

Trails at Aspen Ridge Filing No. 1
Traffic Impact Analysis

Prepared for:

El Paso County

Prepared by:



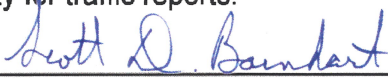
Matrix

2435 Research Parkway, Suite 300
Colorado Springs, CO 80920

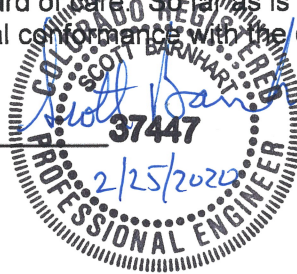
Contact: Scott D. Barnhart, PE. PTOE
(719) 575-0100

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care so far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Scott D. Barnhart, P.E. #37447

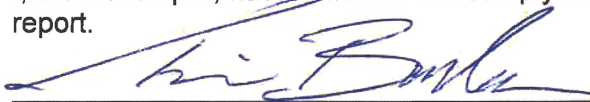


2/25/2020

Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.



Tim Buschar, Director of Land Acquisition & Site Development
Colorado Land Acquisition, LLC
555 Middle Creek Parkway Suite 500
Colorado Springs CO, 80921

2/24/20
Date



February 24, 2020

Mr. Dan Romano
COLA, LLC
555 Middle Creek Parkway, Suite 500
Colorado Springs, CO 80921

RE: Trails at Aspen Ridge Filing No. 2 – Traffic Impact and Access Analysis

Dear Mr. Romano:

This letter serves to review the impacts from developing Filing No. 2 of the Trails at Aspen Ridge development as shown in Figure 1. The overall impacts of this development were already analyzed in a traffic impact study prepared by LSC Transportation Consultants, Inc. dated October 15, 2019. The previous study analyzed both Filing No. 1 and the overall PUD area of which Filing No. 2 is a part.

This analysis will determine the incremental traffic increase contributed to the roadway network from Filing No. 2 and will determine if any of the improvements agreed to in the previous TIS will be triggered by the addition of the 98 single-family dwelling units (SFDUs) from Filing No. 2.

Land Use and Access

Land Use

Figure 2 shows the portion of the overall Trails at Aspen Ridge development that makes up Filing No. 2. Filing No. 2 consists of 98 SFDUs and two neighborhood parks that will not generate any traffic on their own. 90 of the SFDUs are located north and east of Legacy Hill Drive and the remaining 8 SFDUs are located west and south of Legacy Hill Drive along Wagon Hammer Drive south of Falling Rock Drive.

Access

All traffic will access the surrounding roadway network at the Bradley Road/Legacy Hill Drive full-movement intersection in the short-term, but will ultimately be able to access Bradley Road through a right-in/right-out access at Blackmer Street and will be able to access to the east and south as Legacy Hill Drive connects to future development to the east. This analysis will only review the short-term impacts of Filing No. 2 with all traffic bound for the Bradley Road/Legacy Hill Drive intersection.

Roadway and Traffic Conditions

Existing roadway and traffic conditions are as described in the LSC TIS dated October 15, 2019.

Background Traffic

Background traffic conditions are assumed to be the short-term Filing No. 1 traffic conditions from the LSC TIS and shown here in Figure 3. These volumes include the existing volumes as well as traffic generated from Filing No. 1.

Trip Generation

Traffic volumes that will be generated by Filing No. 2 are shown in Table 1.

Table 1 – Trip Generation Estimate

ITE Code	Land Use	Quantity (DUs)	Daily Trips	AM Trips			PM Trips		
				In	Out	Total	In	Out	Total
210	Single Family Residential	98	1020	19	56	75	63	37	100

Trip generation calculations are based on the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 10th Edition. All Filing No. 2 trips will access Legacy Hill Drive at one of three intersections; Big Johnson Drive, Sunday Gulch Drive or Moose Meadow Street.

Trip Distribution and Assignment

Traffic will be distributed the same as was shown in the LSC TIS for short-term conditions and is shown in Figure 4. When the Filing No. 2 trips generated in Table 1 are distributed as shown in Figure 4, the resulting Filing No. 2 trip assignment is as shown in Figure 5.

Total Traffic

Figure 6 shows the total traffic that will exist at the completion of Filing No. 2 which consists of existing background traffic, Filing No. 1 traffic and Filing No. 2 traffic. This is the traffic that will be traveling along the roadway network when Filing No. 2 is completed.

Traffic Signal Warrant Analysis

The warrant analysis for the traffic signal at the intersection of Bradley Road and Legacy Hill Drive was completed as part of the Filing No. 1 and PUD traffic study previously prepared. The task of this analysis is to see if the additional traffic from Filing No. 2 will trigger the need for the traffic signal to be constructed. Table 2 shows the traffic signal warrant analysis completed for the incremental traffic increase from Filing No. 2.

Table 2 Trails at Aspen Ridge Filing 2 Traffic Signal Warrant Analysis of Legacy Hill Drive/Bradley Road 2 or More Lanes on Major Approach & 1 Lane on Minor Approach																						
Period	Traffic Volumes						Warrant 1, Eight Hour Vehicular Volume Evaluation								Warrant 2, Four Hour Vehicular Volume							
	Background ⁽¹⁾		Added by Filing No. 2		Background + Filing No. 2		Warrant Thresholds				Warrant Threshold Met?				Background		Background + Filing 2		Background		Background + Filing 2	
							Condition A 70%		Condition B 70%		Background		Background + Filing 2		Minor Street Minimum	Met?	Minor Street Minimum	Met?				
Hour	Major ⁽²⁾	Minor ⁽³⁾	Major	Minor	Major	Minor	Major	Minor	Major	Minor	A 70%	B 70%	A 70%	B 70%								
6:00 AM	1069	50	38	31	1107	81	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
7:00 AM	1295	72	19	45	1314	117	420	105	630	53	No	Yes	Yes	Yes	60	Yes	60	Yes				
8:00 AM	1171	55	41	34	1212	89	420	105	630	53	No	Yes	No	Yes	60	No	60	Yes				
9:00 AM	924	44	33	27	957	71	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
10:00 AM	943	44	33	27	976	71	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
11:00 AM	1109	52	39	32	1148	84	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
12:00 PM	879	42	31	25	910	67	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
1:00 PM	842	40	30	24	872	64	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
2:00 PM	845	40	30	24	875	64	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
3:00 PM	1013	48	36	29	1049	77	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
4:00 PM	1265	48	69	28	1334	76	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
5:00 PM	1304	61	46	37	1350	98	420	105	630	53	No	Yes	No	Yes	60	Yes	60	Yes				
6:00 PM	1062	50	38	31	1100	81	420	105	630	53	No	No	No	Yes	60	No	60	Yes				
												0	3	1	13				2	13		
												No	No	No	Yes				No	Yes		

Notes:
(1) Hourly variation based on traffic counts on Powers Blvd
(2) The major street volumes include all (left/through/right) movements on Bradley Road
(3) The minor street volumes includes only the northbound left movement on Legacy Hill Drive
Source: Matrix Design Group

Notes:
 (1) Hourly variation based on traffic counts on Powers Blvd
 (2) The major street volumes include all (left/through/right) movements on Bradley Road
 (3) The minor street volumes includes only the northbound left movement on Legacy Hill Drive
 Source: Matrix Design Group

The analysis indicates that both the Eight Hour Vehicular Volume and the Four Hour Vehicular Volume warrants are met with the additional traffic from Filing No. 2. However, this is an estimate using the traffic distribution from Powers Boulevard, a major arterial, and applying it to Legacy Hill Drive which is a collector street. At the completion of Filings 1 and 2, there will only be residential traffic along Legacy Hill Drive. Residential traffic is not distributed as evenly as traffic along a major arterial roadway. We recommend that El Paso County require the incremental fair share towards the traffic signal escrow and wait for actual traffic volumes to determine if warrants for the installation of the traffic signal are met.

The applicant should be required to contribute its incremental fair share towards the traffic signal escrow amount of \$350,000. Trails at Aspen Ridge is required to ultimately contribute \$99,778.44 towards the \$350,000 traffic signal escrow amount. Filing No. 1 already contributed 6.8% of the amount or \$23,781.39. Filing No. 2 will constitute an additional 3.6% (12.4% of the development's 28.5% contribution towards the traffic signal escrow amount). This equates to an additional contribution of \$12,600.00 as shown in Table 3 below.

Table 3 – Traffic Signal Escrow Calculation

Development	Fair Share	Signal Escrow
Trails at Aspen Ridge Filing No. 1	6.8%	\$ 23,800.00
Trails at Aspen Ridge Filing No. 2	3.6%	\$ 12,600.00
Trails at Aspen Ridge PUD	18.1%	\$ 63,350.00
Springs at Waterview East Commercial	21.5%	\$ 75,250.00
Waterview North of Bradley Road	50.0%	\$ 175,000.00
		\$ 350,000.00

County Road Impact Fee Program

The applicant will be required to participate in the County Road Impact Fee Program. Assuming this development joins the ten-mil PID, the building permit fee portion is \$1,221 per single-family dwelling unit. The net fee for the proposed 98 lots in Trails at Aspen Ridge Filing No. 2 will be \$119,658.00.

Recommended Improvements

The recommended improvements for the buildout of the Trails at Aspen Ridge development were determined in the previous traffic impact study. This analysis will determine if any of those improvements will be triggered by the addition of Filing No. 2 traffic. Previously required improvements for Trails at Aspen Ridge include the following:

- Full-movement access to Bradley Road at Legacy Hill Drive – will be built with Filing No. 1
- Right-in/right-out access to Bradley Road at Blackmer Drive – will be built with Filing No. 1 as an emergency access. The final intersection design will be reviewed with the future filing construction documents that include the permanent street connection
- Auxiliary turn lanes along Bradley Road and Legacy Hill Drive – will all be built with Filing No. 1 to their ultimate requirements

Required improvements for Filing No. 2 include:

- ***Traffic Signal at Bradley Road/Legacy Hill Drive – contribute \$12,600.00 to the traffic signal escrow amount***
- ***The additional Filing No. 2 trips do not trigger any additional roadway geometry improvements identified in the LSC study***

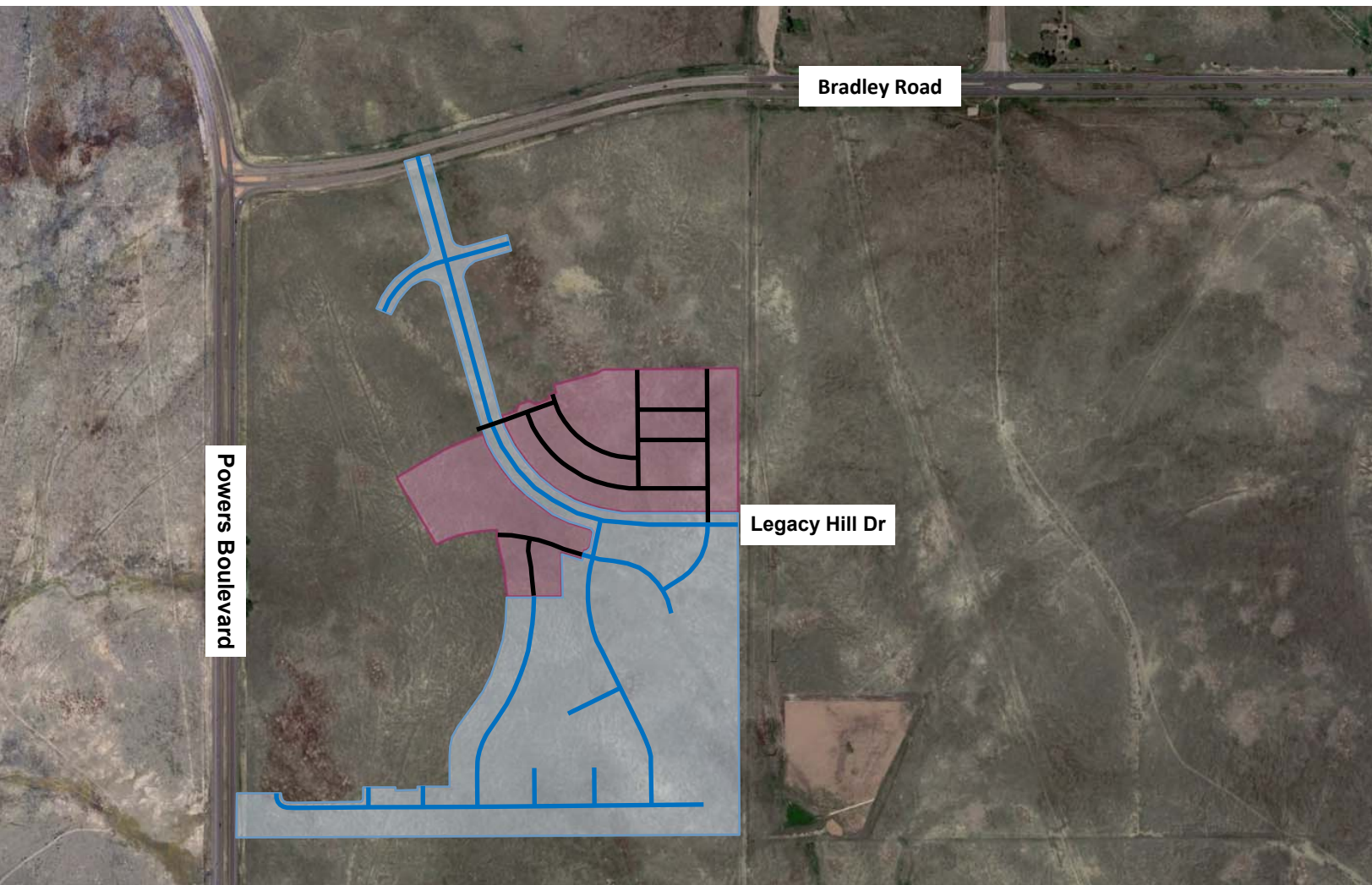
Please contact me if you have any questions regarding this analysis.

Sincerely,







Matrix Design Group, Inc.
Scott D. Barnhart, PE, PTOE
Senior Associate of Transportation Services

Enclosures: Figures 1 - 6



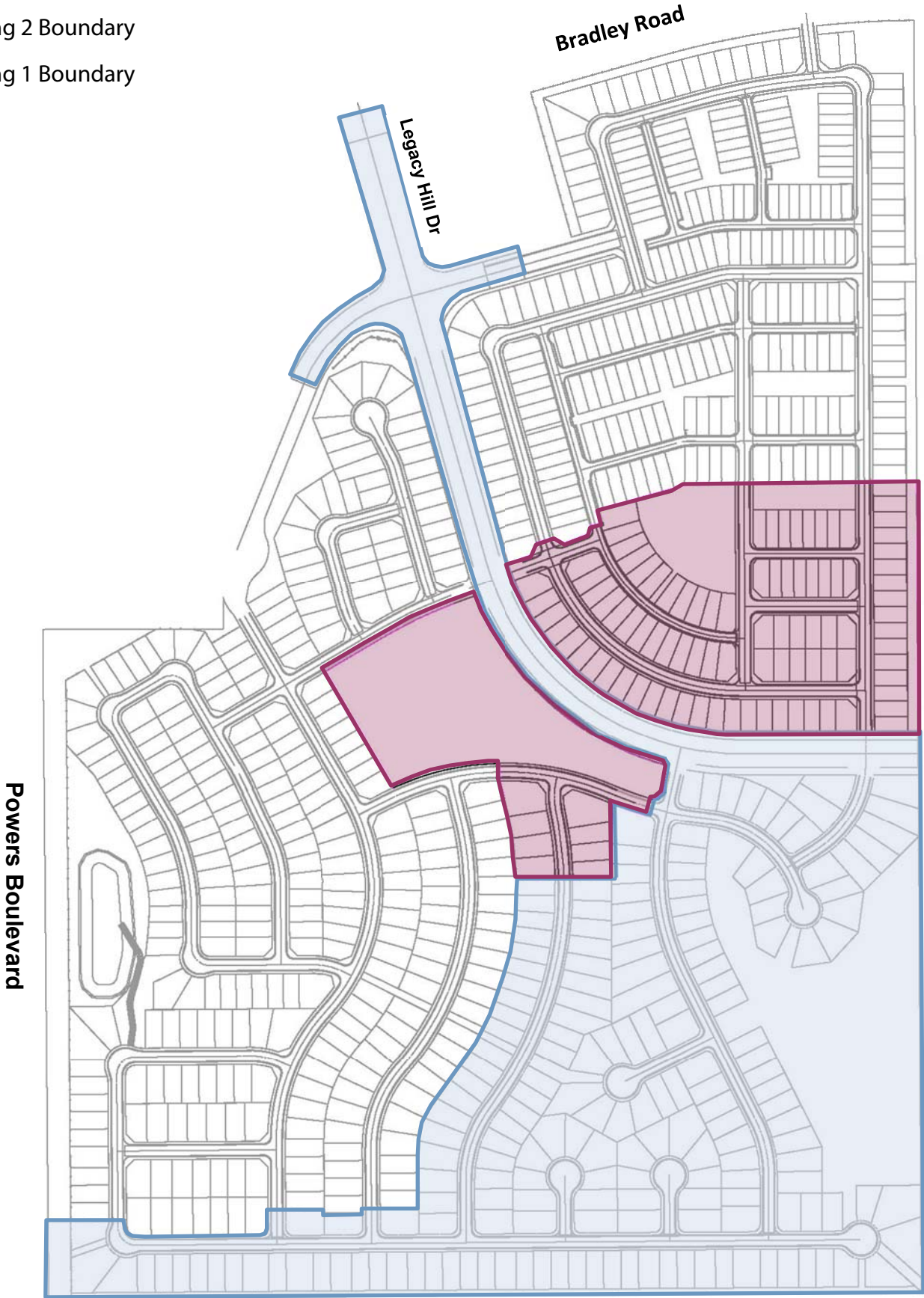
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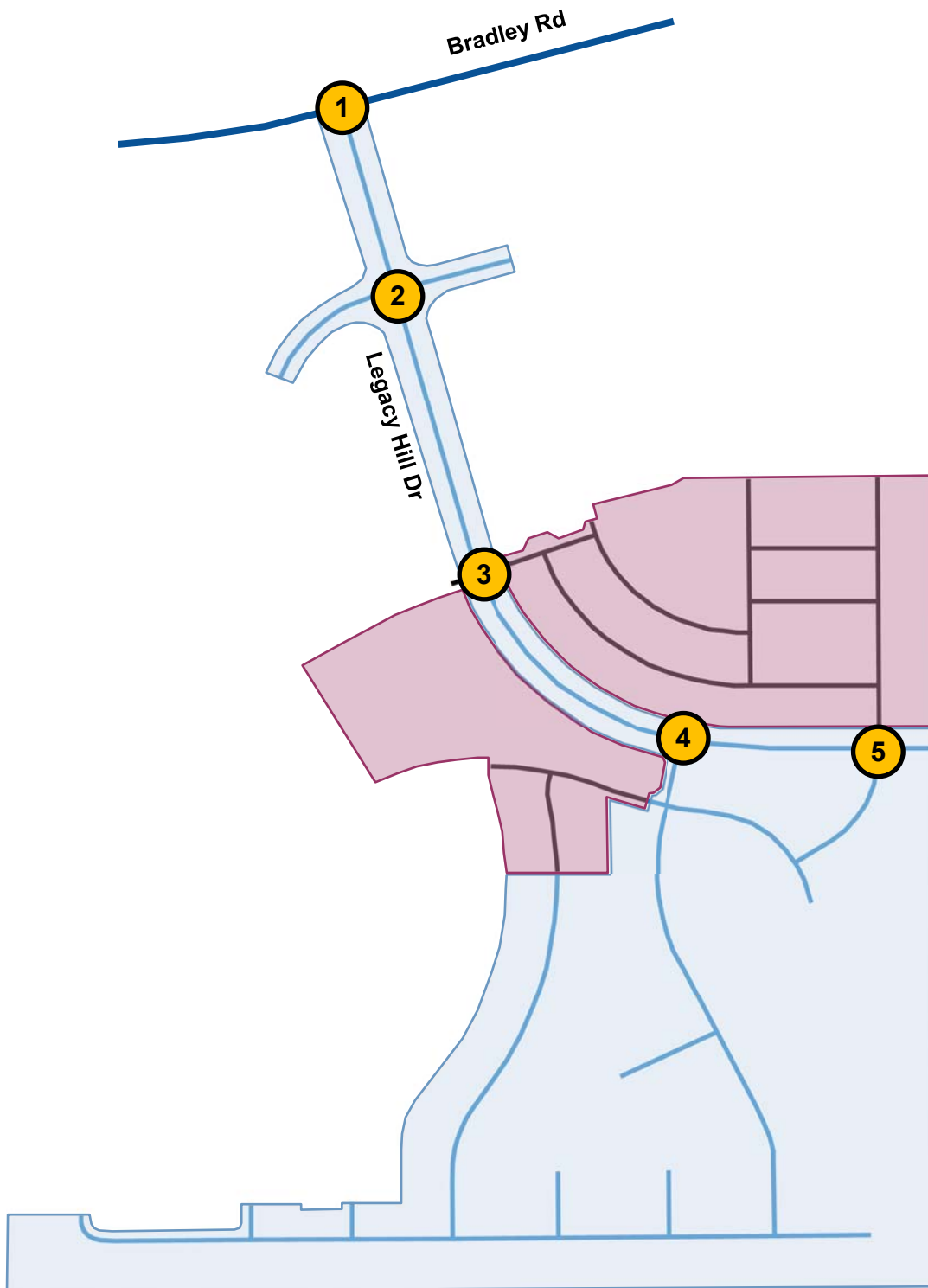
-  Filing 2 Boundary
-  Filing 2 Roadway
-  Filing 1 Boundary
-  Filing 1 Roadway



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- Filing 2 Boundary
- Filing 1 Boundary





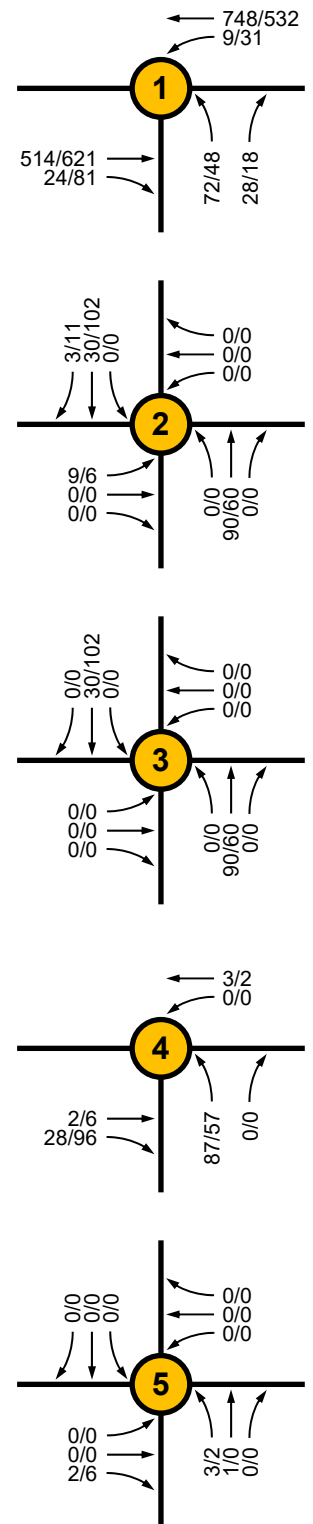
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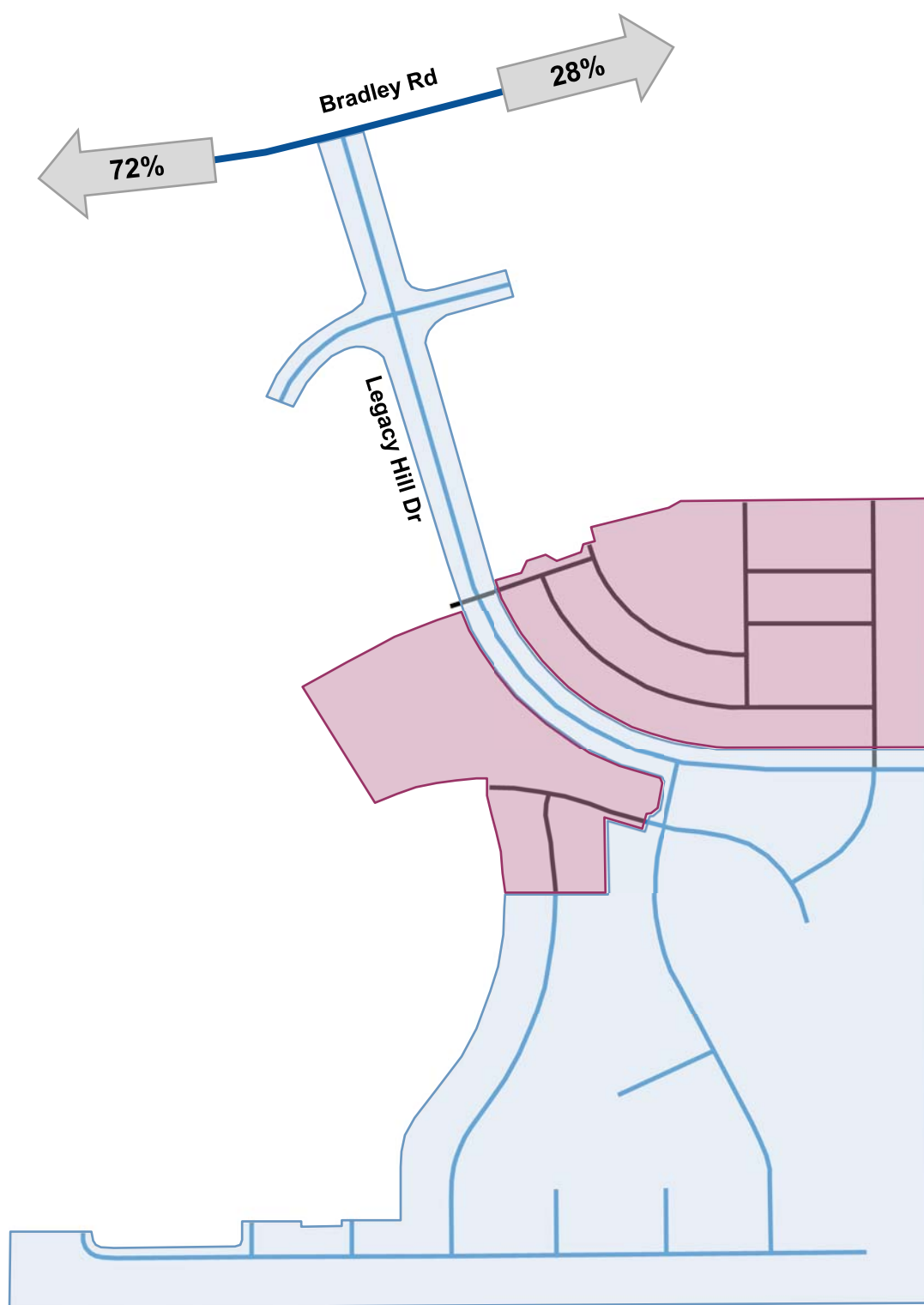
1 Intersection Node

999/999 → AM/PM Turning Movement Count

Filing 2 Boundary

Filing 1 Boundary





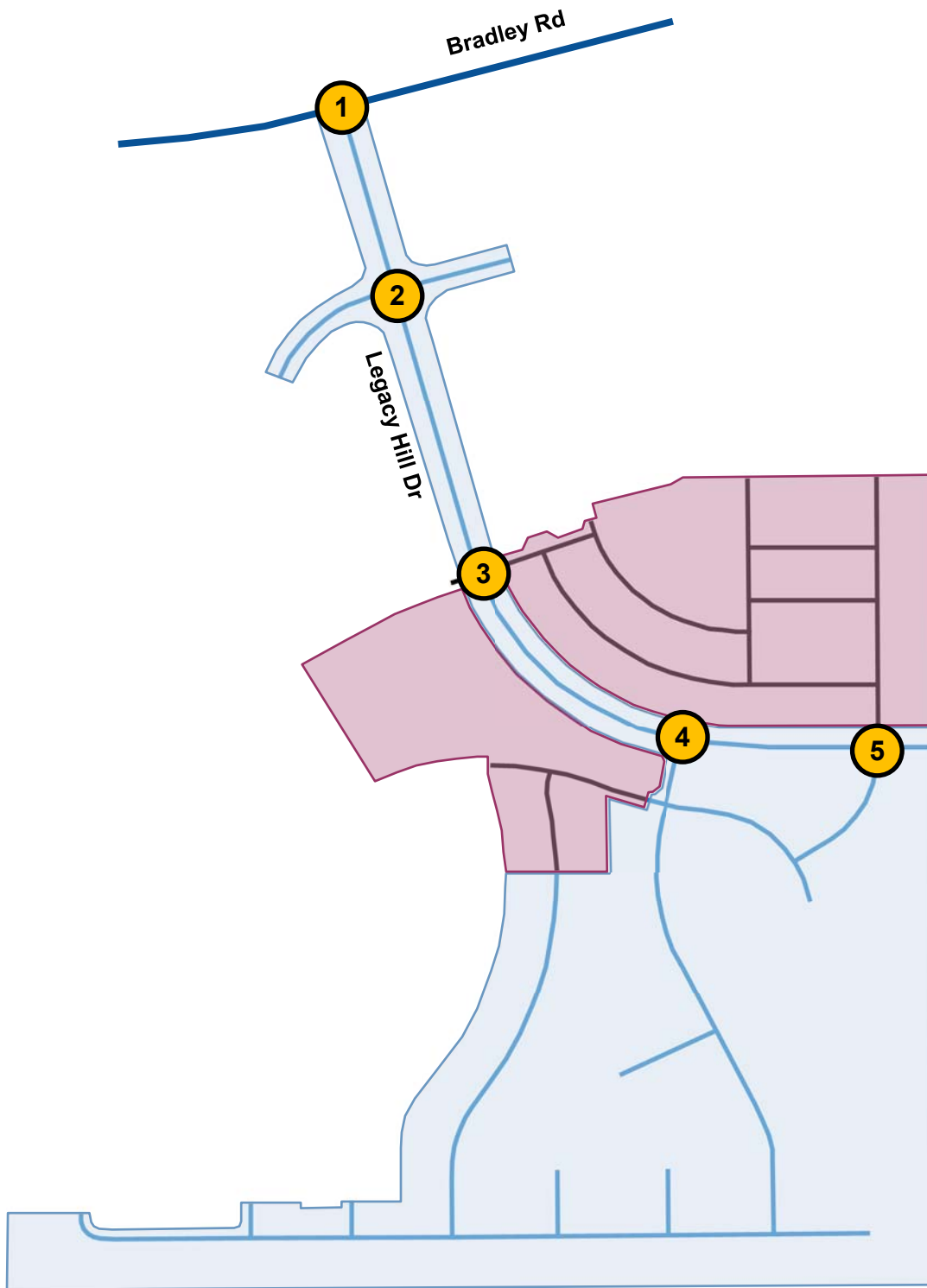
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← 72% Trip Distribution Percent

■ Filing 2 Boundary

■ Filing 1 Boundary





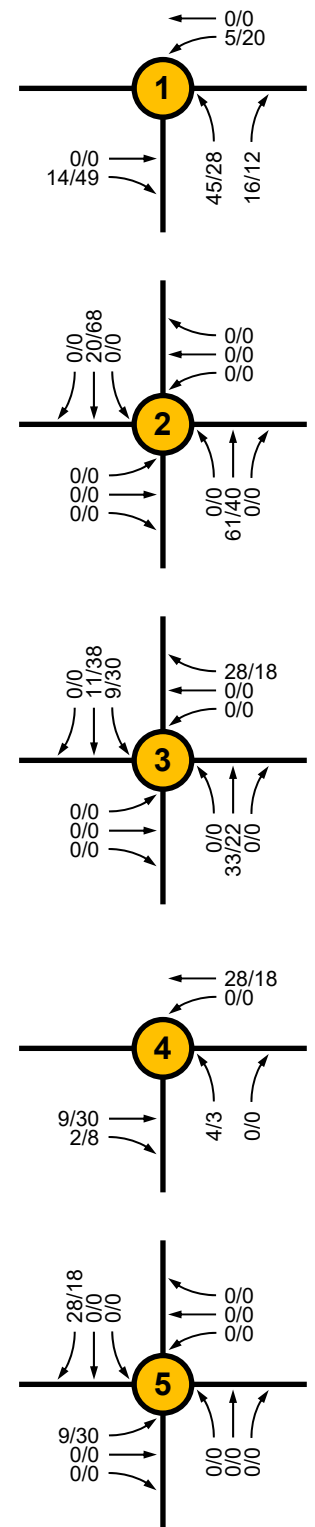
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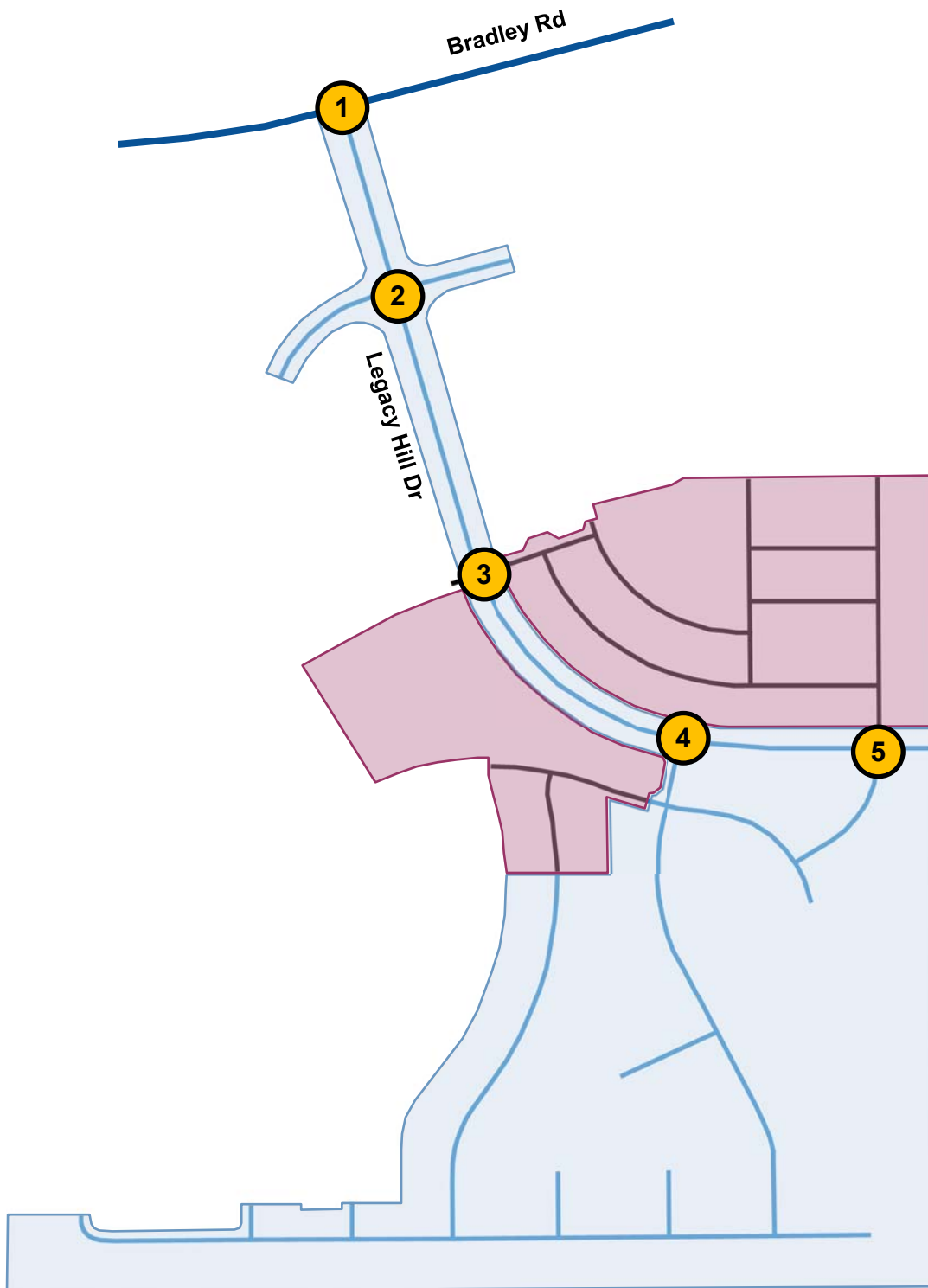
1 Intersection Node

999/999 → AM/PM Turning Movement Count

Filing 2 Boundary

Filing 1 Boundary





LEGEND

1 Intersection Node

999/999 → AM/PM Turning Movement Count

Filing 2 Boundary

Filing 1 Boundary

