

***Note:** Projects are organized by geographpic area, then by TSP Update ID.

Red text indicates changes made post-GAPS #3 Meetings

Blue text indicates change made post PAC #5B or #5C Meeting

Highlight indicates change made post PAC #5D Meeting

1000 - 1999: Public Suggested Projects

2000 - 2999: New Identified Projects

U000 - U999: Previously Planned Projects

***Note:** Projected Future Demand based on 2035 Low Build volumes from Metro Model.

15,000 assumed for multiuse path or bike/ped bridge

Suggested Tier	Total Cost:
Tier 1	\$ 390,925,000
Tier 2	\$ 390,270,000
Tier 3	\$ 2,189,149,000

TSP Update ID	Geographic Area	Project Name / Street Name	Segment / Locations	Project Description	Project Category	Projected Future Demand*	Planning Level Cost Estimate	Final Score	TAC Meeting #7 Comment	GAPS Recommendation	TAC Recommendation	PAC Recommendation
1043	CRC	Boyer Dr / 85th Ave / Spencer Dr	OR 213 to I-205 bike path	Add bikeways	Upgrade - Active Transportation	5,000	\$40,000	9	Local roads, bike blvd - sharrows/signing/outreach	Tier 2	Tier 1	Tier 1
1073	CRC	Monterey Ave	Stevens Rd to Bob Schumacher Rd	Construct collector roadway. Include bikeways and pedways	New Roadway	4,500	\$6,660,000	10	potential public/private partnership	Tier 1	Tier 1	Tier 1
1080	CRC	Deer Creek Ln	Johnson Rd to Oak Bluff	Extend eastward for a few hundred feet and connect to Costco loop road (Oak Bluff Rd / 84th Ave)	New Roadway	1,000	\$5,460,000	7	Conflicts with the Sunrise Project, flood plains, wetlands	Tier 3	Tier Remove	Tier 3
1081	CRC	Harmony Rd	Railroad Ave /Linwood Ave / Harmony Rd intersection	Provide a bike/pedestrian overpass over railroad in vicinity of Lake Rd and Railroad Ave	Upgrade - Active Transportation	23,000	\$1,960,000	7		Tier 3	Tier 3	Tier 3
1083	CRC	Service road (OSP CSO and Precision Castparts)	Lawnfield Rd and 97th Ave	Extend to link with realignments of Lawnfield and 97th	New Roadway	1,000	\$9,660,000	7	Conflicts with the JTA Sunrise Multi-Use Path	Tier 3	Tier Remove	Tier 3
2026	CRC	Flavel Dr	Alberta Ave to County boundary	Add bikeways	Upgrade - Active Transportation	2,500	\$2,410,000	8		Tier 3	Tier 3	Tier 3
2048	CRC	Hubbard Rd	122nd Ave to 132nd Ave	Fill gaps in pedways	Upgrade - Active Transportation	3,000	\$1,650,000	8		Tier 2	Tier 2	Tier 2
2049	CRC	92nd Ave	Johnson Creek Blvd to Emmert View Ct	Fill gaps in pedways	Upgrade - Active Transportation	11,000	\$460,000	9		Tier 1	Tier 1	Tier 1
2050	CRC	King Rd	Milwaukie to 82nd Ave	Fill gaps in pedways	Upgrade - Active Transportation	14,000	\$5,640,000	9		Tier 3	Tier 3	Tier 3
2051	CRC	Michael Dr	72nd to Fuller Ave	Fill gaps in pedways	Upgrade - Active Transportation	2,500	\$2,620,000	8		Tier 3	Tier 3	Tier 3
2052	CRC	72nd Ave Multi-Use Path Connection	Thompson Rd to Harmony Rd	Construct multi-use path	Multi-Use Path	15,000	\$1,140,000	9		Tier 1	Tier 1	Tier 1
2054	CRC	Lake Rd	Milwaukie City limits east to OR 224	Fill gaps in pedways	Upgrade - Active Transportation	9,000	\$5,530,000	9		Tier 2	Tier 2	Tier 2
2055	CRC	Johnson Rd	SE Lake Rd to North Clackamas Park Trail	Identify bike/ped connections to address gaps along 82nd Ave	Study	2,500	\$200,000	6	Railroad conflicts, enters into the natural area. Identify bike/ped connection for Tier 1	Tier 3	Tier 1	Tier 1
2090	CRC	Johnson Creek Blvd	55th Ave to I-205	Perform road safety audit or transportation safety review to identify appropriate safety improvements for	Safety	21,000	\$60,000	8	Associated with U072: prioritize safety audit before construction project	Tier 2	Tier 1	Tier 1
2091	CRC	Sunnyside Rd	93rd Ave to 126th Ave	Perform road safety audit or transportation safety review to identify appropriate safety improvements for	Safety	38,000	\$60,000	8		Tier 1	Tier 1	Tier 1
2092	CRC	122nd Ave	Eagle Glen Dr to Hubbard Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements for the corridor	Safety	8,000	\$60,000	7	U123 is in Tier 1 and overlaps with the Road Safety Audit study. Prioritize study to ensure best use of funds.	Tier 2	Tier 1	Tier 2

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2114	CRC	Johnson Creek Blvd	Johnson Creek Blvd near 79th Pl	Add signal to either Johnson Creek Blvd and 79th Pl or 80th Ave	Upgrade - Vehicle Capacity	22,000	\$400,000	11	Road Safety Audit 2090	Tier 1	Tier 1	Tier 1
2115	CRC	Lake Rd	Lake Rd / International Way intersection	Add northbound right-turn lane	Upgrade - Vehicle Capacity	29,000	\$290,000	9		Tier 1	Tier 1	Tier 1
2116	CRC	Harmony Rd	Harmony Rd / Linwood Ave intersection	Add second left-turn lane on Harmony Rd, adjust signal timing	Upgrade - Vehicle Capacity	29,000	\$30,000,000	10		Tier Remove	Tier Remove	Tier 3
2117	CRC	Sunnybrook Blvd	Sunnybrook Blvd / 82nd Ave intersection	Add turn lanes on all approaches	Upgrade - Vehicle Capacity	34,000	\$860,000	6		Tier 3	Tier 3	Tier 2
2805	CRC	Sunnyside Rd	Sunnyside Rd / Stevens Rd intersection	Intersection improvments, such as additional turn lanes, turn lane extensions, and/or signal timing	Upgrade - Vehicle Capacity	30,000	\$2,000,000	10	Road Safety Audit 2091	Tier 1	Tier 1	Tier 1
U001	CRC	Sunnybrook Blvd Extension	OR 213 to Harmony Rd	Construct new 2 lane roadway with pedways and bikeways	New Roadway	12,500	\$10,600,000	8	* Special Note: Before the final GAPS and TAC meetings, the PAC voted to remove the project. GAPS and TAC put it in Tier 3.	Tier 3	Tier 3	Remove
U057	CRC	122nd Ave	Sunnyside Rd to Hubbard Rd	Add pedways, traffic calming and turn lanes at major intersections	Upgrade	6,000	\$4,850,000	12		Tier 1	Tier 1	Tier 1
U058	CRC	132nd Ave	Sunnyside Rd to OR 212	Add bikeways, pedways, traffic calming and turn lanes at major intersections	Upgrade	5,000	\$1,680,000	10		Tier 1	Tier 1	Tier 1
U066	CRC	West Collector	Johnson Creek Blvd to King Rd	Construct new 2 lane collector west of OR 213 with pedways and bikeways	New Roadway	10,500	\$18,918,000	10	See U662,duplicative project	Tier 3	Tier Remove	Remove
U072	CRC	Johnson Creek Blvd	55th Ave to Bell Ave	Widen to 3 lanes with bikeways and pedways	Upgrade	16,000	\$13,770,000	11	Consider modifying project or creating a new project that only addresses JCB/Linwood intersection realignment and a bicycle priority signal. Associated with Road Safety Audit 2090: prioritize safety audit	Tier 1	Tier 1	Tier 1
U074	CRC	Johnson Creek Blvd	Bell Ave to OR 213	Widen to 3 lanes from Bell Ave to 76th Ave and 5 lanes from 76th Ave to 82nd Ave ; add bikeways and pedways	Upgrade	21,000	\$11,130,000	9	Road Safety Audit 2090	Tier 3	Tier 3	Tier 3
U075	CRC	Clatsop St / Luther Rd	72nd Ave to Fuller Rd	Add turn lanes and signals at OR 213 intersection; add bikeways, pedways and traffic calming	Upgrade	2,500	\$7,920,000	9		Tier 2	Tier 2	Tier 2
U076	CRC	79th Ave Extension	Luther St to Johnson Creek Blvd	Construct new 2 lane collector with pedways and bikeways	New Roadway	12,500	\$4,630,000	10	See U662,duplicative project	Tier 3	Tier Remove	Remove
U082	CRC	Linwood Ave	Linwood Ave / Monroe St intersection	Add curbs/sidewalks, improve horizontal alignments	Upgrade	15,000	\$7,420,000	10		Tier 2	Tier 2	Tier 2
U084	CRC	Linwood Ave Bridge over Johnson Creek	Bridge	Construct bridge with bike lanes and sidewalks	Bridge	16,000	\$4,860,000	8		Tier 3	Tier 3	Tier 3
U088	CRC	Fuller Rd	Otty St to Johnson Creek Blvd	Add pedways, turn lanes, on-street parking, central median and landscaping.	Upgrade	9,000	\$4,000,000	11		Tier 1	Tier 1	Tier 1
U089	CRC	Otty St Realignment	Otty St / OR 213 / Otty Rd	Realign Otty St with Otty Rd at OR 213	Upgrade	23,000	\$1,600,000	11		Tier 1	Tier 1	Tier 1
U090	CRC	Otty Rd	OR 213 to 92nd Ave	Improve to minor arterial standard consistent with Fuller Road Station Plan; improve curb radius, add turn	Upgrade	13,000	\$5,000,000	10		Tier 1	Tier 1	Tier 1
U091	CRC	Fuller Rd	Otty St to King Rd / OR 213	Construct new 2 lane extension with pedways and bikeways	New Roadway	6,000	\$22,490,000	11		Tier 3	Tier 3	Tier 3
U092	CRC	Fuller Rd / King Rd Improvements	Fuller Rd / King Rd intersection	Restricts access to right-in/right-out only	Upgrade	23,000	\$255,000	10		Tier 1	Tier 1	Tier 1
U093	CRC	Monroe St	72nd Ave to Fuller Rd	Add bikeways and pedways	Upgrade - Active Transportation	6,000	\$7,470,000	10		Tier 1	Tier 1	Tier 1
U094	CRC	Boyer Dr	OR 213 to Fuller Rd	Construct new 2 lane roadway with turn lanes at OR 213 and Fuller Rd, bikeways and pedways	New Roadway	4,000	\$3,700,000	11		Tier 1	Tier 1	Tier 1
U097	CRC	Causey Ave	Fuller Rd to I-205	Add bikeways	Upgrade - Active Transportation	3,000	\$50,000	10	Parking is important here, no seperated bikeways, traffic calming/curb extensions instead. High density res but no through traffic. Change scope	Tier 2	Tier 1	Tier 2
U099	CRC	85th Ave	Causey Ave to Monterey Ave	Add sidewalks and bikeways	Upgrade - Active Transportation	5,000	\$30,000	11		Tier 1	Tier 1	Tier 1

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U100	CRC	Monterey Ave	OR 213 to Fuller Rd	Construct new 2 lane extension with pedways and bikeways	New Roadway	4,500	\$7,200,000	10		Tier 1	Tier 1	Tier 1
U102	CRC	Lake Rd	OR 224 west to Milwaukie city limits	Add pedways and turn lanes at major intersections	Upgrade	14,000	\$4,820,000	7		Tier 3	Tier 3	Tier 3
U103	CRC	Harmony Rd	Lake Rd / Linwood Ave / Harmony Rd intersection	Grade separated railroad crossing, include bikeways and pedways	Upgrade	31,000	\$20,000,000	10	Project within Milwaukie TSP	Tier 1	Tier 1	Tier 1
U104	CRC	Harmony Rd	OR 213 to OR 224	Widen to 5 lanes with bikeways and pedways	Upgrade	25,000	\$33,980,000	6		Tier 3	Tier 3	Remove
U107	CRC	Phillips Creek Multi-Use Path	Causey Ave to North Clackamas Regional Parks Trail	Construct multi-use path	Multi-Use Path	15,000	\$3,110,000	9	Difficult ROW project, not much of creek exposed. Costed too low. Other trails are more important and practical.	Tier 1	Tier 1	Tier 1
U108	CRC	North Clackamas Regional Park Trail	Linwood Ave to North Clackamas Park Complex	Construct multi-use path	Multi-Use Path	15,000	\$1,100,000	9		Tier 1	Tier 1	Tier 1
U114	CRC	Hillcrest St	92nd Ave to Stevens Rd	Add pedways	Upgrade - Active Transportation	2,500	\$1,540,000	8	Local road, however EPN	Tier 3	Tier 3	Tier 3
U115	CRC	Idleman Rd	92nd Ave to Westview Ct	Fill gaps in bikeways and pedways	Upgrade	13,000	\$6,450,000	8	Not much complete. Alternative route on private roads or Causey/Utty. Happy Valley's portion is worse than ours	Tier 3	Tier 3	Tier 3
U123	CRC	122nd Ave	Sunnyside Rd to Timber Valley Dr	Add bikeways and turn lanes at major intersections	Upgrade	12,000	\$2,930,000	9	Road Safety Audit 2092	Tier 1	Tier 1	Tier 1
U126	CRC	Valley View Terrace	Sunnyside Rd to Otty Rd	Add bikeways and pedways	Upgrade - Active Transportation	7,000	\$5,020,000	8		Tier 3	Tier 3	Tier 3
U130a	CRC	97th Ave / Mather Rd	Lawnfield Rd to Summers Ln	Add bikeways, pedways and eastbound left-turn lanes at Mather Rd / Summers Ln	Upgrade	10,000	\$4,560,000	8	Close to being done, Fill in bikelane gaps (both sides), maybe just fill in north side sidewalks? Consider splitting project? (Summers to 122nd. Tier 2)	Tier 3	Tier 1	Tier 1
U130b	CRC	Mather Rd	Summers Ln Rd to 122nd Ave	Add bikeways, pedways and eastbound left-turn lanes at Mather Rd / 122nd Ave	Upgrade	10,000	\$6,420,000	8	Close to being done, fill in bikelane gaps (both sides), maybe just fill in north side sidewalks? Consider splitting project? (Summers to 122nd. Tier 2)	Tier 3	Tier 2	Tier 2
U131	CRC	Mather Rd	Mather Rd / 122nd Ave intersection	Install traffic signal or compact roundabout	Upgrade - Vehicle Capacity	8,000	\$200,000	4	Road Safety Audit 2092	Tier 3	Tier 3	Tier 3
U132	CRC	Mather Rd	122nd Ave to 132nd Ave	Construct new 2 lane roadway with pedways and bikeways	New Roadway	3,000	\$7,280,000	7		Tier 3	Tier 3	Tier 3
U135	CRC	142nd Ave	Sunnyside Rd to OR 212	Add bikeways and pedways	Upgrade - Active Transportation	9,000	\$13,710,000	9	A little less than half done.	Tier 2	Tier 2	Tier 2
U136	CRC	152nd Ave Phase 2	Sunnyside Rd to OR 212	Add bikeways, pedways and turn lanes at major intersections	Upgrade	11,000	\$5,830,000	11	Fixed the curve but issues with downhill part. Difficult project. Side slope. Perhaps use 136th instead?	Tier 1	Tier 2	Tier 3
U155	CRC	Strawberry Ln	Strawberry Ln / 82nd Dr intersection	Install traffic signal	Upgrade - Vehicle Capacity	26,000	\$200,000	5	Citizen complaints.	Tier 3	Tier 2	Tier 2
U156	CRC	82nd Dr	OR 212 to Gladstone	Widen to 5 lane with bikeways and pedways	Upgrade	22,000	\$52,861,000	7		Tier 3	Tier 3	Tier 3
U160	CRC	Mather Rd	Industrial Way to 98th Ave	Maintain as pedway and bikeway. Construct undercrossing at Sunrise mainline.	Upgrade - Active Transportation	2,000	\$2,040,000	8		Tier 3	Tier 3	Tier 3
U184	CRC	Springwater Rd	OR 224 to Hattan Rd	Widen to 3 lanes with shoulders and pedways.	Upgrade	29,000	\$5,500,000	8	Move to Tier 1. High use and issues during recreation season. 2 lane bridge currently under construction.	Tier 2	Tier 1	Tier 1
U338	CRC	82nd Dr	OR 212 to Lawnfield Rd	Fill in bikeways and pedways gaps	Upgrade - Active Transportation	11,000	\$660,000	9	Just needs sidewalks	Tier 1	Tier 1	Tier 1
U418	CRC	Tolbert St Overcrossing	82nd Dr to Industrial Way	Construct new 2 lane overcrossing with bikeways and pedways	New Roadway	7,500	\$9,210,000	10	RTP Financially Constrained List Project. (ODOT)	Tier NA	Tier NA	Tier 1
U645	CRC	Causey Ave	I-205 to Bob Schumacher Rd	Extend Causey Ave over I-205 to Bob Schumacher Road with 3 lane overpass, including bikeways and pedways	New Roadway	2,000	\$21,670,000	9	Light rail precludes bridge construction	Tier 3	Tier Remove	Remove

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U650	CRC	Sunnyside Rd	OR 213 to 97th Ave	Modified boulevard treatment including lane redesign, medians, beautification, curb extensions, reconstructed sidewalks, landscaping, south side bikeways	Upgrade - Active Transportation	34,000	\$3,000,000	9		Tier 2	Tier 2	Tier 2
U653	CRC	I-205 ped / bike Overpass	Between Causey Ave and Sunnyside Rd	Construct a bike / ped crossing over I-205 to connect transit services, businesses and residents	Upgrade - Active Transportation	38,000	\$4,780,000	11		Tier 1	Tier 1	Tier 1
U654	CRC	North Clackamas Regional Park Trail	OR 213 to Linwood Ave	Construct multi-use path	Multi-Use Path	15,000	\$1,840,000	9		Tier 1	Tier 1	Tier 1
U657	CRC	Sunnyside Rd Adaptive Signal Timing	OR 213 to 172nd Ave	Add adaptive timing to traffic signals	ITS	35,000	\$1,500,000	8	Road Safety Audit 2091	Tier 3	Tier 3	Tier 3
U659	CRC	Johnson Creek Blvd	Johnson Creek Blvd / OR 213 intersection	Extend westbound left-turn lane and rebuild median	Upgrade - Vehicle Capacity	26,000	\$50,000	9	Road Safety Audit 2090	Tier 1	Tier 1	Tier 1
U661	CRC	Fuller Rd / King Rd Realignment	Fuller Rd / King Rd intersection	Realign Fuller Rd west at King Rd	Upgrade	11,000	\$5,770,000	10	Project is not a stand alone project. It only works with U076.	Tier 2	Tier 2	Remove
U662	CRC	West 82nd Ave Parallel road	Fuller Rd to Luther Rd	Construct new Collector road parallel to OR 213 with bikeways and pedways	New Roadway	10,500	\$50,000,000	8	A new road parallel to 82nd is problematic because of the cost, limited funding sources, and impact on existing development. The facility is key to moderating future congestion on 82nd and giving local traffic a way to get through the neighborhood without having to get onto 82nd. The CRC plan traffic analysis showed that either a parallel facility will be needed or 82nd will need to be widened to 7 lanes in the nearer time frame (20 years). If the project is not feasible, some other project for 82nd Ave would need to take its place.	Tier 3	Tier 3	Tier 3
U677	CRC	162nd Ave	Sager Rd north to County line	Add bikeways, pedways, turn lanes at major intersections	Upgrade	12,000	\$3,920,000	2		Tier 3	Tier 3	Tier 3
U694	CRC	93rd Ave	Sunnyside Rd to Sunnybrook Blvd	Add bikeways	Upgrade - Active Transportation	5,000	\$650,000	8	I-205 Multi-Use Path is an alternative route	Tier 3	Tier 3	Tier 3
U696	CRC	Flavel Dr	Johnson Creek Blvd to Alberta Ave	Add bikeways	Upgrade - Active Transportation	6,000	\$1,230,000	11	Do Bell, easter section of Alberta. Delete between Bell/Flavel. See U792, 2026. This portion of Flavel has bike lanes	Tier 1	Tier Remove	Remove
U705	CRC	Evelyn St / Mangan Dr	Jennifer St to Water Ave	Add bikeways	Upgrade - Active Transportation	14,000	\$50,000	8		Tier 2	Tier 2	Tier 2
U710	CRC	Jennifer St	106th Ave to 130th Ave	Add bikeways	Upgrade - Active Transportation	6,000	\$7,300,000	8		Tier 3	Tier 3	Tier 3
U715	CRC	Linwood Ave	Queen Rd to Johnson Creek Blvd	Add bikeways	Upgrade - Active Transportation	16,000	\$3,600,000	10		Tier 2	Tier 2	Tier 2
U720	CRC	Monroe St	Linwood Ave to 72nd Ave	Add bikeways	Upgrade - Active Transportation	5,000	\$5,330,000	11		Tier 1	Tier 1	Tier 1
U785	CRC	106th Ave	OR 212 to Jennifer St	Add bikeways and pedways	Upgrade - Active Transportation	2,000	\$2,060,000	7		Tier 3	Tier 3	Tier 3
U792	CRC	Bell Ave / Alberta St / 72nd Ave	King Rd to County line	Add bikeways and pedways	Upgrade - Active Transportation	6,000	\$21,450,000	10		Tier 2	Tier 2	Tier 2
U794	CRC	Cornwell Ave	OR 213 to Fuller Rd	Add pedways; connect to I-205 Multi-Use Path	Upgrade - Active Transportation	2,500	\$2,560,000	10		Tier 3	Tier 3	Tier 3
U796	CRC	Evelyn St	OR 224 to Jennifer St	Add bikeways and pedways	Upgrade - Active Transportation	11,000	\$1,640,000	9		Tier 2	Tier 2	Tier 2
U797	CRC	Fuller Rd	Johnson Creek Blvd to County Line	Add pedways	Upgrade - Active Transportation	8,000	\$6,020,000	10	Fairly low volume collector.	Tier 3	Tier 3	Tier 3
U805	CRC	Jennifer St	82nd Dr to 135th Ave	Add pedways	Upgrade - Active Transportation	8,000	\$15,690,000	10		Tier 2	Tier 2	Tier 2
U808	CRC	Johnson Creek Blvd	OR 213 to 92nd Ave	Add pedways, restripe for bikeways	Upgrade - Active Transportation	23,000	\$1,400,000	10	Road Safety Audit 2090	Tier 1	Tier 1	Tier 1

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U809	CRC	Lake Rd	Johnson Rd to Webster Rd	Fill gaps in pedways and bikeways	Upgrade - Active Transportation	2,500	\$8,550,000	10		Tier 3	Tier 3	Tier 3
U811	CRC	Linwood Ave	Monroe St to Johnson Creek Blvd	Add pedways	Upgrade - Active Transportation	16,000	\$5,880,000	10		Tier 1	Tier 1	Tier 1
U825	CRC	Monroe St / 72nd Ave / Thompson Rd	Linwood Ave to Fuller Rd	Add pedways	Upgrade - Active Transportation	5,000	\$3,970,000	10		Tier 2	Tier 2	Tier 2
U900	CRC	Luther Rd Bridge over Johnson Creek	Bridge # 06591D	Replace bridge	Bridge	2,500	\$2,030,000	8		Tier 3	Tier 3	Tier 3
U909	CRC	Cheldelin Rd (Clatsop St extension)	172nd Ave to Foster Rd	Construct new two lane roadway with bikeways and pedways	New Roadway	8,000	\$4,200,000	3		Tier 3	Tier 3	Tier 3
U910	CRC	Cheldelin Rd	Foster Rd to 190th Dr	Add bikeways and pedways	Upgrade - Active Transportation	8,000	\$12,590,000	7		Tier 3	Tier 3	Tier 3
U919	CRC	Scouters Mountain / Mt Scott Loop Trail	Loop trail through Happy Valley, Damascus, Clackamas County and Portland	Construct multi-use path consistent with the Connecting Clackamas Plan	Multi-Use Path	15,000	\$17,060,000	7		Tier 3	Tier 3	Tier 3
U937	CRC	172nd Ave Bridge	~140 feet south of Troge Rd	Replace failing bridge	Bridge	21,500	\$860,000	5	Bridge Sufficiency <50		Tier 1	Tier 3
U939	CRC	I-205 Multi-use Path Gap	OR 224/OR 213 to OR 212	Study the I-205 multi-use path gap to create a plan for connection and path completion	Study	15,000	\$200,000	10			Tier 1	Tier 1
1010	E	282nd Ave	282nd / Haley Rd intersection	Install traffic signal and lower speed limit on 282nd	Upgrade	15,000	\$1,000,000	5	Road Safety Audit 2063	Tier 2	Tier 2	Tier 2
1020	E	OR 211	OR 211 / Judd Rd intersection	Realign roadway	Safety	10,000	\$3,700,000	4		Tier NA	Tier NA	Tier 1
1045	E	Springwater Trail	Gresham to Estacada and Government Camp	Extend Springwater Trail to Estacada and Government Camp	Multi-Use Path	15,000	\$52,500,000	9	Remove. Not defined enough at this level, Tickle Creek and Cazadero are higher priority alternatives.	Tier 3	Tier Remove	Remove
1062	E	362nd Ave	Skogan Rd to OR 211	Add paved shoulders	Upgrade	2,500	\$5,980,000	9		Tier 2	Tier 2	Tier 2
2000	E	Bluff Rd	Kelso Rd to County boundary	Add paved shoulders	Upgrade	3,000	\$21,230,000	8		Tier 3	Tier 3	Tier 3
2001	E	Orient Dr	US 26 north to County line	Add paved shoulders	Upgrade	3,000	\$20,370,000	8		Tier 3	Tier 3	Tier 3
2002	E	Coalman Rd	City of Sandy to US 26	Add paved shoulders	Upgrade	2,500	\$37,320,000	7	Low volume road. Traffic calming instead? Signage?	Tier 3	Tier 3	Tier 3
2003	E	Barlow Trail Rd/ Lolo Pass Rd	Between communities of Timberline, Welches and Zig Zag	Add paved shoulders	Upgrade	2,500	\$49,180,000	8		Tier 3	Tier 3	Tier 3
2004	E	Howlett Rd	OR 211 to Wildcat Mountain Dr	Add paved shoulders	Upgrade	4,000	\$10,540,000	7		Tier 3	Tier 3	Tier 3
2005	E	Wildcat Mountain DR	OR 224 to Firwood Rd	Add paved shoulders	Upgrade	2,000	\$30,010,000	8	Move down to Tier 3 from Tier 1- use does not justify priority.	Tier 1	Tier 3	Tier 3
2006	E	352nd Ave / Dunn Rd	Bluff Rd to Bluff Rd	Add paved shoulders	Upgrade	3,000	\$14,120,000	8		Tier 3	Tier 3	Tier 3
2007	E	Arrah Wanna Blvd	US 26 to Fairway Ave	Add paved shoulders	Upgrade	2,500	\$3,530,000	8	Supports recreational uses	Tier 2	Tier 1	Tier 1
2008	E	Fairway Ave	Arrah Wanna Blvd to Salmon River Rd	Add paved shoulders	Upgrade	2,500	\$6,170,000	8	Supports recreational uses	Tier 2	Tier 1	Tier 1
2063	E	282nd Ave	US 26 to OR 212	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	15,000	\$30,000	6		Tier 1	Tier 1	Tier 1
2069	E	Eagle Creek Rd	Firwood Rd to Duus Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	3,000	\$50,000	7	Move up to Tier 1 - safety issues are top priority. Associated with U257	Tier 2	Tier 1	Tier 1
2105	E	282nd	282nd Ave / OR 212 intersection	Add second right-turn lane on 282nd	Vehicle Capacity	24,000	\$570,000	8	Not Planned or Funded. ODOT would like clarification on operations. (ODOT)	Tier NA	Tier NA	Tier 3

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U226	E	282nd Ave	OR 212 to Multnomah County line	Add paved shoulders	Upgrade	15,000	\$9,140,000	10	Move down - not realistic, lengthy rural roadway, probably won't be built. Springwater Corridor provides parallel facility for bicyclists. Question as to whether still needed for safety. Road Safety Audit 2063	Tier 1	Tier 2	Tier 3
U227	E	Compton Rd	US 26 to 352nd Ave	Remove vertical curve near Orient Dr and relocate intersection; add paved shoulders	Safety	7,000	\$10,900,000	11	Move down - putting shoulders on major arterials more likely. Usage does not justify priority.	Tier 1	Tier 2	Tier 3
U229	E	Richey Rd	Kelso Rd to OR 212	Add paved shoulders and left turn lane at Richey Rd and OR 212.	Upgrade	15,000	\$4,090,000	10		Tier 1	Tier 1	Tier 1
U231	E	Amisigger Rd / Kelso Rd	OR 224 to Kelso / Richey Rd	Add paved shoulders; turn lanes at Amisigger/OR 212 and Kelso/Richey; smooth curves.	Upgrade	12,000	\$12,690,000	10		Tier 1	Tier 1	Tier 1
U232	E	Kelso Rd	Richey Rd to Orient Dr	Add paved shoulders	Upgrade	5,000	\$15,480,000	10	Future demand doesn't warrant project	Tier 2	Tier 3	Tier 3
U233	E	Kelso Rd	Orient Dr to Sandy UGB	Remove vertical curve, relocate intersection, add paved shoulders and turn lanes at major intersections;	Upgrade	6,000	\$12,750,000	10	Move down - putting shoulders on major arterials more likely. Usage does not justify priority.	Tier 1	Tier 3	Tier 3
U234	E	362nd Dr	Colorado Rd to Dubarko Rd	Remove or decrease horizontal and vertical curves	Safety	7,000	\$5,310,000	5		Tier 3	Tier 3	Tier 3
U235	E	362nd Dr	362nd Ave / Deming Rd intersection	Remove or decrease vertical curve, relocate intersection	Safety	7,000	\$460,000	5		Tier 3	Tier 3	Tier 3
U237	E	Ten Eyck Rd	Lusted Rd to US 26	Remove vertical curve, relocate intersection, add paved shoulders, turn lanes at major intersections; investigate speed zone	Upgrade	1,000	\$34,620,000	7	Issues with grades, cliff, geology: nearly impossible to build	Tier 3	Tier 3	Tier 3
U239	E	Firwood Rd	Firwood Rd / Trubel Rd intersection	Realign Trubel Rd to remove or decrease downgrade	Safety	1,000	\$3,230,000	5		Tier 3	Tier 3	Tier 3
U241a	E	Welches Rd	US 26 to Birdie Ln	Add paved shoulders; add pedways in Welches rural center	Upgrade	2,500	\$6,360,000	10		Tier 1	Tier 1	Tier 1
U241b	E	Welches Rd	Birdie Ln to Salmon River Rd	Add paved shoulders	Upgrade	2,500	\$5,300,000	10		Tier 3	Tier 3	Tier 3
U245	E	Lolo Pass Rd	US 26 to Barlow Trail Rd	Safety analysis; add paved shoulders	Upgrade - Active Transportation	2,500	\$5,340,000	4		Tier 3	Tier 3	Tier 3
U254	E	Hayden Rd	Springwater Rd to OR 211	Add paved shoulders	Upgrade	7,000	\$5,490,000	9	Move up to Tier 1? Not high volume , but connection to Estacada	Tier 2	Tier 3	Tier 3
U255	E	Springwater Rd	Hayden Rd to OR 211	Add paved shoulders	Upgrade	5,000	\$22,240,000	8		Tier 3	Tier 3	Tier 3
U256	E	Eagle Creek Rd	Keegan Rd to Currin Rd	Realign Eagle Creek Rd to remove or decrease downgrade	Safety	4,000	\$17,400,000	7	Road Safety Audit 2069	Tier 3	Tier 3	Tier 3
U257	E	Eagle Creek Rd	Currin Rd to Duus Rd	Remove horizontal curve, relocate intersection, add paved shoulders and turn lanes at major intersection;	Upgrade	2,000	\$10,240,000	9	Move up in priority to Tier 1 (from 3) with safety audit (2069). Safety audit could also be alternative to	Tier 3	Tier 1	Tier 1
U258	E	Coupland Rd	Estacada City Limits to Divers Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	3,000	\$11,980,000	6		Tier 3	Tier 3	Tier 3
U495	E	Bull Run Rd	Ten Eyck Rd to Multnomah County line	Add paved shoulders and turn lanes at major intersections.	Upgrade	2,000	\$20,760,000	7		Tier 3	Tier 3	Tier 3
U502	E	Firwood Rd	Wildcat Mountain Dr to US 26	Add paved shoulders and turn lanes at major intersections.	Upgrade	1,000	\$16,840,000	8		Tier 2	Tier 2	Tier 2
U745	E	Eagle Creek Rd	OR 211 to Duus Rd	Add paved shoulders	Upgrade	3,000	\$14,420,000	10	Road Safety Audit 2069	Tier 2	Tier 2	Tier 2
U761	E	Salmon River Rd	US 26 to Welches Rd	Add paved shoulders	Upgrade	2,500	\$8,980,000	9		Tier 3	Tier 3	Tier 3
U781	E	Cazadero Multi-Use Trail	Community of Boring to City of Estacada	Construct multi-use path	Multi-Use Path	15,000	\$1,690,000	6	Move up - in bigger discussion of trail projects, this trail is important , likelihood of funding	Tier 3	Tier 2	Tier 1
U901	E	Bull Run Truss	Bull Run Truss between Waterworks Rd and Bowman Rd	Replace failing bridge	Bridge	2,000	\$6,750,000	5	Bridge Sufficiency <50	Tier 3	Tier 1	Tier 3
U903	E	Porter Rd Bridge over Delph Creek	~100 ft east of Wilcox Rd	Replace bridge	Bridge	2,500	\$320,000	5		Tier 3	Tier 3	Tier 3

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U924	E	Tickle Creek Trail	Springwater Corridor to Sandy city limits	Construct multi-use path consistent with the Connecting Clackamas Plan	Multi-Use Path	15,000	\$9,430,000	7	Move up - more equitable across the areas when looked at comprehensively.	Tier 3	Tier 2	Tier 3
U933	E	Dodge Park Rd Bridge	~192 feet south of Pipeline Rd	Replace failing bridge with paved shoulders	Bridge	1,000	\$4,500,000	10	Bridge Sufficiency <50		Tier 1	Tier 1
1016	M	Rupert Rd	Rupert Rd / Oak Grove Blvd intersection	Provide pedestrian crosswalk	Upgrade - Active Transportation	2,000	\$250,000	8	Reconstruct intersection and add sidewalks on the east side?	Tier 1	Tier 1	Tier 1
1037	M	Lake Oswego to Milwaukie Bridge	Between Sellwood and Oregon City	Construct bike/ped crossing over the Willamette River	Bridge	15,000	\$10,130,000	6	Question - does railroad support ped/bike facilities? Potential for high-speed rail corridor? Believe corridor has been removed as potential for high-speed rail. Project will have challenges, but connection would be nice. Similar if not higher benefits than French Prairie Bridge. Transformative project. Move up in priority? (PBAC recommends Tier 1)	Tier 2	Tier 1	Tier 1
1038	M	Naef Rd	Naef Rd / Oatfield Rd connection	Open intersection of Naef Rd and Oatfield Rd to through traffic	Upgrade - Vehicle Capacity	2,500	\$180,000	4		Tier Remove	Tier Remove	Remove
1039	M	Risley Ave	Risley Ave / Trolley Trail	Pave Risley Ave across the Trolley trail	Upgrade - Vehicle Capacity	2,500	\$210,000	2		Tier Remove	Tier Remove	Remove
1042	M	Oak Grove Blvd	Oatfield Rd to River Rd	Fill gaps in pedways and bikeways	Upgrade - Active Transportation	2,000	\$2,520,000	9		Tier 1	Tier 1	Tier 1
1072	M	Oetkin Way and Naef Rd	Oatfield Rd and Wallace Rd	Add bikeways	Upgrade - Active Transportation	2,500	\$90,000	7	On Ped/Bike Master Plan. Proposed bike boulevard. Connector road, so would do sharrows (not separated bike facility). Leave in Tier 3. No change.	Tier 3	Tier 3	Tier 3
1078	M	Clackamas Rd	Johnson and Webster Rd	Fill gaps in bikeways and pedways	Upgrade - Active Transportation	3,000	\$3,420,000	8		Tier 3	Tier 3	Tier 2
1079	M	Clackamas Rd	Clackamas Rd / I-205 interchange	Construct bike/ped bridge over I-205	Bridge	15,000	\$5,060,000	10	Relying on the Sunrise corridor for a bike/ped fix for this area. Add a special plan to address the issues at Herbert Ct/I-205/ completion of I-205 Multi-Use Path? More of an ODOT maintenance issue. PBAC will work with ODOT.	Tier 3	Tier Remove	Tier 3
1084	M	Oatfield Ridge Connection	Between Jennings Ave and Thiessen Ave over Oatfield Ridge	Construct multi-use path	New Roadway	1,000	\$180,000	8	Potential to have bike/ped connection? Topography challenges? Change description and move to Tier 3.	Tier Remove	Tier 3	Tier 3
2023	M	McNary Rd / Mabel Ave	Oatfield Rd to Webster Rd	Add bikeways and pedways	Upgrade - Active Transportation	2,500	\$15,610,000	8	Move up to Tier 3. Keep this project for potential funding opportunities.	Tier Remove	Tier 3	Tier 3
2040	M	Strawberry Ln	Webster Rd to 82nd Dr	Add pedways and fill bikeway gaps	Upgrade - Active Transportation	7,000	\$6,640,000	8		Tier 3	Tier 3	Tier 3
2041	M	Hull Ave	Wilmot St to Tims View Ave	Fill gaps in pedways	Upgrade - Active Transportation	2,500	\$4,130,000	10	Question - local road, part on border of Gladstone. Keep in Tier 1. People may be using Hull from Trolley Trail to make east/west connections.	Tier 1	Tier 1	Tier 1
2042	M	Portland Ave	Jennings Ave to Hull Ave	Fill gaps in pedways	Upgrade - Active Transportation	2,500	\$1,490,000	8		Tier 3	Tier 3	Tier 3
2043	M	View Acres Rd	Oatfield Rd to Hill Rd	Add pedways and traffic calming	Upgrade - Active Transportation	2,500	\$5,280,000	9		Tier 3	Tier 3	Tier 3
2044	M	Torbank Rd	River Rd to Trolley Trail	Fill gaps in pedways	Upgrade - Active Transportation	2,500	\$540,000	8	Move up to Tier 1 - Transportation Enhancement Application, project supported by community, bike/ped community, connects to school, Trolley Trail. Double check extents (why not to OR 99E?)	Tier 3	Tier 1	Tier 1
2045	M	Courtney Ave	OR 99E to Oatfield Rd	Fill gaps in pedways and bikeways	Upgrade - Active Transportation	2,000	\$1,860,000	9		Tier 1	Tier 1	Tier 1
2087	M	Jennings Ave	Webster Rd to OR 99E	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	8,000	\$60,000	7		Tier 1	Tier 1	Tier 1

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2088	M	Oatfield Rd	Jennings Ave to Lake Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	8,000	\$120,000	7	Move up to Tier 1 - safety issues are top priority	Tier 3	Tier 1	Tier 1
2112	M	Thiessen Rd	Thiessen Rd / Hill Rd intersection	Add right-turn lane on Thiessen Rd; consider converting to two-way stop controlled or installing roundabout	Upgrade - Vehicle Capacity	11,000	\$490,000	8		Tier 3	Tier 3	Tier 3
2113	M	Thiessen Rd	Thiessen Rd / Aldercrest Rd intersection	Add turn lanes on Thiessen Rd; consider converting to two-way stop controlled	Upgrade - Vehicle Capacity	13,000	\$570,000	8		Tier 1	Tier 1	Tier 1
U004	M	Webster Rd	Webster Rd / Jennings Ave and Webster Rd / Roots Rd intersections	Construct traffic signals, turn lanes	Upgrade - Vehicle Capacity	13,000	\$2,110,000	8		Tier 3	Tier 3	Tier 3
U137a	M	River Rd	Lark St to Courtney Ave	Add pedways	Upgrade - Active Transportation	8,000	\$4,760,000	10		Tier 1	Tier 1	Tier 1
U137b	M	River Rd	Courtney Ave to Oak Grove Blvd	Add pedways	Upgrade - Active Transportation	8,000	\$3,130,000	10		Tier 3	Tier 3	Tier 3
U137c	M	River Rd	Oak Grove Blvd to Risley Ave	Fill gaps in bikeways and pedways	Upgrade - Active Transportation	8,000	\$5,570,000	10	Move down? - sufficient shoulder that could be improved at a low cost. Consider changing description	Tier 1	Tier 1	Tier 1
U137d	M	River Rd	Risley Ave to Rinearson Rd	Add pedways	Upgrade - Active Transportation	8,000	\$19,580,000	10		Tier 3	Tier 3	Tier 3
U140a	M	Concord Rd	River Rd to Oatfield Rd	Fill gaps in pedway	Upgrade - Active Transportation	3,000	\$7,230,000	11		Tier 1	Tier 1	Tier 1
U140b	M	Concord Rd	River Rd to Oatfield Rd	Add turn lanes at major intersections	Upgrade - Vehicle Capacity	3,000	\$570,000	7		Tier 1	Tier 1	Tier 1
U141	M	Oatfield Rd	Oatfield Rd / Park Rd intersection	Install traffic signal and add turn lanes	Upgrade - Vehicle Capacity	10,000	\$1,060,000	8	Signal is not part of TriMet improvement. Turn lanes will be built with TriMet improvement. Support Tier 1	Tier 1	Tier 1	Tier 1
U143	M	Oatfield Rd	Oatfield Rd / Hill Rd intersection	Add left-turn lanes, install signal if warranted	Upgrade - Vehicle Capacity	8,000	\$2,448,000	5	Road Safety Audit 2088	Tier 3	Tier 3	Tier 3
U145	M	Oatfield Rd	Oatfield Rd / McNary Rd intersection	Add southbound and eastbound left-turn lanes	Upgrade	8,000	\$570,000	8	Road Safety Audit 2088	Tier 1	Tier 1	Tier 1
U146	M	Aldercrest Dr	Thiessen Rd to Oatfield Rd	Add pedways to one side of the road and bikeways	Upgrade	5,000	\$29,660,000	8	Move up to Tier 3. Refine description to scale back (i.e. pedway on one side)	Tier Remove	Tier 3	Tier 3
U149a	M	Jennings Ave	River Rd to Oatfield Rd	Widen to 2-lane urban minor arterial standard with bikeway and pedway infill	Upgrade - Active Transportation	8,000	\$13,870,000	10	Safety audit 2087 and project on Jennings Ave, move this up to Tier 1, synergy. Important roadway. Prior	Tier 2	Tier 1	Tier 1
U149b	M	Jennings Ave	Oatfield Rd to Webster Rd	Widen to 2-lane urban minor arterial standard with bikeway and pedway infill	Upgrade - Active Transportation	8,000	\$13,340,000	10	Safety audit 2087 and project on Jennings Ave, move this up to Tier 1, synergy. Important roadway. Prior	Tier 2	Tier 2	Tier 2
U150	M	Webster Rd	OR 224 to Gladstone	Fill gaps in bikeways and pedways	Upgrade - Active Transportation	12,000	\$19,010,000	10		Tier 3	Tier 3	Tier 2
U152	M	Webster Rd	Webster Rd / Strawberry Ln intersection	Add signal; construct southbound and westbound left-turn lane	Upgrade - Vehicle Capacity	9,000	\$770,000	5		Tier 3	Tier 3	Tier 3
U154	M	Johnson Rd / McKinley Rd	OR 224 to I-205 multi-use path	Bikeway and pedway infill	Upgrade - Active Transportation	8,000	\$1,770,000	11		Tier 3	Tier 3	Tier 3
U707	M	Hill Rd	Oatfield Rd to Thiessen Rd	Add bikeways and pedways	Upgrade - Active Transportation	4,000	\$16,210,000	8		Tier 3	Tier 3	Tier 3
U724	M	Rusk Rd	OR 224 South to Aldercrest Rd	Add pedways on one side of the roadway and bikeways	Upgrade - Active Transportation	11,000	\$8,780,000	7	Move up to Tier 3. Refine description to scale back (i.e. pedway on one side)	Tier Remove	Tier 3	Tier 3
U795	M	Courtney Ave	River Rd to OR 99E (McLoughlin Blvd)	Construct pedway / complete gaps on the south side; add bikeways	Upgrade - Active Transportation	1,000	\$5,010,000	10		Tier 1	Tier 1	Tier 1
U798	M	Greenview Ave	Thiessen Rd to Clackamas Rd	Add pedways	Upgrade - Active Transportation	2,500	\$1,680,000	10		Tier Remove	Tier Remove	Remove
U799	M	Harold Ave	Concord Rd to Roethe Rd	Add pedways and traffic calming	Upgrade - Active Transportation	2,500	\$3,310,000	10	Support, school connection, many complaints, support Tier 1.	Tier 1	Tier 1	Tier 1
U813	M	Naef Rd	Oatfield Rd to River Rd	Add pedways	Upgrade - Active Transportation	2,500	\$3,770,000	10	Move up to Tier 3, surrounding uses justify pedways.	Tier Remove	Tier 3	Tier 3

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U814	M	Oatfield Rd	Milwaukie city limits to Gladstone city limits	Fill gaps in pedways and bikeways	Upgrade - Active Transportation	8,000	\$52,220,000	10	Road Safety Audit 2088	Tier 3	Tier 3	Tier 3
U815	M	Park Ave	River Rd to OR 99E (McLoughlin Blvd)	Add pedways	Upgrade - Active Transportation	5,000	\$1,750,000	10		Tier 1	Tier 1	Tier 1
U816	M	Risley Ave	Arista Dr to Hager Rd	Fill gaps in pedways	Upgrade - Active Transportation	2,500	\$7,250,000	10	Move up to Tier 3, in bike plan	Tier Remove	Tier 3	Tier 3
U818	M	Roethe Rd	River Rd to OR 99E (McLoughlin Blvd)	Add bikeways, pedways and traffic calming	Upgrade - Active Transportation	1,000	\$2,870,000	9		Tier 3	Tier 3	Tier 3
U819	M	Roots Rd	Webster Rd to McKinley Rd	Add pedways	Upgrade - Active Transportation	8,000	\$4,720,000	10	Does this need to be Tier 1? Aren't there sidewalks on one side? (sidewalks costed at 20% completed) Decision to leave in Tier 1.	Tier 1	Tier 1	Tier 2
U824	M	Thiessen Rd	Oatfield Rd to Webster Rd	Add bikeways and pedways	Upgrade - Active Transportation	11,000	\$23,830,000	9		Tier 2	Tier 2	Tier 2
1014	NW	Wilsonville Rd	Wilsonville Rd / Bell Rd intersection	Realign roadway and grade improvements	Upgrade	8,000	\$3,300,000	3		Tier 3	Tier 3	Tier 3
1077	NW	Advance Rd	~2,900 ft west of Mountain Rd	Realign roadway and grade improvements	Upgrade	7,000	\$2,180,000	4	Move up to Tier 1 - safety project. Several fatalities.	Tier 2	Tier 1	Tier 2
2029	NW	Schatz Rd / 55th Ave / Meridian Way	65th Ave to Stafford Rd	Add paved shoulders	Upgrade	6,000	\$5,060,000	8		Tier 3	Tier 3	Tier 3
2030	NW	Mountain Rd	Stafford Rd to Hoffman Rd	Add paved shoulders	Upgrade	8,000	\$14,610,000	6		Tier 3	Tier 3	Tier 3
2031	NW	Schaeffer Rd	Mountain Rd to Petes Mountain Rd	Add paved shoulders	Upgrade	3,000	\$11,930,000	7		Tier 3	Tier 3	Tier 3
2032	NW	Hoffman Rd / Peach Cove Rd / Riverwood Rd	Mountain Rd to Tualatin River	Add paved shoulders	Upgrade	8,000	\$8,250,000	5		Tier 3	Tier 3	Tier 3
2033	NW	Advance Rd	65th Ave to Mountain Rd	Add paved shoulders	Upgrade	13,000	\$11,670,000	6		Tier 2	Tier 2	Tier 2
2034	NW	Graham's Ferry Rd	County boundary to Westfall Rd	Add paved shoulders	Upgrade	8,000	\$4,540,000	8		Tier 3	Tier 3	Tier 3
2035	NW	Pleasant Hill Rd / McConnell Rd / Tooze Rd	Ladd Hill Rd to Westfall Rd	Add paved shoulders	Upgrade	7,000	\$12,670,000	8		Tier 3	Tier 3	Tier 3
2036	NW	Bell Rd	Ladd Hill Rd to Wilsonville Rd	Add paved shoulders	Upgrade	7,000	\$12,410,000	7		Tier 3	Tier 3	Tier 3
2037	NW	Baker Rd	Tooze Rd to County boundary	Add paved shoulders	Upgrade	12,000	\$7,830,000	6		Tier 3	Tier 3	Tier 3
2038	NW	Homesteader Rd	Stafford Rd to Mountain Rd	Add paved shoulders	Upgrade	4,000	\$9,810,000	6		Tier 3	Tier 3	Tier 3
2039	NW	Wisteria Rd / Woodbine Rd	Rosemont Rd to Johnson Rd	Add paved shoulders	Upgrade	2,000	\$7,780,000	7	Remove? Consensus to leave in Tier 3.	Tier 3	Tier 3	Tier 3
2094	NW	Stafford Rd	Rosemont Rd to Mountain Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	26,000	\$50,000	7	U168 and U168 are Tier 1 and overlap with the Road Safety Audit study. Prioritize study to ensure best use of funds.	Tier 3	Tier 1	Tier 3
2095	NW	Graham's Ferry Rd	Wilsonville Rd to City of Wilsonville	Add paved shoulders	Upgrade	8,000	\$2,120,000	7		Tier 3	Tier 3	Tier 3
U167	NW	Borland Rd	Tualatin City Limits to Stafford Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	21,000	\$5,680,000	7	Move down to Tier 2 - likely to be driven by development in Tualatin. Forecast does not predict the road becoming urban. Road is important for hospital. Comment to do full corridor to West Linn (U741). Other support to keep in Tier 1.	Tier 1	Tier 1	Tier 1
U168	NW	Stafford Rd	Rosemont Rd to I-205	Add paved shoulders and turn lanes at major intersections	Upgrade	23,000	\$8,390,000	11	Road Safety Audit 2094	Tier 1	Tier 1	Tier 1
U169	NW	Stafford Rd	Stafford Rd / Childs Rd intersection	Install traffic signal and southbound and northbound turn lanes	Upgrade - Vehicle Capacity	26,000	\$770,000	7	Move to Tier 1 from Tier 3 - capacity and safety issue. Road Safety Audit 2094	Tier 3	Tier 1	Tier 1
U173	NW	Rosemont Rd	Stafford Rd to West Linn	Add paved shoulders and turn lanes at major intersections	Upgrade	16,000	\$8,570,000	9	Move to Tier 2 . Ped/bike community supports.	Tier 3	Tier 2	Tier 2
U177	NW	Stafford Rd / 65th Ave	I-205 to Boeckman Rd / Advance Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	19,000	\$21,540,000	12	Road Safety Audit 2094	Tier 2	Tier 2	Tier 2
U180	NW	65th Ave	65th Ave / Elligsen Rd / Stafford Rd intersection	Construct roundabout	Upgrade	16,000	\$5,550,000	9		Tier 1	Tier 1	Tier 1

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U272	NW	Ladd Hill Rd	Wilsonville Rd to Washington County line	Add paved shoulders and turn lanes at major intersections	Upgrade	1,500	\$29,150,000	8		Tier 3	Tier 3	Tier 3
U273	NW	Wilsonville Rd	Wilsonville Rd / Edminston Rd intersection	Remove bank, remove horizontal curve, relocate intersection	Safety	1,500	\$3,130,000	5		Tier 3	Tier 3	Tier 3
U462	NW	Childs Rd	Stafford Rd to Lake Oswego city limits	Add pedways, bikeways and turn lanes at major intersections	Upgrade	13,000	\$19,110,000	8		Tier 3	Tier 3	Tier 3
U466	NW	Petes Mountain Rd	West Linn city limit to Hoffman Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	7,000	\$19,000,000	6		Tier 3	Tier 3	Tier 3
U700	NW	Bonita	Carman Drive to I-5	Add bikeways and pedways	Upgrade - Active Transportation	10,000	\$11,100,000	10		Tier 3	Tier 3	Tier 3
U702	NW	Carman	Lake Oswego City Limits to Roosevelt Ave	Add bikeways and pedways; analyze for turn lanes	Upgrade	16,000	\$7,070,000	10		Tier 1	Tier 1	Tier 1
U737	NW	65th Ave	Stafford Rd to City of Tualatin	Add paved shoulders	Upgrade	14,000	\$11,380,000	8		Tier 3	Tier 3	Tier 3
U741	NW	Borland Rd	Stafford Rd to City of West Linn	Add paved shoulders	Upgrade	18,000	\$10,030,000	10	Move to Tier 1 to be done with U167? Stretch from Tualatin to Stafford Rd is most important.	Tier 2	Tier 1	Tier 1
U752	NW	Johnson Rd	Stafford Rd to City of West Linn	Add paved shoulders and turn lanes at major intersections	Upgrade	3,000	\$13,140,000	8		Tier 3	Tier 3	Tier 3
U922	NW	Tualatin / Lake Oswego Pedestrian and Bicycle Bridge	Tualatin River Bridge	Construct bike / ped bridge consistent with the Connecting Clackamas Plan	Multi-Use Path	15,000	\$4,890,000	5		Tier 3	Tier 3	Tier 3
U925	NW	French Prairie Bridge	Willamette River near I-5	Construct a bridge consistent with the Connecting Clackamas Plan	Bridge	15,000	\$9,790,000	10		Tier 1	Tier 1	Tier 1
U926	NW	Tonquin Trail	Willamette River through Wilsonville	Construct bike / ped bridge consistent with the Connecting Clackamas Plan	Multi-Use Path	15,000	\$10,030,000	7		Tier 3	Tier 3	Tier 1
U927	NW	Childs Rd	Sycamore Ave to 65th Ave	Transfer roadway to local jurisdiction	Other	9,000	\$80,000	1	Move down to Tier 2 - shouldn't be high priority for County, could be Rivergrove's responsibility. Rivergrove does not have in its plan; someone should carry. Childs Rd is an anomaly in that it falls between two cities, but is County facility. Neither Rivergrove nor Lake Oswego likely to address. Potential to transfer road? Leave in Tier 1, change description to Road Transfer.	Tier 1	Tier 1	Tier 1
U934	NW	Wilsonville Rd Bridge	~300 feet south of Bell Rd	Replace failing bridge	Bridge	1,500	\$760,000	7	Bridge Sufficiency <50		Tier 1	Tier 3
1047	SW	Redland Rd	Fischers Mill Rd to Springwater Rd	Add paved shoulders	Upgrade	6,000	\$32,210,000	9	Road Safety Audit 2084	Tier 3	Tier 3	Tier 3
1050	SW	Union Hall Rd	Central Point Rd to El Dorado Rd	Add paved shoulders	Upgrade	1,500	\$11,210,000	7	Low ADT	Tier 3	Tier 3	Tier 3
1053	SW	Ferguson Rd	Beavercreek Rd and Henrici Rd	Reduce the speed limit and install traffic calming features	Other (Traffic Calming)	2,500	\$10,000	4		Tier Remove	Tier Remove	Tier 3
1054	SW	S Killdeer Rd	Ferguson Road and Yeoman Road	Extend S Killdeer Rd to connect with S. Ivel Rd. and provide bike/ped access	Multi-Use Path	1,000	\$740,000	7	Move to Tier 3 from Tier 1, problems with sight distance, public support, questionable need, little use.	Tier 1	Tier 3	Tier 3
1055	SW	Gribble Rd	Mark Rd to Dryland Rd	Reconstruct and widen	Upgrade	2,500	\$11,450,000	5	Don't include local roads on Capital Improvement Plan	Tier 3	Tier Remove	Remove
1057	SW	Buckner Creek Rd	Gard Rd to Cochell Rd	Add paved shoulders	Upgrade	2,500	\$25,580,000	5	Low ADT	Tier 3	Tier 3	Tier 3
1065	SW	Molalla Forest Rd	City of Canby to City of Molalla	Pave to provide bicycle access	Multi-Use Path	15,000	\$16,360,000	7	Support by Canby/Molalla. More complete ownership	Tier 2	Tier 1	Tier 2
1066	SW	Emerald Necklace Trail	To Canby Ferry	Extend Molalla Forest Rd to Locust St	Multi-Use Path	15,000	\$430,000	9		Tier 1	Tier 1	Tier 1
1068	SW	Ferguson Multi-Use Path	Thayer Rd to Ferguson Rd	Multi-use path to connect Ferguson Rd to Thayer Rd	Multi-Use Path	1,000	\$240,000	3	Needs to be further studied. Move to Tier 3 from Tier 1. Terrain challenging.	Tier 1	Tier 3	Tier 1
1074	SW	Clackamas River bridge	From Blay Rd to Palmer Rd at the Clackamas River	Construct bridge over Clackamas River	Bridge	3,000	\$60,030,000	2		Tier 3	Tier 3	Tier 3
1088	SW	Passmore Rd	East of OR 213	Disconnect east of OR 213 (at school) and create cul-de-sac on western portion of roadway segment	Other (Road Closure)	2,500	\$10,000	6	ODOT made large investment in area recently. Move down to Tier 2?	Tier 1	Tier 2	Remove (replaced with 1090)

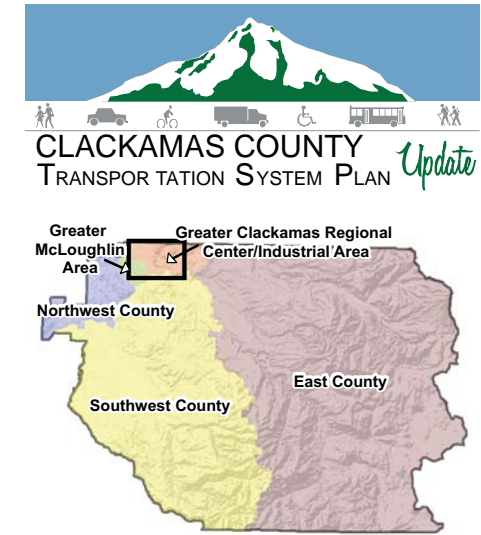
TSP Update ID	Geographic Area	Project Name / Street Name	Segment / Locations	Project Description	Project Category	Projected Future Demand*	Planning Level Cost Estimate	Final Score	TAC Meeting #7 Comment	GAPS Recommendation	TAC Recommendation	PAC Recommendation
1089	SW	Graves Rd	Ranch Hills Rd to OR 213	Realign to create four-way intersection with Mulino Road and OR 213. Install traffic signal.	Safety	21,000	\$5,550,000	12	ODOT made large investment in area recently. Move down to Tier 2?	Tier 1	Tier 2	Remove (replaced with 1090)
1090	SW	Graves Rd/Passmore Rd/Mulino Rd	OR 213	Realign to create four-way intersection of Mulino Road/Graves Road/ OR 213. Install traffic signal. Disconnect Passmore Road east of OR 213 (at school) and create cul-de-sac on western portion of roadway segment.	Safety	21,000	\$5,560,000	12	ODOT made large investment in area recently. Move down to Tier 2?	Tier 1	Tier 2	Tier 1
2009	SW	Bakers Ferry Rd	Springwater Rd to Eaden Rd	Add paved shoulders	Upgrade	6,000	\$14,040,000	9	Duplicate to U247	Tier 3	Tier Remove	Remove
2012	SW	Carus Rd	Central Point Rd to Beavercreek Rd	Add paved shoulders	Upgrade	4,000	\$28,370,000	8		Tier 3	Tier 3	Tier 3
2014	SW	Canby-Marquam Highway	City of Canby to OR 211	Add paved shoulders	Upgrade	6,000	\$20,900,000	9		Tier 3	Tier 3	Tier 3
2015	SW	Meridian Rd	Lone Elder Rd to OR 211	Add paved shoulders	Upgrade	4,000	\$29,000,000	8		Tier 3	Tier 3	Tier 3
2016	SW	Lone Elder Rd	County line to Canby-Marquam Hwy	Add paved shoulders	Upgrade	3,000	\$15,140,000	8		Tier 3	Tier 3	Tier 3
2017	SW	Barnards Rd	Meridian Rd to Canby-Marquam Hwy	Add paved shoulders	Upgrade	2,500	\$15,630,000	8	Complete to County line and phase?	Tier 3	Tier 3	Tier 3
2018	SW	Leland Rd	Oregon City to Beavercreek Rd	Add paved shoulders	Upgrade	3,000	\$22,400,000	8		Tier 3	Tier 3	Tier 3
2019	SW	New Era Rd / Haines Rd	OR 99E to Leland Rd	Add paved shoulders	Upgrade	3,000	\$22,350,000	8		Tier 3	Tier 3	Tier 3
2020	SW	Forsythe Rd	Oregon City to Bradley Rd	Add paved shoulders	Upgrade	6,000	\$13,900,000	5		Tier 3	Tier 3	Tier 3
2021	SW	Thayer Rd/Ferguson Rd	Oregon City to Redland Rd	Add paved shoulders	Upgrade	8,000	\$14,690,000	5		Tier 3	Tier 3	Tier 3
2073	SW	Redland Rd	OR 213 to Hattan Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	12,000	\$80,000	7		Tier 1	Tier 1	Tier 1
2076	SW	Maplelane Rd	Beavercreek Rd to Ferguson Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	8,000	\$50,000	6		Tier 1	Tier 1	Tier 1
2077	SW	Beavercreek Rd	Lower Highland Rd to Butte Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	4,000	\$50,000	5		Tier 1	Tier 1	Tier 1
2078	SW	Upper Highland Rd	Beavercreek Rd to Lower Highland Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	16,000	\$80,000	6		Tier 1	Tier 1	Tier 1
2082	SW	OR 170	OR 99E to Macksburg Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	11,000	\$60,000	8		Tier 1	Tier 1	Tier 1
2084	SW	Redland Rd	Redland Rd / Springwater Rd intersection	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	7,000	\$20,000	7	Road Safety Audit 2084	Tier 1	Tier 1	Tier 1
2085	SW	Beavercreek Rd	Ferguson Rd to Spangler Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Safety	8,000	\$80,000	6		Tier 1	Tier 1	Tier 1
2107	SW	Springwater Rd	Springwater Rd / Clackamas River Dr intersection	Install signal and second southbound left-turn lane on Clackamas River Dr	Upgrade - Vehicle Capacity	36,000	\$770,000	6		Tier 1	Tier 1	Tier 1
2800	SW	Beavercreek multi-use path	Loder Rd to Ferguson Rd	Construct multi-use path consistent with the Beavercreek Road Concept Plan	Multi-Use Path	15,000	\$4,700,000	8	Road Safety Audit 2085	Tier 2	Tier 2	Tier 2
2801	SW	Hult Rd	OR 211 to Unger Rd	Re-open and improve Hult Rd	Upgrade	1,000	\$1,070,000	4		Tier 1	Tier 1	Tier 1
2806	SW	Arndt Rd Extension	Knights Bridge to OR 99E	Construct new 3 lane roadway	New Roadway	32,000	\$17,040,000	8	Move down to Tier 2? Could we change description to reduce cross-section to be consistent with other roadways? There is currently congestion on the road, showing as congested in the future. Needs more corridor specific look. Agreement to move to Tier 2 , look at description further. See draft policy 72 and 73.	Tier 1	Tier 2	Tier 2

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U185	SW	Springwater Rd	400 ft east of Hattan Rd	Construct bridge to accommodate paved shoulders	Bridge	15,000	\$3,630,000	7	Passmore road goes straight through a grade school and kids must cross it to get between classes and to recess. Tier 1.	Tier 1	Tier 1	Tier 1
U186	SW	Forsythe Rd	Oregon City limits to Bradley Rd	Add center turn lane and paved shoulders	Upgrade	6,000	\$41,930,000	9	Center turn lane needed?	Tier 3	Tier 3	Tier 3
U187	SW	Forsythe Rd	Forsythe Rd / Victory Rd intersection	Realign, widen Victory Rd and remove or decrease curves along Forsythe Rd; relocate intersection	Safety	6,000	\$3,070,000	4	Move to Tier 3, usage doesn't justify priority	Tier 1	Tier 3	Tier 3
U188	SW	Gronlund Rd / Hattan Rd	Bradley Rd to Springwater Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	14,000	\$7,610,000	7	Remove turn lanes?	Tier 3	Tier 3	Tier 3
U189	SW	Hattan Rd	Hattan Rd / Gronlund Rd intersection	Install southbound right-turn lane	Upgrade	23,000	\$290,000	4		Tier 1	Tier 1	Tier 1
U190	SW	Hattan Rd	Fischers Mill Rd to Gronlund Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	10,000	\$15,050,000	11	Move to Tier 2, use does not justify priority, somewhat regular cyclist use	Tier 1	Tier 2	Tier 2
U194	SW	Bradley Rd	Redland Rd to Holcomb Blvd	Add turn lanes at major intersections	Upgrade	6,000	\$1,140,000	6		Tier 3	Tier 3	Tier 3
U195	SW	Redland Rd	~900 ft west of Holly Ln	Widen to include shoulders and bikeways	Upgrade - Active Transportation	19,000	\$4,210,000	7	Road Safety Audit 2073	Tier 3	Tier 3	Tier 3
U196	SW	Redland Rd	~400 ft west of Holly Ln	Widen to include shoulders and bikeways	Upgrade - Active Transportation	19,000	\$2,930,000	7	Road Safety Audit 2073	Tier 3	Tier 3	Tier 3
U197	SW	Redland Rd	Redland Rd / Holly Rd intersection	Install traffic signal and westbound and northbound left-turn lanes or roundabout	Upgrade - Vehicle Capacity	16,000	\$770,000	9	Road Safety Audit 2073	Tier 1	Tier 1	Tier 1
U198	SW	Redland Rd	Henrici Rd to Oregon City	Add paved shoulders	Upgrade	16,000	\$23,310,000	7	Add left turn lanes at major intersections? Road Safety Audit 2073	Tier 3	Tier 3	Tier 3
U199	SW	Redland Rd	Redland Rd / Ferguson Rd intersection	Construct roundabout	Upgrade - Vehicle Capacity	16,000	\$5,550,000	7	Road Safety Audit 2073	Tier 1	Tier 1	Tier 1
U201	SW	Redland Rd	Redland Rd / Bradley Rd intersection	Install eastbound left-turn lane	Upgrade - Vehicle Capacity	11,000	\$290,000	3	Road Safety Audit 2073	Tier 2	Tier 2	Tier 2
U203	SW	Fischers Mill Rd	Fischers Mill / Hattan Rd intersection	Install eastbound left-turn lane	Upgrade	12,000	\$290,000	9		Tier 1	Tier 1	Tier 1
U204	SW	Redland Rd	Redland Rd / Fischers Mill Rd / Henrici Rd intersection	Install eastbound left-turn, eastbound right-turn and westbound right-turn lanes at Henrici Rd	Upgrade	11,000	\$860,000	7		Tier 2	Tier 2	Tier 2
U206	SW	Henrici Rd	Between Driftwood Dr and Shore Vista Dr	Widen bridge to accommodate paved shoulders	Bridge	7,000	\$1,620,000	2	Related to U475. Bridge is structurally sound	Tier 1	Tier 3	Tier 3
U210	SW	Henrici Rd	OR 213 to Beavercreek Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	8,000	\$5,070,000	9	Expensive project	Tier 1	Tier 1	Tier 2
U211	SW	Beavercreek Rd	Henrici Rd to Yeoman Rd/Steiner Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	11,000	\$11,340,000	9	Road Safety Audit 2085	Tier 1	Tier 1	Tier 1
U212	SW	Maplelane Rd	~1,800 ft west of Walker Rd	Add paved shoulders	Upgrade	6,000	\$4,000,000	4		Tier 3	Tier 3	Tier 3
U213	SW	Leland Rd	~1,000 ft north of Warnock Rd	Construct bridge to accommodate paved shoulders	Bridge	2,000	\$2,590,000	4	Bridge is structurally sound.	Tier 1	Tier 3	Tier 3
U214	SW	South End Rd	Oregon City limits to OR 99E	Smooth curves; add paved shoulders	Upgrade	7,000	\$7,070,000	6		Tier 3	Tier 3	Tier 3
U247	SW	Bakers Ferry Rd	Springwater Rd to OR 224	Add paved shoulders and turn lanes at major intersections; remove horizontal curve and relocate intersection from Eaden Rd to OR 224	Upgrade	11,000	\$20,250,000	7		Tier 3	Tier 3	Tier 3
U249a	SW	Springwater Rd	Hattan Rd to Bakers Ferry Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	8,000	\$6,170,000	10	Move down to Tier 2? Improvement between Carver Bridge and boat launch (Hayden Rd). Break up project and improve from bridge to Hattan, Springwater to Bakers Ferry; Hattan to Bakers Ferry (Tier 1), rest to Tier 3	Tier 1	Tier 1	Tier 1
U249b	SW	Springwater Rd	Bakers Ferry Rd to Hayden Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	8,000	\$40,720,000	12	Move down to Tier 2? Improvement between Carver Bridge and boat launch (Hayden Rd). Break up project and improve from bridge to Hattan, Springwater to Bakers Ferry; Hattan to Bakers Ferry (Tier 1), rest to Tier 3. Road Safety Audit 2084	Tier 1	Tier 3	Tier 3
U250	SW	Springwater Rd	Springwater Rd / Bakers Ferry Rd intersection	Install southbound left-turn lane; realign intersection to fix skew.	Upgrade	15,000	\$5,350,000	8		Tier 2	Tier 2	Tier 2

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U260	SW	Fellows Rd	Redland Rd to Lower Highland Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	2,000	\$18,750,000	6	Very low ADT, grade issues	Tier 3	Tier 3	Tier 3
U261a	SW	Ridge Rd	~1 miles north of Lower Highland Rd	Fix sinkhole	Upgrade	3,000	\$2,230,000	6		Tier 1	Tier 1	Tier 1
U261b	SW	Ridge Rd	Lower Highland Rd to Redland Rd	Add paved shoulders	Upgrade	3,000	\$15,500,000	6		Tier 3	Tier 3	Tier 3
U262	SW	Redland Rd	Henrici Rd to Springwater Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	6,000	\$37,640,000	9	Road Safety Audit 2084	Tier 3	Tier 3	Tier 3
U263	SW	Lower Highland Rd	Beavercreek Rd to Fellows Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	2,000	\$26,890,000	6		Tier 3	Tier 3	Tier 3
U264	SW	Unger Rd	Beavercreek Rd to OR 211	Add paved shoulders and turn lanes at major intersections	Upgrade	1,000	\$27,820,000	8	Low ADT	Tier 3	Tier 3	Tier 3
U265	SW	Beavercreek Rd	Beavercreek Rd / Leland Rd / Kamrath Rd intersection	Construct roundabout with additional analysis	Upgrade - Vehicle Capacity	7,000	\$4,510,000	5	SPIS (Safety Priority Index System) list, huge safety, beneficial project. Road Safety Audit 2085	Tier 2	Tier 1	Tier 1
U267	SW	Central Point Rd	Parrish Rd to Mulino Rd	Add paved shoulders; smooth curves	Upgrade	3,000	\$28,550,000	8		Tier 3	Tier 3	Tier 3
U269	SW	Casto Rd	Spangler Rd to Central Point Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	5,000	\$9,330,000	8	Low volume road.	Tier 3	Tier 3	Tier 3
U270	SW	Spangler Rd	Casto Rd to Beavercreek Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	3,000	\$20,950,000	9	ADT very low. Need for turn lanes in the future? Phase Casto to OR 213, OR 213 to Beavercreek?	Tier 3	Tier 3	Tier 3
U271	SW	Kamrath Rd	Carus Rd to Spangler Rd	Safety analysis at Carus Rd, add paved shoulders, remove or decrease horizontal curves north of Spangler Rd	Upgrade	7,000	\$4,140,000	5		Tier 3	Tier 3	Tier 3
U275	SW	Boones Ferry Rd	Boones Ferry Rd / Butteville Rd intersection	Remove bank, remove/decrease horizontal curve	Safety	1,000	\$4,020,000	6		Tier 1	Tier 1	Tier 1
U276	SW	Airport Rd	Airport Rd / Miley Rd intersection	Install traffic signal	Upgrade - Vehicle Capacity	22,000	\$200,000	8		Tier 1	Tier 1	Tier 1
U277	SW	Airport Rd	Arndt Rd to Miley Rd	Add turn lanes at major intersections	Upgrade - Vehicle Capacity	15,000	\$1,710,000	6		Tier 3	Tier 3	Tier 3
U279	SW	Arndt Rd	OR 551 to Knights Bridge Rd	Widen to 4 lanes with median, left-turn lanes and paved shoulders	Upgrade	32,000	\$23,840,000	10	Move to Tier 3 because of future congestion issues and relationship with draft policy? See draft policy 72 and 73.	Tier Remove	Tier Remove	Remove
U281	SW	Barlow Rd	Arndt Rd / Barlow Rd intersection	Realign intersection	Safety	16,000	\$3,230,000	6	Project not needed and conflicts/duplicate to 2806.	Tier 1	Tier Remove	Remove
U284	SW	Knights Bridge Rd	Knights Bridge Rd / Barlow Rd intersection	Remove vertical curve; improve drainage	Safety	20,000	\$2,150,000	5	Project not needed	Tier 1	Tier Remove	Remove
U285	SW	Holly St	Territorial Rd to Canby Ferry	Add paved shoulders	Upgrade	1,500	\$8,620,000	8		Tier 3	Tier 3	Tier 3
U290	SW	Township Rd	Central Point Rd to Canby City limit	Add paved shoulders and turn lanes at major intersections	Upgrade	5,000	\$7,940,000	8		Tier 1	Tier 1	Tier 1
U292	SW	Mulino Rd	Mulino Rd / 13th Ave	Relocate intersection to south away from railroad trestle	Safety	3,000	\$3,070,000	6	Move up - several fatalities , safety concerns.	Tier 2	Tier 1	Tier 1
U295	SW	Canby-Marquam Highway	Canby-Marquam Hwy / Lone Elder Rd intersection	Reconstruct intersection; install northbound left-turn lane and southbound right-turn lane	Upgrade - Vehicle Capacity	11,000	\$3,750,000	9	Road Safety Audit 2082	Tier 1	Tier 1	Tier 1
U297	SW	Gard Rd	~100 ft south of Old Clarke Rd	Construct bridge to accommodate paved shoulders	Bridge	1,500	\$3,570,000	6	Bridge is structurally sound.	Tier 1	Tier 3	Tier 3
U298	SW	Canby-Marquam Highway	OR 170 / Macksburg Rd intersection	Reconstruct intersection; install southbound left-turn lane and northbound right-turn lane	Upgrade	9,000	\$3,750,000	8	Road Safety Audit 2082	Tier 3	Tier 3	Tier 3
U299	SW	Dryland Rd	Macksburg Rd S to Macksburg Rd N	Realign to form one intersection at Dryland Rd	Upgrade	7,000	\$3,400,000	6	High ROW impacts	Tier 2	Tier 2	Tier 2
U300	SW	Macksburg Rd	Canby Marquam Hwy to OR 213	Add paved shoulders and turn lanes at major intersections	Upgrade	4,000	\$29,040,000	8	Turn lanes just needed at Canby-Marquam and OR 213?	Tier 3	Tier 3	Tier 3
U302a	SW	Union Mills Rd	OR 213 to OR 211	Add turn lanes at major intersections	Upgrade - Vehicle Capacity	9,000	\$860,000	8		Tier 1	Tier 1	Tier 1
U302b	SW	Union Mills Rd	OR 213 to OR 211	Construct a should on the south side of the roadway	Upgrade	9,000	\$8,970,000	8	Move down to Tier 3 - demand for multi-use path? Equestrian interest. Alternative to upgrade to shoulders.	Tier 1	Tier 3	Tier 1

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U303	SW	Meridian Rd	Elliott Prairie Rd to Barlow Rd	Add paved shoulders; remove or decrease horizontal and vertical curves	Upgrade	1,500	\$9,760,000	8		Tier 3	Tier 3	Tier 3
U304	SW	Meridian Rd	Meridian Rd / Whiskey Hill Rd intersection	Limit access/egress points to and from school on NE corner of intersection	Safety	4,000	\$200,000	7		Tier 1	Tier 1	Tier 1
U306	SW	Barnards Rd	Between Needy Rd and Stuwe Rd	Reconstruct bridge and widen to 36 feet	Bridge	2,500	\$3,560,000	6	Bridge is structurally sound. Changed rating to match 2017	Tier 1	Tier 3	Tier 3
U310	SW	Canby-Marquam Highway	~1,900 ft south of Barnards Rd	Replace failing bridge with 2-lane structure with paved shoulders	Bridge	6,000	\$5,580,000	9	Bridge Sufficiency <50	Tier 1	Tier 1	Tier 1
U311	SW	Molalla Ave	OR 213 to Molalla City limits	Add paved shoulders	Upgrade	10,000	\$9,170,000	6		Tier 3	Tier 3	Tier 3
U314	SW	Wright Rd	OR 211 to Callahan Rd	Add paved shoulders	Upgrade	1,500	\$14,160,000	7		Tier 3	Tier 3	Tier 3
U315	SW	Callahan Rd S (beginning on Ramsby Rd)	Dickie Prairie Rd to Fernwood Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	1,500	\$12,140,000	8		Tier 3	Tier 3	Tier 3
U316	SW	Fernwood Rd	Dhooghe Rd to Callahan Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	1,500	\$6,660,000	5	Low ADT	Tier 3	Tier 3	Tier 3
U317	SW	Dhooghe Rd	OR 211 to Fernwood Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	1,500	\$16,190,000	7	Low ADT	Tier 3	Tier 3	Tier 3
U318	SW	Klang's Mill bridge	~1,000 ft north of OR 211	Replace failing bridge	Bridge	2,500	\$1,620,000	4	Bridge Sufficiency <50	Tier 1	Tier 1	Tier 1
U320	SW	Sawtell Rd	Maple Grove Rd to Wilhoit Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	1,500	\$38,450,000	7	Phase project? Low ADT near Maplegrove	Tier 3	Tier 3	Tier 3
U321	SW	Wildcat Rd	Wilhoit Rd to OR 213	Add paved shoulders and turn lanes at major intersections	Upgrade	2,500	\$29,140,000	7	Low ADT	Tier 3	Tier 3	Tier 3
U322	SW	Nowlens Bridge Rd	OR 213 to Maple Grove Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	1,000	\$13,020,000	9		Tier 3	Tier 3	Tier 3
U323	SW	Blair Rd	Groshong Rd to Maple Grove Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	2,500	\$3,360,000	5	Low ADT	Tier 3	Tier 3	Tier 3
U325	SW	Bird Rd	Groshong Rd to Wilhoit Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	3,000	\$5,120,000	5	Very low ADT	Tier 3	Tier 3	Tier 3
U326	SW	Maple Grove Rd	Nowlens Bridge Rd to Sawtell Rd	Add paved shoulders and turn lanes at major intersections	Upgrade	3,000	\$34,760,000	6	Very low ADT	Tier 3	Tier 3	Tier 3
U332	SW	Rock Creek (Kropf Rd) Bridge	~3,500 ft north of Gibson Rd	Replace bridge	Bridge	3,000	\$2,160,000	4	Bridge is structurally sound.	Tier 1	Tier 3	Tier 3
U449	SW	Barlow Rd	Barlow Rd / OR 99E intersection	Add dual left-turn lanes on southbound Barlow	Vehicle Capacity	21,000	\$570,000	7	Needed Project No Funding Identified. (ODOT)	Tier NA	Tier NA	Tier 3
U469	SW	Clackamas River Dr	Oregon City city limits to Springwater Rd	Add paved shoulders and turn lanes at Springwater Rd and Forsythe Rd	Upgrade	9,000	\$23,240,000	12		Tier 3	Tier 3	Tier 3
U473	SW	Holcomb Blvd	Edenwild Ln to Bradley Rd	Add paved shoulders and turn lanes at Holcomb Blvd / Bradley Rd	Upgrade	3,000	\$7,450,000	8		Tier 3	Tier 3	Tier 3
U475a	SW	Henrici Rd	Beavercreek Rd to Ferguson Rd	Add paved shoulders and turn lanes at major intersections. Remove horizontal and vertical curves	Upgrade	9,000	\$4,900,000	8	Ferguson to Beavercreek (Tier 2 just shoulders); and Ferguson to Redland Tier 3 (along with bridge U206)	Tier 2	Tier 2	Tier 1
U475b	SW	Henrici Rd	Ferguson Rd to Redland Rd	Add paved shoulders and turn lanes at major intersections. Remove horizontal and vertical curves	Upgrade	9,000	\$17,870,000	8	Ferguson to Beavercreek (Tier 2 just shoulders); Ferguson to Redland to Tier 3 (along with bridge U206)	Tier 2	Tier 3	Tier 2
U503	SW	Mattoon Rd	Fischers Mill Rd to Redland Rd	Add paved shoulders and turn lanes at major intersections. Remove vertical curves, remove horizontal curves north of Redland Rd	Upgrade	3,000	\$15,360,000	6	Low ADT	Tier 3	Tier 3	Tier 3
U504	SW	Mulino Rd (13th St segment)	Canby City limits to OR 213	Add paved shoulders and turn lanes at major intersections	Upgrade	4,000	\$24,890,000	10		Tier 2	Tier 2	Tier 2
U505	SW	Toliver Rd	Dryland Rd to Molalla City Limits	Add paved shoulders	Upgrade	2,500	\$10,650,000	9		Tier 3	Tier 3	Tier 3
U738	SW	Barlow Rd	Knights Bridge Rd to OR 99E	Add paved shoulders	Upgrade	16,000	\$5,400,000	8		Tier 3	Tier 3	Tier 3

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U739	SW	Beavercreek Rd	Yeoman Rd/Steiner Rd to OR 211	Add paved shoulders	Upgrade	4,000	\$47,550,000	10	Low usage does not justify priority 2. Road Safety Audit 2077, 2085	Tier 2	Tier 3	Tier 3
U742	SW	Bradley Rd	Gronlund Rd to Redland Rd	Add paved shoulders	Upgrade	7,000	\$12,300,000	8		Tier 3	Tier 3	Tier 3
U746	SW	Fischers Mill Rd	Redland Rd to Springwater Rd	Add paved shoulders	Upgrade	5,000	\$18,090,000	9		Tier 3	Tier 3	Tier 3
U747	SW	Gray's Hill Rd	Green Mountain Rd to OR 211	Add paved shoulders	Upgrade	2,500	\$9,720,000	8		Tier 3	Tier 3	Tier 3
U750	SW	Holly Ln	Maplelane Rd to Redland Rd	Add paved shoulders	Upgrade	7,000	\$8,350,000	9		Tier 3	Tier 3	Tier 3
U754	SW	Maplelane Rd	Oregon City UGB to Ferguson Rd	Add paved shoulders	Upgrade	8,000	\$8,730,000	9	Road Safety Audit 2076	Tier 3	Tier 3	Tier 3
U755	SW	Miley Rd	Airport Rd to Eilers Rd	Add paved shoulders	Upgrade	16,000	\$6,130,000	8		Tier 3	Tier 3	Tier 3
U756	SW	Molalla Ave	OR 213 to Molalla City limits	Add paved shoulders	Upgrade	10,000	\$7,980,000	8	Duplicate to U311	Tier 3	Tier Remove	Remove
U782	SW	Oregon City boundary to Mulino Trail		Construct multi-use path	Multi-Use Path	15,000	\$14,570,000	7	Not realistic, ROW falls on multiple private property	Tier 1	Tier 3	Tier 3
U784	SW	Canby - Molalla Railroad Trail		Construct multi-use path	Multi-Use Path	15,000	\$14,430,000	7		Tier 2	Tier 2	Tier 2
U920	SW	Newell Creek Trail / Oregon City Loop Trail	Loop around the perimeter of Oregon City	Construct multi-use path consistent with the Connecting Clackamas Plan	Multi-Use Path	15,000	\$24,500,000	8		Tier 2	Tier 2	Tier 2
U929	SW	Clarks Four Corners Intersection	Beavercreek Rd / Unger Rd	Reconstruct intersection	Safety	4,000	\$4,380,000	9	Potential low cost improvements (like signage), low volume roadways. Decision to leave in Tier 1.	Tier 1	Tier 1	Tier 1
U932	SW	Lone Elder Rd Bridge	~5,800 feet east of Barlow Rd	Replace failing bridge with paved shoulders	Bridge	3,000	\$430,000	10	Bridge Sufficiency <50		Tier 1	Tier 1
U935	SW	Knights Bridge Rd Bridge	~3,200 feet east of Barlow Rd	Replace failing bridge	Bridge	15,000	\$6,300,000	8	Bridge Sufficiency <50		Tier 1	Tier 3
U938	SW	Molalla Ave Flooding	Just south of city of Molalla	Construct bridge to resolve flooding issues	Bridge	2,000	\$720,000	9			Tier 1	Tier 2



Master List County Projects
PAC Recommended Priority:

- Tier 1
- Tier 2
- Tier 3
- Remove

Master List ODOT Projects
Draft Recommended Priority:

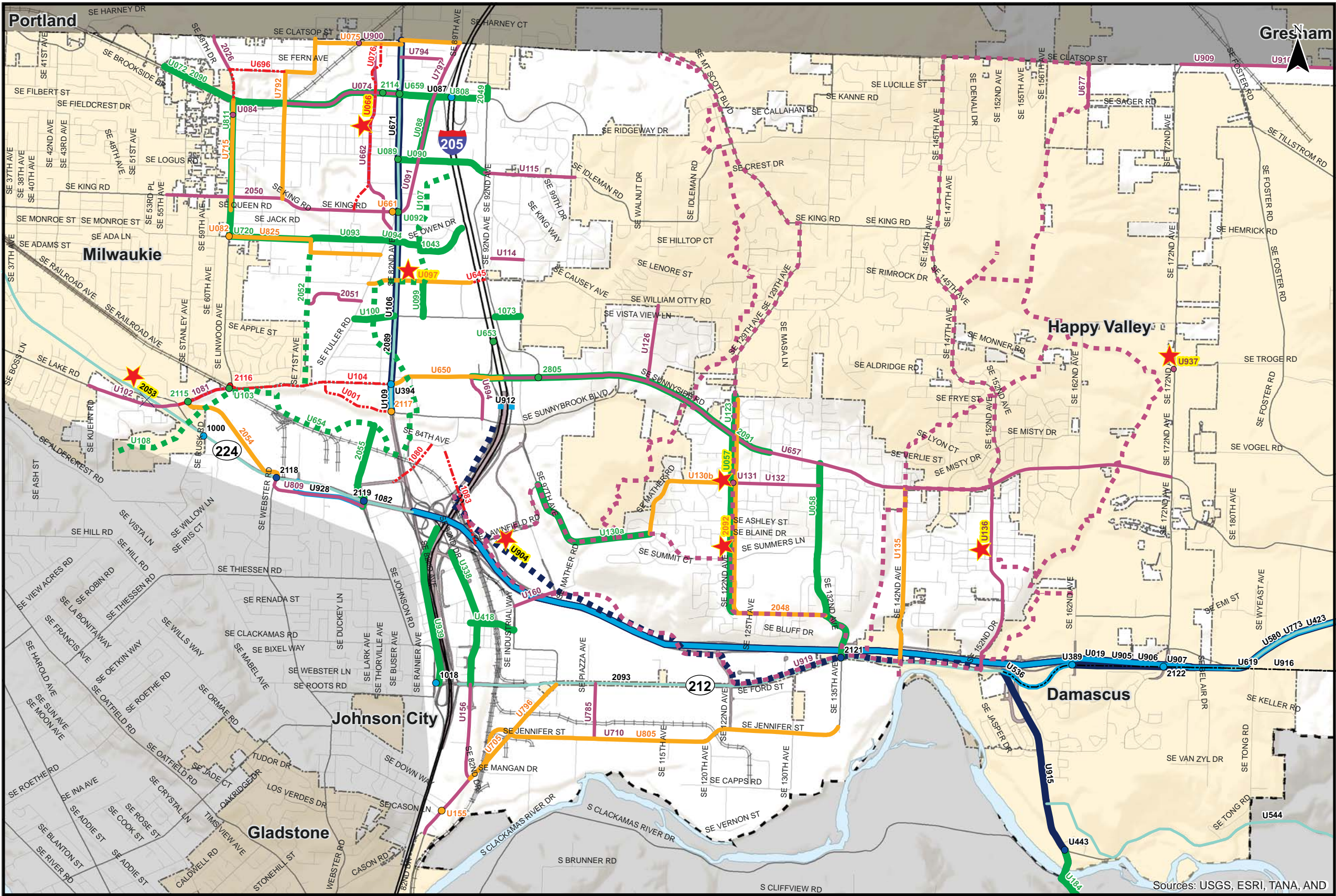
- High Priority
- Medium Priority
- Low Priority
- Recommended for Removal

- Multi-Use Path
- Incorporated Areas
- County Boundary
- UGB

Indicates Project for Discussion

0 1 Miles

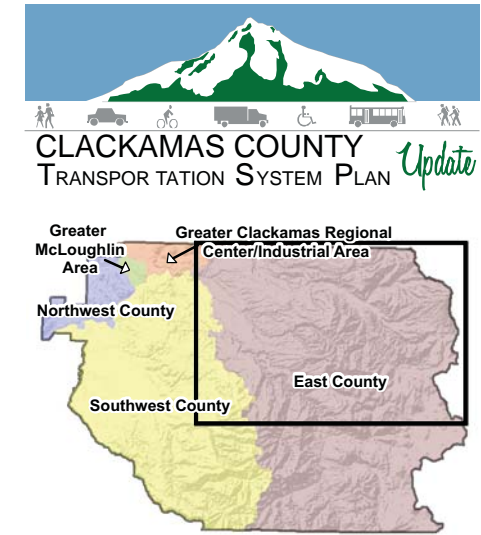
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Data Source:
Clackamas County, Metro Data Resource Center



Master List Projects - PAC Recommendation
Greater Clackamas Regional Center / Industrial Area

Figure
C MP

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Master List County Projects
PAC Recommended Priority:

- Tier 1
- Tier 2
- Tier 3
- Remove

Master List ODOT Projects
Draft Recommended Priority:

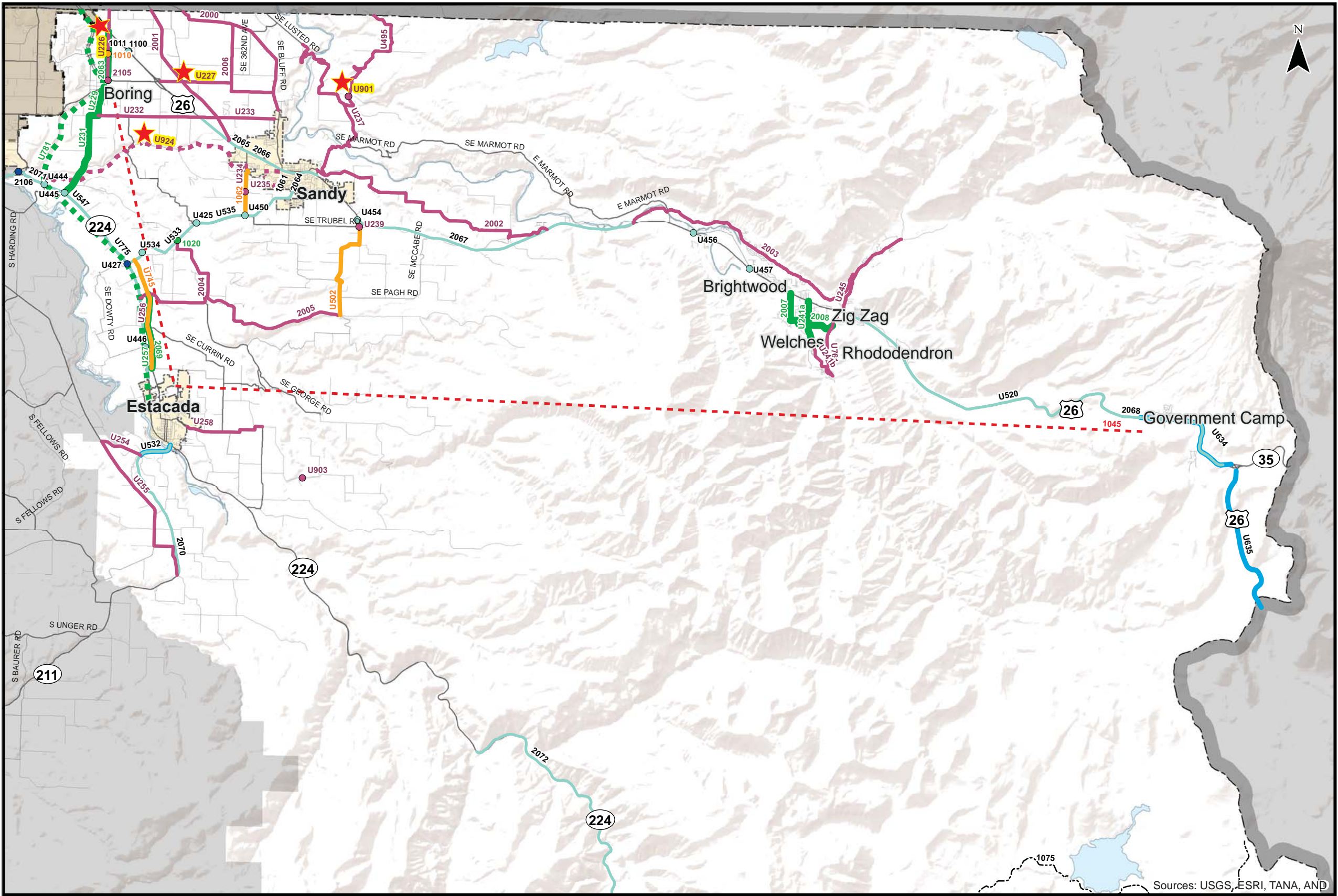
- High Priority
- Medium Priority
- Low Priority
- Recommended for Removal

- Multi-Use Path
- Incorporated Areas
- County Boundary
- UGB

★ Indicates Project for Discussion

0 1 2 3 4 5 Miles

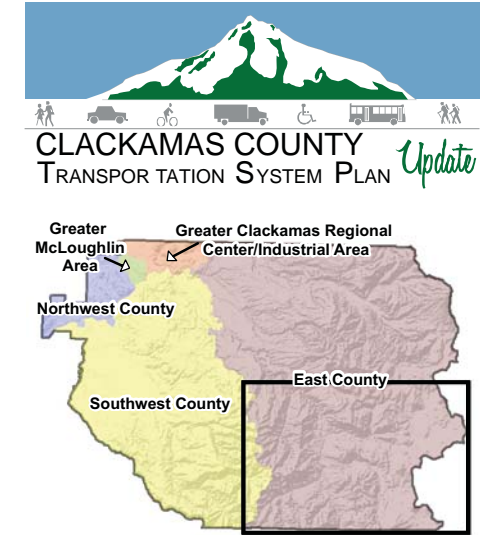
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Data Source:
Clackamas County, Metro Data Resource Center



Master List Projects - PAC Recommendation
East County - Northern Portion

Figure
EN MP

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Master List County Projects
PAC Recommended Priority:

- Tier 1
- Tier 2
- Tier 3
- Remove

Master List ODOT Projects
Draft Recommended Priority:

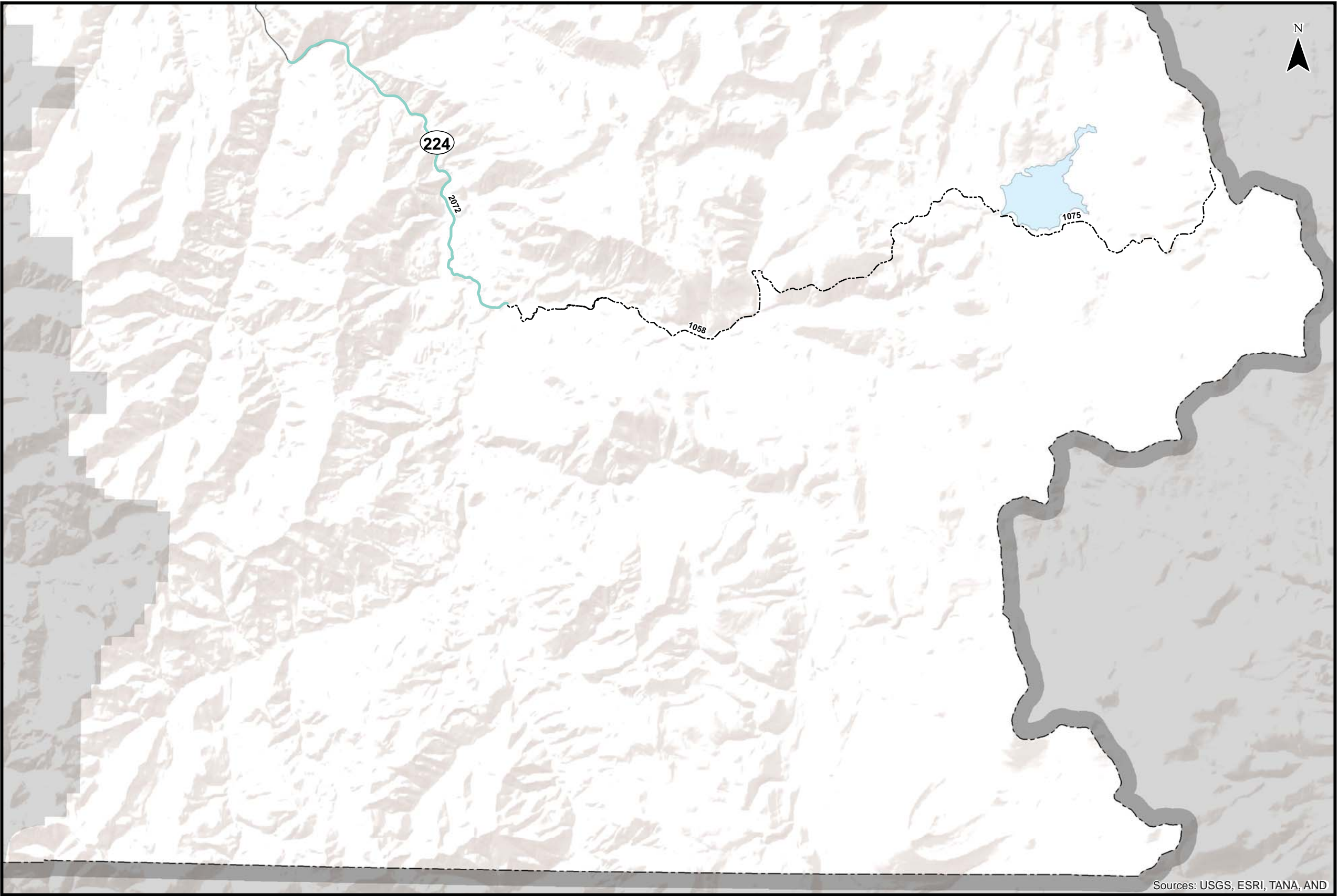
- High Priority
- Medium Priority
- Low Priority
- Recommended for Removal

- Multi-Use Path
- Incorporated Areas
- County Boundary
- UGB

★ Indicates Project for Discussion



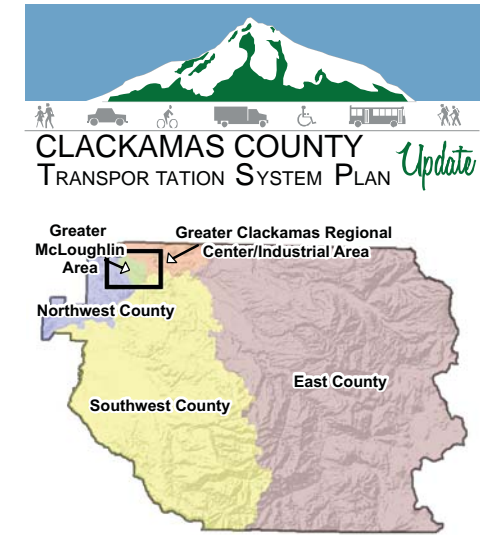
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Data Source:
Clackamas County, Metro Data Resouce Center



Master List Projects - PAC Recommendation
East County - Southern Portion

Figure
ES MP

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Master List County Projects
PAC Recommended Priority:

- Tier 1
- Tier 2
- Tier 3
- Remove

Master List ODOT Projects
Draft Recommended Priority:

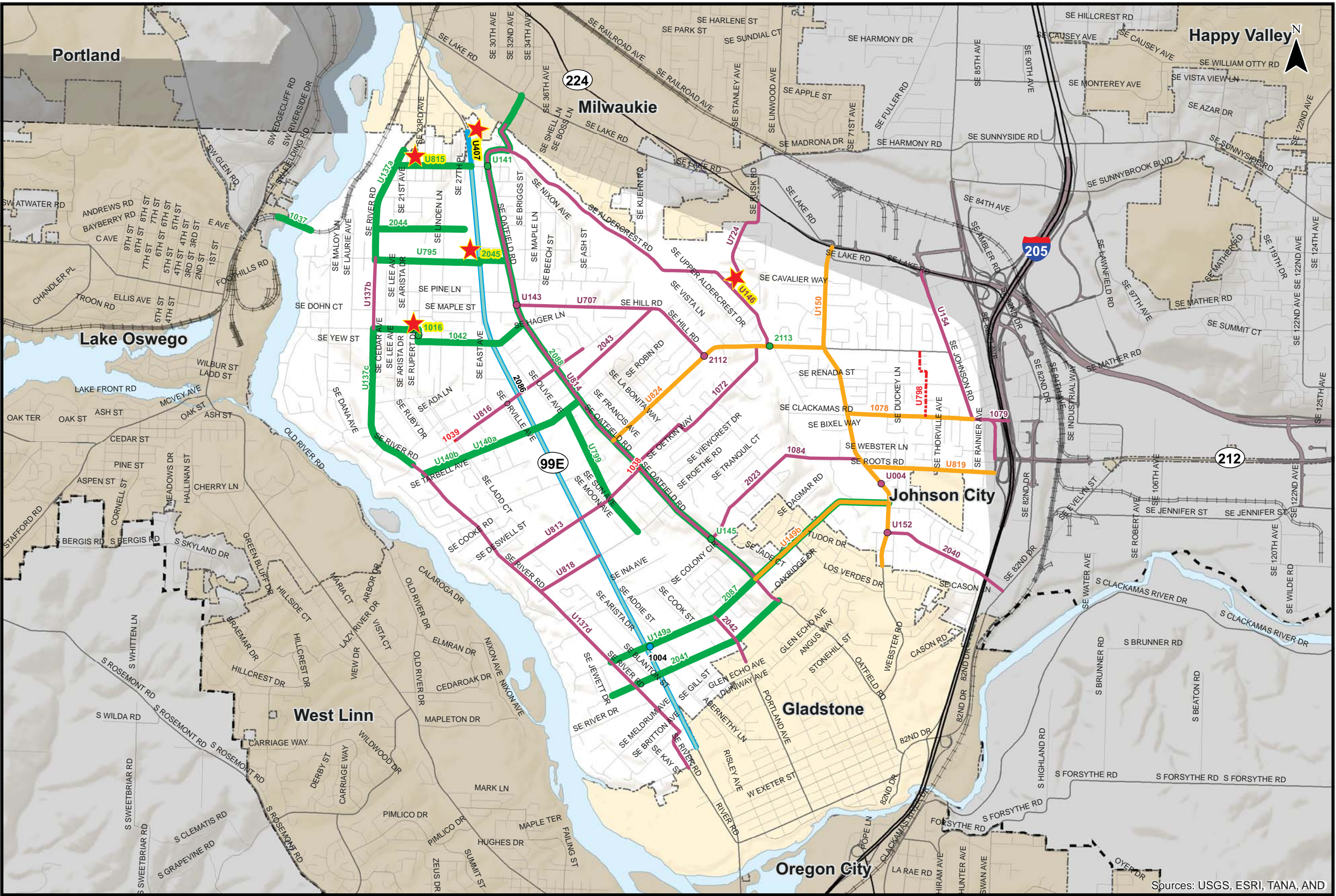
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- Medium Priority
- Low Priority
- Recommended for Removal

- Multi-Use Path
- Incorporated Areas
- County Boundary
- UGB

Indicates Project for Discussion

0 1 Miles

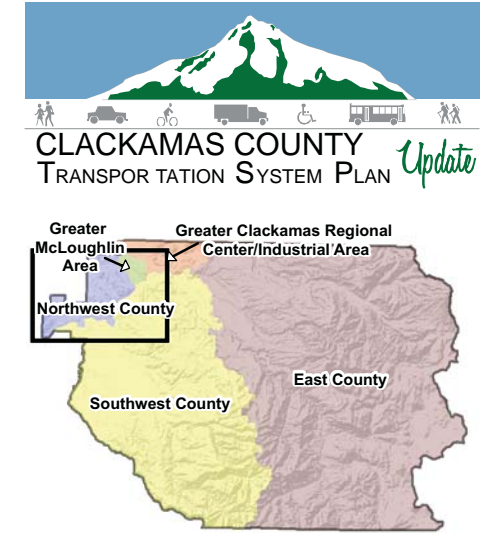
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Data Source:
Clackamas County, Metro Data Resource Center



Sources: USGS, ESRI, TANA, AND

Master List Projects - PAC Recommendation
Greater McLoughlin Area

Figure
M MP



Master List County Projects
PAC Recommended Priority:

- Tier 1
- Tier 2
- Tier 3
- Remove

Master List ODOT Projects
Draft Recommended Priority:

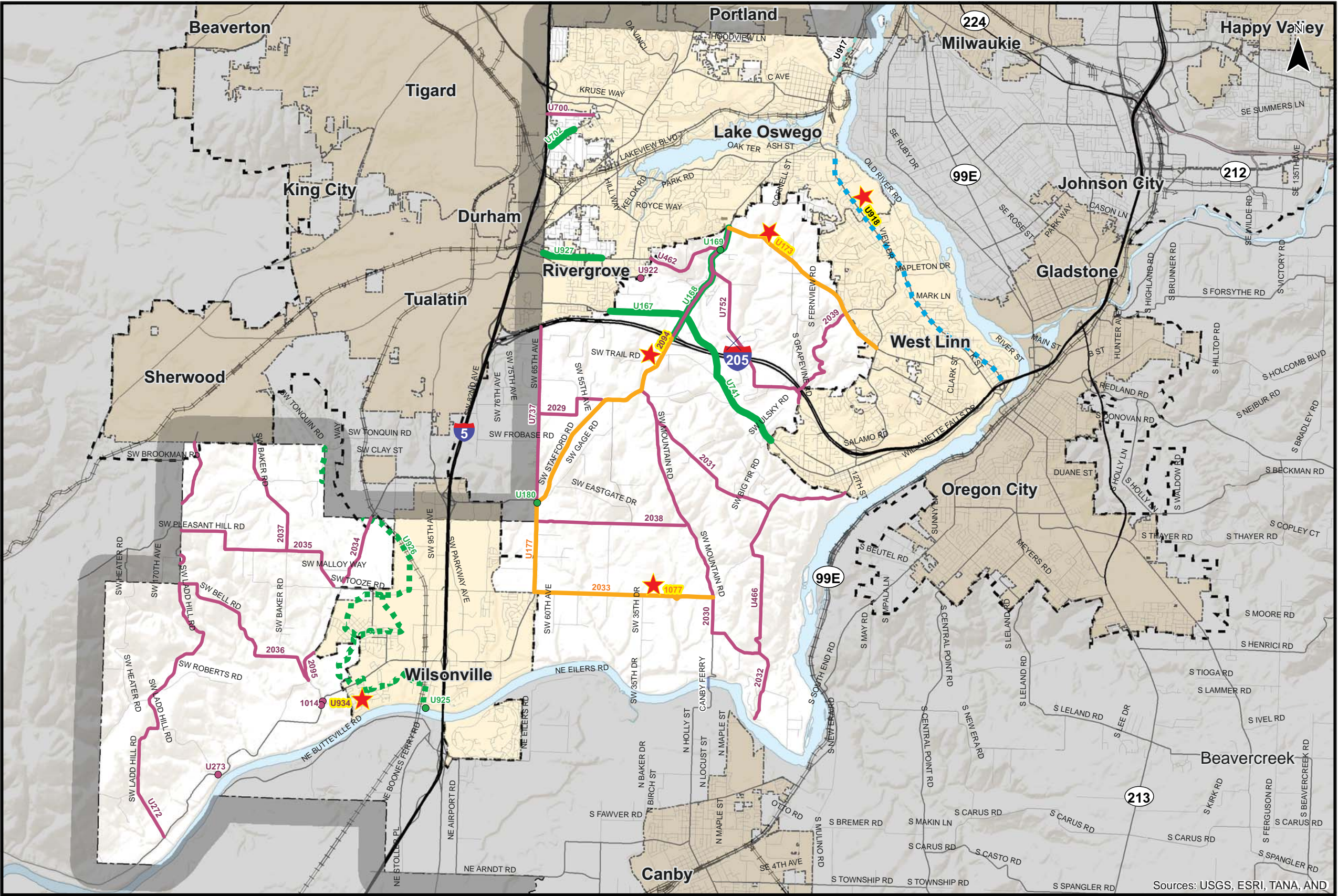
- High Priority
- Medium Priority
- Low Priority
- Recommended for Removal

- Multi-Use Path
- Incorporated Areas
- County Boundary
- UGB

Indicates Project for Discussion

0 1 2 Miles

Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resouce Center



Master List Projects - PAC Recommendation
Northwest County

Figure
NW MP

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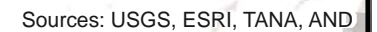
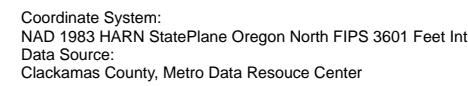
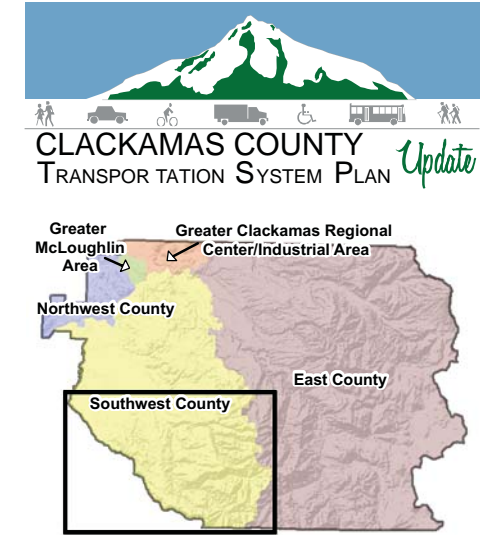


Figure
SN MP



Master List County Projects
PAC Recommended Priority:

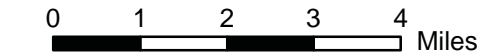
- Tier 1
- Tier 2
- Tier 3
- Remove

Master List ODOT Projects
Draft Recommended Priority:

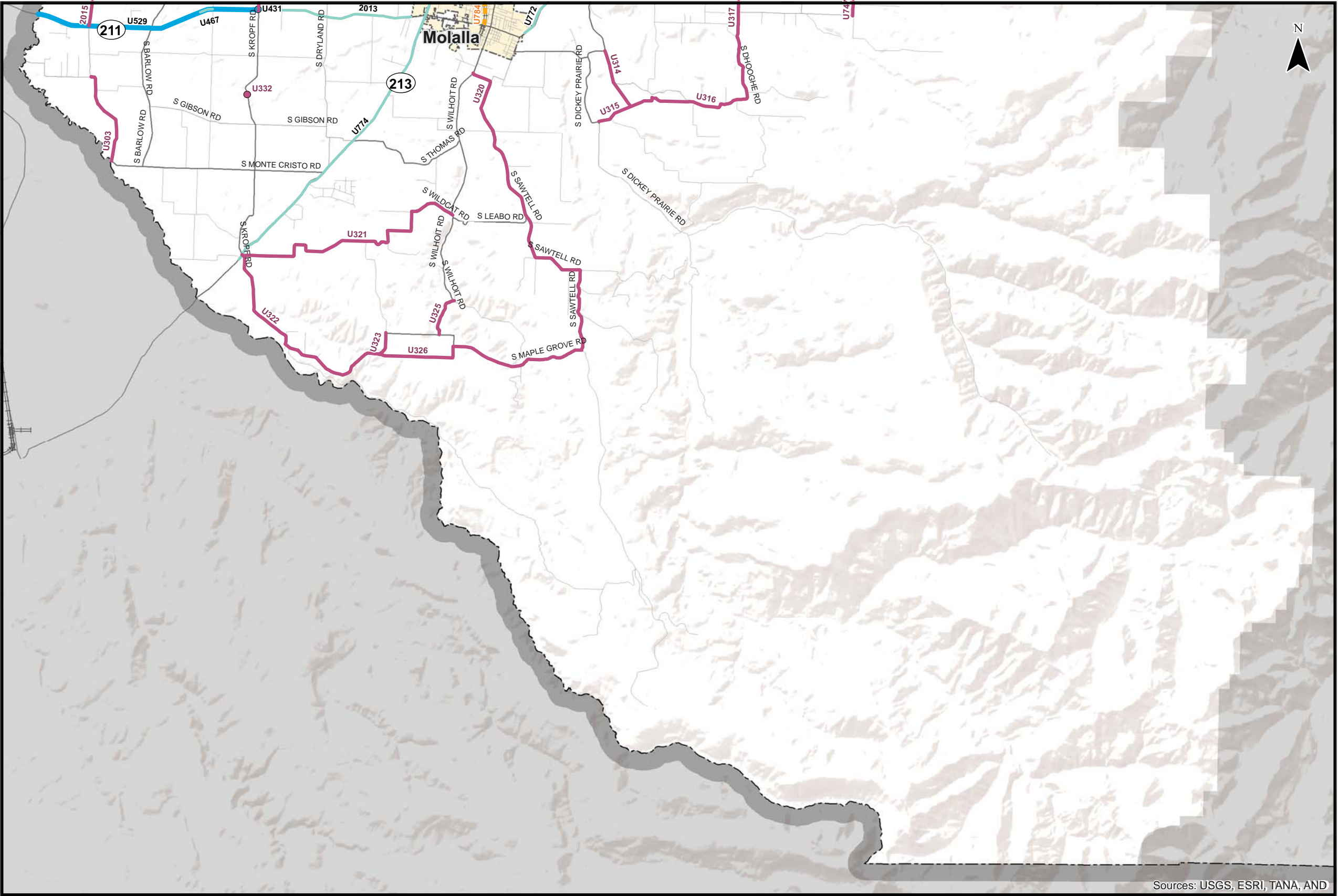
- High Priority
- Medium Priority
- Low Priority
- Recommended for Removal

- Multi-Use Path
- Incorporated Areas
- County Boundary
- UGB

★ Indicates Project for Discussion



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resouce Center



Sources: USGS, ESRI, TANA, AND

Master List Projects - PAC Recommendation
Southwest County - Southern Portion

Figure
SS MP

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Recent Changes to the Regional Travel Demand Model

Recent changes to Metro's Regional Travel Demand Model have resulted in forecast travel volumes in Clackamas County in 2035 that are ***less than previous forecast travel volumes***. These revised forecasts, and the adoption of new performance standards, mean that the levels of projected congestion on Clackamas County roads and the number of Clackamas County intersections projected to fail in the next 20 years has ***decreased***.

This memo reviews what the changes are and the impact they have had on the travel demand forecast.

Clackamas County is updating its Transportation System Plan (Comprehensive Plan Chapter 5). As part of this work Clackamas County conducted extensive analysis of the arterial and collector road system in the County using information from Metro's Regional Travel Demand Model and other transportation data sources.

During this multi-year TSP update process, Metro's Regional Travel Demand Model has been updated and revised, resulting in changes in forecast traffic volumes on the regional arterial and collector road system.

The major changes are listed below, followed by more detailed descriptions of each.

- A. Changes in land use assumptions, which result in changes to forecast vehicle trips
 - a. Distribution and number of households
 - b. Distribution and amount of employment
 - c. Economic composition of households
- B. More detailed analysis of travel, based on increased Travel Analysis Zones (TAZs),
- C. Changes in travel model trip assignments
- D. Changes in total amount of employment in Clackamas County

There are three levels of modeling that have been applied during this process:

- 1. **Beta Forecast:** Used in winter and spring 2012 for existing and future conditions modeling for 2010 and 2035 low-build and full-build scenarios with 2-hour PM peak forecasts
- 2. **Gamma Forecast/2-hour PM peak:** Used in summer 2013 for Tier 1 scenario modeling for 2035 (including the projects on the draft 20-Year Capital Project List) with 2-hour PM peak forecast
- 3. **Gamma Forecast/1-hour PM peak:** Will be used for the next round of RTP updates in 2014 with 1-hour PM peak forecast and a peak spreading algorithm

The County conducted its first round of analysis using the 2010 and 2035 Beta forecasts. This analysis identified that 44 intersections out of the 125 studied would fail to meet performance standards in 2035. When the Tier 1 Scenario was analyzed using the Gamma forecast, only five intersections were identified as failing to meet the performance standards in 2035.

Clackamas County Transportation staff and Metro Travel Modeling staff have identified the following changes between the travel models.

A. Changes in 2035 Land Use Assumptions – Households and Employment

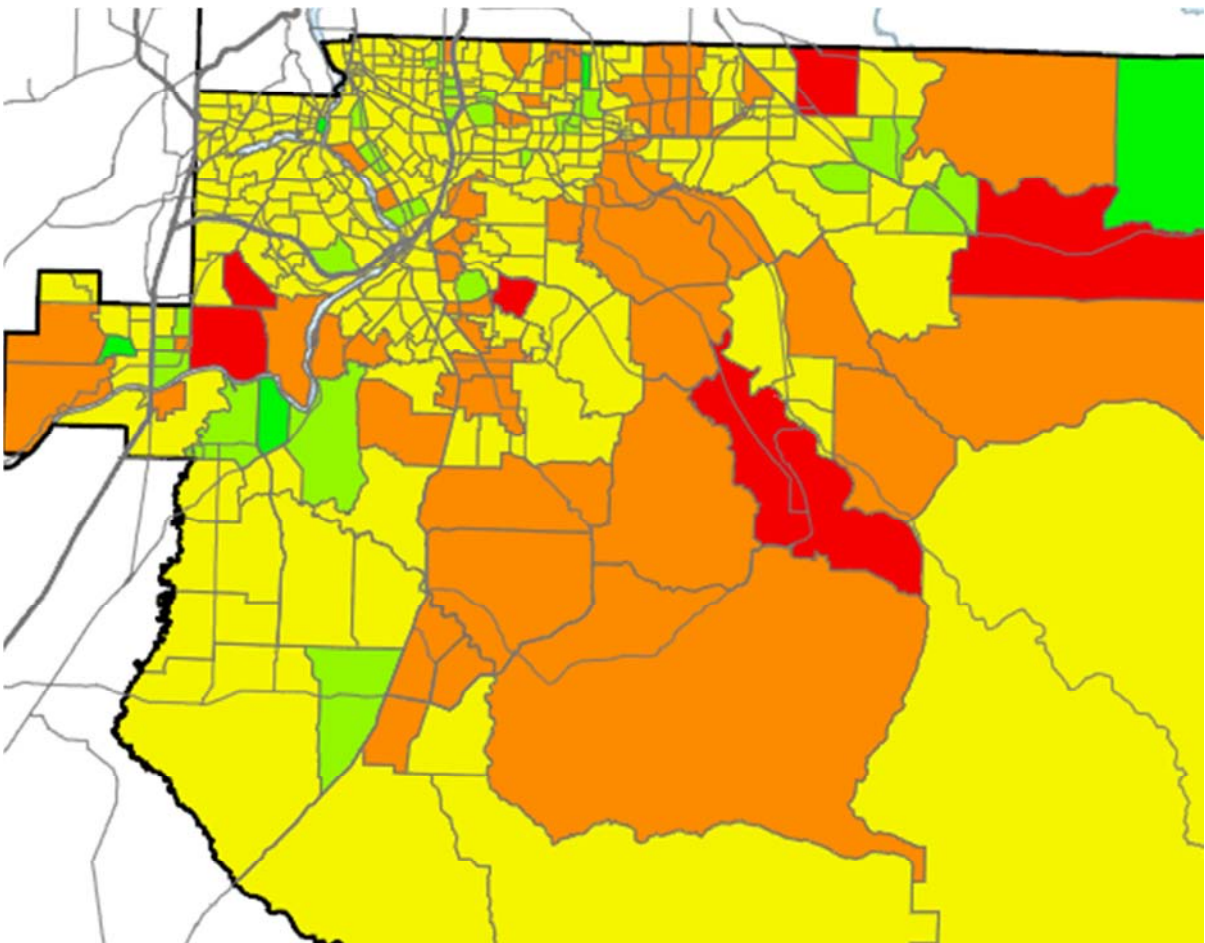
- The 2035 Gamma forecast has approximately 8,000 fewer households in Clackamas County than the 2035 Beta forecast. The final Transportation Analysis Zone (TAZ) allocations used in Metro's travel demand modeling tools for the two model runs being compared are shown below.

<u>Total Households</u>	<u>2035 Beta</u>	<u>2035 Gamma</u>	<u># Diff</u>	<u>% Diff</u>
4-County* Total	1,197,568	1,168,967	-28,601	-2.4%
Clackamas County	216,602	208,433	-8,169	-3.8%

<u>Total Employment</u>	<u>2035 Beta</u>	<u>2035 Gamma</u>	<u># Diff</u>	<u>% Diff</u>
4-County* Total	1,439,285	1,412,606	-26,679	-1.9%
Clackamas County	205,960	210,444	+4,484	+2.2%

The four counties are Clackamas, Clark, Multnomah and Washington.

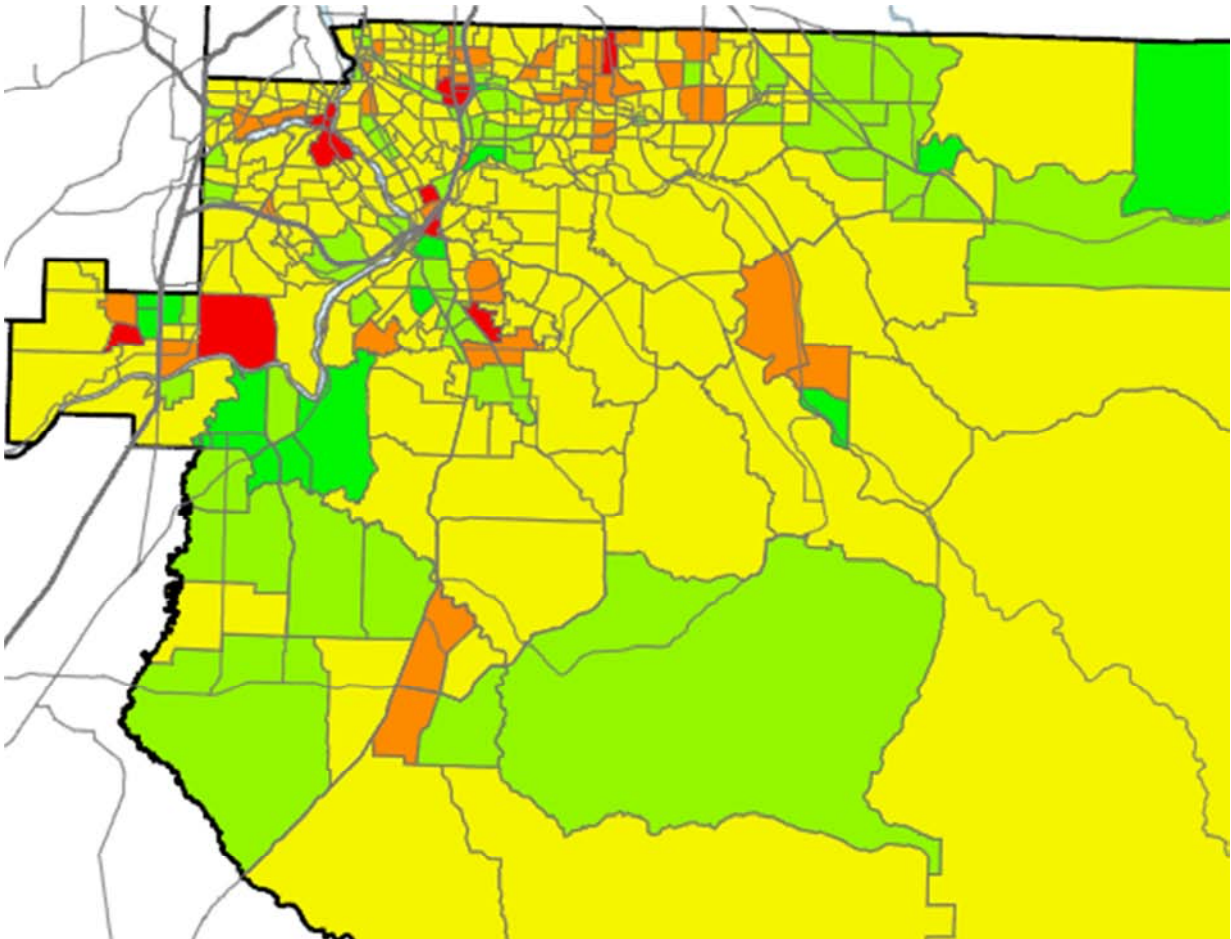
Households were redistributed within Clackamas County as shown in the map below. Red and orange indicate zones with fewer households in the Gamma forecast; green shows which zones had gains in the total number of households.



The different distribution of households results in local variations in the number of trips generated. This distribution can be described in the following terms:

- The Damascus and Estacada areas have fewer households.
- The Canby, Molalla and Sandy areas have more households.

Employment was also redistributed and increased slightly. Again, the red and orange indicate zones with less employment in the Gamma forecast while green shows the zones with gains.



There is a countywide change in the economic composition of the households between the two models, which affects the number of trips generated in the County.

- There is a general decrease in household income levels across the County, which may be related to large numbers of households with residents who are or soon will be retiring. Lower household incomes are strongly associated with reduced access to automobiles and increased demand for transit services.
- The make-up of the households in Clackamas County was changed as a result of the 2010 Census. Between the Beta and Gamma allocations, the shares of larger and higher income households were reduced somewhat, and the shares of smaller and lower income households were increased. The

percentage changes may not be large, but they are definitely contributing factors. In Metro's model, lower income households make fewer trips, own fewer cars, and are more sensitive to travel costs than higher income households.

Below are the daily trips generated by households in the travel demand model given the land use allocations:

<u>Total Trips Produced</u>	<u>2035 Beta</u>	<u>2035 Gamma</u>	<u># Diff</u>	<u>% Diff</u>
4-County Total	12,330,500	11,425,400	-905,100	-7.3%
<i>Clackamas County</i>	<i>2,302,700</i>	<i>2,076,300</i>	<i>-226,400</i>	<i>-9.8%</i>

<u>Total Work Trips Produced</u>	<u>2035 Beta</u>	<u>2035 Gamma</u>	<u># Diff</u>	<u>% Diff</u>
4-County Total	2,143,300	1,978,700	-164,600	-7.7%
<i>Clackamas County</i>	<i>426,500</i>	<i>380,300</i>	<i>-46,200</i>	<i>-10.8%</i>

- As a result of these changes in the 2035 land use and economic assumptions, **the total number of vehicles trips in 2035 decreased by 10%** between the Beta forecast and the Gamma forecast.

B. Changes to the Travel Model

A key component of a travel model is the Origin-Destination (O-D) Matrix which allocates all of the trips generated in a Traffic Analysis Zone (TAZ) to all of the other TAZs in the Regional Travel Model. This allocation is based on the results of a detailed travel survey of a large number of people living in the region.

- There are currently 2,162 TAZs in the Travel Demand Model.
- The old travel survey conducted in 1994 showed that 93% of all trips in Clackamas County were made by automobile. This survey data was used by the Beta model in the initial phase of the TSP update travel analysis.
- The new travel survey conducted in 2011 showed that 87.6% of all trips in the region were made by automobile. This survey data was used by the Gamma model in the Preferred Alternative travel analysis.

The following table shows how mode shares changed between 1994 and 2011 for all households.:

Mode Share by Area of Residence, 1994 vs. 2011 (source: *Metro Household Travel Survey*)

	1994	2011	1994	2011
	Region	Region	Clackamas	Clackamas
Single-Occupancy Vehicle (SOV)	43.4%	42.5%	46.2%	45.1%
High-Occupancy Vehicle (HOV)	43.9%	41.2%	47.0%	42.5%
Total Auto	87.3%	83.8%	93.2%	87.6%
Transit	2.9%	4.2%	1.1%	2.9%
Walk	8.7%	9.2%	5.2%	8.2%
Bike	1.1%	2.8%	0.4%	1.3%

- The survey shows that Clackamas County continues to have a higher proportion of auto trips than the 4-county region as a whole (93.2% vs. 87.3% and 87.6% vs. 83.8%). However, there were significant increases in non-auto modes between 1994 and 2011 which resulted in **an additional 5% reduction in the overall number of trips made by automobile in 2035.**
- The combined effect of these two changes to the travel model is a 15% reduction in the number of trips made by automobiles and a resulting decrease in the travel volumes shown by the model in 2035.
- The above analysis indicates that there are a number of factors contributing to the reduction of trips region-wide and in Clackamas County – fewer households, change in household composition and recalibrated mode shares. While these may not be the entire story, they explain a large amount of the differences in projected 2035 traffic volumes.

Additional Travel Model Issues

C. Travel Model Trip Assignments

- The 15% decrease in trips is based on the total daily trips.
- The model makes its forecast for the PM peak hour, which has a higher percentage of the total trips occurring by transit.
- The result of this difference is an additional reduction in auto trips of approximately 3%, which increases the total reduction of in automobile PM peak hour trips to 18%.

D. Employment Changes

- The total employment in Clackamas County increased by a few thousand jobs between the Beta forecast and the Gamma forecast.
- The change may produce shorter journey-to-work trips as people in Clackamas County households have more opportunities to be employed within the county.

The combined effect of these four factors is estimated to reduce the number of automobile trips by at least 18% from the model estimate developed as part of the TSP low-build model in the *Existing and Future Conditions Analysis*.

Model Trip Reduction and New Traffic Operations Performance Standards

- The Oregon Highway Plan (OHP) and the Regional Transportation Functional Plan (RTFP) require that the County adopt new traffic operation performance standards using a volume-to-capacity (v/c) measure.
- The combination of new performance standards and reduced travel volumes estimated by the travel model will substantially reduce the number of intersections that fail to meet the performance standards.
- **The effect of these changes is not going to solve future traffic capacity problems, but will potentially push out the time at which the problems / failures are projected to occur beyond the 20-year planning horizon.**

APPENDIX 1: Summary of Network and Model Enhancements since the last RTP Update

prepared by Metro staff, July 2013

Network Updates

- The Transportation Analysis Zone (TAZ) system was significantly modified (from 2,013 to 2,162 TAZs). The new zones are better aligned with current tax lot boundaries.
- The base year was updated from 2005 to 2010.

Updated Inputs

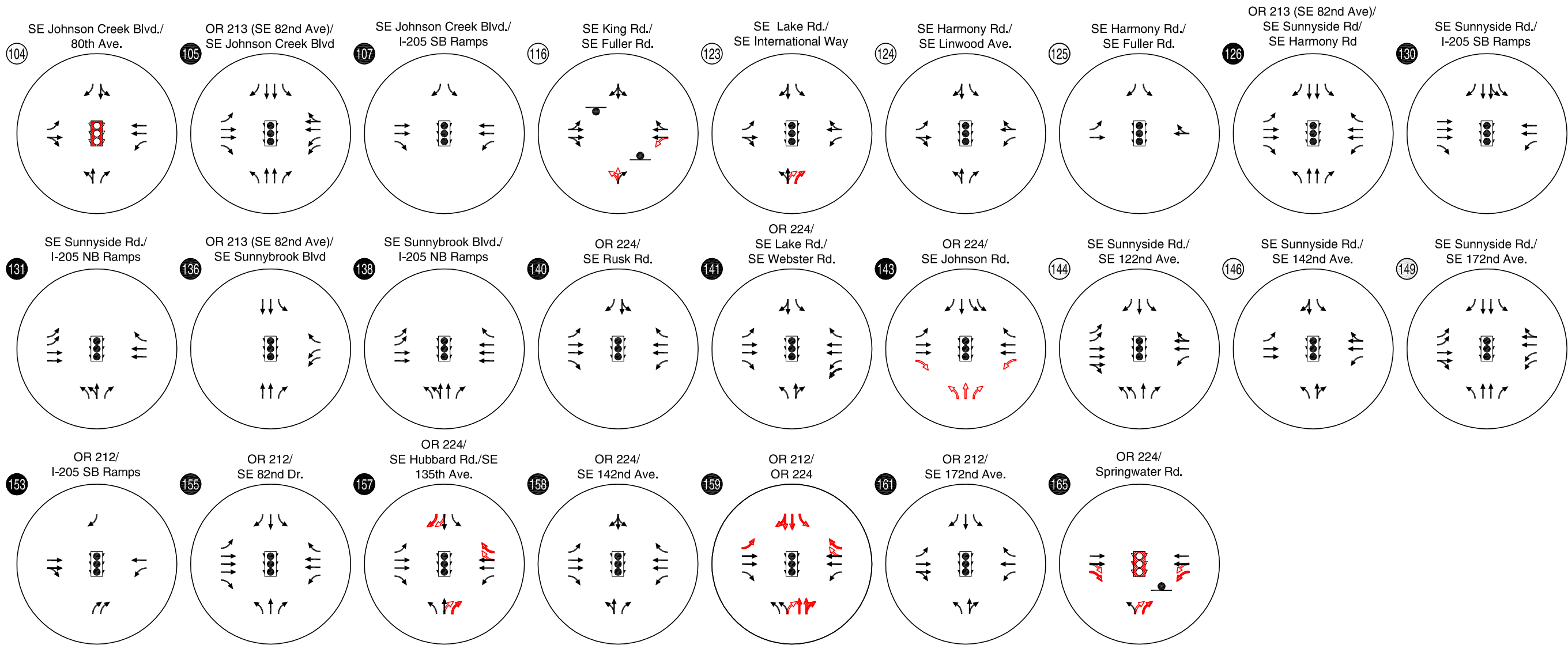
- 2040 design types updated to include more tiers based on findings from State of the Centers report and Transit-Oriented Development strategic plan reflecting that not all Centers and Station communities are in the same stage of development.
 - Regional Centers – from 1 to 2 tiers
 - State Communities – from 1 to 3 tiers
 - Town Centers – from 2 to 4 tiers
 - Corridors – NW 23rd adjusted to reflect high parking restrictions compared to other Corridors.
- Updated TAZ assumptions based on 2040 design types to allow for more control over policies being tested. Main Street, Corridor, Inner neighborhood all used to be in one classification. By splitting them, you can test parking policy on just corridors.
 - Parking factors – coordinated with City of Portland to reach agreement. Central City parking costs have been increasing at different rates in different parts of the city. Agreement reached to use a consistent value in the future.
 - Intersection densities recalculated to reflect new zone system
 - Transit pass factors updated to 2010\$

Model Enhancements

- The last RTP update used the Ivan model.
- The East Metro Connections Plan used Joan model (version 1.0)
- The 2014 RTP update will use the Joan model (version 2.0), which was used by other planning efforts such as the SW Corridor Plan, Active Transportation Plan, and several recent TSPs.
 - Enhancements included in Joan Version 2.0 include:
 - Transit time perception
 - Wait time perception varies depending on stop type: pole, basic shelter, enhanced shelter/transit center
 - In-vehicle time perception varies depending on vehicle types: bus, street car, light rail
 - Park & Ride Lot Choice
 - A traveler considering using the park-ride mode is now given the opportunity to consider multiple lots locations. Prior, only one lot choice was offered.
 - Validation to the Portland/Vancouver Region Travel Behavior Survey

- The model was modified as necessary to make sure that parameters were effective in producing model results that reflected today's conditions. New regional mode shares will be reflected in new model to reflect change from 1997 to 2011 surveys: decrease in auto (87.3 to 83.7), increase in biking, walking and transit (12.7 to 16.2) (these numbers include travel to/from Clark County).
- Bike model
 - Formerly the regional model only factored trip distance into the decision to bike as well as some socioeconomic/demographic factors. The new model calculates a travel utility between zone pairs, and includes all streets. Bike lanes, boulevards, trails, etc. are flagged as more attractive than other routes. Consideration is given to the volume of auto traffic, number of stop signs/signals along route, number of left turns, slope, other network attributes.
 - The bike model assigns bike trips to the network, illustrating volume flows, identifies origins and destinations of users traveling along a given segment of the network, calculates bike miles traveled.
 - The tool is unique compared to most other regions because the bike mode competes with the other modes with regard to the attractiveness to the traveler. As the utility rises and the bike mode becomes more attractive, trips on other modes switch to bikes based upon the degree of change in the attractiveness.
- Peak-spreading algorithm
 - The treatment in the peak hour has been updated to better match count and survey data, providing a more realistic treatment of how travelers response to the peak period congestion
 - Captures the shoulder hour impacts as excess demand in peak periods is moved to adjacent hours
 - Permits inspections of performance on an hourly basis, e.g. 4:00-5:00, 5:00-6:00, 6:00-7:00
 - The algorithm does not impact the base year (2010) significantly. It is much more important in the future years in routes where demand far exceeds network capacity in the peak hours (volume / capacity > 1.0).
 - The algorithm uses today's 'most congested' corridors as a proxy for a future year congestion threshold. Future year demand is spread when congestion along corridors exceeds this threshold.
- Costs updated from 1994 dollars to 2010 dollars
- Airport demand model has been implemented
- Truck flows updated to reflect most recent land use forecast (Gamma)

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- ## - ODOT STUDY INTERSECTION
- ## - COUNTY STUDY INTERSECTION
- STOP SIGN
- TRAFFIC SIGNAL
- ROUNDABOUT

- - LANE REMOVED
- - LANE ADDED

Tier 1 Scenario Lane Configuration and Traffic Control Devices

Greater Clackamas Regional Center/Industrial Area

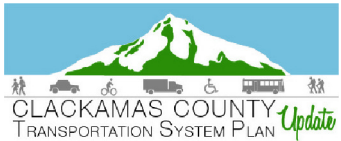
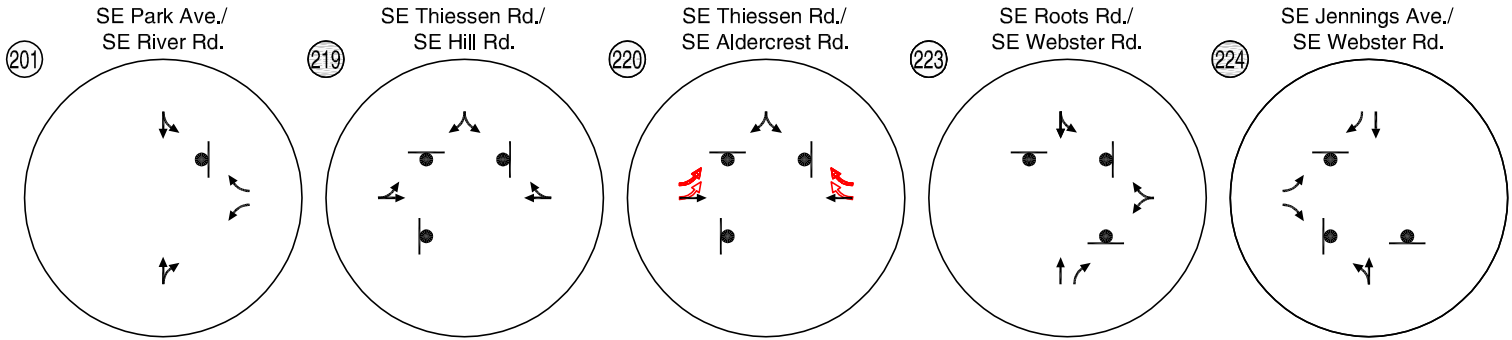


Figure C 1



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##

- ODOT STUDY INTERSECTION

##

- COUNTY STUDY INTERSECTION

- STOP SIGN

- TRAFFIC SIGNAL

- ROUNDABOUT

- LANE REMOVED

- LANE ADDED

Tier 1 Scenario Lane Configuration and
Traffic Control Devices
Greater McLoughlin Area

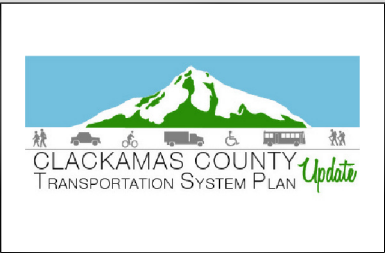
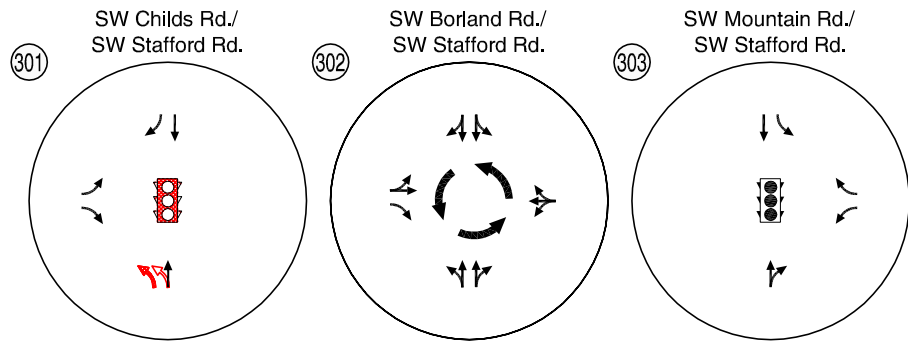


Figure
M 3



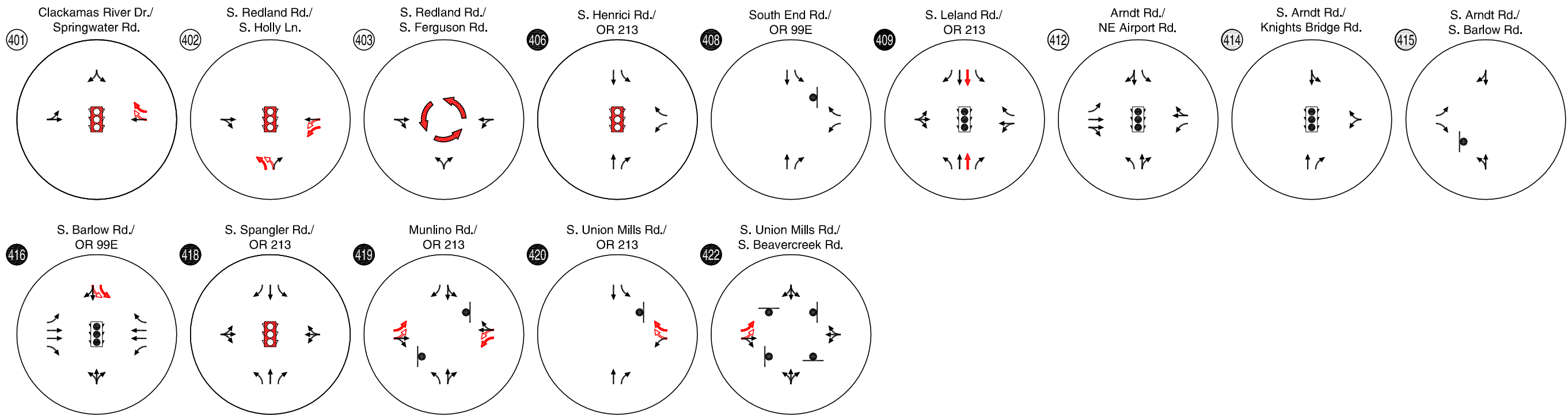
- ## - ODOT STUDY INTERSECTION
- ## - COUNTY STUDY INTERSECTION
- STOP SIGN
- TRAFFIC SIGNAL
- ROUNDABOUT
- - LANE REMOVED
- - LANE ADDED

Tier 1 Scenario Lane Configuration and Traffic Control Devices Northwest County



Figure NW 34

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- ## - ODOT STUDY INTERSECTION
- ## - COUNTY STUDY INTERSECTION
- - STOP SIGN
- - TRAFFIC SIGNAL
- - ROUNDABOUT
- - LANE REMOVED
- - LANE ADDED

Tier 1 Scenario Lane Configuration and Traffic Control Devices Southwest County

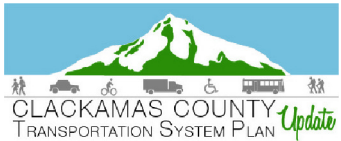
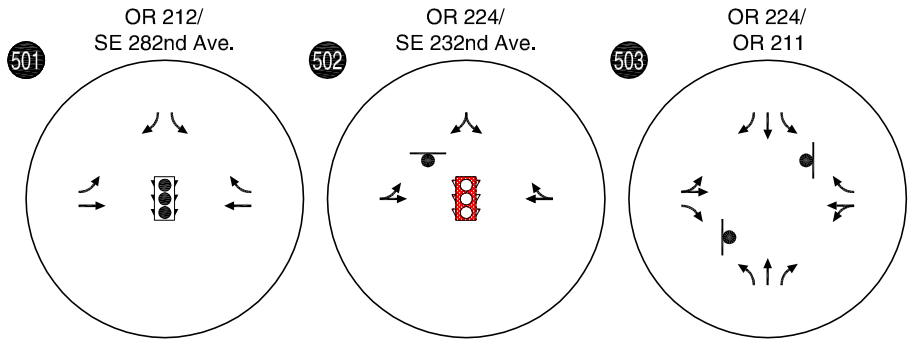


Figure S 34



- - ODOT STUDY INTERSECTION
- - COUNTY STUDY INTERSECTION
- - STOP SIGN
- ⬆

- TRAFFIC SIGNAL
- ⬆

- ROUNDABOUT
- - LANE REMOVED
- - LANE ADDED

Tier 1 Scenario Lane Configuration and Traffic Control Devices
East County

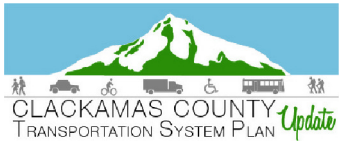
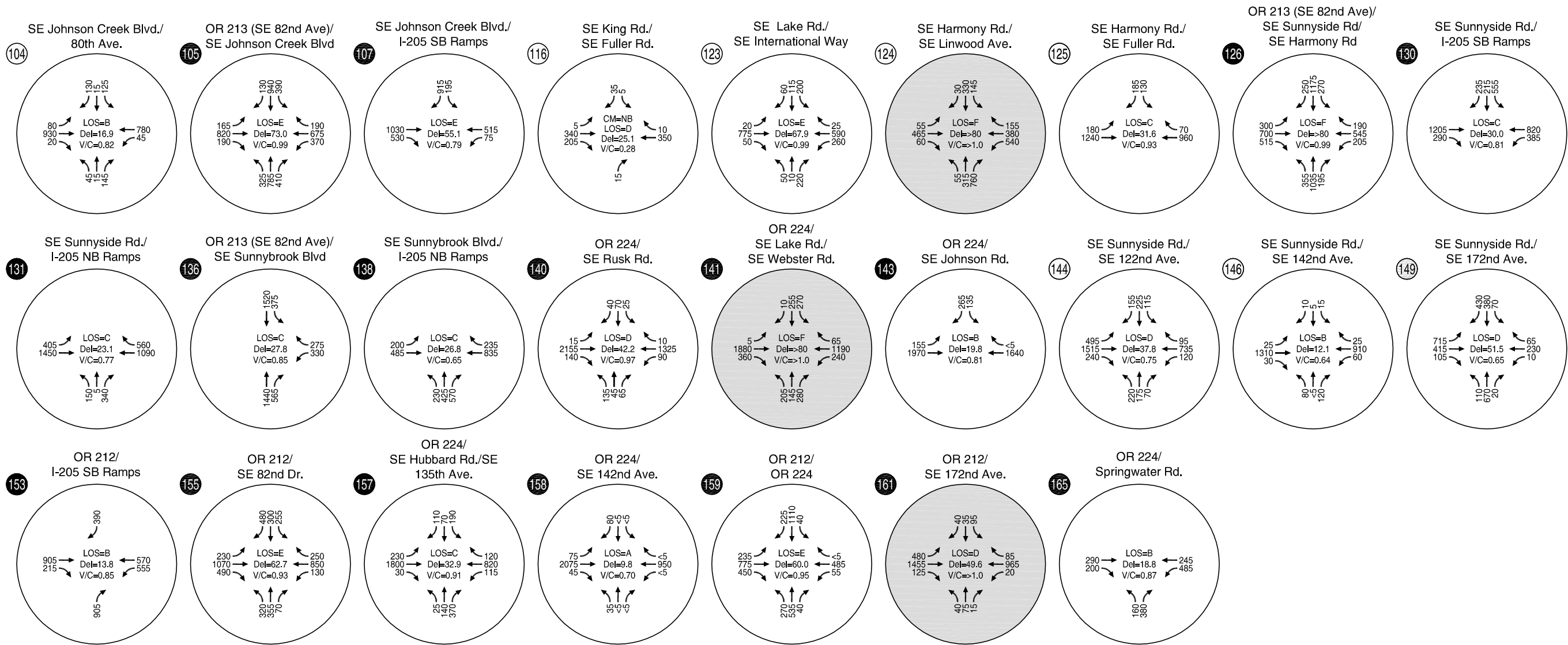


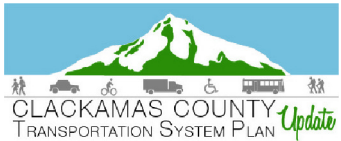
Figure E 5

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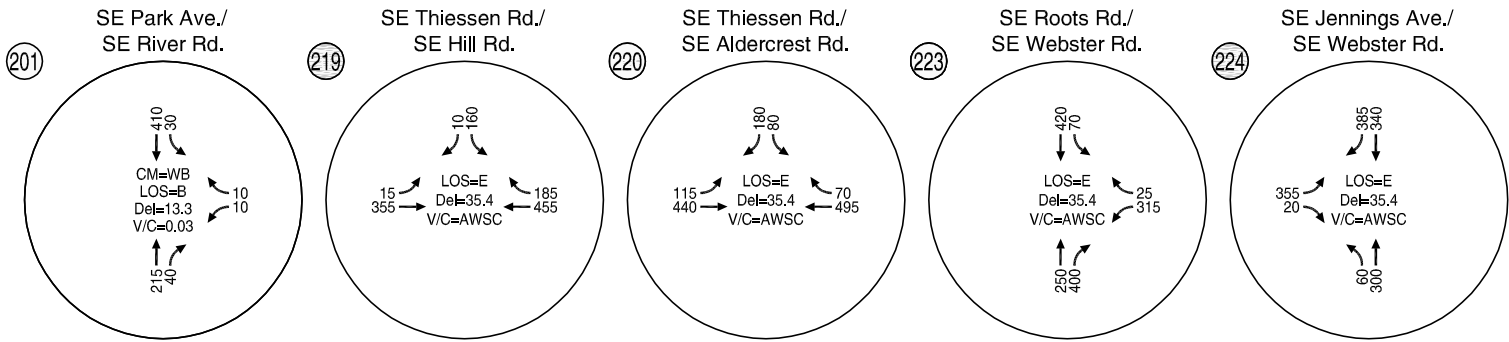


CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
STD = OPERATIONAL STANDARD
AWSC = ALL-WAY STOP CONTROL

**Tier 1 Scenario
Intersection Operations
Greater Clackamas Regional Center/Industrial Area**

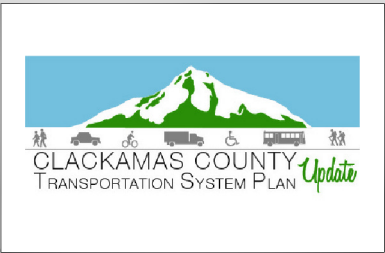


**Figure
C 1**

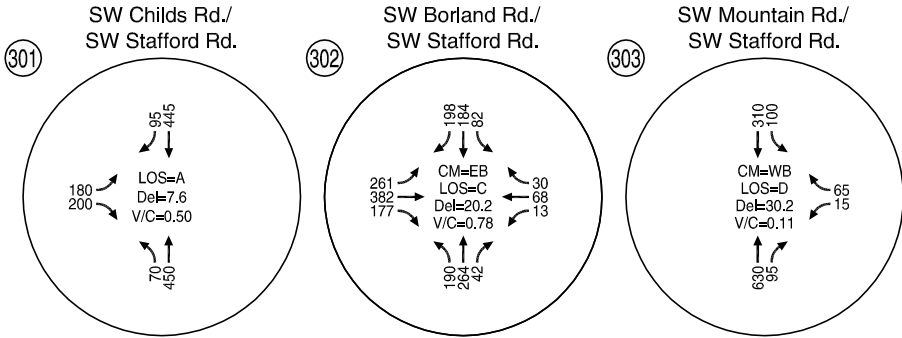


CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
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V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
STD = OPERATIONAL STANDARD
AWSC = ALL-WAY STOP CONTROL

**Tier 1 Scenario
Intersection Operations
Greater McLoughlin Area**



**Figure
M 3**

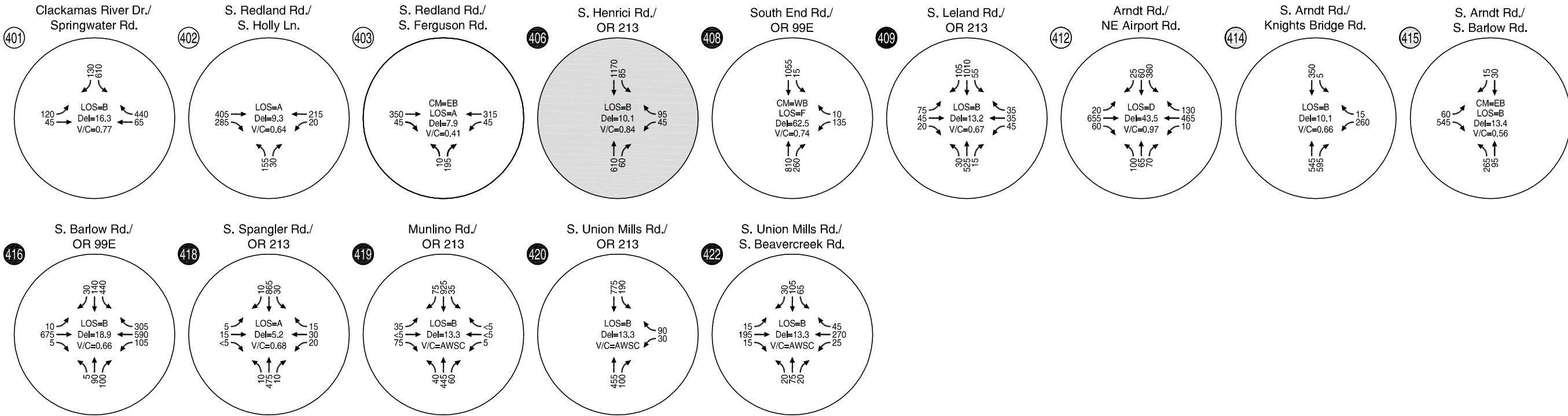


CM	=	CRITICAL MOVEMENT (UNSIGNALIZED)
LOS	=	INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del	=	INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C	=	CRITICAL VOLUME-TO-CAPACITY RATIO
STD	=	OPERATIONAL STANDARD
AWSC	=	ALL-WAY STOP CONTROL

Tier 1 Scenario
Intersection Operations
Northwest County

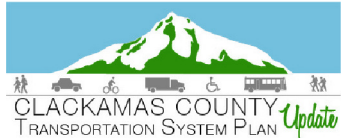


Figure
NW 34

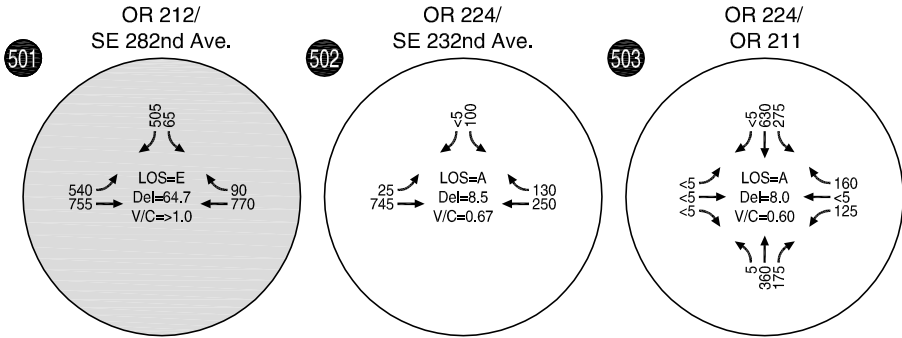


CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
STD = OPERATIONAL STANDARD
AWSC = ALL-WAY STOP CONTROL

**Tier 1 Scenario
Intersection Operations
Southwest County**



**Figure
S 34**

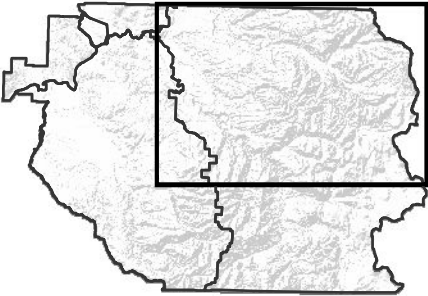
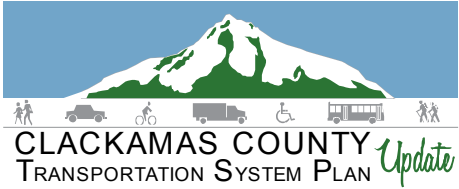


CM	=	CRITICAL MOVEMENT (UNSIGNALIZED)
LOS	=	INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
Del	=	INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
V/C	=	CRITICAL VOLUME-TO-CAPACITY RATIO
STD	=	OPERATIONAL STANDARD
AWSC	=	ALL-WAY STOP CONTROL

Tier 1 Scenario
Intersection Operations
East County

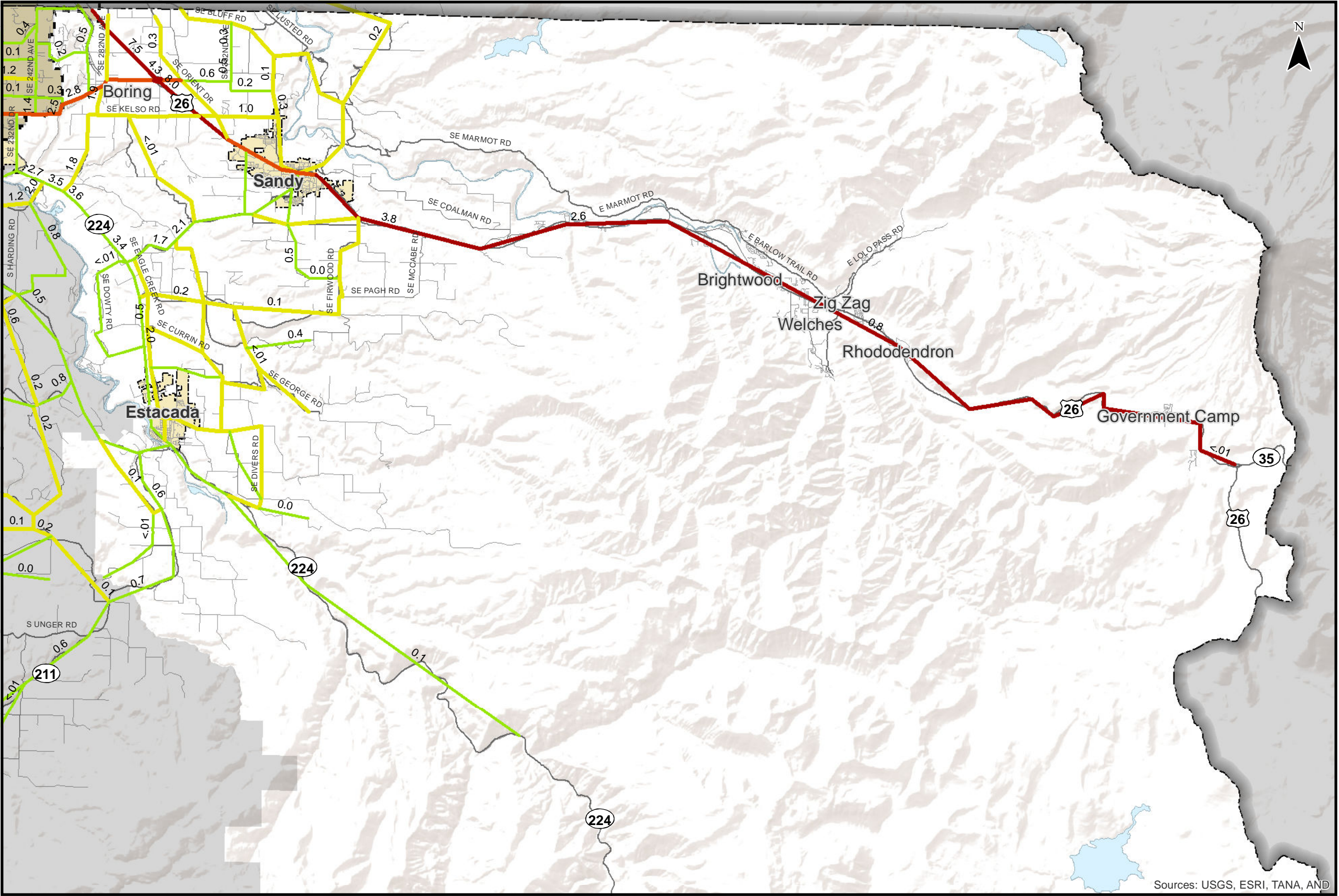


Figure
E 5

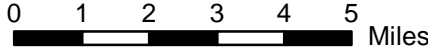


2035 Tier 1 Scenario Volumes

- Freeway
- Principal / Major Arterial
- Minor Arterial
- Other
- PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



Sources: USGS, ESRI, TANA, AND

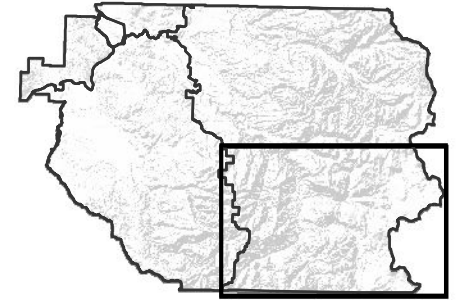
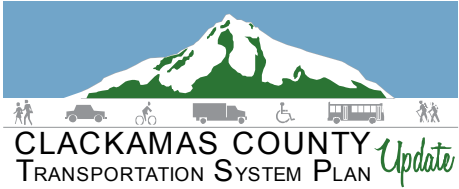


Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Cambridge Systematics, Clackamas County,
Metro Data Resouce Center

Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
East County - Northern Portion

Figure
EN T1

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- 2035 Tier 1 Scenario Volumes
- Freeway

Principal / Major Arterial

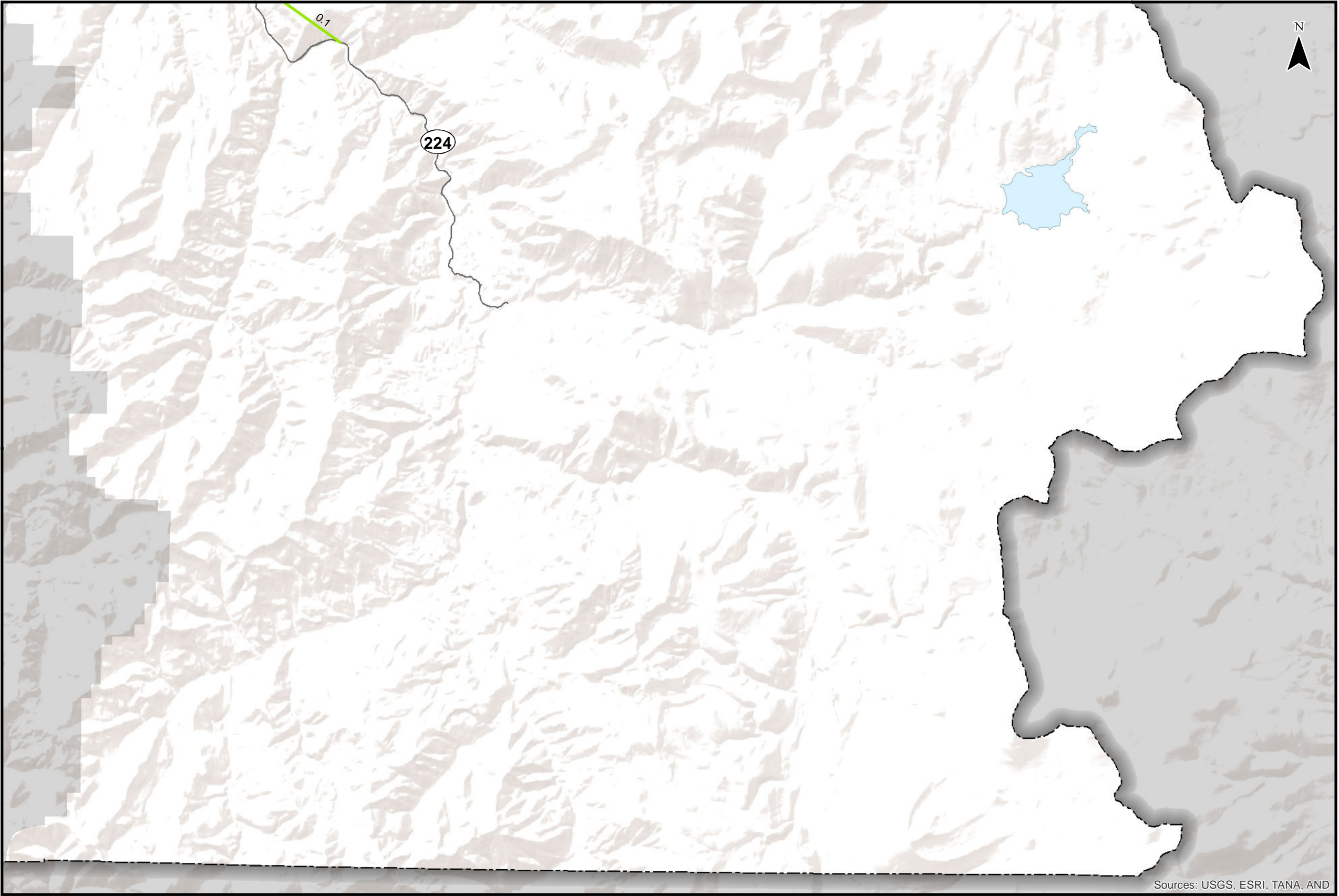
Minor Arterial

Other
- ##

PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Cambridge Systematics, Clackamas County,
Metro Data Resouce Center

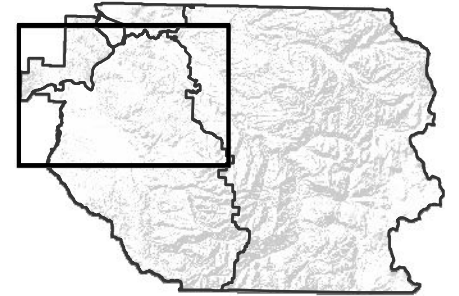
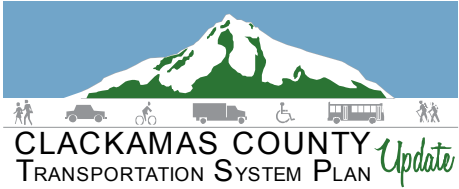


Sources: USGS, ESRI, TANA, AND

Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
East County - Southern Portion

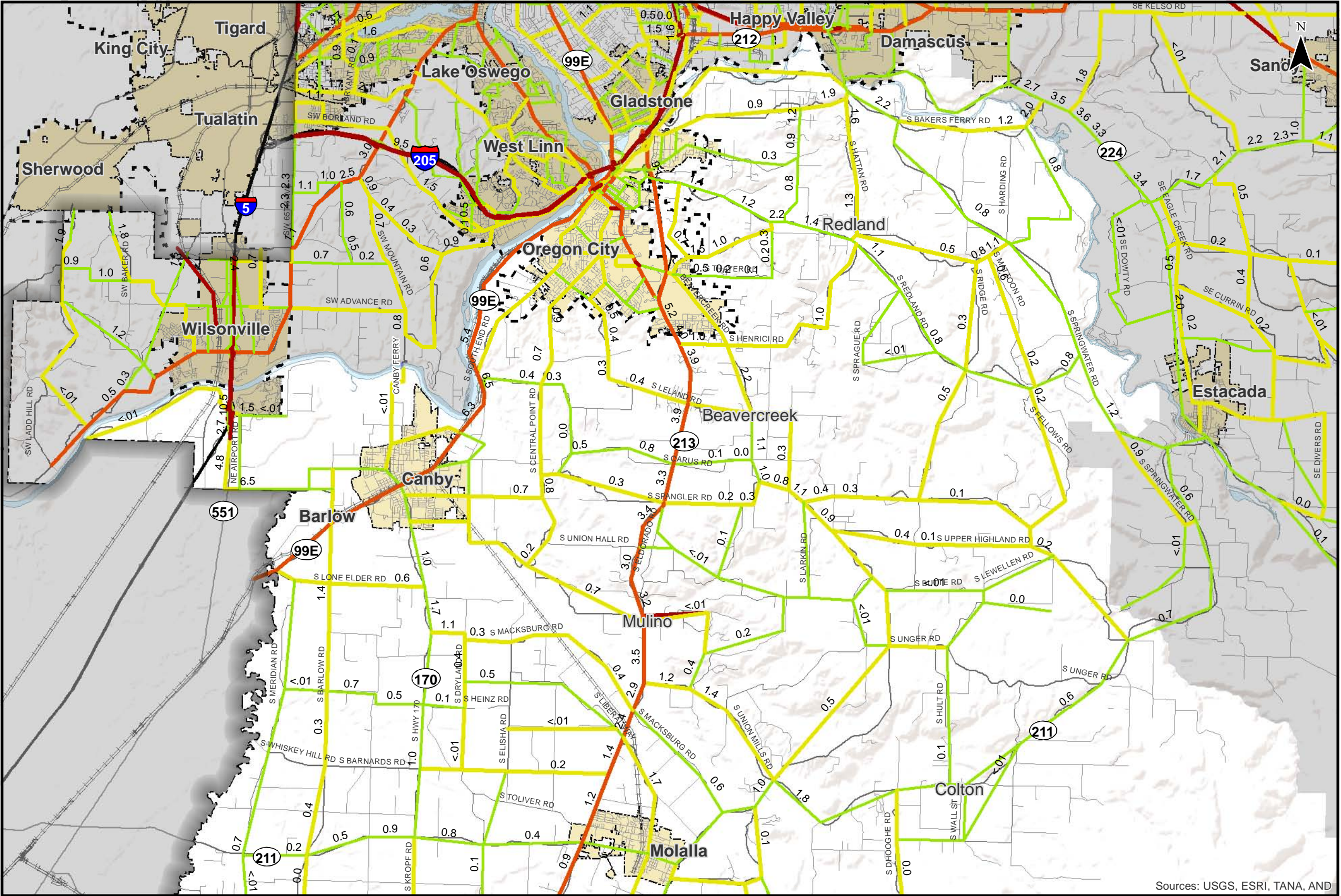
Figure
ES T1

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2035 Tier 1 Scenario Volumes

- Freeway
- Principal / Major Arterial
- Minor Arterial
- Other
- PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



Sources: USGS, ESRI, TANA, AND

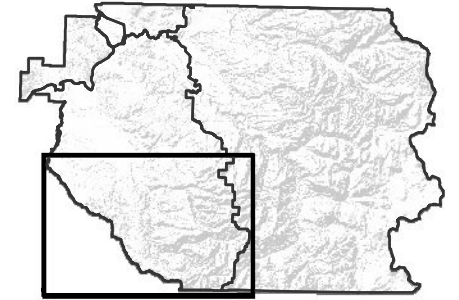
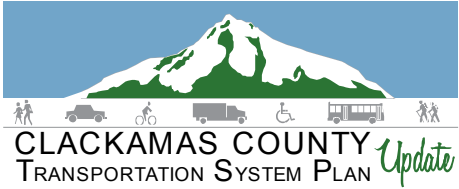
0 1 2 3 4 Miles

Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Cambridge Systematics, Clackamas County,
Metro Data Resource Center

Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
Southwest County - Northern Portion

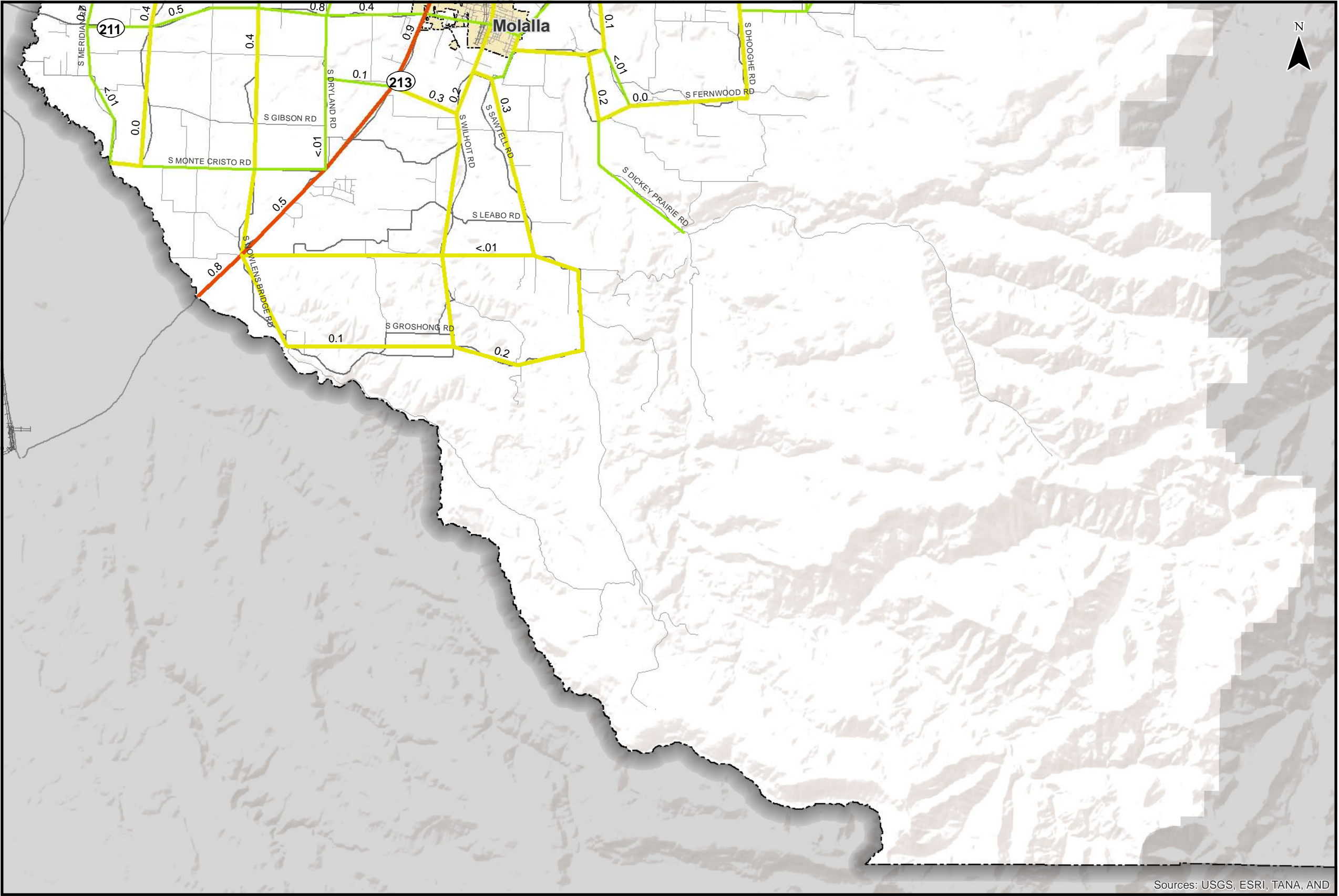
Figure
SN T1

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2035 Tier 1 Scenario Volumes

- Freeway
- Principal / Major Arterial
- Minor Arterial
- Other
- PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



Sources: USGS, ESRI, TANA, AND

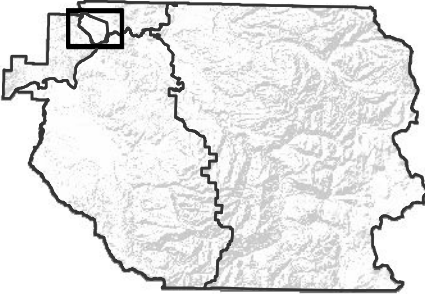
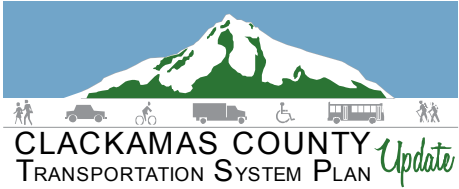


Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Cambridge Systematics, Clackamas County,
Metro Data Resource Center

Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
Southwest County - Southern Portion

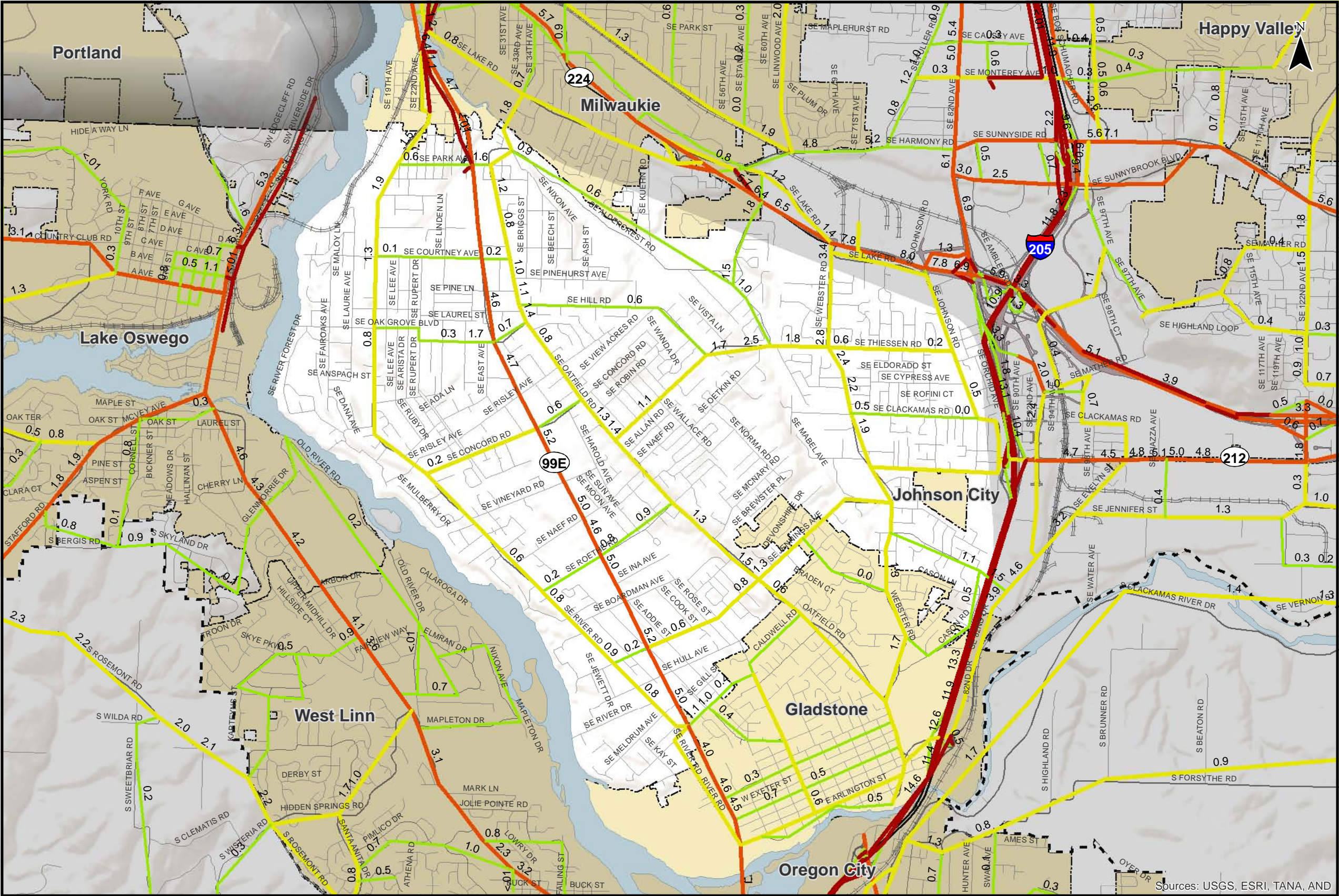
Figure
SS T1

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2035 Tier 1 Scenario Volumes

- Freeway
- Principal / Major Arterial
- Minor Arterial
- Other
- PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



0 1 Miles

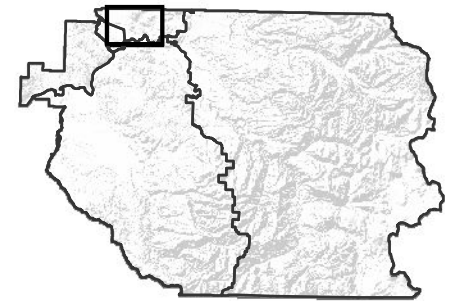
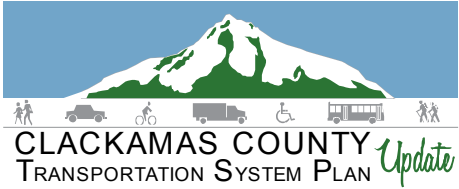
Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Cambridge Systematics, Clackamas County,
Metro Data Resource Center

Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
Greater McLoughlin Area

Figure
M T1

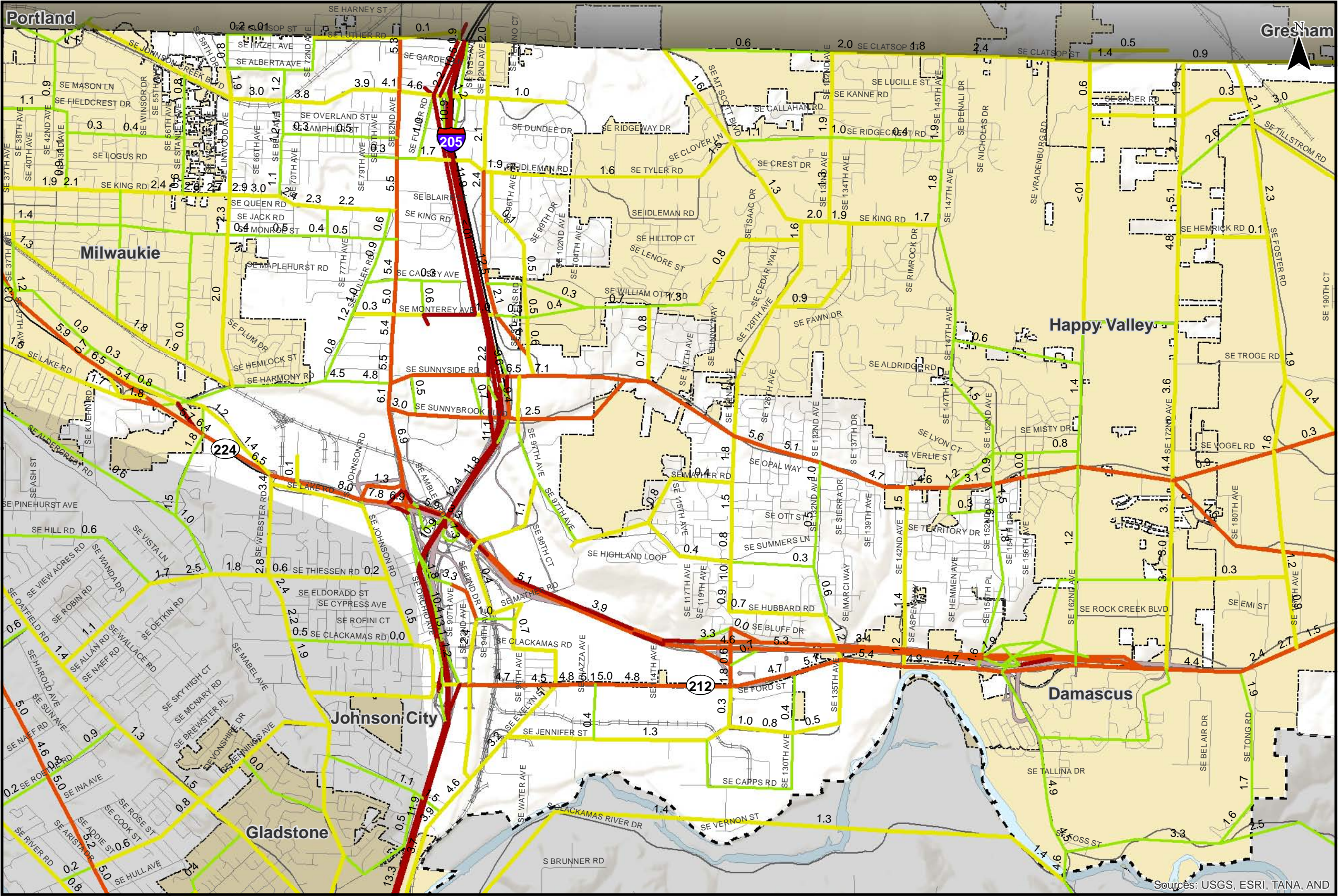
Sources: USGS, ESRI, TANA, AND

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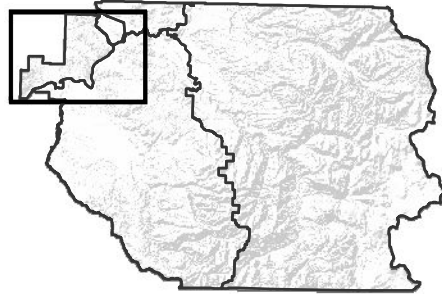
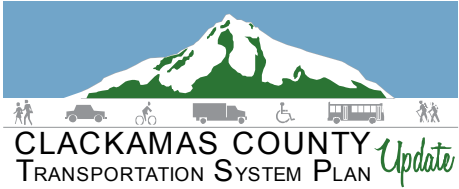
2035 Tier 1 Scenario Volumes

- Freeway
- Principal / Major Arterial
- Minor Arterial
- Other
- PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



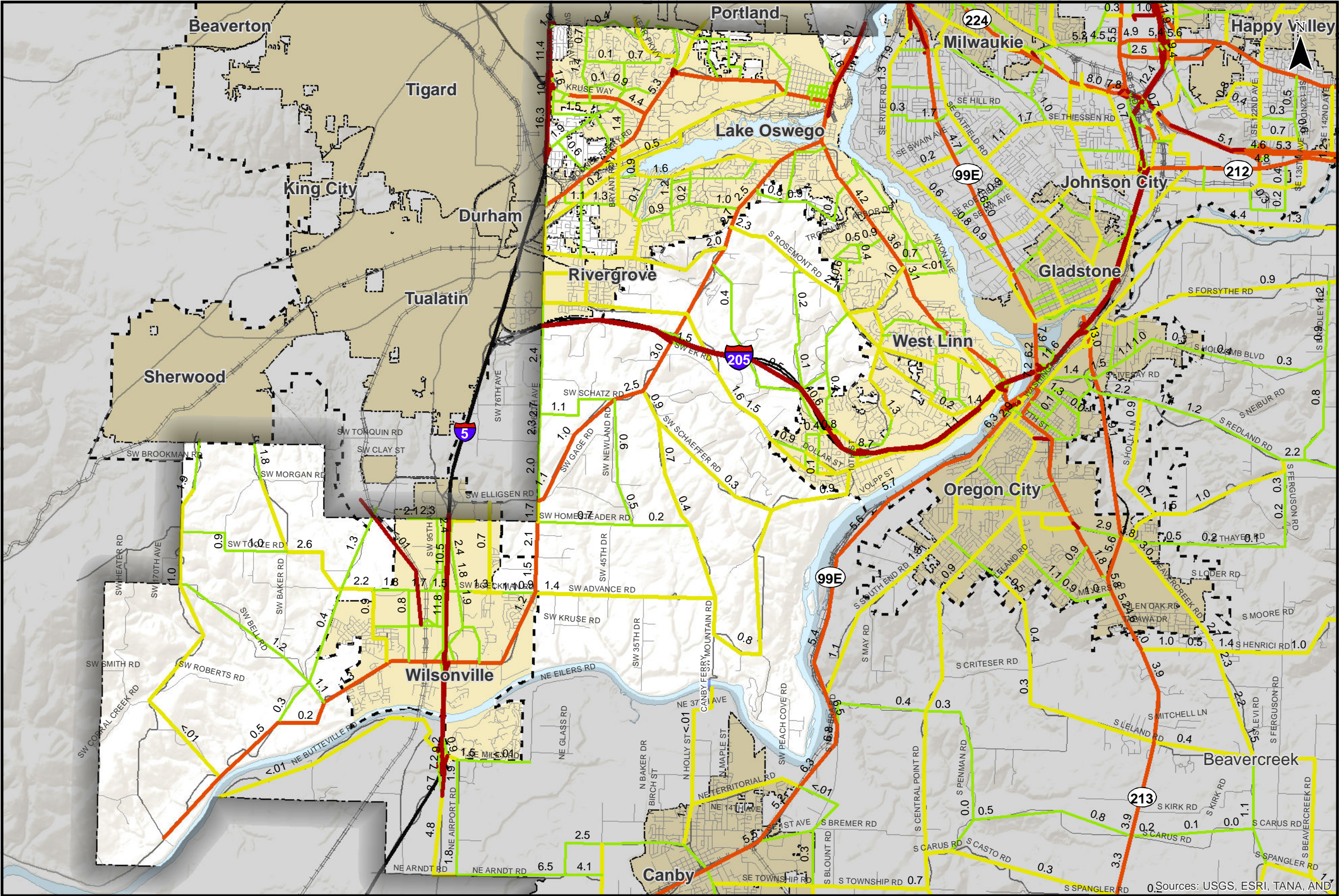
Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
Greater Clackamas Regional Center / Industrial Area

Figure
C T1



2035 Tier 1 Scenario Volumes

- Freeway
- Principal / Major Arterial
- Minor Arterial
- Other
- PM Weekday Traffic Volume in Thousands
- Incorporated Areas
- County Boundary
- UGB



0 1 2 Miles

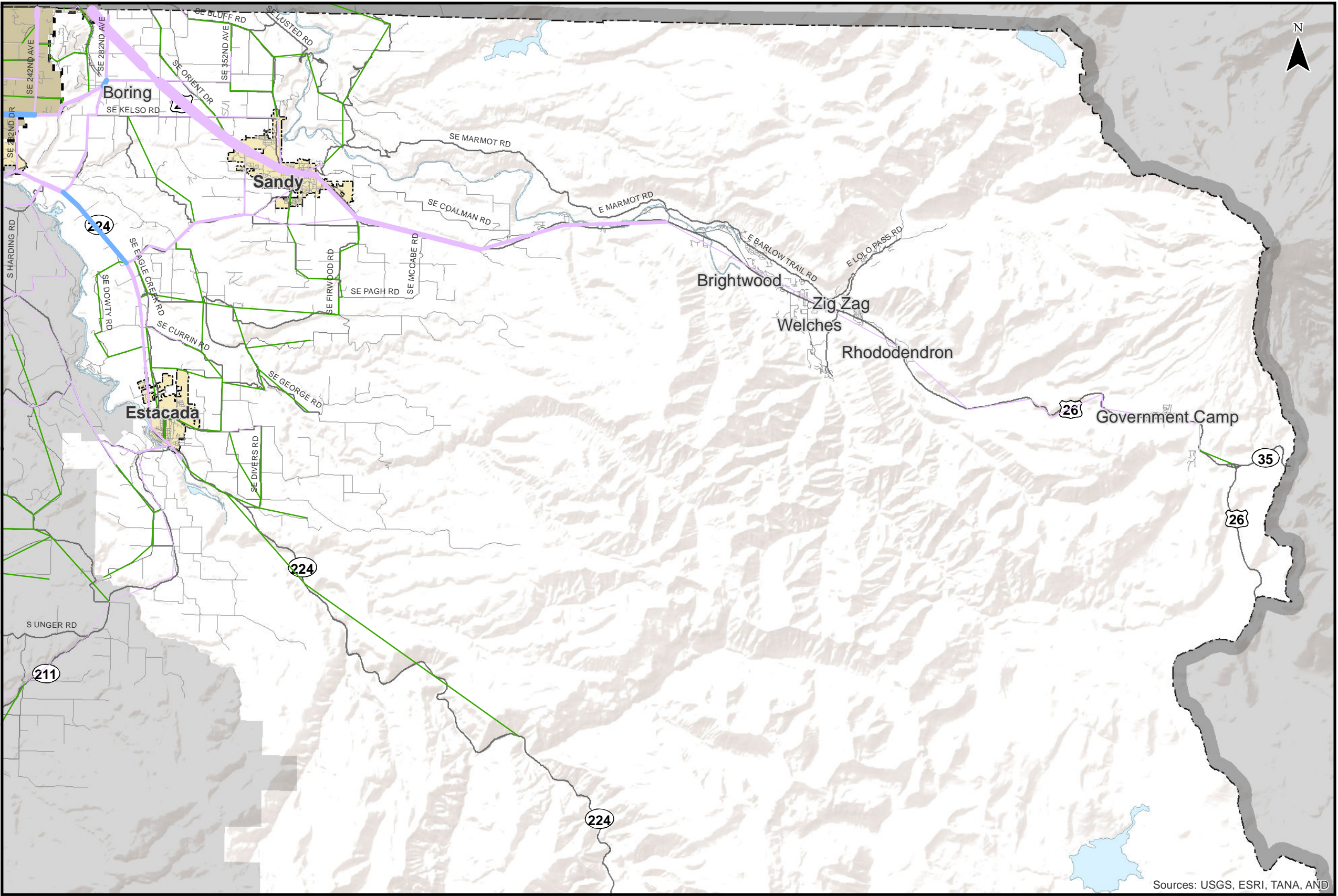
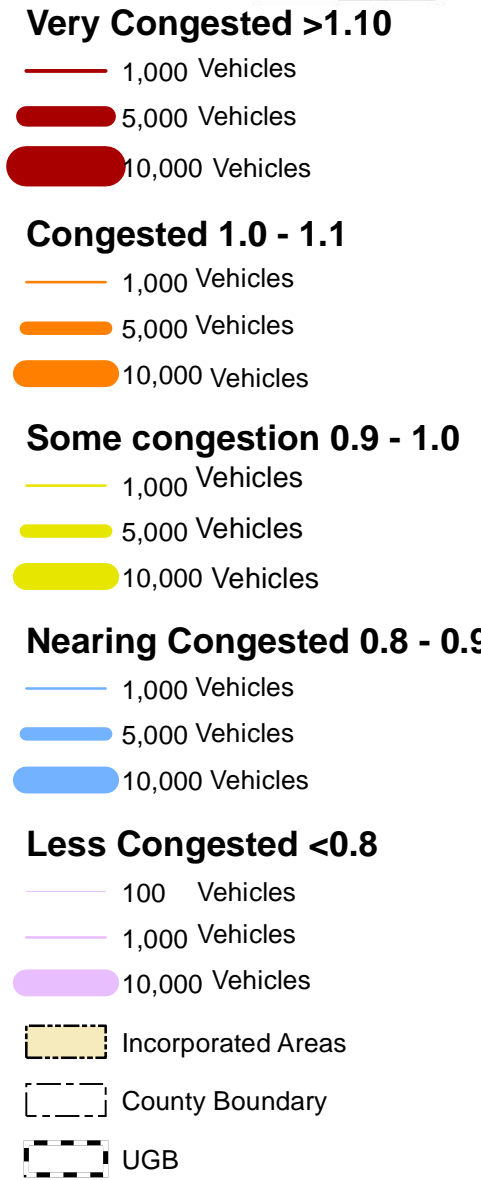
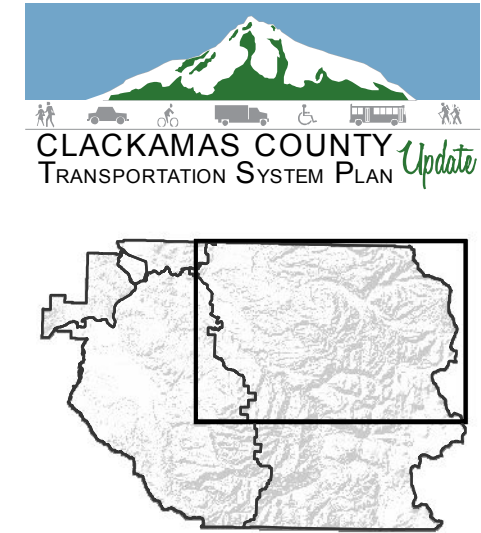
Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Cambridge Systematics, Clackamas County,
Metro Data Resource Center

Evening Weekday Peak Hour Link Volumes 2035 Tier 1 Scenario
Northwest County

Figure
NW T1

Sources: USGS, ESRI, TANA, AND

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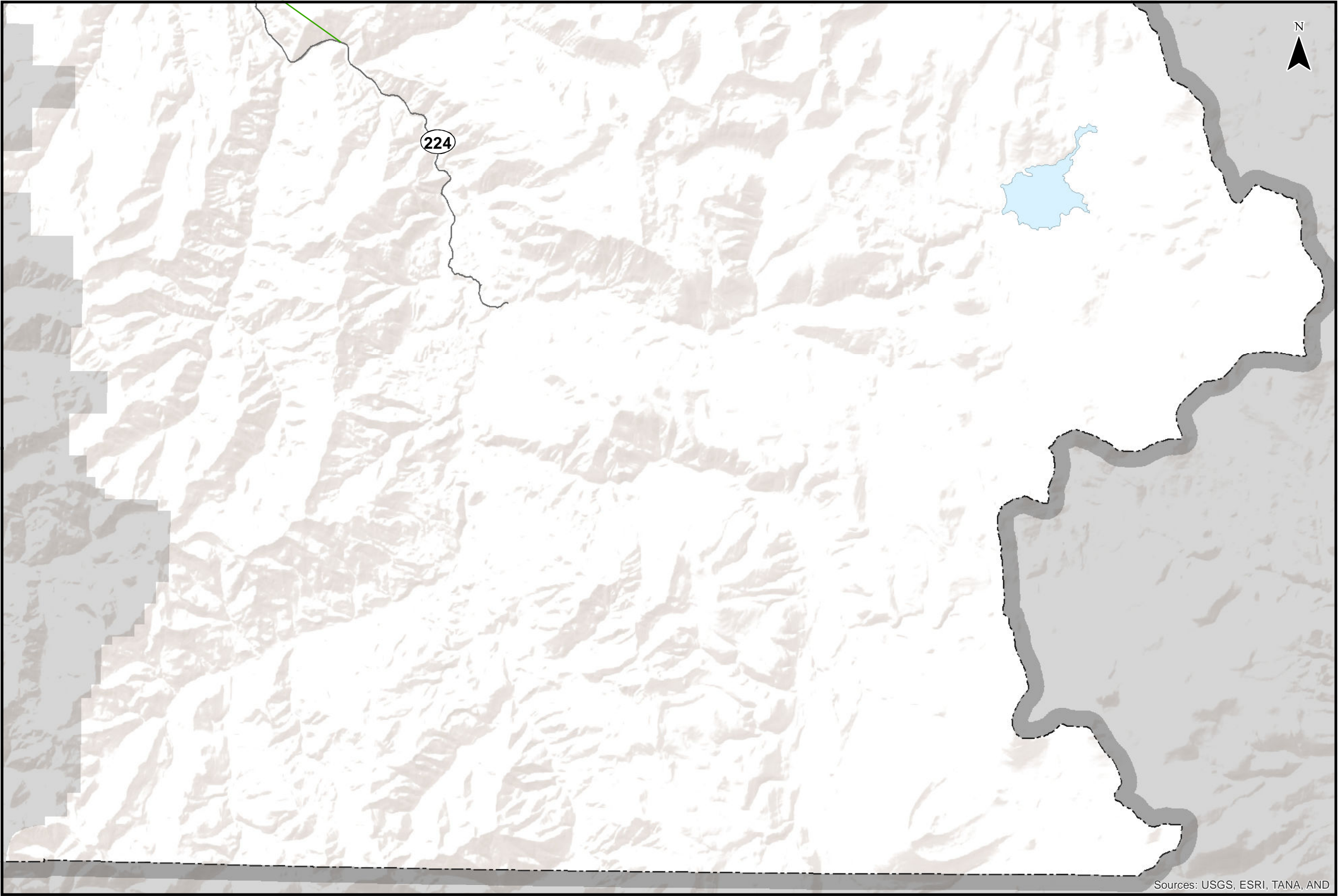
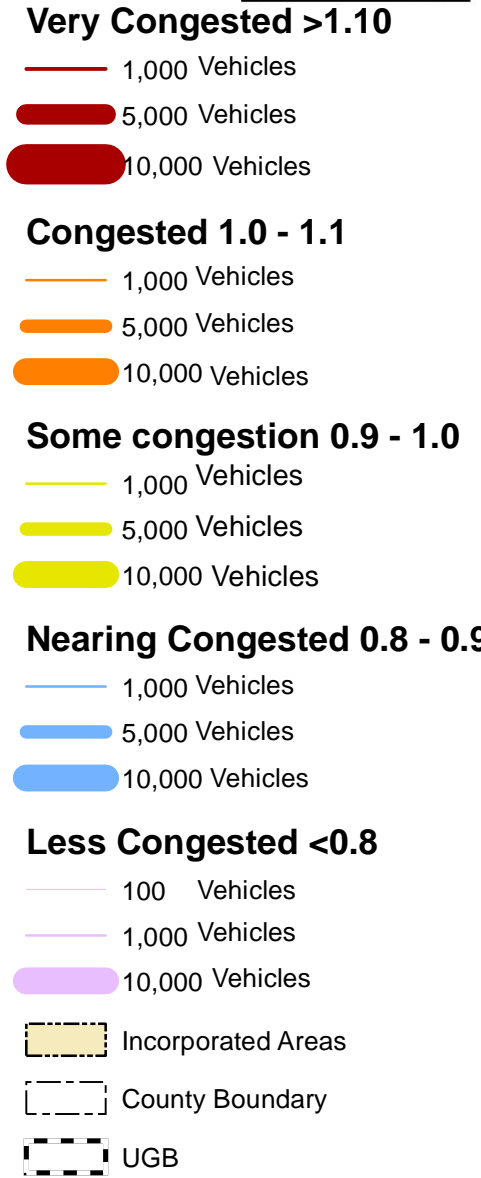
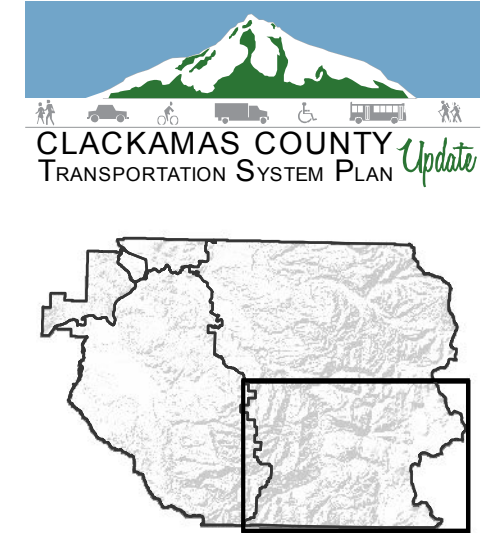
Sources: USGS, ESRI, TANA, AND

Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario
East County - Northern Portion

Figure
EN T1-B

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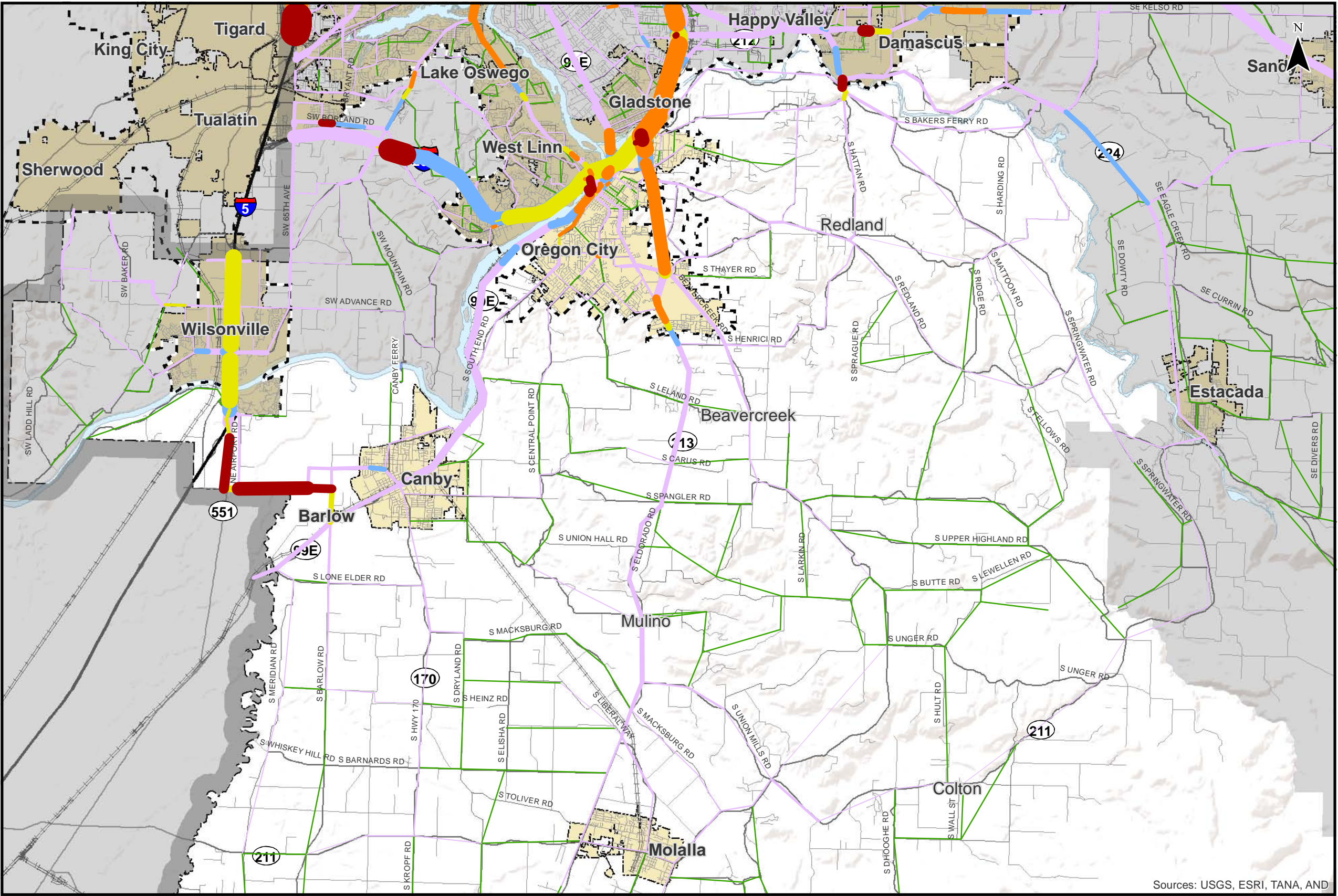
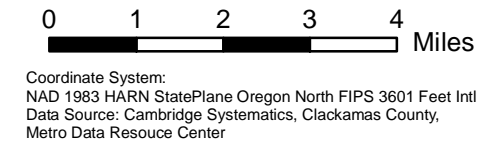
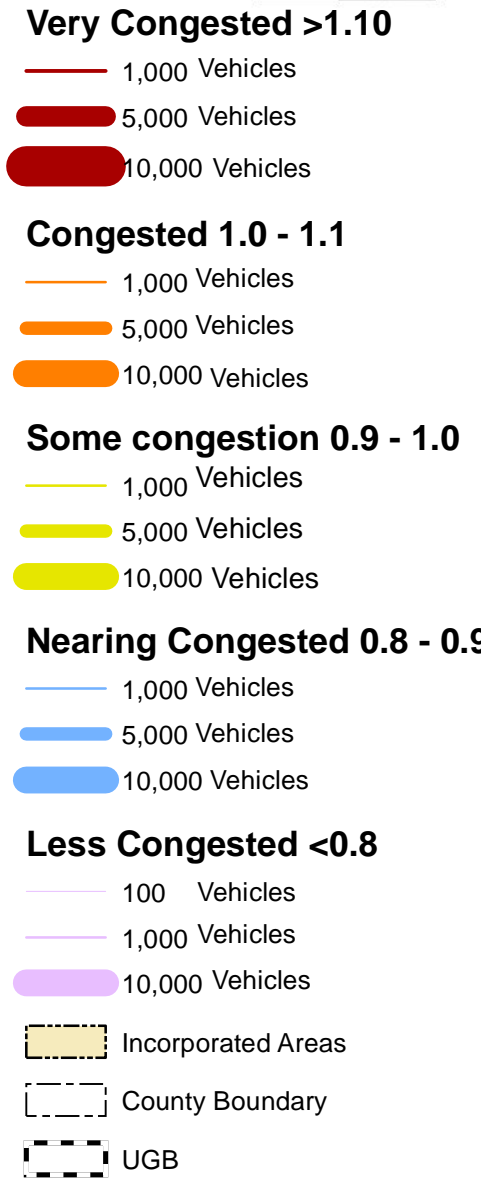
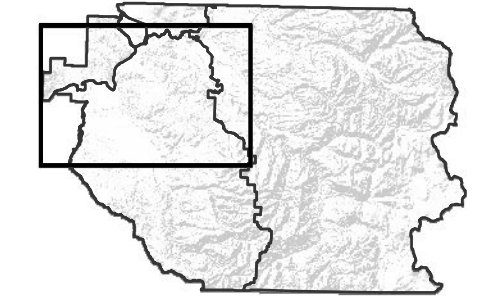
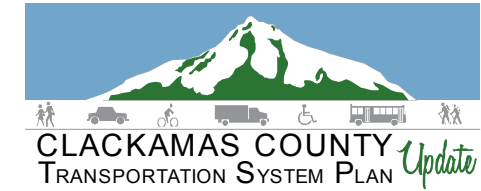
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Data Source: Cambridge Systematics, Clackamas County,
Metro Data Resouce Center



Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario
East County - Southern Portion

Figure
ES T1-B

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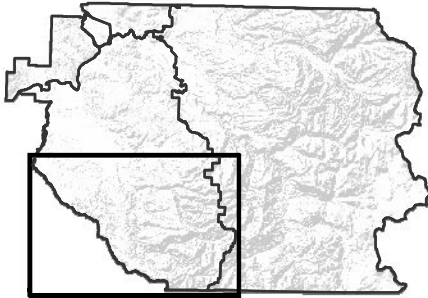
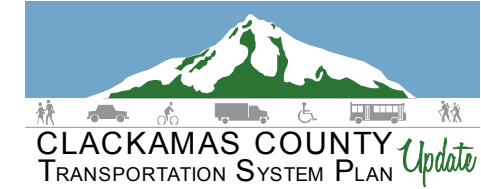


Sources: USGS, ESRI, TANA, AND

Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario
Southwest County - Northern Portion

Figure
SN T1-B

H:\profile11732 - Clackamas County TSP\Task_12_Prioritization\Master List\Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario.mxd



Very Congested >1.10

- 1,000 Vehicles
- 5,000 Vehicles
- 10,000 Vehicles

Congested 1.0 - 1.1

- 1,000 Vehicles
- 5,000 Vehicles
- 10,000 Vehicles

Some congestion 0.9 - 1.0

- 1,000 Vehicles
- 5,000 Vehicles
- 10,000 Vehicles

Nearing Congested 0.8 - 0.9

- 1,000 Vehicles
- 5,000 Vehicles
- 10,000 Vehicles

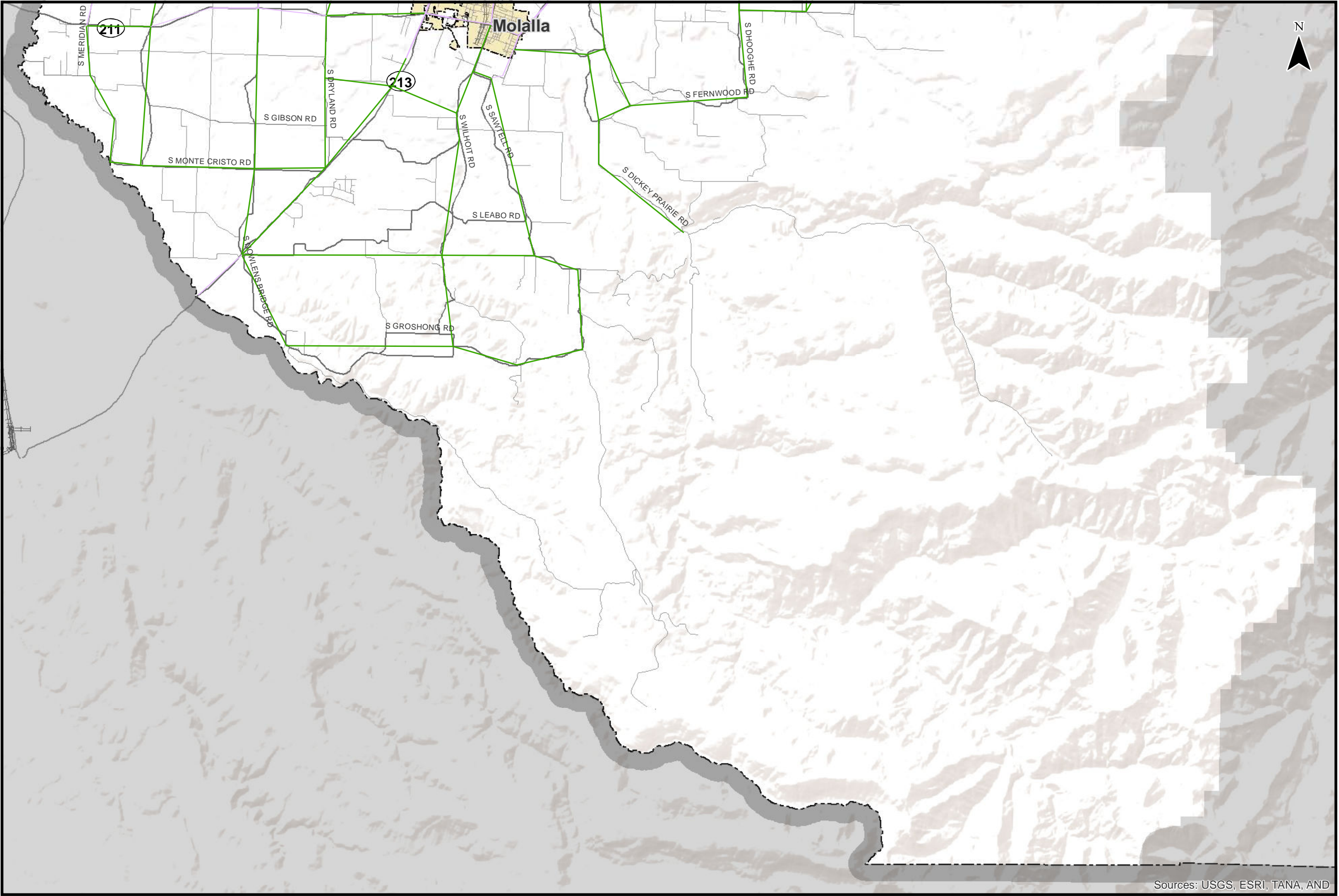
Less Congested <0.8

- 100 Vehicles
- 1,000 Vehicles
- 10,000 Vehicles

- Incorporated Areas
- County Boundary
- UGB



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Cambridge Systematics, Clackamas County,
Metro Data Resouce Center

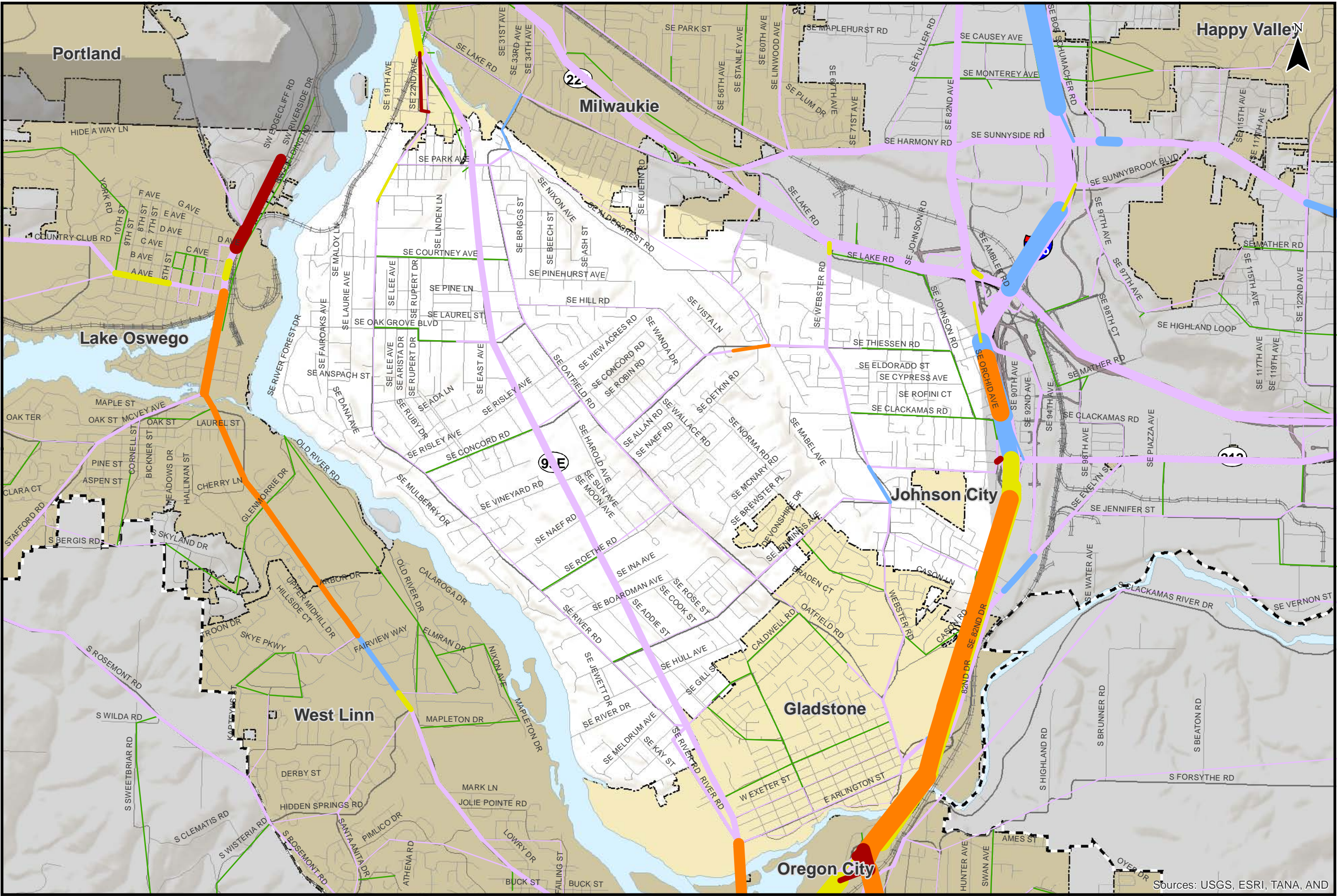
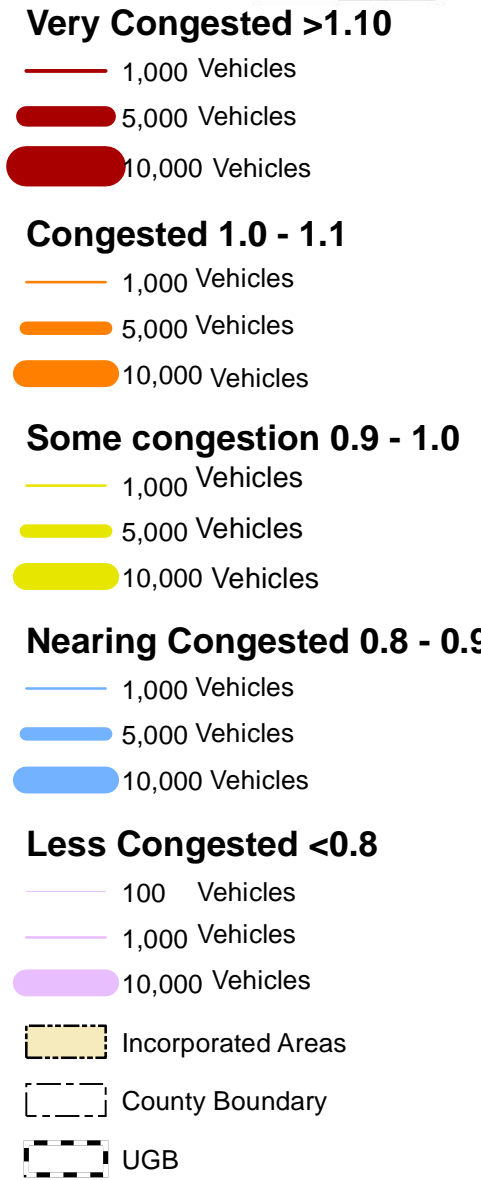
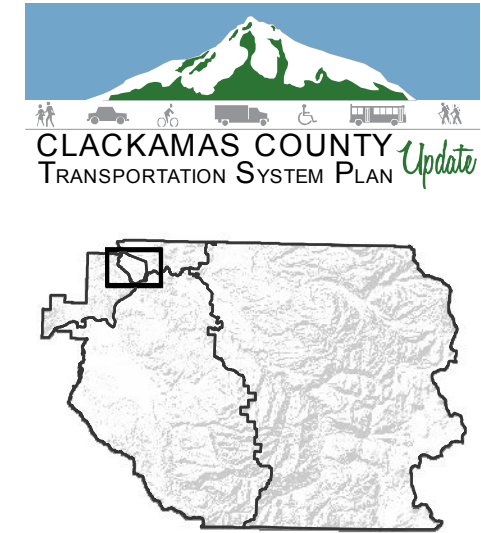


Sources: USGS, ESRI, TANA, AND

Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario
Southwest County - Southern Portion

Figure
SS T1-B

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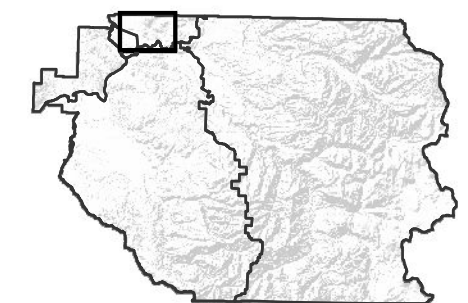
Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario
Greater McLoughlin Area

Figure
M T1-B

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Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Cambridge Systematics, Clackamas County,
Metro Data Resource Center

Sources: USGS, ESRI, TANA, AND







— 1,000 Vehicles
 ■ 5,000 Vehicles
 ■ 10,000 Vehicles

— 1,000 Vehicles
 — 5,000 Vehicles
 — 10,000 Vehicles

 1,000 Vehicles
 5,000 Vehicles
 10,000 Vehicles

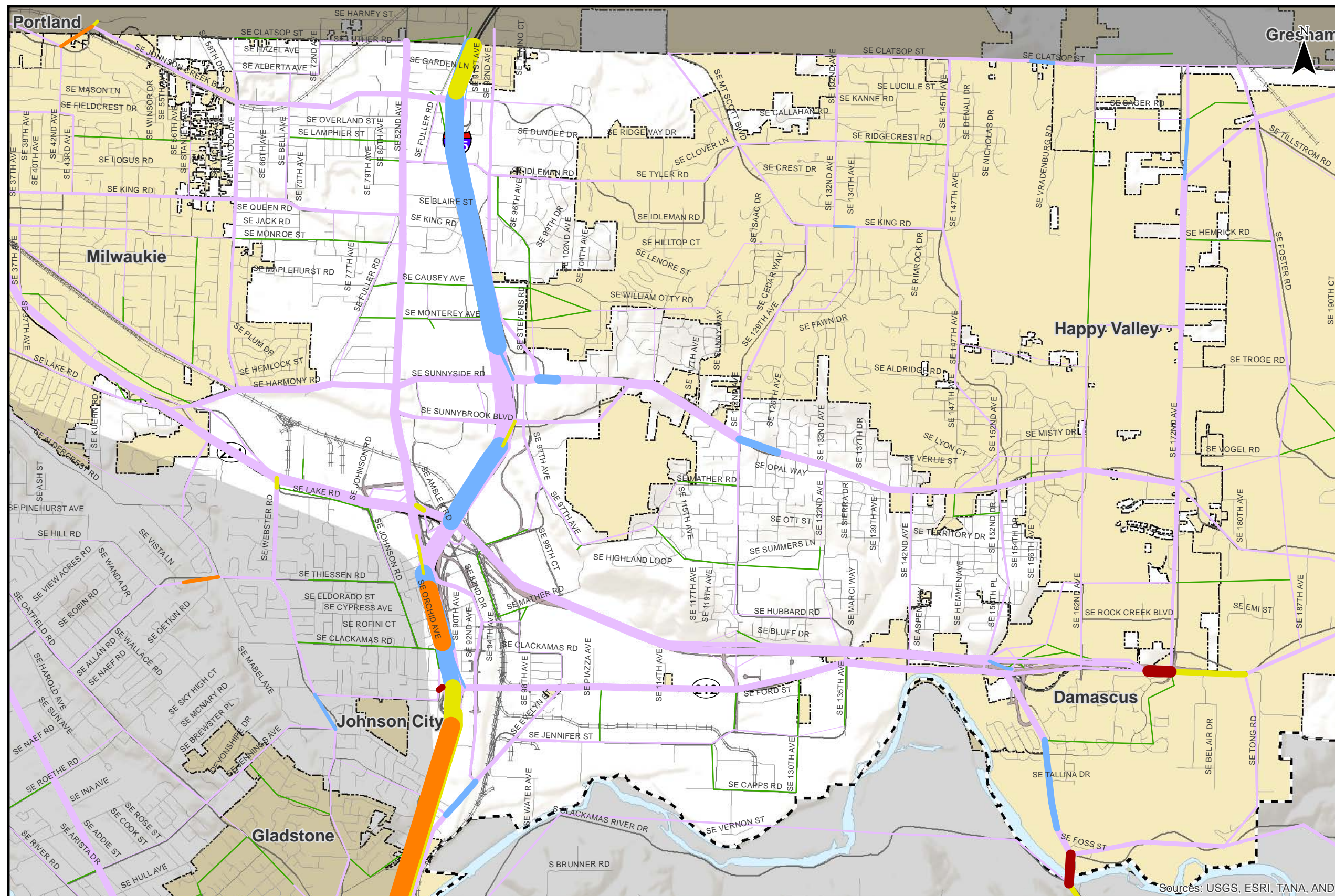
— 1,000 Vehicles
 — 5,000 Vehicles
 — 10,000 Vehicles

 100 Vehicles
 1,000 Vehicles
 10,000 Vehicles

 Incorporated Areas
 County Boundary
 UGB

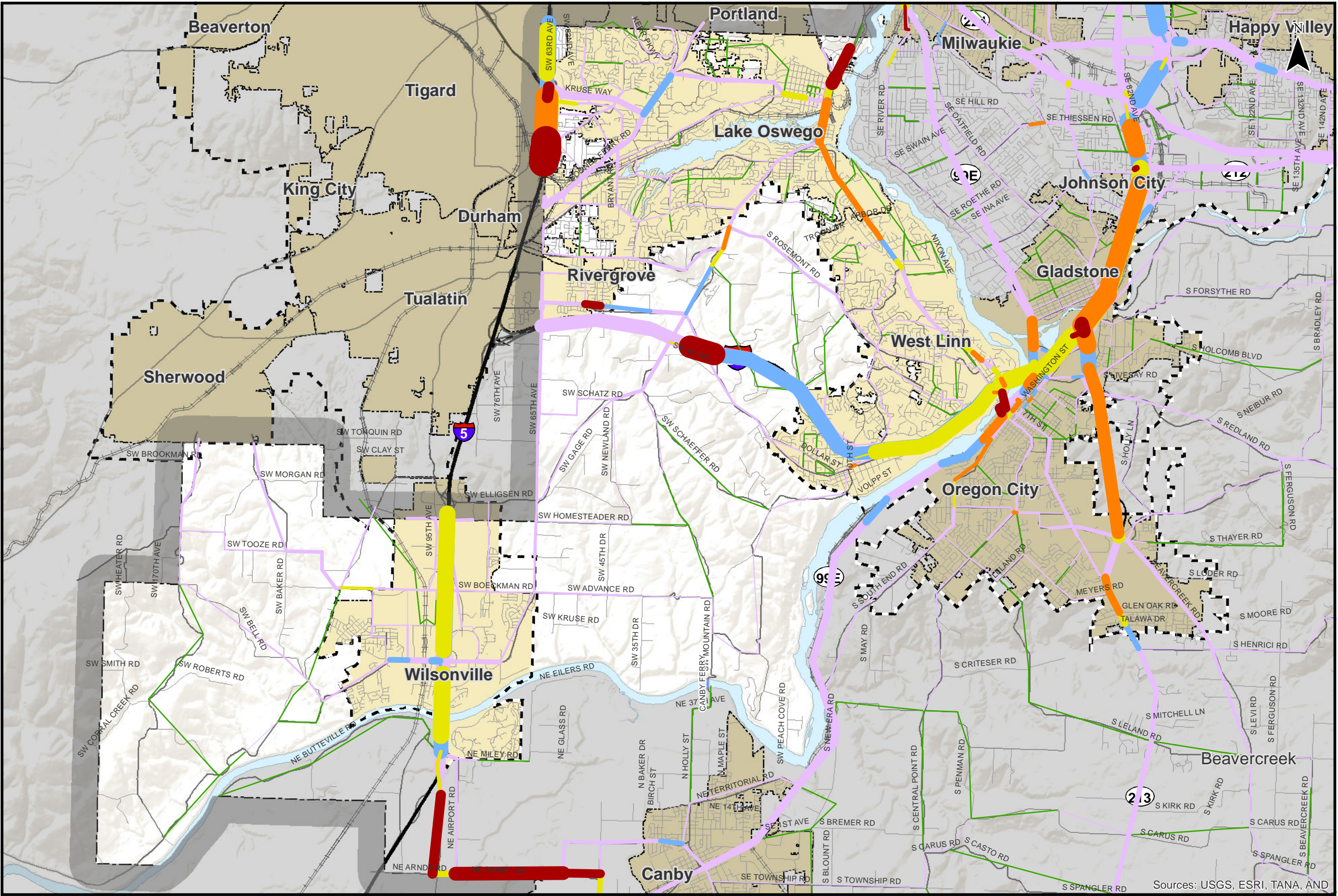
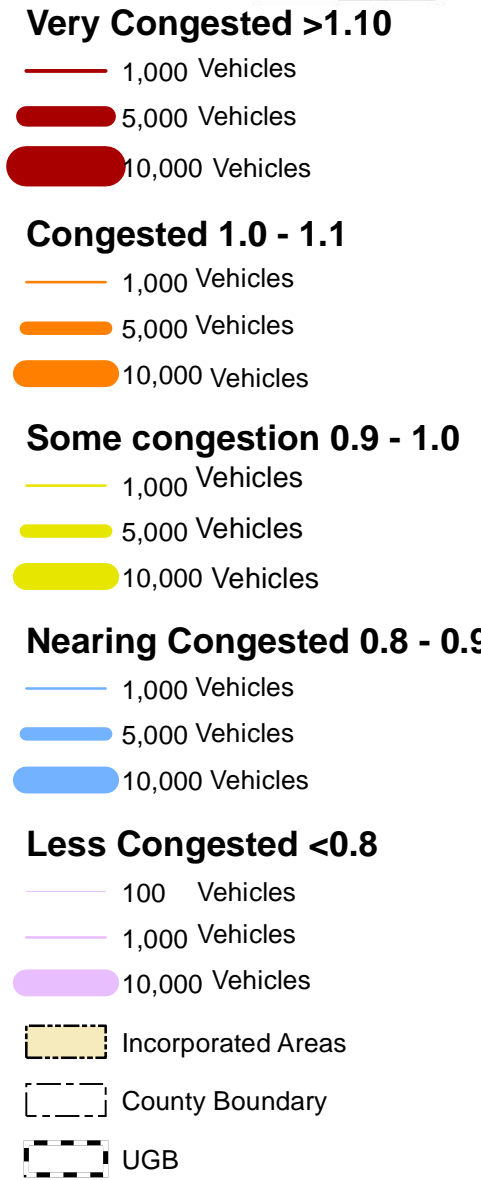
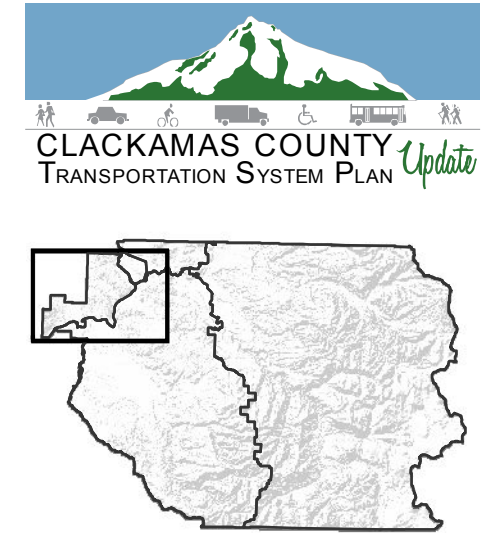
0 1 Miles

Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source: Cambridge Systematics, Clackamas County,
Metro Data Resource Center



Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario Greater Clackamas Regional Center / Industrial Area

Figure
C T1-B



Evening Weekday Peak Hour Roadway Segment Congestion 2035 Tier 1 Scenario
Northwest County

Figure
NW T1-B

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