

CITY OF CAMARILLO
Public Works Department, Traffic Division

TECHNICAL MEMORANDUM

Arneill Road Corridor Hourly Turning Movement Count Analysis

Ponderosa Drive, Daily Drive, Pickwick Drive and Barry Street

Study period	Monday, September 14 to Friday, September 18, 2026
Count hours	7:00 AM to 7:00 PM, weekdays (60 observation hours per location)
Data source	Miovision One permanent video detection, 15-minute bins aggregated to hourly
Report date	September 22, 2026
Prepared by	Ryan Strawser, Senior Traffic Signal Technician Public Works Department, Traffic Division

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1. Executive Summary

Subject: Arneill Road Corridor Hourly Turning Movement Count Analysis
Prepared by: Ryan Strawser, Senior Traffic Signal Technician, Public Works Department, Traffic Division
Date: September 22, 2026
Study period: September 14 to 18, 2026, 7:00 AM to 7:00 PM weekdays

Miovision One detection recorded **488,529 vehicles** at four Arneill Road intersections over five weekdays (7:00 AM to 7:00 PM). Ranked by demand: Ponderosa Dr 136,590 (28.0%), Daily Dr 134,582 (27.5%), Pickwick Dr 114,567 (23.5%) and Barry St 102,790 (21.0%). Friday was the highest volume day at all four locations (Table 3).

Common PM peak. All four intersections peak in the same hour, 4:00 to 5:00 PM, with 50,848 corridor vehicles over five days (10.4% of the 12-hour total). Average weekday PM peak hour volumes range from 2,127 vehicles per hour (vph) at Barry St to 2,832 vph at Ponderosa Dr. AM peaks fall within 15 minutes of each other (7:30 to 8:45 AM).

Left-turn share of total volume: Ponderosa 23.4%, Pickwick 18.9%, Daily 17.1% and Barry 9.7%.

Highest movements by type. The highest through movement is northbound through (NBT) at Barry St (43,195). The highest left turn is westbound left (WBL) at Ponderosa Dr (13,400, 42.0% of its approach). The highest right turn is westbound right (WBR) at Daily Dr (21,881, 50.4% of its approach). Several Arneill Rd through movements exceed WBR at Daily and WBL at Ponderosa in raw volume; these two are the largest turning movements in the corridor.

Prioritized recommendations (details in Section 9):

1. Verify the four data anomalies in Section 8 by video review and detection zone audit before these counts are used to set timing or phasing. *Signal Operations with Miovision support; low effort.*
2. Build a corridor timing model and evaluate a common cycle length for coordinated AM, midday and PM plans, with southbound progression priority in the AM and northbound priority in the PM. Lane geometry, spacing, speeds and existing timing are needed and are not in this dataset. *Traffic Engineering; high effort.*
3. Evaluate protected-only left-turn phasing for WBL at Ponderosa Dr and NBL at Pickwick Dr, and protected-permissive flashing yellow arrow (FYA) phasing for the other left turns that pass the screening in Section 4, subject to crash history and sight distance review. *Traffic Engineering; medium effort.*
4. Verify pedestrian clearance times on all legs and evaluate a leading pedestrian interval on the Daily Dr north leg, which receives the westbound right-turn stream. *Signal Operations; low to medium effort.*
5. Resolve the table reconciliation items in Section 2.4 with the vendor and supplement this dataset with crash history, weekend and evening counts. *Signal Operations and Traffic Engineering; low effort.*

2. Introduction and Methodology

2.1 Purpose

This memorandum summarizes one week of hourly turning movement counts (TMCs) at four intersections along Arneill Road, a north-south arterial in the City of Camarillo. It documents volumes by hour, weekday, movement, approach, vehicle class and pedestrian crossing leg, and identifies timing, phasing, pedestrian and data quality items for follow-up.

2.2 Study Locations and Data Collection

Table 1. Study locations and five-day movement totals

Intersection	Total vehicles	Share of corridor	Rank
Arneill Rd & Ponderosa Dr	136,590	28.0%	1
Arneill Rd & Daily Dr	134,582	27.5%	2
Arneill Rd & Pickwick Dr	114,567	23.5%	3
Arneill Rd & Barry St	102,790	21.0%	4
Corridor	488,529	100.0%	

Totals exclude 245 minor movements (U-turns and bear or hard turns) recorded corridor-wide.

Counts were collected by permanent Miovision One video detection from Monday, September 14 through Friday, September 18, 2026, 7:00 AM to 7:00 PM local (Pacific) time, for 60 observation hours per location. Data were recorded in 15-minute bins and aggregated to hourly totals. Hour labels refer to the hour beginning (for example, 4:00 PM means 4:00 to 5:00 PM).

Unless stated otherwise, hourly volumes in this memorandum are **five-weekday sums** for each hour. Dividing by five gives the average weekday hourly volume in vehicles per hour (vph), which is used only for the left-turn screening in Section 4 and the peak hour values in the peak hour tables.

2.3 Movement Abbreviations

Movements are named by approach direction and turn: NBL, NBT and NBR are northbound left, through and right; SBL, SBT and SBR are southbound; EBL, EBT and EBR are eastbound; WBL, WBT and WBR are westbound. Northbound vehicles approach on the south leg of Arneill Rd; eastbound vehicles approach on the west leg of the cross street. Minor movements (U-turns and bear or hard turns, 245 vehicles corridor-wide) are excluded from the movement tables.

2.4 Data Reconciliation

Every table was checked for internal row and column totals and for consistency with the other tables. Results are summarized in Table 2. The hourly totals by intersection, the 12-movement tables and the movement-type tables reconcile exactly to the stated intersection totals and to the corridor total of 488,529. The following differences were found:

- The weekday totals (Table 3) and the hourly totals by weekday (Table A-1 to A-4) include minor movements. They exceed the movement totals by 61 (Ponderosa), 1 (Daily), 166 (Pickwick) and 17 (Barry), which sums to exactly 245.
- The approach-direction hourly tables also **include** minor movements. Each hourly approach row sums to the weekday-by-hour total rather than the movement total. This differs from the source note that approach data exclude minor movements. The differences are small (no more than 24 vehicles in any

hour) and are concentrated on the Arneill Rd approaches at Pickwick Dr and the southbound approach at Ponderosa Dr.

- Vehicle classification totals (Section 6), including bicycles, equal the weekday totals exactly at Ponderosa Dr and Daily Dr. At Pickwick Dr they exceed the weekday total by 106 vehicles; at Barry St they are 1 below. The source of these differences is not identifiable from this dataset.
- The stated left-turn and right-turn shares round correctly from the movement-type totals.

Table 2. Reconciliation checks

Check	Result
Weekday columns sum to week total (all sites)	Reconciles
Four intersection totals sum to corridor total (488,529)	Reconciles
Hourly totals: rows and columns vs. corridor and site totals	Reconciles
12-movement tables: hourly rows, movement columns and totals	Reconciles
Movement-type tables vs. 12-movement tables	Reconciles
Weekday totals minus movement totals = minor movements	$61 + 1 + 166 + 17 = 245$
Hourly totals by weekday vs. hourly movement totals	Includes minor movements
Approach-direction tables vs. 12-movement tables	Includes minor movements
Classification totals vs. weekday totals	+106 Pickwick, -1 Barry
Crosswalk legs and hours vs. crosswalk totals	Reconciles

2.5 Limitations

- **Weekdays only.** Weekend conditions are not represented.
- **7:00 AM to 7:00 PM only.** Early morning, evening and overnight volumes are not represented, so these counts cannot be expanded to daily (24-hour) volumes.
- **Machine-classified counts.** Movements and vehicle classes are assigned automatically by video analytics and have not been validated by manual count for this memorandum. Section 8 identifies patterns that warrant review.
- **No signal timing, delay or capacity data.** The dataset contains no lane configuration, signal phasing, timing, queue, delay, speed or crash data. Level of service, delay, capacity and volume-to-capacity ratios are therefore not reported. Recommendations that depend on them call for follow-up analysis.
- Peak hour windows were reported from 15-minute data that are not reproduced in this memorandum.

3. Corridor Overview

3.1 Daily Volumes

Table 3 and Figure 1 show 12-hour weekday totals. Friday was the highest day at all four intersections, ranging from 4.8% (Pickwick) to 7.8% (Ponderosa and Daily) above the Monday to Thursday average. Monday to Thursday volumes varied by no more than 3.9% at any location.

Table 3. Daily totals by intersection and weekday, 7:00 AM to 7:00 PM

Intersection	Mon	Tue	Wed	Thu	Fri	Week total
Arneill Rd & Ponderosa Dr	26,652	27,042	27,201	26,745	29,011	136,651
Arneill Rd & Daily Dr	25,969	26,899	26,476	26,669	28,570	134,583
Arneill Rd & Pickwick Dr	22,719	23,104	22,853	22,239	23,818	114,733
Arneill Rd & Barry St	20,313	20,637	20,237	20,102	21,518	102,807
Corridor	95,653	97,682	96,767	95,755	102,917	488,774

Includes minor movements (245 corridor-wide), so week totals exceed the movement totals in Table 1 by that amount.

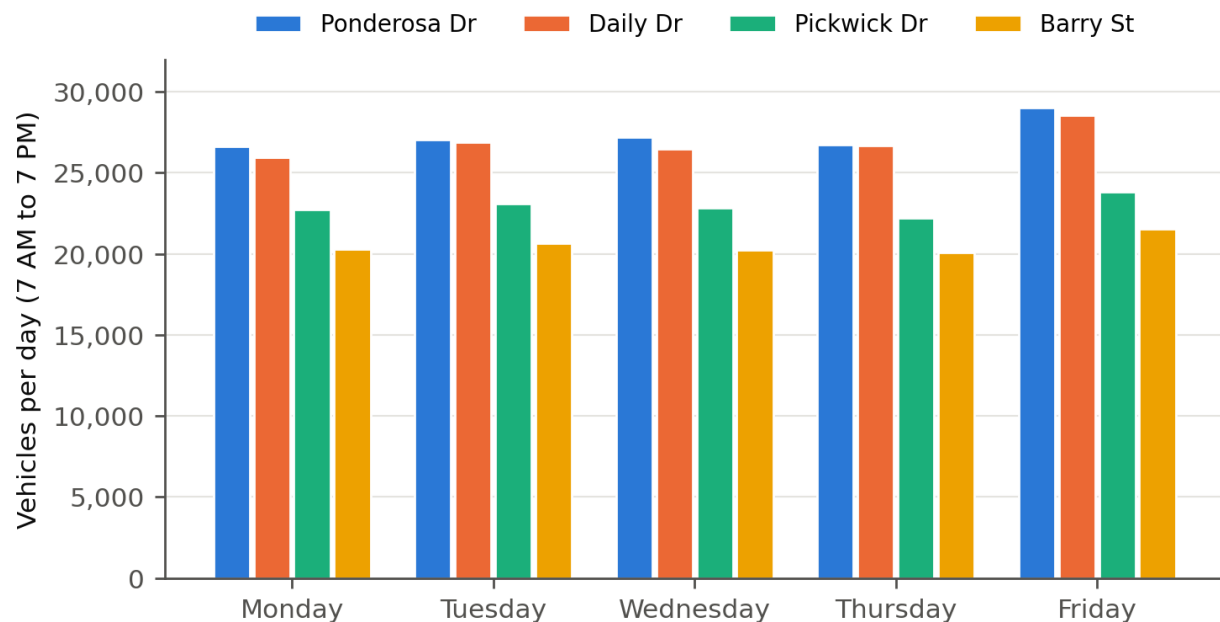


Figure 1. Daily volumes by intersection and weekday (7:00 AM to 7:00 PM)

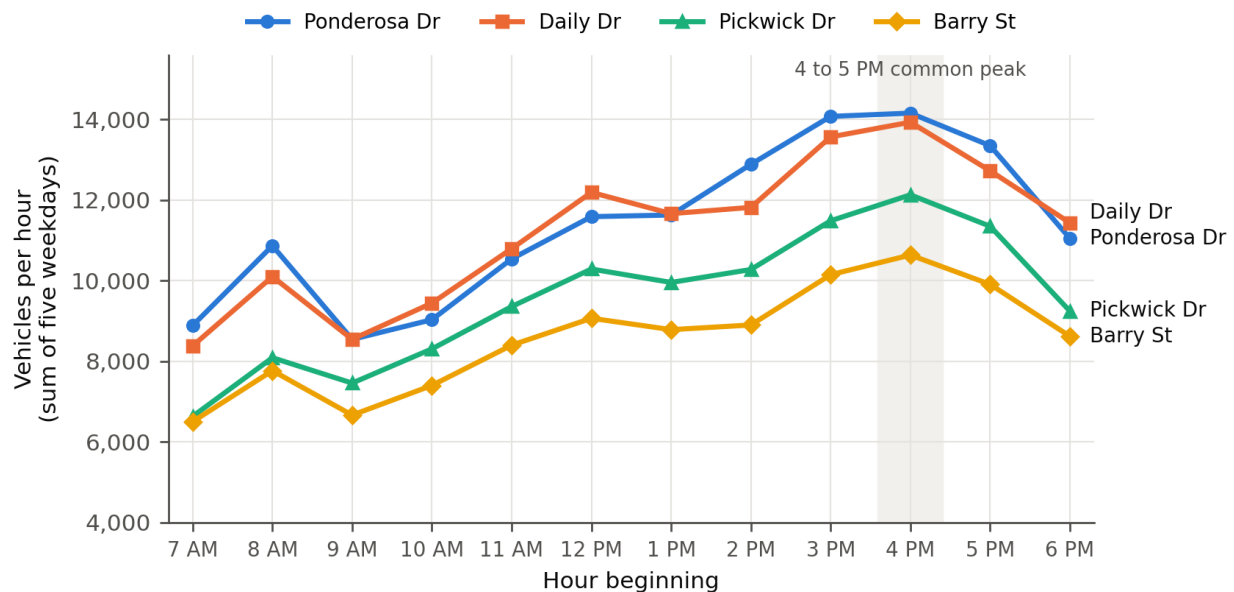
3.2 Hourly Profile

Table 4 and Figure 2 show five-day hourly totals. All four intersections share the same profile: an AM peak in the 8:00 AM hour (36,821 corridor vehicles), a dip at 9:00 AM, a midday rise to 43,130 at 12:00 PM, and the daily maximum at 4:00 PM (50,848). The PM peak hour carries 38% more corridor traffic than the AM peak hour. Volumes at 6:00 PM remain above every AM hour, so the 7:00 PM end of the count likely truncates the evening shoulder.

Table 4. Hourly totals by intersection (five-weekday sums)

Hour beginning	Ponderosa	Daily	Pickwick	Barry	Corridor
7:00 AM	8,886	8,382	6,633	6,502	30,403
8:00 AM	10,866	10,100	8,088	7,767	36,821
9:00 AM	8,543	8,544	7,458	6,664	31,209
10:00 AM	9,031	9,443	8,307	7,400	34,181
11:00 AM	10,540	10,793	9,357	8,399	39,089
12:00 PM	11,587	12,189	10,288	9,066	43,130
1:00 PM	11,628	11,662	9,955	8,784	42,029
2:00 PM	12,885	11,817	10,276	8,900	43,878
3:00 PM	14,074	13,565	11,485	10,147	49,271
4:00 PM	14,155	13,930	12,128	10,635	50,848
5:00 PM	13,348	12,724	11,348	9,907	47,327
6:00 PM	11,047	11,433	9,244	8,619	40,343
Total	136,590	134,582	114,567	102,790	488,529

Excludes minor movements. The 4:00 PM hour, the peak at every location, is shown in bold.

**Figure 2. Hourly volume profile by intersection (five-weekday sums)**

4. Per-Intersection Analysis

Sections 4.1 to 4.4 are ordered by total demand. Each section presents the 12-movement hourly counts, the hourly counts by movement type, a turning movement diagram, an hourly profile, the hourly counts by approach, peak hours and a critical movement review.

Critical movement method. Every movement carrying more than 30% of its approach volume (five-day totals) is flagged. For left turns, phasing is screened with the cross-product of the average weekday left-turn volume and the opposing through plus right-turn volume in the 8:00 AM hour, the 4:00 PM hour and the left turn's own peak hour. The screening thresholds are those commonly applied in practice and summarized in the ITE and FHWA *Signal Timing Manual*, Second Edition (NCHRP Report 812): 50,000 with one opposing through lane, 90,000 with two and 110,000 with three or more. A left turn of 240 vph or more is also considered for protection. In this memorandum a result above 90,000 (or 240 vph) is marked **protected-only (evaluate)**, a result between 50,000 and 90,000 is marked **protected-permissive (FYA)**, and a result below 50,000 is marked **permissive**. Because lane configurations and existing phasing are not in the dataset, these are screening results only. The final choice also depends on crash history, sight distance, number of opposing lanes, approach speed and pedestrian conflicts.

4.1 Arneill Rd & Ponderosa Dr

a. Site description and approach naming

Arneill Rd & Ponderosa Dr is a four-leg intersection. Arneill Rd forms the north and south legs and Ponderosa Dr forms the east and west legs. Northbound (NB) traffic approaches on the south leg of Arneill Rd, southbound (SB) on the north leg, eastbound (EB) on the west leg of Ponderosa Dr and westbound (WB) on the east leg. Five-day movement volume totals 136,590 vehicles, 28.0% of the corridor. Ponderosa Dr is the busiest location and has the most balanced demand among the four approaches. The cross street carries 45.3% of entering vehicles, the highest share in the corridor together with Daily Dr. Its left-turn share (23.4%) is the highest in the corridor, led by WBL.

The dataset does not describe lane configuration or existing signal phasing; both should be confirmed from City timing sheets and as-built plans before acting on the phasing screening below.

b. Hourly turning movements

Table 5 lists all 12 movements by hour with totals.

Table 5. Arneill Rd & Ponderosa Dr: hourly turning movements (five-weekday sums)

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	407	1,773	398	320	1,907	255	370	1,327	262	668	1,025	174	8,886
8 AM	311	2,034	472	425	2,137	378	589	1,283	344	1,048	1,625	220	10,866
9 AM	243	1,844	513	276	1,735	337	578	877	249	844	893	154	8,543
10 AM	270	2,078	609	274	1,655	378	629	928	250	898	917	145	9,031
11 AM	299	2,312	679	328	1,746	434	792	1,198	286	1,131	1,141	194	10,540
12 PM	297	2,709	762	390	1,743	423	921	1,457	318	1,196	1,136	235	11,587
1 PM	347	2,641	772	383	1,681	416	876	1,520	370	1,181	1,237	204	11,628
2 PM	454	2,771	855	441	1,681	459	854	1,734	378	1,265	1,719	274	12,885
3 PM	569	3,247	834	464	1,851	432	973	1,792	402	1,431	1,756	323	14,074
4 PM	669	3,464	957	396	1,859	479	987	1,664	339	1,347	1,723	271	14,155
5 PM	571	3,245	889	335	1,849	440	973	1,569	342	1,356	1,526	253	13,348
6 PM	398	2,702	729	320	1,635	375	856	1,382	278	1,035	1,093	244	11,047
Total	4,835	30,820	8,469	4,352	21,479	4,806	9,398	16,731	3,818	13,400	15,791	2,691	136,590

Excludes minor movements (U-turns and bear or hard turns).

c. Hourly volumes by movement type

Table 6 groups the movements into all left turns (LT), all through (THRU) and all right turns (RT). Left turns are 23.4% of total volume, through movements 62.1% and right turns 14.5%.

Table 6. Arneill Rd & Ponderosa Dr: hourly volumes by movement type (five-weekday sums)

Hour beginning	All LT	All THRU	All RT	Total	LT share
7:00 AM	1,765	6,032	1,089	8,886	19.9%
8:00 AM	2,373	7,079	1,414	10,866	21.8%
9:00 AM	1,941	5,349	1,253	8,543	22.7%
10:00 AM	2,071	5,578	1,382	9,031	22.9%
11:00 AM	2,550	6,397	1,593	10,540	24.2%
12:00 PM	2,804	7,045	1,738	11,587	24.2%
1:00 PM	2,787	7,079	1,762	11,628	24.0%
2:00 PM	3,014	7,905	1,966	12,885	23.4%
3:00 PM	3,437	8,646	1,991	14,074	24.4%
4:00 PM	3,399	8,710	2,046	14,155	24.0%
5:00 PM	3,235	8,189	1,924	13,348	24.2%
6:00 PM	2,609	6,812	1,626	11,047	23.6%
Total	31,985	84,821	19,784	136,590	23.4%
Share of total	23.4%	62.1%	14.5%	100.0%	

d. Turning movement diagram

Figure 3 shows the five-day movement totals on each approach.

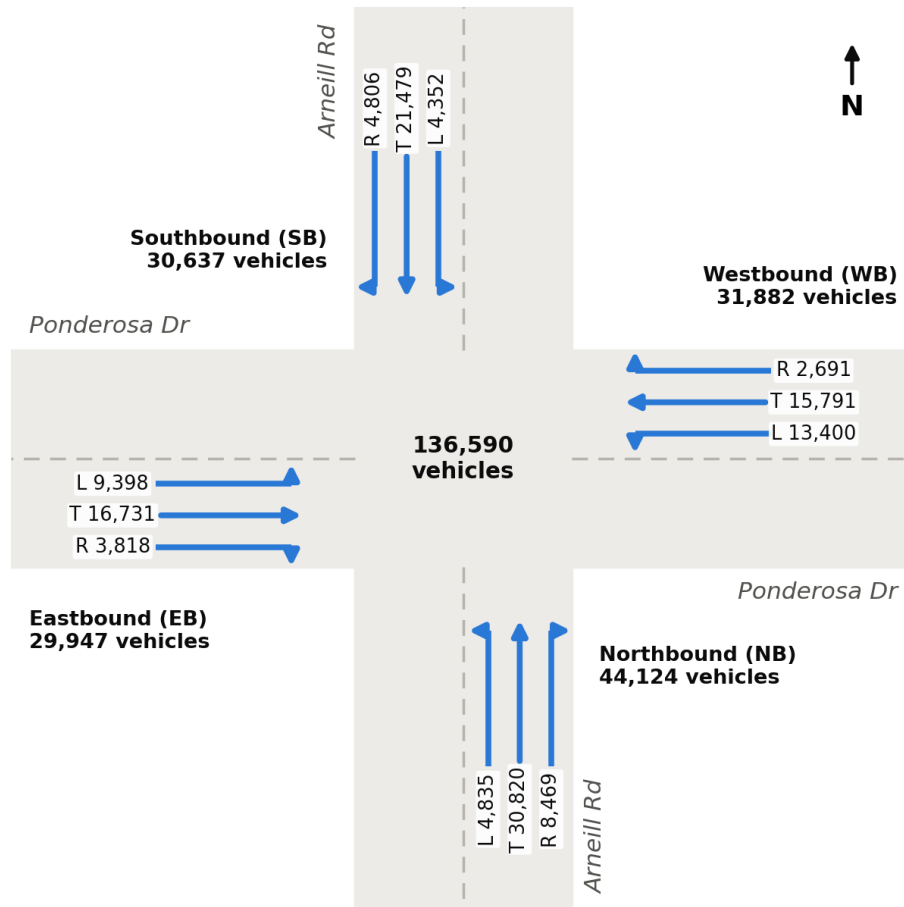


Figure 3. Arneill Rd & Ponderosa Dr: turning movement diagram, five-day totals, 7:00 AM to 7:00 PM (L = left, T = through, R = right)

e. Hourly volume profile

Figure 4 plots hourly volume by movement type. The busiest hour is 4:00 PM (14,155) and the lightest is 9:00 AM (8,543); the busiest hour is 1.66 times the lightest.

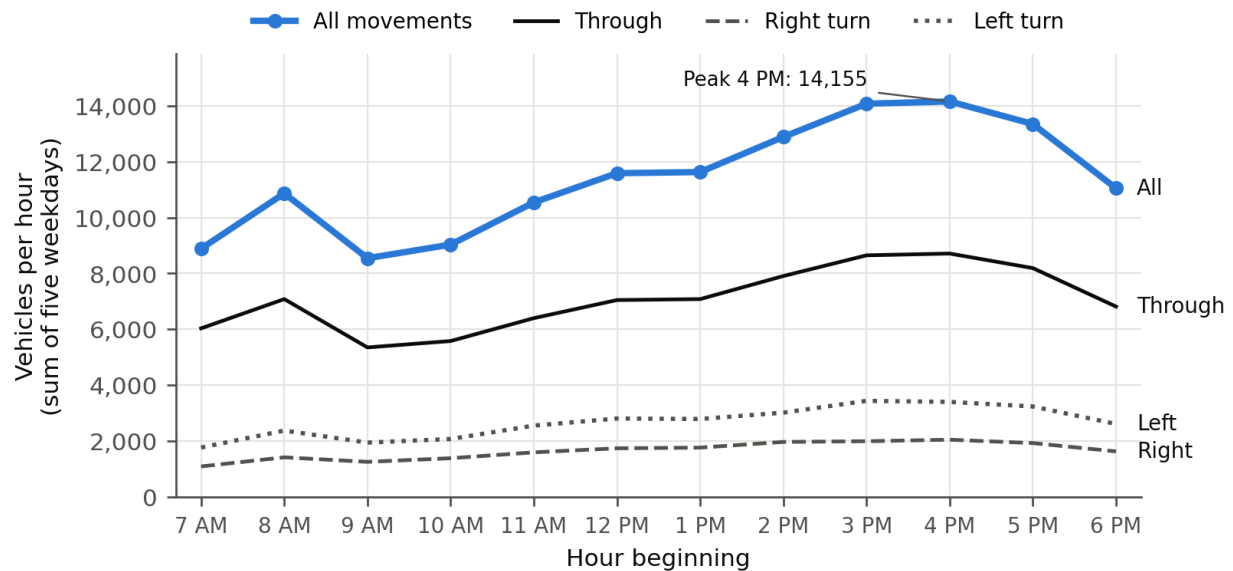


Figure 4. Arneill Rd & Ponderosa Dr: hourly volume by movement type (five-weekday sums)

f. Hourly volumes by approach

Table 7 lists hourly volumes by approach. The northbound approach carries the most traffic (44,126).

Table 7. Arneill Rd & Ponderosa Dr: hourly volumes by approach (five-weekday sums)

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,578	2,487	1,959	1,867	8,891
8:00 AM	2,818	2,948	2,216	2,894	10,876
9:00 AM	2,600	2,348	1,704	1,891	8,543
10:00 AM	2,957	2,309	1,807	1,960	9,033
11:00 AM	3,290	2,510	2,276	2,466	10,542
12:00 PM	3,768	2,563	2,696	2,567	11,594
1:00 PM	3,760	2,483	2,766	2,624	11,633
2:00 PM	4,080	2,590	2,966	3,258	12,894
3:00 PM	4,651	2,754	3,167	3,510	14,082
4:00 PM	5,090	2,738	2,990	3,341	14,159
5:00 PM	4,705	2,628	2,884	3,136	13,353
6:00 PM	3,829	2,334	2,516	2,372	11,051
Total	44,126	30,692	29,947	31,886	136,651

Approach data include minor movements, so the total (136,651) exceeds the movement total (136,590) by 61 (Section 2.4).

g. Peak hours

Table 8 gives the peak hours from a rolling 60-minute window averaged over the five weekdays. The PM peak hour (2,832 vph) is 14% higher than the AM peak hour (2,479 vph).

Table 8. Arneill Rd & Ponderosa Dr: AM and PM peak hours (average weekday)

Period	Peak hour window	Volume (vph)
AM	7:30 to 8:30 AM	2,479
PM	4:00 to 5:00 PM	2,832

h. Critical movement discussion

Table 9 lists each movement's share of its approach. 6 movements exceed 30%: NBT (69.8%), SBT (70.1%), EBL (31.4%), EBT (55.9%), WBL (42.0%), WBT (49.5%). Through movements on Arneill Rd exceed 30% by nature of the arterial and do not by themselves indicate a phasing need. The turning movements above 30% are EBL, WBL.

Table 9. Arneill Rd & Ponderosa Dr: movement share of approach volume (five-day totals)

Movement	Volume	Approach volume	Share of approach	Over 30%
NBL	4,835	44,124	11.0%	
NBT	30,820	44,124	69.8%	Yes
NBR	8,469	44,124	19.2%	
SBL	4,352	30,637	14.2%	
SBT	21,479	30,637	70.1%	Yes
SBR	4,806	30,637	15.7%	
EBL	9,398	29,947	31.4%	Yes
EBT	16,731	29,947	55.9%	Yes
EBR	3,818	29,947	12.7%	
WBL	13,400	31,882	42.0%	Yes
WBT	15,791	31,882	49.5%	Yes
WBR	2,691	31,882	8.4%	

Table 10. Arneill Rd & Ponderosa Dr: left-turn phasing screening (average weekday vph)

Left turn	8:00 AM LT x opposing	4:00 PM LT x opposing	LT peak hour	Peak hour LT x opposing	Highest cross-product	Screening result
NBL	62 x 503	134 x 468	4:00 PM	134 x 468	62,565	Protected-permissive (FYA)
SBL	85 x 501	79 x 884	3:00 PM	93 x 816	75,743	Protected-permissive (FYA)
EBL	118 x 369	197 x 399	4:00 PM	197 x 399	78,723	Protected-permissive (FYA)
WBL	210 x 325	269 x 401	3:00 PM	286 x 439	125,585	Protected-only (evaluate)

Opposing volume is the opposing through plus right-turn volume in the same hour. Hourly five-day sums divided by five.

Screening by approach: NBL peaks at 4:00 PM (134 vph against 468 opposing vph); highest cross-product 62,565: **protected-permissive (fya)**; SBL peaks at 3:00 PM (93 vph against 816 opposing vph); highest cross-product 75,743: **protected-permissive (fya)**; EBL peaks at 4:00 PM (197 vph against 399 opposing vph); highest cross-product 78,723: **protected-permissive (fya)**; WBL peaks at 3:00 PM (286 vph against 439 opposing vph); highest cross-product 125,585: **protected-only (evaluate)**.

WBL is the most critical movement in the corridor. It averages 269 vph at 4:00 PM and 286 vph at 3:00 PM, above the 240 vph guideline, and its cross-product (125,585 at 3:00 PM) exceeds the three-lane threshold. Protected-only phasing should be evaluated. EBL (31.4% of its approach) also exceeds the 30% flag.

NBL, SBL and EBL fall between 50,000 and 90,000 and are candidates for protected-permissive FYA operation. With four heavy left turns, lead-lag sequencing and the effect on the common cycle length should be tested in the timing model.

4.2 Arneill Rd & Daily Dr

a. Site description and approach naming

Arneill Rd & Daily Dr is a four-leg intersection. Arneill Rd forms the north and south legs and Daily Dr forms the east and west legs. Northbound (NB) traffic approaches on the south leg of Arneill Rd, southbound (SB) on the north leg, eastbound (EB) on the west leg of Daily Dr and westbound (WB) on the east leg. Five-day movement volume totals 134,582 vehicles, 27.5% of the corridor. Daily Dr carries the second highest volume. Its westbound approach is the largest approach in the corridor outside Arneill Rd (43,454), and half of it turns right onto northbound Arneill Rd. The right-turn share (27.6%) is the highest in the corridor.

The dataset does not describe lane configuration or existing signal phasing; both should be confirmed from City timing sheets and as-built plans before acting on the phasing screening below.

b. Hourly turning movements

Table 11 lists all 12 movements by hour with totals.

Table 11. Arneill Rd & Daily Dr: hourly turning movements (five-weekday sums)

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	241	1,589	203	635	2,162	226	200	368	419	281	767	1,291	8,382
8 AM	352	1,684	192	725	2,510	381	235	431	481	383	1,115	1,611	10,100
9 AM	341	1,533	134	590	1,926	358	225	326	409	397	969	1,336	8,544
10 AM	380	1,633	194	630	1,972	510	323	380	418	398	1,017	1,588	9,443
11 AM	516	1,755	221	717	2,197	595	360	515	524	369	1,332	1,692	10,793
12 PM	606	1,818	270	766	2,448	650	467	611	664	408	1,593	1,888	12,189
1 PM	583	1,832	235	750	2,416	620	407	671	661	421	1,339	1,727	11,662
2 PM	570	1,982	277	617	2,477	595	400	553	558	449	1,443	1,896	11,817
3 PM	571	2,420	223	624	2,679	599	400	665	540	631	1,887	2,326	13,565
4 PM	525	2,667	175	662	2,745	661	409	610	569	590	1,882	2,435	13,930
5 PM	500	2,402	177	574	2,269	498	389	642	676	551	1,769	2,277	12,724
6 PM	456	2,198	230	722	2,292	548	382	589	620	330	1,252	1,814	11,433
Total	5,641	23,513	2,531	8,012	28,093	6,241	4,197	6,361	6,539	5,208	16,365	21,881	134,582

Excludes minor movements (U-turns and bear or hard turns).

c. Hourly volumes by movement type

Table 12 groups the movements into all left turns (LT), all through (THRU) and all right turns (RT). Left turns are 17.1% of total volume, through movements 55.2% and right turns 27.6%.

Table 12. Arneill Rd & Daily Dr: hourly volumes by movement type (five-weekday sums)

Hour beginning	All LT	All THRU	All RT	Total	LT share
7:00 AM	1,357	4,886	2,139	8,382	16.2%
8:00 AM	1,695	5,740	2,665	10,100	16.8%
9:00 AM	1,553	4,754	2,237	8,544	18.2%
10:00 AM	1,731	5,002	2,710	9,443	18.3%
11:00 AM	1,962	5,799	3,032	10,793	18.2%
12:00 PM	2,247	6,470	3,472	12,189	18.4%
1:00 PM	2,161	6,258	3,243	11,662	18.5%
2:00 PM	2,036	6,455	3,326	11,817	17.2%
3:00 PM	2,226	7,651	3,688	13,565	16.4%
4:00 PM	2,186	7,904	3,840	13,930	15.7%
5:00 PM	2,014	7,082	3,628	12,724	15.8%
6:00 PM	1,890	6,331	3,212	11,433	16.5%
Total	23,058	74,332	37,192	134,582	17.1%
Share of total	17.1%	55.2%	27.6%	100.0%	

d. Turning movement diagram

Figure 5 shows the five-day movement totals on each approach.

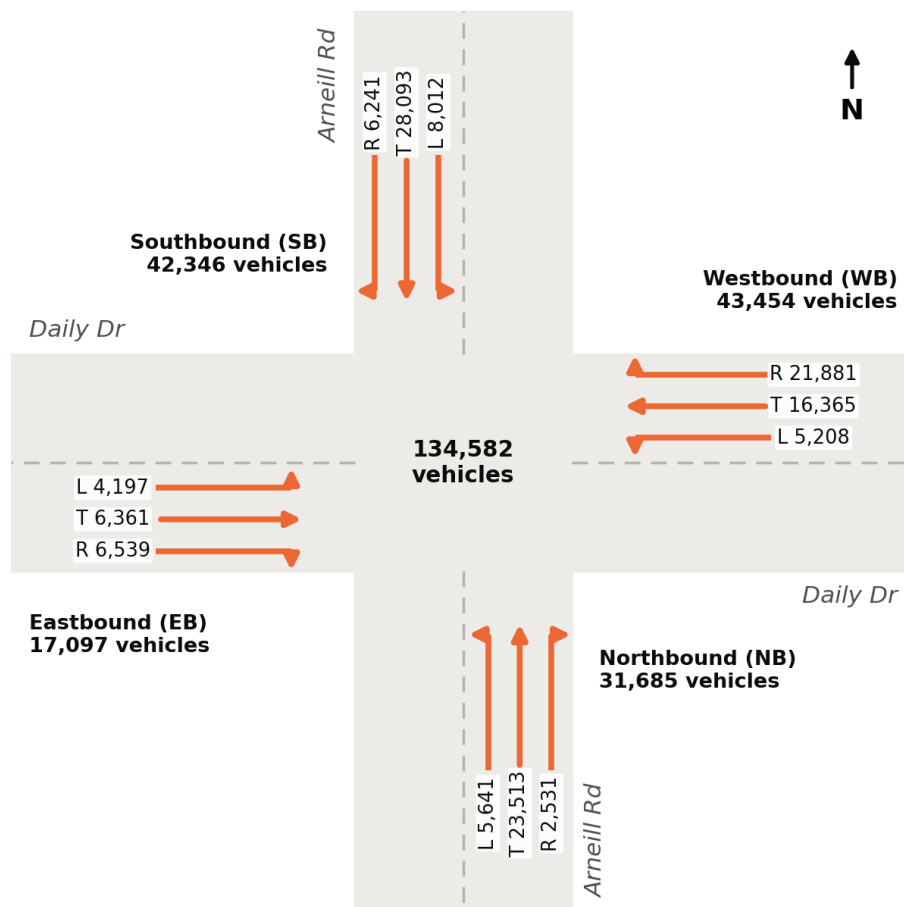


Figure 5. Arneill Rd & Daily Dr: turning movement diagram, five-day totals, 7:00 AM to 7:00 PM (L = left, T = through, R = right)

e. Hourly volume profile

Figure 6 plots hourly volume by movement type. The busiest hour is 4:00 PM (13,930) and the lightest is 7:00 AM (8,382); the busiest hour is 1.66 times the lightest.

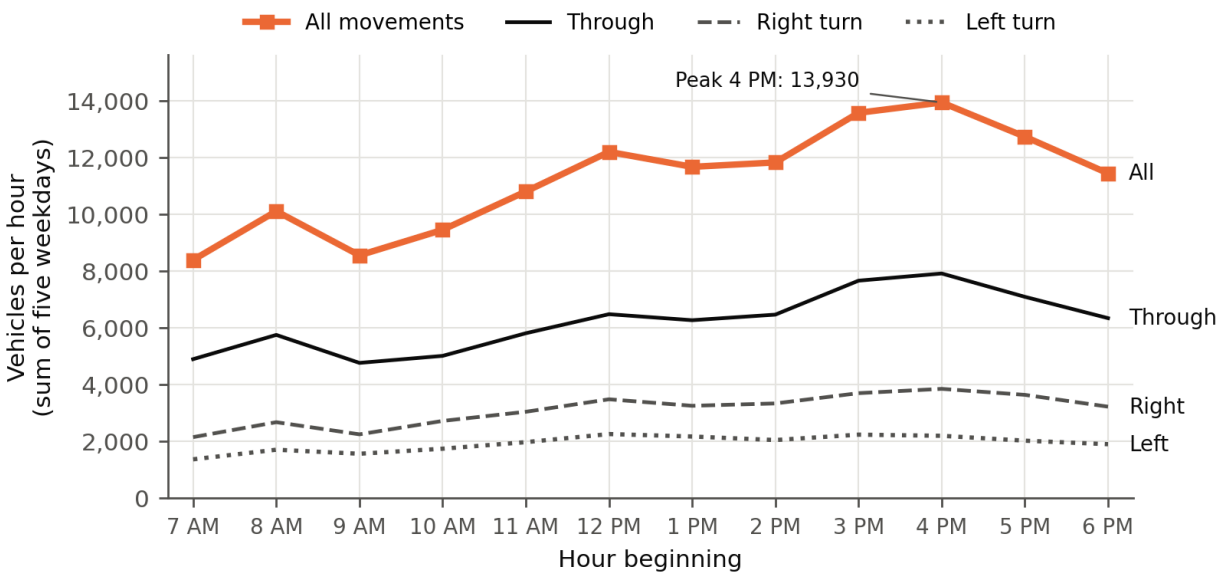


Figure 6. Arneill Rd & Daily Dr: hourly volume by movement type (five-weekday sums)

f. Hourly volumes by approach

Table 13 lists hourly volumes by approach. The westbound approach carries the most traffic (43,454).

Table 13. Arneill Rd & Daily Dr: hourly volumes by approach (five-weekday sums)

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,034	3,023	987	2,339	8,383
8:00 AM	2,228	3,616	1,147	3,109	10,100
9:00 AM	2,008	2,874	960	2,702	8,544
10:00 AM	2,207	3,112	1,121	3,003	9,443
11:00 AM	2,492	3,509	1,399	3,393	10,793
12:00 PM	2,694	3,864	1,742	3,889	12,189
1:00 PM	2,650	3,786	1,739	3,487	11,662
2:00 PM	2,829	3,689	1,511	3,788	11,817
3:00 PM	3,214	3,902	1,605	4,844	13,565
4:00 PM	3,367	4,068	1,588	4,907	13,930
5:00 PM	3,079	3,341	1,707	4,597	12,724
6:00 PM	2,884	3,562	1,591	3,396	11,433
Total	31,686	42,346	17,097	43,454	134,583

Approach data include minor movements, so the total (134,583) exceeds the movement total (134,582) by 1 (Section 2.4).

g. Peak hours

Table 14 gives the peak hours from a rolling 60-minute window averaged over the five weekdays. The PM peak hour (2,786 vph) is 28% higher than the AM peak hour (2,183 vph).

Table 14. Arneill Rd & Daily Dr: AM and PM peak hours (average weekday)

Period	Peak hour window	Volume (vph)
AM	7:45 to 8:45 AM	2,183
PM	4:00 to 5:00 PM	2,786

h. Critical movement discussion

Table 15 lists each movement's share of its approach. 6 movements exceed 30%: NBT (74.2%), SBT (66.3%), EBT (37.2%), EBR (38.2%), WBT (37.7%), WBR (50.4%). Through movements on Arneill Rd exceed 30% by nature of the arterial and do not by themselves indicate a phasing need. The turning movements above 30% are EBR, WBR.

Table 15. Arneill Rd & Daily Dr: movement share of approach volume (five-day totals)

Movement	Volume	Approach volume	Share of approach	Over 30%
NBL	5,641	31,685	17.8%	
NBT	23,513	31,685	74.2%	Yes
NBR	2,531	31,685	8.0%	
SBL	8,012	42,346	18.9%	
SBT	28,093	42,346	66.3%	Yes
SBR	6,241	42,346	14.7%	
EBL	4,197	17,097	24.5%	
EBT	6,361	17,097	37.2%	Yes
EBR	6,539	17,097	38.2%	Yes
WBL	5,208	43,454	12.0%	
WBT	16,365	43,454	37.7%	Yes
WBR	21,881	43,454	50.4%	Yes

Table 16. Arneill Rd & Daily Dr: left-turn phasing screening (average weekday vph)

Left turn	8:00 AM LT x opposing	4:00 PM LT x opposing	LT peak hour	Peak hour LT x opposing	Highest cross-product	Screening result
NBL	70 x 578	105 x 681	12:00 PM	121 x 620	75,096	Protected-permissive (FYA)
SBL	145 x 375	132 x 568	12:00 PM	153 x 418	75,256	Protected-permissive (FYA)
EBL	47 x 545	82 x 863	12:00 PM	93 x 696	70,626	Protected-permissive (FYA)
WBL	77 x 182	118 x 236	3:00 PM	126 x 241	30,414	Permissive

Opposing volume is the opposing through plus right-turn volume in the same hour. Hourly five-day sums divided by five.

Screening by approach: NBL peaks at 12:00 PM (121 vph against 620 opposing vph); highest cross-product 75,096: **protected-permissive (fya)**; SBL peaks at 12:00 PM (153 vph against 418 opposing vph); highest cross-product 75,256: **protected-permissive (fya)**; EBL peaks at 12:00 PM (93 vph against 696 opposing vph); highest cross-product 70,626: **protected-permissive (fya)**; WBL peaks at 3:00 PM (126 vph against 241 opposing vph); highest cross-product 30,414: **permissive**.

WBR (50.4%) and EBR (38.2%) are the critical movements. WBR averages 487 vph at 4:00 PM. A right-turn overlap with the southbound left-turn phase, if lane configuration allows, and a leading pedestrian interval on the north leg crosswalk (Section 7.2) should be evaluated.

NBL, SBL and EBL screen as protected-permissive FYA candidates, with peak cross-products near 70,000 to 75,000 at midday or 4:00 PM. WBL (12.0%) screens as permissive.

4.3 Arneill Rd & Pickwick Dr

a. Site description and approach naming

Arneill Rd & Pickwick Dr is a four-leg intersection. Arneill Rd forms the north and south legs and Pickwick Dr forms the east and west legs. Northbound (NB) traffic approaches on the south leg of Arneill Rd, southbound (SB) on the north leg, eastbound (EB) on the west leg of Pickwick Dr and westbound (WB) on the east leg. Five-day movement volume totals 114,567 vehicles, 23.5% of the corridor. Pickwick Dr is a mainline-dominant location: the Arneill Rd approaches carry 75.1% of entering vehicles. NBL is the largest left turn from Arneill Rd in the corridor.

The dataset does not describe lane configuration or existing signal phasing; both should be confirmed from City timing sheets and as-built plans before acting on the phasing screening below.

b. Hourly turning movements

Table 17 lists all 12 movements by hour with totals.

Table 17. Arneill Rd & Pickwick Dr: hourly turning movements (five-weekday sums)

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	261	2,279	244	218	2,437	163	43	121	141	306	138	282	6,633
8 AM	427	2,392	323	284	2,797	431	166	137	350	318	223	240	8,088
9 AM	517	2,029	352	288	2,044	483	361	190	484	276	222	212	7,458
10 AM	628	2,291	390	293	1,933	564	422	230	625	397	287	247	8,307
11 AM	823	2,461	382	265	2,172	679	490	294	752	423	321	295	9,357
12 PM	840	2,905	408	332	2,246	679	558	354	875	423	366	302	10,288
1 PM	725	2,833	416	331	2,261	634	596	387	735	395	361	281	9,955
2 PM	729	3,155	391	339	2,288	539	601	411	742	404	364	313	10,276
3 PM	826	3,758	507	337	2,590	645	575	347	774	391	376	359	11,485
4 PM	924	3,999	477	367	2,484	659	590	352	888	517	452	419	12,128
5 PM	862	3,805	329	286	2,513	739	533	312	844	390	364	371	11,348
6 PM	718	3,132	252	185	2,244	510	438	237	788	259	262	219	9,244
Total	8,280	35,039	4,471	3,525	28,009	6,725	5,373	3,372	7,998	4,499	3,736	3,540	114,567

Excludes minor movements (U-turns and bear or hard turns).

c. Hourly volumes by movement type

Table 18 groups the movements into all left turns (LT), all through (THRU) and all right turns (RT). Left turns are 18.9% of total volume, through movements 61.2% and right turns 19.8%.

Table 18. Arneill Rd & Pickwick Dr: hourly volumes by movement type (five-weekday sums)

Hour beginning	All LT	All THRU	All RT	Total	LT share
7:00 AM	828	4,975	830	6,633	12.5%
8:00 AM	1,195	5,549	1,344	8,088	14.8%
9:00 AM	1,442	4,485	1,531	7,458	19.3%
10:00 AM	1,740	4,741	1,826	8,307	20.9%
11:00 AM	2,001	5,248	2,108	9,357	21.4%
12:00 PM	2,153	5,871	2,264	10,288	20.9%
1:00 PM	2,047	5,842	2,066	9,955	20.6%
2:00 PM	2,073	6,218	1,985	10,276	20.2%
3:00 PM	2,129	7,071	2,285	11,485	18.5%
4:00 PM	2,398	7,287	2,443	12,128	19.8%
5:00 PM	2,071	6,994	2,283	11,348	18.2%
6:00 PM	1,600	5,875	1,769	9,244	17.3%
Total	21,677	70,156	22,734	114,567	18.9%
Share of total	18.9%	61.2%	19.8%	100.0%	

d. Turning movement diagram

Figure 7 shows the five-day movement totals on each approach.

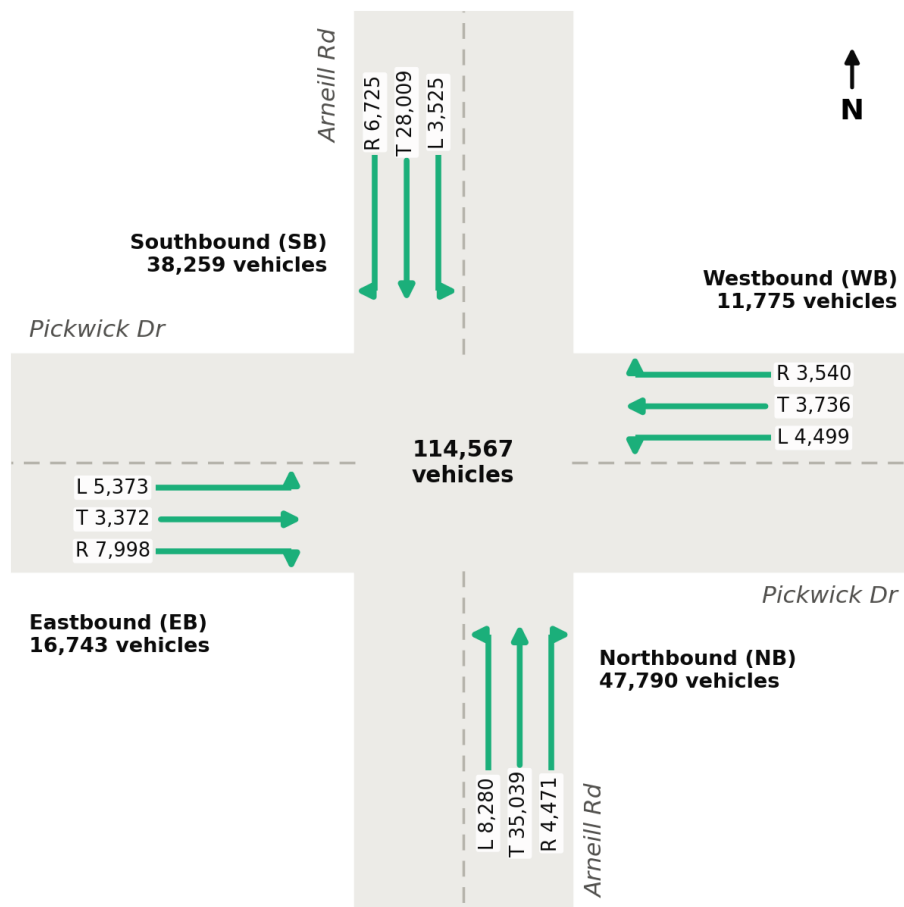


Figure 7. Arneill Rd & Pickwick Dr: turning movement diagram, five-day totals, 7:00 AM to 7:00 PM (L = left, T = through, R = right)

e. Hourly volume profile

Figure 8 plots hourly volume by movement type. The busiest hour is 4:00 PM (12,128) and the lightest is 7:00 AM (6,633); the busiest hour is 1.83 times the lightest.

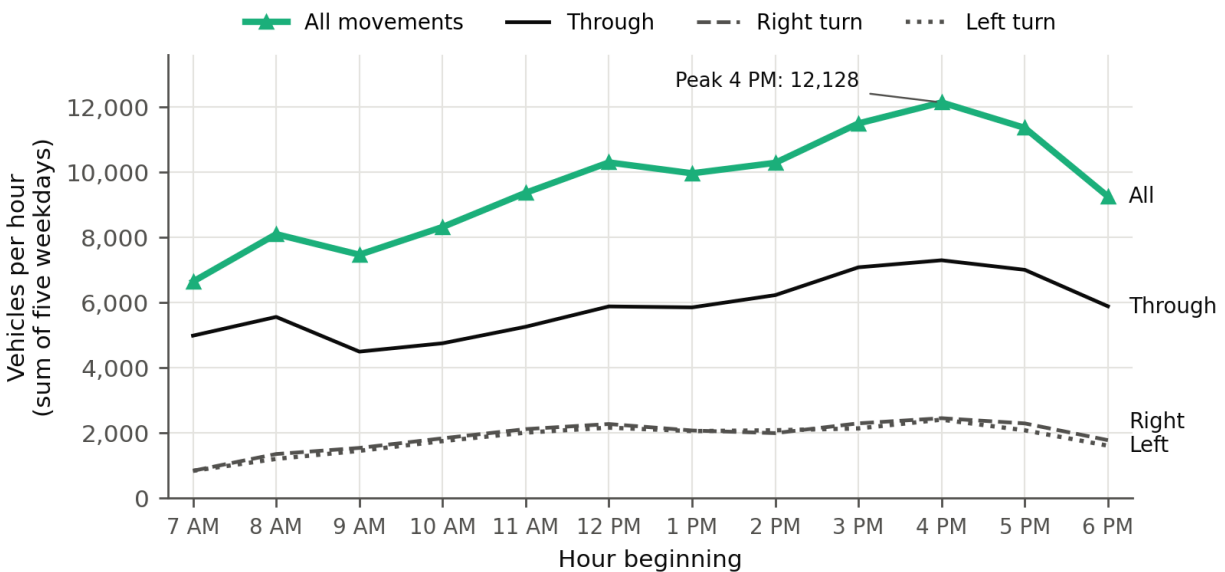


Figure 8. Arneill Rd & Pickwick Dr: hourly volume by movement type (five-weekday sums)

f. Hourly volumes by approach

Table 19 lists hourly volumes by approach. The northbound approach carries the most traffic (47,852).

Table 19. Arneill Rd & Pickwick Dr: hourly volumes by approach (five-weekday sums)

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,785	2,823	305	726	6,639
8:00 AM	3,150	3,522	653	781	8,106
9:00 AM	2,899	2,821	1,035	710	7,465
10:00 AM	3,316	2,797	1,277	931	8,321
11:00 AM	3,679	3,127	1,536	1,039	9,381
12:00 PM	4,160	3,269	1,787	1,091	10,307
1:00 PM	3,977	3,237	1,718	1,037	9,969
2:00 PM	4,278	3,176	1,754	1,081	10,289
3:00 PM	5,095	3,579	1,696	1,126	11,496
4:00 PM	5,409	3,520	1,830	1,388	12,147
5:00 PM	5,000	3,544	1,689	1,125	11,358
6:00 PM	4,104	2,948	1,463	740	9,255
Total	47,852	38,363	16,743	11,775	114,733

Approach data include minor movements, so the total (114,733) exceeds the movement total (114,567) by 166 (Section 2.4).

g. Peak hours

Table 20 gives the peak hours from a rolling 60-minute window averaged over the five weekdays. The PM peak hour (2,429 vph) is 38% higher than the AM peak hour (1,766 vph).

Table 20. Arneill Rd & Pickwick Dr: AM and PM peak hours (average weekday)

Period	Peak hour window	Volume (vph)
AM	7:45 to 8:45 AM	1,766
PM	4:00 to 5:00 PM	2,429

h. Critical movement discussion

Table 21 lists each movement's share of its approach. 7 movements exceed 30%: NBT (73.3%), SBT (73.2%), EBL (32.1%), EBR (47.8%), WBL (38.2%), WBT (31.7%), WBR (30.1%). Through movements on Arneill Rd exceed 30% by nature of the arterial and do not by themselves indicate a phasing need. The turning movements above 30% are EBL, EBR, WBL, WBR.

Table 21. Arneill Rd & Pickwick Dr: movement share of approach volume (five-day totals)

Movement	Volume	Approach volume	Share of approach	Over 30%
NBL	8,280	47,790	17.3%	
NBT	35,039	47,790	73.3%	Yes
NBR	4,471	47,790	9.4%	
SBL	3,525	38,259	9.2%	
SBT	28,009	38,259	73.2%	Yes
SBR	6,725	38,259	17.6%	
EBL	5,373	16,743	32.1%	Yes
EBT	3,372	16,743	20.1%	
EBR	7,998	16,743	47.8%	Yes
WBL	4,499	11,775	38.2%	Yes
WBT	3,736	11,775	31.7%	Yes
WBR	3,540	11,775	30.1%	Yes

Table 22. Arneill Rd & Pickwick Dr: left-turn phasing screening (average weekday vph)

Left turn	8:00 AM LT x opposing	4:00 PM LT x opposing	LT peak hour	Peak hour LT x opposing	Highest cross-product	Screening result
NBL	85 x 646	185 x 629	4:00 PM	185 x 629	116,165	Protected-only (evaluate)
SBL	57 x 543	73 x 895	4:00 PM	73 x 895	65,708	Protected-permissive (FYA)
EBL	33 x 93	118 x 174	2:00 PM	120 x 135	20,556	Permissive
WBL	64 x 97	103 x 248	4:00 PM	103 x 248	25,643	Permissive

Opposing volume is the opposing through plus right-turn volume in the same hour. Hourly five-day sums divided by five.

Screening by approach: NBL peaks at 4:00 PM (185 vph against 629 opposing vph); highest cross-product 116,165: **protected-only (evaluate)**; SBL peaks at 4:00 PM (73 vph against 895 opposing vph); highest cross-product 65,708: **protected-permissive (fya)**; EBL peaks at 2:00 PM (120 vph against 135 opposing vph); highest cross-product 20,556: **permissive**; WBL peaks at 4:00 PM (103 vph against 248 opposing vph); highest cross-product 25,643: **permissive**.

NBL averages 185 vph against 629 opposing vph at 4:00 PM (cross-product 116,165), above the three-lane threshold. Protected-only phasing should be evaluated. SBL screens as a protected-permissive FYA candidate (65,708 at 4:00 PM).

All three westbound movements exceed 30% of a small approach (11,775), as do EBL (32.1%) and EBR (47.8%). The cross-street left turns have low opposing volumes and screen as permissive; their high shares reflect the turning character of the cross street rather than a phasing need.

4.4 Arneill Rd & Barry St

a. Site description and approach naming

Arneill Rd & Barry St is a four-leg intersection. Arneill Rd forms the north and south legs and Barry St forms the east and west legs. Northbound (NB) traffic approaches on the south leg of Arneill Rd, southbound (SB) on the north leg, eastbound (EB) on the west leg of Barry St and westbound (WB) on the east leg. Five-day movement volume totals 102,790 vehicles, 21.0% of the corridor. Barry St has the lowest total volume but the highest Arneill Rd through volumes: NBT and SBT together are 76.3% of entering vehicles. The cross street is light. Two patterns at this location (Section 8) should be verified before its data are used for phasing decisions.

The dataset does not describe lane configuration or existing signal phasing; both should be confirmed from City timing sheets and as-built plans before acting on the phasing screening below.

b. Hourly turning movements

Table 23 lists all 12 movements by hour with totals.

Table 23. Arneill Rd & Barry St: hourly turning movements (five-weekday sums)

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	200	2,625	129	83	2,609	95	71	36	195	181	76	202	6,502
8 AM	209	3,050	182	129	3,153	127	146	55	268	172	125	151	7,767
9 AM	107	2,780	157	97	2,436	164	177	56	278	169	120	123	6,664
10 AM	129	3,154	175	119	2,509	189	205	77	401	147	145	150	7,400
11 AM	158	3,399	171	125	2,925	218	296	81	491	150	178	207	8,399
12 PM	129	3,766	170	108	3,100	204	350	113	514	170	205	237	9,066
1 PM	124	3,566	173	130	3,087	219	349	83	508	158	169	218	8,784
2 PM	189	3,788	140	131	3,049	169	326	85	457	164	155	247	8,900
3 PM	450	4,446	183	133	3,324	173	318	93	462	162	163	240	10,147
4 PM	553	4,658	193	158	3,382	160	339	94	470	169	176	283	10,635
5 PM	486	4,324	188	350	2,764	375	331	178	423	145	142	201	9,907
6 PM	468	3,639	172	90	2,907	150	271	95	419	120	126	162	8,619
Total	3,202	43,195	2,033	1,653	35,245	2,243	3,179	1,046	4,886	1,907	1,780	2,421	102,790

Excludes minor movements (U-turns and bear or hard turns).

c. Hourly volumes by movement type

Table 24 groups the movements into all left turns (LT), all through (THRU) and all right turns (RT). Left turns are 9.7% of total volume, through movements 79.1% and right turns 11.3%.

Table 24. Arneill Rd & Barry St: hourly volumes by movement type (five-weekday sums)

Hour beginning	All LT	All THRU	All RT	Total	LT share
7:00 AM	535	5,346	621	6,502	8.2%
8:00 AM	656	6,383	728	7,767	8.4%
9:00 AM	550	5,392	722	6,664	8.3%
10:00 AM	600	5,885	915	7,400	8.1%
11:00 AM	729	6,583	1,087	8,399	8.7%
12:00 PM	757	7,184	1,125	9,066	8.3%
1:00 PM	761	6,905	1,118	8,784	8.7%
2:00 PM	810	7,077	1,013	8,900	9.1%
3:00 PM	1,063	8,026	1,058	10,147	10.5%
4:00 PM	1,219	8,310	1,106	10,635	11.5%
5:00 PM	1,312	7,408	1,187	9,907	13.2%
6:00 PM	949	6,767	903	8,619	11.0%
Total	9,941	81,266	11,583	102,790	9.7%
Share of total	9.7%	79.1%	11.3%	100.0%	

d. Turning movement diagram

Figure 9 shows the five-day movement totals on each approach.

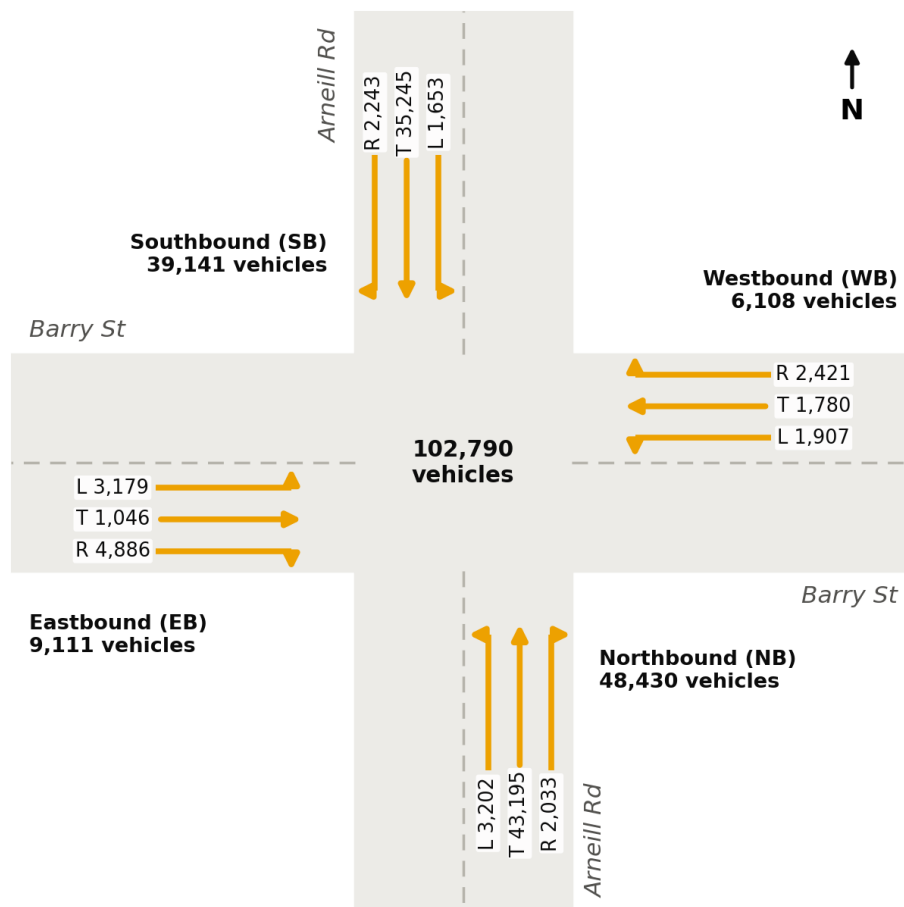


Figure 9. Arneill Rd & Barry St: turning movement diagram, five-day totals, 7:00 AM to 7:00 PM (L = left, T = through, R = right)

e. Hourly volume profile

Figure 10 plots hourly volume by movement type. The busiest hour is 4:00 PM (10,635) and the lightest is 7:00 AM (6,502); the busiest hour is 1.64 times the lightest.

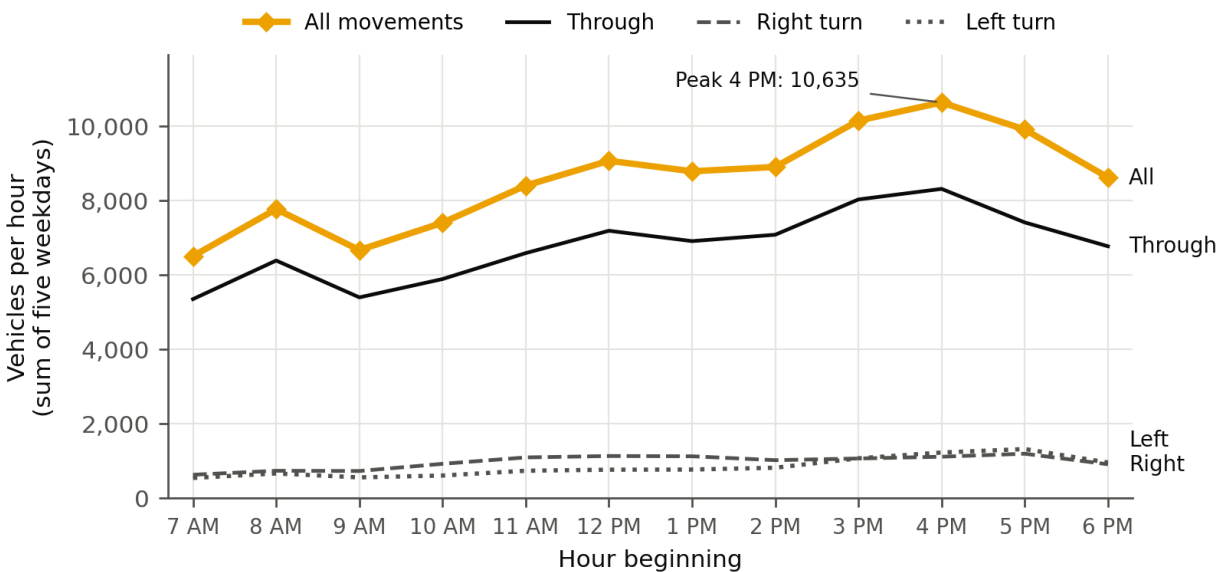


Figure 10. Arneill Rd & Barry St: hourly volume by movement type (five-weekday sums)

f. Hourly volumes by approach

Table 25 lists hourly volumes by approach. The northbound approach carries the most traffic (48,433).

Table 25. Arneill Rd & Barry St: hourly volumes by approach (five-weekday sums)

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,954	2,788	302	459	6,503
8:00 AM	3,442	3,409	469	448	7,768
9:00 AM	3,044	2,699	511	412	6,666
10:00 AM	3,458	2,818	683	442	7,401
11:00 AM	3,729	3,269	868	535	8,401
12:00 PM	4,065	3,414	977	612	9,068
1:00 PM	3,864	3,438	940	545	8,787
2:00 PM	4,117	3,349	868	566	8,900
3:00 PM	5,079	3,631	874	565	10,149
4:00 PM	5,404	3,702	903	628	10,637
5:00 PM	4,998	3,489	932	488	9,907
6:00 PM	4,279	3,148	785	408	8,620
Total	48,433	39,154	9,112	6,108	102,807

Approach data include minor movements, so the total (102,807) exceeds the movement total (102,790) by 17 (Section 2.4).

g. Peak hours

Table 26 gives the peak hours from a rolling 60-minute window averaged over the five weekdays. The PM peak hour (2,127 vph) is 27% higher than the AM peak hour (1,669 vph).

Table 26. Arneill Rd & Barry St: AM and PM peak hours (average weekday)

Period	Peak hour window	Volume (vph)
AM	7:45 to 8:45 AM	1,669
PM	4:00 to 5:00 PM	2,127

h. Critical movement discussion

Table 27 lists each movement's share of its approach. 6 movements exceed 30%: NBT (89.2%), SBT (90.0%), EBL (34.9%), EBR (53.6%), WBL (31.2%), WBR (39.6%). Through movements on Arneill Rd exceed 30% by nature of the arterial and do not by themselves indicate a phasing need. The turning movements above 30% are EBL, EBR, WBL, WBR.

Table 27. Arneill Rd & Barry St: movement share of approach volume (five-day totals)

Movement	Volume	Approach volume	Share of approach	Over 30%
NBL	3,202	48,430	6.6%	
NBT	43,195	48,430	89.2%	Yes
NBR	2,033	48,430	4.2%	
SBL	1,653	39,141	4.2%	
SBT	35,245	39,141	90.0%	Yes
SBR	2,243	39,141	5.7%	
EBL	3,179	9,111	34.9%	Yes
EBT	1,046	9,111	11.5%	
EBR	4,886	9,111	53.6%	Yes
WBL	1,907	6,108	31.2%	Yes
WBT	1,780	6,108	29.1%	
WBR	2,421	6,108	39.6%	Yes

Table 28. Arneill Rd & Barry St: left-turn phasing screening (average weekday vph)

Left turn	8:00 AM LT x opposing	4:00 PM LT x opposing	LT peak hour	Peak hour LT x opposing	Highest cross-product	Screening result
NBL	42 x 656	111 x 708	4:00 PM	111 x 708	78,349	Protected-permissive (FYA)
SBL	26 x 646	32 x 970	5:00 PM	70 x 902	63,168	Protected-permissive (FYA)
EBL	29 x 55	68 x 92	12:00 PM	70 x 88	6,224	Permissive
WBL	34 x 65	34 x 113	7:00 AM	36 x 46	3,813	Permissive

Opposing volume is the opposing through plus right-turn volume in the same hour. Hourly five-day sums divided by five.

Screening by approach: NBL peaks at 4:00 PM (111 vph against 708 opposing vph); highest cross-product 78,349: **protected-permissive (fya)**; SBL peaks at 5:00 PM (70 vph against 902 opposing vph); highest cross-product 63,168: **protected-permissive (fya)**; EBL peaks at 12:00 PM (70 vph against 88 opposing vph); highest cross-product 6,224: **permissive**; WBL peaks at 7:00 AM (36 vph against 46 opposing vph); highest cross-product 3,813: **permissive**.

NBL screens as protected-permissive (78,349 at 4:00 PM) and SBL reaches 63,168 only in the 5:00 PM hour. Both results depend on the patterns flagged in Section 8, items (c) and (d). Excluding the 5:00 PM hour, SBL screens as permissive. These results are provisional until verified.

EBL (34.9%), EBR (53.6%), WBL (31.2%) and WBR (39.6%) exceed 30% of very light approaches (9,111 EB, 6,108 WB). Opposing volumes are low and the cross-street left turns screen as permissive.

5. Peak Hour and Coordination Assessment

5.1 Peak Hour Alignment

Table 29 compares peak hours. All four intersections share the 4:00 to 5:00 PM peak hour. AM peak hours begin at 7:30 AM (Ponderosa) or 7:45 AM (the other three), so the AM peaks overlap by 45 minutes. The 4:00 PM hour is also the highest five-day hour at each location in the hourly data, and the 3:00 PM and 5:00 PM hours are each within 10% of it at every site, which indicates a sustained PM period rather than a sharp spike.

Table 29. Peak hour summary (average weekday)

Intersection	AM peak window	AM vph	PM peak window	PM vph	PM / AM
Arneill Rd & Ponderosa Dr	7:30 to 8:30 AM	2,479	4:00 to 5:00 PM	2,832	1.14
Arneill Rd & Daily Dr	7:45 to 8:45 AM	2,183	4:00 to 5:00 PM	2,786	1.28
Arneill Rd & Pickwick Dr	7:45 to 8:45 AM	1,766	4:00 to 5:00 PM	2,429	1.38
Arneill Rd & Barry St	7:45 to 8:45 AM	1,669	4:00 to 5:00 PM	2,127	1.27

5.2 Suitability of a Common Cycle Length

The shared PM peak hour and closely aligned AM peaks support coordinating the four signals on a common cycle length within each time-of-day plan. The volume data alone cannot confirm that one cycle length serves all four locations well, for two reasons. First, cross-street demand differs widely: EB plus WB volume is 45.3% of entering traffic at Ponderosa Dr and 45.0% at Daily Dr, but 24.9% at Pickwick Dr and 14.8% at Barry St. Ponderosa and Daily are therefore likely to govern the common cycle length, while Pickwick and Barry may have surplus mainline green that could be reallocated or used for wider progression bands. Second, choosing a cycle length requires critical lane volumes, saturation flow, lost time, pedestrian minimums and intersection spacing, none of which are in this dataset.

The recommended next step is a corridor timing model (for example, Synchro or equivalent) built from these counts, field-verified lane geometry, spacing, posted speeds and current timing sheets. The model should test one common cycle length per plan and identify whether any location is better served by half-cycling or running free in off-peak periods, following the process in the *Signal Timing Manual*, Second Edition, Chapters 6 and 7.

5.3 Progression Priority by Period

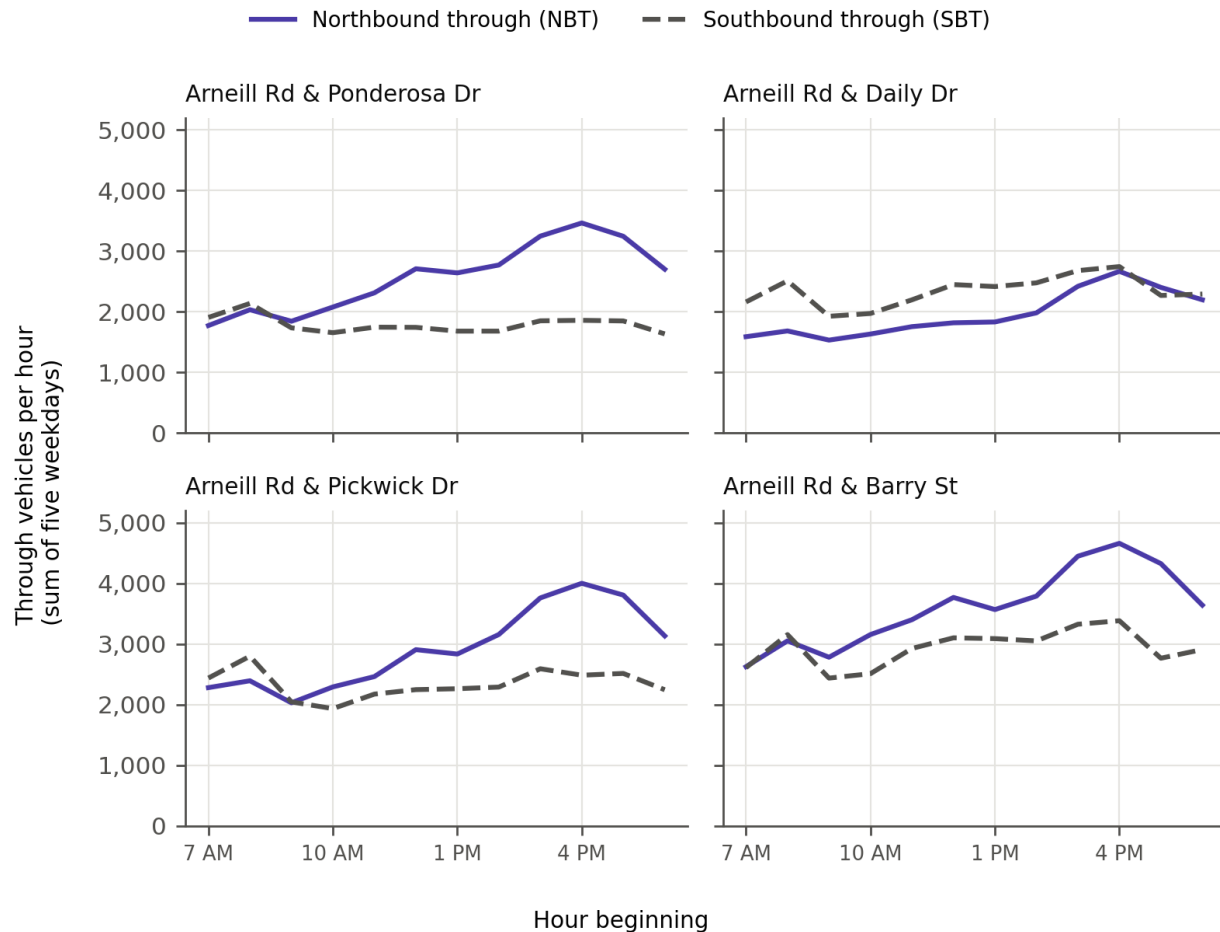
Table 30 and Figure 11 compare Arneill Rd through volumes by direction. Southbound through traffic is higher in the AM period at all four intersections; northbound through traffic is higher in the midday and PM periods at Ponderosa, Pickwick and Barry. Daily Dr is close to balanced in the PM. On this basis:

- **AM (7:00 to 9:00 AM):** southbound priority. Corridor SBT exceeds NBT by 13%.
- **Midday (11:00 AM to 2:00 PM):** NBT exceeds SBT by 14% corridor-wide, but Daily Dr favors southbound. A balanced, two-way progression is recommended.
- **PM (3:00 to 7:00 PM):** northbound priority. Corridor NBT exceeds SBT by 37%.

Table 30. Arneill Rd through volume by direction and period (five-weekday sums)

Intersection	AM NBT	AM SBT	Midday NBT	Midday SBT	PM NBT	PM SBT
Arneill Rd & Ponderosa Dr	3,807	4,044	7,662	5,170	12,658	7,194
Arneill Rd & Daily Dr	3,273	4,672	5,405	7,061	9,687	9,985
Arneill Rd & Pickwick Dr	4,671	5,234	8,199	6,679	14,694	9,831
Arneill Rd & Barry St	5,675	5,762	10,731	9,112	17,067	12,377
Corridor	17,426	19,712	31,997	28,022	54,106	39,387

AM = 7:00 to 9:00 AM; Midday = 11:00 AM to 2:00 PM; PM = 3:00 to 7:00 PM. The favored direction in each period is higher at the intersections listed in the text.

**Figure 11. Arneill Rd northbound and southbound through volume by hour**

Through volumes change from one intersection to the next (for example, PM NBT is lower at Daily Dr than at Pickwick Dr or Ponderosa Dr), which reflects traffic entering and leaving at the cross streets. The order and spacing of the intersections along Arneill Rd are not part of this dataset and are needed to design offsets.

Time-of-day plan boundaries should reflect the observed profile: an AM plan covering at least 7:30 to 8:45 AM, a midday plan from about 11:00 AM, and a PM plan starting by 3:00 PM and extending past 6:00 PM, since 6:00 PM volumes remain higher than any AM hour. Evening volumes after 7:00 PM were not counted.

6. Vehicle Classification

Table 31 summarizes vehicle classes. Truck share is single-unit plus articulated trucks; heavy share is bus plus articulated trucks, as specified for this study. Both are computed on motorized vehicles (light vehicles, trucks and buses), excluding bicycles. Figure 12 compares the two shares.

Table 31. Vehicle classification, five-day totals, 7:00 AM to 7:00 PM

Intersection	Light	Single-unit truck	Articulated truck	Bus	Bicycle	Motorized total	Truck %	Heavy %
Ponderosa Dr	134,817	849	158	399	428	136,223	0.74%	0.41%
Daily Dr	132,436	1,249	252	301	345	134,238	1.12%	0.41%
Pickwick Dr	113,343	780	162	277	277	114,562	0.82%	0.38%
Barry St	101,058	985	205	242	316	102,490	1.16%	0.44%
Corridor	481,654	3,863	777	1,219	1,366	487,513	0.95%	0.41%

Truck % = (single-unit + articulated) / motorized total. Heavy % = (bus + articulated) / motorized total.

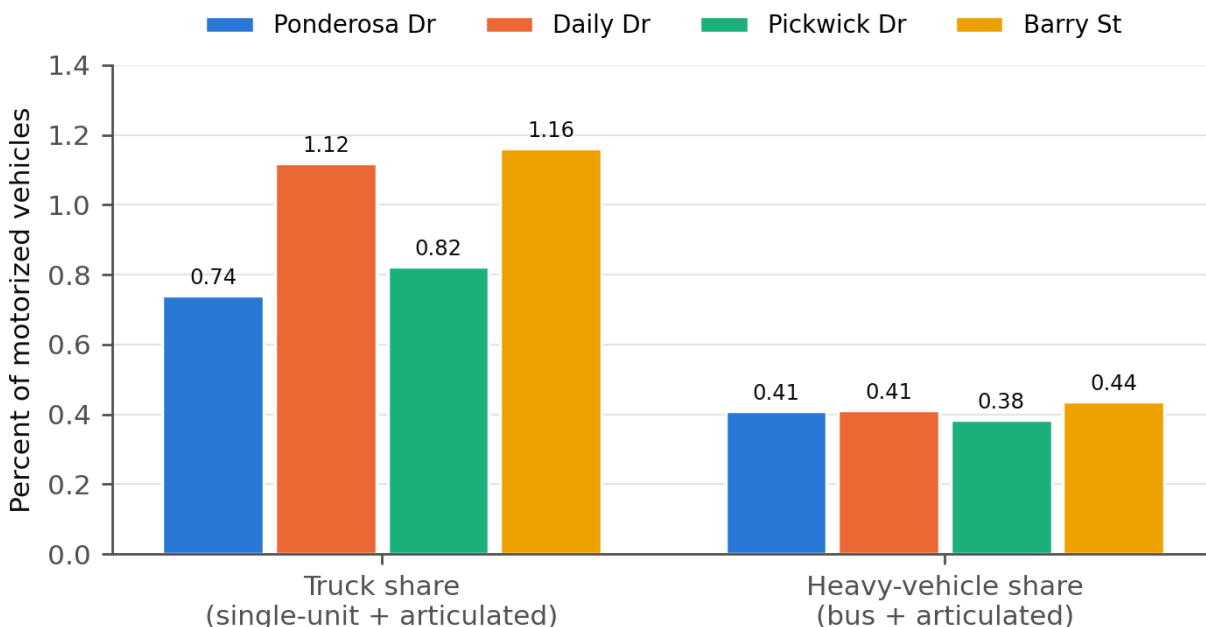


Figure 12. Truck and heavy-vehicle share by intersection

Truck share is low throughout, from 0.74% at Ponderosa Dr to 1.16% at Barry St, with Daily Dr close behind (1.12%). Daily Dr has the most articulated trucks (252). Heavy share is between 0.38% and 0.44% at all four sites.

Saturation flow. Signalized intersection capacity methods reduce the base saturation flow rate for heavy vehicles. With all heavy vehicles (single-unit, articulated and bus) at about 1.0% to 1.4% of motorized traffic and a passenger car equivalent of 2.0, the heavy-vehicle adjustment reduces saturation flow by roughly 1%. Default heavy-vehicle percentages in a timing model (often 2%) would slightly understate capacity on this corridor; the observed values should be used instead, by approach where available.

Clearance intervals. Yellow change and red clearance intervals are set from approach speed, grade and intersection width under the California MUTCD, Section 4D.26, and the ITE kinematic method. At these truck shares, vehicle mix does not by itself indicate a need for longer intervals. Clearance intervals should

still be verified against current posted speeds and measured crossing widths as part of the timing update, particularly at Daily Dr where articulated truck volume is highest. Truck turning paths and dilemma zone exposure cannot be assessed from this dataset.

7. Pedestrian and Bicycle Activity

7.1 Pedestrian Crossings

A total of 3,441 crosswalk crossings were recorded over five weekdays (Table 32, Figure 13). Ponderosa Dr has the most (969); the other three sites are within 39 crossings of each other. The busiest single legs are the Daily Dr west leg (339), the Ponderosa Dr east leg (301) and the Barry St north leg (300). The Daily Dr south leg recorded only 30 crossings, which is reviewed in Section 8.

Table 32. Pedestrian crossings by crosswalk leg (five-day totals)

Intersection	North leg	South leg	East leg	West leg	Total	Avg per weekday
Arneill Rd & Ponderosa Dr	174	228	301	266	969	194
Arneill Rd & Daily Dr	180	30	268	339	817	163
Arneill Rd & Pickwick Dr	148	240	182	238	808	162
Arneill Rd & Barry St	300	150	160	237	847	169
Corridor	802	648	911	1,080	3,441	688

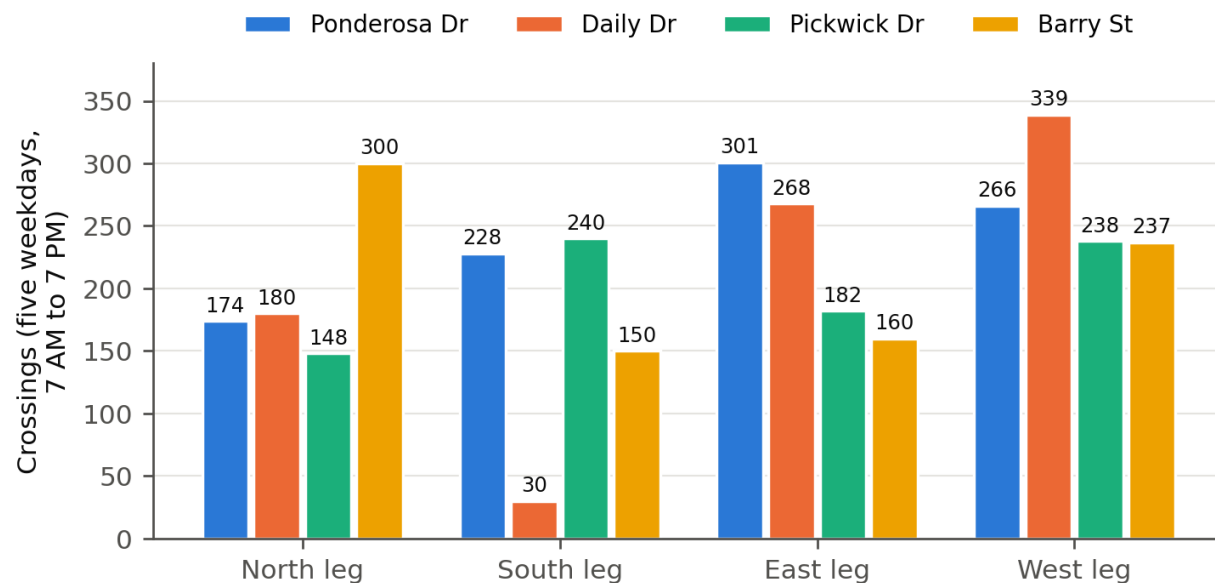


Figure 13. Pedestrian crossings by crosswalk leg (five-day totals)

Figure 14 shows crossings by hour. Daily Dr has two pronounced peaks, 119 crossings at 7:00 AM and 145 at 3:00 PM, against 38 to 94 in other hours. These times are consistent with school arrival and dismissal periods, but the dataset does not identify trip purpose. Ponderosa Dr is highest in the afternoon and early evening (112 at 2:00 PM, 100 at 6:00 PM), and Barry St and Pickwick Dr peak at 4:00 PM (100 and 104). Hourly crossings are not reported by leg.

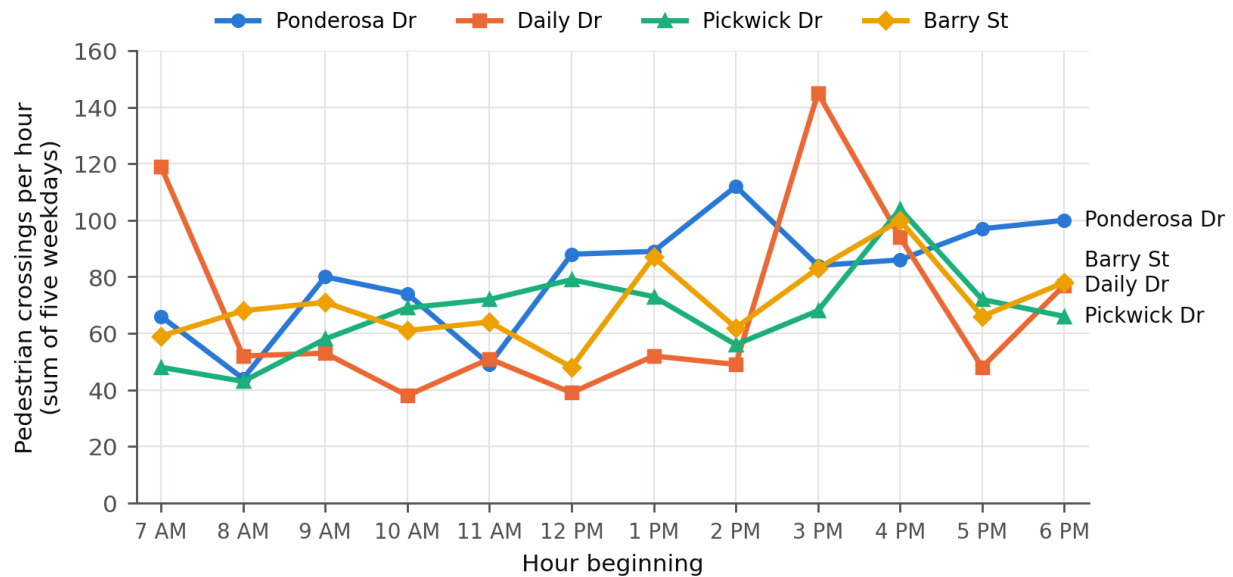


Figure 14. Pedestrian crossings by hour (five-weekday sums, all legs)

7.2 Turning Vehicle Conflicts at Crosswalks

Table 33 pairs each crosswalk with the turning movements that cross it while pedestrians walk parallel to the concurrent through phase. The largest exposure is the Daily Dr north leg: 180 crossings against 26,078 turning vehicles, mostly WBR. The Ponderosa Dr south leg (228 crossings; 17,218 vehicles, mostly WBL) and the Ponderosa Dr east leg (301 crossings; 12,821 vehicles) follow. Whether left turns conflict depends on the existing phasing, which is not in the dataset.

Table 33. Crosswalk crossings and conflicting turning volumes (five-day totals)

Intersection	Leg	Crossings	Conflicting turns	Turning vehicles
Arneill Rd & Ponderosa Dr	North	174	WBR + EBL	12,089
	South	228	EBR + WBL	17,218
	East	301	NBR + SBL	12,821
	West	266	SBR + NBL	9,641
Arneill Rd & Daily Dr	North	180	WBR + EBL	26,078
	South	30	EBR + WBL	11,747
	East	268	NBR + SBL	10,543
	West	339	SBR + NBL	11,882
Arneill Rd & Pickwick Dr	North	148	WBR + EBL	8,913
	South	240	EBR + WBL	12,497
	East	182	NBR + SBL	7,996
	West	238	SBR + NBL	15,005
Arneill Rd & Barry St	North	300	WBR + EBL	5,600
	South	150	EBR + WBL	6,793
	East	160	NBR + SBL	3,686
	West	237	SBR + NBL	5,445

Right turns on red and permissive left turns are assumed possible; actual exposure depends on phasing and turn restrictions in the field.

Pedestrian clearance times should be verified on every leg against measured crossing distances, using the California MUTCD, Section 4E.06 walking speed of 3.5 feet per second (3.0 feet per second where slower).

pedestrians are expected), with particular attention to the Daily Dr and Ponderosa Dr crossings that carry the school-period and afternoon peaks. A leading pedestrian interval should be evaluated on the Daily Dr north leg.

7.3 Bicycle Activity

The classification data recorded 1,366 bicycles over five weekdays (Figure 15): Ponderosa Dr 428, Daily Dr 345, Barry St 316 and Pickwick Dr 277. That is about 0.2% to 0.3% of vehicles counted at each location, or roughly 55 to 86 bicycles per weekday per intersection. Hourly and movement-level bicycle data are not part of this dataset, so bicycle peaks and routes cannot be determined. Bicycle minimum green and detection should be confirmed on the cross-street approaches, where short actuated greens are most likely.

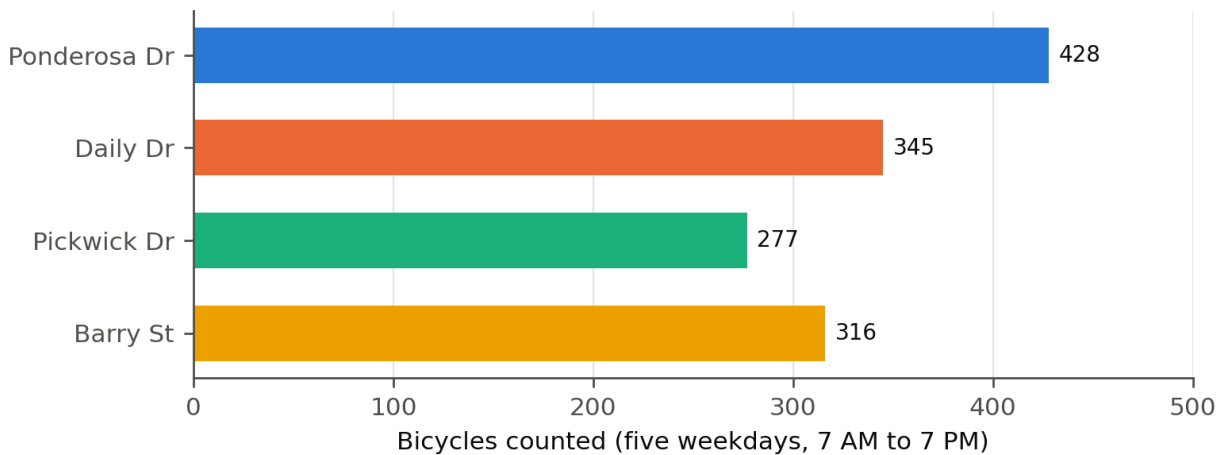


Figure 15. Bicycles counted by intersection (five-day totals)

8. Data Quality Review

Four patterns in the data differ enough from their context to warrant verification. None is characterized here as a confirmed error: each could reflect real traffic behavior, a temporary event, or a detection or classification issue. Table 34 summarizes them. The reconciliation items in Section 2.4 should be reviewed with the vendor at the same time.

Table 34. Data anomalies for verification

Item	Location / time	Observation	Recommended verification
(a)	Daily Dr south crosswalk	30 crossings vs. 180 to 339 on other legs	Field check, ped zone audit, video sample, controller ped logs
(b)	Daily Dr, Wednesday 5:00 PM	2,120 vs. 2,563 to 2,769 on other weekdays	15-minute bins, video review, device health log, incident records
(c)	Barry St, SB approach 5:00 PM	SBL and SBR about double; SBT drops 618 from 4:00 PM	Daily 15-minute data, video review, SB zone audit
(d)	Barry St NBL, 3:00 PM onward	450 to 553 per hour vs. 107 to 189 midday	Video review across 2:00 to 4:00 PM, zone audit, detector counts

(a) Daily Dr south crosswalk leg

The south leg recorded 30 crossings in five days (6 per weekday), compared with 180 (north), 268 (east) and 339 (west). No other leg in the corridor recorded fewer than 148. Possible explanations include a closed or unmarked crosswalk or a crossing prohibition on that leg, land use that generates little demand on that side, or a pedestrian detection zone that does not cover the full crosswalk.

- Confirm in the field whether the south leg crosswalk is marked, signalized and open, and whether pedestrian signal heads and push buttons are present.
- Audit the Miovision pedestrian zone for the south crosswalk (placement, extent and camera view obstruction).
- Review video for a sample of peak pedestrian hours (7:00 AM and 3:00 PM) and compare with the recorded count.
- Compare with controller pedestrian actuation logs for the phase serving that crosswalk, if logging is available.

(b) Daily Dr, Wednesday 5:00 PM hour

Daily Dr recorded 2,120 vehicles in the 5:00 PM hour on Wednesday, September 16, against 2,563 to 2,769 on the other weekdays (average 2,651), a difference of 20%. Adjacent Wednesday hours at Daily Dr are within the normal range (2,724 at 3:00 PM; 2,267 at 6:00 PM). Barry St was also lower that hour (1,807 vs. 1,984 to 2,071), and Pickwick Dr recorded its lowest 5:00 PM value of the week (2,181 vs. 2,255 to 2,394), while Ponderosa Dr was normal (2,662). A partial corridor pattern suggests a real event such as an incident, but a detection interruption at Daily Dr cannot be excluded.

- Review the four 15-minute bins for Wednesday 5:00 to 6:00 PM at Daily Dr to find whether the drop is concentrated in one interval (suggesting an outage) or spread across the hour.
- Review video for that hour and check the Miovision device health and uptime log.
- Check police computer-aided dispatch, City work permit and signal maintenance records for that afternoon.

(c) Barry St southbound approach, 5:00 PM hour

In the 5:00 PM hour, SBL is 350 versus 158 at 4:00 PM and 90 at 6:00 PM, and SBR is 375 versus 160 and 150. SBT falls to 2,764, which is 618 below 4:00 PM and 143 below 6:00 PM. The southbound approach total (3,489) stays between its neighbors (3,700 and 3,147), so the change is a redistribution among movements rather than a loss of vehicles. EBT also rises that hour (178 vs. 94 and 95). A redistribution of this kind is consistent with through vehicles being assigned to turning movements, but a real diversion (for example, around a downstream blockage) is also possible. Because the values are five-day sums, it is not known whether one day or all five contributed.

- Extract movement counts by day and 15-minute bin for Barry St, 4:00 to 7:00 PM, to see whether the pattern is one day or recurring.
- Review video for the 5:00 PM hour on the contributing day or days and compare with the classified movements.
- Audit the southbound entry and exit zones and the movement classification configuration.

(d) Barry St northbound left turn from 3:00 PM

NBL at Barry St is 200 and 209 in the 7:00 and 8:00 AM hours and 107 to 189 from 9:00 AM through 2:00 PM, then rises to 450, 553, 486 and 468 from 3:00 PM through 6:00 PM, roughly three times the midday level. NBT rises only about 17% over the same transition (3,788 to 4,446). The step is abrupt at the 3:00 PM hour boundary. This could reflect a real afternoon demand to the west on Barry St, or a change in classification such as through vehicles or U-turns counted as left turns when queues form.

- Review video spanning 2:00 to 4:00 PM on at least two days and count NBL manually for comparison.
- Audit the NBL zone placement relative to the northbound through lanes and any queue spillback into the left-turn pocket.
- Check whether a time-of-day timing plan or detection configuration change takes effect near 3:00 PM.
- Compare with NBL phase detector actuation counts from the controller, if available.

Until items (c) and (d) are verified, the Barry St NBL and SBL screening results in Section 4.4 should be treated as provisional.

9. Findings and Recommendations

9.1 Key Findings

- The corridor carried 488,529 vehicles in 60 weekday hours at four intersections; Ponderosa Dr and Daily Dr together carry 55.5%.
- All four intersections peak from 4:00 to 5:00 PM; AM peaks fall between 7:30 and 8:45 AM. Friday is the highest day at every location.
- Southbound through traffic dominates the AM period and northbound through traffic dominates the PM period.
- Ponderosa Dr WBL (13,400; 42.0% of its approach) and Pickwick Dr NBL (8,280) exceed the protected-only screening threshold in their peak hours. Daily Dr WBR (21,881; 50.4% of its approach) is the largest turning movement.
- Truck share is 0.74% to 1.16% and heavy share is 0.38% to 0.44%; vehicle mix is not a controlling factor for saturation flow or clearance intervals.
- Four data patterns (Section 8) and three reconciliation items (Section 2.4) require verification.

9.2 Recommendations

Recommendations are numbered in priority order and grouped by topic in Table 35. Effort is relative: low (staff hours, no model), medium (field work or a focused engineering review), high (corridor model or design). Responsible parties are functional roles within the Traffic Division; the vendor is Miovision.

Table 35. Prioritized recommendations

No.	Recommendation	Responsible party	Effort
Data quality follow-up			
1	Verify anomalies (a) to (d) using video review, detection zone audits and 15-minute data as described in Section 8. Complete before these counts are used for timing or phasing.	Signal Operations; Miovision support	Low
2	Resolve reconciliation items: confirm why approach tables include minor movements and why classification totals differ at Pickwick Dr (+106) and Barry St (-1); document export settings.	Signal Operations; Miovision	Low
Signal timing and coordination			
3	Build a corridor timing model with verified lane geometry, spacing, speeds and current timing; evaluate a common cycle length per plan (Signal Timing Manual, Chapters 6 and 7). Report delay and level of service from the model, not from these counts.	Traffic Engineering	High
4	Set progression priority southbound in the AM plan, balanced two-way at midday, and northbound in the PM plan.	Traffic Engineering	Medium
5	Align time-of-day plan boundaries with the observed profile: AM covering 7:30 to 8:45 AM; PM starting by 3:00 PM and running past 6:00 PM. Collect counts after 7:00 PM to set the end of the PM plan.	Signal Operations	Low
6	Use observed heavy-vehicle percentages (about 1.0% to 1.4%) in the model rather than defaults, and verify yellow change and red clearance intervals under California MUTCD Section 4D.26.	Traffic Engineering	Low
Left-turn phasing			
7	Evaluate protected-only left-turn phasing for Ponderosa Dr WBL and Pickwick Dr NBL, which exceed the screening threshold in their peak hours. Include crash history, sight distance and lane count; protected-permissive FYA operation may be retained by time of day where the review supports it.	Traffic Engineering	Medium
8	Evaluate protected-permissive FYA phasing for Ponderosa Dr NBL, SBL and EBL, and Daily Dr NBL, SBL and EBL (screening results of 50,000 to 90,000). Signal displays per California MUTCD Part 4.	Traffic Engineering; Signal Operations	Medium
9	Defer phasing decisions for Barry St NBL and SBL until anomalies (c) and (d) are verified.	Traffic Engineering	Low
Pedestrian accommodation			
10	Verify pedestrian walk and clearance intervals on all 16 crosswalks against measured distances under California MUTCD Section 4E.06.	Signal Operations	Low
11	Evaluate a leading pedestrian interval on the Daily Dr north leg (21,881 WBR vehicles) and on the Ponderosa Dr south and east legs.	Traffic Engineering	Medium
12	Confirm pedestrian service at Daily Dr during the 7:00 AM and 3:00 PM crossing peaks, and confirm bicycle detection and minimum green on cross-street approaches.	Signal Operations	Low

9.3 References

- California Department of Transportation. *California Manual on Uniform Traffic Control Devices*, current edition, Part 4 (Highway Traffic Signals), including Sections 4D.26 and 4E.06.
- Federal Highway Administration. *Manual on Uniform Traffic Control Devices for Streets and Highways*, 11th Edition, 2023.
- Urbanik, T., et al. *Signal Timing Manual*, Second Edition. NCHRP Report 812. Transportation Research Board, 2015 (published with ITE and FHWA).

Appendix A. Hourly Count Tables

This appendix reproduces the hourly source tables in full: hourly totals by weekday (Tables A-1 to A-4), hourly turning movements (A-5 to A-8), hourly volumes by approach (A-9 to A-12) and hourly volumes by movement type (A-13 to A-16). All values are five-weekday sums except where a weekday is shown.

Table A-1. Arneill Rd & Ponderosa Dr: hourly totals by weekday

Hour beginning	Mon	Tue	Wed	Thu	Fri	Five-day
7:00 AM	1,663	1,838	1,777	1,810	1,803	8,891
8:00 AM	2,036	2,210	2,212	2,150	2,268	10,876
9:00 AM	1,706	1,665	1,694	1,611	1,867	8,543
10:00 AM	1,762	1,737	1,741	1,786	2,007	9,033
11:00 AM	2,141	2,040	2,078	1,998	2,285	10,542
12:00 PM	2,188	2,248	2,349	2,286	2,523	11,594
1:00 PM	2,192	2,333	2,347	2,306	2,455	11,633
2:00 PM	2,509	2,562	2,493	2,546	2,784	12,894
3:00 PM	2,821	2,772	2,850	2,648	2,991	14,082
4:00 PM	2,877	2,808	2,762	2,776	2,936	14,159
5:00 PM	2,649	2,597	2,662	2,667	2,778	13,353
6:00 PM	2,108	2,232	2,236	2,161	2,314	11,051
Total	26,652	27,042	27,201	26,745	29,011	136,651

Includes minor movements; totals match the weekday totals in Table 3.

Table A-2. Arneill Rd & Daily Dr: hourly totals by weekday

Hour beginning	Mon	Tue	Wed	Thu	Fri	Five-day
7:00 AM	1,639	1,721	1,638	1,689	1,696	8,383
8:00 AM	1,931	2,059	2,006	2,031	2,073	10,100
9:00 AM	1,603	1,647	1,779	1,644	1,871	8,544
10:00 AM	1,799	1,897	1,872	1,897	1,978	9,443
11:00 AM	2,151	2,104	2,255	1,990	2,293	10,793
12:00 PM	2,345	2,459	2,420	2,403	2,562	12,189
1:00 PM	2,230	2,303	2,355	2,302	2,472	11,662
2:00 PM	2,257	2,359	2,320	2,336	2,545	11,817
3:00 PM	2,605	2,598	2,724	2,637	3,001	13,565
4:00 PM	2,735	2,716	2,720	2,799	2,960	13,930
5:00 PM	2,563	2,590	2,120	2,682	2,769	12,724
6:00 PM	2,111	2,446	2,267	2,259	2,350	11,433
Total	25,969	26,899	26,476	26,669	28,570	134,583

Includes minor movements; totals match the weekday totals in Table 3.

Table A-3. Arneill Rd & Pickwick Dr: hourly totals by weekday

Hour beginning	Mon	Tue	Wed	Thu	Fri	Five-day
7:00 AM	1,268	1,381	1,316	1,341	1,333	6,639
8:00 AM	1,527	1,636	1,634	1,625	1,684	8,106
9:00 AM	1,522	1,490	1,506	1,356	1,591	7,465
10:00 AM	1,688	1,643	1,623	1,578	1,789	8,321
11:00 AM	1,924	1,821	1,937	1,719	1,980	9,381
12:00 PM	2,053	2,052	2,064	1,993	2,145	10,307
1:00 PM	1,898	2,036	2,045	1,920	2,070	9,969
2:00 PM	2,076	2,081	2,008	2,007	2,117	10,289
3:00 PM	2,264	2,300	2,344	2,233	2,355	11,496
4:00 PM	2,507	2,454	2,379	2,369	2,438	12,147
5:00 PM	2,255	2,265	2,181	2,263	2,394	11,358
6:00 PM	1,737	1,945	1,816	1,835	1,922	9,255
Total	22,719	23,104	22,853	22,239	23,818	114,733

Includes minor movements; totals match the weekday totals in Table 3.

Table A-4. Arneill Rd & Barry St: hourly totals by weekday

Hour beginning	Mon	Tue	Wed	Thu	Fri	Five-day
7:00 AM	1,239	1,337	1,296	1,309	1,322	6,503
8:00 AM	1,481	1,584	1,507	1,591	1,605	7,768
9:00 AM	1,315	1,305	1,342	1,230	1,474	6,666
10:00 AM	1,443	1,477	1,452	1,458	1,571	7,401
11:00 AM	1,752	1,643	1,741	1,466	1,799	8,401
12:00 PM	1,819	1,775	1,761	1,787	1,926	9,068
1:00 PM	1,712	1,770	1,749	1,691	1,865	8,787
2:00 PM	1,782	1,807	1,761	1,684	1,866	8,900
3:00 PM	1,963	2,000	2,039	2,014	2,133	10,149
4:00 PM	2,158	2,143	2,112	2,117	2,107	10,637
5:00 PM	2,006	1,984	1,807	2,039	2,071	9,907
6:00 PM	1,643	1,812	1,670	1,716	1,779	8,620
Total	20,313	20,637	20,237	20,102	21,518	102,807

Includes minor movements; totals match the weekday totals in Table 3.

Table A-5. Arneill Rd & Ponderosa Dr: hourly turning movements

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	407	1,773	398	320	1,907	255	370	1,327	262	668	1,025	174	8,886
8 AM	311	2,034	472	425	2,137	378	589	1,283	344	1,048	1,625	220	10,866
9 AM	243	1,844	513	276	1,735	337	578	877	249	844	893	154	8,543
10 AM	270	2,078	609	274	1,655	378	629	928	250	898	917	145	9,031
11 AM	299	2,312	679	328	1,746	434	792	1,198	286	1,131	1,141	194	10,540
12 PM	297	2,709	762	390	1,743	423	921	1,457	318	1,196	1,136	235	11,587
1 PM	347	2,641	772	383	1,681	416	876	1,520	370	1,181	1,237	204	11,628
2 PM	454	2,771	855	441	1,681	459	854	1,734	378	1,265	1,719	274	12,885
3 PM	569	3,247	834	464	1,851	432	973	1,792	402	1,431	1,756	323	14,074
4 PM	669	3,464	957	396	1,859	479	987	1,664	339	1,347	1,723	271	14,155
5 PM	571	3,245	889	335	1,849	440	973	1,569	342	1,356	1,526	253	13,348
6 PM	398	2,702	729	320	1,635	375	856	1,382	278	1,035	1,093	244	11,047
Total	4,835	30,820	8,469	4,352	21,479	4,806	9,398	16,731	3,818	13,400	15,791	2,691	136,590

Excludes minor movements.

Table A-6. Arneill Rd & Daily Dr: hourly turning movements

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	241	1,589	203	635	2,162	226	200	368	419	281	767	1,291	8,382
8 AM	352	1,684	192	725	2,510	381	235	431	481	383	1,115	1,611	10,100
9 AM	341	1,533	134	590	1,926	358	225	326	409	397	969	1,336	8,544
10 AM	380	1,633	194	630	1,972	510	323	380	418	398	1,017	1,588	9,443
11 AM	516	1,755	221	717	2,197	595	360	515	524	369	1,332	1,692	10,793
12 PM	606	1,818	270	766	2,448	650	467	611	664	408	1,593	1,888	12,189
1 PM	583	1,832	235	750	2,416	620	407	671	661	421	1,339	1,727	11,662
2 PM	570	1,982	277	617	2,477	595	400	553	558	449	1,443	1,896	11,817
3 PM	571	2,420	223	624	2,679	599	400	665	540	631	1,887	2,326	13,565
4 PM	525	2,667	175	662	2,745	661	409	610	569	590	1,882	2,435	13,930
5 PM	500	2,402	177	574	2,269	498	389	642	676	551	1,769	2,277	12,724
6 PM	456	2,198	230	722	2,292	548	382	589	620	330	1,252	1,814	11,433
Total	5,641	23,513	2,531	8,012	28,093	6,241	4,197	6,361	6,539	5,208	16,365	21,881	134,582

Excludes minor movements.

Table A-7. Arneill Rd & Pickwick Dr: hourly turning movements

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	261	2,279	244	218	2,437	163	43	121	141	306	138	282	6,633
8 AM	427	2,392	323	284	2,797	431	166	137	350	318	223	240	8,088
9 AM	517	2,029	352	288	2,044	483	361	190	484	276	222	212	7,458
10 AM	628	2,291	390	293	1,933	564	422	230	625	397	287	247	8,307
11 AM	823	2,461	382	265	2,172	679	490	294	752	423	321	295	9,357
12 PM	840	2,905	408	332	2,246	679	558	354	875	423	366	302	10,288
1 PM	725	2,833	416	331	2,261	634	596	387	735	395	361	281	9,955
2 PM	729	3,155	391	339	2,288	539	601	411	742	404	364	313	10,276
3 PM	826	3,758	507	337	2,590	645	575	347	774	391	376	359	11,485
4 PM	924	3,999	477	367	2,484	659	590	352	888	517	452	419	12,128
5 PM	862	3,805	329	286	2,513	739	533	312	844	390	364	371	11,348
6 PM	718	3,132	252	185	2,244	510	438	237	788	259	262	219	9,244
Total	8,280	35,039	4,471	3,525	28,009	6,725	5,373	3,372	7,998	4,499	3,736	3,540	114,567

Excludes minor movements.

Table A-8. Arneill Rd & Barry St: hourly turning movements

Hour	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
7 AM	200	2,625	129	83	2,609	95	71	36	195	181	76	202	6,502
8 AM	209	3,050	182	129	3,153	127	146	55	268	172	125	151	7,767
9 AM	107	2,780	157	97	2,436	164	177	56	278	169	120	123	6,664
10 AM	129	3,154	175	119	2,509	189	205	77	401	147	145	150	7,400
11 AM	158	3,399	171	125	2,925	218	296	81	491	150	178	207	8,399
12 PM	129	3,766	170	108	3,100	204	350	113	514	170	205	237	9,066
1 PM	124	3,566	173	130	3,087	219	349	83	508	158	169	218	8,784
2 PM	189	3,788	140	131	3,049	169	326	85	457	164	155	247	8,900
3 PM	450	4,446	183	133	3,324	173	318	93	462	162	163	240	10,147
4 PM	553	4,658	193	158	3,382	160	339	94	470	169	176	283	10,635
5 PM	486	4,324	188	350	2,764	375	331	178	423	145	142	201	9,907
6 PM	468	3,639	172	90	2,907	150	271	95	419	120	126	162	8,619
Total	3,202	43,195	2,033	1,653	35,245	2,243	3,179	1,046	4,886	1,907	1,780	2,421	102,790

Excludes minor movements.

Table A-9. Arneill Rd & Ponderosa Dr: hourly volumes by approach

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,578	2,487	1,959	1,867	8,891
8:00 AM	2,818	2,948	2,216	2,894	10,876
9:00 AM	2,600	2,348	1,704	1,891	8,543
10:00 AM	2,957	2,309	1,807	1,960	9,033
11:00 AM	3,290	2,510	2,276	2,466	10,542
12:00 PM	3,768	2,563	2,696	2,567	11,594
1:00 PM	3,760	2,483	2,766	2,624	11,633
2:00 PM	4,080	2,590	2,966	3,258	12,894
3:00 PM	4,651	2,754	3,167	3,510	14,082
4:00 PM	5,090	2,738	2,990	3,341	14,159
5:00 PM	4,705	2,628	2,884	3,136	13,353
6:00 PM	3,829	2,334	2,516	2,372	11,051
Total	44,126	30,692	29,947	31,886	136,651

Includes minor movements (Section 2.4).

Table A-10. Arneill Rd & Daily Dr: hourly volumes by approach

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,034	3,023	987	2,339	8,383
8:00 AM	2,228	3,616	1,147	3,109	10,100
9:00 AM	2,008	2,874	960	2,702	8,544
10:00 AM	2,207	3,112	1,121	3,003	9,443
11:00 AM	2,492	3,509	1,399	3,393	10,793
12:00 PM	2,694	3,864	1,742	3,889	12,189
1:00 PM	2,650	3,786	1,739	3,487	11,662
2:00 PM	2,829	3,689	1,511	3,788	11,817
3:00 PM	3,214	3,902	1,605	4,844	13,565
4:00 PM	3,367	4,068	1,588	4,907	13,930
5:00 PM	3,079	3,341	1,707	4,597	12,724
6:00 PM	2,884	3,562	1,591	3,396	11,433
Total	31,686	42,346	17,097	43,454	134,583

Includes minor movements (Section 2.4).

Table A-11. Arneill Rd & Pickwick Dr: hourly volumes by approach

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,785	2,823	305	726	6,639
8:00 AM	3,150	3,522	653	781	8,106
9:00 AM	2,899	2,821	1,035	710	7,465
10:00 AM	3,316	2,797	1,277	931	8,321
11:00 AM	3,679	3,127	1,536	1,039	9,381
12:00 PM	4,160	3,269	1,787	1,091	10,307
1:00 PM	3,977	3,237	1,718	1,037	9,969
2:00 PM	4,278	3,176	1,754	1,081	10,289
3:00 PM	5,095	3,579	1,696	1,126	11,496
4:00 PM	5,409	3,520	1,830	1,388	12,147
5:00 PM	5,000	3,544	1,689	1,125	11,358
6:00 PM	4,104	2,948	1,463	740	9,255
Total	47,852	38,363	16,743	11,775	114,733

Includes minor movements (Section 2.4).

Table A-12. Arneill Rd & Barry St: hourly volumes by approach

Hour beginning	NB	SB	EB	WB	Total
7:00 AM	2,954	2,788	302	459	6,503
8:00 AM	3,442	3,409	469	448	7,768
9:00 AM	3,044	2,699	511	412	6,666
10:00 AM	3,458	2,818	683	442	7,401
11:00 AM	3,729	3,269	868	535	8,401
12:00 PM	4,065	3,414	977	612	9,068
1:00 PM	3,864	3,438	940	545	8,787
2:00 PM	4,117	3,349	868	566	8,900
3:00 PM	5,079	3,631	874	565	10,149
4:00 PM	5,404	3,702	903	628	10,637
5:00 PM	4,998	3,489	932	488	9,907
6:00 PM	4,279	3,148	785	408	8,620
Total	48,433	39,154	9,112	6,108	102,807

Includes minor movements (Section 2.4).

Table A-13. Arneill Rd & Ponderosa Dr: hourly volumes by movement type

Hour beginning	All LT	All THRU	All RT	Total
7:00 AM	1,765	6,032	1,089	8,886
8:00 AM	2,373	7,079	1,414	10,866
9:00 AM	1,941	5,349	1,253	8,543
10:00 AM	2,071	5,578	1,382	9,031
11:00 AM	2,550	6,397	1,593	10,540
12:00 PM	2,804	7,045	1,738	11,587
1:00 PM	2,787	7,079	1,762	11,628
2:00 PM	3,014	7,905	1,966	12,885
3:00 PM	3,437	8,646	1,991	14,074
4:00 PM	3,399	8,710	2,046	14,155
5:00 PM	3,235	8,189	1,924	13,348
6:00 PM	2,609	6,812	1,626	11,047
Total	31,985	84,821	19,784	136,590

Excludes minor movements.

Table A-14. Arneill Rd & Daily Dr: hourly volumes by movement type

Hour beginning	All LT	All THRU	All RT	Total
7:00 AM	1,357	4,886	2,139	8,382
8:00 AM	1,695	5,740	2,665	10,100
9:00 AM	1,553	4,754	2,237	8,544
10:00 AM	1,731	5,002	2,710	9,443
11:00 AM	1,962	5,799	3,032	10,793
12:00 PM	2,247	6,470	3,472	12,189
1:00 PM	2,161	6,258	3,243	11,662
2:00 PM	2,036	6,455	3,326	11,817
3:00 PM	2,226	7,651	3,688	13,565
4:00 PM	2,186	7,904	3,840	13,930
5:00 PM	2,014	7,082	3,628	12,724
6:00 PM	1,890	6,331	3,212	11,433
Total	23,058	74,332	37,192	134,582

Excludes minor movements.

Table A-15. Arneill Rd & Pickwick Dr: hourly volumes by movement type

Hour beginning	All LT	All THRU	All RT	Total
7:00 AM	828	4,975	830	6,633
8:00 AM	1,195	5,549	1,344	8,088
9:00 AM	1,442	4,485	1,531	7,458
10:00 AM	1,740	4,741	1,826	8,307
11:00 AM	2,001	5,248	2,108	9,357
12:00 PM	2,153	5,871	2,264	10,288
1:00 PM	2,047	5,842	2,066	9,955
2:00 PM	2,073	6,218	1,985	10,276
3:00 PM	2,129	7,071	2,285	11,485
4:00 PM	2,398	7,287	2,443	12,128
5:00 PM	2,071	6,994	2,283	11,348
6:00 PM	1,600	5,875	1,769	9,244
Total	21,677	70,156	22,734	114,567

Excludes minor movements.

Table A-16. Arneill Rd & Barry St: hourly volumes by movement type

Hour beginning	All LT	All THRU	All RT	Total
7:00 AM	535	5,346	621	6,502
8:00 AM	656	6,383	728	7,767
9:00 AM	550	5,392	722	6,664
10:00 AM	600	5,885	915	7,400
11:00 AM	729	6,583	1,087	8,399
12:00 PM	757	7,184	1,125	9,066
1:00 PM	761	6,905	1,118	8,784
2:00 PM	810	7,077	1,013	8,900
3:00 PM	1,063	8,026	1,058	10,147
4:00 PM	1,219	8,310	1,106	10,635
5:00 PM	1,312	7,408	1,187	9,907
6:00 PM	949	6,767	903	8,619
Total	9,941	81,266	11,583	102,790

Excludes minor movements.

Appendix B. Crosswalk Pedestrian Volumes

Table B-1. Pedestrian crossings by crosswalk leg (five-day totals, 7:00 AM to 7:00 PM)

Intersection	North	South	East	West	Total
Arneill Rd & Ponderosa Dr	174	228	301	266	969
Arneill Rd & Daily Dr	180	30	268	339	817
Arneill Rd & Pickwick Dr	148	240	182	238	808
Arneill Rd & Barry St	300	150	160	237	847
Corridor	802	648	911	1,080	3,441

Table B-2. Pedestrian crossings by hour (five-weekday sums, all legs)

Hour beginning	Barry	Daily	Pickwick	Ponderosa	Corridor
7:00 AM	59	119	48	66	292
8:00 AM	68	52	43	44	207
9:00 AM	71	53	58	80	262
10:00 AM	61	38	69	74	242
11:00 AM	64	51	72	49	236
12:00 PM	48	39	79	88	254
1:00 PM	87	52	73	89	301
2:00 PM	62	49	56	112	279
3:00 PM	83	145	68	84	380
4:00 PM	100	94	104	86	384
5:00 PM	66	48	72	97	283
6:00 PM	78	77	66	100	321
Total	847	817	808	969	3,441

Column order follows the source table (Barry, Daily, Pickwick, Ponderosa). Hourly totals reconcile to the leg totals in Table B-1.