



January 26, 2026

Andiamo
Attention: Chip Addabbo
PO Box 3974
Salem, Oregon 97302

Sent via email to: chip@andiamoco.com

Re: **Santiam Christian Elementary School – Adair Village, Oregon**
Traffic Impact Study (TIS)

C&A Project Number 20240201.00

Dear Mr. Addabbo,

This Traffic Impact Study (TIS) supports the proposed Santiam Christian Elementary School in Adair Village, Oregon. The following items are addressed:

1. Property Description and Proposed Development
2. Study Parameters
3. Adair Village Transportation System Plan (TSP)
4. Existing Conditions
5. Site Development
6. Site Circulation
7. Site Access
8. Summary

1. PROPERTY DESCRIPTION AND PROPOSED DEVELOPMENT

The proposed Santiam Christian development includes an elementary school and improved parking and motor vehicle circulation areas in Adair Village, Oregon. The applicant proposes to construct a new elementary school in the southeast portion of the campus, replacing an existing school that will be demolished, along with parking and circulation areas to the south and east, as illustrated in the attached Circulation Plans.

The new school building will allow for programmatic changes to existing classroom use and a modest increase in student enrollment. The improvements also modify motor vehicle circulation patterns to provide additional storage for parent drop-off and pick-up queues, and they separate the bus and automobile circulation areas.

2. STUDY PARAMETERS

Neither the Adair Village Land Use Development Code nor the Benton County Development Code identifies specific trip-generation thresholds (e.g., the number of new peak-hour or daily trips) that automatically require a Traffic Impact Study. Instead, traffic analysis requirements are implemented through development review on a case-by-case basis if a proposed development could affect capacity, safety, access, or road facilities.

Specifically, for site plan applications, the Adair Village Land Use Development Code Section 2.140(19) states, *“The estimated number of generated trips per day from each mode of travel by type: employees, customers, shipping, receiving, etc. A Traffic Assessment and possibly a Traffic Impact Study may be required if warranted by the traffic impact.”*

Based on the materials in this analysis, the increase in trip generation from the proposed development is small, and the resulting impacts will not cause the transportation system to exceed mobility standards. As such, this analysis focuses on describing the existing transportation system and evaluating the changes and improvements associated with the proposed development.

3. ADAIR VILLAGE TRANSPORTATION SYSTEM PLAN (TSP)

The 2019 Adair Village Transportation System Plan (TSP) sets the vision for the City’s transportation system for the next 20 years and beyond. Adair Village receives most of its street fund revenue from the State Highway Trust Fund. If the City’s growth meets expectations, it will generate over \$500,000 from System Development Charges by 2040; however, major transportation system improvements will require supplemental funding sources.

Adair Village is expected to have roughly \$1.4 million available for transportation system improvements through the 2040 planning horizon, with most funding coming from federal and State discretionary programs. Projections over the planning horizon indicate that no discretionary funds are available to escalate ‘desired’ projects to the *Financially Constrained* list. As a result, there are only two Adair Village-led solution projects on the *Financially Constrained* list, as shown in the table below.

TABLE 1 – ADAIR VILLAGE TSP FINANCIALLY CONSTRAINED PROJECT LIST		
Project ID	Project Name	Cost
AdVAT-01	Adair Frontage Road Active Transportation Corridor	\$100,000
AdVAT-12	Arnold Avenue – Adair County Park Shared-use Path	\$1,150,000

It is additionally noted that the TSP operations analysis finds that the NE Arnold Avenue/NE Laurel Avenue intersection operates well under the City’s mobility standard in the 2017 existing and 2040 plan years. As such, the small increase in trip generation associated with the school will not significantly affect intersection operations.

4. EXISTING CONDITIONS

The Santiam Christian property is currently developed with a school campus and associated amenities. The primary points of access to the school buildings for motor vehicle circulation include:

- Northwest corner of campus (via Marcus Harris Avenue and direct access to NE Arnold Avenue). These locations provide access to a large staff and student parking area that also serves as the primary drop-off and pick-up location for students in grades 1-12.
- Southeast corner of campus (via NE Birch Lane). This roadway provides access to the parking area for high school seniors and to the drop-off and pick-up area for pre-kindergarten and kindergarten students.

Roadway Facilities

The following table summarizes existing roadway classifications and characteristics within the study area.

TABLE 2 – EXISTING ROADWAY CHARACTERISTICS						
Roadway	Functional Classification	Lanes	Speed Limit (MPH)	Sidewalks	Bicycle Lanes	On-Street Parking
NE Arnold Avenue	Minor Collector	2	35 (20 in School Zone)	Yes	Yes	No
NE Laurel Drive	Local	2	15	Yes	No	No
NE Marcus Harris Avenue	Private	2	Not Posted	No	No	No
NE Vandenberg Avenue	Minor Collector/Private	2	Not Posted	No	No	No
NE Birch Lane	Private	2	Not Posted	No	No	No

Safety Analysis

When evaluating roadway and intersection safety, consideration is given to the number and types of crashes occurring, as well as the number of vehicles traveling on a roadway segment or entering the intersection. This leads to the concept known as the “crash rate.” Specific to intersections, it is typically expressed as the number of crashes per one million vehicles entering the intersection (CMEV). A critical crash rate analysis is then performed by comparing the subject intersection with the published statewide 90th-percentile intersection crash rates at comparable/reference intersections. Crash rates close to or exceeding 1.0 CMEV, or the 90th-percentile rates, require further analysis.

Crash data for Arnold Avenue in the project area were obtained from the Oregon Department of Transportation (ODOT) for five years, from January 1, 2019, through December 31, 2023, and are attached for reference. Based on this data, there were three crashes in the study area, which are described as follows:

- Two crashes occurred at the NE Arnold Avenue/NE Laurel Drive intersection. One was a rear-end crash, and the other was a turning-movement crash. Both crashes are coded to the NE Laurel Drive intersection, and the turning-movement crash clearly involved that roadway. However, it is unclear if the rear-end crash was directly related to that intersection or if it was related to the Santiam Christian parking lot access on the south side of NE Arnold Avenue. Regardless, the number of crashes is very low, and this roadway section is considered relatively safe; further safety analysis is not warranted.

- One crash occurred immediately east of the 90-degree curve where NE Birch Lane intersects NE Arnold Avenue. The crash involved a single westbound vehicle travelling too fast for conditions that ran off the roadway and struck a fixed object. Overall, the number of crashes is very low, and this roadway section and the nearby intersection are considered relatively safe; further safety analysis is not warranted.

5. SITE DEVELOPMENT

Development Assumptions

The campus currently has several classroom buildings, and the applicant proposes constructing a new (replacement) elementary school and associated parking area. The new school building will allow for programmatic changes to the existing classroom uses and a modest increase in student enrollment. The following presents the current and projected school enrollment and classroom uses:

TABLE 1 – SANTIAM CHRISTIAN SCHOOL ENROLLMENT			
School Description	Existing Enrollment (2025/2026)	Projected Enrollment (2029/2030)	Change
Preschool	61	70	9
Elementary	331	350	19
Middle/Junior High	117	120	3
High School	233	275	42
Total	742	815	73

As illustrated in the table above, the new classroom area will allow the school to accommodate a total of 815 students, an increase of 73 students over the current enrollment.

Development Trip Generation

Development trip generation is estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 12th Edition, and practices from the ITE *Trip Generation Handbook*, 3rd Edition. The following table presents the increase in trip generation resulting from a 73-student enrollment increase.

TABLE 5 – DEVELOPMENT TRIP GENERATION ¹												
Development	ITE Code	Size	Daily Trips	AM Peak-Hour of the Roadway			PM Peak-Hour of the Roadway			PM Peak-Hour of the School		
				Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Private School (K-12)	532	73 Students	148 ²	35	20	55	6	8	14	15	22	37

¹ Trip generation estimated using the *Average Rate* per recommended practice in the ITE *Trip Generation Handbook*, 3rd Edition.

² Daily trip generation data is not available for ITE Land Use 532. Therefore, the daily trip generation rate is estimated using a weighted average of the daily rates for public schools (ITE Land uses 520, 522, and 525).

As illustrated in the table above, the new classroom area and increased enrollment generate 148 additional daily trips, 55 AM peak-hour trips, and 14 PM peak-hour trips. It is further noted that the school's PM peak operating period does not coincide with the PM peak-hour of the roadway system.

6. SITE CIRCULATION

The primary motor vehicle access points to the Santiam Christian campus in the existing and proposed conditions are described as follows and are illustrated in the attached Circulation Plans.

Northwest Corner of Campus – via Marcus Harris Avenue and direct access to NE Arnold Avenue

- In the **existing condition**, the parking and circulation area provides parking for staff and students and also serves as the bus and parent drop-off and pick-up location for students in grades 1-12.
- In the **proposed condition**, this area will remain unchanged; however, the bus drop-off and pick-up will be moved further south with access from NE Vandenberg Avenue, and the parent drop-off and pick-up for students in grades 1-6 will be relocated to the southeast corner of campus via NE Birch Lane.

Southeast Corner of Campus – via NE Birch Lane

- In the **existing condition**, this roadway provides access to the parking area for high school seniors and to the parent drop-off and pick-up area for pre-kindergarten and kindergarten students.
- In the **proposed condition**, the parent drop-off and pick-up for students in grades 1-6 will be relocated to this area from the northwest corner of campus. The designated parking for high school seniors will be eliminated, and these students will park in the northwest corner of campus.

South Side of Campus – via NE Vandenberg Avenue

- In the **existing condition**, this area of campus is not used for parking or drop-off and pick-up operations.
- In the **proposed condition**, a new parking and circulation area will be constructed that will be used for all bus drop-off and pick-up operations.

Overall, in the existing condition, all parent drop-off and pick-up operations occur in the northwest parking area. Accordingly, there is significant motor vehicle traffic in this area during peak school periods, resulting in congestion and queuing on NE Arnold Avenue and NE Marcus Harris Avenue, which could obstruct Adair Fire Department traffic.

In the proposed condition, the parent drop-off and pick-up for 350 students in grades 1-6 will be relocated to the southeast corner of campus with access via NE Birch Lane. This modification significantly decreases motor vehicle traffic in the northwest parking area and eliminates the potential for queuing on NE Marcus Harris Avenue.

7. SITE ACCESS

As previously described, the primary motor vehicle points of access to the Santiam Christian campus are at the northwest corner (via Marcus Harris Avenue and direct access to NE Arnold Avenue) and the southeast corner (via NE Birch Lane). The northwest parking area is proposed to remain unchanged, and motor vehicle traffic will decrease with the relocation of the parent drop-off and pick-up operations for 350 students in grades 1-6 to the southeast corner of campus. Accordingly, traffic on NE Birch Lane, a private roadway, will significantly increase.

The applicant is not proposing to modify/improve the NE Arnold Avenue/NE Birch Lane intersection; however, the applicant is proposing to improve Birch Lane to support on-campus improvements associated with the new parking and circulation areas. Materials contained in the *Safety Analysis* section of this analysis found that there were no documented crashes at the NE Arnold Avenue/NE Birch Lane intersection. As such, the intersection is considered relatively safe, and further safety analysis is not warranted. Field evaluation of the intersection also finds no sight-distance obstructions and that adequate sight distance is available in all directions.

8. SUMMARY

The following conclusions and recommendations are made based on the materials contained in this analysis.

1. The proposed Santiam Christian development includes an elementary school and improved parking and motor vehicle circulation areas in Adair Village, Oregon. The applicant proposes to construct a new elementary school in the southeast portion of the campus, replacing an existing school that will be demolished, along with parking and circulation areas to the south and east.
2. The new school building will allow for programmatic changes to existing classroom use and a modest increase in student enrollment. The improvements also modify motor vehicle circulation patterns to provide additional storage for parent drop-off and pick-up queues, and they separate the bus and automobile circulation areas.
3. The Adair Village TSP operations analysis finds that the NE Arnold Avenue/NE Laurel Avenue intersection operates well under the City's mobility standard in the 2017 existing and 2040 plan years. As such, the small increase in trip generation associated with the school will not significantly affect intersection operations. As such, this analysis focuses on describing the existing transportation system and evaluating the changes and improvements associated with the proposed development.
4. Based on crash data, the segment of NE Arnold Avenue in the project area, including the intersections with NE Laurel Drive and NE Birch Lane, is considered relatively safe, and further safety analysis is not warranted.
5. Field evaluation of the NE Arnold Avenue/NE Birch Lane intersection finds no sight-distance obstructions and that adequate sight distance is available in all directions.
6. The new classroom area will allow the school to accommodate a total of 815 students, an increase of 73 students over the current enrollment.

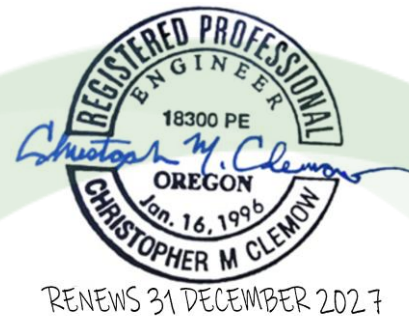
7. The new classroom area and increased enrollment generate 148 additional daily trips, 55 AM peak-hour trips, and 14 PM peak-hour trips. It is further noted that the school's PM peak operating period does not coincide with the PM peak-hour of the roadway system.
8. Overall, in the existing condition, all parent drop-off and pick-up operations occur in the northwest parking area. Accordingly, there is significant motor vehicle traffic in this area during peak school periods, resulting in congestion and queuing on NE Arnold Avenue and NE Marcus Harris Avenue, which could obstruct Adair Fire Department traffic.
9. In the proposed condition, the parent drop-off and pick-up for 350 students in grades 1-6 will be relocated to the southeast corner of campus with access via NE Birch Lane. This modification significantly decreases motor vehicle traffic in the northwest parking area and eliminates the potential for queuing on NE Marcus Harris Avenue.
10. The applicant is not proposing to modify/improve the NE Arnold Avenue/NE Birch Lane intersection; however, the applicant is proposing to improve Birch Lane to support on-campus improvements associated with the new parking and circulation areas.

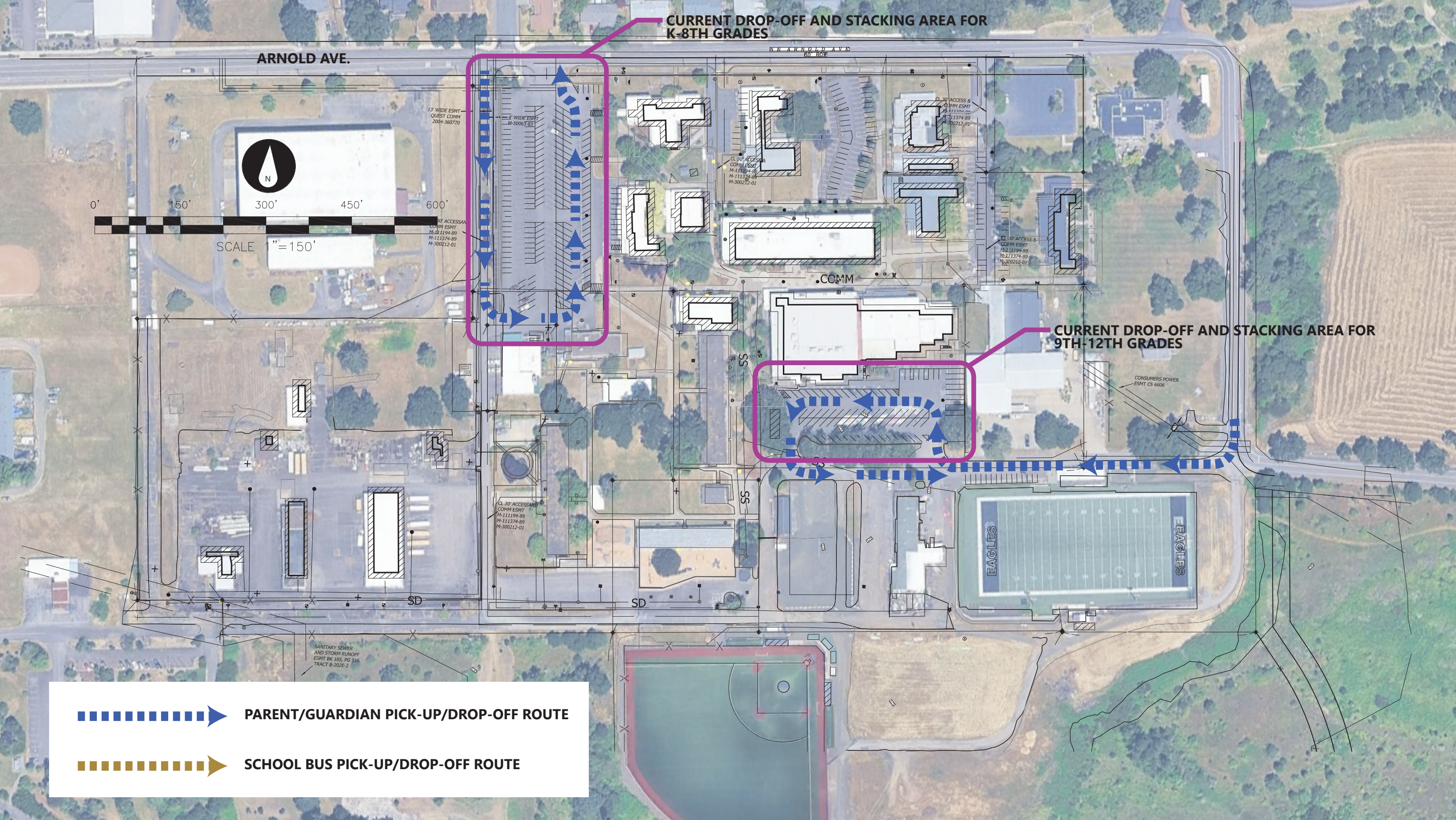
Sincerely,

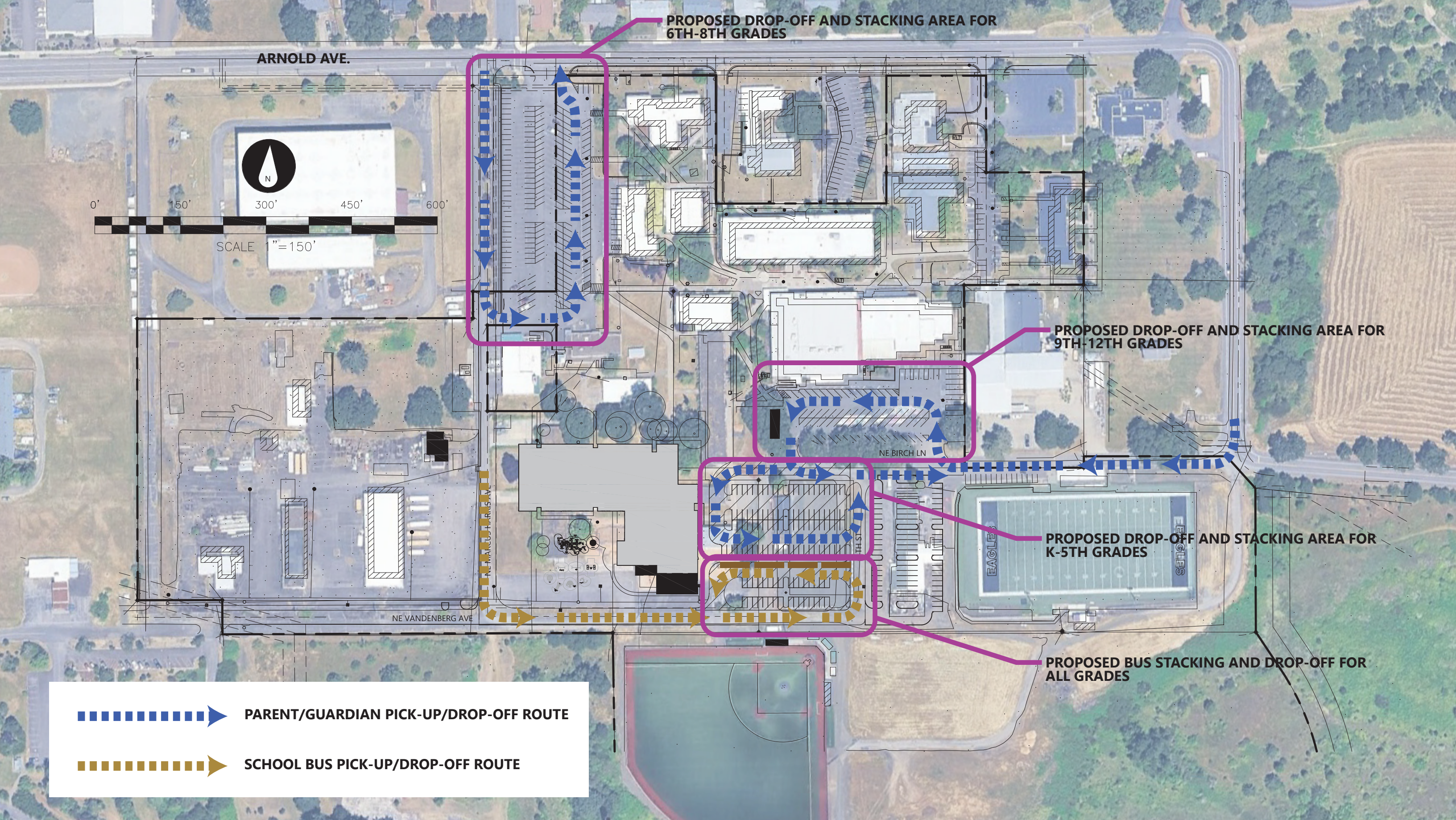


Christopher M. Clemow, PE, PTOE
Transportation Engineer

Attachments: Existing and Proposed Circulation Plans
Crash Data







-  PARENT/GUARDIAN PICK-UP/DROP-OFF ROUTE
-  SCHOOL BUS PICK-UP/DROP-OFF ROUTE

CITY OF ADAIR VILLAGE, BENTON COUNTY										ARNOLD AVE and Intersectional Crashes at ARNOLD AVE, City of Adair Village, Benton County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2023																	
										1 - 5 of 5 Crash records shown.																	
SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE																	
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	(MEDIAN)	TRLR	QTY	MOVE															
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	INT-REL	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED									
UNLOC?	D	C	S	V	L	K	LONG	LRS	LOCTN	SVRTY	V#	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE				
00122	N	N	N	N		02/15/2019	17	ARNOLD AVE	CROSS	ANG	01	STRGHT															
NO RPT						FR	0	WILLIAM R CARR ST		ANG	N/A	N -S									000	00					
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00652	N	N	N	N	N	10/04/2023	17	ARNOLD AVE	CROSS	ANG	01	STRGHT									082	40, 02					
NONE						WE	0	WILLIAM R CARR ST		ANG	PRVTE	N -S									000	00					
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N						44 40 18.96	-123 13 19.56						01	DRVR	NONE	31	M	OR-Y		028	000	082					
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00093	N	N	N	N		01/19/2021	17	ARNOLD AVE	4-LEG	S-1STOP	01	STRGHT															
NONE						TU	0	LAUREL DR		REAR	N/A	W -E									000	00					
N						8A																					
N						44 40 19.82	-123 13 6.31						01	DRVR	NONE	00	Unk	UNK		000	000	00					
											02	STOP									011	00					
												W -E									000	00					
													01	DRVR	NONE	00	Unk	UNK		000	000	00					
00474	N	N	N	N	N	08/09/2021	17	ARNOLD AVE	CROSS	0-1 L-TURN	01	TURN-L															
COUNTY						MO	0	LAUREL DR		TURN	PRVTE	W -N									000	00					
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N						44 40 19.83	-123 13 6.32						01	DRVR	INJB	28	F	OR-Y		028, 004	000	02					
											02	STRGHT									000	00					
												E -W									000	00					
													01	DRVR	INJB	34	M	OR-Y		000	000	00					

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

