

TECHNICAL MEMORANDUM



EXPIRES: 12-31-2025

Date: 4/8/2024
To: Jena Hill, President, Ashcreek Playschool
From: Josh Anderson, PE, David Evans and Associates, Inc.
Subject: Ashcreek Playschool – Trip Generation and Traffic Memo (revised April '24)

Introduction

David Evans and Associates, Inc. (DEA) has been retained by Ashcreek Playschool (Client) to conduct a trip generation analysis for a preschool located in the City of Beaverton, Oregon. This technical memorandum summarizes the trip generation analysis and site circulation for submittal to the City as part of a Type 3 Conditional Use Permit development application process for the preschool.

The preschool, Ashcreek Playschool, is a parent cooperative preschool located in the Murray Hills Christian Church building located at 15050 SW Weir Road, Beaverton, Oregon. The preschool has a current enrollment of 34 students and is planning for a full enrollment of up to 60 students. Classes begin between 9 and 9:30 am and end between noon and 1 pm on weekdays. There are no weekend classes.

School Operations

Ashcreek Playschool currently has three classes with 34 enrolled students. Future operations are planned for five classes for a total of 60 students. Additionally, the parent volunteer aspect of a parent cooperative preschool further staggers arrival and departure times. Each day a minimum of one parent per class is designated as a classroom assistant and will arrive, with their child, 15 minutes before class starts and stay with the teachers after class to assist with cleaning and other classroom duties.

Current classes begin between 9 and 9:30 am and end between noon and 1 pm on weekdays. There are no weekend classes. Future classes will have staggered drop off and pick up times to help manage arrivals and departures when enrollment increases. Three classes are proposed to begin at 9 am and two at 9:30 am. Two classes are proposed to end at noon, one at 12:30 pm, and two at 1 pm. Teachers arrive a minimum of 30 minutes before class begins and depart a minimum of 30 minutes after classes end.

The breakdown of proposed classes by the number of current and proposed number of students and teachers, and the proposed start and end times are summarized in Table 1.

Table 1. Projected Classes at Future Maximum Enrollment

Class	Existing # of Students	Proposed # of Students	# of Teachers	Start Time	End Time	Duration
1 (ages 1.5-3 yrs.)*	8	8	2	9:00 am	12:00 pm	3 hrs.
2 (ages 1.5-3 yrs.)**	N/A	8	2	9:30 am	12:30 pm	3 hrs.
3 (ages 3-4 yrs.)*	10	12	2	9:00 am	12:00 pm	3 hrs.
4 (ages 4 yrs.)**	N/A	16	2	9:30 am	1:00 pm	3.5 hrs.
5 (age 4-5 yrs./pre-K)*	16	16	2	9:00 am	1:00 pm	4 hrs.
Total:	34	60	10			
*Existing class						
**Future class						

Trip Generation

Trip generation for the proposed preschool was evaluated based on Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* Land Use Code 565 Day Care Center. ITE's description states that day care center is "a facility where care for pre-school age children is provided".

Trip generation was evaluated for weekday total, and weekday peak hour of adjacent street traffic between 7 and 9 a.m. and between 4 and 6 p.m. Number of students was used as the independent variable. Excerpts from the *Trip Generation Manual, 11th Edition* for Land Use Code 565 Day Care Center using students as the independent variable are included as attachments to this memorandum.

As summarized in Table 2, at the current enrollment of 34 students, the preschool is estimated to generate 140 average weekday trips, 27 AM peak hour trips (14 inbound, 13 outbound), and 27 PM peak hour trips (13 inbound, 14 outbound). At the proposed full enrollment of 60 students, the preschool is projected to generate 246 average weekday trips, 47 AM peak hour trips (25 inbound, 22 outbound), and 47 PM peak hour trips (22 inbound, 25 outbound). The net increase in trip generation potential is estimated to be 106 average weekday trips, 20 AM peak hour trips (11 inbound, 9 outbound), and 20 PM peak hour trips (9 inbound, 11 outbound)

It should be noted that classes at Ashcreek Playschool are expected to end at noon or 1 pm, and not during the 4 pm to 6 pm window typical for an ITE PM peak hour trip generation analysis; nonetheless, the PM peak hour trip generation are shown based on standard ITE rates.

Table 2. Trip Generation for Preschool

Land Use	# of Students	Avg Weekday			AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
ITE 565 - Day Care Center	ITE Average Rate	50%	50%	4.09	53%	47%	0.78	47%	53%	0.79
	Existing – 34 students	70	70	140	14	13	27	13	14	27
	Proposed – 60 students	123	123	246	25	22	47	22	25	47
	Net Increase – 26 students	53	53	106	11	9	20	9	11	20

Traffic Impact Analysis Threshold

Section 60.55.20.2.A in the Beaverton Development Code states that “a traffic impact analysis is required when the proposed land use change or development will generate 300 vehicles or more per day (vpd) in average weekday trips as determined by the City Engineer.” Based on the trip generation calculations presented in this memo, the increase in enrollment from 34 to 60 students is expected to generate a net increase of **106 average weekday trips** based on ITE average rates. Therefore, **a traffic impact analysis is not expected to be required** for this development application.

Other Users

There are a minimal number of other users in the building during preschool hours. Murray Hills Christian Church has one regular weekday staff person who is in the office from approximately 8:00 am until 2:00 pm. Other staff members or volunteers may be on site intermittently, but do not have regular office hours during weekday mornings. There are also volunteers for Casey’s Corner Food Pantry on site during the week. There are typically two people working together who arrive after 10:00 am when school is already in session, but they do not have a set schedule. The other group of potential weekday morning users are the Beaverton Police. They use the kitchen and staff meeting room at Murray Hills Christian Church as a rest stop for officers on duty, and come and go from the building on a regular basis without a set schedule. On a typical weekday there are up to five adults at the building not affiliated with the school. All other uses are during evenings and weekends, and do not overlap with school operations. No additional activities or events typically take place during preschool operations that would create a higher demand for parking.

Access, Parking, Site Circulation

There are 99 striped parking spaces in the existing parking lot. Access is provided from SW Weir Road via SW 151st Place. There is a secondary access from SW 149th Terrace on the south end of the parking lot that is chained off and only used for emergency access. This is not anticipated to be opened to support the proposed preschool expansion. For current school operations, all entrance and egress for students happens at Entrance #1 on the east side of the building as shown in the attached site plan. During the summer school session and during heightened COVID regulations, Entrance #2 on the west side has been used as an alternative drop off and pick up location.

When the school expands to 60 students, in order to avoid crowding and congestion in the parking lot, school drop off will be split between two building entrances. In such a scenario, two or three classrooms will be assigned to enter at Entrance #1 and make use of the east side of the parking lot and the remaining classrooms will be assigned to enter from the playground at Entrance #2 and make use of the northwest section of the parking lot.

No changes are proposed to the existing site access, parking, and traffic circulation at the Murray Hills Christian Church property. A site plan is provided as an attachment to this memorandum to illustrate the site access, parking, and circulation.

Drop-Off/Pick-Up Plan

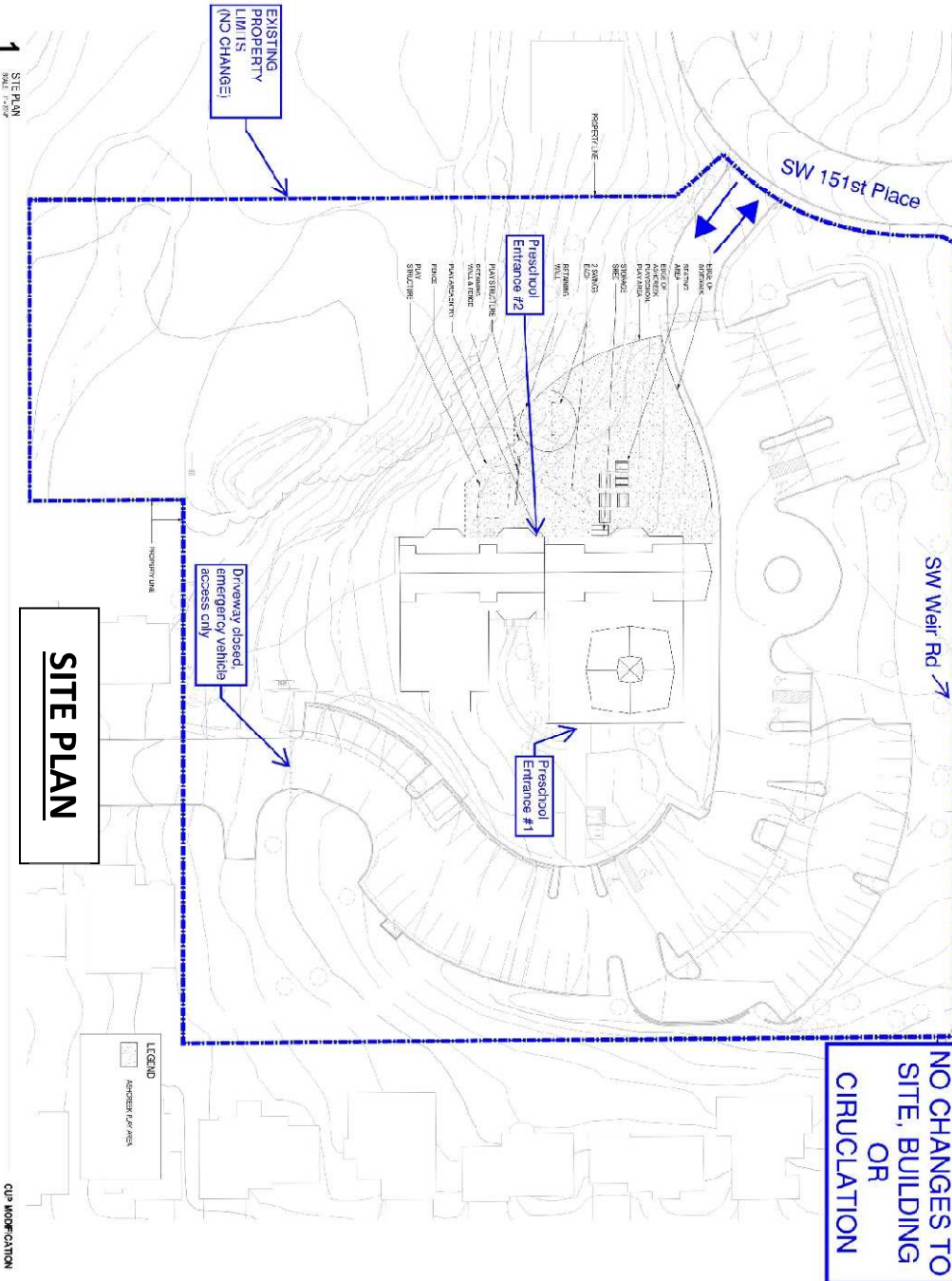
Most students arrive in individual vehicles while some families arrange carpools and some walk from the local neighborhood. No students currently use public transit. The current travel modes are listed in Table 3 and are typical of the year-to-year trends. During school drop-off, parents park and escort their kids

across the parking lot and to the classroom. Children are not dropped off curbside or left to walk through the parking lot unescorted. This is enforced since parents are required to sign children in at their classroom.

Student pick-up will occur in the same locations as drop-off, splitting traffic between different sides of the building. Parents leave their vehicles and wait at the designated building entrance for their pick-up, either Entrance #1 or Entrance #2 identified on the site plan, and sign their children out for the day. Because of the requirement for parents to sign-out, the parents will accompany children from the building to their vehicles and children will not walk through the parking lot unescorted.

Table 3. Current travel modes

Current # of Students	# of Students Traveling by Single Family Car	# of Students Carpooling (more than one student of the same or different family driven in the same vehicle)	# of Students Walking	# of Students taking transit
34	22	10	2	0



1 SITE PLAN
SCALE: 1/8" = 1'-0"

CUP MODIFICATION

SITE PLAN
C1.1

NO.	DATE	DESCRIPTION
1	04/15/24	ISSUED FOR PERMITS
2	04/15/24	ISSUED FOR PERMITS
3	04/15/24	ISSUED FOR PERMITS
4	04/15/24	ISSUED FOR PERMITS
5	04/15/24	ISSUED FOR PERMITS
6	04/15/24	ISSUED FOR PERMITS
7	04/15/24	ISSUED FOR PERMITS
8	04/15/24	ISSUED FOR PERMITS
9	04/15/24	ISSUED FOR PERMITS
10	04/15/24	ISSUED FOR PERMITS

MURRAY HILLS CHRISTIAN CHURCH
MURRAY HILLS CHRISTIAN CHURCH PRESCHOOL
CUP 1994-0011 MODIFICATION
15050 SW WEIR RD, BEAVERTON, OR 97007

integrus
ARCHITECTURE
11100 SW 151ST AVE, BEAVERTON, OR 97007
503.766.1111

Day Care Center (565)

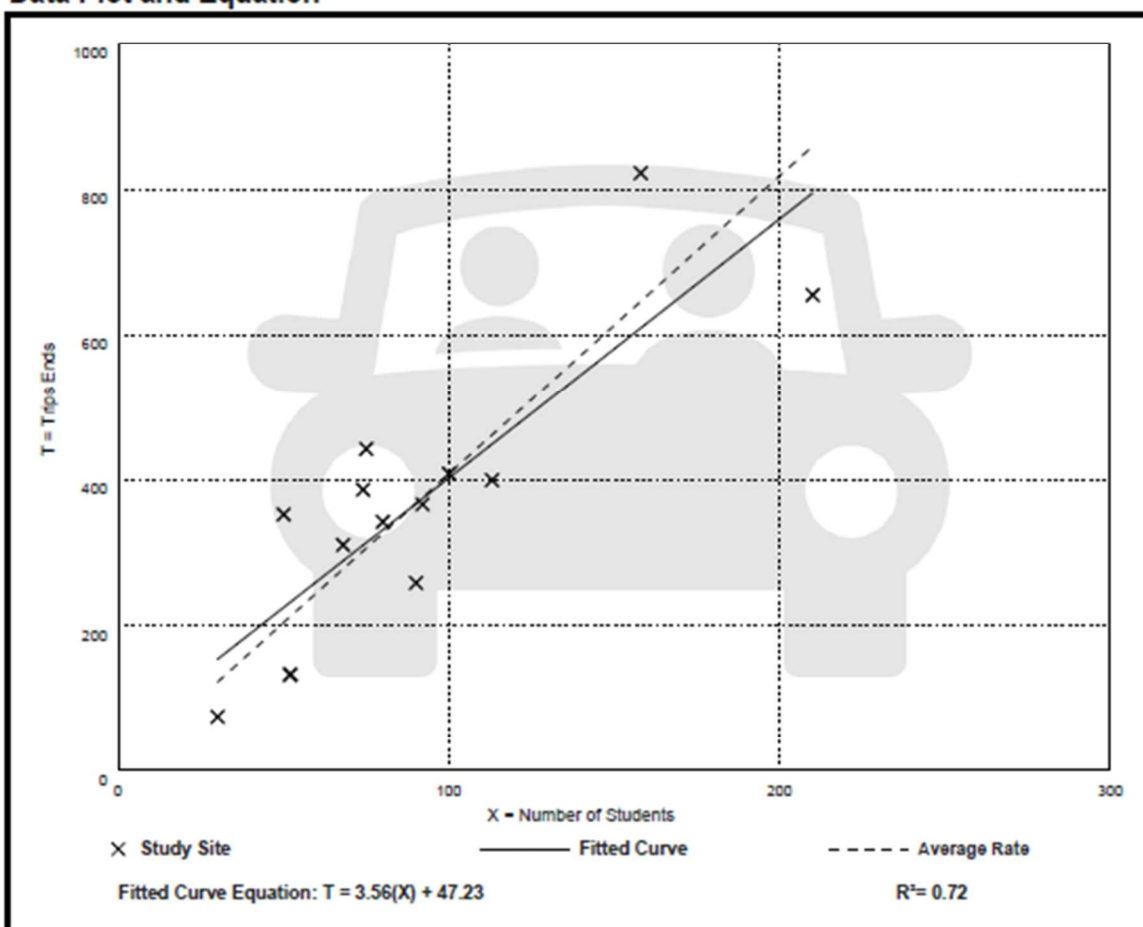
Vehicle Trip Ends vs: Students
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 14
Avg. Num. of Students: 89
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
4.09	2.50 - 7.06	1.21

Data Plot and Equation



Day Care Center (565)

Vehicle Trip Ends vs: Students

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 75

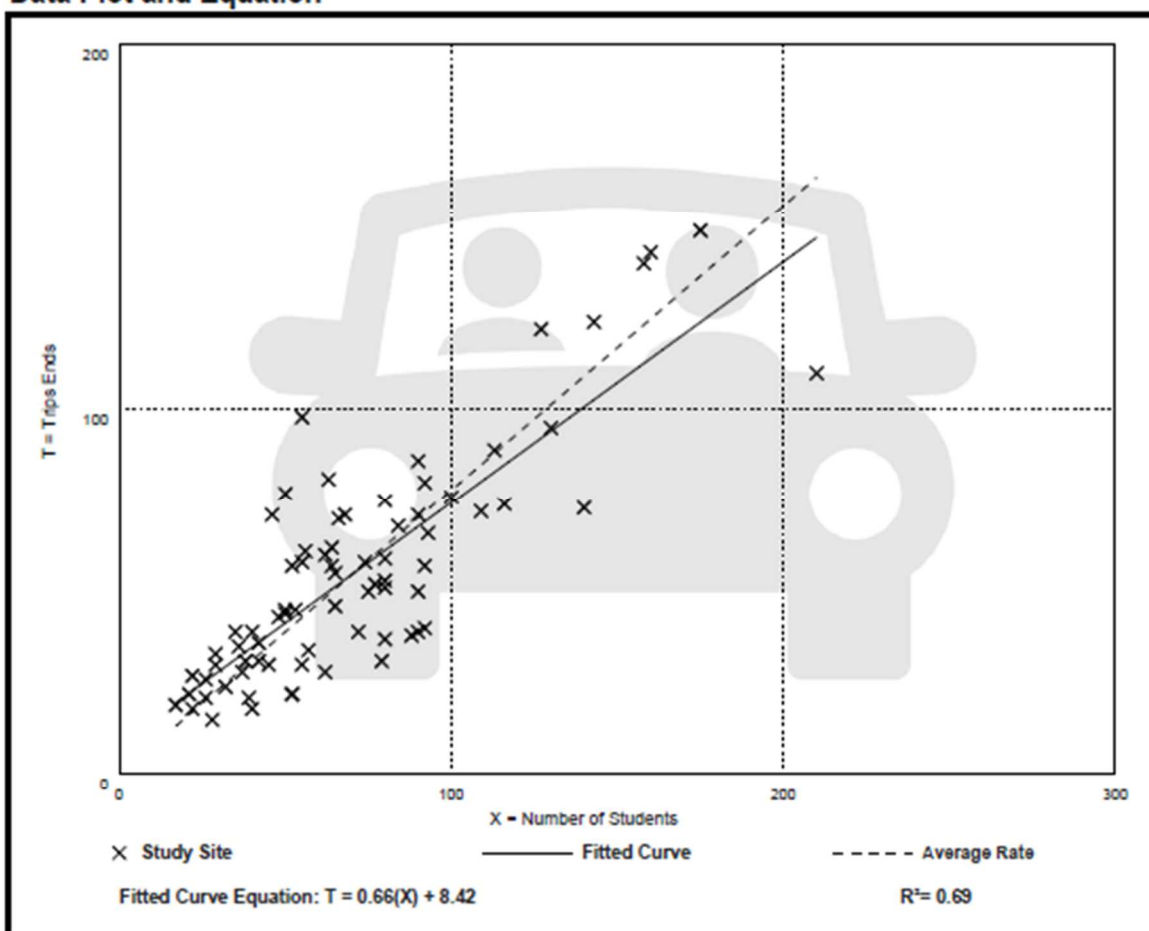
Avg. Num. of Students: 71

Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.78	0.39 - 1.78	0.25

Data Plot and Equation



Day Care Center (565)

Vehicle Trip Ends vs: Students

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 75

Avg. Num. of Students: 72

Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.79	0.24 - 1.72	0.30

Data Plot and Equation

