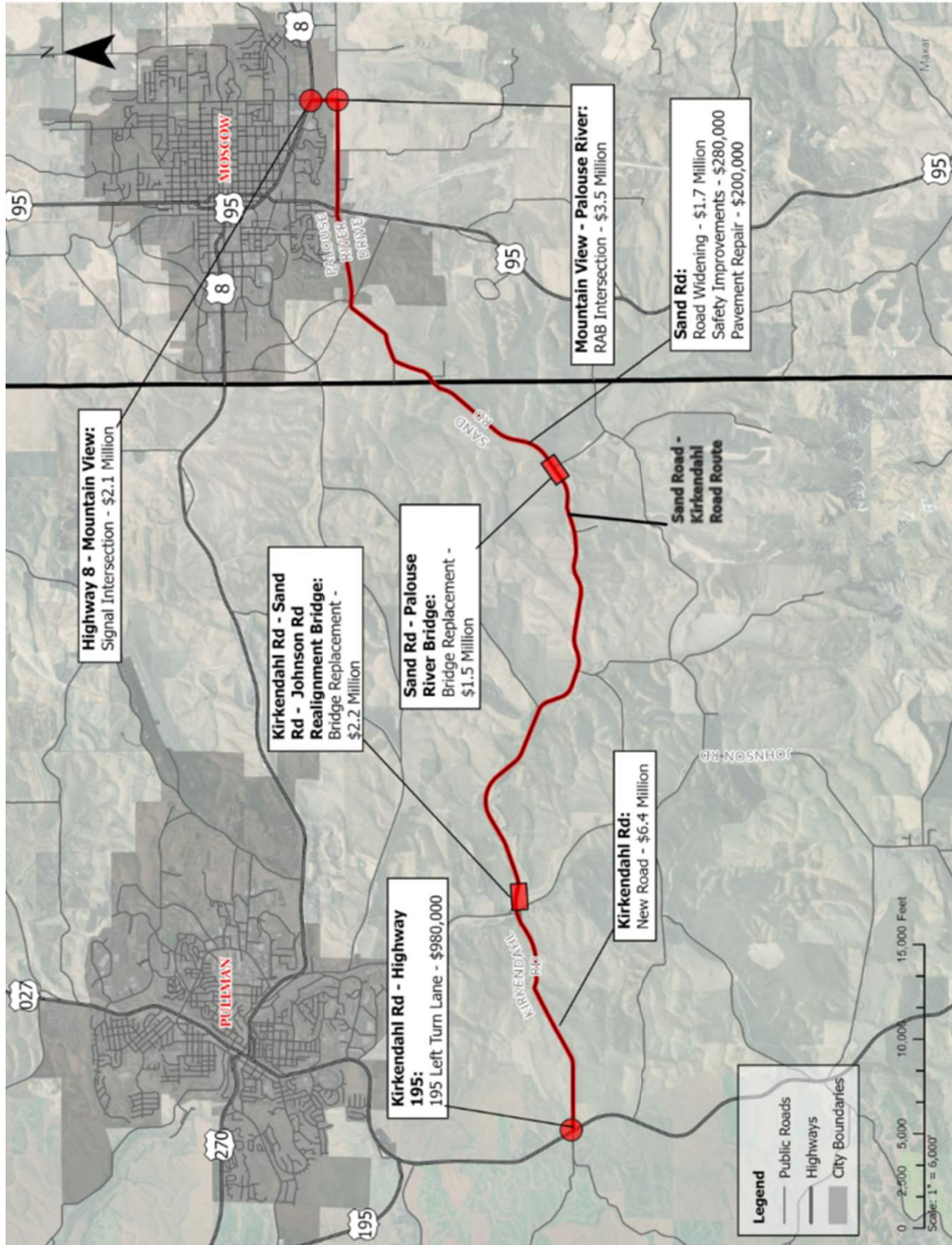
Estimated to shift approximately **250** non-agricultural freight trips.

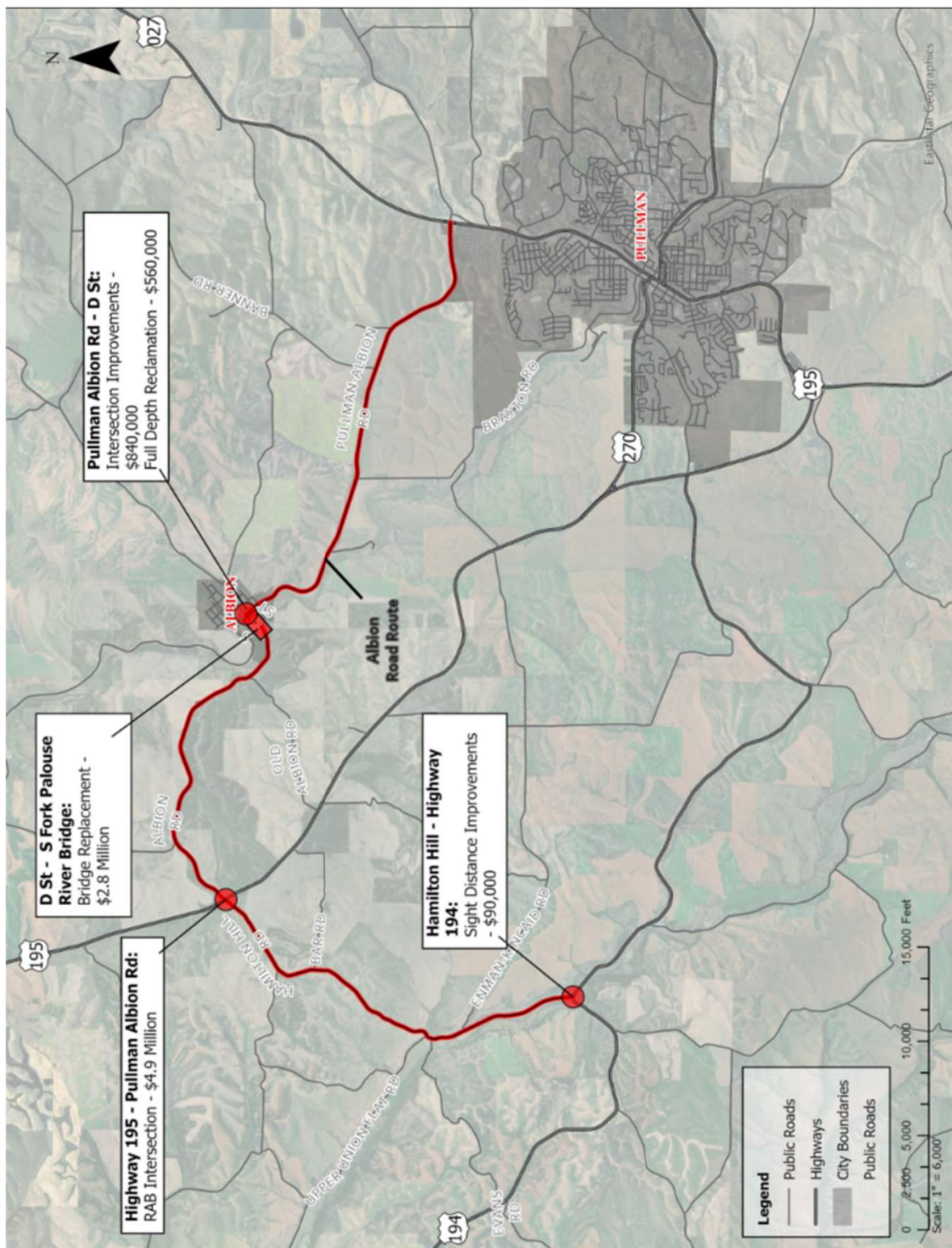
Strong alternative for trucks traveling between Moscow and 195 North of Pullman and 195 South of Pullman. This includes agriculture trips traveling from west to east.



Recommendations







Immediate Term

Bishop Blvd	Estimated Cost
Bishop/SR270 Re-Alignment	\$1.34 million
Bishop/SR27 SE corner	\$840,000
Signal Upgrades	\$540,000
Relocate light poles	\$100,000
Albion Road	Estimated Cost
Hamilton Hill/SR194 sight distance	\$90,000
	\$2.91 million

Near Term

Bishop Blvd	Estimated Cost
Full depth reclamation (FDR)	\$3.0 million
Sand Road - Kirkendahl	Estimated Cost
New Kirkendahl Road & Johnson Road intersection	\$6.4 million
SR195/Kirkendahl turn lanes	\$980,000
New Kirkendahl Bridge	\$2.2 million
	\$12.6 million

Medium Term

Bishop Blvd	Estimated Cost
Paradise Bridge	\$1.8 million
Sand Road - Kirkendahl	Estimated Cost
Sand Road Widening	\$1.7 million
Sand Road Pavement Repair	\$200,000
Sand Road guardrail/misc safety improvements	\$280,000
Replace Sand Road Bridge	\$1.5 million
SH8/Mountain View Intersection (in Moscow, ID)	\$2.1 million
Albion Road	Estimated Cost
SR195/Albion Roundabout	\$4.9 million
	\$12.5 million

Long Term

Sand Road - Kirkendahl	Estimated Cost
Palouse River/Mountain View Intersection (in Moscow, ID)	\$3.5 million
Albion Road	Estimated Cost
Full depth reclamation (FDR) in Albion	\$560,000
S. Fork Palouse River Bridge	\$2.8 million
Albion/D Street Intersection	\$840,000
	\$7.7 million

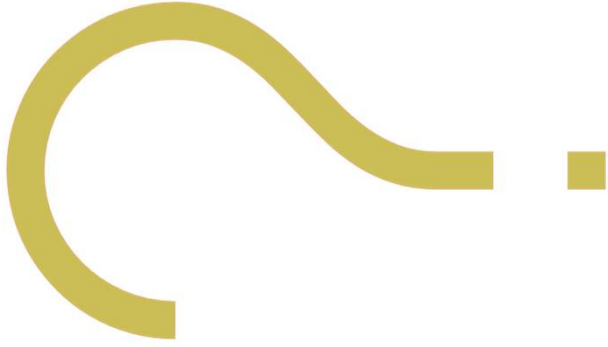
PULLMAN TRUCK ROUTE STUDY FINDINGS



RTPO



WSDOT



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