

MACKENZIE.

September 14, 2023 (*Revised October 11, 2023*)

City of Tualatin
Attention: Tony Doran
18880 SW Martinazzi Avenue
Tualatin, OR 97062

Re: **Fujimi Facility Expansion**
Trip Generation and Distribution
Project Number 2210148.00

Dear Tony:

Mackenzie has prepared this trip generation letter for the proposed two-story, 70,000-square-foot (SF) expansion of the existing Fujimi facility located at 11200 SW Leveton Drive in Tualatin, Oregon.

PROJECT DESCRIPTION

The proposed building addition, located at the southeast corner of the existing Fujimi building, will be two stories with a gross floor area of up to 70,000 SF. The proposed addition will include manufacturing space, clean rooms, laboratories, and some office area. With the expansion, approximately 10-20 new employees will be added over time. This project will include associated site work, including approximately 30 additional parking spaces. The project will also add a new hammerhead fire turnaround at the southeast corner of the site. Per the City of Tualatin Traffic Study Requirements, a full Transportation Impact Analysis (TIA) is required for any development that generates 500 or more new daily trips. The proposed expansion is estimated to add approximately 333 new daily trips, so this letter presents the information required for a Trip Generation and Distribution Description letter.

TRIP GENERATION

Trip generation estimates were reviewed using trip rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition for the "General Light Industrial" (LUC 110) land use, as required by the "Tualatin Traffic Study Requirements" document (updated March 16, 2022). In addition, we surveyed the existing Fujimi site to better understand the site's actual trip generation compared with existing ITE data for not only the "General Light Industrial" use, but also the "Manufacturing" (LUC 140) use.

Existing Site Trips

The existing Fujimi site on SW Leveton Drive was surveyed for trip generation on Tuesday, October 3, 2023 during the AM and PM peak hours of the street. The generation summary for the existing 175,000 SF building is summarized in Table 1.



TABLE 1 – EXISTING TRIP GENERATION SUMMARY								
Trip Type	Size (KSF)	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Total	175.0	40	6	46	10	24	34	238 ^a
Trucks		2	0	2	0	0	0	24 ^b
Passenger Cars		38	6	44	10	24	34	214

As presented in Table 1, the site currently generates 46 AM peak hour and 34 PM peak hour. A total daily trip estimate of 238 was derived by assuming a 7x ratio to the PM peak hour trips comparable to ITE trip data for the “General Light Industrial” and “Manufacturing” uses. Fujimi notes they have on average 8-12 trucks per day for deliveries. Based on the trip data above, the site-specific trip rates for all vehicles are 0.26 AM trips/KSF, 0.19 PM trips/KSF, and 1.36 daily trips/KSF.

Proposed Site Trips

We reviewed the proposed building expansion’s trip generation utilizing the site-specific trip rates noted above, as well as ITE trip rates for “General Light Industrial” and “Manufacturing” uses. The trip generation comparison is presented in Table 2 below.

TABLE 2 – TOTAL TRIP GENERATION COMPARISON FOR EXPANSION									
ITE Code	Land Use	Size (KSF)	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
N/A	Fujimi Site	70.0	16	2	18	4	9	13	91
110	General Light Industrial		45	6	51	6	40	46	341
140	Manufacturing		40	12	52	13	30	43	333

As presented in Table 2, the ITE trip rates for the “General Light Industrial” and “Manufacturing” uses likely overestimate the site’s trip impact for the proposed expansion by a factor of 2-3 times. We note the ITE trip generation estimates grossly overestimate the expected trip generation with the expansion as only 10-20 employees will be added with the proposal; however, as a worst-case scenario, we propose estimating the site’s trip generation using ITE trip data for the “Manufacturing” (LUC 140) use for purposes of calculating the proposed expansion’s Transportation Development Tax (TDT) imposed by Washington County.

The existing site trip rates yield an expected impact of only 18 AM peak hour and 13 PM peak hour trips forecasted with the expansion. Therefore, a Transportation Impact Analysis (TIA) is not warranted with the approximately 70,000 SF addition.

^a Assumes total daily trips are 7x PM peak hour trips based on ITE data for “General Light Industrial” and “Manufacturing.”

^b Based on existing Fujimi delivery activity consisting of 8-12 trucks per day, on average.



Truck Trips

Table 3 presents the truck trip generation estimates associated with the proposed expansion utilizing ITE “Manufacturing” truck trip rates.

TABLE 3 – TRUCK TRIP GENERATION COMPARISON FOR EXPANSION									
ITE Code	Land Use	Size (KSF)	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
110	General Light Industrial	70.0	0	1	1	0	1	1	18
140	Manufacturing		1	1	2	1	1	2	32

The additional truck trips associated with the expansion are estimated to be 2 AM peak hour, 2 PM peak hour, and 32 daily trips, per trip data for ITE’s “Manufacturing” land use. Note these truck trip estimates are included in the total trip estimates presented in Table 2 and are not in addition to those estimates. The truck trip generation estimates for the “Manufacturing” use are significantly higher than those based on ITE’s “General Light Industrial” use. Similar to the total site-specific trip estimates, ITE truck trip generation estimates grossly overestimate the expected growth in truck trips associated with the expansion. Therefore, we do not recommend further analysis based on truck trip generation.

Pedestrians, Bicycles, and Transit

Sidewalks are provided along the site’s SW Leveton Drive frontage. Sidewalks continue along SW 108th Avenue which provides a pedestrian connection to the nearby Hazelbrook neighborhood located north of SW Tualatin Road, and to SW Herman Road which has a Tualatin Ride Connection Blue Line Shuttle stop east of SW 108th Avenue. Data provided by Fujimi shows that their current workforce has a 0% pedestrian mode share. This is not expected to change with the proposed expansion.

The Tualatin Ride Connection Blue Line Shuttle provides transit service to the site, with a stop along the site’s SW Leveton Drive frontage. The Blue Line runs only during weekday peak hours, with a headway of approximately 45 minutes. Data provided by Fujimi shows that their current workforce has a 0% transit mode share. This is not expected to change with the proposed expansion.

Bike lanes are provided on all non-residential roads in the site vicinity. There is currently an outdoor 5-position bicycle rack on the site, in addition to available indoor bike parking. Data provided by Fujimi shows that their current workforce has a 5% bicycle mode share. This is not expected to change with the proposed expansion, which corresponds to a maximum of 2 additional daily bike trips with the addition of 20 employees. Based on this estimate, it is not expected the proposed expansion will have a significant impact on the bicycle infrastructure in the vicinity of the site.

TRIP DISTRIBUTION

Trip distribution for the new trips generated by the proposed expansion was estimated by reviewing the existing distribution from recent and existing counts at surrounding intersections in conjunction with review of previous trip

distribution assumptions for the Lam Research campus located directly north of the site. The following trip distribution was assumed:

- 15% to/from the south on Highway 99W
- 25% to/from the north on Highway 99W
- 5% to/from the east on SW Tualatin Road
- 15% to/from the south on SW 124th Avenue
- 5% to/from the south on SW 118th Avenue
- 35% to/from the east on SW Herman Road

The attached figure presents the trip distribution and assignment for passenger cars and trucks. Based on recent traffic flow patterns on SW Leveton Drive, it is assumed 70% of existing trips utilize the west driveway. All new trips (except truck trips) are assumed to utilize the east driveway.

SITE PLAN REVIEW

The existing Fujimi site has two driveways providing ingress and egress for vehicles. Both driveways provide access for passenger vehicles. Truck access is limited to the west site driveway. The proposed expansion will not include any changes to the existing two driveways on SW Leveton Drive nor passenger or truck circulation routes.

Site Driveways

The existing driveways are approximately 500 feet apart measured between centerlines. The spacing between the west driveway and the center Lam driveway is approximately 240 feet. The spacing between the east driveway and the next driveway to the east is approximately 160 feet. Per Tualatin Development Code (TDC) 75.040.10, the minimum spacing between two driveways is 40 feet. Therefore, the existing driveways meet the City's minimum spacing requirement.

Both driveways are approximately 36 feet wide. Per TDC Table 75-1, the minimum width for industrial driveways is 36 feet and the maximum width may not exceed 40 feet. Therefore, the existing driveways meet the City's driveway width standards.

Sight Distance Evaluation

Per the City of Tualatin's Traffic Study Requirements, sight distance at access points should be evaluated based on minimum stopping sight distance requirements as established by the American Association of State Highway and Transportation Officials (AASHTO). For a posted speed of 35 mph and a design speed of 40 mph on SW Leveton Drive (assuming 5 mph over the posted speed), the minimum required stopping sight distance is 305 feet. This sight distance is available from both the east and the west on SW Leveton Drive to both site driveways.

Leveton Drive Improvements

SW Leveton Drive is designated a Minor Arterial with a preferred 74-foot right of way (ROW) and minimum 56-foot ROW. The current ROW width of SW Leveton Drive along the site frontage is approximately 60 feet. Therefore, the City has requested an additional 7 feet to meet the preferred half-width of 37 feet. With the proposed expansion, Fujimi will plan to dedicate 7 feet of ROW along SW Leveton Drive to meet the City's preferred ROW standard.

No improvements are proposed with the 7-foot ROW dedication. The City's preferred 74-foot ROW cross-section width for a Minor Arterial includes one travel lane in each direction, a center turn lane, 6-foot bike lanes, 6-foot planter strips, and 6-foot sidewalks. SW Leveton Drive between SW 118th Avenue and SW 108th Avenue currently includes most of these design elements except the center turn lane. Mackenzie prepared traffic volumes on SW Leveton Drive for Lam Research's Building G expansion as presented in the August 12, 2022, TIA. Using these volume projections, the existing driveway counts, and ITE estimates as a conservative estimate, we prepared a left-turn lane warrant analysis for the Fujimi site driveways on SW Leveton Drive. The analysis shows a left-turn lane is not warranted with the proposed expansion at either driveway. Therefore, the proposed expansion does not warrant additional improvements on SW Leveton Drive beyond the proposed dedication.

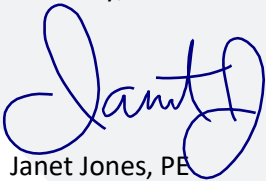
CONCLUSION

The proposed expansion is estimated to generate 52 AM peak hour, 43 PM peak hour, and 333 daily trips based on ITE data for a "Manufacturing" use. While these trip estimates reflect the lowest ITE trip rates and most comparable for up to 70,000 SF of additional building area, they likely overestimate site trips as the expansion is planned to facilitate only 10-20 additional employees at the site and existing site trip surveys show the site is a low traffic generator. The proposed expansion is not expected to have a significant impact on the existing transportation system and therefore does not meet the City's threshold for requiring a full TIA. Additionally, a left-turn lane on SW Leveton Drive is not warranted with projected traffic volumes for the proposed expansion at this time; however, the proposed 7-foot ROW dedication will allow for widening in the future as needed.

No changes are proposed to the existing driveways or pedestrian and/or bicycle facilities on the site or surrounding roadways. The proposed site plan is designed to provide safe circulation for vehicles, pedestrians, and bicycles entering or exiting the site.

Please contact me at jjones@mcknze.com or 971-346-3741 if you have any questions or comments regarding the information presented in this letter.

Sincerely,



Janet Jones, PE
Senior Associate | Traffic Engineer

Enclosure(s): Attachment A – Site Plan
Attachment B – Site Trip Counts
Attachment C – Vicinity Map and Trip Distribution
Attachment D – Left-Turn Lane Warrant Analysis

c: Mike McCarthy – City of Tualatin
Bill Bezio, Nate Birky, Suzannah Stanley, Nicole Burrell – Mackenzie



EXPIRES: 6/30/25

**FUJIMI FACILITY EXPANSION
EXISTING TRIP GENERATION - OCTOBER 3, 2023**

TOTAL TRIP GENERATION - AM PEAK HOUR

Time	West Driveway			East Driveway			Total			Hourly
	In	Out	Total	In	Out	Total	In	Out	Total	
7:00 AM	3	1	4	5	1	6	8	2	10	
7:15 AM	2	0	2	4	2	6	6	2	8	
7:30 AM	0	1	1	8	0	8	8	1	9	
7:45 AM	2	0	2	12	1	13	14	1	15	42
8:00 AM	2	0	2	10	2	12	12	2	14	46
8:15 AM	0	0	0	6	1	7	6	1	7	45
8:30 AM	0	0	0	6	0	6	6	0	6	42
8:45 AM	1	2	3	1	0	1	2	2	4	31

TOTAL TRIP GENERATION - PM PEAK HOUR

Time	West Driveway			East Driveway			Total			Hourly
	In	Out	Total	In	Out	Total	In	Out	Total	
4:00 PM	1	0	1	0	4	4	1	4	5	
4:15 PM	0	1	1	0	4	4	0	5	5	
4:30 PM	4	2	6	1	7	8	5	9	14	
4:45 PM	1	0	1	0	6	6	1	6	7	31
5:00 PM	2	0	2	0	5	5	2	5	7	33
5:15 PM	2	0	2	0	4	4	2	4	6	34
5:30 PM	1	0	1	0	4	4	1	4	5	25
5:45 PM	0	0	0	0	2	2	0	2	2	20

**FUJIMI FACILITY EXPANSION
EXISTING TRIP GENERATION - OCTOBER 3, 2023**

TRUCK TRIP GENERATION - AM PEAK HOUR

Time	West Driveway			East Driveway			Total			Hourly
	In	Out	Total	In	Out	Total	In	Out	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	
7:15 AM	1	0	1	0	0	0	1	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	
7:45 AM	1	0	1	0	0	0	1	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	2	2	0	0	0	0	2	2	2

TRUCK TRIP GENERATION - PM PEAK HOUR

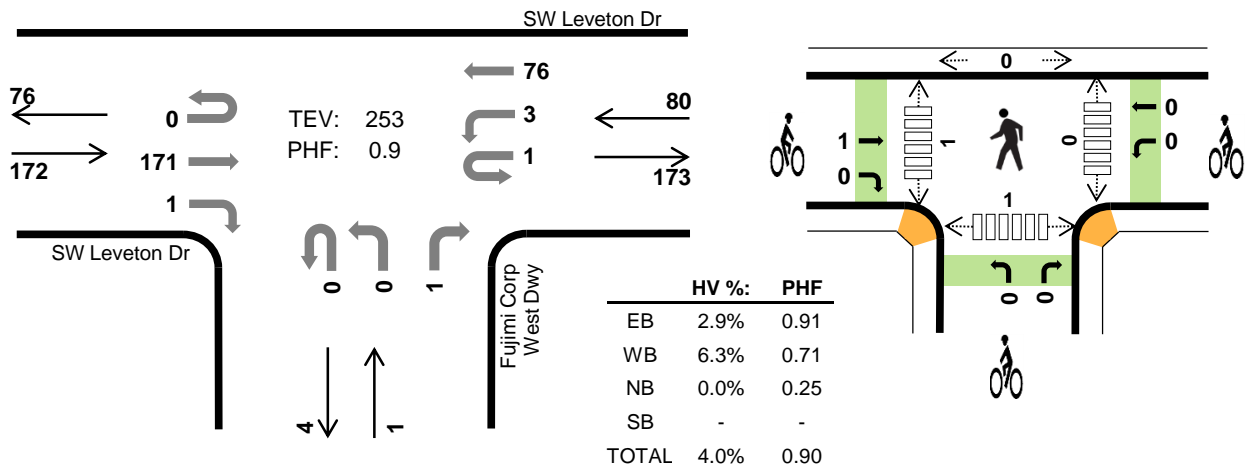
Time	West Driveway			East Driveway			Total			Hourly
	In	Out	Total	In	Out	Total	In	Out	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0

Fujimi Corp West Dwy SW Leveton Dr



Peak Hour

Date: 10/03/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



Two-Hour Count Summaries

Interval Start	SW Leveton Dr Eastbound				SW Leveton Dr Westbound				Fujimi Corp West Dwy Northbound				0 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	22	3	0	0	6	0	0	0	0	1	0	0	0	0	32	0	
7:15 AM	0	0	24	1	0	1	7	0	0	0	0	0	0	0	0	0	33	0	
7:30 AM	0	0	38	0	1	0	8	0	0	0	0	1	0	0	0	0	48	0	
7:45 AM	0	0	44	1	0	1	21	0	0	0	0	0	0	0	0	0	67	180	
8:00 AM	0	0	47	0	0	2	19	0	0	0	0	0	0	0	0	0	68	216	
8:15 AM	0	0	42	0	0	0	28	0	0	0	0	0	0	0	0	0	70	253	
8:30 AM	0	0	31	0	0	0	17	0	0	0	0	0	0	0	0	0	48	253	
8:45 AM	0	0	36	0	0	1	15	0	0	1	0	1	0	0	0	0	54	240	
Count Total	0	0	284	5	1	5	121	0	0	1	0	3	0	0	0	0	420	0	
Peak Hour	All	0	0	171	1	1	3	76	0	0	0	0	1	0	0	0	0	253	0
	HV	0	0	5	0	0	1	4	0	0	0	0	0	0	0	0	0	10	0
	HV%	-	-	3%	0%	0%	33%	5%	-	-	-	-	0%	-	-	-	-	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0
8:00 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
8:15 AM	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	2	0	2	0	4	0	0	0	0	0	0	1	0	1	2
Count Total	10	6	2	0	18	1	0	0	0	1	0	2	0	2	4
Peak Hr	5	5	0	0	10	1	0	0	0	1	0	1	0	1	2

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Leveton Dr				SW Leveton Dr				Fujimi Corp West Dwy				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	8
8:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	10
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	10
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:45 AM	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	4	10
Count Total	0	0	10	0	0	2	4	0	0	1	0	1	0	0	0	0	18	0
Peak Hour	0	0	5	0	0	1	4	0	0	0	0	0	0	0	0	0	10	0

Two-Hour Count Summaries - Bikes

Interval Start	SW Leveton Dr			SW Leveton Dr			Fujimi Corp West Dwy			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	1	0	0	0	0	0	0	0	0	0	0	1	0

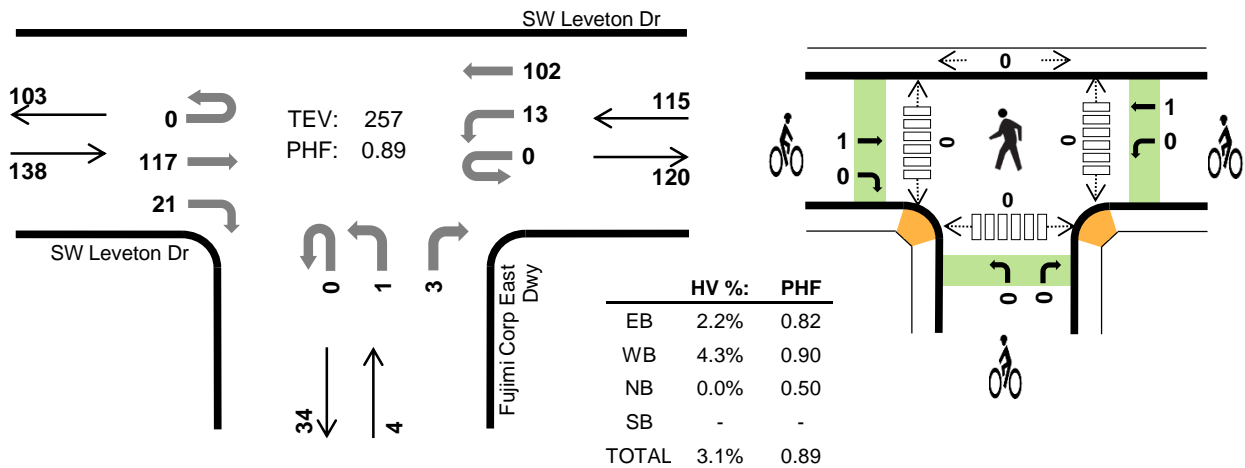
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Fujimi Corp East Dwy SW Leveton Dr



Peak Hour

Date: 10/03/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



Two-Hour Count Summaries

Interval Start	SW Leveton Dr Eastbound				SW Leveton Dr Westbound				Fujimi Corp East Dwy Northbound				0 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	15	2	0	3	6	0	0	1	0	0	0	0	0	0	27	0	
7:15 AM	0	0	18	4	0	0	9	0	0	0	0	2	0	0	0	0	33	0	
7:30 AM	0	0	31	7	0	1	11	0	0	0	0	0	0	0	0	0	50	0	
7:45 AM	0	0	34	5	0	7	25	0	0	0	0	1	0	0	0	0	72	182	
8:00 AM	0	0	35	7	0	3	24	0	0	0	0	2	0	0	0	0	71	226	
8:15 AM	0	0	27	4	0	2	29	0	0	1	0	0	0	0	0	0	63	256	
8:30 AM	0	0	21	5	0	1	24	0	0	0	0	0	0	0	0	0	51	257	
8:45 AM	0	0	32	0	0	1	19	0	0	0	0	0	0	0	0	0	52	237	
Count Total	0	0	213	34	0	18	147	0	0	2	0	5	0	0	0	0	419	0	
Peak Hour	All	0	0	117	21	0	13	102	0	0	1	0	3	0	0	0	0	257	0
	HV	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	8	0
	HV%	-	-	3%	0%	-	0%	5%	-	-	0%	-	0%	-	-	-	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0
7:15 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0
8:00 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
8:15 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
8:45 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	1	1
Count Total	11	7	0	0	18	1	2	0	0	3	0	0	0	2	2
Peak Hr	3	5	0	0	8	1	1	0	0	2	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Leveton Dr				SW Leveton Dr				Fujimi Corp East Dwy				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	9
8:00 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	11
8:15 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	11
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
8:45 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9
Count Total	0	0	11	0	0	0	7	0	0	0	0	0	0	0	0	0	18	0
Peak Hour	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	8	0

Two-Hour Count Summaries - Bikes

Interval Start	SW Leveton Dr			SW Leveton Dr			Fujimi Corp East Dwy			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	0	1	1	0	0	0	0	0	0	0	3	0
Peak Hour	0	1	0	0	1	0	0	0	0	0	0	0	2	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Fujimi Corp West Dwy SW Leveton Dr

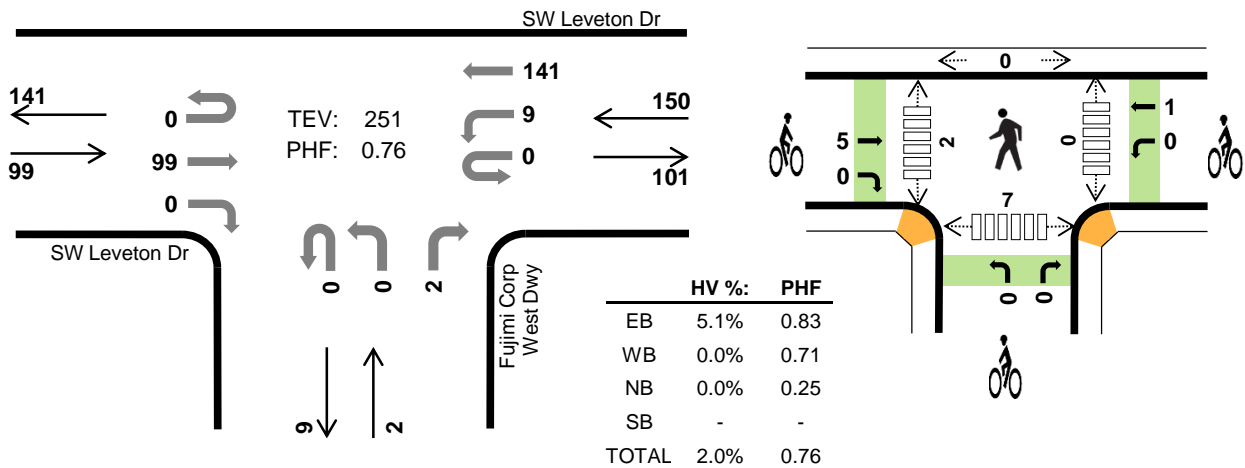


Peak Hour

Date: 10/03/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	SW Leveton Dr Eastbound				SW Leveton Dr Westbound				Fujimi Corp West Dwy Northbound				0 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	21	0	0	1	22	0	0	0	0	0	0	0	0	0	44	0	
4:15 PM	0	0	21	0	0	0	21	0	0	0	0	1	0	0	0	0	43	0	
4:30 PM	0	0	22	0	0	4	31	0	0	0	0	2	0	0	0	0	59	0	
4:45 PM	0	0	19	0	0	1	25	0	0	0	0	0	0	0	0	0	45	191	
5:00 PM	0	0	30	0	0	2	51	0	0	0	0	0	0	0	0	0	83	230	
5:15 PM	0	0	28	0	0	2	34	0	0	0	0	0	0	0	0	0	64	251	
5:30 PM	0	0	20	0	0	1	18	0	0	0	0	0	0	0	0	0	39	231	
5:45 PM	0	0	18	0	0	0	19	0	0	0	0	0	0	0	0	0	37	223	
Count Total	0	0	179	0	0	11	221	0	0	0	0	3	0	0	0	0	414	0	
Peak Hour	All	0	0	99	0	0	9	141	0	0	0	0	2	0	0	0	0	251	0
	HV	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
	HV%	-	-	5%	-	-	0%	0%	-	-	-	-	0%	-	-	-	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1
4:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	1	1
4:30 PM	2	0	0	0	2	1	0	0	0	1	0	0	0	2	2
4:45 PM	2	0	0	0	2	2	1	0	0	3	0	0	0	1	1
5:00 PM	0	0	0	0	0	1	0	0	0	1	0	1	0	2	3
5:15 PM	1	0	0	0	1	1	0	0	0	1	0	1	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	7	1	0	0	8	5	1	0	0	6	0	2	0	10	12
Peak Hr	5	0	0	0	5	5	1	0	0	6	0	2	0	7	9

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Leveton Dr				SW Leveton Dr				Fujimi Corp West Dwy				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	7	0	0	0	1	0	0	0	0	0	0	0	0	0	8	0
Peak Hour	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0

Two-Hour Count Summaries - Bikes

Interval Start	SW Leveton Dr			SW Leveton Dr			Fujimi Corp West Dwy			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	3	4
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	5
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	5	0	0	1	0	0	0	0	0	0	0	6	0
Peak Hour	0	5	0	0	1	0	0	0	0	0	0	0	6	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Fujimi Corp East Dwy SW Leveton Dr

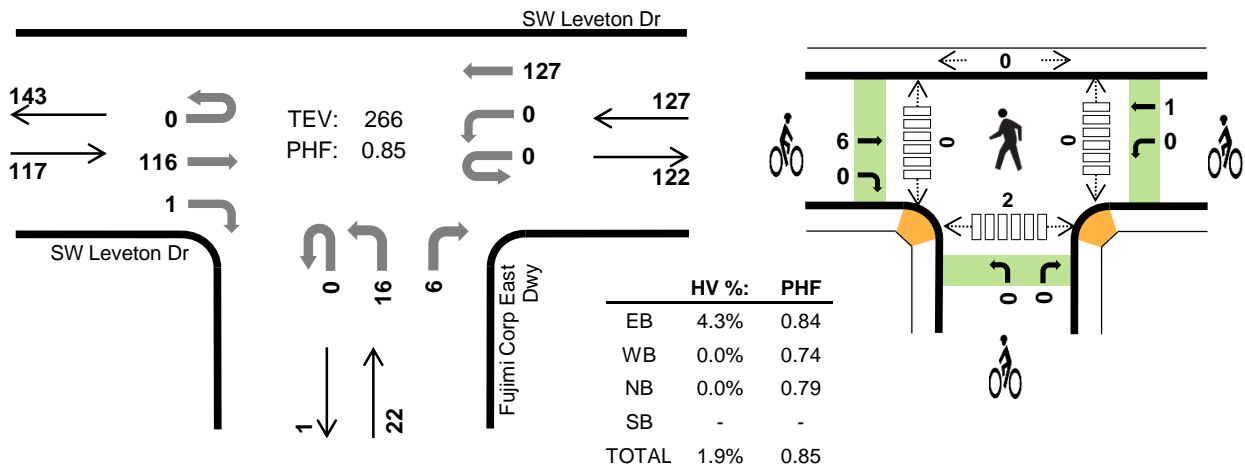


Peak Hour

Date: 10/03/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	SW Leveton Dr Eastbound				SW Leveton Dr Westbound				Fujimi Corp East Dwy Northbound				0 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	22	0	0	0	17	0	0	2	0	2	0	0	0	0	43	0	
4:15 PM	0	0	21	0	0	0	19	0	0	1	0	3	0	0	0	0	44	0	
4:30 PM	0	0	34	1	0	0	35	0	0	3	0	4	0	0	0	0	77	0	
4:45 PM	0	0	19	0	0	0	22	0	0	6	0	0	0	0	0	0	47	211	
5:00 PM	0	0	30	0	0	0	43	0	0	4	0	1	0	0	0	0	78	246	
5:15 PM	0	0	33	0	0	0	27	0	0	3	0	1	0	0	0	0	64	266	
5:30 PM	0	0	28	0	0	0	16	0	0	1	0	3	0	0	0	0	48	237	
5:45 PM	0	0	21	0	0	0	12	0	0	1	0	1	0	0	0	0	35	225	
Count Total	0	0	208	1	0	0	191	0	0	21	0	15	0	0	0	0	436	0	
Peak Hour	All	0	0	116	1	0	0	127	0	0	16	0	6	0	0	0	0	266	0
	HV	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
	HV%	-	-	4%	0%	-	-	0%	-	-	0%	-	0%	-	-	-	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1
4:15 PM	1	1	0	0	2	1	0	0	0	1	0	0	0	1	1
4:30 PM	2	0	0	0	2	1	0	0	0	1	0	0	0	2	2
4:45 PM	2	0	0	0	2	1	1	0	0	2	0	0	0	0	0
5:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0
5:15 PM	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	7	1	0	0	8	7	1	0	0	8	0	0	0	4	4
Peak Hr	5	0	0	0	5	6	1	0	0	7	0	0	0	2	2

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Leveton Dr				SW Leveton Dr				Fujimi Corp East Dwy				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	7	0	0	0	1	0	0	0	0	0	0	0	0	0	8	0
Peak Hour	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0

Two-Hour Count Summaries - Bikes

Interval Start	SW Leveton Dr			SW Leveton Dr			Fujimi Corp East Dwy			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	4
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	6
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	7	0	0	1	0	0	0	0	0	0	0	8	0
Peak Hour	0	6	0	0	1	0	0	0	0	0	0	0	7	0

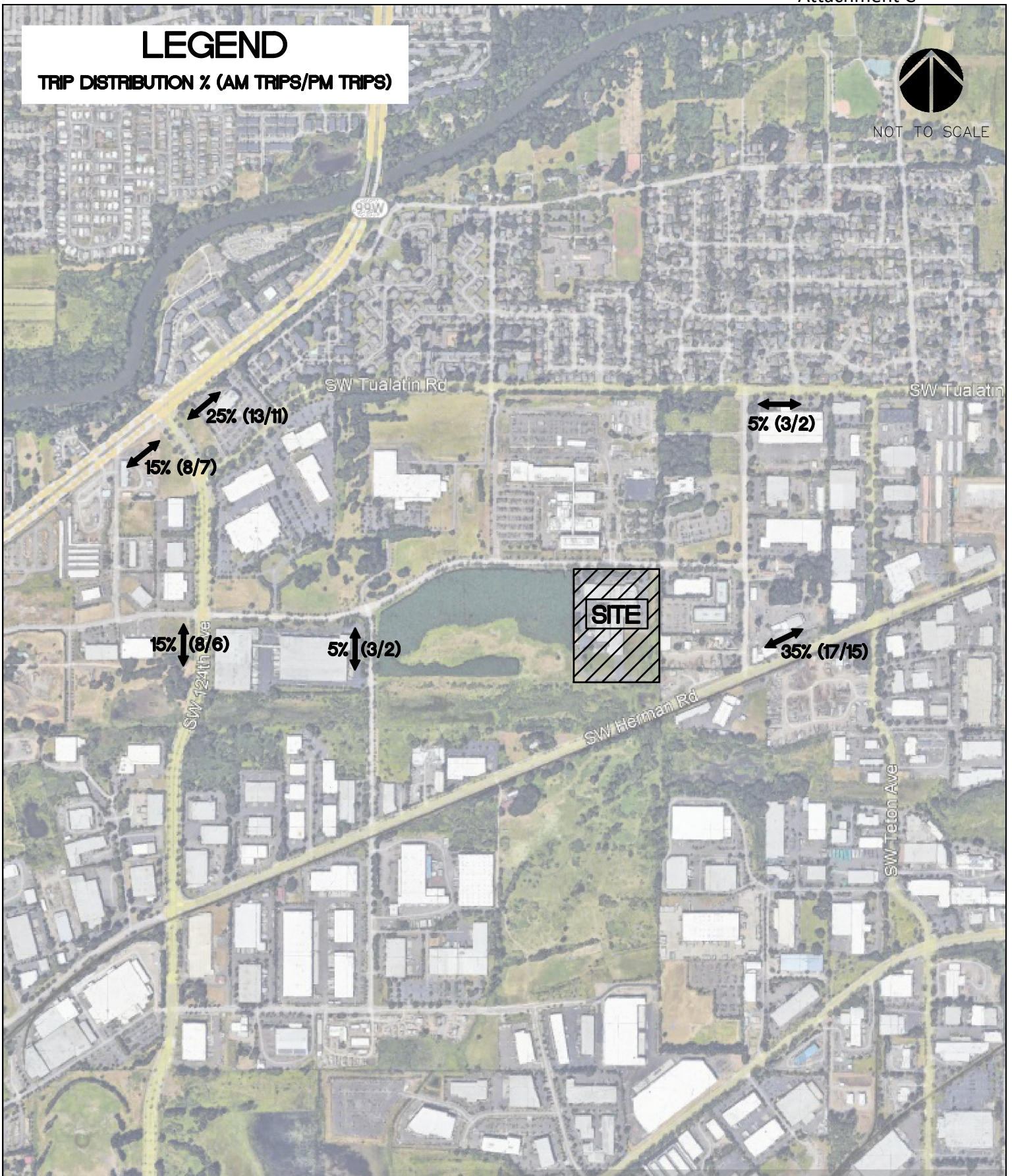
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

LEGEND

TRIP DISTRIBUTION % (AM TRIPS/PM TRIPS)



NOT TO SCALE



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DATE: 9.14.2023

DRAWN BY: LCB

CHECKED BY: JTJ

JOB NO:
 221014800

TRIP DISTRIBUTION + ASSIGNMENT

FUJIMI FACILITY EXPANSION
 TUALATIN, OR

FIGURE

1

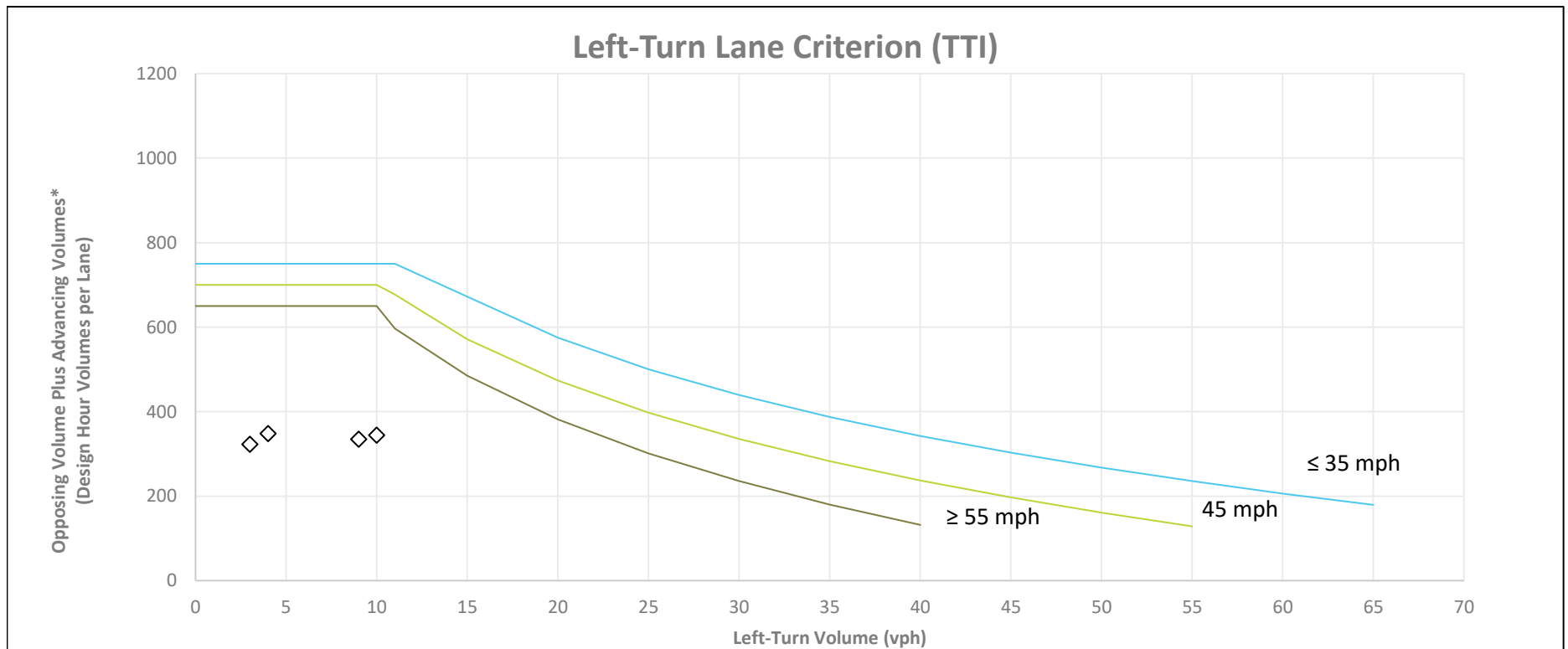
Project: Fujimi Facility Expansion

Job #: 2210148.00

Date: 10/5/2023

Subject: Left-Turn Lane Evaluation - Leveton Drive at West Site Access

Condition	Posted Speed	AM Peak Hour						PM Peak Hour					
		Approaching		Opposing		Left	Result	Approaching		Opposing		Left	Result
		Vol	Lanes	Vol	Lanes			Vol	Lanes	Vol	Lanes		
Pre-Dev	40	151	1	172	1	3	None	236	1	99	1	9	None
Post-Dev	40	152	1	196	1	4	None	237	1	107	1	10	None



Source: Texas Transportation Institute

* ((Advancing volume/number of advancing through lanes) + (opposing volume/number of opposing through lanes))



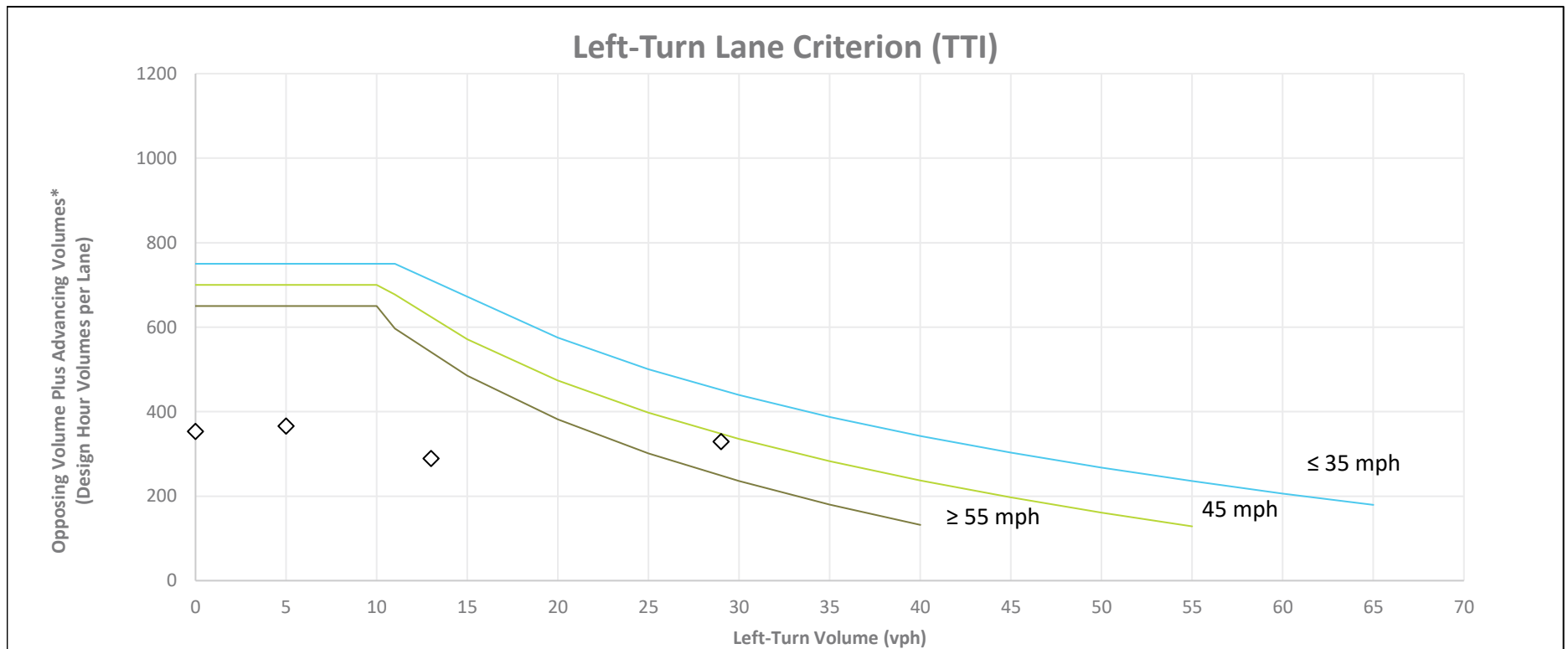
Project: Fujimi Facility Expansion

Job #: 2210148.00

Date: 10/5/2023

Subject: Left-Turn Lane Evaluation - Leveton Drive at East Site Access

Condition	Posted Speed	AM Peak Hour						PM Peak Hour					
		Approaching		Opposing		Left	Result	Approaching		Opposing		Left	Result
		Vol	Lanes	Vol	Lanes			Vol	Lanes	Vol	Lanes		
Pre-Dev	40	151	1	138	1	13	None	236	1	117	1	0	None
Post-Dev	40	167	1	162	1	29	None	241	1	125	1	5	None



Source: Texas Transportation Institute

* ((Advancing volume/number of advancing through lanes) + (opposing volume/number of opposing through lanes))

