

Student Mobility and High School Graduation

Primary Brief



This series of analyses builds upon [OCID's previous work](#) by diving deeper into student mobility and exploring the association between graduation rates and different school transition types and frequencies. We also identify opportunities for policy or programmatic interventions to address the root causes of mobility, or support students who experience mobility.

Key Findings

- School transitions for reasons outside of normal grade promotion were a common experience, and students often experienced more than 1 transition.
 - » Of the almost 90,000 students included in this analysis, 72% of students experienced a school transition at some point during grades K through 12. School transitions can occur between school years (summer transitions) or during the school year (midyear transitions). Additionally, students may experience school transitions within districts or between districts, by entering public school in Oregon for the first time after 1st grade, or when a student returns to public school after being out of public school for a year or more.
- Graduation rates (defined here as graduation within 5 years of entering 9th grade) were lower among students with school transitions, especially those who had experienced a midyear transition.
 - » The graduation rate for students who had experienced at least 1 transition (mobile students) was 74%, compared with 94% for students who had not experienced any transitions (nonmobile students).
 - » Midyear transitions were more disruptive to graduation than summer transitions.
- Students who experienced more school transitions were less likely to graduate within 5 years.
 - » Students who experienced 2 or more transitions (midyear or summer) had a significantly higher risk of not graduating, compared with students who had not experienced any transitions.
 - » Students who experienced 1 or more midyear transitions had a significantly higher risk of not graduating compared with students who had not experienced any transitions, even after controlling for student and family characteristics.
 - » Students who experienced 1 summer transition did not have a statistically increased risk of not graduating.
- Students who experienced a transition between school districts were less likely to graduate within 5 years than those who had transitioned within their school district.

Introduction

Previous research shows that student mobility may have harmful effects on student educational¹ and health² outcomes, as well as social development.³ The associations between student mobility and these outcomes are particularly strong for certain populations, such as younger children, students experiencing houselessness, students with foster care involvement, and students whose parents are migrant workers.⁴

Policy Context

Student mobility remains a challenge in Oregon, with a 2018 Oregon Department of Education (ODE) brief showing graduation rates for mobile students were more than 40 percentage points lower than for nonmobile students.⁶ The mobile student cohort had higher proportions of economically disadvantaged students and students experiencing houselessness.⁵ There were also racial and ethnic disparities, with Black students experiencing the highest rates of mobility. Additionally, this ODE brief found midyear mobility had a greater effect on graduation rates than outside-district transitions alone.

In 2022 and 2023, the Oregon Integrated Child Dataset (OCID) project published a series of analyses on Oregon's high school class of 2020 that identified midyear school transitions as 1 of the top 3 barriers to 4-year graduation.⁶ OCID further explored this finding by developing [several materials focused on midyear school transitions](#). Similar to the ODE brief, these analyses found students who changed schools midyear had graduation rates that were nearly 30 percentage points lower than their peers who did not have a midyear transition, and midyear school transitions were more common for Black students, students who experienced poverty, and students with disabilities. Students who had ever had participation in or contact with certain public

Key Terms

Student mobility refers to students who change schools due to reasons other than grade promotion. The Oregon Department of Education (ODE) considers students to be mobile if they were enrolled in more than 1 school or if they experienced late entry, early exit, or a significant enrollment gap.

This OCID analysis defines several types of student mobility:

- **Within-district transitions** are school transitions between 2 schools in the same district.
- **Outside-district transitions** are school transitions between 2 schools in different districts.
- **Late enrollment to Oregon public schools** occurs when a student enrolls in Oregon public schools for the first time after 1st grade (each student can have only 1 late enrollment transition).
- **An enrollment gap** occurs when a student is unenrolled from Oregon public schools for 1 or more academic years, and then returns to a public school.

All 4 of these types can occur either:

- **Midyear** (during the academic year from September 1 to June 15), or
- **Over the summer** (outside of the academic year from June 16 to August 31).

¹ Selya AS, Engel-Rebitzer E, Dierker L, et al. The causal effect of student mobility on standardized test performance: a case study with possible implications for accountability mandates within the Elementary and Secondary Education Act. *Front Psychol.* 2016;7:1096. doi: 10.3389/fpsyg.2016.01096.

² Herbers JE, Reynolds AJ, Chen CC. School mobility and developmental outcomes in young adulthood. *Dev Psychopathol.* 2013;25(2):501-515. doi: 10.1017/S0954579412001204.

³ Rumberger RW. [Student mobility: causes, consequences, and solutions](#). National Education Policy Center; 2015.

⁴ EducationCounsel. [Research scan on the impact of student mobility on student and school outcomes](#). 2016.

⁵ Oregon Department of Education. [Student mobility in graduation](#). 2018.

⁶ Oregon Child Integrated Dataset. [Predictors of 4-year graduation for the Oregon high school class of 2020](#). 2023.

programs (listed below) were more likely than their peers to change schools midyear. This presents an opportunity for early identification, and for providing support or early interventions through public programs, including:

- Individualized education program (IEP)
- Juvenile justice system
- Foster care system
- Medicaid or Children’s Health Insurance Program (CHIP)
- Supplemental Nutrition Assistance Program (SNAP)
- Temporary Assistance for Needy Families (TANF)

Purpose

This brief builds upon OCID’s previous work and dives deeper into student mobility by exploring the association between different school transition types (e.g., school transitions over the summer vs. during the school year) on graduation rates for different student populations. This analysis also identifies opportunities for policy and programmatic approaches that may address the root causes of student mobility and better support mobile students.

Analysis Overview

This brief describes results from a statistical analysis on the association between student mobility and high school graduation among a cohort of students who were of typical graduation age in 2020 and 2021. We present descriptive and multivariate analyses to answer several research and policy questions:

- Which type(s) of student mobility have the strongest impact on high school graduation?
- Does the number of transitions students experience affect their chances of graduating?
- Do transitions occurring within the same school district have the same effect on graduation as transitions outside the school district?

Our analysis focuses on several types of student mobility: midyear transitions, summer transitions, within-district transitions, outside-district transitions, late enrollment to Oregon public schools, and enrollment gaps. Students can experience multiple types of transitions across their academic career

Methods Summary

Study population. Oregon public school students who were first-time 9th graders in the 2016–2017 or 2017–2018 academic years, including students born within and outside the state of Oregon (N = 89,760).

Outcome of interest. High school graduation within 4 or 5 years of entering 9th grade. Graduation indicates the receipt of a high school diploma, but does not include receipt of a modified diploma, enrollment in postgraduate scholars programs, or the receipt of a general equivalency diploma (GED).

Exposures and covariates. The primary exposure in this analysis was student mobility; we characterized school transitions based on timing, frequency, and being within or across districts. Covariates included student demographic characteristics (e.g., sex/gender, race and ethnicity, rural/urban residence), indicators of low income (e.g., TANF, SNAP, Medicaid/CHIP enrollment), indicators of public program participation (e.g., foster care, juvenile justice, special education), and other student or family characteristics (e.g., behavioral health diagnosis, houselessness, substantiated maltreatment).

Statistical analysis. We conducted descriptive and multivariate analyses. Multivariate analyses used log-binomial regression models to estimate the association of various types of student mobility on not graduating from high school, while controlling for key student characteristics.

See [Appendix B](#) for additional methodological detail and discussion of study limitations.

and may be included in multiple categories. These definitions of different types of student mobility exclude school transitions that occur because of grade promotion.

Our primary outcome was high school graduation within 5 years of entering 9th grade. The analysis considers key student and family characteristics (e.g., sociodemographic characteristics, public program participation) as covariates.

Subgroup Analysis

We ran additional analyses to identify disparities across equity characteristics, to test the moderating role of race/ethnicity, geography, sex/gender, and disability status on the association between student mobility and graduation. While there were disparities in school transition experiences across equity groups, the overall associations between school transitions and graduation did not vary by group in ways that altered our interpretation; across all groups studied, the pattern and direction of the associations between types of student mobility and graduation were consistent. Therefore, the findings presented here are for the entire cohort (see [Appendix B](#) for more detail).

Findings

School transitions were common and students often experienced more than 1 transition

Our analytic cohort consisted of 89,760 students. Of these, 64,210 (72%) experienced at least 1 school transition during their K through 12 education. Students who experienced school transitions differed from students who never experienced a transition in a number of ways: they were more likely to live in urban counties, identify as Black/African American, receive income assistance (i.e., TANF), have foster care involvement, have contact with the justice system, and have been diagnosed with a behavioral health condition ([Appendix A](#), Table A1). To account for these differences, the models presented in this brief are adjusted for these key characteristics.

The 64,210 students in Oregon who experienced student mobility collectively accounted for 164,080 total transitions. Midyear transitions were more common than summer transitions (96,980 vs. 67,120) overall. Midyear transitions between districts were most common (49,330), followed by summer transitions between districts (32,900). Both late enrollment in Oregon public schools and reenrollment after a gap of 1 year or more followed similar patterns, with a larger number of these transition types occurring during the academic year than over the summer (Figure 1).

Figure 1. Number of school transitions by type

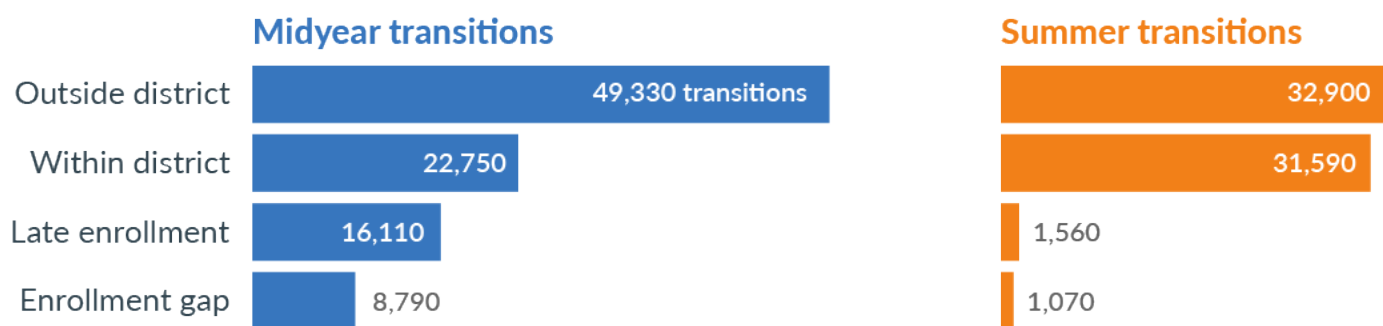
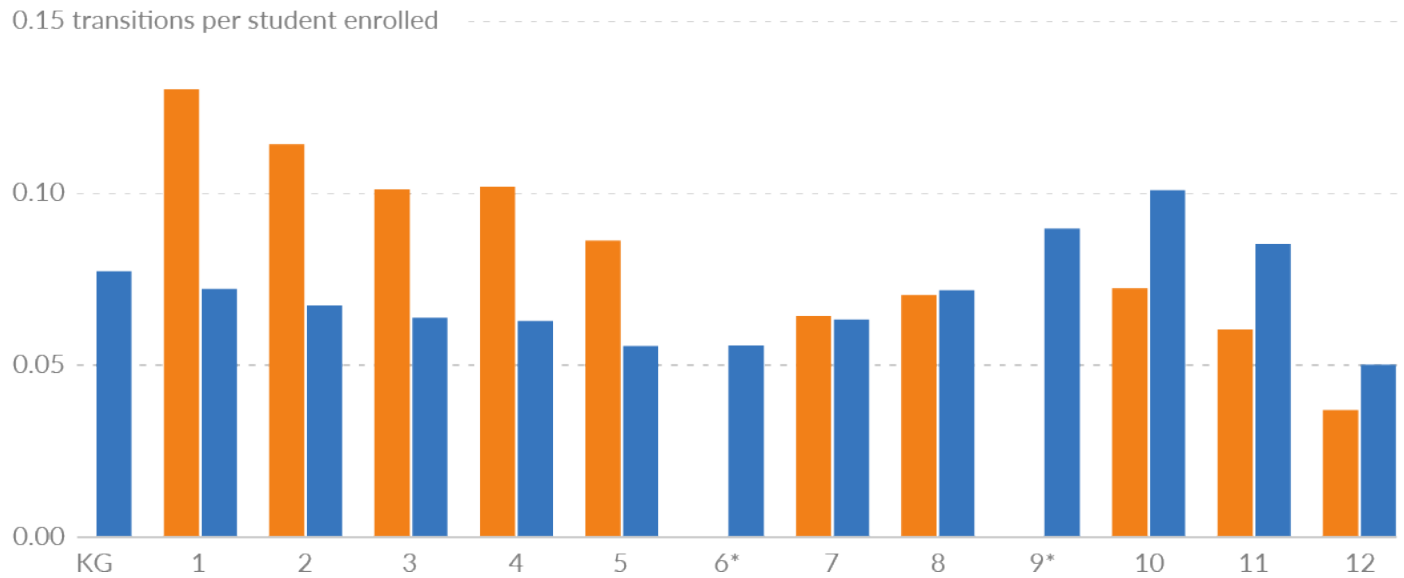


Figure 2 displays the rate of midyear and summer transitions per enrolled student by grade. Overall, summer transitions were more common among students in grades 1 through 5, while midyear

transitions were most common among students in grades 9 through 12. Transitions due to enrollment gaps and late enrollment in Oregon public schools are not included in Figure 2.

Figure 2. Number of midyear and summer transitions per student enrolled, by grade

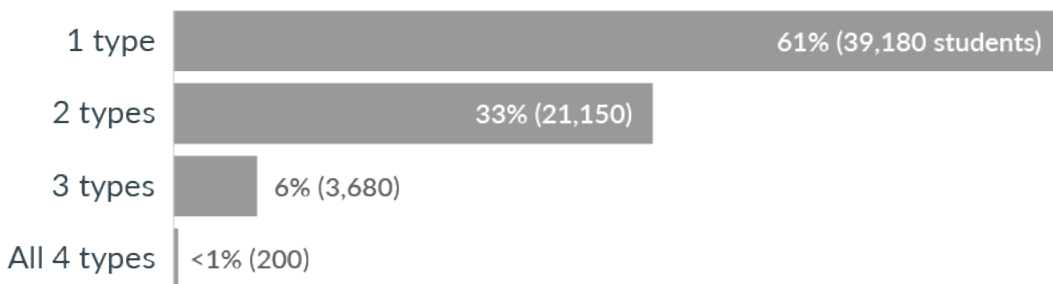


Note. * Data from the National Center for Education Statistics on the lowest and highest grade available at each school was used to remove transitions that result from natural grade promotion; as transitions due to grade promotion are most common in 6th and 9th grade, data for summer transitions are not shown for these grades.

Among students who had had a transition, 61% experienced only 1 transition type, 33% experienced 2 types, 6% experienced 3 types, and less than 1% experienced 4 transition types (Figure 3).

Figure 3. Students who experienced multiple transition types

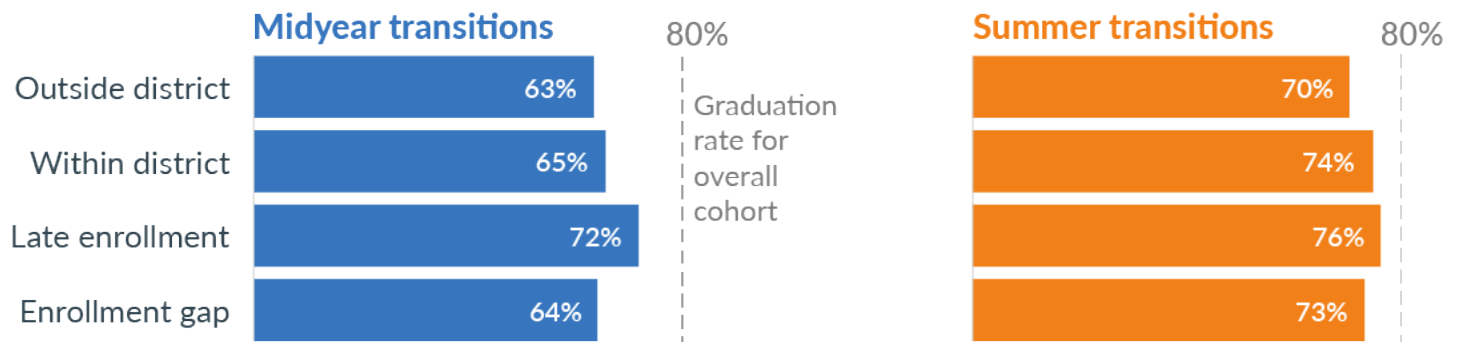
(outside-district transitions, within-district transitions, late enrollment, and enrollment gaps)



Graduation rates were lower among students with transitions, especially midyear transitions

Students who experienced at least 1 transition graduated at a rate nearly 20 percentage points lower than their peers who did not experience a transition (75% vs. 94%, respectively). Graduation rates were lower among students who experienced a midyear transition of any type than among students who experienced summer transitions (Figure 4). See [Appendix A](#), Table A2 for a breakdown of student characteristics by transition type.

Figure 4. Graduation rates for students who experienced different transition types



After controlling for student characteristics and program enrollment, we found students who experienced at least 1 midyear school transition had double the risk of not graduating compared with students without any school transitions, whereas a summer transition did not significantly affect the risk of not graduating (Table 1).

Table 1. Risk of not graduating among students who experienced midyear or summer transitions, adjusted

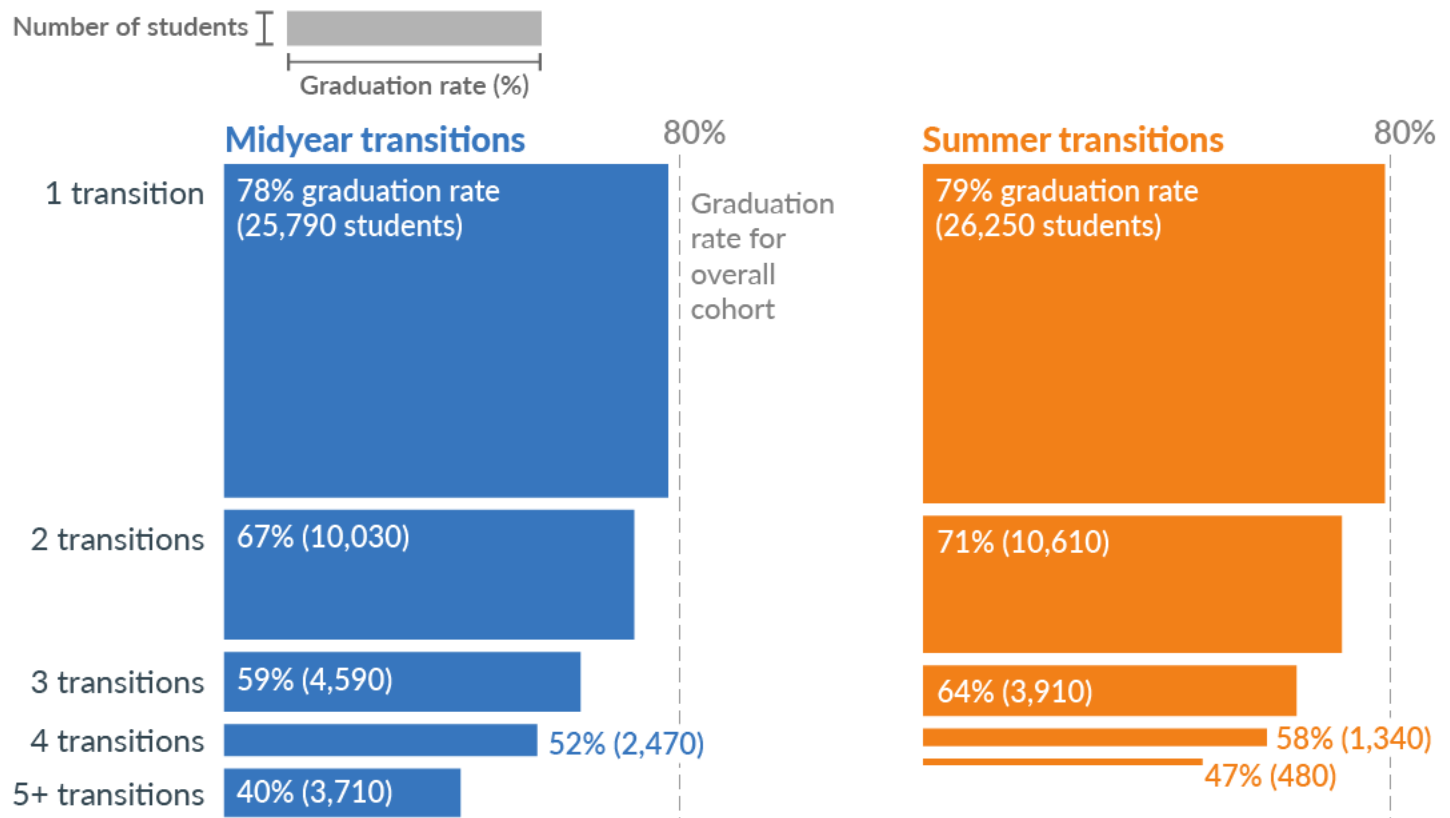
	RISK RATIO	95% CONFIDENCE INTERVAL	
		LOWER	UPPER
Any midyear transitions	2.07	1.99	2.15
Any summer transitions	1.02	0.99	1.05

Note. Risk ratios shown here compare students with the identified transition type to those who did not experience a transition. Models were adjusted for sex/gender, race/ethnicity, rural/urban/tri-county designation, IEP status, English language learner status, poverty status (TANF, SNAP, and Medicaid/CHIP), behavioral health diagnosis, foster care participation, houselessness, substantiated maltreatment, juvenile justice system contact, severe chronic absenteeism, and school discipline.

Students who experienced more transitions were less likely to graduate

Whether a student experienced student mobility during the year or over the summer, having more transitions was associated with higher risk of not graduating (Figure 5). This was true for both midyear transitions and summer transitions, though the effect was greater for midyear transitions.

Figure 5. Graduation rates by number of school transitions



After adjusting for student characteristics and enrollment in public programs, students who experienced multiple transitions (midyear or summer) had significantly higher risk of not graduating compared with students who did not experience any transitions (Table 2). The likelihood of not graduating was higher for students with 3 or more transitions. Having 1 midyear transition also increased the risk of not graduating, whereas having only 1 summer transition did not significantly affect the risk of not graduating.

Table 2. Risk of not graduating among students who experienced multiple transitions, adjusted

	RISK RATIO	95% CONFIDENCE INTERVAL	
		LOWER	UPPER
3+ midyear transitions	1.89	1.76	2.02
2 midyear transitions	1.59	1.48	1.71
1 midyear transitions	1.34	1.25	1.43
3+ summer transitions	1.13	1.05	1.20
2 summer transitions	1.09	1.03	1.15
1 summer transition	1.03	0.98	1.09

Note. Risk ratios shown here compare students with the identified transition type and count to those who did not experience a transition. Models were adjusted for sex/gender, race/ethnicity, rural/urban/tri-county designation, IEP status, English language learner status, poverty status (TANF, SNAP, and Medicaid/CHIP), behavioral health diagnosis, foster care participation, houselessness, substantiated maltreatment, juvenile justice system contact, severe chronic absenteeism, and school discipline.

Students who experienced a transition between school districts were less likely to graduate

Students who experienced a transition outside their school district of origin had 1.19 times the risk of not graduating compared with students who did not experience any transitions, whereas students who experienced a transition within their school district had 1.06 times the risk of not graduating (Table 3).

Table 3. Risk of not graduating among students who experienced outside- and within-district transitions, adjusted

	RISK RATIO	95% CONFIDENCE INTERVAL	
		LOWER	UPPER
Outside-district transitions	1.19	1.16	1.23
Within-district transitions	1.06	1.04	1.09

Note: Risk ratios shown here compare students with the identified transition type to those who did not experience a transition. Transitions due to enrollment gaps and late enrollment to Oregon public schools are not included. Models were adjusted for sex/gender, race/ethnicity, rural/urban/tri-county designation, IEP status, English language learner status, poverty status (TANF, SNAP, and Medicaid/CHIP), behavioral health diagnosis, foster care participation, houselessness, substantiated maltreatment, juvenile justice system contact, severe chronic absenteeism, and school discipline.

Conclusions

The findings from this analysis align with and build upon previous OCID and ODE analyses. These findings show school transitions are common, and students often experience more than 1 transition. Students who experienced multiple school transitions, outside-district transitions, and most notably, midyear transitions were less likely to graduate compared with students who experienced other types of transitions (i.e., a single transition, within-district transitions, and summer transitions).

While we adjusted for several confounding factors in this analysis, these results alone do not indicate that school transitions are the *cause* of lower graduation rates, as there could be unmeasured confounding factors that cause both school transitions and lower graduation rates. Furthermore, in this analysis we did not identify the root causes of school transitions, which are important to consider when addressing the lower graduation rates experienced by mobile students.

To address the lower graduation rates associated with certain types of school transitions, policies and programs may be leveraged to:

- a. Identify students at potential risk,
- b. Address and, if possible, prevent the root causes of school transitions, and
- c. Target supports to improve educational outcomes among students who experience school transitions.

The characteristics of mobile students differed from nonmobile students in several ways. For example, they were more likely to identify as Black/African American, have lower income (as indicated by participation in income-support programs), have a behavioral health diagnosis, and have foster care involvement (Appendix A, Table A1). These differences begin to illustrate the inequities in student mobility and the complex combination of services required to support students who experience transitions.

Questions for Policymakers

Given this context, policymakers and other stakeholders may want to consider several important questions when addressing student mobility, including:

- What education and noneducation policy changes could be implemented to address the root causes of school transitions, or to improve educational outcomes for mobile students (especially those who experience midyear transitions, outside-district transitions, and multiple transitions)? For example^{7,8}:
 - » Are there housing-related policies, such as those related to public housing, private assisted housing, and housing vouchers, that could address instances where housing instability is the cause for student mobility?
 - » What policies associated with education-related supports, such as school transportation or staff liaison services, can be leveraged to ensure children who experience houselessness remain in school?
- What efforts can Oregon schools, ODE, and other public programs implement to address the root causes of school transitions, or to best support mobile students (especially those who experience midyear transitions, outside-district transitions, and multiple transitions)? For example^{8,9,10}:
 - » Offering counseling and mentoring opportunities for mobile students
 - » Providing families with information to help with their decisions around school transfers
 - » Modifying suspension and expulsion policies
 - » Modifying open enrollment policies
 - » Collecting and reporting student mobility (or student stability) rates and incorporating these rates into school and district performance metrics
 - » Holding accountable the school that a student transitions from throughout that school year
 - » Providing transition programming and other targeted services and supports for mobile students
- How can Oregon schools, ODE, and other public programs increase collaboration to address the root causes of student mobility or better serve mobile students, including efforts to:
 - » Coordinate services and make them more accessible for those who are eligible
 - » Focus on support for academic success, accounting for student strengths, interests, and needs
 - » Facilitate information sharing for students who experience outside-district transitions (e.g., credit transfer processes)
- How can student mobility policies and programs target the subpopulations of students most likely to experience school transitions, or students at risk of entering into those high-risk groups?

⁷ Institute of Medicine. [Student mobility: exploring the impacts of frequent moves on achievement: summary of a workshop](#). The National Academies Press; 2010.

⁸ Welsh RO. School hopscotch: a comprehensive review of K-12 student mobility in the United States. *Rev Educ Res*. 2017;87(3):475-511. doi: 10.3102/0034654316672068.

⁹ Rumberger RW. [Student mobility: causes, consequences, and solutions](#). National Education Policy Center; 2015.

¹⁰ Potter D, Alvear S, Bao K, et al. [Changing schools, part 3: student mobility within and between districts in Texas and the Houston area](#). Houston Education Research Consortium; 2020.

- What additional analyses could assist policymakers and public programs in achieving greater graduation success for mobile students? For example, analyses that would help policymakers identify:
 - » Primary root causes of student mobility (e.g., moving, illness, juvenile justice involvement, foster care involvement)
 - » Which policies, practices, or incentives at state, district, or school levels may contribute to lower graduation rates among mobile students
 - » What schools or districts with high graduation rates among mobile students do to support mobile students
 - » The circumstances of students who experience school transitions, to most effectively target resources



APPENDIX A

Tables and Figures

Table A1. Cohort characteristics

VARIABLE	FULL COHORT		NO TRANSITIONS		ANY SCHOOL TRANSITION	
	N	%	N	%	N	%
High school graduation rate	71,730	79.9	23,880	93.5	47,850	74.5
EQUITY CHARACTERISTICS						
Female	43,580	48.5	12,420	48.6	31,160	48.5
Male	46,180	51.5	13,140	51.4	33,040	51.5
American Indian/Alaskan Native	10,190	11.3	2,900	11.4	7,280	11.3
Asian	5,240	5.8	1,790	7.0	3,450	5.4
Black/African American	3,650	4.1	560	2.2	3,100	4.8
Hispanic/Latinx	13,340	14.9	3,780	14.8	9,570	14.9
Native Hawaiian/Pacific Islander	1,410	1.6	300	1.2	1,120	1.7
White	55,930	62.3	16,240	63.5	39,700	61.8
Rural	20,710	23.1	5,880	23.0	14,830	23.1
Tri-county	37,580	41.9	11,480	44.9	26,100	40.6
Urban	31,470	35.1	8,200	31.2	23,280	36.3
Disability (IEP)	20,980	23.4	5,130	20.1	15,850	24.7
INCOME CATEGORIES						
Deep poverty	22,310	24.9	2,900	11.3	19,410	30.2
Very low income	32,780	36.5	9,250	36.2	23,520	36.6
Low income	8,660	9.7	2,750	10.8	5,920	9.2
STUDENT AND FAMILY CHARACTERISTICS						
Behavioral health diagnosis	27,100	30.2	4,460	17.5	22,640	35.3
English language learner	15,460	17.2	4,910	19.2	10,550	16.4
Foster care participation	5,150	5.7	500	1.9	4,650	7.2
Student houselessness	11,160	12.4	960	3.7	10,200	15.9
Juvenile justice contact	11,960	13.3	1,430	5.6	10,530	16.4
School discipline	26,210	29.2	4,850	19.0	21,370	33.3
Severe chronic absenteeism	49,200	54.8	8,150	31.9	41,046	63.9
Substantiated maltreatment	10,760	12.0	1,230	4.8	9,520	14.8

Note. Demographic variables are collected in 9th grade. Program participation, income categories, and student and family characteristics reflect whether the student or family ever experienced the exposure. Deep poverty indicates ever being enrolled in the Temporary Assistance for Needy Families (TANF) program. Very low income indicates ever being enrolled in the Supplemental Nutrition Assistance Program (SNAP) while never being enrolled in TANF. Low income indicates ever being enrolled in Medicaid, while never being enrolled in TANF or SNAP.

Abbreviation. IEP: individualized education plan.

Table A2. Midyear and summer transitions descriptive statistics

VARIABLE	MIDYEAR TRANSITION(S)		SUMMER TRANSITION(S)	
	N	%	N	%
High school graduation rate	32,350	69.4	31,890	74.9
EQUITY CHARACTERISTICS				
Female	22,610	48.5	20,780	48.8
Male	23,990	51.5	21,810	51.2
American Indian/Alaskan Native	5,440	11.7	4,670	11.7
Asian	2,330	5.0	1,970	4.6
Black/African American	2,480	5.3	2,020	4.7
Hispanic/Latinx	7,150	15.3	6,280	14.7
Native Hawaiian/Pacific Islander	860	1.8	680	1.6
White	28,340	60.8	26,680	62.7
Rural	11,010	23.6	9,830	23.1
Tri-county	18,110	38.9	17,150	40.3
Urban	17,470	37.5	15,600	36.6
Disability (IEP)	11,760	25.5	11,520	27.1
Deep poverty	16,160	34.7	14,400	33.8
STUDENT AND FAMILY CHARACTERISTICS				
Behavioral health diagnosis	18,520	39.7	16,190	38.0
Foster care participation	4,060	8.7	3,660	8.6
Student houselessness	9,000	19.3	7,370	17.3
Juvenile justice contact	9,010	19.3	7,740	18.2
Severe chronic absenteeism	34,480	74.0	28,100	66.0

Note. Demographic variables are collected in 9th grade, and student and family characteristics reflect whether the student or family ever experienced the exposure. Deep poverty indicates ever being enrolled in the Temporary Assistance for Needy Families (TANF) program. Abbreviation. IEP: individualized education plan.

Table A3. Graduation rates for students with multiple midyear and summer transitions

	MIDYEAR TRANSITIONS			SUMMER TRANSITIONS		
	COUNT	%	GRAD RATE (%)	COUNT	%	GRAD RATE (%)
1 transition	25,790	55.3	78.0	26,250	61.6	79.2
2 transitions	10,030	21.5	66.9	10,610	24.9	71.6
3 or more transitions	10,780	23.1	51.4	5,730	13.5	61.3

APPENDIX B

Methods

Study Population

The population for this analysis includes Oregon public school students who were first-time 9th graders in the 2016–2017 or 2017–2018 academic years, and who were enrolled in a standard instruction program for at least 1 instructional day or hour. This analysis includes students born within and outside the state of Oregon, and includes data on student and family characteristics from birth to age 18, when available. From an initial population of 90,144 students who met the criteria above, 179 students were removed due to mortality and 207 students were removed for having unknown sex/gender or race/ethnicity data, for a final population of 89,758 students.

We used study identifiers generated by the Integrated Client Services group within the Office of Forecasting, Research and Analysis at the Oregon Department of Human Services to link this cohort of students with further educational administrative records and state administrative records in child welfare, SNAP, TANF, Medicaid/CHIP, and Oregon Youth Authority.

Variable Creation and Validation

For this analysis, all variables were coded by the OCID project data team. When possible, variables were created in alignment with existing agency metric parameters (e.g., chronic absenteeism), and validated against publicly available agency reports. Throughout the analysis process, variables were developed by a primary coder, results were output and reviewed by the OCID team, and the code was reviewed by a secondary data team member to ensure accuracy. Discrepancies were managed by data team discussion.

Variable Selection

Variable selection for this analysis was done through a 2-part process that included the policy priorities of the OCID Governance Committee as well as a review of existing evidence from the literature. Over the spring and summer of 2023, OCID held individual discussions with Governance Committee members to identify areas of continued policy interest. Following these discussions, a brief literature review was conducted by an OCID policy analyst to better understand the literature base on this topic, and to identify previously used measures of student mobility. Findings from

Variables Included

Types of Student Mobility

- Within-district transitions
- Outside-district transitions
- Late enrollment to Oregon public schools
- Enrollment gaps
- Midyear transitions
- Summer transitions

Equity Characteristics

- Sex/gender in 9th grade
- Race/ethnicity in 9th grade
- County rural/tri-county/urban designation in 9th grade
- Individual education program enrollment (IEP)

Income Categories

- Deep poverty (TANF enrollment)
- Very low income (SNAP enrollment, no TANF)
- Low income (Medicaid/CHIP enrollment, no SNAP or TANF)
- No known poverty (No Medicaid/CHIP, SNAP, or TANF)

Student/Family Characteristics

- Behavioral health diagnosis
- Chronic absenteeism
- English language learner
- Foster care participation
- Student houselessness
- Juvenile justice contact
- School discipline
- Severe chronic absenteeism
- Substantiated maltreatment

this 2-step process were then brought to the OCID team for review and prioritization.

Across all analyses in this brief, variables are binary and are coded to indicate whether the student ever (or never) experienced the specific exposure, unless otherwise indicated. For the purposes of this brief, we grouped variables as types of student mobility, equity characteristics, income categories, or student/family characteristics.

Educational Outcome Measures

For this analysis, we coded 4- and 5-year graduation according to data received from ODE. Within the ODE graduation data, a student was coded as having graduated if the graduation indicator variable was “Y.” An indication of “N” or missing was coded as having not graduated. In addition to the graduation indicator, the school year indicated in the graduation data was kept to determine the number of years needed to graduate. For 9th grade students in the 2016–2017 academic year, 4-year graduation is indicated by graduation in the 2019–2020 academic year and 5-year graduation is indicated by graduation in the 2020–2021 academic year. For 9th graders in the 2017–2018 academic year, 4-year graduation is indicated by graduation in the 2020–2021 academic year and 5-year graduation is indicated by graduation in the 2021–2022 academic year.

Within this analysis, graduation indicates the receipt of a high school diploma, but does not include receipt of a modified diploma, enrollment in postgraduate scholars programs, or the receipt of a general equivalency diploma (GED). The ODE reports a 5-year graduation rate of 83.04% for 9th graders in the 2016–2017 academic year and a 5-year graduation rate of 84.49% for 9th graders in the 2017–2018 academic year, for an average of 83.76% across both years. This is slightly higher than our finding of an 80% graduation rate within the OCID sample. This difference may be caused by differences in the cohort selection, such as ODE removing students who transferred out of state or to a private school, as well as ODE including alternative forms of graduation, such as postgraduate scholars and modified diplomas. As model results did not significantly differ between 4-year and 5-year graduation, the analyses presented here use a combined variable that indicates 4-year or 5-year graduation for all students. To assist with interpretation, models display estimates for the risk of not graduating, rather than graduating.

Types of Student Mobility

Previous OCID research on the topic of student mobility focused specifically on transitions that occurred during the academic year. In an effort to build off that knowledge, this analysis expanded the categories of student mobility to better differentiate the types of transitions that occur and to better measure their relative effect on high school graduation. We cross-referenced results from the literature review with the available data, and coded the following categories of student mobility (see below). Across all of these mobility categories, we excluded school transitions due to grade promotion (e.g., moving from elementary to middle school in 6th grade). We identified the highest and lowest grade of each school using data from the National Center on Education Statistics. Many students experienced multiple episodes and types of mobility. A single student may appear in none, some, or all of the groups below.

- **Within-district transitions:** School transitions between 2 schools in the same district.
- **Outside-district transitions:** School transitions between 2 schools in different districts.
- **Late enrollment to Oregon public schools:** When a student enrolls in Oregon public schools for the first time after 1st grade. Each student can only have 1 late enrollment transition.

- **Enrollment gaps:** When a student is unenrolled in Oregon public schools for 1 academic year or more and then returns to Oregon public schools

Additionally, all 4 of these school transition types can occur either:

- **Midyear** (during the academic year from September 1 to June 15).
- Or over the **summer** (outside of the academic year from June 16 to August 31).

Data presented in Table 3 on within-district and outside-district school transitions does not include late enrollment to Oregon public schools and enrollment gaps, due to the lack of information on where the students transitioned from.

Race/Ethnicity

OCID data partners and agencies may have different data definitions or methodology for reporting individual or family race and ethnicity, which are not easily reconciled. With input from state partners and subject matter experts, we developed a methodology to select information for individuals when there were multiple options within and across points in time. The [OCID Race and Ethnicity Data Overview](#) provides a detailed summary on the guiding methodology and technical steps used to assign race and ethnicity from across the OCID data sources.

Statistical Analysis

The appendix lists the variables explored for inclusion in a series of log binomial regression models for estimating the association of various types of student mobility with high school graduation. Variables were chosen for inclusion based on policy interest from the OCID Governance Committee, previous findings from OCID analyses, and modeling considerations.

We created binary indicators for each level of each variable, to assist with the interpretation of results. All statistical analyses were performed in RStudio version 2022.07.1 and use the glm2 package to estimate risk ratios. Standard errors were estimated using the lmtest and sandwich packages in RStudio.

We ran additional analyses to identify disparities across equity characteristics, to test the moderating role of race/ethnicity, geography, sex/gender, and disability status on the association between student mobility and graduation. Findings from this subgroup analysis were consistent for the model comparing midyear and summer transitions, as well as for the model comparing the number of midyear and summer transitions. For both of these models, the pattern and direction of effects seen within the full cohort were consistent within equity groups.

For the model comparing within-district and outside-district transitions, findings were more variable across equity groups. However, across all groups, the direction of effect was consistent. While outside-district transitions had a stronger association with graduation than within-district transitions in the full cohort, there was no significant difference between the effect of outside-district and within-district transitions on graduation for the following groups: American Indian/Alaskan Native, Asian, Hispanic, Native Hawaiian/Pacific Islander, and youth with an IEP. As many of these groups represent small populations, further research will be needed to determine whether these are true differences, or a product of small sample sizes.

Limitations

The analysis we present here has 3 primary limitations. First, this study relied on available administrative data collected by state agencies. While administrative data is a valuable source of information, it is not necessarily comprehensive, and may reflect real-world biases. Furthermore, many of the personal characteristics reported here act as proxies for experiences that cannot be easily measured. Therefore, further research is needed to confirm the causality of the associations shown here.

Second, the outcome of high school graduation used in this analysis only captures receipt of a high school diploma, and does not capture other forms of high school graduation (enrollment in postgraduate scholars program, modified high school diploma, GED). While the receipt of a high school diploma is an indicator of a successful transition from high school, it is not the only measure of success, and may not accurately capture the outcomes of students who experienced disruptions to their education. OCID has prioritized the acquisition of data on other forms of high school graduation such as GED, and plans to incorporate broader definitions of high school completion in future analyses.

Finally, due to the complexity of school transitions, it is difficult to accurately identify the effect of any single transition, and results should be interpreted with caution. As seen throughout this analysis, the majority of students will experience a school transition within their educational career, and many will experience more than 1 transition. Additionally, there is no established measure of a successful school transition. Student mobility occurs for both voluntary and involuntary reasons, and this study is not able to differentiate these transitions with the available data. While this analysis attempted to adjust for confounding factors, many important factors such as engagement in school remained unmeasured, and should be explored further.