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STUDENT MOBILITY IN VERMONT SCHOOLS:
A MULTILEVEL EVALUATION OF EDUCATIONAL EQUITY

A Dissertation Presented

by

Annabelle Morgan

to

The Faculty of the Graduate College

of

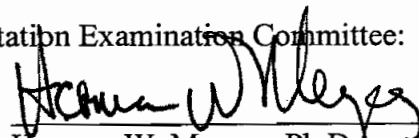
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In Partial Fulfillment of the Requirements
for the Degree of Doctor of Education
Specializing in Educational Leadership and Policy Studies


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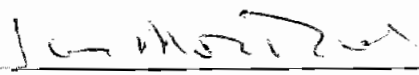
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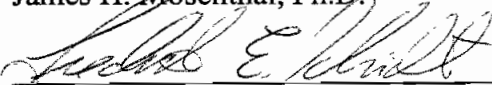
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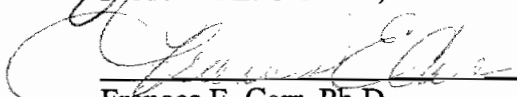
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Abstract

This dissertation project researched *student mobility*-- school changes *not* due to customary promotion-- and its educational correlates, for students and schools in Vermont. Student mobility research in other states has found that the majority of these students are disadvantaged youth from low-income families, and they lag behind their peers academically. Academic consequences of student mobility affect not only students, but also their schools since NCLBA implementation sanctions influence school enrollments by increasing student transfers. The need for information about rural student mobility during early NCLBA implementation is significant in predominantly rural Vermont. This was the first statewide study of outcomes of mobility for students and schools in a rural state.

Three basic research questions were: (a) What is the *incidence* of mobility among Vermont students and schools? (b) What is the *impact* of mobility, i.e., how does the incidence of mobility vary according to educational correlates for students and schools? (c) What do multilevel analytical models reveal about variation in mobility from student and school perspectives that may be useful for educational policy and practice? To address these questions, the study analyzed data for Vermont public school students, grades 1 through 12, during school years 1999-2004. Data sources included: (a) the Vermont Department of Education Student Census and Demographic Update; (b) student New Standards Reference Examination English Language Arts and Mathematics tests, grades 4, 8, and 10; (c) Vermont School Report indicators, and (d) NCES-US Census public school location information.

In-depth cross-sectional and longitudinal analyses of mobility, performance, sociodemographic, and educational correlates revealed significant and disturbing relationships that merit policy and prevention follow-up programming. School-level mobility incidence indicated that while in-migration was 20% on average, over 30% of the schools experienced much higher rates, mirroring urban-based mobility incidence. Academically, mobile students performed 3-10 percentile ranks lower than their stable counterparts did across grade levels and content areas on standardized tests, for longitudinal cohorts as well as cross-sectional grade groups. Risk factor analyses revealed that mobile students, relative to their stable peers, were (a) more likely to participate in free or reduced lunch programs at school, (b) less likely to have a 504 plan in place, (c) more likely to have kept a writing portfolio for 0-1 years (versus 2-5 years), (d) more likely to have kept a mathematics portfolio 0-1 years (versus 2-5 years), and (e) more likely to *not* meet the standard on mathematics performance tests. Hierarchical generalized nonlinear modeling analyses indicated that between 8% and 32% of the variation in student mobility was attributable to school-level composition and resources.

This project aimed to benefit the Vermont educational community in several ways. Analytical methodology will provide the framework for developing a longitudinal monitoring system with mobility incidence, impact, and relevant educational information. Information from analytical results will inform a case study during spring 2005 to address student mobility by raising public awareness of associated issues that affect not only the students and their families, but also classrooms, schools and communities.

Dedication

To mobile, homeless, and migrant children who are often
invisible in the society and its schools
and voiceless in their changing circumstances.

Acknowledgements

I want to first thank Dr. Bud Meyers, Dr. Kieran Killeen, Dr. Jim Mosenthal, and Dr. Fred Schmidt for serving as my committee members during the writing of this dissertation. As a doctoral committee, they generously offered flexibility and expertise that helped complete this dissertation spring 2005. I would like especially to recognize Bud for providing the initial research opportunity to work on this project when I first entered the Educational Leadership and Policy Studies program while working as a biostatistician at the UVM Biometry facility, and for sponsoring my position after leaving his post as Deputy Commissioner of Education. I thank Kieran for his professional and professorial critique and comments to improve the content and quality of this dissertation, and his timely feedback and support whenever I had questions. I am so glad Jim requested inclusion of English language arts assessment scores in the evaluation of student mobility, despite the additional file management and screening involved, because it enriched the quality of the research findings to have English, in addition to mathematics, as student outcomes. Finally, I thank Fred, the committee chair from the UVM Center for Rural Studies, for his interest in this study and offer to work on a policy paper in the near future.

Department of Education staff members were very helpful with many detailed questions and requests, not only for data files, but also about numerous data issues during the screening phase. Jennifer Perry was extremely thorough and knowledgeable in answering many questions about school matriculation, especially for schools whose students have multiple choices. Other people involved with the data requests and files

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I also want to acknowledge the faculty and staff in the Educational Leadership and Policy Studies Program for their kindness and professionalism. I owe a special debt of gratitude to Dr. David Shiman, whose assignments, course work, and discussions focused on equity, and for inciting my determination to promote equity in my world of work in the new career ahead. Peg Boyle Single's writing system, her insistence that students try the tools, her wonderfully supportive writing seminar, and her thorough critique of the beginnings of this dissertation were invaluable for this undertaking. I thank all the professors in the Educational Leadership and Policy Studies program for their readings, discussions, activities, and assignments that emphasize social justice issues in the schools and society outside the academe.

I wish to express my gratitude to my young adult children, Caroline and Michael, long protected from becoming mobile students during their primary and secondary school years. They have not quite understood my continuous work schedule, but they have been supportive and admiring nonetheless, in my quest to attain an advanced degree and career change after they grew up.

I hope that at least some aspects of this research and its follow-up qualitative study in schools experiencing high in-mobility and associated consequences will benefit students and schools in the Vermont educational community.

Table of Contents

Dedication	ii
Acknowledgements	iii
List of Tables.....	viii
List of Figures	ix
CHAPTER 1: INTRODUCTION.....	1
Educational Policy and Research Context	1
Urban Versus Rural Student Mobility	2
Student Mobility and Education Accountability.....	3
NCLBA Accountability Challenges Small Rural Schools.....	5
Legislative Policymakers Need Accurate Statistical Information	6
Context Summary	7
Statement of the Problem.....	8
Research Questions	9
Conceptual Framework and Methodology Overview	9
Assumptions and Limitations.....	10
Significance.....	14
CHAPTER 2: LITERATURE REVIEW	15
Theoretical Literature	15
Economic Theoretical Perspective.....	16
Psychological Theoretical Perspective.....	20
Sociological Theoretical Perspective.....	23
Ecological Theoretical Perspective	25
Conclusion to Review of Theoretical Literature	29
Empirical Literature	30
Mobility and Migration Methodology	30
Impact of Mobility on Students	40
Impact of Mobility on Classrooms, Schools, and Communities	49

Multilevel Mobility Research.....	52
Conclusion to Review of Empirical Research	55
Literature Review Conclusion.....	56
CHAPTER 3: METHODOLOGY.....	59
Conceptual Framework.....	59
Research Questions	61
Research Materials and Data Sources	62
Student Census.....	63
Achievement Tests	65
Opportunity to Learn Survey	66
School Report Card	67
NCES Vermont Data	67
Framework Conceptualizations and Operationalizations.....	72
Sample Monitoring, Representativeness, and Attrition	77
Research Methods	81
Approach and Overview	81
Research Question 1: Incidence of Mobility.....	81
Research Question 2: Impact of Mobility.....	82
Research Question 3: Multilevel Perspectives.....	84
Sample Considerations for Small Schools.....	89
Summary	92
CHAPTER 4: RESULTS.....	94
Research Question 1: Incidence of Mobility	95
Incidence Highlights	95
Incidence Appendices C through H.....	99
Research Question 2: Impact of Mobility	101
Code Considerations	102
Impact in the Schools.....	106
Impact in the Schools: Appendices I Through M	109
Impact: Educational Performance and Risk Factors.....	110

Cohort Mobility	120
Cohort Mobility: Appendices N Through S	126
Research Question 3: Multilevel Perspectives	128
CHAPTER 5: DISCUSSION.....	134
Study Summary	134
Educational Policy Context	134
Conceptual Framework	134
Research Questions, Materials, and Methods	135
Highlights of Results.....	136
Interpretations and Implications	138
Incidence and Impact Indicators	138
Education Accountability	139
School Resources and Practice	140
Strengths, Limitations, and Recommendations for Further Study.....	141
Strengths	141
Limitations and Recommendations	144
Conclusion	148
References	149
List of Appendices.....	159

List of Tables

Table 1	Descriptions and Definitions of Data Elements.....	69
Table 2	Relationships Between Conceptual Framework and Operational Definitions.....	76
Table 3	School Groups by Grade Level on NSRE Mathematics Tests, 2003	91
Table 4	Statewide In-mobility of Vermont Public School Students Enrolled in Grades 1-12, School Years 2001-2004	96
Table 5	Educational risk factor assessment of mobility: Grade 4 Vermont students, school year 2002-2003.....	115
Table 6	Educational risk factor assessment of mobility: Grade 8 Vermont students, school year 2002-2003.....	117
Table 7	Educational risk factor assessment of mobility: Grade 10 Vermont students, school year 2002-2003	118
Table 8	Multivariate odds ratios for mobile relative to stable students, Vermont statewide results for Grades 4,8,10, School Year 2002-2003	119
Table 9	Summary of Multilevel Analyses: Student Achievement.....	130
Table 10	Summary of Student Mobility Multilevel Analyses: Mobility Models	133

List of Figures

Figure 1	Conceptual framework for the Vermont student mobility study.....	61
Figure 2	In-mobility rates for Vermont Public Schools, 2002-2003	98
Figure 3	Distribution of Vermont Schools According to US Census Locale Indicator	105
Figure 4	Mobile and stable student performance on statewide English language arts tests, Grades 4, 8, and 10, school year 2002-2003	112
Figure 5	Mobile and stable student performance on statewide mathematics tests, Grades 4, 8, and 10, school year 2002-2003	113
Figure 6	Cohort performance, grades 4 to 8, on NSRE English Language Arts tests, Vermont public schools 1999-2004.....	123
Figure 7	Cohort performance, grades 4 to 8, on NSRE Mathematics tests, Vermont public schools 1999-2004	124
Figure 8	Cohort performance, grades 8 to 10, on NSRE English Language Arts tests, Vermont public schools 1999-2004.....	125
Figure 9	Cohort performance, grades 8 to 10, on NSRE Mathematics tests, Vermont public schools 1999-2004.....	126

CHAPTER 1: INTRODUCTION

Educational Policy and Research Context

Students change schools frequently in the United States. Historically, geographical mobility has been an important aspect of American life, a fact of life reflected in the public schools. One decade ago, a widely cited national study of the impact of family relocation on children's school function and other developmental outcomes, found that 50% of school-age children moved at least two times, and 10% of school-age children moved at least six times before they were 18 years old (Wood, Halfon, Scarlata, Newacheck, & Nessim, 1993). One decade later, in 2003, between 13% and 16% of all school-age children had moved in the in the previous year (United States Department of Commerce, 2004). That same year, in 2003, a national conference convened to plan an agenda to address high student mobility (Hartman & Franke, 2003)¹. The keynote speaker said, "...frequent ... school change is disproportionately experienced by students whom the educational system is most likely to fail: low-income, minority, immigrant, special education ... and foster children" (Hartman & Franke).

In contrast to the variety of evidence reporting that students in this country move frequently, relatively little research examines the educational consequences of *student*

¹ Poverty & Race Research Action Council (PRRAC) organized the conference. PRRAC is a national non-partisan, nonprofit organization that generates, gathers, and disseminates research on the relationship between race and poverty. PRRAC promotes the development and implementation of policies and practices that alleviate conditions caused by the interaction of race and poverty. PRRAC invited academic researchers, public interest group representatives, education reformers, school system officials, and consultants known for their knowledge about student mobility and related issues to attend the conference (Hartman & Franke, 2003).

mobility -- school changes *not* due to customary promotion. Student mobility is an issue that for many years, Vermont educational policymakers and administrators have discussed, but not assessed. However, understanding and addressing student mobility has become an important and timely educational policy concern in Vermont during early No Child Left Behind Act (NCLBA) implementation. Vermont educational policymakers and administrators must ensure educational equity for all students, comply with accountability requirements for school performance, and reduce disparities in educational outcomes.

Four educational policy issues that manifest the importance of conducting research about student mobility in Vermont include: (a) most student mobility information is urban-based, (b) student mobility impacts education accountability, (c) NCLBA accountability challenges small rural schools, and (d) legislative policymakers need accurate statistical information about student mobility. These policy issues comprise the first part of this chapter in order to introduce the educational policy and research context that underpins the need for the student mobility research. Following a detailed review of the key context issues, this chapter summarizes the context, and then presents the problem statement, research questions, and general methodology. The chapter concludes with assumptions and limitations, as well as significance of the study.

Urban Versus Rural Student Mobility

Most student mobility research projects report the impact of mobility in urban areas, however, relatively little research exists about the specific issue of *rural* student

mobility. In “Student Mobility in Rural Communities: What Are the Implications for Student Achievement?” (Paik & Phillips, 2002), the authors draw correlations among rural community indicators, rural school characteristics, and student mobility, and suggest that student mobility poses a substantial educational equity issue in rural areas. Paik and Phillips highlight this issue when they state that the phenomenon of student mobility is “gaining momentum as a contributing factor to the ‘academic achievement gaps’ historically attributed to race, ethnicity, gender, and social/economic status” (p. 4). They recommend undertaking more research about rural student mobility for a more complete understanding of its causes and implications for policy and practice.

Closely related to research about rural student mobility is research about residential migration. Demographers generally distinguish mobility from migration. Mobility is residential movement within a county, whereas residential migration refers to a cross-county change in residence (United States Department of Commerce, 2001, 2003; Wardwell, 1998). Recent residential migration research in rural low-income areas of Upstate New York found poverty-related migration was associated with residential transiency (Schafft, 2003). Additionally, Schafft found residential transiency resulted primarily from household economic insecurity, particularly housing insecurity.

Student Mobility and Education Accountability

Schafft’s (2003) research in Upstate New York, among rural communities similar in sociodemographic and geographic composition to Vermont, concluded that high frequency residential mobility of low-income families significantly affects school

districts' capacity to provide services. In addition to potential school district service capacity issues, Vermont school administrators are concerned there may be cumulative effects of significant migration on students' performance on state assessments, resulting in sanctions for affected schools (B. Meyers, personal communication, March 18, 2004). The recent NCLBA compounds these issues, in particular, for small, rural schools.

Those schools or districts that do not meet NCLBA performance targets after two years face sanctions that include school choice and supplemental services (Jimerson, 2003). Since school funding links mainly with enrollment, small rural schools can face financial burdens due to declining enrollment, resulting from NCLBA sanctions. According to Jimerson, the federal government acknowledged the financial burden for rural areas due to NCLBA, and instituted federal program monies that have been inadequate so far. In addition, critics of NCLBA legislation argue that declining enrollment in rural schools (due to mobility and migration) will create fiscal challenges for states as federal funding declines (Mathis, 2002, 2003; "*NCLBA increases federal role*," 2002).

In fact, given the funding concerns of small, rural schools and NCLBA, many small and largely rural states considered turning down the NCLBA monies. Vermont was one of the states that considered rejecting NCLBA monies and mandated programs, as advised by Mathis (2002, 2003). Instead of rejecting the monies, Vermont adopted a compromise stance in 2003 with the passage of Act 68 which simplified school funding ("*Education Funding Act No. 68 (H.480)*," 2003; "*VT lawmakers craft*,"). In addition,

Act 68 established the Joint Legislative Education Cost Containment Study Committee, which recommended the state bear any costs incurred by districts resulting from its recommendations, and encouraged the legislature to be cost-sensitive with school district legislation ("Cost Containment Study," 2004).

To maintain sensitivity to district needs in directing supplemental funding to schools, it is necessary for the state to have a full understanding of impacts on disadvantaged sub-groups of children. One of the disadvantaged sub-groups identified in NCLBA includes low-income students, and another includes homeless, mobile, and migrant children. Understanding the impact of their mobility on rural districts is an issue that needs to be addressed by the state and districts (Paik & Phillips, 2002).

NCLBA Accountability Challenges Small Rural Schools

Jimerson (2003) summarizes special challenges of NCLBA implementation for rural schools and districts. The author briefly reviews strategies for addressing small subgroup size, called "minimum N," and alternatives for small schools, known as "small school review," that Vermont and other states with small rural schools and districts have adopted for determining annual school progress. These strategies address vulnerability of small schools with regard to two types of potential errors in determining annual progress.

The first and most common error is misidentification of being in need of improvement. This can happen because small schools have small numbers that vary widely and generate unreliable percentages and statistics. Movement of even one student out of a subgroup can cause a large change in a percentage, and thus potentially

misidentify a school as failing to make adequate progress. The second error is under-identification of a school due to its exclusion from state accountability when it needs technical assistance and state help. By establishing a larger subgroup size for accountability, exclusion of a small school from accountability determination can occur, even though it needs assistance from the state.

Errors are more likely within schools of highly mobile students. For example, according to the school accountability guidelines in Vermont, the annual school performance determination does not count the performance of transfer students during the academic year. In effect, this calculation excludes highly mobile students. Excluding student transfers to a school from the previous school year, or previous two school years, could alter a school's performance picture substantially. Student mobility trends over periods of two or more years are components in comprehensive evaluations of student mobility in states with large urban populations. In large urban districts, student movement in and out of a school, during current and previous years, distinguishes mobile from stable students (Columbus Foundation, 2003; Kerbow, 1996b; Rumberger, Larson, Ream, & Palardy, 1999).

Legislative Policymakers Need Accurate Statistical Information

The timeliness for expanding student mobility research earned support with the NCLBA reauthorization of the McKinney-Vento Homeless Education Assistance Act's Education for Homeless Children and Youth (ECHY). The ECHY act gives high priority to minimizing the achievement gap between highly mobile students and their nonmobile

peers (Paik & Phillips, 2002). An understanding of student mobility is necessary for successful implementation of the ECHY act inasmuch as it addresses the underachievement of highly mobile disadvantaged youths.

In addition to researching mobility, the authors recommend that rural administrators, as well as state and local education agencies, must address the needs of these highly mobile students. Biernat and Jax (2000) document support for this recommendation in the *Hamline Law Review* article “Limiting Mobility and Improving Student Achievement,” and outline recommendations for the development of coordinated state, district, and school policy interventions to minimize negative educational effects of student mobility. Additionally, the national conference which met to plan an agenda to address student mobility, prioritized the need to collect systematic data at school district and state levels (Hartman & Franke, 2003). Thus, understanding and addressing student mobility is an important and timely educational policy concern in Vermont.

Context Summary

In summary, student mobility is an important and timely educational policy concern during NCLBA implementation, in complying with accountability requirements for school performance, and addressing disparities in educational outcomes to ensure educational equity for all students. Additionally, Vermont’s small rural schools, challenged by declining enrollments, may need supplemental funding, resources, and support to comply with NCLBA implementation requirements. Research in rural Upstate New York, a region with sociodemographic and geographic characteristics similar to

rural Vermont, suggests the presence of a high need mobile population, not yet formally identified by public policy (Schafft, 2003).

The first part of this chapter introduced the educational policy and research context, describing the need for the proposed research. The next part of this chapter includes the problem statement, research questions, and general methodology. The chapter concludes with assumptions and limitations, as well as significance of the proposed research.

Statement of the Problem

In Vermont, educators, policymakers, and the public, lack specific or detailed information about the nature and scope of student mobility between or among communities. The purpose of this study was to: (a) develop mobility incidence statistics, for schools and accountability needs in Vermont; (b) analyze mobility incidence according to demographic characteristics, educational services, and school context; (c) evaluate the impact of mobility on academic performance for students and schools, separately, in a multilevel longitudinal analysis that accounts for prior performance and student background characteristics; (d) evaluate whether the distribution of student achievement is equitable for mobile and stable students across schools; (e) identify high mobility schools that may need additional resources to address issues related to high student mobility; and (f) establish baseline mobility rates, prior to full implementation of NCLBA school choice, and other provisions encouraging school changes.

Research Questions

To examine relationships between student mobility, educational correlates, and academic achievement, the study addressed the following research questions:

1. What is the *incidence* of mobility among Vermont students and schools?
2. What is the *impact* (or *consequence*) of mobility, i.e., how does the incidence (or consequence) of mobility *vary* according to educational correlates for students and schools? Is there a geographic pattern to the variation?
3. What do multilevel analytical models reveal about variation in mobility from student and school perspectives that may be useful for educational policy and practice?

Conceptual Framework and Methodology Overview

The conceptual framework, which guided the analytical methods selection, recognizes that students' performance is a multilevel phenomenon of students and schools (Goddard, Sweetland, & Hoy, 2000; Rumberger & Thomas, 2000). Within this conceptual framework, the study analyzed incidence and impact of mobility, and compared academic performance of mobile and students. Extensive data screening, and statistical programming created cross-sectional and longitudinal research files for the two levels of analysis: (a) student-level files containing demographic and performance data, 1999-2004, and (b) school-level files with contextual (aggregated student) and school resources indicators. This was a quasiexperimental quantitative study with a longitudinal design (Raudenbush & Willms, 1995) that employed: (a) cross-sectional analyses of

mobility incidence, and (b) longitudinal comparisons of academic performance for mobile versus stable students, in a multilevel analytical framework that accounted for students and schools, via hierarchical linear and nonlinear modeling.

Assumptions and Limitations

This study was limited to quantitative analyses of student and school data that precluded causal inferences due to the quasiexperimental design; however, use of repeated measures of academic achievement on individual students improved the design classification to *longitudinal* for two sets of student cohorts. The secondary data sources were limited to existing data collections with predefined elements; a more rigorous and comprehensive research protocol would have included measures identified in research as powerful and consistent for the research constructs. Some of the relevant school-level measures which would have enhanced this study and fit in well with the conceptual framework include academic emphasis, parental involvement, teacher certification, and teacher experience (Raudenbush & Willms, 1995; Winokur, 2004).

In addition to limitations due to the secondary databases, data quality would have improved with a mixed-methods approach to include interviews with administrators, educators, parents and other adults in high-mobility schools and communities. From these key informants the study would have obtained contextual information regarding causes of mobility to use in developing strategies to mitigate negative effects of school transitions (Columbus Foundation, 2003; Heck, 2004; Rumberger et al., 1999). Another limitation was that student records from the Department of Education (DOE)

administrative and assessment files did not comprise a random sample from a larger population of student records; thus, inferences are not generalizable to other states.

A sample issue related to non-generalizability involves the ability to distinguish correctly among student subgroups for comparative group evaluation. One subgroup that could bias (confound) the data includes children in military families, a subgroup in the population that moves regularly. Military families generally do not demonstrate a negative relationship between school changes and academic performance (Sewell, 1982; Smrekar & Owens, 2003). In Vermont there appear to be few children in households where one or more adults is employed in the armed forces, a factor that hypothetically could contribute to increased and concentrated student mobility. There are few active military installations or bases in Vermont. For example, the population living in non-institutionalized group quarters, or military barracks, totaled 22 people according to the 2000 Census. Furthermore, the percentage of the population employed in the armed forces is also small. A total of 761 people, mainly male, reported active employment in the armed forces. This constitutes 0.2% of the population sixteen years and older (K. Killeen, personal communication, January 28, 2005). Thus, the percentage of students from mobile military families in Vermont is likely very small, and inclusion of this small population should not bias results. Inasmuch as student census data does not include parental information, there would have been no way to identify and exclude students in military families from analysis.

Another student group that cannot be analyzed using data elements in the DOE Student Census and Demographic Update records includes students identified under the Individuals with Disabilities Education Act (IDEA) as eligible to receive special education services. Currently, the DOE database that houses information for students with an individualized education program (IEP) is separate from other databases. In so far as some schools or districts may attract certain types of students with disabilities, the effect of this attraction may remain hidden with the current design. In addition, some of the student-level and school-level analyses may have yielded clearer results with an educational services designation that distinguishes between Section 504 of the Rehabilitation Act of 1973 (Section 504), IDEA, and no services. With mutually exclusive definition codes, multilevel analysis makes it possible to partition variation in educational correlates to student-level and school-level compositional (student-aggregated) effects, which can help with objective identification of improvements for school policy and practices (Raudenbush & Willms, 1995; Rumberger et al., 1999; Seltzer, 1995). As described and reported in Chapters 3 and 4, the current study used several student-level and school-level variables that measure educational services partially, however interpretations of some findings must be qualified due to ambiguity in definitions and remain as unexplained variation.

Another sample issue presenting potential limitations regards small numbers of students in schools and sample size requirements for valid statistical analysis. Careful planning and preliminary data checks precluded constraints anticipated for some analyses

due to inadequate sample sizes. The strategies considered during the planning of this study, and adopted during pre-analysis screening worked well enough enable use of most data. Descriptions of the *combined cohorts* and *geographic groups* strategies are in Chapter 3.

Despite limitations due to sample and data issues noted above, several assumptions merit consideration. This study should be a good first step toward understanding the incidence and consequences, albeit not the *causes* of student mobility, in schools throughout the state. This study will provide legislators with statistical information that may leverage funding for additional research to learn about the causes of student mobility in Vermont, or to develop interventions to assist students and schools experiencing transition related challenges. This was the first statewide study of student mobility in a rural state, and it will contribute to the knowledge base about student mobility, which is urban-based, primarily. This study was the first in Vermont to use multilevel statistical methodology for analyzing educational correlates of mobility with student-level and school-level measures. The study design was strengthened due to two measures of achievement (Duncan & Raudenbush, 2001) for student cohorts tested in (a) grades 4 and 8, or (b) grades 8 and 10. The first achievement test score then served as a *prior* measure, or *design control* (Heck, 2004) for cohort achievement analyses comparing mobile and stable students. Although planned multilevel analyses of achievement stopped due to statistical requirements of initial model checks, the multilevel analyses of mobility proceeded for five sets of student groups, and identified

some school resources that merit further examination, and were consistent with findings from an excellent study of student mobility conducted in California. In summary, limitations to this study were sample and data-related primarily, however the five-year data collection period increased sample sizes that permitted sophisticated statistical analyses yielding useful information about student mobility and educational correlates in predominately-rural high-poverty Vermont.

Significance

This study has several significant features. The methodology could be adapted to provide in-mobility and stability indicators (Lashway, 2001; Missoula County Public Schools, 2002a, 2002b) for schools and accountability sub-groups. Disaggregation of the indicators according to demographic characteristics, educational services, and school context is possible with the administrative and assessment data. Additionally, indicator information might include the impact of mobility on academic performance at the school level. This study developed ways to identify high mobility schools having several risk factors, which potentially can identify schools in need of additional resources to address issues related to high mobility. The methodology established baseline mobility rates, prior to full implementation of NCLBA school choice, and other provisions encouraging school changes. This was the first statewide study of student mobility in a rural state, and it was the first study in Vermont to employ multilevel analysis of school-level and student-level data.

CHAPTER 2: LITERATURE REVIEW

In an effort to compare and contrast theoretical perspectives underpinning student mobility research, this review of the literature includes five theoretical perspectives related to mobility and migration, and then reviews mobility methodology and empirical literature related to mobility and migration. The theoretical perspectives in this review are economic, social, psychological, sociological, and ecological models related to mobility and migration. The empirical literature review begins with an overview of methodology used in mobility research, illustrated with a case study meta-analytic approach to comparing four comprehensive student mobility studies. Following review of the main concepts encompassed in mobility methodology, organization of the review proceeds according to level and complexity, beginning with incidence, then impact, and ending with multilevel analytical research reported in student mobility literature. The review closes with an attempt to assess whether the empirical research provides support for the theoretical perspectives outlined. In conclusion, the discussion of theoretical and empirical literature converges toward the conceptual framework for this proposal to research student mobility for Vermont students and schools.

Theoretical Literature

This review of theoretical literature includes frameworks used to understand the effects of residential relocation on children, primarily in the school setting. As several scholars have pointed out, no theorist has yet proposed a theory that explains specifically the causes and consequences of mobility on children and youth (Knutson, 1998;

Rumberger et al., 1999; Schafft, 2003). However, a number of related theories provide insights on some aspects that relate to various aspects of student mobility in the school setting. These related theories often have different terms in the literature; however, careful reading helps classify similar frameworks with different names.

In addition to sparse and inconsistent theoretical literature, terminology that describes relocation varies considerably. Spatial and movement terms include residential, geographic, mobility, and migration. Human terms include schoolchildren, students, children, youth, adolescents, and families. Institutional terms include home, classroom, and school. The literature reports these terms interchangeably and inconsistently.

Five major paradigms provide the frameworks for classification of theoretical perspectives. These paradigms incorporate economic, social, psychological, sociological, and ecological theoretical perspectives. Within the theoretical frameworks, new and overlapping models build upon existing frameworks, with chronological transition to the extent possible.

Economic Theoretical Perspective

This review of theoretical literature relating to mobility and migration begins with the economic paradigm. This paradigm focuses on adults and their decision-making behavior. The first theoretical perspective explains neoclassical and rational-economic approaches. The second perspective introduces the human capital approach.

Neoclassical and Rational-Economic. Schafft's (2003) review of migration research concluded that economic approaches to understanding migration have been the

dominant paradigm in the last few decades. Within the economic paradigm, neoclassical theorists assume labor and capital are mobile, and will move to areas offering the maximum investment returns. The neoclassical approach understands migration as a process that tends to equalize distributions of labor and capital.

Human Capital. The human capital framework, extending from the economic framework, focuses on human factors that employers value and which raise individuals' income prospects. From this viewpoint, people move due to undesirable factors that "push" them out of their current location or desirable factors that "pull" or them to a new location. This phenomenon gave rise to Ravenstein's "push-pull" theory of migration (Ravenstein, 1885). At the micro level, the potential migrant weighs the push and pull factors and moves if the benefits of doing so exceed the costs. At the macro level, decision-making models explain aggregate migration behavior as complex demographic processes through cost-benefit analyses (Schafft, 2003), and explain trends in migration.

Two important generalizations in migration, introduced in Lee's (1966) theoretical framework, help in understanding residential mobility trends in recent decades. One generalization is that migration is selective, so that only a selected portion of the population migrates. A second generalization is "the heightened propensity to migrate at certain stages of the life cycle is important in the selection of migrants" (Lee). The theory that migration is selective and associated especially with different stages in the life cycle gives rise to the premise that migration is an implementing strategy that individuals use to attain a goal (Weeks, 1978).

In the process of attaining goals, individuals make migration decisions based on non-economic as well as economic factors. Non-economic factors include social relationships and institutional structures. These factors may be incorporated into behavior models that attempt explain migration. However, behavioral models still assume that economic motivations underlie migration decision-making (Schafft, 2003). Alternatively, in attempting to understand non-economic factors influencing migration decision-making, some theorists explore social resources.

Social Theoretical Perspective

The second theoretical perspective for understanding mobility and migration is the social theoretical perspective. The social theoretical perspective extends the economic by considering non-economic factors. The non-economic factors begin with social capital factors.

Social Capital. Social capital factors identify social resources that influence migration. According to Coleman (1990), Loury introduced the term social capital in 1977 to describe the set of resources that are inherent in family relations and community social organization, and that are important for a young person's cognitive or social development. Coleman emphasizes the roles of mothers and fathers in enhancing life prospects for their children. In addition to strong parental support, links or *social capital networks* between parents, key individuals, and social institutions within communities provide enhancements for children. Social functioning and well-being of children may

be impaired due to residential mobility that disrupts these social capital networks (Scanlon & Devine, 2001).

Social capital networks appear to provide resources differently for some marginalized groups in the United States. Two emerging scholars from different academic and research backgrounds, extend the social capital network framework to the perpetuation of differential migration selectivity and social class inequality for two marginalized groups. Implications from their work merit serious attention to issues that marginalized youth in public schools face increasingly.

Embeddedness. Kai Schafft, a rural sociologist, reviewed theoretical migration literature for its application to poverty migration and residential mobility among the rural poor. Schafft (2003) describes the *embeddedness perspective* as an approach to migration theory that examines the effects of informal social relations on migration behavior. One of the principle ways in which these informal relations shape migration behavior is through membership in social and kinship networks. These networks become especially important for vulnerable populations lacking human or material capital.

Mobility/Social Capital Dynamic. Robert Ream, an educational psychologist, addresses the social/relational underpinnings of the "achievement gap" disadvantaging minority youth (Ream, 2003). Ream uses social network instability to explain decreased functioning of minority youth due to high residential mobility. Additionally, he suggests social capital is different for minority youth and that is less obvious in the role of social reproduction than economic resources are. Ream argues that its "opacity then is partly

what makes social capital worthy of more careful examination—not just for its affect on student performance, but also for group level differences in its utility” (p. 239). He then distinguishes between the availability of social capital and its convertibility. Specifically, he proposes that Mexican-Americans fortify social ties in ways that differ from nonLatino Whites, and refers to the process as the “*mobility/social capital dynamic* “ (Ream).

Thus, economic approaches to understanding human migration constituted the dominant paradigm in the last few decades. Coleman’s (1990) framework adds the concept of social capital to the economic notions of financial and human capital. Emerging scholars extend the social capital framework to explain the perpetuation of differential migration selectivity and social class inequality for marginalized groups. However, these economic and social theories do not incorporate psychological approaches that may contribute to understanding outcomes associated with relocation, particularly for children in a school setting.

Psychological Theoretical Perspective

A third perspective provides insight into the effects of residential mobility from psychological and psychosocial frameworks. Application of this perspective focuses on development and adjustment of children with regard to their academic and social functioning, in response to residential relocation or school transfer. The first viewpoint is purely psychological, and the second viewpoint characterizes psychosocial approaches.

Psychological. Knutson (1998) reviewed and evaluated the theories of Erikson

and Mead to develop psychological frameworks in explaining the effects of geographic mobility on children in the school setting. According to Knutson, Erikson was concerned primarily with external forces that shape development. His approach stressed the importance of the social environment that is both predictable and stable. This approach, applied to mobility in adolescents, suggests that relocation could be detrimental to adolescents. However, residential change could be a catalyst for growth. Knutson summarizes this approach as helping to understand adolescent adjustment to relocation, but not clarifying circumstances for the positive or negative effects.

Mead's approach (Knutson, 1998) focuses on the development of self. For the development of healthy self-concept, Mead's approach emphasizes the importance of continuity of the social environment. Knutson uses Mead's theoretical framework to suggest that children exposed to frequent relocation may experience difficulty or delay in going to the second stage of development. They may receive conflicting feedback from the different social environments, or they may not stay in one place long enough to engage in active participation with one social group long enough to progress developmentally. However, Knutson argues this approach is not particularly useful for understanding the impact of relocation on the social adjustment of children due to the vague explanations for the stages of development.

Scanlon and Devine (2001) review stress and coping theories to explain effects of residential mobility on the well-being of children and adolescents for the social welfare literature. Rumberger and Larson (1998) review psychosocial theories of transfer-student

adjustment to provide insights into the consequences of student mobility from a psychological perspective.

Stress and Coping. This model assumes that moves are inherently stressful events that tax the coping capacities of individuals (Scanlon & Devine, 2001). These events, if intense or prolonged, in turn permanently disrupt the psychosocial functioning of individuals. In response to early empirical work which indicated some moves are not harmful, or that harmful effects may decrease over time, theorists incorporated the contexts of relocation and its effects (Scanlon & Devine).

Transfer-Student Adjustment. This framework focuses more on the individual attributes of students following transfer to a new school setting (Rumberger & Larson, 1998) Attributes include psychological well-being, social behavior, and academic achievement, as well as the interaction of these traits with the social and institutional environments. Jason, Weine, Johnson, Warren-Sohlberg, Filippelli, Turner, et al. (1992) suggest that while changing schools constitutes a major life event, the transfers may not directly cause psychopathology among children. They suggest that other sources of chronic stress mediate maladjustment to school transitions. In addition, transfer students exposed to multiple stressors are at greater risk for maladjustment. “In particular, children from low-SES households are thought to be more exposed to multiple, chronic stressors than are their peers from higher-SES backgrounds” (Jason, et al., p. 9).

In addition to stressors accompanying school transitions, two other approaches help understand the impacts of school transfers on youth (Rumberger & Larson, 1998).

One approach explains the psychological challenge of coping with a new school environment, and the other approach focuses on social adjustment to new peers and social expectations. In summary, “psychological theories help to understand the consequences of student mobility by focusing on the psychological well-being as well as the social and academic functioning of transfer students” (Rumberger & Larson, p. 6). In addition to summarizing psychological approaches that help understand the effects of relocation and transfers on youth in the school setting, Rumberger and Larson review sociological approaches that help explain student mobility, particularly during high school.

Sociological Theoretical Perspective

Educational Engagement/Institutional Departure. Sociological frameworks about student mobility include primarily models about student dropout and institutional departure (Rumberger & Larson, 1998). Models of student dropout identify attitudinal and behavior factors that influence student withdrawal from school altogether (dropping out), although this viewpoint does not explain why some students withdraw from a particular school (mobility). A model of institutional departure from higher education identifies individual and institutional dimensions that influence whether students withdraw from a particular institution, but not why students might quit school altogether.

After reviewing the psychological and psychosocial frameworks related to student adjustment, transfer, or withdrawal, Rumberger and Larson (1998) point out three similarities between these models: First, the social and academic dimensions of student functioning in school correlate strongly, and affect jointly, student achievement. Second,

schools and families both influence students' social and academic dimensions. Third, it is important to identify students' reasons for changing schools, and differences in coping with school changes. Recognizing different student needs can help with intervention strategies to address these differences. Addressing student differences may be more effective with an understanding of how students vary according to their ethnic, racial, or social class background.

Socioeconomic and Sociocultural. While the sociological perspective reviewed above is useful for understanding student mobility in the general population, Rumberger, Larson, Ream, and Palardy (1999) point out that other student outcomes vary according student ethnic, racial, and social class background. Theories explaining these variations include two general models, socioeconomic and sociocultural. The socioeconomic model attributes variation in student outcomes to parental income and education, suggesting that parents with higher income and education invest more resources in their children. Increased resources invested in children influence their educational preferences and success. The sociocultural model attributes variation in student outcomes to ethnic, racial, and social class group differences in beliefs and perceptions about their chances for success in school.

To summarize, major approaches to understanding population migration, residential relocation, and student mobility reviewed above represent four general theoretical perspectives. The four general perspectives, economic, social, psychological, and sociological, provide frameworks for describing phenomena about individual, group,

or population differences in decisions to move or transfer. However, none of these approaches specifically addresses interactions between individuals and their environments, the focus of the ecological paradigm. Ecological paradigm approaches may further elucidate outcomes related to student transitions in new school settings.

Ecological Theoretical Perspective

The fifth set of theories in this review incorporates insights about mobility and migration from the ecological perspective. First, the human ecology framework provides insights about migration. Second, the social ecology framework provides a structure for understanding individual-environmental interactions.

Human Ecology. According to Schafft (2003), “human ecological models understand migration as a response to the ‘ecological’ characteristics of areas or ‘environments’ in which populations are concentrated” (p. 18). The primary areas of concern in human ecology include human population, social organization, physical environment, and technology. Human ecology models focus on the context of human populations living within the physical and structural characteristics of areas. Human ecologists focus on migration streams across geographical areas, and do not consider the *social characteristics* of population migration. Due to the primary emphasis on geographic areas, interest in human ecology explanations for migration waned in recent decades.

Social Ecology. Knutson (1998) reviews the models of two ecologists for application of their work to geographic mobility, illustrating the models within a child’s

home and school environmental contexts. Since the work of both ecologists is recent, and their approaches focus on social contexts of people-environment relations, I classify their approaches within the social ecological paradigm (Jamner & Stokols, 2000). In addition, since the social ecological paradigm applies to recent work that guides the conceptual framework for my proposed study, I review and expand Knutson's example in detail below.

The example first applies Bronfenbrenner's framework, published in 1979 (as cited in Knutson, 1998), and it stresses the relationship between individuals and their environment. The environment includes four distinct nested contextual levels, and the individual interacts dynamically within each level. The first level, the microsystem, includes the immediate social and physical settings of home, school, and peer groups. The second level, the mesosystem, represents the relationships between the individual microsystems, i.e., the relationships between home, neighborhood, and school. The third level, the exosystem, includes settings that may affect individuals indirectly, such as a school board decision. The fourth level, the macrosystem, involves cultural relationships among the three lower levels.

The nested social environmental system above becomes the framework for Garbarino's work in 1982 (as cited in Knutson, 1998), which adds models involving risks and opportunities for development within each level. In Garbarino's example, a socially impoverished microsystem could become a source of risk to development. Social risks

include too few participants, non-reciprocal relationships, and a negative emotional climate. These social risks, alone or in combination, challenge a developing child.

In Garbarino's model (as cited in Knutson, 1998), at the mesosystem level, an ecological transition occurs when a role change alters an individual's position in the environment. A source of risk occurs when connections between existing and new microsystems are weak or non-existent. Weak or non-existent connections make the transition difficult. Another source of risk occurs if connections between microsystems are not working together. An example of this source of risk is not having a shared set of values and beliefs. This could happen in the relationship between home and school.

Knutson's (1998) application of these models to explain how discontinuity, resulting from relocation, may affect schoolchildren follows. My interpretation for transfer students in a new school culture follows Knutson's application to schoolchildren. At the microsystem level, discontinuity of the *social* environment could improve or reduce the quantity and diversity of social relationships. Additionally, at the microsystem level, discontinuity of the *physical* environment could change the climate of the school for better or worse. At the mesosystem level, relocation could strengthen or weaken the links between home, neighborhood, and school. At the exosystem level, school procedures for admitting new students due to district policy, may affect a student's adjustment positively or negatively. At the macrosystem level, the interaction of school leaders, staff, and peers in implementing district policy toward transfer students develops the school culture, including climate and attitudes toward transfer students. In addition to

school culture, *stability* of the school community is important to a transfer student's adjustment (Knutson, 1998).

However, a classroom turnover model introduces alternative viewpoints about how classrooms and schools affect the academic performance of new transfer students. The effects can be negative when the new environment is unprepared for transfer students or positive if the new environment is well equipped with resources and personnel, and the culture supports new students.

Classroom Turnover. A nationally recognized and cited student mobility researcher, David Kerbow (1996a) posits that student mobility can affect entire classrooms, creating an unstable milieu. Teachers, lacking knowledge of transfer student preparation, may repeat material already learned. Excessive repetition may impede the process of knowledge acquisition, thus reducing the overall quality of educational instruction. Kerbow argues that student mobility in the classroom disrupts the continuity of students' learning processes. Students transferring into new schools with a different curriculum are not as prepared academically as their new classroom cohort is. While one move may not present problems to the mobile student, challenges may become cumulative over time for students who move multiple times. Schools may not receive academic records when new students arrive, and this can cause inappropriate academic placements or inadequate support services.

Thus, ecological models contribute insights to understanding student mobility as actions that disrupt individual-environmental relationships. This framework suggests

disruption following transfer to a new school may result not only from the individual's transfer status, but from the classroom environment as well.

Conclusion to Review of Theoretical Literature

This review of theoretical literature concerning the effects of residential mobility on students and schools found the theoretical literature to be sparse regarding this phenomenon. Several scholars concur that no single framework yet explains the causes and consequences of student mobility in one model (Knutson, 1998; Rumberger & Larson, 1998; Schafft, 2003). However, prominent educational researchers Rumberger and Larson pointed out that models relating to some aspects of student mobility can be useful and complementary in understanding and explaining this phenomenon. Thus, this review included models related to some aspects of residential relocation and transfer student adjustment within five theoretical perspectives.

The fifth theoretical perspective incorporates insights about mobility within the ecological paradigm. I believe this perspective offers the most complete approach to describing mobility phenomenon within a hierarchical educational organizational structure. From the social ecology viewpoint, the phenomenon of student mobility is an action that disrupts individual-environmental relationships (Knutson, 1998; Schafft, 2003). However, rather than focusing solely on the individual student, or higher organizational setting, "the social ecological perspective incorporates multiple levels of analysis and diverse methodologies" (Jamner & Stokols, 2000, p. 28). Thus, viewpoints about the school setting can incorporate the individual student within a classroom, as well

as the aggregated classroom or school viewpoint. This framework is *multilevel*, with students grouped or *nested* within classrooms or schools. This nesting structure implies a conceptual framework that aligns with new analytical models to test research hypotheses corresponding to the multilevel nature of the school setting.

Empirical Literature

This section reviews empirical research about student mobility and migration, and related student, classroom, school, and community characteristics. As an introduction to the complexity of issues involved in researching student mobility, the first section presents an overview of mobility and migration methodology. The second section reviews research about the incidence of student mobility, and focuses on three basic types of mobility rates, which include in-mobility, turnover, and stability, as well as counts of school changes across grade levels. The third section reviews research reporting the impact, or consequence, of student mobility on student characteristics including sociodemographic, educational, psychosocial, and behavioral measures. The fourth section reviews research reporting the impact of mobility according to classroom, school, and community factors. The fifth section reviews multilevel student and school research that examines variation in student mobility from these perspectives using sophisticated multilevel (hierarchical) analytical techniques.

Mobility and Migration Methodology

Empirical research about student mobility and migration varies substantively in approaches and applications. Due to such variation in mobility research, this

methodology section includes: (a) an introduction to mobility methodology issues; (b) an illustration of similarities, as well as inconsistencies, among four comprehensive mobility studies; and (c) an overview of distinctions between residential mobility and migration.

Mobility methodology. Numerous studies have reported that *student mobility* -- school changes *not* due to customary promotion -- is widespread in many schools and districts (cf. Kerbow, 1996b; Mao, Whitsett, & Mellor, 1998; Rumberger et al., 1999). The study by Rumberger et al. focused on *unscheduled* school changes with the following definition, “we define *student mobility* (and the term school mobility, which we use interchangeably) as *school changes other than those due to promotion from one school level to another*” (p. 21). While most research reports a similar conceptual definition, its operationalization with computational formulae has many variations.

A review of mobility methodology, cited widely in the mobility literature, cautions that “*one of the most elusive statistics in education is student mobility*” (Ligon & Paredes, 1992, p. 1). The review documented conceptualizations and definitions used by school districts and other entities reporting information about mobile students. The investigators mailed surveys to 155 directors of research and evaluation and heads of state departments of education in all 50 states, extra-state jurisdictions, and military schools. Of 93 surveys returned, 50 organizations included 62 formulas or definitions. In summarizing the computational formulae returned according to five dimensions from previous work (level of analysis, term, frequency, nature, cause), the authors concluded there is wide disparity among statistics produced by various computational methods, and

recommended “the creation of a national standard for indexing student mobility” (p. i). Although their recommendation remains unrealized, primarily because conversion to a standard requires enormous resource expenditures and new data systems, most empirical studies in this review cited the study by Ligon and Paredes.

While most mobility research published in the past decade references the Ligon and Paredes paper, the research reports selected student mobility phenomena, with not only variations in terminology and temporal definitions, but also from different types of data sources. Although most mobility research reports student movement during the school year, studies differ in reporting entry, exit, and total movement in and out of a school or district. In addition to movement in or out, mobility research often reports information about students enrolled continuously in a school or district for one or more school years.

Comprehensive Mobility Reports. Using a synthesis of case study and meta-analytic approaches, comparisons between four comprehensive urban-based mobility studies published in the past decade illustrate the variation in reported mobility incidence statistics. The first large-scale mobility project used Chicago public school system administrative data for elementary schools. It distinguished between three interrelated statistics: (a) an *in-mobility* rate to reflect the percentage of new students; (b) an *out-mobility* rate to reflect the percentage of students who leave; and (c) a *stability* rate to reflect the percentage of students who remain in a school for one or more years (Kerbow, 1996a, 1996b).

The second large-scale mobility project, a statewide Texas study, reported three movement rates: (a) in-migration, (b) out-migration, and (c) turnover rate; however, the Texas system did not include a one-year stability rate (Mao et al., 1998; Texas Education Agency, 1997). The comprehensive Texas system records enrollment counts during six 6-week school year segments to track accurately students throughout the year.

The third large mobility study used California data from three survey components (student, parent, and school) within the National Education Longitudinal Survey of 1988 (NELS:88). Rumberger, Larson, Ream, and Palardy (1999) used two survey sources in the NELS:88, which recorded *counts*--the number of non-promotional school changes between 1st and 12th grades--to *estimate* student mobility rates. One source was the parent survey, administered to parents of one cohort of students enrolled in grade 8 in 1988. It asked parents to recall the number of school changes their child made between the 1st and 8th grades. A second source was the student survey, administered to the grade 8 cohort of 1988, during their third follow-up survey interview in 1994; it asked interviewees how many non-promotional school changes they made between 8th and 10th, as well as 10th and 12th grades. Thus, this study provided a profile of student mobility throughout elementary and secondary school years. In addition to recording student changes, a third survey in 1988 asked high school administrators to estimate the percentage of tenth graders who left their school over a two-year period.

The fourth and most recent comprehensive study released a detailed project report fall 2003 (Columbus Foundation, 2003). It examined student mobility for 95 Columbus

Public System (CPS) schools, enrolling nearly 34,000 students in grade 1 through grade 5 during the previous two school years. The CPS project analyzed mobility incidence from three perspectives: (a) annual turnover (school-year mobility rate); (b) multi-year stability (summer movement rate and two-year stability rate); and (c) geographic patterns (student exchanges between buildings and into and out of the CPS district).²

Thus, student mobility research reports school movement phenomena based on data from administrative records in school systems, or data from national surveys. As noted above, student movement refers to non-promotional school changes, and generally the terms mobility, migration, turnover, or turbulence, indicate mobility, whereas stability refers to usual progression within a school or district. Closely related to research about student mobility is research about residential migration.

Residential Mobility and Migration. Information about residential mobility is helpful in examining potential causes of student mobility, inasmuch as public school administrative records do not include reasons for school changes. Residential movement, as reported by census demographers and some scholars, distinguishes mobility from migration. Residential migration refers to long-distance moves that cross county boundaries (*intercounty* moves), while residential mobility refers to short-distance moves within counties (*intracounty* moves) (United States Department of Commerce, 2001, 2004; Wardwell, 1998). Census data can provide information concerning family-related

² See Section 3, “Incidence of Mobility,” which describes incidence in terms of the magnitude, timing and pattern of students moves.

moving reasons; however, the survey instrument does not include school-related reasons as an option.

In summary, student mobility research includes a variety of definitions of student mobility rates and a variety of methods for calculating mobility rates. Mobility rates represent movement in, movement out, and total movement within a school, district, system, or state. Stability rates are complementary to mobility rates in representing no movement or continuous enrollment in a school, district, or state for one or more school years. Demographers distinguish between residential migration or long distance moves across counties, and residential mobility or relatively short distance moves within a county. Residential mobility research can provide some indicator information that is relevant to understanding causes of student mobility associated with family moves, but does not link directly to causes of student mobility.

Incidence of Mobility

The Ligon and Paredes (1992) report organized mobility formulae and descriptions according to three basic types of mobility rates, which include in-mobility, turnover, and stability, as well as mobility counts. This section reviews mobility research for the three mobility incidence rates and counts of school changes. Only a few studies reported incidence separately from impact or consequences of school changes according to other student characteristics. However, the four comprehensive studies described above each reported two or three basic incidence rates or counts.

In-Mobility. Most research about student mobility is urban-based, and school year mobility rates vary widely. Ligon and Paredes (1992) surveyed 155 state education agency department heads and research and evaluation directors throughout the United States about their mobility formulae, and received responses from 93 organizations. In order to understand variability in the reported formulae, Ligon and Paredes used formulae submitted by the organizations to calculate mobility indices for Austin Public Schools (APS) 1990-1991. For 37 mobility formulae submitted, mobility for the APS 1990-1991 school year ranged between 8% and 45%; however, 70% of the formulae (26 of 37) produced mobility rates exceeding 30% (Figure 3, pp. 5-6).

Ligon and Paredes' result for the APS using the formula reported by the Chicago Public School system was 36.2% (Figure 3, p. 6). However, the Chicago study reported lower in-mobility rates for elementary schools. In Kerbow's (1996a) study of Chicago elementary schools, 12% of schools had 30% or higher in-mobility, and the modal systemwide in-mobility was 20% to 25% between April testing periods (Figure 2, p. 8). Thus, as Ligon and Paredes (1992) demonstrated, urban mobility rates vary widely, in part due to computational formulae used.

Turnover. The Ligon and Paredes (1992) survey of mobility formulae revealed that only a few districts calculate a turnover (turbulence) rate for one school year to represent all movement in and out of a district or system. For the seven turnover formulae submitted, Ligon and Paredes calculated turnover rates for Austin Public

Schools 1990-1991. Four of the turnover rates were higher than 40%, and for one district, it exceeded 100% (Figure 3, p. 7).

The Columbus study (Columbus Foundation, 2003) reported that turnover (which they called school-year mobility rate) usually ranged between 30% and 35% in most district schools. However, rates were about 7% higher in the Linden-McKinley section, a low-income district targeted for interventions by a national school-community collaborative working with low performing school districts.³

The Texas mobility study (Mao et al., 1998; Texas Education Agency, 1997) reported that of 3.8 million students enrolled for at least some period during the 1994-1995 school year, 16% of students moved at least once during the year. In addition, the Texas study (Mao et al., 1998; Texas Education Agency, 1997) reported that over a 4-year period, 68% of first graders in 1991-1992 moved at least once.

Several recent studies support the growing body of research showing that student turnover is widespread in American schools, with sophisticated analyses using data from complex national surveys. Rumberger and Larson (1998) conducted a review of the student mobility and high school dropout literature, and found a variety of evidence indicating that mobility and school year transitions are widespread. Rumberger and

³ Impetus for the CPS project originated from concern related to Project GRAD Columbus, a program established in the Linden-McKinley section of Columbus in 1999. Project GRAD Columbus was part of the Project GRAD interventions developed by a school reform model underway in ten of the lowest performing school districts across the country. The program mission is to “stabilize enrollment in these schools and to ensure a quality public education for all children in economically disadvantaged communities in order to increase student achievement and high school graduation rates and to prepare graduates to be successful in college” (p. 1-2). Concern that the impact of the Project GRAD investment (over \$ 6 million) may be reduced (p. 1-3) if community schools did not also address the issue of high student mobility led to this research project.

Thomas (2000) studied turnover and dropout rates in detail using the National Education Longitudinal Study of 1988 (NELS:88): High School Effectiveness Study (HSES), and found that turnover rates were higher and more varied than dropout rates.

Swanson and Schneider (1999) used the NELS:88 to examine the independent effects of residential and educational mobility for: (a) movers, students who move to a new home but do not change schools, (b) changers, students who change schools but not homes, (c) leavers, students who change both, and (d) stayers, students who neither move, nor change schools. Their mobility profiles identified that nearly 30% of 8th to 10th grade students changed schools or residences over a two-year period, and nearly 25% of 10th to 12th grade students made similar changes over the two-year period.

Stability. The Ligon and Paredes (1992) survey of mobility formulae used in U.S. school districts received stability calculations from 11 districts. Temporal periods for the stability calculation included the school year, summer months, and more than one school year. While most districts computed stability during the school year, a few districts included several periods for measuring stability trends over time.

Ten districts that completed the Ligon and Paredes survey (1992) reported calculating stability during one school year. Ligon and Paredes used Austin Public Schools' 1990-1991 data to compute rates with the ten stability formulae, and obtained stability ranging from 64% to 85% (Figure 3, p. 7); however, Chicago stability rates were not in this figure. The Chicago study reported wider variation in elementary school stability rates for the 1993-1994 school year (Kerbow, 1996b) than those reported in the

Ligon and Paredes study. Stability in Chicago elementary schools was (a) less than 65% for 6% of the schools, (b) between 65% and 85% for 78% of the schools, and (c) over 85% for 16% of the schools (1996b, Figure 1, p. 3).

Another stability measure, which was used by the Columbus Project (Columbus Foundation, 2003) was a summer movement rate. It was defined as “the number of students in grades 1-4 who withdrew from a school between June 1 and September 30, as a proportion of the October 1 grade 1-4 enrollment of that school the previous school year” (p. 3-6). Overall, about 24% of all Columbus Public Schools’ students in grades 1-4 made non-promotional school changes during the summer of 2002, with little difference between the Linden-McKinley and overall district rates (see footnote 3).

Stability for more than one school year had several perspectives in the Chicago, Texas, and Columbus studies. The Chicago study (Kerbow, 1996b) examined trends over time following school restructuring to discern early signs of school improvement or as an early indicator of distress. Over a 4-year period, 15% of the schools displayed a pattern of increasing stability following reform (Table 1), while 12% of the schools showed decreasing stability over time, indicating additional problems to address (1996b, Table 2).

A longitudinal analysis of first graders in the Texas study (Texas Education Agency, 1997) revealed that, for each additional year a student stays in a Texas school, the odds of withdrawing from the Texas school system decrease by over 50%, and the odds of transferring to another Texas school decrease by 26%, when other factors are

kept equal. The Columbus study (2003) computed two-year stability rates and they were low. For Columbus Public Schools systemwide, only 50% of elementary students remained in their original school by the beginning of the third year, compared to 44% for the Linden-McKinley students (see footnote 3 for Linden-McKinley information).

Counts of School Changes. The California student mobility study analyzed non-promotional school changes for one cohort of students, 1st through 12th grades, and compared the California cohort to their national counterparts. Nearly two-thirds of California students changed schools between the 1st and 8th grades, compared to over one-half of students nationally (Rumberger et al., 1999). In addition, 26% of California students changed schools between the 1st and 8th grades three or more times, compared to 20% of students in other states. During 8th through 12th grades, 34% of California students changed schools, compared to 26% in other states.

Thus, mobility is widespread with wide variability in reporting from one district or state to another. The variation in reporting makes comparisons about incidence of mobility between studies difficult. Nonetheless, some general trends emerge when examining the *impact* of incidence according to other student and family characteristics.

Impact of Mobility on Students

This section reviews literature reporting the impact, or consequence, of student mobility. Conceptually, impact is *incidence varied according to associated student and family characteristics*. Student characteristics include sociodemographic, educational,

psychosocial, and behavioral measures. Students' family characteristics include composition, housing tenure, and poverty status.

Sociodemographic and Educational Services. Mobility incidence varies widely according to student race, ethnicity, family income, and family composition. Although exact percentages and years tracked vary across urban districts, movement patterns are similar for some sociodemographic groups and markedly different for others. Among the four large urban-based mobility studies described earlier ethnic-racial categories differ,⁴ reflecting variation in ethnic population composition in urban areas across the United States. White students and higher family income students are more likely to maintain stable school membership in all areas. White and African Americans differ most, with movement for Hispanic Americans closer to that of African Americans, and movement of Asians closer to that of Whites. An exception to this trend is that in Columbus schools, Hispanic American students are the most frequent movers. In addition to differences due to ethnicity, mobility differs markedly according to family composition. Students in two parent families are markedly more stable than are students living with neither parent (Kerbow, 1996a).

⁴ The Chicago study reported four race/ethnicity groups: White, African American, Latino, and Asian (Kerbow, 1996a, Table 3).

The Texas study reported five ethnicity groups: African American, Asian & Native American, Hispanic, White, and Other (Texas Education Agency, 1997, Table 1).

The California study reported three ethnicity groups: Asian, Latino, and White; overall mobility did not vary significantly among the three ethnic groups (Rumberger et al., 1999, Table 2.2).

The Columbus study reported five race/ethnic groups: African American, American Indian, Asian, Hispanic, and White (Columbus Foundation, 2003, Table 4-2).

Among all the research literature in this review, only the Columbus and Texas studies reported information about mobility and special education status. The Columbus study (Columbus Foundation, 2003) analyzed the percentages of students receiving special education services within each of three mover groups (0, 1, 2+ moves), for students who moved during the school year, and for students who moved during the summer. The Columbus researchers concluded that:

Multiple CPS movers were the most likely to be special education students. The school-year mover and summer-only groups had the largest percentages of special education students, significantly different from the figure for non-movers. (p. 4-11).⁵

The Texas study (Texas Education Agency, 1997) presented numbers and percentages of stable and mobile students receiving special education services during the school year (yes, no), i.e., (a) of students receiving special education services, 86% were stable, and 14% were mobile; (b) and, of students *not* receiving special education services, 89% were stable, and 11% were mobile (Table 3). The authors concluded that differences between mobile and stable students according to educational classification vary moderately.

However, conversion of data in the Texas table to the same mover group categories reported in the Columbus study (0, 1, 2+ moves), and percentages of students receiving special education services within each mover group reveals a similar trend for

⁵ The authors noted the possibility “that some of the school changes of special education students, particularly over the summer, resulted from CPS moving special education units from one school building to another for facilities management purposes (Columbus Foundation, 2003, p. 4-11).

the Texas students.⁶ In Texas, the percentages of students receiving special education services during the school year were 10.8% for 0 moves, 13.1% for 1 move, and 14.7% for 2 or more moves. In Columbus, the percentages of students receiving special education services during the school year were 8.8% for 0 moves, 8.7% for 1 move, and 13.0% for 2 or more moves.

The Texas study (Texas Education Agency, 1997) also reported information about six other special program services listed in Table 3 as LEP, At Risk of Dropout, Bilingual, Chapter 1, ESL, Career and Technology Education, and Gifted/Talented. The authors concluded that mobility rates are slightly higher for students who are at risk of dropping out under state criteria, and for students in career and technology education programs, relative to their counterparts not receiving services. Finally the authors indicated that the most marked difference between mobile and stable students is that students who participate in gifted and talented programs are much more stable than their counterparts (Texas).

Wood et al. (1993), using the National Health Interview Survey of 1988 (NHIS:88), found that multiple sociodemographic characteristics were significantly associated with frequent family relocation. Selected demographic characteristics significantly associated with frequent family relocation included (a) poor families, (b)

⁶ Analysis of the 2x2 table for mobility status (mobile, stable) and special education (yes, no) reveals an estimated odds ratio of 1.28 with 95% confidence interval (1.27, 1.29), indicating a significant difference since the confidence interval does not contain 1. This may be interpreted to mean that the odds of being mobile for students receiving special education services is 1.28 times the odds of being mobile for students in regular education (not receiving special education services) for Texas students in the 1994-1995 school year. There was not enough data in the Columbus table to perform a similar analysis.

families headed by single parents or grandparents and (c) White families (relative to Hispanic or Black). Frequent relocation was also more common among families (a) headed by unemployed parents, (b) with maternal age under 18 years old when the child was born, and (c) with parents who did not complete high school.

Academic Performance. Numerous studies, in addition to the large urban research projects cited above, report the negative impact of student mobility on academic achievement (cf. Biernat & Jax, 2000; Stutzky et al., 2001; Tucker, Marx & Long, 98). Two early studies reported negative associations between geographic mobility and student test scores (Ingersoll, Scamman, & Eckerling, 1989; Schuler, 1990). Multiple school changes were strongly associated with reduced academic performance (Kerbow, 1996a; Texas Education Agency, 1997; Tucker, Marx, & Long, 1998). Additionally, Tucker, Maarx and Long, using the Child Health Supplement to the NHIS:88, found that family structure moderated the relationship between mobility and academic performance. They found that up to eight moves did not impact academic performance when children lived with both of their biological parents.

Four recent longitudinal studies investigated the effects of mobility on achievement, and controlled for other variables. Two of the studies found that preexisting differences in student achievement explained a substantial percentage of the differences between highly mobile and stable students (Mantzicopoulos & Knutson, 2000; Pribesh & Downey, 1999). Pribesh and Downey used National Education Longitudinal Study (NELS:88) data to conduct a longitudinal study over a four-year

period, 1988-1992, of moving and school performance. In the first set of analyses moving measures, social capital measures, life stressors, and educational outcomes, were covariates, for modeling the relationship between moving and social capital. In the second set of analyses these variables became potential factors moderating the effect of moving on educational performance. In these models, preexisting differences explained about 90% of the difference in test scores between the groups over the 4 years.

Mantzicopoulos and Knutson reported a similar result from their 3-year longitudinal investigation with Head Start attendees, followed between kindergarten and second grade. The investigators studied the relationship between academic achievement and mobility, controlling for parental perceptions of the effects of mobility on their family's wellbeing.

Two other longitudinal studies investigated the effects of mobility on achievement, and found other variables that explained as much or more of the variation in achievement as did prior achievement. Temple and Reynolds (1999) investigated the effects of school mobility on achievement for 1,000 low-income Black children with the Chicago Longitudinal Survey, and found that parental education as well as prior achievement and preschool participation in an education intervention program were significant predictors of the number of moves. Wright (1999) investigated the impact of location and temporal mobility, as well as minority status, socioeconomic status, and gender on achievement for elementary children tracked for one year in 33 Midwest schools. As with previous studies, results indicated that lower achievement often

precedes mobility rather than following it, however ethnicity and family income explained more variation in achievement than mobility explained.

Thus, recent longitudinal research examining the impact of mobility on academic performance, suggests that prior academic performance explains significant variation in current academic performance; however, other variables can explain as much or more variation as prior achievement. Other educational factors in the research literature related to mobility include grade retention and high school completion.

Grade Retention and High School Completion. Studies investigating the relationship between residential mobility and educational outcomes consistently find higher levels of grade retention and lower rates of high school completion among mobile children. Some studies focus on highly mobile children, usually defined as children who move three or more times. Two studies, which used the National Health Interview Survey of 1988 (NHIS:88) (Simpson & Fowler, 1994; Wood et al., 1993) concluded that children who move three or more times are more likely to repeat a grade than their stable counterparts are. Straits (1987), using the 1967 Survey of Economic Opportunity, found that residential mobility impedes school progress, but only among teenagers of less-educated parents.

In the landmark study of family relocation impacts on schoolchildren, Wood et al. (1993) using the National Health Interview Survey of 1988 (NHIS:88), found that the risk of grade retention increases in the presence of individual risk factors. The risk factors they used include poverty status, racial minority, and low parental education. When they

controlled for these risk factors in a multivariate analysis, frequent family relocation (5-6 moves in a child's life) was significantly associated with an increased risk of failing a grade. Wood et al. also found that rural residence (in the univariate analysis) was significantly associated with repeating a grade.

In addition to investigating the relationship between mobility and grade retention, researchers have studied the relationship between mobility and high school completion and found significant relationships. In a Canadian study of mobility and high school completion, Hagan, MacMillan, and Wheaton (1996) predicted educational outcomes in 1989 with characteristics from 1976 using a sample from the Toronto metropolitan area. They found that migrants, compared to non-migrants, were significantly less likely to complete high school or college. Rumberger and Larson (1998), using National Education Longitudinal Survey (NELS:88) data, found that students making even one nonpromotional school change between 8th and 12th grades, were twice as likely to not complete high school, as were their stable cohort counterparts, controlling for other factors.

Thus, several outstanding studies, using national complex longitudinal survey data, have recently investigated relationships between mobility and grade retention as well as mobility and high school completion. Higher mobility was associated with higher levels of grade retention and with lower rates of high school completion, controlling for other factors. In addition to grade retention and high school completion, some research

has investigated social and interpersonal functioning, as well as psychological functioning and behavioral problems, associated with children's residential mobility.

Social and Psychological Functioning. Several empirical studies have investigated social functioning or psychological and behavioral problems associated with moving. Simpson and Fowler (1994), using the Child Health Supplement to the National Health Interview Survey of 1988 (NHIS:88), to study the relationship of children's geographic mobility to children's reported emotional problems. The reported problems included use of psychological help, scores on a Behavior Problem Index, repeating a grade in school, and suspension or expulsion from school. They found that children who move three or more times have an increased risk for emotional/behavioral and school problems.

Wood et al. (1993), using the NSIS:88, found that four or more behavioral problems increase in the presence of four individual risk factors. The risk factors included poverty status, racial minority, nontraditional family structure, and low parental education. When they controlled for these risk factors in a multivariate analysis, frequent family relocation (5-6 moves in a child's life) was significantly associated with multiple, frequently occurring behavioral problems (as well as an increased risk of failing a grade, mentioned above). Thus, some studies, using complex national survey data, demonstrate increased risk of emotional/behavior problems associated with frequent family relocation.

The impact of student mobility reviewed thus far has included a variety of student outcomes including classifications according to sociodemographic background,

educational services, academic outcomes, and behavioral factors. Academic outcomes included achievement, performance, grade retention, and high school completion. Behavioral factors included measures of social and psychological functioning. As the next section describes, student mobility not only affects student outcomes, recent research indicates it can cumulatively affect the classroom, school, and district.

Impact of Mobility on Classrooms, Schools, and Communities

Classrooms and Teachers. Lash and Kirkpatrick (1990) provided a description of the effects of mobility upon classrooms and teachers. They documented the preparations that teachers have to make for late-entering students as well as for students leaving their classrooms. Their examination of 21 classes in a single urban elementary school revealed that the composition of the classes in the school changed throughout the year as new students enrolled and others withdrew. The classroom teachers described how this mobility affected classroom instruction and management, and the strategies they used to work with mobile students. Based upon the interviews, Lash and Kirkpatrick made suggestions that might ease the transition for students as well as teachers. From enrollment data and teacher reports, the authors concluded that student mobility deserves more attention from researchers and educators as a factor affecting instruction, classroom management, and learning.

Other researchers have found that student mobility has negative effects on teachers, as well as on stable students, in the classroom (Biernat & Jax, 2000; Columbus Foundation, 2003; Kerbow, 1996a). Often academic records are unavailable for new

students, and this can result in inappropriate placement. Kerbow (1996a) described three types of instructional challenges that occur in classrooms with high mobility:

(a) long term instructional planning and assessment become more difficult, (b) instruction loses its individualized quality and becomes more generic, and (c) teachers become more isolated, with less opportunity to collaborate with peers. Disruptions impact stable students in classrooms with high mobility too (Kerbow, 1996a; Rumberger et al., 1999).

School Accountability and Administration. Researchers have observed that high student mobility undermines school reform initiatives, including smaller class size, improved professional development, better facilities, and increased emphasis on accountability and assessment (Columbus Foundation, 2003; Hartman & Franke, 2003). High student mobility increases the burdens for school administrators with planning, funding, and management issues (Columbus Foundation, 2003; "Florida Division of Teaching and Learning. (n.d.),"; Newman, 1988). Rumberger, Larson, Ream, and Palardy (1999) reported that educators they interviewed said, "mobility affects the school resources, school climate, logistics, and the academic program" (p. 46).

School staff in the Columbus Public Schools (CPS) project (Columbus Foundation, 2003) reported disruptions and decreased resources resulting from high mobility. Teachers in the CPS study said impacts to them included: (a) increasing frustration with disruptions and meeting needs of students, (b) loss of instructional time, and (c) lack of information on transfer students. Principals indicated that mobility hurts the learning process during the period of adjustment, which results in lost instructional

time, and puts students behind academically. Secretaries were most concerned about the increased administrative burdens. School nurses, counselors, and social workers felt the primary impact of mobility was disruption in providing services to families and children.

Community Networks and Services. Some researchers have theorized that a negative relationship between mobility and strength of social support networks tends to support low mobility of low-income populations. Fitchen (1994) found that “more than 50 percent of the low-mobility households had strong/very strong networks, including not only family but other social supports such as church, other relatives, neighbors, friends, and such outsiders as an agency-sponsored mothers’ support group” (p. 424). Schafft (2003) extended Fitchen’s research in low-income communities in Upstate New York, using school district enrollment data as well, and concurred with most of Fitchen’s findings. However, in researching for causal factors associated with student mobility, his interviews with low-income community residents indicated that kinship and other social networks were not associated with a pattern of high frequency short distance moves among the poor in surrounding communities.

In the Columbus Project (Columbus Foundation, 2003) key informant interviews of community service providers indicated that most felt mobility had little effect on their ability to provide services. However, some noted that mobility causes attendance and academic performance problems for students. In response to this information from community service providers, project recommendations concluded this “would suggest the need for community education on the impacts of student mobility” (p. 4-26).

While case study interviews with community residents and service providers provide critical causal information, this approach is time consuming, costly, and may result in biased conclusions due to the small number of interviewees. Often surveys offer more efficient and unbiased alternatives, however larger quantities of survey information from students, teachers, principals, and other school and community staff present other analytical problems, involving unit of analysis issues and statistical assumptions underlying analyses. To address research issues that plague joint evaluations of quantitative student, school, and community research data, educational statisticians in recent years, have developed new approaches to handling these methodological issues (Heck, 2004; Hox, 2002; Raudenbush & Bryk, 2002). They have developed theory and computational methodology that allow quantitative research at several levels, in a series of analyses that begins to shed light on addressing multiple levels of associated factors.

Multilevel Mobility Research

Two important studies have used complex national survey data and sophisticated multilevel analytical techniques to investigate student and school factors associated with student mobility. The multilevel analytical approach resulted in usable information for educational policymakers and administrators concerned about mobility, turnover, and dropout, particularly in secondary schools. Conceptually, this approach addresses a truism, students *nested within schools*, that invalidates inferences based on traditional analyses (Heck, 2004; Hox, 2002; Raudenbush & Bryk, 2002). The *nesting* assumption implies that students within the same classroom, or within a particular school, will be

more like one another on measurable educational and other characteristics, than they are like students at other schools.

Rumberger, Larson, Ream, and Palardy (1999) conducted one of the first large-scale student mobility studies that employed multilevel analyses. The researchers used the National Education Longitudinal Study of 1988 (NELS:88) High School Effectiveness Study (HSES) California Sub-sample⁷ to examine the impact of student mobility at the student and school levels for California high schools. Results revealed that: (a) 31% of the variation in school mobility rates was attributable to student background characteristics; (b) 12% was attributable to school composition;⁸ (c) 24% was attributable to school resources and process/climate variables; and (d) 33% of the variation was not attributable to any of the variables tested (1999a, Figure 4.5). The researchers concluded that “altogether more than a third of the differences in student mobility rates among California high schools can be attributed to school characteristics, such as school resources, policies, and practices—a higher proportion than due to the characteristics of students themselves” (1999, p. 81)⁹.

⁷ Details of this second data set used in the study of educational consequences of mobility for California students and schools are in Table 1.1 and page 12 of the full report (Rumberger et al., 1999a). The HSES is part of the 1990 NELS follow-up to the NELS:88, and comprises a subset of 7,642 students nested within 247 high schools from the 30 largest US Metropolitan Statistical Areas. Of the 247 high schools, 51 were in California, with 1,609 students nested within the 51 schools. This survey data comprised the California Sub-sample used in the multilevel analyses.

⁸ Student background characteristics aggregated to the school level become school composition measures

⁹ Variation in school mobility attributable to school composition (12%) and other school variables (24%) together comprised school variables explaining 36% of the variance, hence the authors' conclusion that more than a third of the difference was attributable to school characteristics.

In a study the following year, Rumberger and Thomas (2000) examined the distributions of both dropout and turnover¹⁰ rates with the National Education Longitudinal Survey of 1988 (NELS:88): High School Effectiveness Survey (HSES) using the full survey of 247 schools (see footnote 7) and used multilevel analyses to examine student and school variables. It appears that *school turnover rate* in the Rumberger and Thomas study (2000) and *school mobility rate* in the Rumberger et al. study of California high schools (1999) are both school-level aggregates of the same student outcome variable *Leaver*.¹¹ Overall results explained nearly 60% of variation in turnover and dropout rates with student background, school composition (see footnote 6), and school-level resource, structure, and process measures.

Specifically, for school turnover, of 59% of the variation in turnover rates explained by the final model, 44% was attributable to student background characteristics and 15% was attributable to school composition, resource, and structure measures (see Appendix Table A2, p. 64). Results for school dropout rates were somewhat different; of 57% of the variation in dropout rates explained by the final model, 39% was attributable to student background characteristics, and 18% was attributable to school composition, resource, structure, and process measures (Appendix Table A1, p. 63). The authors concluded that results were consistent with other work in this area. Additionally, they pointed out that while much of the variation in school turnover and dropout rates is

¹⁰ School turnover rate is the proportion of entering students who leave before graduation (p. 59).

¹¹ The student outcome variable “Leaver” (HSES variable name S2DOSTAT > 0) is in Table 1 of the Rumberger and Thomas study (2000) with mean .21 (s.d. = 0.41) and Appendix Table A.6 of the Rumberger et al. study (1999a) with mean 0.19 (s.d. = 0.40).

attributable to differences in student background characteristics, variation in turnover and dropout rates, also is attributable to school composition and factors that schools can control.

Thus, several outstanding studies, using national complex longitudinal survey data, have recently investigated mobility (turnover), grade retention, and high school completion. Higher mobility was associated with higher levels of grade retention and with higher dropout rates, controlling for other factors in student-level analyses.

Furthermore, the results of multilevel analyses revealed that high school turnover and dropout rates, after controlling for student background differences, were attributable to school composition, resource, and process measures, which policy makers and educators can change to improve school effectiveness in retaining as well as graduating students.

Conclusion to Review of Empirical Research

Student mobility is widespread in large urban school systems, with wide variability in reports from one district or state to another. The mobility research literature lacks consistency and uniformity in mobility definitions, computational formulae, and research approaches. The variation in methodology and reporting makes comparisons about the incidence of mobility across studies difficult. A variety of research reports the impact of student mobility on not only students and families, but also organizational entities including classrooms, schools, and communities. Most of the reports focus on negative outcomes associated with student mobility. Research documents that the negative impact increases with high-risk students, families, and schools.

Literature Review Conclusion

The existing theoretical and empirical literature address two fundamental questions about mobility and migration: (a) What prompts or *causes* moves, and (b) what are some of the outcomes or *effects* of moves? Theoretical perspectives from the early human capital framework as well as social and psychological frameworks address the reasons for moving. However, empirical literature regarding causes of moves is sparse, and generally is from case study components of large mobility research projects. Most of the theoretical literature in this review offers perspectives about the effects of moving. As well, empirical literature in this review focuses primarily on the effects of moves. This section summarizes the main theoretical and empirical findings, noting limitations regarding causal work, and concludes with theoretical and empirical findings most relevant to the Vermont study.

Theoretical perspectives about the *causes* of moves, rooted in the human capital framework, help in understanding residential mobility trends in recent decades. Generally, migration is selective and occurs at certain stages in a family's life cycle (Lee, 1966). This review did not find empirical work supporting this framework, however. From the social theoretical perspective, social capital networks appear to provide resources differently for some marginalized groups in the United States. Two emerging scholars found empirical evidence studying marginalized groups in rural Upstate New York (Schafft, 2003) and Mexican-American youth in California (Ream, 2003). Generally, empirical literature reporting residential mobility findings provides indicator

information relevant to understanding causes of student mobility due to family moves, but does not link directly to causes of student mobility. Empirical investigations of the causes of student moves were case study components in three large student mobility studies reported in this review (Columbus Foundation, 2003; Kerbow, 1996a; Rumberger et al., 1999).

With regard to the *effects* of moves, the theoretical perspectives generally emphasize negative or detrimental student outcomes associated with family relocation. The psychological perspective focuses on development and adjustment of children with regard to their academic and social functioning, in response to residential relocation or school transfer. From the sociological perspective, a model of institutional departure identifies individual and institutional dimensions that influence student moves in the general population. Socioeconomic and sociocultural perspectives extend the institutional departure model to parental resources and sociodemographic factors that influence mobility.

A substantial body of empirical literature supports these perspectives. Most studies cite negative impacts on the child, and many cite parental reasons for moving related to financial issues. The large mobility studies are from urban districts, generally populated with low-income families that cannot afford to move beyond a few blocks. Children whose parents are disadvantaged socially, economically, and ethnically tend to experience detrimental academic and social effects associated with relocation and

transfers to new schools. However, the empirical literature regarding effects of moves on students does not report findings from rural areas.

The most useful framework for planning and conducting the Vermont student mobility study aligns with the social ecology perspective which incorporates multiple levels of analysis and diverse methodologies (Jamner & Stokols, 2000). Simply stated, student outcomes in the school setting are a multilevel phenomenon of students and schools (Goddard et al., 2000; Rumberger et al., 1999; Rumberger & Thomas, 2000). This model provided the conceptual underpinnings for the study in Vermont. In addition to aligning with a multilevel framework, ecological perspectives contribute insights to understanding migration and mobility as actions that disrupt individual-environmental relationships. Students' negative academic and social functioning following relocation may reflect schools that do not adequately support new transfer students. Consideration of student and school perspectives implies conceptual frameworks that align with new analytical models to test research hypotheses about students and schools as multilevel phenomena.

CHAPTER 3: METHODOLOGY

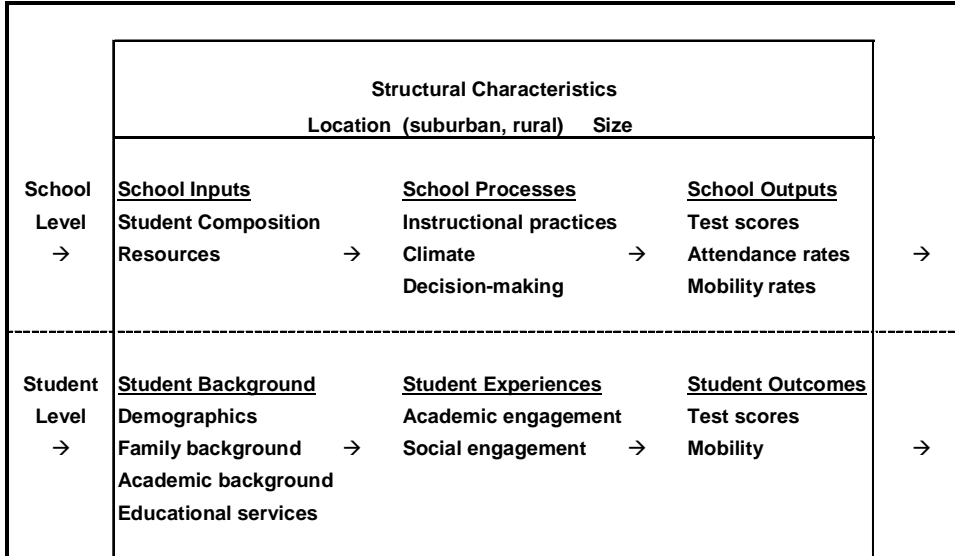
This chapter describing research methodology used in the Vermont Student Mobility Study begins with a conceptual framework adapted from a theoretical model used in a seminal student mobility study conducted in California. The second section lists the three basic research questions about mobility incidence and impact that the study addressed. The third section describes five sources of research materials, summarized in Table 1, “Descriptions of Variables from Research Instruments.” Section 4 describes framework conceptualizations and operationalization, with correspondence between the conceptual framework and operational definitions listed in Table 2. Section 5 describes construction of the research files and checks for sample monitoring, representativeness, and attrition. The final section describes research methods used to address each of the research questions, with formulae and sample size considerations for the third research question.

Conceptual Framework

The conceptual framework and analytical methodology for this study not only were complementary, but also linked to the theoretical and empirical literature. This conceptual framework is rooted in the social ecology theoretical perspective (Jamner & Stokols, 2000). The analytical methodology is rooted in statistical theory developed by educational statisticians for educational organizations (Raudenbush & Bryk, 1987, 2002; Raudenbush & Willms, 1995).

The conceptual framework that guided the study recognizes that the educational performance of students is a multilevel phenomenon of students and schools (Goddard et al., 2000; Rumberger et al., 1999; Rumberger & Thomas, 2000). At the individual student-level, performance is a function of the characteristics and experiences of individual students in their respective schools. At the school level, this conceptual framework presents the aggregated performance of the students in school as a function of characteristics of the school itself. Additionally, school processes and resources affect student experiences and outcomes. According to Rumberger et al., “the reason for incorporating both perspectives in the model is to disentangle the individual or student-level effects of student mobility from the school-level effects of student mobility” (p. 17).

This study focused on student outcomes and educational correlates at the school level. This conceptual model and empirical research literature guided student-level variable selection from student census, performance assessment, and opportunity to learn survey questions.



¹ Adapted from Rumberger and Thomas (2000). The distribution of dropout and turnover rates among urban and suburban high schools.

Figure 1 Conceptual framework for the Vermont student mobility study

Additionally, this model guided selection of school-level measures from the Vermont School Report and US Census Bureau - National Center for Educational Statistics (NCES) Vermont school file. Finally, the conceptual framework and statistical theory guided analytical work using risk factor assessment and step-up strategies to build up to the hierarchical analytical work.

Research Questions

To examine relationships between student mobility, educational correlates, and academic performance, the study addressed the following research questions:

1. What is the *incidence* of mobility among Vermont students and schools?
2. What is the *impact* (or *consequence*) of mobility, i.e., how does the incidence (or consequence) of mobility *vary* according to educational correlates for students and schools? Is there a geographic pattern to the variation?
3. What do *multilevel* analytical models reveal about variation in mobility from student and school perspectives that may be useful for educational policy and practice?

Research Materials and Data Sources

The study population included Vermont public school students, grades 1 through 12, during school years 1999-2004. Data sources included: student census and demographic records from the Vermont Department of Education (DOE) administrative files, 1999-2004; student New Standards Reference Examination English and mathematics performance data, grades 4, 8, and 10, 2000-2004, housed in DOE assessment files; Opportunity to Learn survey, located with assessment data; School Report Card data (from the Center for Rural Studies web site); and NCES Vermont school location information.

This section describes the multi-source data and its relationship to the conceptual model. For each data source used, the brief description includes its name, purpose, and measures available to the study. Identification of measures and relevance to the conceptual model concludes each data source description.

Student Census

The Department of Education (DOE) October 1 Student Census and Demographic Update is an annual data collection housing demographic records for all Vermont public school students and publicly funded students attending approved independent schools. This data collection provided student sociodemographic and educational service status classifications, as well as annual student enrollment used in mobility calculations. The first section in Table 1 summarizes student-level data elements provided in the Student Census and Demographic Update.

Sociodemographic attributes in the census include gender, ethnicity, race, grade, and district of residence. One type of service status classification designates Title I services and support. Title I services, include three fields corresponding to (a) reading or language arts services, (b) mathematics, and (c) subjects other than language arts or mathematics.

A second type of service classification involves two related designations, Section 504 of the Rehabilitation Act of 1973 (Section 504), and Act 230/157. Designation for Section 504 requires the student to have a Section 504 plan. The codebook definition for Act230/157 states, “Student has 1) a plan AND [*sic*] 2) is receiving services under Act 230/157.” Neither Section 504 nor Act230/157 would include students identified under the Individuals with Disabilities Education Act (IDEA) as eligible to receive an individualized program (IEP). The codebook lists eligible services examples as follows. “Children who are receiving other intervention services **not** covered by an IEP or as part

of Title I services: Reading Recovery Program, Wilson Reading Program for an individual, and Speech and Language intervention.”

For data reduction and clarification purposes, this study combined the Section 504 and Act 230/157 data elements into one data element. Students classified as yes for one of three conditions are yes for one data element called Plan 504. The three conditions are (a) Section 504 = yes, (2) Act230/157 = yes, and (3) Section 504 and Act230/157 = yes. For example, in the Census 2000 file 56,696 student records had yes or no codes for Section 504 and Act230/157. Of the 56,696 records,

- (a) 2,556 student records were Section 504 = yes and Act230/157 = no;
- (b) 4,018 student records were Section 504 = no and Act230/157 = yes;
- (c) 220 student records were Section 504 = yes and Act230/157 = yes;
- (d) 49,902 student records were Section 504 = no and Act230/157 = no;

The new Plan 504 data element contains two categories from combining (a), (b), and (c) above together, separately from (d). Thus Plan 504 has 56,696 values, 6,794 = yes, and 49,902 = no.

A third type of service classification is for limited proficiency with English (LEP). The census codebook definition is:

Student has a primary or home language that is not English, as indicated on the State of Vermont Primary/Home Language survey form **And:** Lacks *[sic]* the level of English proficiency in one or more of the four language skills areas

(listening, speaking, reading, writing) required to perform grade appropriate work comparable to native English speaking peers.

The codebook also states that the student “meets the criteria defined under the State Board of Education Rule 9500: Reporting Students or *[sic]* Whom English is not the Primary Language” and that the student cannot be an exchange student.

The final data element from the Student Census and Demographic Update that this study used was School Lunch. The codebook definition indicates use of this measure of socioeconomic status for schools that participate in the USDA’s National School Lunch or School Breakfast Program. Participation in free or reduced lunch program is a standard socioeconomic status proxy in research involving students for whom parental socioeconomic status is unavailable.

Thus, the Student Census and Demographic Update elements provide measures of student background information for demographics in the student-level part of the conceptual model. Aggregation of these characteristics to the school level yields student composition measures at the school level according to the conceptual framework (Rumberger & Thomas, 2000).

Achievement Tests

The DOE Standards and Assessment Division provided standardized test results for spring tests 1999-2004. The test results included student New Standards Reference Examination English and mathematics performance data for students in grades 4, 8, and 10. The test measures are from the Stanford Achievement Test, Ninth Edition, developed

by Harcourt Brace Educational Measurement, a Harcourt Assessment Company.

Selection of the Stanford 9 multiple-choice scaled scores for mathematics and English language arts proficiency was due to the suitability of these measures for comparing test results (for the same content) from different forms and levels of the same subtest over time (Harcourt Educational Measurement, 1997). According to a Buros Institute review of this test (Berk, 1998) evidence for the Stanford 9 multiple-choice batteries and multiple choice composite scores indicates these measures yield high reliability. Total performance scores for English language arts and mathematics provided dichotomous measures that were useful in some analyses with other measures having two categories.

Opportunity to Learn Survey

In conjunction with spring testing administration, students complete the Opportunity to Learn survey annually. The survey includes many questions about school processes and student experiences, which would fit well with the conceptual model. However, a careful review of the survey items over the five-year data collection period revealed irregularities in question administration across years. The study plan required uniformity in recording data elements each year, thus limiting use of the opportunity to learn instrument for longitudinal files.

One exception was asking about portfolio usage, for math as well as writing work, for the preceding 4-5 school years of each grade level (4, 8, and 10). Although research about math and writing portfolios is limited, Rand Corporation evaluated the Vermont Portfolio Assessment Program in its early years. Their study concluded the overall

reliability of the portfolio scores is low (Koretz, McCaffrey, Klein, Bell, & Stecher, 1993). A decade following the Rand report, Meyers reported positive improvement with its use as a component in Vermont's assessment system (2003). My selection of this measure was due to its contextualization of and contrast to the standardized test measures, and because it seemed to be a reasonable proxy measure of student experiences and academic engagement in the conceptual model.

School Report Card

The Vermont School Report is an annual report developed by the Vermont Department of Education with indicators about Vermont's Public Schools. The Center for Rural Studies website (<http://crs.uvm.edu/schlrpt/>) provides downloadable data files and documentation. Several of its indicators, chosen as proxy measures for school processes and resources reported in the literature, were included in this study's research file. The measures included number of instructional coordinators and supervisors, pupil/teacher ratio, school special education (%), poverty rate, and school free and reduced lunch participation (%).

NCES Vermont Data

The Census Bureau houses school-level information about public schools. One set of information includes geographic and mapping information. One indicator from the Census Bureau is a code for location of the school relative to populous area (J. Naum, personal communication, July 12, 2004). It is called LOCALE and it includes eight

categories ranging from large city (larger than Vermont's largest city) to unincorporated rural area.

This measure served as a structural location measure in the conceptual model.

Table 1 Descriptions and Definitions of Data Elements

Source, Data Element, and Definition	Metric and Numeric Conversion
I. Student Level Data	
<i>Student Census and Demographic Update</i>	
Gender	0 = Female, 1 = Male
Ethnicity	0 = Not Hispanic or Latino origin 1 = Hispanic or Latino origin
Race	1 = American Indian 2 = Asain 3 = African American 4 = Hawaiian or Pacific Islander 5 = White
Grade: Student's grade level as of October 1	01 - 12 = 1st through 12th grade

Section 504* Student has a Section 504 Plan	0 = No, 1 = Yes
Act 230/157* Student has a Section 504 Plan and is receiving services under Act 230/157	0 = No, 1 = Yes
*IEP is not coded in these elements	

Title I Services: Student is receiving Title 1 services or support for:	
Reading / English language arts	0 = No, 1 = Yes
Mathematics	0 = No, 1 = Yes
Subjects other than language arts or mathematics	

Limited English proficiency (LEP) Student has a primary or home language that is not English, as indicated on the the State of VT Primary/Home Language survey form <u>and</u> and lacks the level of English proficiency in one or more of the four language skills areas (listening, speaking, reading, writing) required to perform grade appropriate work comparable to native English speaking peers	0 = No, 1 = Yes

(table continues)

Table 1 (continued) *Descriptions and Definitions of Data Elements*

Source, Data Element, and Definition	Metric and Numeric Conversion	
<i>Student Census and Demographic Update (cont'd)</i>		
School Lunch	0 = No assistance	
Measure of socioeconomic status if school participates in the USDA's National School Lunch or School Breakfast Program	1 = Free or reduced	
<i>New Standards Reference Examination</i>		
English language arts		
Multiple-choice scaled score (Stanford 9)	Range: 001 - maximum	
Total reading standard level	0 = Did not meet the overall standard 1 = Met the overall standard	
Mathematics		
Multiple-choice scaled score (Stanford 9)	Range: 001 - maximum	
Total math standard level	0 = Did not meet the overall standard 1 = Met the overall standard	
<i>Opportunity to Learn Survey</i>		
Writing and Mathematics Portfolio Questions, Grades 4 and 8		
"My teacher and I kept a portfolio of my writing work when I was in ---"		
"My teacher and I collected my math work in a portfolio when I was in ---"		
<u>Grade 4</u>	<u>Grade 8</u>	
Kindergarten	Third grade	0 = No, 1 = Yes
First grade	Fourth grade	0 = No, 1 = Yes
Second grade	Fifth grade	0 = No, 1 = Yes
Third grade	Sixth grade	0 = No, 1 = Yes
Fourth grade	Seventh grade	0 = No, 1 = Yes
Writing and Mathematics Portfolio Questions, Grade 10		
"My teacher and I collected my writing work in a portfolio for this many years from 7th Grade to 10th Grade"	0 = No portfolio kept 1 = 1 year 2 = 2 years	
"My teacher and I collected my math work in a portfolio for this many years from Grade 7 to Grade 10"	3 = 3 years 4 = 4 years	

(table continues)

Table 1 (continued)

Source, Data Element, and Definition	Metric and Numeric Conversion
II. School Level Data	
<i>School Report Card</i>	
Pupil/teacher ratio Total enrollment divided by the total number of Full Time Equivalent (FTEs)	Ratio
Instructional coordinators and supervisors Curriculum and Chapter 1 coordinators, Essential Early Education, Title IX, Vocational Education and Special Education directors, and department heads	Total FTEs
Free and reduced lunch	Percent
Poverty rate	Percent
Special education	Percent
<i>NCES-Census Vermont Data</i>	
Locale: NCES code for location of the school relative to populous areas	
1 = Large City - A central city of a Core Based Statistical Area (CBSA) or Consolidated Statistical Area (CSA), with city population greater than or equal to 250,000	
2 = Mid-size City - A central city of a CBSA or CSA, city population less than 250,000	
3 = Urban Fringe of a Large City - Any incorporated place, Census designated place or non-place territory within a CBSA or CSA of a large city, defined as urban	
4 = Urban Fringe of a Mid-size City - Any incorporated place, Census Designated place, or non-place territory within a CBSA or CSA of a mid-size city, defined as urban by the Census Bureau	
5 = Large Town - An incorporated place or Census designated place with a population greater than or equal to 25,000 and located outside a CBSA or CSA	
6 = Small Town - An incorporated place or Census designated place with a population less than 25,000 and greater than or equal to 2,500 and located outside a CBSA or CSA	
7 = Rural - Outside CBSA - Any incorporated place, Census designated place or non-place territory not within a CBSA or CSA of a large or mid-size city and defined as rural by the Census Bureau	
8 = Rural, Inside CBSA - Any incorporated place, Census designated place, or non-place territory within a CBSA or CSA of a large or mid-size city and defined as rural by the Census Bureau	

Framework Conceptualizations and Operationalizations

Table 2 summarizes the conceptual model, adapted from the California student mobility study (Rumberger et al., 1999). It was used in three other studies conducted by Rumberger and colleagues as well (Rumberger & Larson, 1998; Rumberger & Palardy, 2005; Rumberger & Thomas, 2000). In adapting the operational definitions used to measure each concept, several considerations influenced the concept operationalization regarding data. The data available for the Vermont study limited choices for some conceptual framework components. Due to data limitations, proxy measures operationalized some concepts where reasonable; however, for several components no approximate measures were available. Although data limitations precluded operationalization of several concept components, a few available measures were not included if prior research reported weak explanatory power in analyses of mobility or school effects. In addition to adapting the conceptual framework used in several studies of mobility, dropout, and turnover, this study contributes one component to student background and school composition. The following narrative, summarized in Table 2, begins with student-level components, followed by school-level components, and concludes with the structural components in the conceptual framework.

First, student-level components begin with student background characteristics. Student background demographics available to this study were gender and ethnicity. The second student background characteristic is family background, operationalized with free

or reduced lunch program eligibility, a proxy measure for family socioeconomic status.¹²

The third background measure, added by this study to the basic framework, includes educational services. The educational services measure is whether the student has a Section 504 plan *or* a plan and is receiving services under Act 230/157 (Vermont Department of Education, n.d.). A final student background characteristic is academic background, operationalized for the cohort groups with prior test scores (the grade 4 score for cohorts tested at grades 4 and 8, and the grade 8 score for cohorts tested at grades 8 and 10).

The second student-level component is student experiences, realized by both academic and social engagement. The closest measures of student experiences involving academic experiences afforded by the available data were the portfolio questions. Students recorded the number of years they had kept both writing and mathematics portfolios. The other part of the student experiences construct, social engagement, had no measures in the data sources available for this study.

The third student-level component, student outcomes, included two components. Mobility was the first outcome, with students classified as mobile or stable. Test scores are the other student outcome, operationalized with two sets of performance scores for the two content areas, English language arts, and mathematics. NSRE Stanford-9 scaled scores and total performance provided complementary test scores.¹³

¹² Student eligibility for free or reduced lunch program participation is a widely used proxy measure to indicate a student's family socioeconomic status from a secondary database when parental interview data are unavailable.

¹³ These two sets of test scores provide continuous and categorical measurement scales, useful for different

School-level components in Table 2 parallel the student-level components, as illustrated in Figure 1. First, school inputs include measures of composition and resources. Student composition variables included two aggregated from the individual students. The first composition variable represented the percent of students participating in free or reduced price lunch at school. The second composition variable represented the percent of students with a Section 504 plan, or students with a plan who received services under Act 230/157.

In addition to two student composition measures, there were three school composition measures taken from the Vermont School Report Card, described in the research materials section. The first attribute was free and reduced lunch (percent). The second attribute was poverty rate (percent), for the town where the school is located. The third measure was special education (percent).

The second school-level component is school processes. This part of the conceptual framework was the most difficult to operationalize. Several measures similar to those used in the California student mobility study were included in a new Educator Census, conducted by DOE in 2003. However, the requested data was unavailable for this study due to quality and timing issues.

The third school-level component is school outputs, with two outputs listed, mobility rates, and test scores. Mobility rates for the Vermont study included school in-mobility and stability. The final school output included four school-level test scores,

types of analyses. The scaled score, is appropriate for longitudinal analysis of groups, while the performance standard is useful only for cross-sectional analysis requiring a dichotomous measure.

averaged. Two test scores included mean NSRE Stanford-9 English Language Arts and Mathematics scaled scores. Two additional test scores included percent that met the overall standard for total performance in English language arts and mathematics.

The final component in the conceptual framework is structural characteristics. According to the model identified by Rumberger et al. (Rumberger et al., 1999; Rumberger & Palardy, 2005; Rumberger & Thomas, 2000), structural characteristics include school control (public or private), location (urban or rural), and size. The control characteristic was not applicable to the Vermont study since the school population included 301 public schools, and six Vermont approved independent schools attended by publicly funded students. Location, operationalized by the NCES locale indicator for location of a school relative to populous area, was the only structural variable used. Size of school, although available from the School Report Card, or by aggregating census records, was not included for several reasons. It was not significant in the California student mobility study (Rumberger et al.). In addition, Winokur (2004) reported that class size, rather than school size is a powerful predictor in school effects. Finally, criteria for school size in the Vermont context may well have different implications than school size criteria in urban areas. According to a former DOE analyst, deciding what constitutes small, medium, and large was more art than science, and his determination was driven by and differed for grades 4, 8, and 10 (J. Ferrara, personal communication, October 30, 2003).

Table 2 Relationships Between Conceptual Framework and Operational Definitions

Level	Conceptual Framework	Operational Definition
<i>I. Student</i>		
	<u>Student Background</u>	
	<ul style="list-style-type: none"> Demographics Family Background Educational Services Academic Background 	<ul style="list-style-type: none"> Gender Ethnicity SES Proxy: Free/reduced lunch Has a Section 504 plan <i>or</i> a plan and is receiving services under Act 230/157 Prior NSRE test scores (cohorts only)
	<u>Student Experiences</u>	
	<ul style="list-style-type: none"> Academic engagement Social engagement 	<ul style="list-style-type: none"> Proxy: Writing portfolio for 0-5 years Proxy: Mathematics portfolio for 0-5 years No measure available
	<u>Student Outcomes</u>	
	<ul style="list-style-type: none"> Mobility Test scores 	<ul style="list-style-type: none"> Mobile, stable English language arts scores (scaled & total) Mathematics test scores (scaled & total)
<i>II. School</i>		
	<u>School Inputs</u>	
	<ul style="list-style-type: none"> Student Composition School Composition Resources 	<ul style="list-style-type: none"> Percent free/reduced lunch participation Percent with Section 504 plan <i>or</i> a plan and receiving services under Act 230/157 Free and reduced lunch (percent) Poverty rate (percent) Special education (percent) Pupil/teacher ratio Instructional coordinators and supervisors
	<u>School Processes</u>	
	<ul style="list-style-type: none"> Instructional Practices Climate Decision making 	<ul style="list-style-type: none"> No measure available No measure available No measure available
	<u>School Outputs</u>	
	<ul style="list-style-type: none"> Mobility rates Test scores 	<ul style="list-style-type: none"> In-mobility & stability rates Average test scores
	<u>Structural Characteristics</u>	
	<ul style="list-style-type: none"> Size Location (sub/rural) Control (public/private) 	<ul style="list-style-type: none"> Did not use NCES locale indicator Not applicable - all public

Thus, the conceptual framework that guided the Vermont student mobility study, adapted from the California student mobility study, not only linked to theoretical and empirical literature, but also guided selection of measures to operationalize the components. Five sources of research data, the DOE Student Census, Vermont NSRE performance tests, Opportunity to Learn Survey, Vermont School Report Card, and NCES Vermont School file, provided operational definitions of most constructs in the conceptual framework. The operationalized measures, together with the three basic research questions and conceptual framework, influenced programming and management for the development of research files, as described in the next section.

Sample Monitoring, Representativeness, and Attrition

Procedures for sample development and monitoring were similar to those typically used in a retrospective epidemiologic study. The study sample included all available records and did not employ statistical sampling procedures. However, to address whether final research files would adequately represent the population of Vermont students, data management procedures included monitoring file merges. Tracking records at each of the file merges provided a way to monitor potential attrition over the five-year period. The next section describes these pre-analysis procedures.

Appendices A and B depict the student-level data sources that provided the student-level samples for the entire project period. Student records from two divisions in the Department of Education (DOE) provided administrative and assessment files to use in the development of research files. Administrative records included the Student Census

and Demographic Update, an annual data collection representing all Vermont public school students and publicly funded students attending independent schools. These administrative files included records for students in grades 1 through 12. Assessment records included test results from annual spring standardized tests administered to students in grades 4, 8, and 10 statewide.

The best approaches for addressing the research questions involved using the administrative and assessment data in two different ways. First, to develop systemwide mobility incidence tracking all students entering, continuing, or exiting the system, required analyzing students in grades 1 through 12 longitudinally for sets of adjacent years. To study the impact of mobility using test performance information required construction of research files that merged census and performance records for grades 4, 8, and 10.

Construction of the multi-source research files required complex data management and statistical programming. Appendices A and B illustrate the data sources and several system changes that affected data consistency for longitudinal research purposes. Together, these appendices depict use of the data sources for basic mobility incidence calculations, and for evaluation of the impact using performance data. The diagrams of data sources show how cross-sectional analysis files for addressing questions about students for specific years, and longitudinal files for cohorts of the same students over time require different procedures.

Appendix A, “Vermont Student Mobility Study: Data Sources for System-wide Mobility Incidence Statistics,” illustrates years, grades, and administrative issues affecting data decisions with census records. Census data for school year 1999-2000, the first student census collection year, used codes that changed the following year, and did not include first grade data. The census data system changed in 2003 due to NCLBA regulations, so comparable codes were available for only a few measures. Thus, three school years, 2000-2001, 2001-2002, and 2003-2004, provided consistent student demographic and educational services data for grades 1 through 12, that became the basis for mobility incidence computation.

Appendix B, “Vermont Student Mobility Study: Data Sources for Student Cohorts,” diagrams linkage of census and performance data for different cohort groups tested at grades 4, 8 and 10. The five-year period supplied enough data to analyze two student cohorts for grades 4 to 8, the first cohort for school years 1999-2003, and the second cohort for school years 2000-2004. For older students, the five-year period provided four student cohorts for grades 8 to 10, 1999-2001, 2000-2002, 2001-2002, and 2002-2003.

To check potential bias, particularly with likely loss of information for mobile students, file merges saved records that did not merge across years at each potential match. This constituted a way to check retrospectively, for sample representativeness and attrition. Checks for student cohorts developed from the census and performance files began with students who tested in the spring of 1999 during grade 4 or grade 8.

As illustrated in Appendix B, tracking included merges of the grade 4 spring test records with the October 1 count census records in 1999, 2000, 2001, and 2002, and follow-up merges with grade 8 tests in spring 2003. This group of students comprised the first cohort of students tested in grades 4 and 8, and tracked for school changes between tests. Similarly, the second set of grade 4 tests, from spring 2000, merged with October 1 count census records in 2000, 2001, 2002, and 2003, and merged with Grade 8 test records spring 2004. This group comprised the second cohort of students tested in grades 4 and 8. Using similar procedures, four cohorts of students tested in spring of grades 8 and 10, and merged with fall census records during grades 9 and 10, developed from the 1999-2004 data sources. Chapter 4 describes results of the merges, and Appendix R summarizes completion and attrition at each merge according to cohort grade and year.

In addition to separate systems for administrative and assessment data, the assessment files were separated according to content by year. The English language arts, mathematics, and Opportunity to Learn files and documentation were inconsistent from year to year, and required careful screening in constructing analysis information comparable across study years.

Student records formed the basis for several school context variables created by aggregating student records to the school level. School file construction, in addition to obtaining aggregated student information, merged school-level information from two data sources, the Vermont School Report, and NCES school file. Due to time and resource

constraints, geographic mapping using NCES codes did not happen. When comparable research files were ready, the computation of mobility incidence commenced.

Research Methods

Approach and Overview

The conceptual framework, research literature, research questions, and research materials available guided the analysis phases. To address the first research question, the first phase of analysis computed incidence statistics, in-mobility, and stability. The goal of this phase was to compute and depict mobility incidence at the school level.

To address the second research question, the second phase of analysis focused on evaluating the impact of mobility according to sociodemographic characteristics, educational classifications, and educational performance. The purpose of this phase was to describe the impact of mobility at the school level according to these characteristics.

To address the third research question, the third phase used a step-up strategy (Raudenbush & Bryk, 2002) to develop promising multilevel models with student-level and school-level characteristics. The goal of this model development and testing phase was to explain variation in mobility attributable to students and schools in a multilevel analysis that could potentially account for other related characteristics.

Research Question 1: Incidence of Mobility

To address the first research question, “What is the incidence of mobility among Vermont students and schools?” the study computed complementary statistics representing (a) student movement into a school, and (b) continuous student enrollment

in a school. The first mobility statistic, this study calculated was *in-mobility* (also known as in-migration) to provide information about how students entering a school affect mobility incidence.

Most students transfer into a new school at the beginning of the school year. The new transfer students influence the *in-mobility* rate, which captures movement into a school. Transfer students may come from (a) another school in the same district, (a) a different Vermont district, or (c) outside Vermont. Transfers that were promotional within a district were not included in the mobile (school change) count. Transfers from another Vermont district or another state were included in the mobility count.

The second mobility statistic, *stability*, complements the characterization of student movement in or out of a school. For one school year to a second, using the DOE student census October 1 count, transfer students and returning students, counted mobile and stable, respectively became the basis for school-level incidence rates.

Research Question 2: Impact of Mobility

Examination of the impact of mobility addressed questions about how the incidence of mobility varies according to characteristics of students and schools, how incidence of mobility varies according to academic performance outcomes associated with students, and schools, and whether mobility incidence varies according to school location relative to populous areas as defined by US Census Bureau and NCES.

Analysis of mobility incidence broadened to evaluate its *impact* (or consequences) by examining how these rates vary according to various characteristics.

Student characteristics, described earlier in the research materials section, included sociodemographic measures, educational classifications, and performance outcomes recorded in the administrative and assessment files.

Sociodemographic measures included age, gender, ethnicity, race, grade, and district of residence. Service status classifications include: (a) student eligibility for services under Section 504 or Act 230/157; (b) Title 1 reading, mathematics, or other services; and (c) limited proficiency with English. The socioeconomic status determination reflected student participation in free or reduced lunch.

The student performance measures included NSRE Mathematics and English Language Arts scale scores for grades 4, 8, and 10. Measures also included total performance for mathematics and English language arts, recorded in two categories, not meeting versus meeting or exceeding the standard. The two-category variable was useful in working with other dichotomous variables in the analyses.

Relationships between mobility rates and student characteristics, evaluated with crosstabulations and odds ratios, checked associations between pairs of characteristics. The goal in examining bivariate relationships was to identify characteristics having strong statistical associations with mobility rates and the achievement scores. The bivariate measures included two-way tables with odds ratios and associated confidence intervals in a manner analogous to use of the odds ratio for risk factor screening in the health services sector (Fisher & Van Belle, 1993; Woodward, 1999). The method is a standard procedure for retrospective clinical, as well as epidemiological, studies with low

disease incidence. Characteristics with strong statistical associations became candidates for further statistical examination. Data management, statistical programming, and most statistical analysis were with Statistical Analysis System (SAS) software (SAS Institute Inc, 1990), with occasional use of SYSTAT (SPSS Inc, 1999).

Research Question 3: Multilevel Perspectives

Mobility incidence included two components, in-mobility and stability rates. Analyses of mobility impact examined mobility incidence according to sociodemographic characteristics, educational classifications, and educational performance, and identified characteristics having strong bivariate statistical associations. The impact analyses focused on grades 4, 8, and 10 for school year 2002-2003 after (a) ascertaining the comparability of data across three adjacent school years, and (b) selecting the most recent school year with complete student demographic information.

This section describes incorporation of student-level characteristics having strong associations from the previous analysis phase, together with school-level measures, using *multilevel analyses*.¹⁴ The first set of analyses planned examination of student achievement as a function of student mobility and other student characteristics, and school-level factors, in a series of multilevel analyses. The second set of analyses planned to examine student mobility according to student characteristics and school

¹⁴ This part of the analytical plan was similar to that conducted by Rumberger, et al., in the California student mobility study (1999) as described in the review of empirical research, *Multilevel Student, School, and Community Research* (pages 50-51). They estimated the effects of student mobility as well as school or compositional effects of student mobility on test scores. Similarly, they estimated variability in student mobility attributable to student characteristics and attributable to school-related factors.

factors to find out how much variation in mobility rates is attributable to the student characteristics, and how much is due to school related factors. The remainder of this section describes: (a) statistical methodology for analyzing achievement scores in words and equations, (b) statistical methodology for analyzing mobility in words and equations, and (c) statistical considerations for small schools.

Achievement Analyses. The achievement test scores, with associated distributional properties, determined selection of the appropriate hierarchical procedure. This paragraph describes the distributional assumptions and analytical steps in words, and equations follow in the next paragraph. Since English language arts and mathematics scale scores are continuous and approximately normally distributed, the appropriate multilevel analytical procedure to use is *hierarchical linear* modeling (HLM). The HLM uses the hierarchical structure of the data to conduct linear regression analyses. The first level regression analysis is for the student data, and the second level regression analysis is for the school level data. At the student level, for one student characteristic, for example, X = socioeconomic status, *within* each school, student achievement Y is regressed on student background characteristic X = socioeconomic status. The linear regression uses all the student test scores for the grade level and content area to estimate school achievement from student socioeconomic status with two regression parameter estimates, the intercept (β_0) and slope (β_1). At the school level, the parameter estimates from the student level (β_0 and β_1), also known as *structural* parameters, become the outcome variables, which the schools variables estimate. At both levels, there are several

decisions to make about variation (components) in the measures, including whether variation seems to be fixed or random. The components just outlined comprise the basic procedure for each student background characteristic.

The basic equations for a two-level HLM, using student characteristics and school measures, follow (Hox, 2002; Raudenbush & Bryk, 2002). As stated above, the first level of analysis is the student level.¹⁵ The student level model represents the achievement outcome, Y_{ij} , for student i in school j , as a function of p student (background) characteristics, and random error, r_{ij} . Background characteristics for the current study included student demographics, educational services, portfolio usage, mobility, and prior achievement (for cohorts).

A basic student level equation is

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{1ij} + \beta_{2j}X_{2ij} + \dots + \beta_{pj}X_{pij} + r_{ij}.$$

The β_{pj} regression coefficients are structural relations occurring within school j that indicate the school's achievement distribution with regard to the student characteristics X_{pij} . The technique allows structural relations β_{pj} (intercepts and slopes) to vary across schools, and tests the effects statistically.

A second level "between school" equation representing the variability in each of the structural parameters, β_{pj} , as a function of the school level variables, W_{pj} and random error u_{pj} is written as

$$\beta_{pj} = \gamma_{p0} + \gamma_{p1}W_{1j} + \gamma_{p2}W_{2j} + \dots + \gamma_{pk}W_{pj} + u_{pj}.$$

¹⁵ It is also known as the "within student" or "within unit" or "Level-1" model.

The γ_{pk} coefficients represent the effects of the school level variables, W_{pj} , on the structural relations β_{pj} within school j . Thus, the γ s are the “effects” of the school-level characteristics on the achievement test distributions within the schools.

Mobility Analyses. A second set of analyses involved mobility as the dependent (outcome) measure, and used the multilevel analytical technique to examine how much variation in mobility rates is attributable to the student characteristics, and how much is due to school related factors. The measurement scale for mobility is binary (dichotomous), with students coded as mobile or stable for the school year.¹⁶ The appropriate hierarchical technique for analyzing binary data is a hierarchical generalized linear model (HGLM) procedure (Raudenbush & Bryk, 2002; Raudenbush, Bryk, Cheong, & Congdon, 2001). The level-1 model requires specification of a sampling model, link function, and structural model. The sampling model is a Bernoulli model,

$$\text{Prob}(Y_{ij} = 1 | \beta_j) = \phi_{ij},$$

with link function

$$\eta_{ij} = \log [\phi_{ij} / (1 - \phi_{ij})],$$

and level-1 structural model for covariates X_{ij}

$$\eta_{ij} = \beta_{0j} + \beta_{1j}X_{1ij} + \beta_{2j}X_{2ij} + \dots + \beta_{pj}X_{pij}.$$

In words, η_{ij} corresponds to logits (log-odds), and $\exp(\eta_{ij})$ corresponds to the relative odds for a mobile student relative to a stable student.

¹⁶ Coding for the student cohorts was similar. For the cohorts, students who changed schools one or more times during the cohort interval were analyzed together, due to sample size requirements in using hierarchical modeling analytical procedures.

The level-2 school model has the same form as a level-2 HLM, with a “between school” equation representing the variability in each of the structural parameters β_{pj} as a function of the school level variables W_{kj} and random error u_{pj}

$$\beta_{pj} = \gamma_{p0} + \gamma_{p1}W_{1j} + \gamma_{p2}W_{2j} + \dots + \gamma_{pk}W_{kj} + u_{pj}.$$

The γ_{pk} coefficients represent the effects of the school level variables W_{kj} on the structural relations β_{pj} within school j . The modeling steps followed basic guidelines outlined in several multilevel analysis textbooks that focus on educational policy applications (Heck, 2004; Hox, 2002; Raudenbush & Bryk, 2002). The hierarchical analyses were performed using Hierarchical Linear and Nonlinear Modeling software (Raudenbush et al., 2001). The modeling steps for entry of student-level and school-level variables corresponded to the conceptual model that guided the current study, and to the analysis components reported by Rumberger, et al. (1999).

After completing the unconditional (null) model to gauge the magnitude of variation in student mobility between schools, with no explanatory variables at either level, the modeling steps proceeded as follows. First, the student-level measures were entered, to control for the variation in student background characteristics. Second, the school-level composition variables (individual student variables aggregated to the school level) were included in the analysis. Third, the school-level process and resource variables were included in the analysis. Each of the steps above included computation of the explained variation in mobility, relative to the unconditional (null) model, as the ratio of the student-level (residual) variance component at the step to the student-level

(residual) variance for the unconditional (null) model. Thus, computing explained variation of the set of measures at each model step, relative to the unconditional (null) model, yielded estimates of variation in mobility attributable to each set of student and school characteristics.

Sample Considerations for Small Schools

Some schools in Vermont have small numbers of students taking tests for a particular grade level, and small numbers of tests can be problematic statistically in developing good models. This section explains the main statistical criteria, necessary to address in building a good model that is statistically sound, and represents most or all schools. Combining cohorts across years for grades 8 through 10 was one strategy to increase sample size used in an early HLM study (Lee & Bryk, 1989), and the Vermont study employed this strategy as well. A second strategy was to group extremely small schools together geographically, using the five DOE regions for supervisory unions and districts.

Preparing for the hierarchical analyses included separate checks for all of the analysis groups. Checks for grades 4, 8, and 10 were separate for the in-depth 2002-2003 school year analyses. Checks for the cohorts followed record matching for the second test to determine adequacy of sample size for students tested at both points, either grade 4 and grade 8, or grade 8 and grade 10. Schools with less than 18-20 students who took

tests at any of the three grade levels combined with other small schools in the region of their district membership.¹⁷

Three statistical reasons for grouping small numbers, due to statistical criteria recommended for small samples (schools with small numbers of student tests) follow. For the multilevel analyses, the first and most important consideration regarding small numbers relates to number of *groups* (schools) in an analysis. Conservative criteria recommends 100 groups or more (schools) for an analysis (Green, 1991, and Van der Leeden, et al., 1997, as cited in Hox, 2002, p. 42). The last row in Table 2 presents the total number of school groups from 2003 NSRE mathematics testing in Vermont. The number of schools is 245 for grade 4, 161 for grade 8, and 97 for grade 10. Thus, there were enough school groups to satisfy conservative guidelines for group level sample size.

In addition to having enough school groups for an analysis, the second requirement for using the hierarchical method is a sufficient number of students *within a school and grade level* for reliable results. Very little research in this area is available currently, however, some preliminary simulation research indicates a group size of about 20 should be adequate, and a few groups of less than size 20 are acceptable (J. Hox, personal communication, June 26, 2003). This study used these informal guidelines to check the number of Vermont school groups with close to the recommended 20, say 15-

¹⁷ The five superintendent regions identified in the 2003-2004 Vermont Education Directory are Champlain Valley, Northeast, Winooski Valley, Southwest, and Southeast.

19 students, and the number of much smaller school groups, or 1-14 students. Table 3 summarizes this approach for grades 4, 8, and 10.

Table 3, column 1 “number of student tests” shows three group sizes for the 2003 mathematics tests: 1-14, 15-19, and 20 or more. As shown at the end of the first row of data, overall, 35% of school test groups had 1-14 students. This indicated a strong need for geographic grouping into the administrative regions to retain small schools in the grade level analyses.

Table 3 School Groups by Grade Level on NSRE Mathematics Tests, 2003

Number of School Groups, ¹ NSRE Mathematics, 2003								
Statistical Screening for Small Numbers								
Number of Student Tests ²	Elementary Grade 4		Middle Grade 8		High Grade 10		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1 -14	96	39%	51	32%	30	31%	177	35%
15 -19	29	12%	17	11%	1	1%	47	9%
20+	120	49%	93	58%	66	68%	279	55%
	245	100%	161	100%	97	100%	503	100%

¹ School groups formed according to number of student tests at each testing level within school.

² Grade-level groups: formed according to the following criteria:

- 1-14: too few students within school and grade level for good multilevel analysis;
- 15-19: borderline number of students within school and grade level for good multilevel analysis; inclusion in multilevel analysis dependent on total number of groups in this size range;
- 20+: adequate number in group for any multilevel analysis.

A third consideration is the number of variables at the student and school levels of analysis. Linear regression analysis requires at least 10 cases (students) for each

independent variable in an equation when conducting analyses based upon a conceptual model. Guidelines for the number of variables at each level are not straightforward. However, the combination of sample size, number of units, and number of variables taken together became considerations for the final model building analyses in the current study.

Summary

Analyses of student mobility, guided by a conceptual model linked to the theoretical and empirical research literature, explored student and school characteristics associated with student mobility, and with academic achievement. Student data sources included Vermont Department of Education standardized achievement tests, NSRE English Language Arts and Mathematics, as well as student census records, 1999-2004. School data sources included the Vermont School Report Card and NCES Vermont school data. Pre-analysis of the data included extensive data management and statistical programming to prepare the longitudinal research files and check sample attrition over time. The first research question, “What is the incidence of mobility?” was answered by computing two incidence rates, in-mobility and stability, using DOE student census records. The second research question, “What is the impact of mobility, i.e., how does the incidence of mobility vary according to educational correlates?” was addressed by varying incidence according to sociodemographic measures, educational classifications, and performance outcomes. The third research question, “What do multilevel analytical models reveal about variation in performance and mobility, from student and school

perspectives?” used a step-up strategy approach. Results from the incidence and impact analyses became components in attempting to develop hierarchical models of mobility and performance with student characteristics and school factors incorporated into a multilevel framework.

CHAPTER 4: RESULTS

The last chapter presented the methodology this study used, based on a conceptual model linked to empirical and theoretical literature. This chapter reports the results in the same order as the research questions and analysis plan. Section 1 addresses the first research question, “What is the incidence of mobility among Vermont students and schools?” This first section describes development of basic mobility incidence tables, presents statewide mobility incidence highlights, and references six appendices containing school-level incidence statistics for school years 2001-2004. The incidence statistics and tables provide the information basis from which the investigation of mobility impact unfolds.

Section 2 addresses the second research question, “What is the impact (or consequence) of mobility, i.e., how does the incidence (or consequence) of mobility vary according to educational correlates for students and schools? Is there a geographic pattern to the variation?” To address the impact of mobility empirically, using operational definitions of the conceptual framework components, this section begins with coding considerations of some data element and the need to produce clear analytical results. Next, the story of mobility expands with the examination of impact among associated sociodemographic, educational services, and geographic characteristics. The third part references briefly additional school-level impact appendices showing bivariate relationships between incidence and educational correlates. The fourth part includes bivariate analyses of mobility and educational performance, followed by educational risk

factor assessments, and concludes with multivariate comparisons of the mobility risk factors. The fifth part analyzes cohort mobility and academic achievement for two sets of cohorts, tested at grades 4 and 8, and grades 8 and 10.

Section 3 addresses the third research question, “What do multilevel analytical models reveal about variation in performance and mobility, from student and school perspectives, that may be useful for educational policy and practice? This section uses multilevel analysis to examine student-level and school-level educational correlates of mobility. Throughout the chapter, analyses address the research questions by comparing mobile and stable students across grade levels 4, 8, and 10.

Research Question 1: Incidence of Mobility

This section first describes mobility incidence for students in grades 1-12 for three consecutive school years. Second, in-migration, visually depicted in Figure 2, “In-mobility rates for Vermont Public Schools, 2002-2003,” indicates surprisingly high incidence in many schools. The third part is a basic summary of incidence from Appendices C through H, the school-level mobility tables that provide more detailed information for individual schools.

Incidence Highlights

The first research question asked, “What is the *incidence* of mobility among Vermont students and schools?” This study computed mobility incidence, as depicted by in-mobility and stability counts and rates, for grades 1-12 statewide for school years 2001-2002, 2002-2003, and 2003-2004 from Department of Education student census

records. Mobility calculated from census records for each of the three school years represented nearly 15,000 students annually, enrolled in grades 1-12, attending 306 schools. The 306 schools included 300 public schools and six Vermont approved independent schools attended by publicly funded students.

Table 4, “Statewide In-mobility, grades 1-12, School Years 2001-2004,” summarizes statewide in-mobility across grade levels for each of the school years.

Table 4 *Statewide In-mobility of Vermont Public School Students Enrolled in Grades 1-12, School Years 2001-2004*

Grade	2001 - 2002		2002 - 2003		2003 - 2004	
	Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
1	5,931	39.7	5,706	39.8	5,803	40.2
2	771	5.2	671	4.7	769	5.3
3	1,201	8.0	1,218	8.5	1,185	8.2
4	893	6.0	837	5.8	776	5.4
5	785	5.3	747	5.2	712	4.9
6	779	5.2	791	5.5	734	5.1
7	871	5.8	779	5.4	877	6.1
8	655	4.4	655	4.6	681	4.7
9	1,370	9.2	1,396	9.7	1,267	8.8
10	677	4.5	638	4.4	661	4.6
11	546	3.7	501	3.5	540	3.7
12	470	3.1	410	2.9	433	3.0
Total	14,949	100.0	14,349	100.0	14,438	100.0

Looking down the percent columns, it is apparent in-mobility was similar for the three school years. It was close to 40% at entry to grade 1, but quickly dropped to 5% for grade 2 and increased to 8% for grade 3. It then declined gradually until grade 9, when it increased to about 9%. In-mobility then decreased for the remainder of high school to about 3% in grade 12.

Thus, in Table 4, the three grades with highest in-mobility were grades 1, 3, and 9. The high in-mobility for grades 1 and 9, corresponding to elementary and high school entry for many students seems reasonable; however, the rather high in-mobility for grade 3 warranted further investigation. Vermont school organization by grade has many patterns, however a look at the distribution of schools by grades serviced indicated that only three schools begin with grade 3. This seemed unusual, however grouping schools according to beginning grade and looking at descriptive statistics explained the anomaly. While only three schools in the state begin at grade 3, the average enrollment for these schools in school year 2002-2003 was 604, topped only by high school enrollments, which averaged 805.

Due to the similarity of incidence and patterns across the school years and grade levels, it is reasonable to choose one representative year for in-depth examination of the mobility questions. Two reasons suggested choosing school year 2002-2003. As shown in Appendix A, the DOE census collection rules changed fall 2003 to comply with No Child Left Behind (NCLBA) data collection requirements. Changing to the new data

system meant that some of the earlier data elements were no longer comparable.

Choosing an earlier year would have increased the lag time for reporting, so the choice

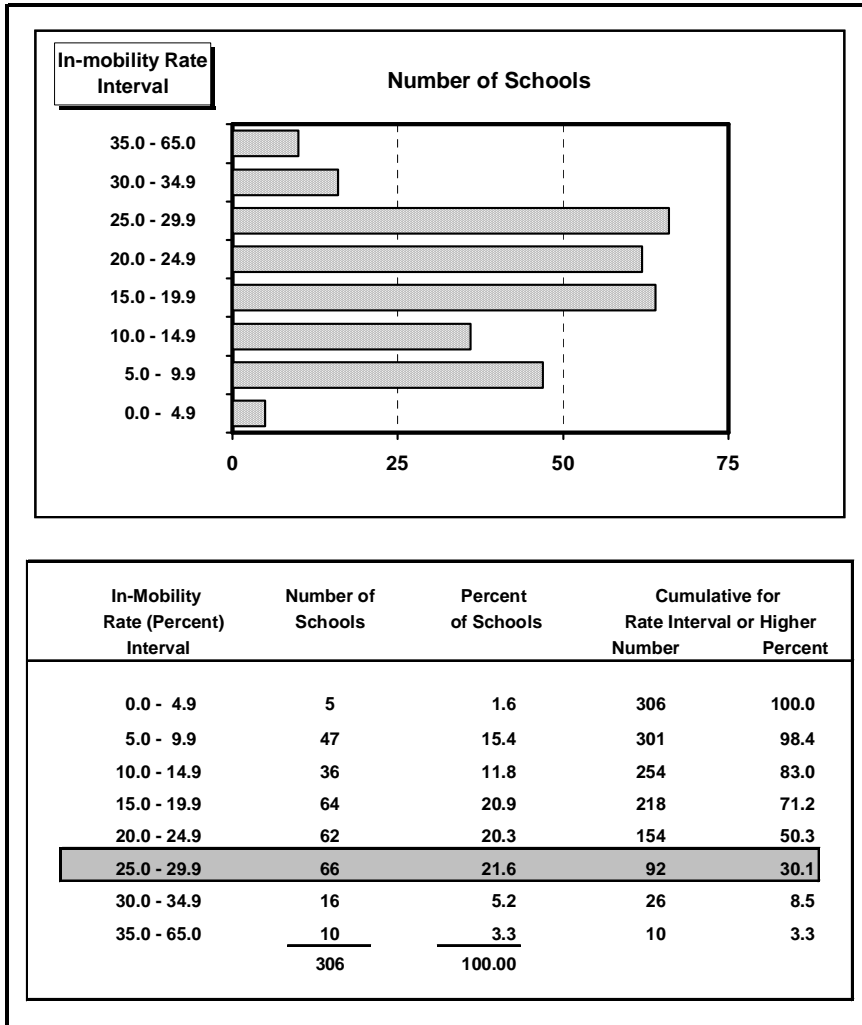


Figure 2 In-mobility rates for Vermont Public Schools, 2002-2003

was school year 2002-2003, the most recent year with demographic information in a format consistent with the two prior school years.

A visual snapshot of the magnitude of schools experiencing very high in-mobility, captured in Figure 2, “In-mobility rates for Vermont Public Schools, 2002-2003,” reveals one of the most surprising findings from this study. While the incidence rates indicate that in-migration was nearly 20% on average, about **30% of the schools experienced considerably higher rates**. In fact, during school year 2002-2003, in-migration was: (a) 25% or higher for 92 schools, (b) 30% or higher for 26 schools, and (c) 35% or higher for 10 schools.

Incidence Appendices C through H

The school-level mobility tables revealed widespread variation in student patterns of entry and transfer, as well as continuous enrollment, in schools throughout the state for the three school years 2001-2004. For each school year, Appendices C through H list two tables; the first table lists incidence in counts, and the second table lists incidence in percent.

For example, Appendix C, “Vermont Public Schools: Individual School In-mobility and Stability Counts, 2001-2002,” presents information for each school as follows. Column 1 lists school names; column 2 records the number of students who are new to the Vermont school system for the October 1 count; column 3 shows the number of new transfer students; column 4 records the number of continuing students; and column 5 gives the total number of students enrolled in the school.

The last row in the table shows the statewide total for 300 Vermont public schools and six Vermont approved independent schools attended by publicly funded students¹⁸. In-mobility statewide included 11,336 students who were new to the system, and 3,613 students who transferred within the system. Transfers consisted of students who made non-promotional school changes within a school district or to another district in Vermont. The statewide total of 11,336 new students and 3,613 transfer students equals 14,949, the total number of students statewide for school year 2001-2002 in Table 4.

Appendix D presents the same information in row percents, which are incidence rates for each school in this table. Visual inspection of the two in-mobility columns reveals widespread variation in the rates. The rate variation becomes apparent when observing the last row, which lists the statewide percent. At the beginning of school year 2001-2002, in-mobility was 16.5% for the statewide system. The statewide in-mobility rate of 16.5% consisted of 12.5% of students who were new to the system and 4.0% of students who transferred between schools in the system. Students who continued in the same school or school district for customary grade promotions comprised 83.5% of students statewide.

Thus, basic in-mobility includes students new to the system and students transferring within the system for non-promotional reasons, known as mobile students in this study. Stability, the complement of in-mobility, includes students remaining in the same school or district for customary grade promotion, known as stable students in this

¹⁸ The 300 Vermont public schools and six Vermont approved independent schools attended by publicly funded students comprise the statewide public school system in the remaining narrative.

study. A better understanding of mobility and stability develops by examining how these phenomena relate to other student characteristics such as gender or socioeconomic status or educational performance. These characteristics are educational correlates of mobility and they help to elucidate the story or impact of mobility in the next section.

Research Question 2: Impact of Mobility

The second research question asked, “What is the impact (or consequence) of mobility, i.e., how does the incidence (or consequence) of mobility vary according to educational correlates for students and schools? Is there a geographic pattern to the variation?” Examination of the impact of mobility addressed questions about (a) how the incidence of mobility varies according to characteristics of students and schools, (b) how incidence of mobility varies according to academic performance outcomes associated with students, and schools, and (c) whether mobility incidence varies according to school location relative to populous areas as defined by NCES.

The impact examination presents how mobility incidence varies according to the sociodemographic and educational characteristics. To help elucidate the impact of incidence and interrelationships among characteristics, as well as to conduct an interpretable and reliable examination of incidence, some of the data elements were combined, as described in the next section.

Code Considerations

This section describes several original and alternate versions of data elements used in the mobility study after initial screening. It was necessary to create dichotomous versions of data elements with 5-8 categories for one legal, and two statistical reasons. Examination of inter-relationships among variables beyond the first bivariate associations quickly produces very small or empty cells, with patterns that are difficult to interpret.

There are three reasons to avoid small or empty cells. First, to ensure anonymity of schoolchildren, the legal agreement for use of the data specified that no cells could be smaller than 10 at the school level. Second, cell size requirements for multiway tables are that expected cell frequencies for all two-way associations are greater than one, and that no more than 20% are less than five (Tabachnick & Fidell, 1989). Third, interpretations of results quickly become difficult with many cells, so a good rule of thumb analytically is to achieve a set of cells that is parsimonious without masking important relationships.

The data elements with more than two categories included ethnicity, portfolio use, the combination of Section 504 and Act 230/157, locale, and cohort mobility. Checks of the distributions for each of these data elements indicated small or zero cell sizes for the original scale. Cell definitions for each new data element follow.

Ethnicity is a data element with six categories. The distribution for school year 2002-2004 was American Indian or Alaskan Native (0.59%), Asian (1.4%), African-American (1.25%), Hawaiian or Pacific Islander (0.16%), Hispanic-Latino (0.74%), and

White (95.86%). The only possibility for creating a dichotomous variable for ethnicity was to combine all ethnicity categories into one category, and white into the other category.

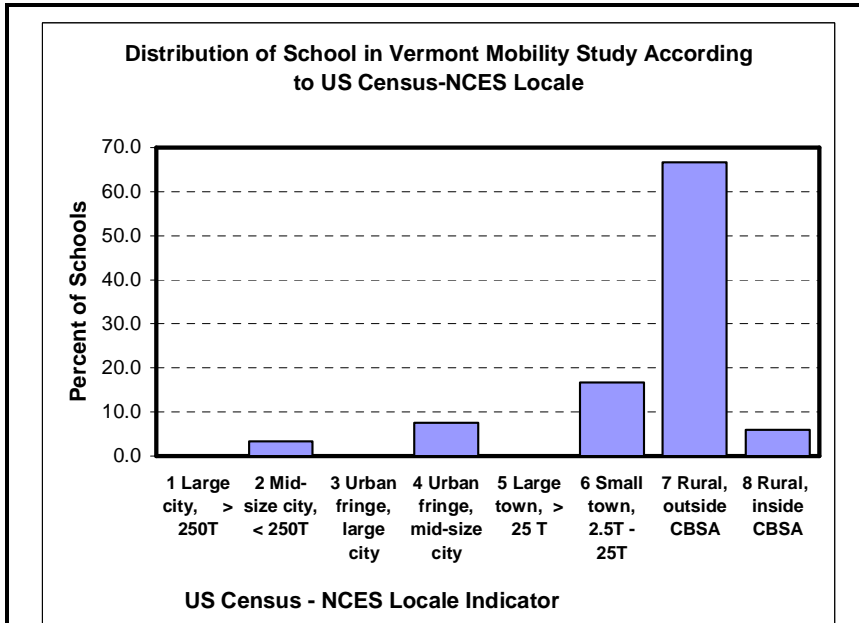
The number of years a student kept writing or mathematics portfolios ranged between zero and five. Distributional checks for both portfolio variables with the performance distributions and original mobility counts as dependent variables suggested a natural dichotomy, 0 to 1 year and 2 to 5 years. Thus, the two-category writing and mathematics portfolio variables represent 0 or 1 year versus 2 through 5 years for subsequent analyses.

The related educational service designations Section 504 and Act 230/157, described in detail in Chapter 3, became one data element with the name Plan 504. Each element originally had two categories, yes, and no. The combined variable Plan 504 has two categories as well. One category represents yes to either Section 504 or Act230/157 or both. The other category represents no on both.

The count of school changes for cohort mobility could be potentially 0 through 5 for the grade 4 to grade 8 cohorts, and it could be 0 through 3 for the grade 8 to grade 10 cohorts. Initial screening of the mobility counts by school revealed that about 10% of students overall had one or more school changes during the years tracked. Many numbers were so sparse when tabulated at the school level, that not combining school changes into one category would not only violate the legal data agreement, but also produce many expect cell counts too small to analyze reliably.

The final variable with multiple categories is locale. This indicator, obtained from the US Census Bureau and used with the NCES public school files for each state, generated substantial interest due to geographic location as a potential explanatory variable. Discussion ensued about the possible categorical reductions for analysis. Although locale has eight potential categories,¹⁹ Vermont school locations correspond to five categories. As Figure 3 shows, two-thirds of Vermont's schools meet the criteria for category 7. The full definition for category 7 is, "Rural, outside core based statistical area (CBSA) – any incorporated place, Census designated place, or non-place territory not within a CBSA or consolidated statistical area (CSA) of a large or mid-size city and defined as rural by the Census Bureau" (J. Naum, personal communication, July 12, 2004). As the table shows, only 18 schools (5.9%) are more rural. Combining the last two categories into one category yields a category with over 70% of the most rural schools in Vermont. A careful look at categories 1 through 6 indicates Vermont has no schools near a large city, only 10 (3.3%) schools near a mid-size city of less than 250,000 residents, and 23 schools (7.5%) near the urban fringe of a mid-size city. Combining these would produce a category with nearly 11% of schools. The remaining 51 schools (16.7%) are located near small towns with 2,500 to 25,000 residents. A variable distributed as 10.8%, 16.7%, and 72.5 has two categories that quickly become problematic statistically when cross-classified with another variable. Thus, the most practical (or least undesirable) dichotomy results from combining categories 1 through 6,

¹⁹ See Chapter 3, Table 1, for full descriptions of the eight categories.



Locale Code Designations*	Original Values		New Values	
	Frequency	Percent	Frequency	Percent
1 Large city, > 250T	0	0.0		
2 Mid-size city, < 250T	10	3.3		
3 Urban fringe, large city	0	0.0		
4 Urban fringe, mid-size city	23	7.5		
5 Large town, > 25 T	0	0.0		
6 Small town, 2.5T - 25T	51	16.7		
Less rural: codes 1-6			84	27.5
7 Rural, outside CBSA	204	66.7		
8 Rural, inside CBSA	18	5.9		
More rural: codes 7-8			222	72.6
Total	306	100.0	306	100.0

* Complete Census-NCES definitions are in Chapter 3, Table 1.

Figure 3 Distribution of Vermont Schools According to US Census Locale Indicator

and 7 through 8, to produce a variable a nearly 30%-70% split which is considered “borderline” problematic statistically.

Impact in the Schools

Thus, as described above, to evaluate the impact of mobility empirically, some data reduction for elements with multiple categories was necessary in order to produce clear analytical results and adequate cell sizes for statistical and legal reasons. The data elements combined to produce dichotomous variables were ethnicity, Section 504 components, cohort mobility counts, portfolio usage and school locale. Next, the description of mobility’s impact in the schools for school year 2002–2003 expands with the examination of mobility rates according to sociodemographic and educational service classifications.

As noted earlier in the chapter, the overall statewide in-mobility rate for school year 2002–2003 was 16.1%. This overall in-mobility rate can vary according to various student-level, and school-level attributes. This section describes how in-mobility varied according to the student background and school input elements, defined and operationalized for this study in Chapter 3, Tables 1 and 3. This section first examines the student-level background characteristics, and then examines the school-level inputs.

Student background characteristics included demographics, family background, educational services, and academic background. The operational definitions available from census and performance files included gender, ethnicity, and participation in free or reduced lunch (family background socioeconomic status proxy). Additionally, an

educational service classification, plan 504, was the result of combining information about having a Section 504 plan and services under Act230/157.

School mobility incidence groups, defined according to in-mobility rates for the October 1 count were (a) high in-mobility, 25% - 65%, (b) moderate in-mobility, 15% - 25%, and (c) low in-mobility, 5% - 15%.²⁰ For these groups, the mean mobility rates were 29.6%, 19.9%, and 9.5%, respectively, for the high, moderate, and low in-mobility schools. Thus, mobility rates decreased by about 10% across schools grouped according to in-mobility, from about 30% to 10%.

Gender and ethnicity did not vary appreciably according to in-mobility status. The overall distribution for gender was 51% males and 49% females. These percentages were the same for high, moderate, and low in-mobility school groups. The statewide distribution of ethnicity was 95.8% white and 4.2% non-white. Ethnicity did not vary appreciably across the incidence groups. However, the next background characteristic, socioeconomic status, changed across schools.

For school year 2002–2003 statewide participation in free or reduced lunch, as reported to the DOE Student Census and Demographic Update, was 26.1%. However, the school-level percentages according to in-mobility incidence varied significantly. For high, moderate, and low in-mobility schools, participation in free or reduced lunch was 34.2%, 29.4%, and 20.9%, respective. Thus, there was a significant positive association between in-mobility and participation in free or reduced lunch; high in-mobility schools

²⁰ Actual intervals were: high 25.00 – 65.00, moderate 15.00 - 24.99, low 5.00 – 14.99.

experienced high participation in free or reduced lunch, on average, and low in-mobility schools experienced low participation in free or reduced lunch, on average.

Educational services included student designations according to Plan 504, Title 1 services, and Limited English proficiency. Statewide, the percentage of students receiving services under the Section 504 plan or Act230/157 was 12.7%. The rates according to mobility incidence were 13.8% for high in-mobility schools, 13.2% for moderate in-mobility schools, and 12.0% for low in-mobility schools. Thus, there was a slight differential of nearly 2% overall in students receiving services under the Section 504 plan or Act230/157 among schools experiencing high, moderate, or low in-mobility.

The overall percentage of students receiving Title 1 reading, mathematics, or other services was 29.4%. The school-level rates varied considerably, from 44.7% for high in-mobility schools, to 38.8% for moderate in-mobility schools, to 17.6% for low in-mobility schools. Thus, the overall difference among schools was about 27%.

Overall, the percentage of students with the Limited English proficiency was very small statewide, and across schools. The statewide rate was 1.2 %, and it was 2.3%, 1.1%, and 0.9%, respectively, for high, moderate, and low in-mobility schools. Although students with Limited English proficiency was very low statewide, there was an overall difference of 1.5%, ranging from 1.3% for high in-mobility schools to 0.9% for low in-mobility schools.

Thus, average in-mobility groups for schools classified according to in-mobility was about 30%, 20%, and 10% for high, moderate, and low in-mobility, respectively.

Gender and ethnicity were similar across schools, regardless of mobility incidence. The percentages of students receiving services under the Section 504 plan or Act230/157, as well Limited English proficiency varied slightly, with high in-mobility schools nearly 2% higher than low in-mobility schools. However, schools varied significantly for student participation in free or reduced lunch and students receiving Title 1 reading, mathematics, or other services. School rates for these sociodemographic and educational service classifications are in Appendices I through M, described next.

Impact in the Schools: Appendices I Through M

Appendices I through M display in-mobility rates (percents) for gender, ethnicity, participation in free and reduced lunch program, and three educational services. Since these measures did not fit on one page, they are in two appendices, with mobility printed for each. This gives the school-level information with mobility for each of the schools. Appendix I lists mobility, gender, ethnicity, participation in free and reduced lunch program. Appendix J lists mobility, Plan 504, Title 1 services, and Limited English proficiency.

Representation of the NCES locale indicator is in Appendix K. The table shows the original locale classification for each of the schools. Appendix L is a map of Vermont supervisory unions with high in-mobility rate schools plotted for 15 schools with very high in-mobility. Most of the high in-mobility schools tend to cluster near the larger cities in Vermont. A few also are near the border and several economically depressed areas in southern Vermont.

Appendix M lists school information with in-mobility and socioeconomic status. The characteristics include school enrollment, grades serviced by the school, the in-mobility rate, and participation in free or reduced lunch program. Many of the schools with in-mobility rates exceeding 25% are for primary grades. Due to many configurations of grade levels in Vermont schools, it is difficult to present school-level information that clearly depicts these characteristics with mobility. In addition, school size varies appreciably, and does not appear to relate to school type or in-mobility.

This concludes the descriptive summary of basic school-level incidence and impact rates for school years 2001-2002, 2002-2003, and 2003-2004. These rates provided census-based incidence and impact, for grades 1 through 12. Student background characteristics included demographics, family background, and educational services. The next section extends the incidence and impact information to the examination of mobility and academic performance for grades 4, 8, and 10 for school year 2002 - 2003.

Impact: Educational Performance and Risk Factors

Relationships between mobility rates and student characteristics, evaluated with crosstabulations and odds ratios, checked statistical associations between pairs of characteristics. The focus was to compare mobile and stable students for grades 4, 8, and 10 and ascertain which educational correlates of mobility are strongest. Analyses of the

achievement data with scaled scores compared mean performance for mobile versus stable students.

As described in Chapter 3, students in grades 4, 8, and 10 take standardized tests in mathematics and English language arts test every spring in Vermont. Selection of school year 2002-2003 for an in-depth examination of the impact of student mobility, included an evaluation of test score performance.

Figure 5 summarizes student performance on statewide English language arts tests for students in grades 4, 8, and 10, 2002-2003. Since the Stanford-9 scale score is difficult to interpret from its range of about 400-700, the data table includes a Stanford 9 scale conversion to percentile rank, an easily interpretable value for comparing groups. The third row in the data table, labeled Gap, shows the difference in mean performance between stable and mobile students for each grade level.

Mobile children performed lower than their stable counterparts did across grade levels. The performance gap in English language arts widened moderately from grade 4 to grade 8, and decreased from grade 8 to grade 10, leveling off at its original disparity by grade 10. The disparity was more apparent for the comparison of mathematics achievement.

Figure 4 summarizes student performance on statewide mathematics tests for students in grades 4, 8, and 10, 2002-2003. The disparity in percentile rank achievement means for mobile versus stable students was 3 for grade 4, 10 for grade 8, and 10 for grade 10. The gaps between stable and mobile students were about the same at

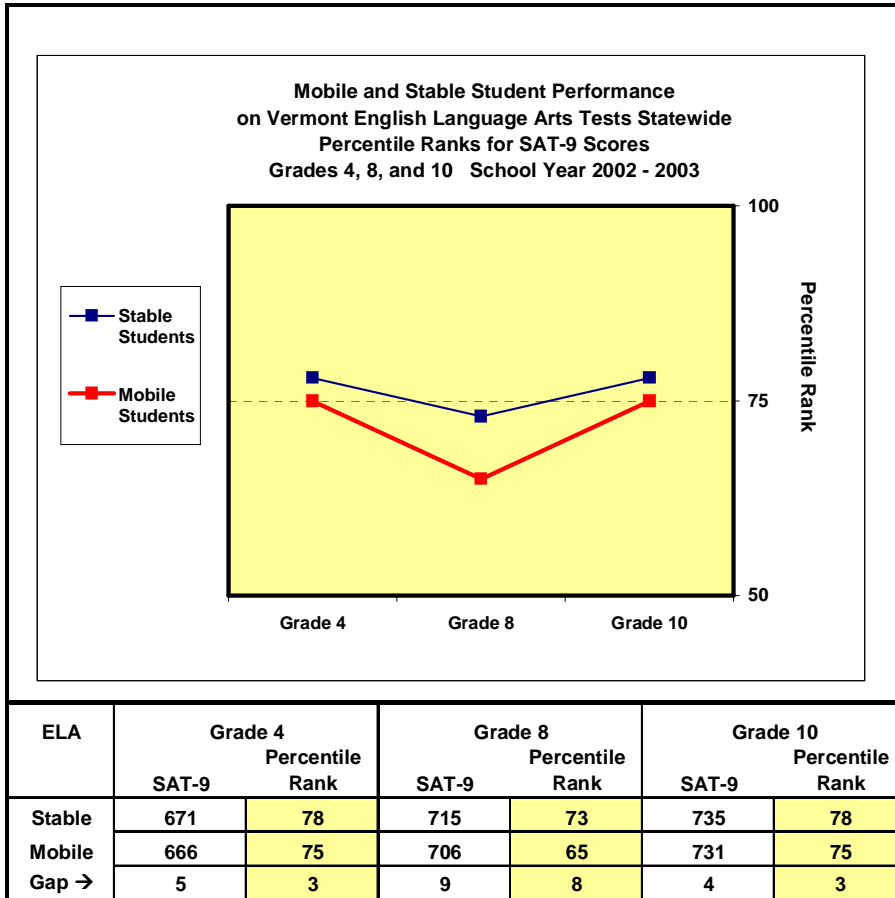


Figure 4 Mobile and stable student performance on statewide English language arts tests, Grades 4, 8, and 10, school year 2002-2003

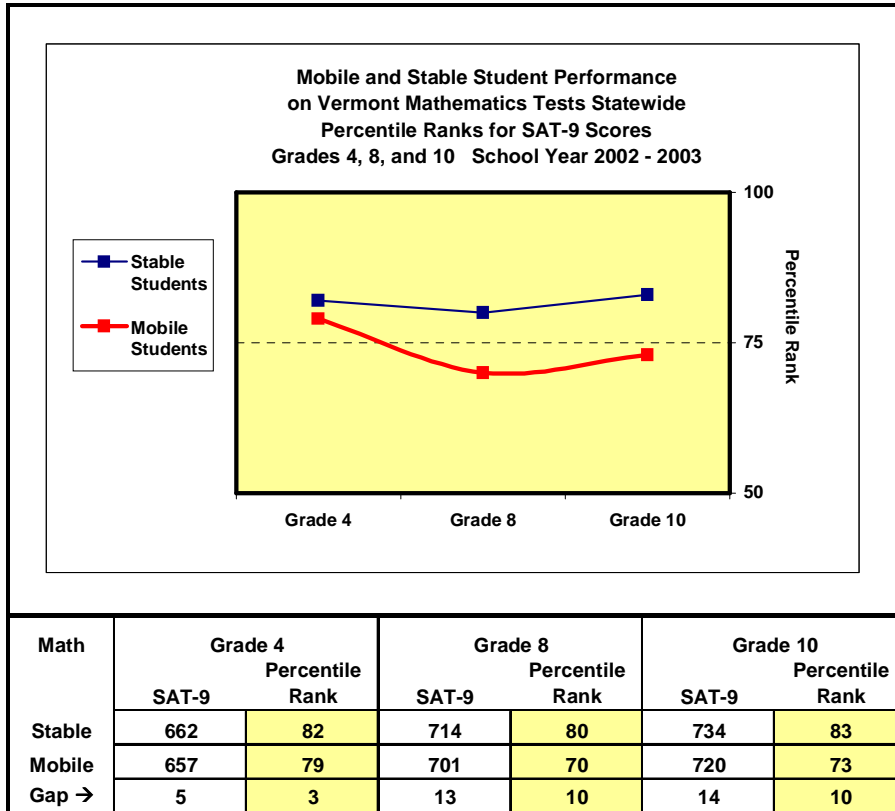


Figure 5 Mobile and stable student performance on statewide mathematics tests, Grades 4, 8, and 10, school year 2002-2003

grades 4 and 8 for mean English language arts and mathematics test scores, however the gap widened three-fold by grade 10 for performance on mathematics tests. To understand some factors that may help to explain the performance gap, the next set of analyses examined bivariate relationships between test performance and selected sociodemographic and educational correlates.

Tables 5 through 7, present summaries of analyses for grades 4, 8, and 10, which suggest educational risk factors associated with mobility. The analyses were directly analogous to risk factor assessment for disease screening in the health services sector (Fisher & Van Belle, 1993; Woodward, 1999). Table 5 reports analysis results of two-way contingency tables with associated odds ratios and 95% confidence intervals for grade 4 students. Six of the confidence intervals do not contain 1, and this indicates significant odds ratios for six of the educational risk factors.

These results revealed that mobile students were:

- more likely to participate in school free or reduced lunch program at school (relative to non participation),
- less likely to have a 504 plan in place (relative to having a plan),
- less likely to attend school in a more urban locale (relative to a more rural locale),
- more likely to have kept a writing portfolio for 0-1 years (relative to 2-5 years)
- more likely to have kept a math portfolio for 0-1 years (relative to 2-5 years),
and
- more likely to not meet the standard on mathematics performance tests.

The confidence interval for English language arts performance test is 1.0 on the lower end, so this odds ratio could be marginally significant.

Table 5 Educational risk factor assessment of mobility: Grade 4 Vermont students, school year 2002-2003

Grade 4	Mobile Students	Stable Students		Odds Ratio	95% Confidence Interval
Low SES (FRLM) ¹	15.7	84.3	100.0		
Not Low SES	10.0	90.0	100.0	1.7	[1.4, 1.9]
Plan 504 in place	15.7	84.3	100.0		
Not in place	10.0	90.0	100.0	0.6	[0.4, 0.7]
More urban locale	15.7	84.3	100.0		
More rural locale	10.0	90.0	100.0	0.7	[0.6, 0.8]
Writing 0-1 years portfolio	15.7	84.3	100.0		
2+ years	10.0	90.0	100.0	3.4	[2.9, 4.0]
Math 0-1 years portfolio	15.7	84.3	100.0		
2+ years	10.0	90.0	100.0	3.6	[3.1, 4.6]
ELA Not meet std.	15.7	84.3	100.0		
Total Meet/ex std.	10.0	90.0	100.0	1.2	[1.0, 1.4]
Math Not meet std.	15.7	84.3	100.0		
Total Meet/ex std.	10.0	90.0	100.0	1.3	[1.1, 1.5]

¹ FRLM indicates participation in free or reduced lunch.

² A 95% confidence interval that does not include 1 indicates the odds ratio is significant.

Table 6 presents similar results for grade 8. The odds ratios are all of the same sign and confidence intervals of similar magnitude, and none contains the value 1.0.

Table 7 presents results for grade 10. Results are similar to those above except confidence limits equal 1.0 for locale and English language arts performance test.

In summary, the educational risk factor assessments indicate similar and significant relationships across grade levels. The analytical and conceptual extension of these independent bivariate analyses was to next conduct a multivariate analysis assessing the factors together.²¹ In the next step, joint examination of the risk factors employed a step-up strategy by testing submodels. For each grade level, two models tested included socioeconomic status, plan 504 in place, and locale. In addition, the first model -- *Mobility and Language* -- included writing portfolio usage, while the second model -- *Mobility and Math* -- included math portfolio usage.

Table 8 summarizes the six models, two at each of the three grade levels. Overall relationships were strongest for grade 4, indicating confidence intervals clearly apart from 1.0. Patterns for grade 8 and grade 10 differed somewhat. For both grades socioeconomic status and plan 504 were significant in all four models. For grade 8, locale did not enter for either model, however for grade 10, locale entered the language model but not the math model. For grades 8 and 10 the appropriate portfolio variables remained significant.

²¹ This type of analysis is also called a joint risk factor assessment of multivariate odds ratios, holding constant or controlling for the effects of other factors

Table 6 Educational risk factor assessment of mobility: Grade 8 Vermont students, school year 2002-2003

Grade 8	Mobile Students	Stable Students		Odds Ratio	95% Confidence Interval ²
Low SES (FRLM) ¹	11.7	88.3	100.0		
Not Low SES	6.9	93.1	100.0	1.8	[1.5, 2.1]
Plan 504 in place	5.3	94.7	100.0		
Plan not in place	8.5	91.5	100.0	0.6	[0.4, 0.8]
More urban locale	7.9	92.1	100.0		
More rural locale	8.4	91.6	100.0	0.9	[0.8, 1.1]
Writing 0-1 years portfolio	12.6	87.4	100.0		
2+ years	5.8	92.2	100.0	2.4	[2.0, 2.8]
Math 0-1 years portfolio	13.0	87.0	100.0		
2+ years	5.5	94.5	100.0	2.6	[2.2, 3.0]
ELA Not meet stnd.	8.6	91.4	100.0		
Total Meet/ex stnd.	6.0	94.0	100.0	1.5	[1.2, 1.8]
Math Not meet stnd.	9.5	90.5	100.0		
Total Meet/ex stnd.	4.8	95.2	100.0	2.1	[1.8, 2.5]

¹ FRLM indicates participation in free or reduced lunch.

² A 95% confidence interval that does not include 1 indicates the odds ratio is significant.

Table 7 Educational risk factor assessment of mobility: Grade 10 Vermont students, school year 2002-2003

Grade 10	Mobile Students	Stable Students		Odds Ratio	95% Confidence Interval
Low SES (FRLM) ¹	9.4	90.6	100.0		
Not Low SES	7.4	92.6	100.0	1.3	[1.1, 1.6]
Plan 504 in place	5.2	94.8	100.0		
Plan not in place	8.2	91.8	100.0	0.6	[0.5, 0.8]
More urban locale	7.4	92.6	100.0		
More rural locale	8.3	91.7	100.0	0.9	[0.7, 1.0]
Writing 0-1 years portfolio	10.7	89.3	100.0		
2+ years	4.2	95.8	100.0	2.7	[2.3, 3.3]
Math 0-1 years portfolio	11.1	88.8	100.0		
2+ years	3.9	96.1	100.0	3.1	[2.5, 3.7]
ELA Not meet std.	6.3	93.7	100.0		
Total Meet/ex std.	5.1	94.9	100.0	1.2	[1.0, 1.5]
Math Not meet std.	7.3	92.7	100.0		
Total Meet/ex std.	4.2	95.8	100.0	1.8	[1.8, 2.5]

¹ FRLM indicates participation in free or reduced lunch.

² A 95% confidence interval that does not include 1 indicates the odds ratio is significant.

Table 8 *Multivariate odds ratios for mobile relative to stable students, Vermont statewide results for Grades 4,8,10, School Year 2002-2003*

	Model 1		Model 2	
	Mobility and Language		Mobility and Math	
	Multivariate Odds Ratio	95% Confidence Interval	Multivariate Odds Ratio	95% Confidence Interval
<u>Grade 4</u>				
Low SES (FRLM)	1.5	[1.3, 1.8]	1.5	[1.3, 1.8]
Plan 504 in place	0.5	[0.4, 0.6]	0.5	[0.4, 0.6]
Locale very rural	0.7	[0.6, 0.8]	0.7	[0.6, 0.8]
Writing portf. 2+ yr	0.3	[0.2, 0.3]	---	---
Math portfolio 2+ yr	---	---	0.3	[0.3, 0.4]
<u>Grade 8</u>				
Low SES (FRLM)	1.6	[1.3, 1.9]	1.2	[1.1, 1.7]
Plan 504 in place	0.5	[0.4, 0.6]	0.5	[0.4, 0.7]
Locale very rural	n.s.		n.s.	
Writing portfolio 2+ yr	0.5	[0.4, 0.6]	---	---
Math portfolio 2+ yr	---	---	0.5	[0.4, 0.6]
<u>Grade 10</u>				
Low SES (FRLM)	1.5	[1.3, 1.8]	1.3	[1.0, 1.6]
Plan 504 in place	0.5	[0.4, 0.6]	0.5	[0.4, 0.6]
Locale very rural	0.7	[0.6, 0.8]	n.s.	
Writing portfolio 2+ yr	0.3	[0.2, 0.3]	---	---
Math portfolio 2+ yr	---	---	0.5	[0.4, 0.6]

¹ FRLM indicates participation in free or reduced lunch.

² A 95% confidence interval that does not include 1 indicates the multivariate odds ratio is significant, controlling for the other factors in the model.

To summarize, results from the risk factor and step-up analyses suggested retaining socioeconomic status, plan 504, writing portfolio, and mathematics portfolio.

Since locale was inconsistent in the preceding analyses, it did not continue to the next stage of analysis.

Cohort Mobility

Two sets of student grade-year cohorts with achievement data were available to construct and analyze, as Appendix B illustrates and Chapter 3 described. Two grade 4 to grade 8 cohorts over the five-year period were tested. As Appendix R shows, the first cohort began with 6,722 student tests in spring, 1999, and 5,595 student tests in spring, 2003 remained. Overall, 83% of the student records merged at each of six times from spring 1999 to spring 2003. Similarly, the second cohort began with 7,652 student tests in spring, 2000, and 6,400 students tests in spring 2004 remained. This represented a cohort completion rate of 84%. As shown in the second part of Appendix R, four grade 8 to grade 10 cohorts were tested. Group sizes ranged from about 5,200 to 6,700, and the overall completion rate ranged from 81% for the first cohort to 85% for the fourth cohort.

Several checks on student records that did not match indicated test scores did not differ substantially at the first test. However, many of the students who did not continue with the cohort were one grade behind. Checks of mobile and stable students with sociodemographic and services classifications indicated little difference between mobile and stable students due to gender, ethnicity, or plan 504. There was a small difference between groups for Title 1 services and Limited English proficiency. The largest

difference between groups was for participation in free and reduced lunch, with participation in free and reduced lunch higher for mobile students.

For both sets of cohorts, academic achievement comparisons between mobile and stable students via repeated measures analysis of variance tests analyzed between-group, within-student, and interaction effects. Between groups and within subjects tests were statistically significant for both cohorts, with stable students scoring higher than mobile students for English language arts and mathematics at all grade levels. The interaction tests were not significant because the mean differences between stable and mobile students were approximately parallel, for both cohorts, grade 4 to grade 8 and grade 8 to grade 10.

However, the most profound finding from these analyses, and in the entire study, surfaced after converting group means to percentile ranks. Figures 6 through 9 illustrate the findings, comparisons, and conversions. For the younger cohorts the change in percentile rank from grade 4 to grade 8 is slightly more for mobile than for stable students. As Figure 6 shows, for English language arts, grade 4 to grade 8, for stable students the change in percentile rank was 2 points, and for mobile students the change in percentile rank was 4 points. However, as Figure 7 shows, for mathematics, the change for stable students was 2 points, and the change for mobile students was 0 points.

For the older cohorts the trend worsened for mobile students. As shown in Figure 8, for English language arts, grade 8 to grade 10, for stable students the increase in percentile rank was 5 points, from 73 to 78. However, for mobile students the change was

-1 percentile points, from 72 to 71. Thus, stable students scored only 1 percentile point higher than mobile students in grade 8, but stable students improved 5 percentile points to 78 in grade 10, while mobile students decreased 1 percentile point to 71 by grade 10.

Figure 9 shows a slightly different pattern for mathematics. The gap between cohorts in grade 8 was 4 percentile points. From grade 8 to grade 10 stable students increased from 78 percentile points to 84 percentile points, for an increase of 6 percentile points. However, the mobile students increased from 74 to 76 percentile points, for a net increase of 2 percentile points.

Thus, conversion of mean Stanford 9 test scores for English language arts and mathematics for both cohorts revealed a trend that should concern all educational leaders. For the approximately 12,000 students tested in grade 4 and grade 8 cohorts, and for approximately 25,000 students tested in grades 8 and 10, the growth over time continued for stable students and leveled off for mobile students between grades 8 and 10.

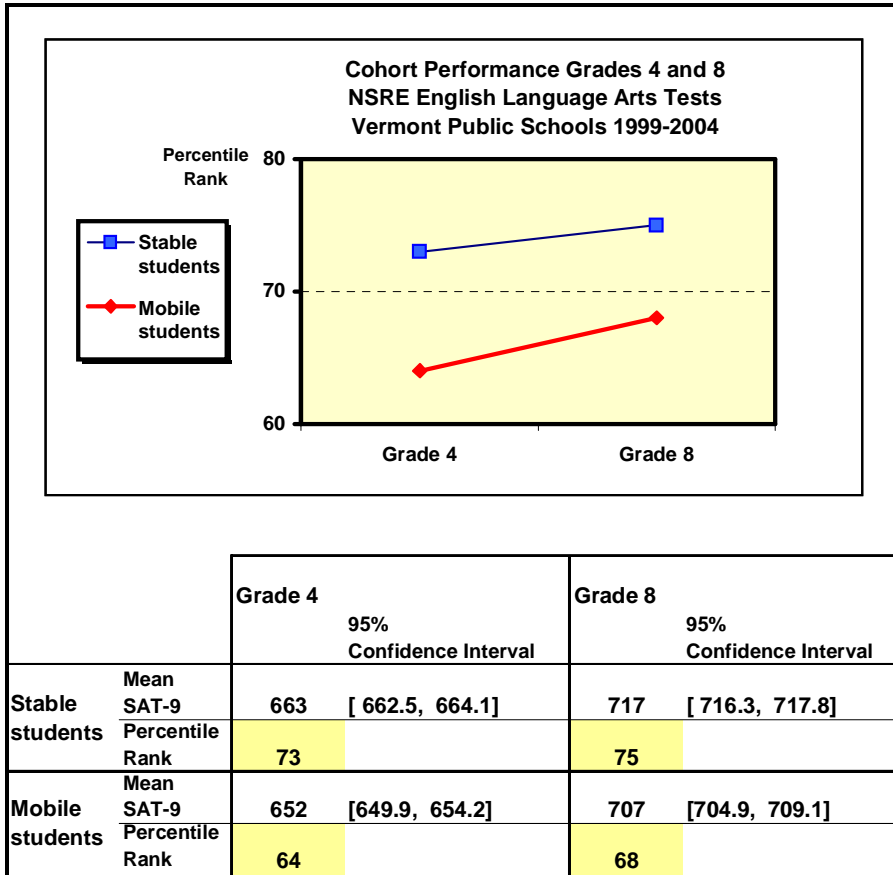


Figure 6 Cohort performance, grades 4 to 8, on NSRE English Language Arts tests, Vermont public schools 1999-2004

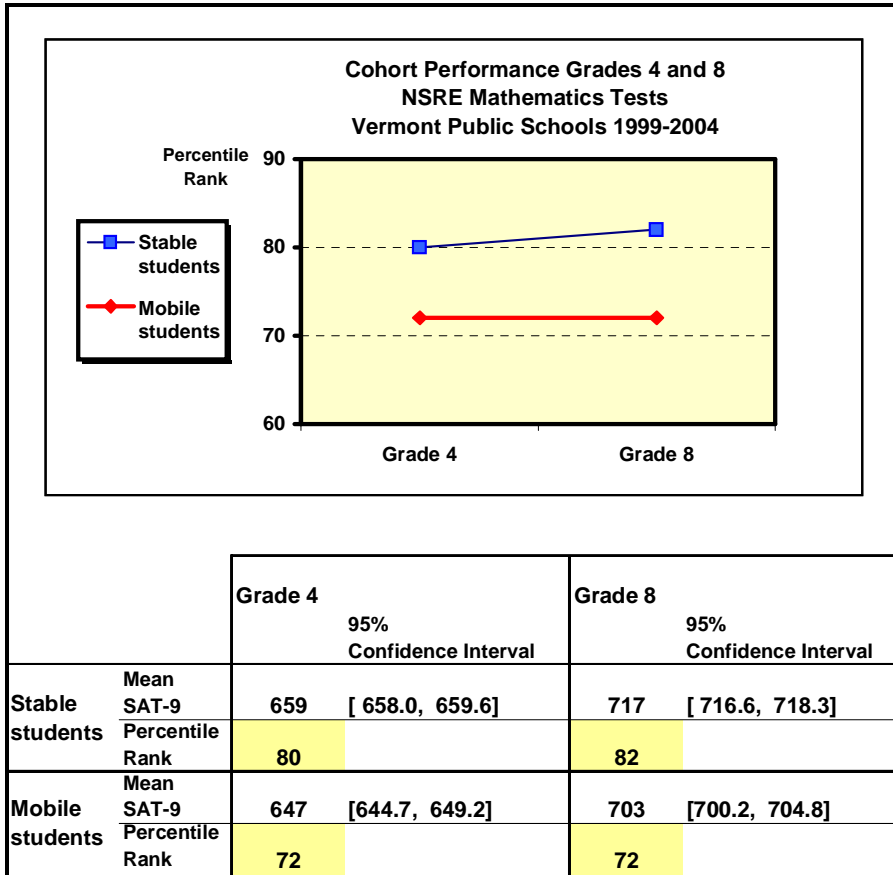


Figure 7 Cohort performance, grades 4 to 8, on NSRE Mathematics tests, Vermont public schools 1999-2004

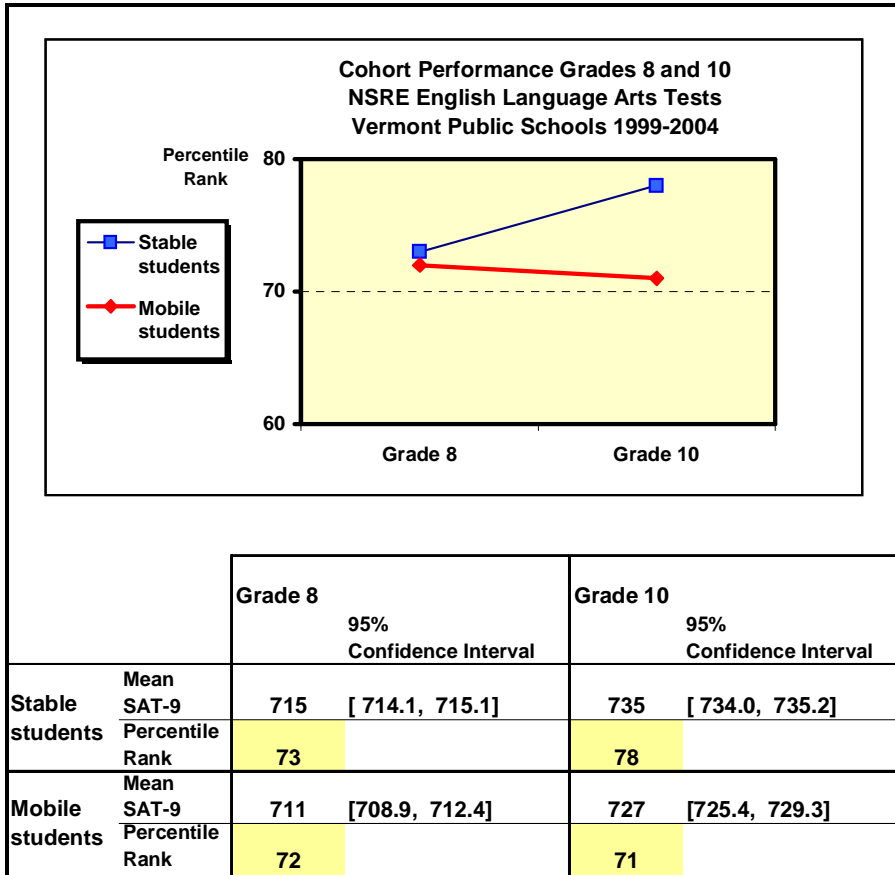


Figure 8 Cohort performance, grades 8 to 10, on NSRE English Language Arts tests, Vermont public schools 1999-2004

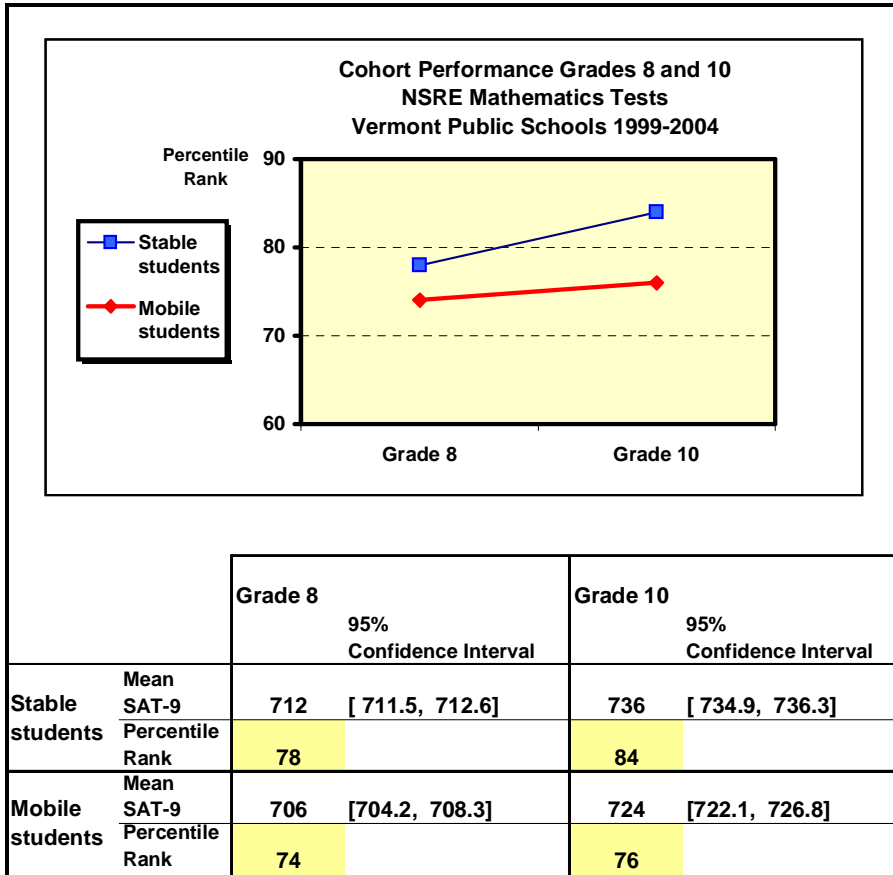


Figure 9 Cohort performance, grades 8 to 10, on NSRE Mathematics tests, Vermont public schools 1999-2004

Cohort Mobility: Appendices N Through S

Appendices N through S list cohort mobility and educational correlates for the grade 4 to 8 cohorts and grade 8 to 10 cohorts, two tables each. Even though the older cohort includes four groups of students, since only a very small number of students

changed schools two times or more, the measure of school changes is now two categories, 0 versus 1 or more. The characteristics listed in these tables are free and reduced lunch participation and the Section 504 measure.

Appendix R contains two tables summarizing completion rates for the grade 4 to 8 and grade 8 to 10 cohorts. Completion indicates the student records merged at each of the time points listed. This indicates the students remained in the same district or elsewhere in Vermont. Overall, about 84% of the students were accounted for at the end of the cohort time period for the grade 4 to 8 cohort, and about 17% remained at the end of two years for the grade 8 to 10 cohort.

Appendix S summarizes non-promotional school changes for both cohort groups. For the grade 4 to grade 8 cohorts, most students (6 %) moved between grades 5 and 6, and the next time for more moves (4%) was between grades 6 and 7. For the grade 8 to grade 10 cohorts, most students (5 %) moved between grades 8 and 9.

This concludes the descriptive summary of basic incidence and impact rates for two sets of study groups afforded by the five-year span of data. The first set of rates provided cross-sectional census-based incidence and impact mobility rates for grades 1-12, for an in-depth incidence assessment. Bivariate analyses of mobility and educational risk factors, as well as repeated measures analysis of academic achievement for cohorts provided useful information for developing multilevel analyses of students and schools.

Research Question 3: Multilevel Perspectives

The third research question asked, “What do multilevel analytical models reveal about variation in performance and mobility, from student and school perspectives, that may be useful for educational policy and practice? The general analytical approach used to answer this question was to employ multilevel analysis to examine variation at student and school levels in a hierarchical analysis. Two-level hierarchical linear modeling (HLM) analyzed the NSRE achievement test scores measured on continuous scales. Two-level hierarchical generalized linear modeling (HGLM) analyzed mobility as a binary response measure (mobile versus stable).

The first set of analyses examined variation in performance for the NSRE English language arts and mathematics test scores for the three grades tested in school year 2002-2003, as well as the two sets of cohorts. The HLM program first conducts a one-way random effects analysis of variance, often called the null or unconditional model, to assess the extent of grouping structure in the data.²² The one-way random effects analysis variance computes two variance components, which are analogous to the between-groups and within-groups effects in fixed effects analysis of variance. The ratio of the group level component to the sum of the two components estimates the intraclass correlation coefficient or “grouping structure” in the data. If the ratio is relatively large, this indicates hierarchical structure with significant variation attributable to the higher (school) level. If the ratio is relatively small, this indicates more variation among the

²² This step partitions the sums of squares into “between groups” and “within groups” components. In standard fixed-effects analysis of variance, the ratio of between to within mean squares tests the hypothesis of no difference in the group means, or that the variance is zero.

level-one component, i.e., the within-student component. According to Winokur (2004) a rule of thumb is that intra-class correlation exceeding 0.1 indicates HLM is appropriate to estimate school effects. As shown in Table 8, for the NSRE test scores, all intraclass correlation coefficients were less than 0.1. Thus, the HLM analyses for this set of measures proceeded no further.

The next set of analyses estimated variation in mobility for the five analysis groups (grades 4, 8, 10, cohort 4 to 8, and cohort 8 to 10) using HGLM. According to Raudenbush and Bryk (2002) the intra-class coefficient can not be computed with binary outcome measures. Thus, it was not possible to ascertain the adequacy of these data for two level analysis. The modeling strategy was to enter variables in three blocks, corresponding to the variance composition explainable: (a) student-level background characteristics, (b) student composition, and (c) school-level resource and process measures. The student-level background characteristics included: (a) free and reduced lunch participation (socioeconomic status proxy), (b) plan 504, (3) math portfolio, (4) writing portfolio, (5) total mathematics performance, and (6) total English language arts performance.

The composition measures (student-level measures aggregated to the school level) included: (a) proportion of students participating in free or reduced lunch program, (b) proportion of students with a 504 plan, (c) proportion of students who kept mathematics portfolios two years or more, and (d) proportion of students who kept

Table 9 Summary of Multilevel Analyses: Student Achievement

Student Group	Achievement Model (HLM)		
	Variance Source	ELA	Math
Grade 4	School level	116.9	103.6
	Student Level	1753.7	1432.1
	Intra-class correlation	0.067	0.06
Grade 8	School level	79.9	101.4
	Student Level	1380.3	1800.6
	Intra-class correlation	0.025	0.051
Grade 10	School level	62.2	139.1
	Student Level	1726.6	2284.7
	Intra-class correlation	0.011	0.018
Cohorts Grades 4-8	School level	94.7	137.1
	Student Level	1416.9	1912.5
	Intra-class correlation	0.060	0.070
Cohorts Grades 8-10	School level	40.6	101.4
	Student Level	1676.9	1902.1
	Intra-class correlation	0.024	0.053

1 Variance explained for MLM models is the ratio of the difference between the null and current models to the null model.

2 A school composition measure is a student background characteristic aggregated to the school level.

writing portfolios two or more years. The resource measures included: (a) pupil-teacher ratio, (b) proportion of instructional coordinators and supervisors, (c) poverty rate, (d) school free/reduced lunch participation rate, and (e) school special education rate.

Appendix T summarizes results from the hierarchical nonlinear modeling analyses, presenting the best model for each of the five analysis groups.

Table 10 summarizes the five sets of analyses according to source of variation relative to the null model. The three sources of variation are student level, student composition (student measure aggregated to the school level), and school composition/resources. The variance explained is the ratio of the difference between the null and current models to the null model. Few consistent patterns are apparent across grades. For grade 4, the best model explained 7.9% of variation in student mobility, with 4.6% attributable to student composition and 3.3% attributable to school composition measures. For grade 8, the student composition model was best; it explained 30.9% of overall variance, with 11.1% attributable to student characteristics and 19.8% attributable to the plan 504-composition measure. The pattern for grade 10 was similar to that for grade 8; however, the student composition model explained only 6.9% of total variation in student mobility. The student composition model for the grade 4 to 8 cohort explained 11.4% of the variation in student mobility, with 4.1% attributable to the student level and 7.3% attributable to the free and reduced lunch composition measure. In contrast, for the grade 8 to 10 cohort the school composition/resources model was best; it explained 30.5% of student mobility variance with 2.5%, 1.5%, and 26.8% attributable to student level, student composition, and school composition/resource measures, respectively. The two school resource variables were pupil-teacher ratio and proportion of instructional coordinators and supervisors.

Thus, hierarchical modeling of the data in this study revealed some surprising, as well as confusing, information. According the HLM unconditional model results and intraclass correlation coefficient values, none of the NSRE achievement data indicated enough grouping structure at the school level to continue with the HLM analyses. The HGLM analyses of mobility variation explained between 8% and 31% of the variation in student mobility by the model measures analyzed. For the five groups analyzed, most of the model variation in student mobility was attributable to school-level measures, with student composition explaining more variation for grades 4, 8, and 10, and the grade 4 to 8 cohort, and school composition/resources explaining more variation for the grade 8 to 10 cohort.

Table 10 Summary of Student Mobility Multilevel Analyses: Mobility Models

Student Level	Mobility Model (HGLM)	
	Source	Variance Explained ¹
Grade 4	Null (unconditional)	---
	Student Level	0.0
	Student Composition ²	4.6
	School Composition / Resources	7.9
Grade 8	Null (unconditional)	---
	Student Level	11.1
	Student Composition ²	30.9
	School Composition / Resources	16.8
Grade 10	Null (unconditional)	---
	Student Level	0.0
	Student Composition ²	6.9
	School Composition / Resources	6.2
Cohort Grades 4 to 8	Null (unconditional)	---
	Student Level	4.1
	Student Composition ²	11.4
	School Composition / Resources	n.a. ³
Cohort Grades 8 to 10	Null (unconditional)	---
	Student Level	2.5
	Student Composition ²	3.7
	School Composition / Resources	30.5

¹ Variance explained is the ratio of the difference between the null and current models, to the null model.

² A student composition measure is a student background characteristic aggregated to the school level.

³ None of the school variables had significant t-to-enter, thus a school model was not tested.

CHAPTER 5: DISCUSSION

Study Summary

Educational Policy Context

This dissertation project researched *student mobility* -- school changes *not* due to customary promotion -- and its educational correlates, for students and schools in Vermont. Most research about student mobility is urban-based, and student mobility projects in other states have found that the majority of these students are disadvantaged youth from low-income families, lagging behind their peers academically. Academic consequences of student mobility affect not only students, but also their schools, as NCLBA implementation sanctions influence school enrollments by increasing student transfers. The need for information about rural student mobility during early NCLBA implementation is significant in predominantly rural Vermont. The Vermont study of student mobility was the first statewide study of outcomes of mobility for students and schools in a rural state.

Conceptual Framework

The conceptual framework and analytical methodology for this study not only were complementary, but also linked to the theoretical and empirical literature. This conceptual framework is rooted in the social ecology theoretical perspective (Jamner & Stokols, 2000). The analytical methodology is rooted in statistical theory developed by educational statisticians for educational organizations. The conceptual framework recognizes student and school-level phenomena. At the individual student-level,

performance is a function of the characteristics and experiences of individual students in their respective schools. At the school level, this conceptual framework presents the aggregated performance of the students in school as a function of characteristics of the school itself. Additionally, school processes and resources affect student experiences and outcomes. Both theoretical perspectives guided research materials and research methods selected to address the research questions

Research Questions, Materials, and Methods

Three basic research questions were: (a) What is the *incidence* of mobility among Vermont students and schools? (b) What is the *impact* of mobility, i.e., how does the incidence of mobility vary according to educational correlates for students and schools? (c) What do multilevel analytical models reveal about variation in mobility from student and school perspectives reveal about variation in mobility that may be useful for educational policy and practice?

To address the research questions, this study focused on student outcomes and educational correlates at the school level. The conceptual model and empirical research literature guided student-level variable selection from student census, performance assessment, and opportunity to learn survey questions stored at the Vermont Department of Education. The annual October 1 student census and demographic update records for grades 1 through 12, school years 2000-2003, established in-mobility from new entrants to the system, as well as non-promotional transfer students. A subset of the records linked to performance data for grades 4, 8, and 10, 1999-2004. School data came from

the Vermont School Report and the Census Bureau. To ensure comparability of information across years, extensive data screening and statistical programming preceded development of cross-sectional and longitudinal research files. Following data preparation, analyses proceeded in three phases corresponding to the three research questions to develop incidence, impact, and multilevel models of student mobility from the data available for the study.

Highlights of Results

School-level student mobility analyses revealed widespread variation in student patterns of entry and exit, as well as continuous enrollment, in schools throughout the state, 2000-2003. Mobility, calculated from census records for grade 1-12 students in 306 schools statewide, indicates that in-migration is about 20% on average, however over 30% of the schools experienced much higher rates. During school year 2002-2003, in-migration was: (a) 25% or higher for 92 schools, (b) 30% or higher for 26 schools and (c) 35% or higher for 10 schools.

An in-depth cross-sectional examination of mobility and achievement, for grades 4, 8, and 10 during school year 2002-2003, using the October 2002 census and spring 2003 achievement tests, revealed significant performance disparities between mobile children and their stable peers. Mobile children performed 3-10 percentile ranks lower than their stable counterparts did across grade levels and content areas. The performance gap in mathematics increased dramatically from grade 4 to grade 8, and it increased slightly from Grade 8 to Grade 10. The performance gap in English language arts

widened moderately from grade 4 to grade 8, and decreased from grade 8 to grade 10, leveling off at the original disparity by grade 10.

The in-depth study also examined mobility and its educational correlates with a risk factor screening approach using odd ratios. The results suggested that mobile students, relative to their stable peers, were:

- more likely to participate in free or reduced lunch programs at school,
- less likely to have a 504 plan in place,
- more likely to have kept a writing portfolio for 0-1 years (versus 2-5 years)
- more likely to have kept a math portfolio 0-1 years (versus 2-5 years), and
- more likely to *not* meet the standard on mathematics performance tests.

Academic test comparisons for student cohorts portrayed the most profound results in the study. Conversion of Stanford-9 scale scores to percentile rank scores revealed educationally important differences between stable and mobile students that should concern all educational leaders. For approximately 12,000 students tested in grades 4 and 8, the increase in percentile rank was small, but appreciable for both groups. For English language arts, stable students increased 2 percentile points, from 73 to 75, and mobile students increased 4 percentile points, from 64 to 68. In mathematics, stable students increased 2 percentile points, from 80 to 82, and 0 for mobile students, 72 for both grades.

For approximately 25,000 students tested in grades 8 and 10, the increase in percentile rank continued for stable and leveled off for mobile students. For English

language arts, stable students increased 5 percentile points, from 73 to 78, and mobile students decreased 1 percentile point, from 72 to 71. In mathematics, stable students increased 6 percentile points, from 78 to 84, and mobile students increased 2 percentile points, from 74 to 76.

In addition to confirming the above relationships for students, hierarchical analyses that controlled for student background characteristics identified school factors associated with mobility. The analyses indicated that between 8% and 32% of the variation in student mobility was attributable to school-level composition and resource measures. Findings also suggested that schools with higher rates of free or reduced lunch program participation as well as schools with higher rates of Section 504 plans in place experienced lower mobility.

Additionally, analyses identified significant relationships at the high school level between mobility and student-teacher ratio, as well as the percentage of instructional coordinators and supervisors. High schools with higher student-teacher ratios (causing larger classes) experienced more student mobility. However, high schools with higher percentages of instructional coordinators and supervisors experienced higher student mobility, too. The next section confirms and interprets this finding from another research study.

Interpretations and Implications

Incidence and Impact Indicators

This research project produced mobility incidence and impact information for

potential use as indicators to track student and school well being. The study of movement indices included defining and analyzing mobility incidence over three school years 2000-2003. After comparing statewide incidence by grade across three school years to ascertain comparability across years, the study of incidence expanded. Expansion of incidence according to educational correlates for high, moderate, and low incidence schools revealed significant, educationally important patterns and relationships. Uncovering high mobility incidence similar to that reported in urban-based research was a key finding with implications for educational administrators and policymakers, as well as researchers.

The incidence and impact of mobility is stronger than previously suspected, and this information would be useful as indicators that track school enrollment changes, academic progress, and academic engagement. Impact indicators should include demographic characteristics, educational services, and school context. Development of mobility indicators for in-mobility and stability might adapt indicators developed by Lashway (2001) and Missoula county Public Schools (Missoula County Public Schools, 2002a, 2002b).

Education Accountability

Project methodology and findings resulted in significant information for educational accountability use. The school-level mobility incidence rates for three adjacent school years 2000-2003 established baseline mobility rates prior to full

implementation of NCLBA school choice and other provisions that encourage school changes.

One of the main analyses conducted by the study evaluated the impact of mobility on academic performance in longitudinal analyses of two student cohorts tested while they were in grades 4 and 8, and four student cohorts tested while they were in grades 8 and 10. The analytical design used two achievement test scores for English language arts, and two for mathematics, and compared mobile and stable students. Results indicated a significant gap between mobile students in grade 4 that continued through grade 8, and increased by grade 10.

The long-term trend indicates that the gap worsens after students enter high school, suggesting academic growth levels off for mobile students, but continues to grow for stable students. The analyses did not include students who tested in grade 8, but did not test in grade 10 and became dropouts. Thus, analyses of mobile and stable students across grade levels indicated that the distribution of student achievement across schools is not equitable, and likely underestimates the true differences.

School Resources and Practice

The findings from HLM analyses modeling student mobility with measures of school resources while controlling for student background and compositional measures, are somewhat consistent with findings from a student mobility study conducted in California by a nationally recognized student mobility and dropout researcher, Russ Rumberger and his colleagues. The California study used the same student-teacher ratio

measure, however the log-odds sign was different; the California log-odds was 0.044 and the Vermont log-odds was -0.253. Interpretation for this study is that the pupil-teacher ratio is associated with a lower log-odds of transfer, i.e., that increases in the student-teacher ratio is associated with decreases in student transfers. This result seems strange, and several examinations of the data did not suggest a plausible explanation for this result. However, the reporting of class sizes and student teacher ratios is likely inconsistent across elementary and middle schools, and recording may be different across states as well.

Results for the second resource measure were consistent. The California study used the percentage of teachers with advanced degrees, with log-odds 1.8, while the Vermont study used as a proxy measure the percentage of instructional coordinators and supervisors, with log-odds 0.07. Interpretation of the findings by Rumberger et al. suggested that the positive association between instructors with advanced degrees result could be due to the teachers, or it could be due to other aspects of schools that employ such teachers. He speculated that well-trained teachers or the schools that hire them might be “more academically oriented and less tolerant or hospitable toward students who do not fit into that environment” (Rumberger et al., 1999). A potential implication of this finding is that school resources associated with high mobility may indicate the need for additional resources or impact aid to addresses high mobility and related issues.

Strengths, Limitations, and Recommendations for Further Study

Strengths

Strengths of the Vermont Student Mobility Study were primarily methodological. Careful planning helped locate and adapt an excellent conceptual model from a seminal student mobility study. As well, extensive statistical screening and programming produced good research files. In addition, the five-year data collection period yielded good sample sizes, and a number of sophisticated statistical analyses were possible.

While the five-year span of data afforded large numbers of potential records for analysis, the multi-source data files generated organizational and quality issues. Statistical screening indicated that many inconsistencies evolved across years, and the net result challenged whether comparable data would be available for longitudinal analyses. Extensive statistical programming resolved many inconsistencies, ensuring that data quality of variables retained for the research files was quite good.

A second strength made possible by the five-year time period is that the longitudinal design afforded two important types of analysis. The achievement tests for students tested in two grades (4 and 8, or 8 and 10) permitted an analysis of repeated measures design to test for between-group, within-student, and interaction effects. In addition, the multi-year data increased the number of student-level records, which, in turn, increased the number of schools available for multilevel analysis.

Strengths resulted not only from an extended period of five years, but also from the adaptation of a well-developed conceptual model for the study. The model evolved over the past 15 years with Rumberger and colleagues in studies of student transfer, mobility, and dropouts from middle and high school. In fact, the conceptual model

provided the theoretical framework for the California student mobility, which provided strong guidance for the Vermont study. The conceptual model most recently appeared in an article by Rumberger and Palardy opening the spring 2005 Social and Institutional Analysis section of the American Educational Research Journal. The authors used the model to guide a study about test scores, dropout rates, and transfer rates. The conceptual model links with theoretical literature from the social ecology perspective, which acknowledges the multilevel nature of student mobility in the schools, and provides a theoretical link to the multilevel analysis of student and school data. The model not only suggested analyses, it also guided variable selection, and the net result was a good study with some findings consistent with the California study.

Well-screened and constructed research files from a five-year data collection supported the feasibility of conducting several types of in-depth analyses, following initial descriptive analyses of incidence data. Combining cohorts from the same grades over time produced two groups, grades 4 to 8 and grades 8 to 10, for comparing mobile and stable students. Considering findings sequentially for two age-grade cohorts is a reasonable way to “simulate” or indicate probable trends over seven years that would likely emerge with one cohort over the seven-year period, grade 4 through grade 10. In this manner, Rumberger and colleagues used different student groups and parent interviews to develop a probable profile of student mobility over the 12 years of public schooling, grades 1 through 12.

The large research files for grades 4, 8, and 10 over the five-year period provided cross-sectional as well as longitudinal analyses of student mobility, academic achievement, and educational correlates. The analyses, using a quantitative triangulation approach, revealed profound differences between the mobile and stable groups that are educationally important.

Other strengths of this study are due to the rurality of Vermont. This study was the first statewide study of student mobility in a state that is rural primarily. The replication effects of the Vermont study are two-fold at least, and extend primarily urban-based knowledge to the rural context. High incidence of student mobility in over 30% of schools indicates Vermont student mobility and associated issues likely parallel incidence and impact in urban areas. The second extension of replication effects lies in the consistency of findings regarding school resources in the secondary school setting which the California study identified.

Finally, strengths of this study deriving to the methodology include the usefulness of the mobility incidence and impact variables as indicators. Tracking students on several indicators would be useful for the schools, in education accountability, and to policymakers needing accurate mobility information. To balance study strengths that recently seem to have surfaced, pointing out the limitations is necessary in suggesting improvements for future work.

Limitations and Recommendations

A limitation regarding timing of measurements needs acknowledgment. Transfers who enter school in fall test in spring after an eight-month adjustment period in the new school setting. The time lag likely underestimates differences between mobile and stable students, and does not include dropouts for the older students. Thus, differences revealed in the analyses of older students indicate a lower bound on the true academic performance gap between these students. These results indicate a recommendation that the State of Vermont consider a 'real-time' tracking of students whereby the movement of students from school to school or their withdrawal be recorded by date.

Generalizability of results to other states due to the sample selection remains a limitation. However, this limitation does not lessen the usefulness of results for this state. In fact, most studies reviewed for the current research did not use random sampling. Thus, another recommendation is replication of this study in other states, particularly rural states such as New Hampshire and Maine.

Identification of student subgroups limits interpretations of some analyses. According to several research studies, students in military families generally do not experience negative outcomes associated with moving to the extent that other children do. However, the military population in Vermont is so small, that any results are not likely to be confounded due to this factor.

Another subgroup limitation concerns students identified by IDEA as eligible to receive special education services. Information about these students is not included with the student census files. Students eligible for IDEA are not eligible for either Section 504

or Act 230/157 services, either. Thus, clear interpretations of some analyses involving school-level measures of special education have not been possible in this study. As a result, a practical recommendation is that the state data systems currently housing the main demographic and student performance data incorporate special education data in the central database. After this is accomplished, replication of the study's analysis should determine the relationship of special education status to the factor of mobility with respect to student performance.

Operationalization of one component in the conceptual model was not possible. The data available did not include school process measures. School measures lacking included academic emphasis, parental involvement, teacher certification, and teacher experience. Data were lacking for several other parts of the conceptual model as well. The structural component would improve with a better geographic measure. Thus, another recommendation is replication of the study with the addition of measures of school processes that are current in the literature.

Lack of contextual information about mobility phenomenon in Vermont presents another limitation to this study. Strictly quantitative results limit interpretations that qualitative interviews could begin to address. To address this limitation, a germane recommendation is to study in detail, with qualitative methodology, schools exhibiting high incidence of mobility over time. After conducting interviews with schools experiencing high in-mobility, it will be important to raise public awareness of issues and impacts on students, schools, and communities. Dissemination of an informational

document with results from the key informant interviews and educational risk factor assessment should include policymakers, administrators, community organizations, and state agencies, as well as school personnel.

Additionally, after completing the follow-up qualitative study spring 2005 in some high-incidence high-poverty schools, the HLM results together with the qualitative study findings could support a growing need for school-based interventions. Schools in large urban-based mobility projects report improvements with mobility-related school problems. A report from the California study suggested positive indirect effects on parents from information learned at school.

A statistical limitation is the small variation in the grouping (school-level) structure, indicated by intra-class correlation coefficients less than 0.1 for all of the unconditional (null) models set up to analyze achievement as a function of mobility and other educational correlates. Communicating questions about the low coefficients with researchers who have studied student mobility may provide clarification about the low variance component. A related recommendation is to further study the nature of these results.

This concludes the discussion of strengths, limitations, and recommendations from the Vermont student mobility study. Certainly, there is much room for improvement and much ahead to learn about student mobility, especially from interviews in the schools. Overall, however, the recent results suggest more strengths than limitations in the current study.

Conclusion

The Vermont Student Mobility Study, grounded in relevant and timely educational policy context in this state, contributes good methodology as well as useful information to the Vermont education community. A well-developed research-based conceptual framework, adapted from recent mobility and dropout research, guided the planning and execution of this study. The use of statewide student census and performance files, 1999-2004, provided substantial analytical capability. The study found high mobility incidence in 30% of the schools, and it identified an educationally significant achievement gap between mobile and stable students of 3-10 percentile points on standardized tests across grade levels and content areas. Analyses of student cohorts tested at grades 4 and 8, or grades 8 and 10, indicated a significant gap between mobile students in grade 4 that continued through grade 8, and increased by grade 10.

Additionally, the study identified potential risk factors for students and schools that merit policy and prevention efforts, in conjunction with interviews in the schools, to develop interventions and raise public awareness of issues related to mobility that affect students, schools, and communities.

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List of Appendices

Appendix A Vermont Student Mobility Study: Data Sources for System-wide Mobility Incidence Statistics	161
Appendix B Vermont Student Mobility Study: Data Sources for Student Cohorts.....	163
Appendix C Vermont Public Schools Individual School In-mobility and Stability Counts 2001-2002	165
Appendix D Vermont Public Schools Individual School In-mobility and Stability Rates 2001-2002.....	178
Appendix E Vermont Public Schools Individual School In-mobility and Stability Counts 2002-2003	191
Appendix F Vermont Public Schools Individual School In-mobility and Stability Rates 2002-2003.....	204
Appendix G Vermont Public Schools Individual School In-mobility and Stability Counts 2003-2004	217
Appendix H Vermont Public Schools Individual School In-mobility and Stability Rates 2003-2004.....	230
Appendix I Vermont Public Schools In-mobility and Stability According to Sociodemographic Characteristics Rates 2002-2003.....	243
Appendix J Vermont Public Schools In-mobility and Stability According to Educational Classifications Rates 2002-2003.....	266
Appendix K Vermont Public Schools and NCES Locale	285
Appendix L Mobility Map SU Map with Hi-Mobility	299

Appendix M	In-mobility, Enrollment, Grade Levels, FRLM 2002-2003	301
Appendix N	Cohort Mobility Grades 4 to 8, Counts 1999-2003	315
Appendix O	Cohort Mobility Grades 4 to 8 Rates 1999-2003	326
Appendix P	Cohort Mobility Grades 8 to 10, Counts 1999-2003.....	337
Appendix Q	Cohort Mobility Grades 8 to 10, Rates 1999-2003.....	343
Appendix R	Cohort Completion Rates Grades 4 to 8 and 8 to 10	349
Appendix S	Cohort Non-Promotional School Changes Grades 4 to 8 and 8 to 10.....	352
Appendix T	Hierarchical Generalized Linear Modeling Summaries Five Mobility	
	Groups	355

**Appendix A Vermont Student Mobility Study: Data Sources for System-wide
Mobility Incidence Statistics**

Vermont Student Mobility Study Data Sources for System-wide Mobility Incidence Statistics Vermont Department of Education Student Census and Demographic Update				
1999-2000*	2000-2001	2001-2002	2002-2003	2003-2004**
				1
			1	2
		1	2	3
	1	2	3	4
~use 1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8
5	6	7	8	9
6	7	8	9	10
7	8	9	10	11
8	9	10	11	12
9	10	11	12	
10	11	12		
11	12			
12				
* First year of DOE Student Census. Grade 1 not collected. Data codes preliminary.			* Data system changed due to NCLBA regulations.	

**Appendix B Vermont Student Mobility Study: Data Sources for
Student Cohorts**

**Vermont Student Mobility Study
Data Sources for Student Cohorts
Two Grade 4-8 Cohorts and Four Grade 8-10 Cohorts**

Data Source, Event, And School Years

Grade-Year	Census* October 1 Count, 1999 →					
Cohort	Tests** April 1999 →					
Name	1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
G482		4	5	6	7	8
G481	4	5	6	7	8	
G8104				8	9	10
G8103			8	9	10	
G8102		8	9	10		
G8101	8	9	10			

* The census 2003-2004 data collection changed to accommodate NCLB field requirements. To maintain code uniformity with earlier years, the 2003-2004 file includes student identification number, school, grade, and town only. Other student demographic and educational services information for this school year comes from the 2003-2004 file (if available).

**Student test data includes NSRE English/Language Arts and Mathematics scaled scores. The annual Opportunity to Learn survey provided writing and mathematics portfolio usage data.

Data Points for two Grade 4 to 8 Cohorts (1999-2003 and 2000-2004)

Source:	Test	Census	Census	Census	Census	Test
G4 → G8	G4:spring	G5:fall	G6:fall	G7:fall	G8:fall	G8:spring
G481	1999	1999	2000	2001	2002	2003
G482	2000	2000	2001	2002	2003	2004
School Δ		Δ1	Δ2	Δ3	Δ4	Δ5

Data Points for four Grade 8 to 10 Cohorts

Source:	Test	Census	Census	Census
G4 → G8	G8:spring	G9:fall	G10:fall	G10:fall
G8101	1999	1999	2000	2001
G8102	2000	2000	2001	2002
G8103	2001	2001	2002	2003
G8104	2002	2002	2003	2004
School Δ		Δ1	Δ2	Δ3

**Appendix C Vermont Public Schools Individual School In-mobility
and Stability Counts 2001-2002**

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Academy School (Brattleboro)	72	N<=10	238	312
Addison Central School	21	N<=10	85	113
Albany Community School	21	N<=10	76	102
Albert Bridge Sch (W Wind.)	12	0	56	68
Albert D. Lawton School	14	11	363	388
Alburg Community Ed Center	25	15	173	213
Arlington Memorial	12	18	220	250
Bakersfield School	24	N<=10	126	156
Barnard Central School	21	N<=10	46	69
Barnet Elementary School	19	15	131	165
Barre City Elem/Middle School	161	47	623	831
Barre Town Elementary School	134	41	707	882
Barstow Memorial School	37	13	203	253
Barton Graded School	38	11	145	194
Beeman Elementary School	24	N<=10	106	131
Bellows Falls Middle School	20	N<=10	283	311
Bellows Falls UHSD #27	42	25	432	499
Bellows Free Acad., Fairfax	73	34	758	865
Bellows Free Acad., St. Albans	43	109	925	1077
Belvidere Central School	N<=10	N<=10	20	26
Bennington Elem. School	44	28	171	243
Benson Village School	14	N<=10	91	113
Berkshire Elementary School	29	N<=10	138	176
Berlin Elementary School	39	17	180	236
Bethel Elementary School	33	N<=10	93	132
Bingham Memorial School	19	N<=10	56	78

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Black River USD #39	N<=10	N<=10	270	286
Blue Mountain USD #21	49	17	332	398
Bradford Elementary School	40	N<=10	145	194
Braintree School	19	11	72	102
Bratt. Area Middle Sch UHSD #6	32	12	262	306
Brattleboro Sr. UHSD #6	67	26	1037	1130
Brewster Pierce School	25	N<=10	76	102
Bridgewater Village School	13	0	57	70
Bridport Central School	16	N<=10	85	104
Brighton Elementary School	17	N<=10	102	128
Bristol Elementary School	57	12	299	368
Brookfield School	25	N<=10	74	103
Brookline Elementary School	N<=10	0	31	35
Brownington Central School	11	N<=10	69	87
Browns River Middle USD #17	N<=10	N<=10	492	503
Burke Town School	30	N<=10	117	150
Burlington Senior High Sch	98	33	919	1050
Burr & Burton Academy	50	24	436	510
C. P. Smith School	68	15	203	286
Cabot School	16	11	191	218
Calais Elementary School	14	N<=10	81	100
Cambridge Elementary School	45	N<=10	202	254
Camels Hump Middle USD #17	18	13	471	502
Canaan Schools	39	N<=10	211	253
Canal St/Oak Grove Schools	62	17	130	209
Castleton-Hubbardton USD#42	64	18	376	458

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Catamount Elementary School	50	18	226	294
Cavendish Town Elem. School	25	N<=10	68	99
Chamberlin School	60	26	173	259
Champlain School	77	11	160	248
Champlain Valley UHSD #15	56	30	1118	1204
Charleston Elem. School	14	N<=10	82	102
Charlotte Central School	65	N<=10	389	460
Chelsea Elem. High School	30	13	204	247
Cherry Hill Elem. School	27	N<=10	32	65
Chester-Andover USD #29	39	N<=10	207	251
Clarendon Elementary School	34	11	165	210
Colchester High School	38	22	652	712
Colchester Middle School	26	24	536	586
Concord School	28	13	174	215
Coventry Village School	N<=10	N<=10	92	108
Craftsbury Schools	23	16	144	183
Crossett Brook Middle USD #45	14	N<=10	327	348
Currier Memorial USD #23	13	N<=10	74	89
Danville School	44	16	357	417
Deerfield Valley Elem. Sch	17	N<=10	96	117
Derby Elementary School	62	16	283	361
Dorset School	34	12	135	181
Dothan Brook School	58	N<=10	208	272
Doty Memorial School	12	0	54	66
Dover Elementary School	16	N<=10	59	80
Dummerston Schools	26	N<=10	140	171

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
E. Taylor Hatton School	N<=10	N<=10	41	50
East Haven School	N<=10	N<=10	36	47
East Montpelier Elem. Sch	31	N<=10	169	210
Eden Central School	23	N<=10	84	114
Edmunds Elementary School	69	13	160	242
Edmunds Middle School	34	17	322	373
Elm Hill School	22	N<=10	78	105
Enosburg Falls Elem. School	37	N<=10	217	263
Enosburg Falls Jr/Sr High Sch	17	34	353	404
Essex Comm. Ed. Ctr. UHSD #46	62	67	1405	1534
Essex Middle School	18	13	504	535
Fair Haven Grade School	58	20	280	358
Fair Haven UHSD #16	17	12	547	576
Fairfield Center School	36	N<=10	197	243
Fayston Elementary School	20	N<=10	61	83
Ferrisburgh Central School	35	N<=10	161	203
Fisher School	41	N<=10	135	181
Fletcher Elementary School	20	N<=10	84	106
Flood Brook USD #20	37	N<=10	214	254
Folsom Ed. & Community Ctr	24	N<=10	147	181
Founders Memorial School	*	*	*	472
Franklin Central School	25	N<=10	89	117
Frederick H. Tuttle Middle Sch	40	27	591	658
Georgia Elem/Middle School	79	18	491	588
Glover Community	14	N<=10	69	90
Grafton Elementary School	18	N<=10	34	56

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Granby Central School	N<=10	0	N<=10	N<=10
Grand Isle Elem. School	28	N<=10	155	187
Granville Village School	N<=10	N<=10	19	22
Green Mountain UHSD #35	23	17	391	431
Green Street School	64	N<=10	156	229
Guildhall Elementary School	N<=10	0	12	14
Guilford Central School	31	N<=10	170	206
Halifax School	N<=10	N<=10	44	54
Hancock Village School	N<=10	N<=10	15	22
Hardwick Elementary School	54	15	226	295
Hartford High School	50	14	724	788
Hartford Mem. Middle School	21	18	427	466
Hartland Elementary School	66	N<=10	291	366
Harwood UHSD #19	29	11	577	617
Harwood Union Mid UHSD #19	N<=10	N<=10	166	173
Hazen UHSD #26	28	20	399	447
Highgate Schools	63	20	263	346
Hinesburg Community School	86	17	432	535
Holland Elementary School	17	N<=10	48	71
Hyde Park Elementary School	26	N<=10	136	165
Irasburg Village School	28	N<=10	99	132
Isle La Motte Elem. School	10	N<=10	20	32
J. F. Kennedy Elem. School	85	17	234	336
J. J. Flynn School	63	22	236	321
Jamaica Village School	12	N<=10	64	78
Jay/Westfield Joint Elementary	12	N<=10	43	59

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Jericho Elementary School	68	N<=10	163	235
Johnson Elementary School	51	N<=10	146	206
Lake Region UHSD #24	18	23	354	395
Lakeview USD #43	13	N<=10	43	61
Lamoille UHSD #18	35	19	815	869
Lawrence Barnes School	31	16	113	160
Leicester Central School	13	N<=10	72	90
Leland & Gray UHSD #34	20	12	378	410
Lincoln Community School	20	N<=105	78	103
Lothrop School	34	12	174	220
Lowell Village School	12	N<=10	86	104
Ludlow Elementary School	25	N<=10	115	147
Lunenburg Schools	20	N<=10	135	159
Lyman C. Hunt Middle School	15	14	430	459
Lyndon Institute	42	20	580	642
Lyndon Town School	59	22	489	570
Main Street School	22	19	271	312
Malletts Bay School	*	*	*	614
Manchester Elem/Mid School	96	N<=10	348	454
Marlboro Elementary School	15	N<=10	55	73
Mettawee Comm Sch USD #47	42	N<=10	110	154
Middlebury ID #4 School	74	20	351	445
Middlebury Sr. UHSD #3	40	15	671	726
Middlebury Union Middle Sch #3	19	N<=10	279	308
Middletown Springs Elem Sch	N<=10	N<=10	41	48
Mill River USD #40	26	35	676	737

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Millers Run School USD #37	31	16	102	149
Milton Elementary School	146	26	675	847
Milton Jr High School	N<=10	11	265	284
Milton Sr High School	17	12	481	510
Missisquoi Valley UHSD #7	76	45	920	1041
Molly Stark School	56	19	220	295
Monkton Central School	29	N<=10	111	147
Montgomery Center School	18	14	74	106
Montpelier High School	22	16	399	437
Monument School	33	N<=10	86	121
Moretown Elementary School	29	0	104	133
Morristown Elem. Schools	*	*	*	350
Mount Abraham UHSD #28	35	22	834	891
Mt. Anthony Sr. UHSD #14	57	10	1164	1231
Mt. Anthony Union Middle Sch	31	N<=10	596	631
Mt. Holly School	14	N<=10	60	78
Mt. Mansfield USD #17	33	16	943	992
Neshobe School	57	17	278	352
Newark School	N<=10	N<=10	42	51
Newbury Elementary School	28	16	102	146
Newfane Elementary School	31	N<=10	63	98
Newport City Elem Schools	41	16	213	270
Newport Town School	20	N<=10	113	140
Newton Elementary School	15	N<=10	115	133
No. Bennington Graded School	20	N<=10	108	135
North Country Jr UHSD #22	17	12	291	320

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
North Country Sr UHSD #22	46	21	1015	1082
North Hero Elem. School	15	N<=10	45	62
Northfield Elementary School	67	N<=10	192	267
Northfield Middle/High School	31	N<=10	469	510
Norton Village School	N<=10	0	N<=10	15
Ontop	N<=10	13	19	36
Orange Center School	13	N<=10	74	95
Orchard School	74	13	207	294
Orleans Elementary School	23	N<=10	106	138
Orwell Village School	20	17	117	154
Ottawaquechee School	54	N<=10	138	201
Otter Valley UHSD #8	27	25	689	741
Oxbow UHSD #30	33	12	479	524
Park Street School	63	19	149	231
Peacham Elementary School	N<=10	N<=10	34	48
Peoples Academy	13	17	331	361
Peoples Academy Middle Sch	15	25	247	287
Plymouth Elementary School	N<=10	N<=10	23	25
Pomfret School	18	2	69	89
Poultney Elementary School	45	14	174	233
Poultney High School	13	15	337	365
Pownal Elementary School	52	17	197	266
Proctor Elementary School	38	N<=10	117	161
Proctor Jr/Sr High School	N<=10	N<=10	170	185
Putney Central School	47	N<=10	170	225
Randolph Elementary School	67	11	223	301

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Randolph UHSD #2	36	13	597	646
Reading Elementary School	11	N<=10	47	59
Readsboro Elementary School	21	0	51	72
Richford Elementary School	48	13	161	222
Richford Jr/Sr High School	16	23	226	265
Richmond Elementary School	60	N<=10	194	256
Ripton Elementary School	N<=10	N<=10	34	45
Rivendell Academy	262	11	39	312
Riverside School	17	19	308	344
Robinson School	22	N<=10	159	184
Rochester Elem/High School	16	N<=10	223	249
Rockingham Central Elementary	33	N<=10	96	134
Roxbury Village School	N<=10	N<=10	35	43
Rumney School (Middlesex)	30	N<=10	111	144
Rutland Intermediate School	*	*	*	752
Rutland Middle School	25	14	349	388
Rutland Senior High School	51	31	984	1066
Rutland Town Elem School	47	16	340	403
Salisbury Community School	17	N<=10	58	78
Samuel Morey Elementary	36	N<=10	91	128
Saxtons River Elem. School	21	N<=10	65	87
Shaftsbury Elem. School	34	N<=10	163	203
Sharon Elementary School	12	N<=10	84	102
Shelburne Community School	128	18	657	803
Sheldon Elementary School	42	16	235	293
Sherburne Elementary School	13	N<=10	66	81

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Shoreham Elementary School	18	N<=10	81	105
Shrewsbury Mountain School	12	N<=10	59	72
Smilie Memorial School (Bolton)	18	.	38	56
So. Burlington Central School	95	N<=10	231	334
So. Burlington High School	63	29	819	911
So. Royalton Elem/High School	59	24	377	460
Spaulding HSUD #41	65	33	902	1000
Springfield High School	24	12	590	626
St Albans City School	124	47	596	767
St. Albans Town Educ. Center	99	22	501	622
St. Johnsbury Academy	179	53	738	970
St. Johnsbury Schools	99	25	427	551
Stamford Elementary School	12	1	70	83
Stockbridge Central School	14	N<=10	36	56
Stowe Elementary School	65	N<=10	207	278
Stowe Middle/High School	27	15	338	380
Sudbury Country School	N<=10	0	28	34
Sunderland Elem. School	13	N<=10	47	63
Sutton School	25	N<=10	75	103
Swanton Schools	102	35	456	593
Thatcher Brook Prim. USD #45	86	N<=10	245	336
Thetford Academy	28	11	316	355
Thetford Elementary School	47	N<=10	171	223
Thomas Fleming School	*	*	*	214
Tinmouth Elementary School	N<=10	N<=10	41	51
Townshend Village School	11	0	64	75

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Troy School	25	6	126	157
Tunbridge Central School	28	4	99	131
Twinfield USD #33	30	22	404	456
U-32 High School (UHSD #32)	19	36	769	824
Underhill Central School	29	3	91	123
Underhill ID School	32	1	72	105
Union Elementary School	101	17	233	351
Union School	37	12	94	143
Vergennes UESD #44	56	11	230	297
Vergennes UHSD #5	20	18	598	636
Vernon Elementary School	39	6	138	183
Waits River Valley USD #36	39	12	214	265
Waitsfield Elem. School	23	1	99	123
Walden School	17	12	75	104
Wallingford Village School	21	4	105	130
Wardsboro Central School	11	.	44	55
Warren Elementary School	27	4	113	144
Washington Village School	10	6	60	76
Waterford Elementary School	25	4	115	144
Waterville Elementary School	13	1	50	64
Weathersfield Middle School	*	*	*	176
Wells Village School	17	3	62	82
West Rutland School	45	17	305	367
Westford Elementary School	28	3	211	242
Westminster Schools	27	12	189	228
Westshire Elementary	15	5	54	74

School Count 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Weybridge Elementary School	19	2	47	68
Wheeler School	45	10	115	170
Whitcomb Jr/Sr High School	9	5	215	229
White River School	35	8	120	163
Whiting Village School	1	2	19	22
Whitingham School	25	12	176	213
Williamstown Elem. School	48	11	137	196
Williamstown Middle/High Sch	14	21	290	325
Williston Schools	177	32	835	1044
Wilmington Middle High School	20	30	197	247
Windham Elementary School	5	.	15	20
Windsor High School	40	4	457	501
Windsor State Street School	46	3	213	262
Winooski High School	30	85	320	435
Wolcott Elementary School	28	3	82	113
Woodbury Elementary School	12	2	32	46
Woodford Hollow School	5	3	17	25
Woodstock Elementary School	46	6	133	185
Woodstock Sr. UHSD #4	31	6	440	477
Woodstock Union Middle Sch	12	12	216	240
Statewide	11,336	3,613	75,449	90,398

* Missing due to computational error.

**Appendix D Vermont Public Schools Individual School In-mobility
and Stability Rates 2001-2002**

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Academy School (Brattleboro)	23.1	0.6	76.3	100.0
Addison Central School	18.6	6.2	75.2	100.0
Albany Community School	20.6	4.9	74.5	100.0
Albert Bridge School (W Wind.)	17.6	0	82.4	100.0
Albert D. Lawton School	3.6	2.8	93.6	100.0
Alburt Community Ed Center	11.7	7.0	81.2	100.0
Arlington Memorial	4.8	7.2	88.0	100.0
Bakersfield School	15.4	3.8	80.8	100.0
Barnard Central School	30.4	2.9	66.7	100.0
Barnet Elementary School	11.5	9.1	79.4	100.0
Barre City Elem/Middle School	19.4	5.7	75.0	100.0
Barre Town Elementary School	15.2	4.6	80.2	100.0
Barstow Memorial School	14.6	5.1	80.2	100.0
Barton Graded School	19.6	5.7	74.7	100.0
Beeman Elementary School	18.3	0.8	80.9	100.0
Bellows Falls Middle School	6.4	2.6	91.0	100.0
Bellows Falls UHSD #27	8.4	5.0	86.6	100.0
Bellows Free Acad., Fairfax	8.4	3.9	87.6	100.0
Bellows Free Acad., St. Albans	4.0	10.1	85.9	100.0
Belvidere Central School	19.2	3.8	76.9	100.0
Bennington Elem. School	18.1	11.5	70.4	100.0
Benson Village School	12.4	7.1	80.5	100.0
Berkshire Elementary School	16.5	5.1	78.4	100.0
Berlin Elementary School	16.5	7.2	76.3	100.0
Bethel Elementary School	25.0	4.5	70.5	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Bingham Memorial School	24.4	3.8	71.8	100.0
Black River USD #39	2.1	3.5	94.4	100.0
Blue Mountain USD #21	12.3	4.3	83.4	100.0
Bradford Elementary School	20.6	4.6	74.7	100.0
Braintree School	18.6	10.8	70.6	100.0
Bratt. Area Middle Sch UHSD #6	10.5	3.9	85.6	100.0
Brattleboro Sr. UHSD #6	5.9	2.3	91.8	100.0
Brewster Pierce School	24.5	1.0	74.5	100.0
Bridgewater Village School	18.6	0	81.4	100.0
Bridport Central School	15.4	2.9	81.7	100.0
Brighton Elementary School	13.3	7.0	79.7	100.0
Bristol Elementary School	15.5	3.3	81.3	100.0
Brookfield School	24.3	3.9	71.8	100.0
Brookline Elementary School	11.4	0	88.6	100.0
Brownington Central School	12.6	8.0	79.3	100.0
Browns River Middle USD #17	1.6	0.6	97.8	100.0
Burke Town School	20.0	2.0	78.0	100.0
Burlington Senior High Sch	9.3	3.1	87.5	100.0
Burr & Burton Academy	9.8	4.7	85.5	100.0
C. P. Smith School	23.8	5.2	71.0	100.0
Cabot School	7.3	5.0	87.6	100.0
Calais Elementary School	14.0	5.0	81.0	100.0
Cambridge Elementary School	17.7	2.8	79.5	100.0
Camels Hump Middle USD #17	3.6	2.6	93.8	100.0
Canaan Schools	15.4	1.2	83.4	100.0
Canal St/Oak Grove Schools	29.7	8.1	62.2	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Castleton-Hubbardton USD#42	14.0	3.9	82.1	100.0
Catamount Elementary School	17.0	6.1	76.9	100.0
Cavendish Town Elem. School	25.3	6.1	68.7	100.0
Chamberlin School	23.2	10.0	66.8	100.0
Champlain School	31.0	4.4	64.5	100.0
Champlain Valley UHSD #15	4.7	2.5	92.9	100.0
Charleston Elem. School	13.7	5.9	80.4	100.0
Charlotte Central School	14.1	1.3	84.6	100.0
Chelsea Elem. High School	12.1	5.3	82.6	100.0
Cherry Hill Elem. School	41.5	9.2	49.2	100.0
Chester-Andover USD #29	15.5	2.0	82.5	100.0
Clarendon Elementary School	16.2	5.2	78.6	100.0
Colchester High School	5.3	3.1	91.6	100.0
Colchester Middle School	4.4	4.1	91.5	100.0
Concord School	13.0	6.0	80.9	100.0
Coventry Village School	9.3	5.6	85.2	100.0
Craftsbury Schools	12.6	8.7	78.7	100.0
Crossett Brook Middle USD #45	4.0	2.0	94.0	100.0
Currier Memorial USD #23	14.6	2.2	83.1	100.0
Danville School	10.6	3.8	85.6	100.0
Deerfield Valley Elem. Sch	14.5	3.4	82.1	100.0
Derby Elementary School	17.2	4.4	78.4	100.0
Dorset School	18.8	6.6	74.6	100.0
Dothan Brook School	21.3	2.2	76.5	100.0
Doty Memorial School	18.2	0	81.8	100.0
Dover Elementary School	20.0	6.3	73.8	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Dummerston Schools	15.2	2.9	81.9	100.0
E. Taylor Hatton School	14.0	4.0	82.0	100.0
East Haven School	10.6	12.8	76.6	100.0
East Montpelier Elem. Sch	14.8	4.8	80.5	100.0
Eden Central School	20.2	6.1	73.7	100.0
Edmunds Elementary School	28.5	5.4	66.1	100.0
Edmunds Middle School	9.1	4.6	86.3	100.0
Elm Hill School	21.0	4.8	74.3	100.0
Enosburg Falls Elem. School	14.1	3.4	82.5	100.0
Enosburg Falls Jr/Sr High Sch	4.2	8.4	87.4	100.0
Essex Comm. Ed. Ctr. UHSD #46	4.0	4.4	91.6	100.0
Essex Middle School	3.4	2.4	94.2	100.0
Fair Haven Grade School	16.2	5.6	78.2	100.0
Fair Haven UHSD #16	3.0	2.1	95.0	100.0
Fairfield Center School	14.8	4.1	81.1	100.0
Fayston Elementary School	24.1	2.4	73.5	100.0
Ferrisburgh Central School	17.2	3.4	79.3	100.0
Fisher School	22.7	2.8	74.6	100.0
Fletcher Elementary School	18.9	1.9	79.2	100.0
Flood Brook USD #20	14.6	1.2	84.3	100.0
Folsom Ed. & Community Ctr	13.3	5.5	81.2	100.0
Founders Memorial School	*	*	*	100.0
Franklin Central School	21.4	2.6	76.1	100.0
Frederick H. Tuttle Middle Sch	6.1	4.1	89.8	100.0
Georgia Elem/Middle School	13.4	3.1	83.5	100.0
Glover Community	15.6	7.8	76.7	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Grafton Elementary School	32.1	7.1	60.7	100.0
Granby Central School	16.7	0	83.3	100.0
Grand Isle Elem. School	15.0	2.1	82.9	100.0
Granville Village School	9.1	4.5	86.4	100.0
Green Mountain UHSD #35	5.3	3.9	90.7	100.0
Green Street School	27.9	3.9	68.1	100.0
Guildhall Elementary School	14.3	0	85.7	100.0
Guilford Central School	15.0	2.4	82.5	100.0
Halifax School	13.0	5.6	81.5	100.0
Hancock Village School	18.2	13.6	68.2	100.0
Hardwick Elementary School	18.3	5.1	76.6	100.0
Hartford High School	6.3	1.8	91.9	100.0
Hartford Mem. Middle School	4.5	3.9	91.6	100.0
Hartland Elementary School	18.0	2.5	79.5	100.0
Harwood UHSD #19	4.7	1.8	93.5	100.0
Harwood Union Mid UHSD #19	2.9	1.2	96.0	100.0
Hazen UHSD #26	6.3	4.5	89.3	100.0
Highgate Schools	18.2	5.8	76.0	100.0
Hinesburg Community School	16.1	3.2	80.7	100.0
Holland Elementary School	23.9	8.5	67.6	100.0
Hyde Park Elementary School	15.8	1.8	82.4	100.0
Irasburg Village School	21.2	3.8	75.0	100.0
Isle La Motte Elem. School	31.3	6.3	62.5	100.0
J. F. Kennedy Elem. School	25.3	5.1	69.6	100.0
J. J. Flynn School	19.6	6.9	73.5	100.0
Jamaica Village School	15.4	2.6	82.1	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Jay/Westfield Joint Elementary	20.3	6.8	72.9	100.0
Jericho Elementary School	28.9	1.7	69.4	100.0
Johnson Elementary School	24.8	4.4	70.9	100.0
Lake Region UHSD #24	4.6	5.8	89.6	100.0
Lakeview USD #43	21.3	8.2	70.5	100.0
Lamoille UHSD #18	4.0	2.2	93.8	100.0
Lawrence Barnes School	19.4	10.0	70.6	100.0
Leicester Central School	14.4	5.6	80.0	100.0
Leland & Gray UHSD #34	4.9	2.9	92.2	100.0
Lincoln Community School	19.4	4.9	75.7	100.0
Lothrop School	15.5	5.5	79.1	100.0
Lowell Village School	11.5	5.8	82.7	100.0
Ludlow Elementary School	17.0	4.8	78.2	100.0
Lunenburg Schools	12.6	2.5	84.9	100.0
Lyman C. Hunt Middle School	3.3	3.1	93.7	100.0
Lyndon Institute	6.5	3.1	90.3	100.0
Lyndon Town School	10.4	3.9	85.8	100.0
Main Street School	7.1	6.1	86.9	100.0
Malletts Bay School	*	*	*	100.0
Manchester Elem/Mid School	21.1	2.2	76.7	100.0
Marlboro Elementary School	20.5	4.1	75.3	100.0
Mettawee Comm Sch USD #47	27.3	1.3	71.4	100.0
Middlebury ID #4 School	16.6	4.5	78.9	100.0
Middlebury Sr. UHSD #3	5.5	2.1	92.4	100.0
Middlebury Union Middle Sch #3	6.2	3.2	90.6	100.0
Middletown Springs Elem Sch	12.5	2.1	85.4	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Mill River USD #40	3.5	4.7	91.7	100.0
Millers Run School USD #37	20.8	10.7	68.5	100.0
Milton Elementary School	17.2	3.1	79.7	100.0
Milton Jr High School	2.8	3.9	93.3	100.0
Milton Sr High School	3.3	2.4	94.3	100.0
Missisquoi Valley UHSD #7	7.3	4.3	88.4	100.0
Molly Stark School	19.0	6.4	74.6	100.0
Monkton Central School	19.7	4.8	75.5	100.0
Montgomery Center School	17.0	13.2	69.8	100.0
Montpelier High School	5.0	3.7	91.3	100.0
Monument School	27.3	1.7	71.1	100.0
Moretown Elementary School	21.8	0	78.2	100.0
Morristown Elem. Schools	*	*	*	100.0
Mount Abraham UHSD #28	3.9	2.5	93.6	100.0
Mt. Anthony Sr. UHSD #14	4.6	0.8	94.6	100.0
Mt. Anthony Union Middle Sch	4.9	0.6	94.5	100.0
Mt. Holly School	17.9	5.1	76.9	100.0
Mt. Mansfield USD #17	3.3	1.6	95.1	100.0
Neshobe School	16.2	4.8	79.0	100.0
Newark School	13.7	3.9	82.4	100.0
Newbury Elementary School	19.2	11.0	69.9	100.0
Newfane Elementary School	31.6	4.1	64.3	100.0
Newport City Elem Schools	15.2	5.9	78.9	100.0
Newport Town School	14.3	5.0	80.7	100.0
Newton Elementary School	11.3	2.3	86.5	100.0
No. Bennington Graded School	14.8	5.2	80.0	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
North Country Jr UHSD #22	5.3	3.8	90.9	100.0
North Country Sr UHSD #22	4.3	1.9	93.8	100.0
North Hero Elem. School	24.2	3.2	72.6	100.0
Northfield Elementary School	25.1	3.0	71.9	100.0
Northfield Middle/High School	6.1	2.0	92.0	100.0
Norton Village School	33.3	0	66.7	100.0
Ontop	11.1	36.1	52.8	100.0
Orange Center School	13.7	8.4	77.9	100.0
Orchard School	25.2	4.4	70.4	100.0
Orleans Elementary School	16.7	6.5	76.8	100.0
Orwell Village School	13.0	11.0	76.0	100.0
Ottauquechee School	26.9	4.5	68.7	100.0
Otter Valley UHSD #8	3.6	3.4	93.0	100.0
Oxbow UHSD #30	6.3	2.3	91.4	100.0
Park Street School	27.3	8.2	64.5	100.0
Peacham Elementary School	20.8	8.3	70.8	100.0
Peoples Academy	3.6	4.7	91.7	100.0
Peoples Academy Middle Sch	5.2	8.7	86.1	100.0
Plymouth Elementary School	4.0	4.0	92.0	100.0
Pomfret School	20.2	2.2	77.5	100.0
Poultney Elementary School	19.3	6.0	74.7	100.0
Poultney High School	3.6	4.1	92.3	100.0
Pownal Elementary School	19.5	6.4	74.1	100.0
Proctor Elementary School	23.6	3.7	72.7	100.0
Proctor Jr/Sr High School	3.2	4.9	91.9	100.0
Putney Central School	20.9	3.6	75.6	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Randolph Elementary School	22.3	3.7	74.1	100.0
Randolph UHSD #2	5.6	2.0	92.4	100.0
Reading Elementary School	18.6	1.7	79.7	100.0
Readsboro Elementary School	29.2	0	70.8	100.0
Richford Elementary School	21.6	5.9	72.5	100.0
Richford Jr/Sr High School	6.0	8.7	85.3	100.0
Richmond Elementary School	23.4	0.8	75.8	100.0
Ripton Elementary School	17.8	6.7	75.6	100.0
Rivendell Academy	84.0	3.5	12.5	100.0
Riverside School	4.9	5.5	89.5	100.0
Robinson School	12.0	1.6	86.4	100.0
Rochester Elem/High School	6.4	4.0	89.6	100.0
Rockingham Central Elementary	24.6	3.7	71.6	100.0
Roxbury Village School	11.6	7.0	81.4	100.0
Rumney School (Middlesex)	20.8	2.1	77.1	100.0
Rutland Intermediate School	*	*	*	100.0
Rutland Middle School	6.4	3.6	89.9	100.0
Rutland Senior High School	4.8	2.9	92.3	100.0
Rutland Town Elem School	11.7	4.0	84.4	100.0
Salisbury Community School	21.8	3.8	74.4	100.0
Samuel Morey Elementary	28.1	0.8	71.1	100.0
Saxtons River Elem. School	24.1	1.1	74.7	100.0
Shaftsbury Elem. School	16.7	3.0	80.3	100.0
Sharon Elementary School	11.8	5.9	82.4	100.0
Shelburne Community School	15.9	2.2	81.8	100.0
Sheldon Elementary School	14.3	5.5	80.2	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Sherburne Elementary School	16.0	2.5	81.5	100.0
Shoreham Elementary School	17.1	5.7	77.1	100.0
Shrewsbury Mountain School	16.7	1.4	81.9	100.0
Smilie Memorial School (Bolton	32.1	0	67.9	100.0
So. Burlington Central School	28.4	2.4	69.2	100.0
So. Burlington High School	6.9	3.2	89.9	100.0
So. Royalton Elem/High School	12.8	5.2	82.0	100.0
Spaulding HSUD #41	6.5	3.3	90.2	100.0
Springfield High School	3.8	1.9	94.2	100.0
St Albans City School	16.2	6.1	77.7	100.0
St. Albans Town Educ. Center	15.9	3.5	80.5	100.0
St. Johnsbury Academy	18.5	5.5	76.1	100.0
St. Johnsbury Schools	18.0	4.5	77.5	100.0
Stamford Elementary School	14.5	1.2	84.3	100.0
Stockbridge Central School	25.0	10.7	64.3	100.0
Stowe Elementary School	23.4	2.2	74.5	100.0
Stowe Middle/High School	7.1	3.9	88.9	100.0
Sudbury Country School	17.6	0	82.4	100.0
Sunderland Elem. School	20.6	4.8	74.6	100.0
Sutton School	24.3	2.9	72.8	100.0
Swanton Schools	17.2	5.9	76.9	100.0
Thatcher Brook Prim. USD #45	25.6	1.5	72.9	100.0
Thetford Academy	7.9	3.1	89.0	100.0
Thetford Elementary School	21.1	2.2	76.7	100.0
Thomas Fleming School	*	*	*	100.0
Tinmouth Elementary School	9.8	9.8	80.4	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Townshend Village School	14.7	0	85.3	100.0
Troy School	15.9	3.8	80.3	100.0
Tunbridge Central School	21.4	3.1	75.6	100.0
Twinfield USD #33	6.6	4.8	88.6	100.0
U-32 High School (UHSD #32)	2.3	4.4	93.3	100.0
Underhill Central School	23.6	2.4	74.0	100.0
Underhill ID School	30.5	1.0	68.6	100.0
Union Elementary School	28.8	4.8	66.4	100.0
Union School	25.9	8.4	65.7	100.0
Vergennes UESD #44	18.9	3.7	77.4	100.0
Vergennes UHSD #5	3.1	2.8	94.0	100.0
Vernon Elementary School	21.3	3.3	75.4	100.0
Waits River Valley USD #36	14.7	4.5	80.8	100.0
Waitsfield Elem. School	18.7	0.8	80.5	100.0
Walden School	16.3	11.5	72.1	100.0
Wallingford Village School	16.2	3.1	80.8	100.0
Wardsboro Central School	20.0	0	80.0	100.0
Warren Elementary School	18.8	2.8	78.5	100.0
Washington Village School	13.2	7.9	78.9	100.0
Waterford Elementary School	17.4	2.8	79.9	100.0
Waterville Elementary School	20.3	1.6	78.1	100.0
Weathersfield Middle School	*	*	*	100.0
Wells Village School	20.7	3.7	75.6	100.0
West Rutland School	12.3	4.6	83.1	100.0
Westford Elementary School	11.6	1.2	87.2	100.0
Westminster Schools	11.8	5.3	82.9	100.0

School Rates (Percent) 2001-2002 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Westshire Elementary	20.3	6.8	73.0	100.0
Weybridge Elementary School	27.9	2.9	69.1	100.0
Wheeler School	26.5	5.9	67.6	100.0
Whitcomb Jr/Sr High School	3.9	2.2	93.9	100.0
White River School	21.5	4.9	73.6	100.0
Whiting Village School	4.5	9.1	86.4	100.0
Whitingham School	11.7	5.6	82.6	100.0
Williamstown Elem. School	24.5	5.6	69.9	100.0
Williamstown Middle/High Sch	4.3	6.5	89.2	100.0
Williston Schools	17.0	3.1	80.0	100.0
Wilmington Middle High School	8.1	12.1	79.8	100.0
Windham Elementary School	25.0	.	75.0	100.0
Windsor High School	8.0	0.8	91.2	100.0
Windsor State Street School	17.6	1.1	81.3	100.0
Winooski High School	6.9	19.5	73.6	100.0
Wolcott Elementary School	24.8	2.7	72.6	100.0
Woodbury Elementary School	26.1	4.3	69.6	100.0
Woodford Hollow School	20.0	12.0	68.0	100.0
Woodstock Elementary School	24.9	3.2	71.9	100.0
Woodstock Sr. UHSD #4	6.5	1.3	92.2	100.0
Woodstock Union Middle Sch	5.0	5.0	90.0	100.0
Statewide	12.5	4.0	83.5	100.0

* Missing due to computational error.

**Appendix E Vermont Public Schools Individual School In-mobility and
Stability Counts 2002-2003**

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Academy School (Brattleboro)	61	33	225	319
Addison Central School	31	N<=10	86	118
Albany Community School	17	N<=10	78	104
Albert Bridge School (W Wind.)	17	N<=10	48	66
Albert D. Lawton School	15	21	325	361
Alburg Community Ed Center	26	12	169	207
Arlington Memorial	15	16	216	247
Bakersfield School	20	14	138	172
Barnard Central School	N<=10	N<=10	45	53
Barnet Elementary School	17	N<=10	134	154
Barre City Elem/Middle School	118	41	615	774
Barre Town Elementary School	118	36	713	867
Barstow Memorial School	39	10	202	251
Barton Graded School	24	16	151	191
Beeman Elementary School	31	N<=10	104	141
Bellows Falls Middle School	19	N<=10	259	286
Bellows Falls UHSD #27	49	15	423	487
Bellows Free Acad., Fairfax	87	32	750	869
Bellows Free Acad., St. Albans	30	136	934	1100
Belvidere Central School	N<=10	N<=10	21	29
Bennington Elem. School	36	13	181	230
Benson Village School	22	N<=10	96	124
Berkshire Elementary School	24	15	129	168
Berlin Elementary School	36	N<=10	182	223
Bethel Elementary School	23	N<=10	91	123
Bingham Memorial School	19	N<=10	57	84

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Black River USD #39	18	N<=10	244	271
Blue Mountain USD #21	50	23	322	395
Bradford Elementary School	49	N<=10	143	202
Braintree School	17	N<=10	72	97
Bratt. Area Middle Sch UHSD #6	22	14	281	317
Brattleboro Sr. UHSD #6	79	16	987	1082
Brewster Pierce School	26	N<=10	72	100
Bridgewater Village School	11	N<=10	51	65
Bridport Central School	21	N<=10	79	104
Brighton Elementary School	19	N<=10	98	122
Bristol Elementary School	41	16	276	333
Brookfield School	21	N<=10	83	108
Brookline Elementary School	N<=10	0	26	36
Brownington Central School	11	N<=10	60	73
Browns River Middle USD #17	12	N<=10	448	467
Burke Town School	29	15	117	161
Burlington Senior High Sch	104	41	960	1105
Burr & Burton Academy	57	44	430	531
C. P. Smith School	46	11	199	256
Cabot School	19	11	175	205
Calais Elementary School	19	N<=10	79	103
Cambridge Elementary School	48	17	194	259
Camels Hump Middle USD #17	N<=10	18	434	456
Canaan Schools	37	N<=10	202	243
Canal St/Oak Grove Schools	17	1	103	121
Castleton-Hubbardton USD#42	59	16	363	438

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Catamount Elementary School	40	10	210	260
Cavendish Town Elem. School	23	N<=10	68	94
Chamberlin School	61	15	172	248
Champlain School	49	18	174	241
Champlain Valley UHSD #15	58	21	1169	1248
Charleston Elem. School	15	N<=10	84	109
Charlotte Central School	70	N<=10	394	470
Chelsea Elem. High School	27	12	186	225
Cherry Hill Elem. School	21	N<=10	52	77
Chester-Andover USD #29	51	N<=10	200	257
Clarendon Elementary School	35	N<=10	152	193
Colchester High School	35	29	679	743
Colchester Middle School	19	29	551	599
Concord School	24	19	157	200
Coventry Village School	18	N<=10	83	108
Craftsbury Schools	18	11	145	174
Crossett Brook Middle USD #45	16	11	333	360
Currier Memorial USD #23	25	N<=10	63	90
Danville School	34	25	343	402
Deerfield Valley Elem. Sch	27	N<=10	83	115
Derby Elementary School	63	13	267	343
Dorset School	20	N<=10	135	161
Dothan Brook School	51	N<=10	198	256
Doty Memorial School	16	N<=10	51	68
Dover Elementary School	20	N<=10	52	74
Dummerston Schools	23	N<=10	138	163

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
E. Taylor Hatton School	N<=10	N<=10	33	41
East Haven School	N<=10	N<=10	36	49
East Montpelier Elem. Sch	29	11	156	196
Eden Central School	17	N<=10	80	101
Edmunds Elementary School	66	11	171	248
Edmunds Middle School	26	29	321	376
Elm Hill School	21	N<=10	83	106
Enosburg Falls Elem. School	42	31	190	263
Enosburg Falls Jr/Sr High Sch	14	45	326	385
Essex Comm. Ed. Ctr. UHSD #46	59	58	1451	1568
Essex Middle School	20	21	502	543
Fair Haven Grade School	53	13	286	352
Fair Haven UHSD #16	28	17	534	579
Fairfield Center School	31	13	187	231
Fayston Elementary School	17	N<=10	64	82
Ferrisburgh Central School	31	N<=10	157	193
Fisher School	29	N<=10	134	166
Fletcher Elementary School	17	N<=10	79	97
Flood Brook USD #20	50	N<=10	211	264
Folsom Ed. & Community Ctr	24	N<=10	152	182
Founders Memorial School	23	19	432	474
Franklin Central School	23	13	91	127
Frederick H. Tuttle Middle Sch	41	27	585	653
Georgia Elem/Middle School	75	19	473	567
Glover Community	N<=10	N<=10	75	90
Grafton Elementary School	12	N<=10	38	51

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Granby Central School	N<=10	N<=10	N<=10	7
Grand Isle Elem. School	23	N<=10	151	180
Granville Village School	N<=10	N<=10	N<=100	14
Green Mountain UHSD #35	23	22	389	434
Green Street School	38	18	156	212
Guildhall Elementary School	N<=10	0	13	17
Guilford Central School	29	N<=10	164	196
Halifax School	11	N<=10	40	54
Hancock Village School	N<=10	N<=10	14	21
Hardwick Elementary School	38	11	222	271
Hartford High School	41	11	743	795
Hartford Mem. Middle School	14	11	384	409
Hartland Elementary School	52	N<=10	295	351
Harwood UHSD #19	36	16	565	617
Harwood Union Mid UHSD #19	N<=10	N<=10	163	176
Hazen UHSD #26	11	13	395	419
Highgate Schools	72	15	251	338
Hinesburg Community School	54	14	421	489
Holland Elementary School	N<=10	N<=10	55	61
Hyde Park Elementary School	50	19	127	196
Irasburg Village School	21	14	111	146
Isle La Motte Elem. School	N<=10	N<=10	22	28
J. F. Kennedy Elem. School	83	34	211	328
J. J. Flynn School	58	17	203	278
Jamaica Village School	18	0	58	76
Jay/Westfield Joint Elementary	N<=10	N<=10	41	51

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Jericho Elementary School	61	N<=10	167	234
Johnson Elementary School	36	N<=10	155	201
Lake Region UHSD #24	16	26	354	396
Lakeview USD #43	13	N<=10	47	62
Lamoille UHSD #18	47	39	813	899
Lawrence Barnes School	28	18	83	129
Leicester Central School	12	N<=10	64	79
Leland & Gray UHSD #34	14	18	398	430
Lincoln Community School	19	N<=10	72	93
Lothrop School	39	N<=10	158	204
Lowell Village School	11	N<=10	71	86
Ludlow Elementary School	29	N<=10	112	144
Lunenburg Schools	13	N<=10	116	137
Lyman C. Hunt Middle School	18	21	431	470
Lyndon Institute	30	24	573	627
Lyndon Town School	81	24	442	547
Main Street School	20	20	261	301
Malletts Bay School	20	30	541	591
Manchester Elem/Mid School	55	27	361	443
Marlboro Elementary School	N<=10	N<=10	61	72
Mettawee Comm Sch USD #47	29	N<=10	115	145
Middlebury ID #4 School	56	N<=10	321	387
Middlebury Sr. UHSD #3	25	22	688	735
Middlebury Union Middle Sch #3	21	14	301	336
Middletown Springs Elem Sch	N<=10	N<=10	36	48
Mill River USD #40	37	24	667	728

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Millers Run School USD #37	N<=10	12	110	132
Milton Elementary School	171	28	653	852
Milton Jr High School	N<=10	N<=10	277	289
Milton Sr High School	25	N<=10	478	513
Missisquoi Valley UHSD #7	34	45	974	1053
Molly Stark School	70	N<=10	211	290
Monkton Central School	28	11	119	158
Montgomery Center School	21	N<=10	81	107
Montpelier High School	21	21	369	411
Monument School	18	N<=10	90	110
Moretown Elementary School	21	N<=10	98	120
Morristown Elem. Schools	54	20	248	322
Mount Abraham UHSD #28	25	18	864	907
Mt. Anthony Sr. UHSD #14	74	10	1148	1232
Mt. Anthony Union Middle Sch	36	N<=10	565	604
Mt. Holly School	N<=10	N<=10	59	70
Mt. Mansfield USD #17	27	16	991	1034
Neshobe School	58	13	260	331
Newark School	N<=10	N<=10	32	42
Newbury Elementary School	19	N<=10	104	129
Newfane Elementary School	27	N<=10	73	101
Newport City Elem Schools	53	34	207	294
Newport Town School	23	N<=10	100	124
Newton Elementary School	17	N<=10	107	125
No. Bennington Graded School	24	11	99	134
North Country Jr UHSD #22	20	13	299	332

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
North Country Sr UHSD #22	65	18	980	1063
North Hero Elem. School	11	N<=10	44	59
Northfield Elementary School	64	17	184	265
Northfield Middle/High School	20	N<=10	457	486
Norton Village School	N<=10	N<=10	12	16
Ontop	N<=10	13	N<=10	24
Orange Center School	N<=10	13	73	94
Orchard School	74	N<=10	202	280
Orleans Elementary School	15	N<=10	99	121
Orwell Village School	18	N<=10	132	153
Ottauquechee School	49	N<=10	152	206
Otter Valley UHSD #8	32	12	705	749
Oxbow UHSD #30	29	19	444	492
Park Street School	85	12	152	249
Peacham Elementary School	N<=10	0	36	41
Peoples Academy	21	19	347	387
Peoples Academy Middle Sch	14	11	262	287
Plymouth Elementary School	N<=10	0	16	20
Pomfret School	12	0	70	82
Poultney Elementary School	29	N<=10	179	214
Poultney High School	17	18	306	341
Pownal Elementary School	56	11	187	254
Proctor Elementary School	26	N<=10	126	155
Proctor Jr/Sr High School	N<=10	11	173	189
Putney Central School	34	14	175	223
Randolph Elementary School	69	14	212	295

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Randolph UHSD #2	17	20	561	598
Reading Elementary School	16	N<=10	39	59
Readsboro Elementary School	N<=10	0	55	61
Richford Elementary School	47	21	165	233
Richford Jr/Sr High School	N<=10	15	244	264
Richmond Elementary School	53	N<=10	183	244
Ripton Elementary School	N<=10	N<=10	34	44
Rivendell Academy	20	N<=10	296	324
Riverside School	19	N<=10	302	331
Robinson School	25	12	136	173
Rochester Elem/High School	21	N<=10	217	247
Rockingham Central Elementary	61	N<=10	83	150
Roxbury Village School	N<=10	N<=10	32	42
Rumney School (Middlesex)	24	N<=10	111	138
Rutland Intermediate School	49	34	665	748
Rutland Middle School	20	23	367	410
Rutland Senior High School	80	56	980	1116
Rutland Town Elem School	50	N<=10	303	361
Salisbury Community School	14	N<=10	59	79
Samuel Morey Elementary	29	N<=10	91	126
Saxtons River Elem. School	17	N<=10	60	81
Shaftsbury Elem. School	46	N<=10	147	200
Sharon Elementary School	23	N<=10	81	109
Shelburne Community School	116	18	655	789
Sheldon Elementary School	29	23	218	270
Sherburne Elementary School	12	N<=10	60	74

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Shoreham Elementary School	19	N<=10	79	104
Shrewsbury Mountain School	14	N<=10	54	71
Smilie Memorial School (Bolton)	19	N<=10	44	67
So. Burlington Central School	85	17	249	351
So. Burlington High School	53	24	856	933
So. Royalton Elem/High School	49	17	397	463
Spaulding HSUD #41	46	26	920	992
Springfield High School	23	N<=10	533	566
St Albans City School	114	30	573	717
St. Albans Town Educ. Center	91	43	508	642
St. Johnsbury Academy	174	34	764	972
St. Johnsbury Schools	107	28	409	544
Stamford Elementary School	12	N<=10	60	74
Stockbridge Central School	N<=10	N<=10	46	59
Stowe Elementary School	72	N<=10	198	276
Stowe Middle/High School	31	24	348	403
Sudbury Country School	N<=10	N<=10	27	32
Sunderland Elem. School	12	N<=10	48	64
Sutton School	21	N<=10	86	115
Swanton Schools	94	24	447	565
Thatcher Brook Prim. USD #45	78	12	230	320
Thetford Academy	37	18	324	379
Thetford Elementary School	49	N<=10	172	227
Thomas Fleming School	N<=10	N<=10	232	247
Tinmouth Elementary School	N<=10	N<=10	37	48
Townshend Village School	24	N<=10	55	83

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Troy School	19	14	115	148
Tunbridge Central School	14	N<=10	102	122
Twinfield USD #33	40	27	380	447
U-32 High School (UHSD #32)	42	33	749	824
Underhill Central School	33	N<=10	85	123
Underhill ID School	32	N<=10	72	106
Union Elementary School	87	13	252	352
Union School	29	13	102	144
Vergennes UESD #44	65	N<=10	218	292
Vergennes UHSD #5	35	N<=10	595	639
Vernon Elementary School	42	N<=10	150	199
Waits River Valley USD #36	20	0	206	226
Waitsfield Elem. School	31	N<=10	94	128
Walden School	17	N<=10	80	102
Wallingford Village School	36	N<=10	96	140
Wardsboro Central School	16	N<=10	43	60
Warren Elementary School	29	N<=10	102	141
Washington Village School	11	N<=10	50	65
Waterford Elementary School	18	N<=10	107	134
Waterville Elementary School	11	N<=10	52	67
Weathersfield Middle School	N<=10	N<=10	157	167
Wells Village School	16	N<=10	60	78
West Rutland School	34	14	309	357
Westford Elementary School	39	N<=10	201	245
Westminster Schools	39	11	160	210
Westshire Elementary	26	N<=10	52	79

School Count 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Weybridge Elementary School	21	N<=10	51	76
Wheeler School	41	22	102	165
Whitcomb Jr/Sr High School	N<=10	10	198	215
White River School	31	N<=10	107	145
Whiting Village School	N<=10	N<=10	17	21
Whitingham School	20	N<=10	189	218
Williamstown Elem. School	41	N<=10	135	185
Williamstown Middle/High Sch	N<=10	20	287	313
Williston Schools	152	46	861	1059
Wilmington Middle High School	18	N<=10	210	238
Windham Elementary School	N<=10	0	18	24
Windsor High School	42	11	437	490
Windsor State Street School	52	N<=10	199	256
Winooski High School	32	92	309	433
Wolcott Elementary School	25	N<=10	83	116
Woodbury Elementary School	N<=10	0	34	40
Woodford Hollow School	N<=10	0	17	19
Woodstock Elementary School	39	N<=10	123	169
Woodstock Sr. UHSD #4	23	12	440	475
Woodstock Union Middle Sch	13	N<=10	201	223
Statewide	10,594	3,755	74,620	88,969

**Appendix F Vermont Public Schools Individual School In-mobility and
Stability Rates 2002-2003**

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Academy School (Brattleboro)	19.1	10.3	70.5	100.0
Addison Central School	26.3	0.8	72.9	100.0
Albany Community School	16.3	8.7	75.0	100.0
Albert Bridge School (W Wind.)	25.8	1.5	72.7	100.0
Albert D. Lawton School	4.2	5.8	90.0	100.0
Alburg Community Ed Center	12.6	5.8	81.6	100.0
Arlington Memorial	6.1	6.5	87.4	100.0
Bakersfield School	11.6	8.1	80.2	100.0
Barnard Central School	13.2	1.9	84.9	100.0
Barnet Elementary School	11.0	1.9	87.0	100.0
Barre City Elem/Middle School	15.2	5.3	79.5	100.0
Barre Town Elementary School	13.6	4.2	82.2	100.0
Barstow Memorial School	15.5	4.0	80.5	100.0
Barton Graded School	12.6	8.4	79.1	100.0
Beeman Elementary School	22.0	4.3	73.8	100.0
Bellows Falls Middle School	6.6	2.8	90.6	100.0
Bellows Falls UHSD #27	10.1	3.1	86.9	100.0
Bellows Free Acad., Fairfax	10.0	3.7	86.3	100.0
Bellows Free Acad., St. Albans	2.7	12.4	84.9	100.0
Belvidere Central School	20.7	6.9	72.4	100.0
Bennington Elem. School	15.7	5.7	78.7	100.0
Benson Village School	17.7	4.8	77.4	100.0
Berkshire Elementary School	14.3	8.9	76.8	100.0
Berlin Elementary School	16.1	2.2	81.6	100.0
Bethel Elementary School	18.7	7.3	74.0	100.0
Bingham Memorial School	22.6	9.5	67.9	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Black River USD #39	6.6	3.3	90.0	100.0
Blue Mountain USD #21	12.7	5.8	81.5	100.0
Bradford Elementary School	24.3	5.0	70.8	100.0
Braintree School	17.5	8.2	74.2	100.0
Bratt. Area Middle Sch UHSD #6	6.9	4.4	88.6	100.0
Brattleboro Sr. UHSD #6	7.3	1.5	91.2	100.0
Brewster Pierce School	26.0	2.0	72.0	100.0
Bridgewater Village School	16.9	4.6	78.5	100.0
Bridport Central School	20.2	3.8	76.0	100.0
Brighton Elementary School	15.6	4.1	80.3	100.0
Bristol Elementary School	12.3	4.8	82.9	100.0
Brookfield School	19.4	3.7	76.9	100.0
Brookline Elementary School	27.8	0	72.2	100.0
Brownington Central School	15.1	2.7	82.2	100.0
Browns River Middle USD #17	2.6	1.5	95.9	100.0
Burke Town School	18.0	9.3	72.7	100.0
Burlington Senior High Sch	9.4	3.7	86.9	100.0
Burr & Burton Academy	10.7	8.3	81.0	100.0
C. P. Smith School	18.0	4.3	77.7	100.0
Cabot School	9.3	5.4	85.4	100.0
Calais Elementary School	18.4	4.9	76.7	100.0
Cambridge Elementary School	18.5	6.6	74.9	100.0
Camels Hump Middle USD #17	0.9	3.9	95.2	100.0
Canaan Schools	15.2	1.6	83.1	100.0
Canal St/Oak Grove Schools	14.0	0.8	85.1	100.0
Castleton-Hubbardton USD#42	13.5	3.7	82.9	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Catamount Elementary School	15.4	3.8	80.8	100.0
Cavendish Town Elem. School	24.5	3.2	72.3	100.0
Chamberlin School	24.6	6.0	69.4	100.0
Champlain School	20.3	7.5	72.2	100.0
Champlain Valley UHSD #15	4.6	1.7	93.7	100.0
Charleston Elem. School	13.8	9.2	77.1	100.0
Charlotte Central School	14.9	1.3	83.8	100.0
Chelsea Elem. High School	12.0	5.3	82.7	100.0
Cherry Hill Elem. School	27.3	5.2	67.5	100.0
Chester-Andover USD #29	19.8	2.3	77.8	100.0
Clarendon Elementary School	18.1	3.1	78.8	100.0
Colchester High School	4.7	3.9	91.4	100.0
Colchester Middle School	3.2	4.8	92.0	100.0
Concord School	12.0	9.5	78.5	100.0
Coventry Village School	16.7	6.5	76.9	100.0
Craftsbury Schools	10.3	6.3	83.3	100.0
Crossett Brook Middle USD #45	4.4	3.1	92.5	100.0
Currier Memorial USD #23	27.8	2.2	70.0	100.0
Danville School	8.5	6.2	85.3	100.0
Deerfield Valley Elem. Sch	23.5	4.3	72.2	100.0
Derby Elementary School	18.4	3.8	77.8	100.0
Dorset School	12.4	3.7	83.9	100.0
Dothan Brook School	19.9	2.7	77.3	100.0
Doty Memorial School	23.5	1.5	75.0	100.0
Dover Elementary School	27.0	2.7	70.3	100.0
Dummerston Schools	14.1	1.2	84.7	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
E. Taylor Hatton School	17.1	2.4	80.5	100.0
East Haven School	12.2	14.3	73.5	100.0
East Montpelier Elem. Sch	14.8	5.6	79.6	100.0
Eden Central School	16.8	4.0	79.2	100.0
Edmunds Elementary School	26.6	4.4	69.0	100.0
Edmunds Middle School	6.9	7.7	85.4	100.0
Elm Hill School	19.8	1.9	78.3	100.0
Enosburg Falls Elem. School	16.0	11.8	72.2	100.0
Enosburg Falls Jr/Sr High Sch	3.6	11.7	84.7	100.0
Essex Comm. Ed. Ctr. UHSD #46	3.8	3.7	92.5	100.0
Essex Middle School	3.7	3.9	92.4	100.0
Fair Haven Grade School	15.1	3.7	81.3	100.0
Fair Haven UHSD #16	4.8	2.9	92.2	100.0
Fairfield Center School	13.4	5.6	81.0	100.0
Fayston Elementary School	20.7	1.2	78.0	100.0
Ferrisburgh Central School	16.1	2.6	81.3	100.0
Fisher School	17.5	1.8	80.7	100.0
Fletcher Elementary School	17.5	1.0	81.4	100.0
Flood Brook USD #20	18.9	1.1	79.9	100.0
Folsom Ed. & Community Ctr	13.2	3.3	83.5	100.0
Founders Memorial School	4.9	4.0	91.1	100.0
Franklin Central School	18.1	10.2	71.7	100.0
Frederick H. Tuttle Middle Sch	6.3	4.1	89.6	100.0
Georgia Elem/Middle School	13.2	3.4	83.4	100.0
Glover Community	6.7	10.0	83.3	100.0
Grafton Elementary School	23.5	2.0	74.5	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Granby Central School	14.3	14.3	71.4	100.0
Grand Isle Elem. School	12.8	3.3	83.9	100.0
Granville Village School	14.3	14.3	71.4	100.0
Green Mountain UHSD #35	5.3	5.1	89.6	100.0
Green Street School	17.9	8.5	73.6	100.0
Guildhall Elementary School	23.5	0	76.5	100.0
Guilford Central School	14.8	1.5	83.7	100.0
Halifax School	20.4	5.6	74.1	100.0
Hancock Village School	19.0	14.3	66.7	100.0
Hardwick Elementary School	14.0	4.1	81.9	100.0
Hartford High School	5.2	1.4	93.5	100.0
Hartford Mem. Middle School	3.4	2.7	93.9	100.0
Hartland Elementary School	14.8	1.1	84.0	100.0
Harwood UHSD #19	5.8	2.6	91.6	100.0
Harwood Union Mid UHSD #19	2.3	5.1	92.6	100.0
Hazen UHSD #26	2.6	3.1	94.3	100.0
Highgate Schools	21.3	4.4	74.3	100.0
Hinesburg Community School	11.0	2.9	86.1	100.0
Holland Elementary School	6.6	3.3	90.2	100.0
Hyde Park Elementary School	25.5	9.7	64.8	100.0
Irasburg Village School	14.4	9.6	76.0	100.0
Isle La Motte Elem. School	7.1	14.3	78.6	100.0
J. F. Kennedy Elem. School	25.3	10.4	64.3	100.0
J. J. Flynn School	20.9	6.1	73.0	100.0
Jamaica Village School	23.7	0	76.3	100.0
Jay/Westfield Joint Elementary	15.7	3.9	80.4	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Jericho Elementary School	26.1	2.6	71.4	100.0
Johnson Elementary School	17.9	5.0	77.1	100.0
Lake Region UHSD #24	4.0	6.6	89.4	100.0
Lakeview USD #43	21.0	3.2	75.8	100.0
Lamoille UHSD #18	5.2	4.3	90.4	100.0
Lawrence Barnes School	21.7	14.0	64.3	100.0
Leicester Central School	15.2	3.8	81.0	100.0
Leland & Gray UHSD #34	3.3	4.2	92.6	100.0
Lincoln Community School	20.4	2.2	77.4	100.0
Lothrop School	19.1	3.4	77.5	100.0
Lowell Village School	12.8	4.7	82.6	100.0
Ludlow Elementary School	20.1	2.1	77.8	100.0
Lunenburg Schools	9.5	5.8	84.7	100.0
Lyman C. Hunt Middle School	3.8	4.5	91.7	100.0
Lyndon Institute	4.8	3.8	91.4	100.0
Lyndon Town School	14.8	4.4	80.8	100.0
Main Street School	6.6	6.6	86.7	100.0
Malletts Bay School	3.4	5.1	91.5	100.0
Manchester Elem/Mid School	12.4	6.1	81.5	100.0
Marlboro Elementary School	11.1	4.2	84.7	100.0
Mettawee Comm Sch USD #47	20.0	0.7	79.3	100.0
Middlebury ID #4 School	14.5	2.6	82.9	100.0
Middlebury Sr. UHSD #3	3.4	3.0	93.6	100.0
Middlebury Union Middle Sch #3	6.3	4.2	89.6	100.0
Middletown Springs Elem Sch	20.8	4.2	75.0	100.0
Mill River USD #40	5.1	3.3	91.6	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Millers Run School USD #37	7.6	9.1	83.3	100.0
Milton Elementary School	20.1	3.3	76.6	100.0
Milton Jr High School	3.1	1.0	95.8	100.0
Milton Sr High School	4.9	1.9	93.2	100.0
Missisquoi Valley UHSD #7	3.2	4.3	92.5	100.0
Molly Stark School	24.1	3.1	72.8	100.0
Monkton Central School	17.7	7.0	75.3	100.0
Montgomery Center School	19.6	4.7	75.7	100.0
Montpelier High School	5.1	5.1	89.8	100.0
Monument School	16.4	1.8	81.8	100.0
Moretown Elementary School	17.5	0.8	81.7	100.0
Morristown Elem. Schools	16.8	6.2	77.0	100.0
Mount Abraham UHSD #28	2.8	2.0	95.3	100.0
Mt. Anthony Sr. UHSD #14	6.0	0.8	93.2	100.0
Mt. Anthony Union Middle Sch	6.0	0.5	93.5	100.0
Mt. Holly School	12.9	2.9	84.3	100.0
Mt. Mansfield USD #17	2.6	1.5	95.8	100.0
Neshobe School	17.5	3.9	78.5	100.0
Newark School	21.4	2.4	76.2	100.0
Newbury Elementary School	14.7	4.7	80.6	100.0
Newfane Elementary School	26.7	1.0	72.3	100.0
Newport City Elem Schools	18.0	11.6	70.4	100.0
Newport Town School	18.5	0.8	80.6	100.0
Newton Elementary School	13.6	0.8	85.6	100.0
No. Bennington Graded School	17.9	8.2	73.9	100.0
North Country Jr UHSD #22	6.0	3.9	90.1	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
North Country Sr UHSD #22	6.1	1.7	92.2	100.0
North Hero Elem. School	18.6	6.8	74.6	100.0
Northfield Elementary School	24.2	6.4	69.4	100.0
Northfield Middle/High School	4.1	1.9	94.0	100.0
Norton Village School	25.0	0	75.0	100.0
Ontop	8.3	54.2	37.5	100.0
Orange Center School	8.5	13.8	77.7	100.0
Orchard School	26.4	1.4	72.1	100.0
Orleans Elementary School	12.4	5.8	81.8	100.0
Orwell Village School	11.8	2.0	86.3	100.0
Ottauquechee School	23.8	2.4	73.8	100.0
Otter Valley UHSD #8	4.3	1.6	94.1	100.0
Oxbow UHSD #30	5.9	3.9	90.2	100.0
Park Street School	34.1	4.8	61.0	100.0
Peacham Elementary School	12.2	0	87.8	100.0
Peoples Academy	5.4	4.9	89.7	100.0
Peoples Academy Middle Sch	4.9	3.8	91.3	100.0
Plymouth Elementary School	20.0	0	80.0	100.0
Pomfret School	14.6	0	85.4	100.0
Poultney Elementary School	13.6	2.8	83.6	100.0
Poultney High School	5.0	5.3	89.7	100.0
Pownal Elementary School	22.0	4.3	73.6	100.0
Proctor Elementary School	16.8	1.9	81.3	100.0
Proctor Jr/Sr High School	2.6	5.8	91.5	100.0
Putney Central School	15.2	6.3	78.5	100.0
Randolph Elementary School	23.4	4.7	71.9	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Randolph UHSD #2	2.8	3.3	93.8	100.0
Reading Elementary School	27.1	6.8	66.1	100.0
Readsboro Elementary School	9.8	0	90.2	100.0
Richford Elementary School	20.2	9.0	70.8	100.0
Richford Jr/Sr High School	1.9	5.7	92.4	100.0
Richmond Elementary School	21.7	3.3	75.0	100.0
Ripton Elementary School	20.5	2.3	77.3	100.0
Rivendell Academy	6.2	2.5	91.4	100.0
Riverside School	5.7	3.0	91.2	100.0
Robinson School	14.5	6.9	78.6	100.0
Rochester Elem/High School	8.5	3.6	87.9	100.0
Rockingham Central Elementary	40.7	4.0	55.3	100.0
Roxbury Village School	21.4	2.4	76.2	100.0
Rumney School (Middlesex)	17.4	2.2	80.4	100.0
Rutland Intermediate School	6.6	4.5	88.9	100.0
Rutland Middle School	4.9	5.6	89.5	100.0
Rutland Senior High School	7.2	5.0	87.8	100.0
Rutland Town Elem School	13.9	2.2	83.9	100.0
Salisbury Community School	17.7	7.6	74.7	100.0
Samuel Morey Elementary	23.0	4.8	72.2	100.0
Saxtons River Elem. School	21.0	4.9	74.1	100.0
Shaftsbury Elem. School	23.0	3.5	73.5	100.0
Sharon Elementary School	21.1	4.6	74.3	100.0
Shelburne Community School	14.7	2.3	83.0	100.0
Sheldon Elementary School	10.7	8.5	80.7	100.0
Sherburne Elementary School	16.2	2.7	81.1	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Shoreham Elementary School	18.3	5.8	76.0	100.0
Shrewsbury Mountain School	19.7	4.2	76.1	100.0
Smilie Memorial School (Bolton)	28.4	6.0	65.7	100.0
So. Burlington Central School	24.2	4.8	70.9	100.0
So. Burlington High School	5.7	2.6	91.7	100.0
So. Royalton Elem/High School	10.6	3.7	85.7	100.0
Spaulding HSUD #41	4.6	2.6	92.7	100.0
Springfield High School	4.1	1.8	94.2	100.0
St Albans City School	15.9	4.2	79.9	100.0
St. Albans Town Educ. Center	14.2	6.7	79.1	100.0
St. Johnsbury Academy	17.9	3.5	78.6	100.0
St. Johnsbury Schools	19.7	5.1	75.2	100.0
Stamford Elementary School	16.2	2.7	81.1	100.0
Stockbridge Central School	16.9	5.1	78.0	100.0
Stowe Elementary School	26.1	2.2	71.7	100.0
Stowe Middle/High School	7.7	6.0	86.4	100.0
Sudbury Country School	12.5	3.1	84.4	100.0
Sunderland Elem. School	18.8	6.3	75.0	100.0
Sutton School	18.3	7.0	74.8	100.0
Swanton Schools	16.6	4.2	79.1	100.0
Thatcher Brook Prim. USD #45	24.4	3.8	71.9	100.0
Thetford Academy	9.8	4.7	85.5	100.0
Thetford Elementary School	21.6	2.6	75.8	100.0
Thomas Fleming School	4.0	2.0	93.9	100.0
Tinmouth Elementary School	20.8	2.1	77.1	100.0
Townshend Village School	28.9	4.8	66.3	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Troy School	12.8	9.5	77.7	100.0
Tunbridge Central School	11.5	4.9	83.6	100.0
Twinfield USD #33	8.9	6.0	85.0	100.0
U-32 High School (UHSD #32)	5.1	4.0	90.9	100.0
Underhill Central School	26.8	4.1	69.1	100.0
Underhill ID School	30.2	1.9	67.9	100.0
Union Elementary School	24.7	3.7	71.6	100.0
Union School	20.1	9.0	70.8	100.0
Vergennes UESD #44	22.3	3.1	74.7	100.0
Vergennes UHSD #5	5.5	1.4	93.1	100.0
Vernon Elementary School	21.1	3.5	75.4	100.0
Waits River Valley USD #36	8.8	0	91.2	100.0
Waitsfield Elem. School	24.2	2.3	73.4	100.0
Walden School	16.7	4.9	78.4	100.0
Wallingford Village School	25.7	5.7	68.6	100.0
Wardsboro Central School	26.7	1.7	71.7	100.0
Warren Elementary School	20.6	7.1	72.3	100.0
Washington Village School	16.9	6.2	76.9	100.0
Waterford Elementary School	13.4	6.7	79.9	100.0
Waterville Elementary School	16.4	6.0	77.6	100.0
Weathersfield Middle School	3.0	3.0	94.0	100.0
Wells Village School	20.5	2.6	76.9	100.0
West Rutland School	9.5	3.9	86.6	100.0
Westford Elementary School	15.9	2.0	82.0	100.0
Westminster Schools	18.6	5.2	76.2	100.0
Westshire Elementary	32.9	1.3	65.8	100.0

School Rates (Percent) 2002-2003 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Weybridge Elementary School	27.6	5.3	67.1	100.0
Wheeler School	24.8	13.3	61.8	100.0
Whitcomb Jr/Sr High School	3.3	4.7	92.1	100.0
White River School	21.4	4.8	73.8	100.0
Whiting Village School	9.5	9.5	81.0	100.0
Whitingham School	9.2	4.1	86.7	100.0
Williamstown Elem. School	22.2	4.9	73.0	100.0
Williamstown Middle/High Sch	1.9	6.4	91.7	100.0
Williston Schools	14.4	4.3	81.3	100.0
Wilmington Middle High School	7.6	4.2	88.2	100.0
Windham Elementary School	25.0	0	75.0	100.0
Windsor High School	8.6	2.2	89.2	100.0
Windsor State Street School	20.3	2.0	77.7	100.0
Winooski High School	7.4	21.2	71.4	100.0
Wolcott Elementary School	21.6	6.9	71.6	100.0
Woodbury Elementary School	15.0	0	85.0	100.0
Woodford Hollow School	10.5	0	89.5	100.0
Woodstock Elementary School	23.1	4.1	72.8	100.0
Woodstock Sr. UHSD #4	4.8	2.5	92.6	100.0
Woodstock Union Middle Sch	5.8	4.0	90.1	100.0
Statewide	11.9	4.2	83.9	100.0

**Appendix G Vermont Public Schools Individual School In-mobility
and Stability Counts 2003-2004**

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Academy School (Brattleboro)	71	N<=10	233	314
Addison Central School	22	N<=10	88	113
Albany Community School	19	N<=10	88	111
Albert Bridge School (W Wind.)	N<=10	N<=10	51	63
Albert D. Lawton School	14	16	326	356
Alburg Community Ed Center	39	12	159	210
Arlington Memorial	N<=10	N<=10	219	238
Bakersfield School	22	N<=10	135	164
Barnard Central School	7	N<=10	38	47
Barnet Elementary School	24	11	112	147
Barre City Elem/Middle School	140	48	586	774
Barre Town Elementary School	126	35	695	856
Barstow Memorial School	53	14	191	258
Barton Graded School	19	13	135	167
Beeman Elementary School	18	0	107	125
Bellows Falls Middle School	19	N<=10	274	299
Bellows Falls UHSD #27	21	N<=10	397	422
Bellows Free Acad., Fairfax	86	41	736	863
Bellows Free Acad., St. Albans	49	129	990	1168
Belvidere Central School	N<=10	0	16	20
Bennington Elem. School	49	N<=10	169	219
Benson Village School	20	N<=10	94	120
Berkshire Elementary School	28	N<=10	141	179
Berlin Elementary School	34	12	147	193
Bethel Elementary School	31	N<=10	88	125
Bingham Memorial School	15	N<=10	63	79

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Black River USD #39	12	14	234	260
Blue Mountain USD #21	60	20	303	383
Bradford Elementary School	56	N<=10	147	211
Braintree School	14	N<=10	72	91
Bratt. Area Middle Sch UHSD #6	34	14	279	327
Brattleboro Sr. UHSD #6	62	14	917	993
Brewster Pierce School	29	N<=10	72	105
Bridgewater Village School	N<=10	0	44	50
Bridport Central School	23	N<=10	80	104
Brighton Elementary School	16	N<=10	98	119
Bristol Elementary School	46	17	244	307
Brookfield School	21	N<=10	74	100
Brookline Elementary School	11	N<=10	30	42
Brownington Central School	14	N<=10	51	71
Browns River Middle USD #17	14	16	442	472
Burke Town School	26	N<=10	124	159
Burlington Senior High Sch	77	33	1000	1110
Burr & Burton Academy	60	41	481	582
C. P. Smith School	56	N<=10	192	254
Cabot School	26	18	169	213
Calais Elementary School	14	N<=10	76	96
Cambridge Elementary School	52	N<=10	191	253
Camels Hump Middle USD #17	10	N<=10	423	441
Canaan Schools	51	0	213	264
Canal St/Oak Grove Schools	28	N<=10	88	121
Castleton-Hubbardton USD#42	59	19	343	421

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Catamount Elementary School	61	21	172	254
Cavendish Town Elem. School	13	N<=10	72	88
Chamberlin School	50	21	169	240
Champlain School	56	16	159	231
Champlain Valley UHSD #15	64	17	1215	1296
Charleston Elem. School	15	N<=10	79	98
Charlotte Central School	77	N<=10	381	466
Chelsea Elem. High School	25	N<=100	185	220
Cherry Hill Elem. School	13	N<=10	48	66
Chester-Andover USD #29	47	N<=10	193	248
Clarendon Elementary School	43	N<=10	144	194
Colchester High School	35	18	699	752
Colchester Middle School	16	13	569	598
Concord School	38	15	155	208
Coventry Village School	24	N<=10	85	116
Craftsbury Schools	20	22	149	191
Crossett Brook Middle USD #45	N<=10	N<=10	333	347
Currier Memorial USD #23	20	N<=10	65	89
Danville School	35	28	333	396
Deerfield Valley Elem. Sch	26	N<=10	80	110
Derby Elementary School	81	15	244	340
Dorset School	33	N<=10	133	171
Dothan Brook School	51	N<=10	190	251
Doty Memorial School	13	N<=10	52	67
Dover Elementary School	18	N<=10	58	78
Dummerston Schools	42	N<=10	130	176

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
E. Taylor Hatton School	N<=10	N<=10	32	40
East Haven School	N<=10	N<=10	37	40
East Montpelier Elem. Sch	35	N<=10	132	176
Eden Central School	17	N<=10	75	97
Edmunds Elementary School	66	N<=10	172	246
Edmunds Middle School	28	14	326	368
Elm Hill School	26	N<=10	63	95
Enosburg Falls Elem. School	41	15	189	245
Enosburg Falls Jr/Sr High Sch	22	34	359	415
Essex Comm. Ed. Ctr. UHSD #46	64	66	1464	1594
Essex Middle School	30	15	498	543
Fair Haven Grade School	49	19	255	323
Fair Haven UHSD #16	32	15	530	577
Fairfield Center School	35	17	189	241
Fayston Elementary School	21	N<=10	59	82
Ferrisburgh Central School	32	N<=10	149	187
Fisher School	26	N<=10	117	145
Fletcher Elementary School	23	N<=10	77	103
Flood Brook USD #20	40	N<=10	216	264
Folsom Ed. & Community Ctr	24	N<=10	147	178
Founders Memorial School	*	*	*	436
Franklin Central School	24	N<=10	95	124
Frederick H. Tuttle Middle Sch	49	29	555	633
Georgia Elem/Middle School	69	36	474	579
Glover Community	10	N<=10	71	87
Grafton Elementary School	17	N<=10	39	62

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Granby Central School	N<=10	0	N<=10	8
Grand Isle Elem. School	28	N<=10	143	177
Granville Village School	N<=10	0	N<=10	10
Green Mountain UHSD #35	23	13	388	424
Green Street School	59	11	150	220
Guildhall Elementary School	12	0	12	24
Guilford Central School	30	N<=10	160	196
Halifax School	12	0	38	50
Hancock Village School	N<=10	N<=10	16	20
Hardwick Elementary School	44	12	208	264
Hartford High School	40	12	752	804
Hartford Mem. Middle School	18	12	357	387
Hartland Elementary School	51	16	287	354
Harwood UHSD #19	13	N<=10	630	649
Harwood Union Mid UHSD #19	N<=10	N<=10	174	190
Hazen UHSD #26	18	17	375	410
Highgate Schools	52	18	254	324
Hinesburg Community School	67	14	392	473
Holland Elementary School	N<=10	N<=10	46	60
Hyde Park Elementary School	31	N<=10	140	178
Irasburg Village School	19	N<=10	123	149
Isle La Motte Elem. School	N<=10	N<=10	21	31
J. F. Kennedy Elem. School	75	12	212	299
J. J. Flynn School	79	13	185	277
Jamaica Village School	23	N<=10	65	89
Jay/Westfield Joint Elementary	12	N<=10	35	48

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Jericho Elementary School	60	N<=10	162	223
Johnson Elementary School	48	12	146	206
Lake Region UHSD #24	18	18	340	376
Lakeview USD #43	14	N<=10	51	69
Lamoille UHSD #18	38	30	840	908
Lawrence Barnes School	35	16	84	135
Leicester Central School	N<=10	N<=10	51	63
Leland & Gray UHSD #34	30	N<=10	397	430
Lincoln Community School	20	N<=10	71	95
Lothrop School	24	N<=10	152	183
Lowell Village School	12	N<=10	54	76
Ludlow Elementary School	27	N<=10	115	148
Lunenburg Schools	25	0	89	114
Lyman C. Hunt Middle School	20	19	425	464
Lyndon Institute	31	N<=10	575	615
Lyndon Town School	83	24	415	522
Main Street School	20	N<=10	247	273
Malletts Bay School	*	*	*	548
Manchester Elem/Mid School	79	17	325	421
Marlboro Elementary School	14	N<=10	53	69
Mettawee Comm Sch USD #47	40	N<=10	111	157
Middlebury ID #4 School	69	23	272	364
Middlebury Sr. UHSD #3	33	22	700	755
Middlebury Union Middle Sch #3	22	N<=10	314	346
Middletown Springs Elem Sch	11	N<=10	38	50
Mill River USD #40	26	33	665	724

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Millers Run School USD #37	20	12	95	127
Milton Elementary School	163	28	665	856
Milton Jr High School	N<=10	N<=10	277	290
Milton Sr High School	20	18	494	532
Missisquoi Valley UHSD #7	39	45	980	1064
Molly Stark School	78	11	212	301
Monkton Central School	29	N<=10	122	155
Montgomery Center School	23	N<=10	86	117
Montpelier High School	21	22	367	410
Monument School	34	N<=10	82	117
Moretown Elementary School	15	N<=10	86	103
Morristown Elem. Schools	*	*	*	318
Mount Abraham UHSD #28	33	21	905	959
Mt. Anthony Sr. UHSD #14	96	N<=10	1132	1238
Mt. Anthony Union Middle Sch	41	12	525	578
Mt. Holly School	13	N<=10	53	70
Mt. Mansfield USD #17	34	18	1017	1069
Neshobe School	41	18	244	303
Newark School	N<=10	N<=10	32	41
Newbury Elementary School	31	N<=10	105	140
Newfane Elementary School	23	N<=10	80	108
Newport City Elem Schools	70	15	196	281
Newport Town School	28	13	98	139
Newton Elementary School	19	0	95	114
No. Bennington Graded School	38	N<=10	93	132
North Country Jr UHSD #22	15	19	300	334

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
North Country Sr UHSD #22	39	23	975	1037
North Hero Elem. School	N<=10	N<=10	42	55
Northfield Elementary School	51	14	179	244
Northfield Middle/High School	21	15	461	497
Norton Village School	0	0	N<=10	6
Ontop	N<=10	11	N<=10	22
Orange Center School	20	N<=10	68	96
Orchard School	80	11	209	300
Orleans Elementary School	19	N<=10	104	124
Orwell Village School	19	N<=10	133	154
Ottawaquechee School	49	N<=10	154	213
Otter Valley UHSD #8	28	24	682	734
Oxbow UHSD #30	35	21	435	491
Park Street School	57	N<=10	170	234
Peacham Elementary School	12	N<=10	31	44
Peoples Academy	15	15	346	376
Peoples Academy Middle Sch	14	16	242	272
Plymouth Elementary School	N<=10	N<=10	N<=10	16
Pomfret School	11	N<=10	62	79
Poultney Elementary School	37	N<=10	144	186
Poultney High School	11	11	281	303
Pownal Elementary School	46	12	191	249
Proctor Elementary School	27	N<=10	122	158
Proctor Jr/Sr High School	N<=10	16	168	187
Putney Central School	25	N<=10	163	196
Randolph Elementary School	63	N<=10	221	294

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Randolph UHSD #2	37	16	534	587
Reading Elementary School	N<=10	N<=10	41	54
Readsboro Elementary School	14	N<=10	48	65
Richford Elementary School	34	N<=10	178	220
Richford Jr/Sr High School	N<=10	22	232	263
Richmond Elementary School	55	N<=10	162	220
Ripton Elementary School	N<=10	N<=10	31	43
Rivendell Academy	N<=10	12	287	309
Riverside School	22	14	275	311
Robinson School	21	N<=10	129	157
Rochester Elem/High School	23	11	207	241
Rockingham Central Elementary	37	11	98	146
Roxbury Village School	N<=10	N<=10	27	42
Rumney School (Middlesex)	21	N<=10	101	124
Rutland Intermediate School	*	*	*	743
Rutland Middle School	25	16	369	410
Rutland Senior High School	73	67	1015	1155
Rutland Town Elem School	39	N<=10	272	318
Salisbury Community School	19	N<=10	67	96
Samuel Morey Elementary	30	0	94	124
Saxtons River Elem. School	22	N<=10	49	75
Shaftsbury Elem. School	44	N<=10	155	204
Sharon Elementary School	20	N<=10	84	108
Shelburne Community School	134	12	634	780
Sheldon Elementary School	38	24	210	272
Sherburne Elementary School	13	0	60	73

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Shoreham Elementary School	26	N<=10	70	102
Shrewsbury Mountain School	11	N<=10	46	58
Smilie Memorial School (Bolton)	14	0	41	55
So. Burlington Central School	79	19	255	353
So. Burlington High School	38	30	905	973
So. Royalton Elem/High School	34	14	399	447
Spaulding HSUD #41	61	28	879	968
Springfield High School	26	30	539	595
St Albans City School	109	26	554	689
St. Albans Town Educ. Center	94	33	489	616
St. Johnsbury Academy	181	58	809	1048
St. Johnsbury Schools	95	41	419	555
Stamford Elementary School	N<=10	N<=10	53	64
Stockbridge Central School	16	N<=10	40	57
Stowe Elementary School	66	N<=10	207	276
Stowe Middle/High School	28	12	364	404
Sudbury Country School	N<=10	N<=10	24	29
Sunderland Elem. School	10	N<=10	47	61
Sutton School	18	N<=10	89	113
Swanton Schools	105	35	428	568
Thatcher Brook Prim. USD #45	63	11	222	296
Thetford Academy	32	21	339	392
Thetford Elementary School	42	N<=10	159	207
Thomas Fleming School	*	*	*	219
Tinmouth Elementary School	N<=10	0	32	38
Townshend Village School	17	N<=10	56	75

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Troy School	27	18	115	160
Tunbridge Central School	29	N<=10	89	120
Twinfield USD #33	48	18	393	459
U-32 High School (UHSD #32)	25	41	798	864
Underhill Central School	32	N<=10	85	119
Underhill ID School	34	N<=10	71	111
Union Elementary School	79	13	251	343
Union School	29	N<=10	93	131
Vergennes UESD #44	50	18	219	287
Vergennes UHSD #5	19	22	603	644
Vernon Elementary School	45	N<=10	158	209
Waits River Valley USD #36	63	14	174	251
Waitsfield Elem. School	21	N<=10	105	128
Walden School	12	15	78	105
Wallingford Village School	34	N<=10	110	150
Wardsboro Central School	N<=10	0	38	47
Warren Elementary School	20	N<=10	111	132
Washington Village School	14	N<=10	48	66
Waterford Elementary School	25	N<=10	110	138
Waterville Elementary School	N<=10	0	48	56
Weathersfield Middle School	*	*	*	176
Wells Village School	N<=10	N<=10	53	65
West Rutland School	46	23	303	372
Westford Elementary School	29	N<=10	203	233
Westminster Schools	34	N<=10	160	199
Westshire Elementary	27	N<=10	59	89

School Count 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Weybridge Elementary School	12	N<=10	60	74
Wheeler School	36	20	106	162
Whitcomb Jr/Sr High School	N<=10	N<=10	161	179
White River School	23	N<=10	90	118
Whiting Village School	N<=10	N<=10	12	18
Whitingham School	28	N<=10	174	208
Williamstown Elem. School	52	19	134	205
Williamstown Middle/High Sch	17	20	281	318
Williston Schools	164	31	869	1064
Wilmington Middle High School	24	17	203	244
Windham Elementary School	N<=10	0	21	27
Windsor High School	32	N<=10	419	455
Windsor State Street School	57	12	172	241
Winooski High School	25	13	193	231
Winooski Middle School	11	128	49	188
Wolcott Elementary School	19	15	82	116
Woodbury Elementary School	13	N<=10	33	49
Woodford Hollow School	N<=10	N<=10	16	21
Woodstock Elementary School	38	N<=10	125	169
Woodstock Sr. UHSD #4	16	N<=10	414	436
Woodstock Union Middle Sch	N<=10	12	184	206
Statewide	10,761	3,677	73,605	88,043

* Missing due to computational error.

**Appendix H Vermont Public Schools Individual School In-mobility
and Stability Rates 2003-2004**

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Academy School (Brattleboro)	22.6	3.2	74.2	100.0
Addison Central School	19.5	2.7	77.9	100.0
Albany Community School	17.1	3.6	79.3	100.0
Albert Bridge School (W Wind.)	12.7	6.3	81.0	100.0
Albert D. Lawton School	3.9	4.5	91.6	100.0
Alburg Community Ed Center	18.6	5.7	75.7	100.0
Arlington Memorial	4.2	3.8	92.0	100.0
Bakersfield School	13.4	4.3	82.3	100.0
Barnard Central School	14.9	4.3	80.9	100.0
Barnet Elementary School	16.3	7.5	76.2	100.0
Barre City Elem/Middle School	18.1	6.2	75.7	100.0
Barre Town Elementary School	14.7	4.1	81.2	100.0
Barstow Memorial School	20.5	5.4	74.0	100.0
Barton Graded School	11.4	7.8	80.8	100.0
Beeman Elementary School	14.4	0.0	85.6	100.0
Bellows Falls Middle School	6.4	2.0	91.6	100.0
Bellows Falls UHSD #27	5.0	0.9	94.1	100.0
Bellows Free Acad., Fairfax	10.0	4.8	85.3	100.0
Bellows Free Acad., St. Albans	4.2	11.0	84.8	100.0
Belvidere Central School	20.0	0.0	80.0	100.0
Bennington Elem. School	22.4	0.5	77.2	100.0
Benson Village School	16.7	5.0	78.3	100.0
Berkshire Elementary School	15.6	5.6	78.8	100.0
Berlin Elementary School	17.6	6.2	76.2	100.0
Bethel Elementary School	24.8	4.8	70.4	100.0
Bingham Memorial School	19.0	1.3	79.7	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Black River USD #39	4.6	5.4	90.0	100.0
Blue Mountain USD #21	15.7	5.2	79.1	100.0
Bradford Elementary School	26.5	3.8	69.7	100.0
Braintree School	15.4	5.5	79.1	100.0
Bratt. Area Middle Sch UHSD #6	10.4	4.3	85.3	100.0
Brattleboro Sr. UHSD #6	6.2	1.4	92.3	100.0
Brewster Pierce School	27.6	3.8	68.6	100.0
Bridgewater Village School	12.0	0.0	88.0	100.0
Bridport Central School	22.1	1.0	76.9	100.0
Brighton Elementary School	13.4	4.2	82.4	100.0
Bristol Elementary School	15.0	5.5	79.5	100.0
Brookfield School	21.0	5.0	74.0	100.0
Brookline Elementary School	26.2	2.4	71.4	100.0
Brownington Central School	19.7	8.5	71.8	100.0
Browns River Middle USD #17	3.0	3.4	93.6	100.0
Burke Town School	16.4	5.7	78.0	100.0
Burlington Senior High Sch	6.9	3.0	90.1	100.0
Burr & Burton Academy	10.3	7.0	82.6	100.0
C. P. Smith School	22.0	2.4	75.6	100.0
Cabot School	12.2	8.5	79.3	100.0
Calais Elementary School	14.6	6.3	79.2	100.0
Cambridge Elementary School	20.6	4.0	75.5	100.0
Camels Hump Middle USD #17	2.3	1.8	95.9	100.0
Canaan Schools	19.3	0.0	80.7	100.0
Canal St/Oak Grove Schools	23.1	4.1	72.7	100.0
Castleton-Hubbardton USD#42	14.0	4.5	81.5	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Catamount Elementary School	24.0	8.3	67.7	100.0
Cavendish Town Elem. School	14.8	3.4	81.8	100.0
Chamberlin School	20.8	8.8	70.4	100.0
Champlain School	24.2	6.9	68.8	100.0
Champlain Valley UHSD #15	4.9	1.3	93.8	100.0
Charleston Elem. School	15.3	4.1	80.6	100.0
Charlotte Central School	16.5	1.7	81.8	100.0
Chelsea Elem. High School	11.4	4.5	84.1	100.0
Cherry Hill Elem. School	19.7	7.6	72.7	100.0
Chester-Andover USD #29	19.0	3.2	77.8	100.0
Clarendon Elementary School	22.2	3.6	74.2	100.0
Colchester High School	4.7	2.4	93.0	100.0
Colchester Middle School	2.7	2.2	95.2	100.0
Concord School	18.3	7.2	74.5	100.0
Coventry Village School	20.7	6.0	73.3	100.0
Craftsbury Schools	10.5	11.5	78.0	100.0
Crossett Brook Middle USD #45	1.7	2.3	96.0	100.0
Currier Memorial USD #23	22.5	4.5	73.0	100.0
Danville School	8.8	7.1	84.1	100.0
Deerfield Valley Elem. Sch	23.6	3.6	72.7	100.0
Derby Elementary School	23.8	4.4	71.8	100.0
Dorset School	19.3	2.9	77.8	100.0
Dothan Brook School	20.3	4.0	75.7	100.0
Doty Memorial School	19.4	3.0	77.6	100.0
Dover Elementary School	23.1	2.6	74.4	100.0
Dummerston Schools	23.9	2.3	73.9	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
E. Taylor Hatton School	17.5	2.5	80.0	100.0
East Haven School	5.0	2.5	92.5	100.0
East Montpelier Elem. Sch	19.9	5.1	75.0	100.0
Eden Central School	17.5	5.2	77.3	100.0
Edmunds Elementary School	26.8	3.3	69.9	100.0
Edmunds Middle School	7.6	3.8	88.6	100.0
Elm Hill School	27.4	6.3	66.3	100.0
Enosburg Falls Elem. School	16.7	6.1	77.1	100.0
Enosburg Falls Jr/Sr High Sch	5.3	8.2	86.5	100.0
Essex Comm. Ed. Ctr. UHSD #46	4.0	4.1	91.8	100.0
Essex Middle School	5.5	2.8	91.7	100.0
Fair Haven Grade School	15.2	5.9	78.9	100.0
Fair Haven UHSD #16	5.5	2.6	91.9	100.0
Fairfield Center School	14.5	7.1	78.4	100.0
Fayston Elementary School	25.6	2.4	72.0	100.0
Ferrisburgh Central School	17.1	3.2	79.7	100.0
Fisher School	17.9	1.4	80.7	100.0
Fletcher Elementary School	22.3	2.9	74.8	100.0
Flood Brook USD #20	15.2	3.0	81.8	100.0
Folsom Ed. & Community Ctr	13.5	3.9	82.6	100.0
Founders Memorial School	*	*	*	100.0
Franklin Central School	19.4	4.0	76.6	100.0
Frederick H. Tuttle Middle Sch	7.7	4.6	87.7	100.0
Georgia Elem/Middle School	11.9	6.2	81.9	100.0
Glover Community	11.5	6.9	81.6	100.0
Grafton Elementary School	27.4	9.7	62.9	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Granby Central School	25.0	0.0	75.0	100.0
Grand Isle Elem. School	15.8	3.4	80.8	100.0
Granville Village School	40.0	0.0	60.0	100.0
Green Mountain UHSD #35	5.4	3.1	91.5	100.0
Green Street School	26.8	5.0	68.2	100.0
Guildhall Elementary School	50.0	0.0	50.0	100.0
Guilford Central School	15.3	3.1	81.6	100.0
Halifax School	24.0	0.0	76.0	100.0
Hancock Village School	15.0	5.0	80.0	100.0
Hardwick Elementary School	16.7	4.5	78.8	100.0
Hartford High School	5.0	1.5	93.5	100.0
Hartford Mem. Middle School	4.7	3.1	92.2	100.0
Hartland Elementary School	14.4	4.5	81.1	100.0
Harwood UHSD #19	2.0	0.9	97.1	100.0
Harwood Union Mid UHSD #19	4.7	3.7	91.6	100.0
Hazen UHSD #26	4.4	4.1	91.5	100.0
Highgate Schools	16.0	5.6	78.4	100.0
Hinesburg Community School	14.2	3.0	82.9	100.0
Holland Elementary School	16.7	6.7	76.7	100.0
Hyde Park Elementary School	17.4	3.9	78.7	100.0
Irasburg Village School	12.8	4.7	82.6	100.0
Isle La Motte Elem. School	22.6	9.7	67.7	100.0
J. F. Kennedy Elem. School	25.1	4.0	70.9	100.0
J. J. Flynn School	28.5	4.7	66.8	100.0
Jamaica Village School	25.8	1.1	73.0	100.0
Jay/Westfield Joint Elementary	25.0	2.1	72.9	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Jericho Elementary School	26.9	0.4	72.6	100.0
Johnson Elementary School	23.3	5.8	70.9	100.0
Lake Region UHSD #24	4.8	4.8	90.4	100.0
Lakeview USD #43	20.3	5.8	73.9	100.0
Lamoille UHSD #18	4.2	3.3	92.5	100.0
Lawrence Barnes School	25.9	11.9	62.2	100.0
Leicester Central School	12.7	6.3	81.0	100.0
Leland & Gray UHSD #34	7.0	0.7	92.3	100.0
Lincoln Community School	21.1	4.2	74.7	100.0
Lothrop School	13.1	3.8	83.1	100.0
Lowell Village School	15.8	13.2	71.1	100.0
Ludlow Elementary School	18.2	4.1	77.7	100.0
Lunenburg Schools	21.9	0.0	78.1	100.0
Lyman C. Hunt Middle School	4.3	4.1	91.6	100.0
Lyndon Institute	5.0	1.5	93.5	100.0
Lyndon Town School	15.9	4.6	79.5	100.0
Main Street School	7.3	2.2	90.5	100.0
Malletts Bay School	*	*	*	100.0
Manchester Elem/Mid School	18.8	4.0	77.2	100.0
Marlboro Elementary School	20.3	2.9	76.8	100.0
Mettawee Comm Sch USD #47	25.5	3.8	70.7	100.0
Middlebury ID #4 School	19.0	6.3	74.7	100.0
Middlebury Sr. UHSD #3	4.4	2.9	92.7	100.0
Middlebury Union Middle Sch #3	6.4	2.9	90.8	100.0
Middletown Springs Elem Sch	22.0	2.0	76.0	100.0
Mill River USD #40	3.6	4.6	91.9	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Millers Run School USD #37	15.7	9.4	74.8	100.0
Milton Elementary School	19.0	3.3	77.7	100.0
Milton Jr High School	1.4	3.1	95.5	100.0
Milton Sr High School	3.8	3.4	92.9	100.0
Missisquoi Valley UHSD #7	3.7	4.2	92.1	100.0
Molly Stark School	25.9	3.7	70.4	100.0
Monkton Central School	18.7	2.6	78.7	100.0
Montgomery Center School	19.7	6.8	73.5	100.0
Montpelier High School	5.1	5.4	89.5	100.0
Monument School	29.1	0.9	70.1	100.0
Moretown Elementary School	14.6	1.9	83.5	100.0
Morristown Elem. Schools	*	*	*	100.0
Mount Abraham UHSD #28	3.4	2.2	94.4	100.0
Mt. Anthony Sr. UHSD #14	7.8	0.8	91.4	100.0
Mt. Anthony Union Middle Sch	7.1	2.1	90.8	100.0
Mt. Holly School	18.6	5.7	75.7	100.0
Mt. Mansfield USD #17	3.2	1.7	95.1	100.0
Neshobe School	13.5	5.9	80.5	100.0
Newark School	19.5	2.4	78.0	100.0
Newbury Elementary School	22.1	2.9	75.0	100.0
Newfane Elementary School	21.3	4.6	74.1	100.0
Newport City Elem Schools	24.9	5.3	69.8	100.0
Newport Town School	20.1	9.4	70.5	100.0
Newton Elementary School	16.7	0.0	83.3	100.0
No. Bennington Graded School	28.8	0.8	70.5	100.0
North Country Jr UHSD #22	4.5	5.7	89.8	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
North Country Sr UHSD #22	3.8	2.2	94.0	100.0
North Hero Elem. School	14.5	9.1	76.4	100.0
Northfield Elementary School	20.9	5.7	73.4	100.0
Northfield Middle/High School	4.2	3.0	92.8	100.0
Norton Village School	0.0	0.0	100.0	100.0
Ontop	9.1	50.0	40.9	100.0
Orange Center School	20.8	8.3	70.8	100.0
Orchard School	26.7	3.7	69.7	100.0
Orleans Elementary School	15.3	0.8	83.9	100.0
Orwell Village School	12.3	1.3	86.4	100.0
Ottauquechee School	23.0	4.7	72.3	100.0
Otter Valley UHSD #8	3.8	3.3	92.9	100.0
Oxbow UHSD #30	7.1	4.3	88.6	100.0
Park Street School	24.4	3.0	72.6	100.0
Peacham Elementary School	27.3	2.3	70.5	100.0
Peoples Academy	4.0	4.0	92.0	100.0
Peoples Academy Middle Sch	5.1	5.9	89.0	100.0
Plymouth Elementary School	37.5	6.3	56.3	100.0
Pomfret School	13.9	7.6	78.5	100.0
Poultney Elementary School	19.9	2.7	77.4	100.0
Poultney High School	3.6	3.6	92.7	100.0
Pownal Elementary School	18.5	4.8	76.7	100.0
Proctor Elementary School	17.1	5.7	77.2	100.0
Proctor Jr/Sr High School	1.6	8.6	89.8	100.0
Putney Central School	12.8	4.1	83.2	100.0
Randolph Elementary School	21.4	3.4	75.2	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Randolph UHSD #2	6.3	2.7	91.0	100.0
Reading Elementary School	18.5	5.6	75.9	100.0
Readsboro Elementary School	21.5	4.6	73.8	100.0
Richford Elementary School	15.5	3.6	80.9	100.0
Richford Jr/Sr High School	3.4	8.4	88.2	100.0
Richmond Elementary School	25.0	1.4	73.6	100.0
Ripton Elementary School	23.3	4.7	72.1	100.0
Rivendell Academy	3.2	3.9	92.9	100.0
Riverside School	7.1	4.5	88.4	100.0
Robinson School	13.4	4.5	82.2	100.0
Rochester Elem/High School	9.5	4.6	85.9	100.0
Rockingham Central Elementary	25.3	7.5	67.1	100.0
Roxbury Village School	21.4	14.3	64.3	100.0
Rumney School (Middlesex)	16.9	1.6	81.5	100.0
Rutland Intermediate School	*	*	*	100.0
Rutland Middle School	6.1	3.9	90.0	100.0
Rutland Senior High School	6.3	5.8	87.9	100.0
Rutland Town Elem School	12.3	2.2	85.5	100.0
Salisbury Community School	19.8	10.4	69.8	100.0
Samuel Morey Elementary	24.2	.	75.8	100.0
Saxtons River Elem. School	29.3	5.3	65.3	100.0
Shaftsbury Elem. School	21.6	2.5	76.0	100.0
Sharon Elementary School	18.5	3.7	77.8	100.0
Shelburne Community School	17.2	1.5	81.3	100.0
Sheldon Elementary School	14.0	8.8	77.2	100.0
Sherburne Elementary School	17.8	0.0	82.2	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Shoreham Elementary School	25.5	5.9	68.6	100.0
Shrewsbury Mountain School	19.0	1.7	79.3	100.0
Smilie Memorial School (Bolton)	25.5	0.0.	74.5	100.0
So. Burlington Central School	22.4	5.4	72.2	100.0
So. Burlington High School	3.9	3.1	93.0	100.0
So. Royalton Elem/High School	7.6	3.1	89.3	100.0
Spaulding HSUD #41	6.3	2.9	90.8	100.0
Springfield High School	4.4	5.0	90.6	100.0
St Albans City School	15.8	3.8	80.4	100.0
St. Albans Town Educ. Center	15.3	5.4	79.4	100.0
St. Johnsbury Academy	17.3	5.5	77.2	100.0
St. Johnsbury Schools	17.1	7.4	75.5	100.0
Stamford Elementary School	14.1	3.1	82.8	100.0
Stockbridge Central School	28.1	1.8	70.2	100.0
Stowe Elementary School	23.9	1.1	75.0	100.0
Stowe Middle/High School	6.9	3.0	90.1	100.0
Sudbury Country School	13.8	3.4	82.8	100.0
Sunderland Elem. School	16.4	6.6	77.0	100.0
Sutton School	15.9	5.3	78.8	100.0
Swanton Schools	18.5	6.2	75.4	100.0
Thatcher Brook Prim. USD #45	21.3	3.7	75.0	100.0
Thetford Academy	8.2	5.4	86.5	100.0
Thetford Elementary School	20.3	2.9	76.8	100.0
Thomas Fleming School	*	*	*	100.0
Tinmouth Elementary School	15.8	0.0.	84.2	100.0
Townshend Village School	22.7	2.7	74.7	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Troy School	16.9	11.3	71.9	100.0
Tunbridge Central School	24.2	1.7	74.2	100.0
Twinfield USD #33	10.5	3.9	85.6	100.0
U-32 High School (UHSD #32)	2.9	4.7	92.4	100.0
Underhill Central School	26.9	1.7	71.4	100.0
Underhill ID School	30.6	5.4	64.0	100.0
Union Elementary School	23.0	3.8	73.2	100.0
Union School	22.1	6.9	71.0	100.0
Vergennes UESD #44	17.4	6.3	76.3	100.0
Vergennes UHSD #5	3.0	3.4	93.6	100.0
Vernon Elementary School	21.5	2.9	75.6	100.0
Waits River Valley USD #36	25.1	5.6	69.3	100.0
Waitsfield Elem. School	16.4	1.6	82.0	100.0
Walden School	11.4	14.3	74.3	100.0
Wallingford Village School	22.7	4.0	73.3	100.0
Wardsboro Central School	19.1	.	80.9	100.0
Warren Elementary School	15.2	0.8	84.1	100.0
Washington Village School	21.2	6.1	72.7	100.0
Waterford Elementary School	18.1	2.2	79.7	100.0
Waterville Elementary School	14.3	0.0	85.7	100.0
Weathersfield Middle School	*	*	*	100.0
Wells Village School	15.4	3.1	81.5	100.0
West Rutland School	12.4	6.2	81.5	100.0
Westford Elementary School	12.4	0.4	87.1	100.0
Westminster Schools	17.1	2.5	80.4	100.0
Westshire Elementary	30.3	3.4	66.3	100.0

School Rates (percent) 2003-2004 School Name	Student Status			Total
	New to VT PS/PA	Transfer in VT	Same School/ SU	
Weybridge Elementary School	16.2	2.7	81.1	100.0
Wheeler School	22.2	12.3	65.4	100.0
Whitcomb Jr/Sr High School	5.6	4.5	89.9	100.0
White River School	19.5	4.2	76.3	100.0
Whiting Village School	11.1	22.2	66.7	100.0
Whitingham School	13.5	2.9	83.7	100.0
Williamstown Elem. School	25.4	9.3	65.4	100.0
Williamstown Middle/High Sch	5.3	6.3	88.4	100.0
Williston Schools	15.4	2.9	81.7	100.0
Wilmington Middle High School	9.8	7.0	83.2	100.0
Windham Elementary School	22.2	0.0	77.8	100.0
Windsor High School	7.0	0.9	92.1	100.0
Windsor State Street School	23.7	5.0	71.4	100.0
Winooski High School	10.8	5.6	83.5	100.0
Winooski Middle School	5.9	68.1	26.1	100.0
Wolcott Elementary School	16.4	12.9	70.7	100.0
Woodbury Elementary School	26.5	6.1	67.3	100.0
Woodford Hollow School	19.0	4.8	76.2	100.0
Woodstock Elementary School	22.5	3.6	74.0	100.0
Woodstock Sr. UHSD #4	3.7	1.4	95.0	100.0
Woodstock Union Middle Sch	4.9	5.8	89.3	100.0
Statewide	12.2	4.2	83.6	100.0

* Missing due to computational error.

**Appendix I Vermont Public Schools In-mobility and Stability
According to Sociodemographic Characteristics Rates 2002-2003**

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Academy (Brattlebo.)	100.0	70.5	29.5	50.8	49.2	6.3	93.7	58.0	42.0	0.0
Addison Central	100.0	72.9	27.1	44.9	55.1	0.0	100.0	77.1	22.9	0.0
Albany Community	100.0	75.0	25.0	47.1	52.9	2.9	97.1	43.3	56.7	0.0
Albert Bridge (W Wind.)	100.0	72.7	27.3	50.0	50.0	1.5	98.5	97.0	3.0	0.0
Albert D. Lawton	100.0	90.0	10.0	46.5	53.5	6.9	93.1	86.1	13.9	0.0
Alburg Comm Ed Center	100.0	81.6	18.4	43.5	56.5	2.4	97.6	0.0	100.0	0.0
Arlington Memorial	100.0	87.4	12.6	49.0	51.0	2.8	97.2	83.4	16.6	0.0
Bakersfield	100.0	80.2	19.8	54.1	45.9	1.7	98.3	62.8	37.2	0.0
Barnard Central	100.0	84.9	15.1	49.1	50.9	0.0	100.0	3.8	1.9	94.3
Barnet Elementary	100.0	87.0	13.0	50.0	50.0	6.5	93.5	63.0	37.0	0.0
Barre City Elem/Middle	100.0	79.5	20.5	49.6	50.4	8.8	91.2	44.3	55.0	0.6
Barre Town Elementary	100.0	82.2	17.8	51.4	48.6	1.8	98.2	84.9	15.1	0.0
Barstow Memorial	100.0	80.5	19.5	51.4	48.6	0.8	99.2	88.0	12.0	0.0
Barton Graded	100.0	79.1	20.9	46.1	53.9	2.6	97.4	47.1	52.9	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Beeman Elementary	100.0	73.8	26.2	51.1	48.9	0.7	99.3	75.9	24.1	0.0
Bellows Falls Middle	100.0	90.6	9.4	50.7	49.3	3.8	96.2	56.6	43.4	0.0
Bellows Falls UHSD #27	100.0	86.9	13.1	50.1	49.9	4.1	95.9	74.3	25.7	0.0
Bellows Free Acad., Fairfax	100.0	86.3	13.7	49.7	50.3	3.9	96.1	82.7	17.3	0.0
BFA St Albans	100.0	84.9	15.1	46.5	53.5	4.6	95.4	83.1	16.9	0.0
Belvidere Central	100.0	72.4	27.6	48.3	51.7	0.0	100.0	58.6	41.4	0.0
Bennington Elem	100.0	78.7	21.3	50.4	49.6	3.0	97.0	50.9	49.1	0.0
Benson Village	100.0	77.4	22.6	39.5	60.5	0.8	99.2	69.4	30.6	0.0
Berkshire Elementary	100.0	76.8	23.2	50.0	50.0	3.0	97.0	61.3	38.7	0.0
Berlin Elementary	100.0	81.6	18.4	47.5	52.5	2.2	97.8	69.5	30.5	0.0
Bethel Elementary	100.0	74.0	26.0	49.6	50.4	3.3	96.7	59.3	40.7	0.0
Bingham Memorial	100.0	67.9	32.1	38.1	61.9	1.2	98.8	85.7	14.3	0.0
Black River USD #39	100.0	90.0	10.0	46.9	53.1	1.5	98.5	71.6	28.4	0.0
Blue Mountain USD #21	100.0	81.5	18.5	49.4	50.6	2.0	98.0	55.4	44.6	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Bradford Elementary	100.0	70.8	29.2	48.5	51.5	2.5	97.5	61.4	38.6	0.0
Braintree	100.0	74.2	25.8	48.5	51.5	0.0	100.0	52.6	47.4	0.0
Bratt. Area Mid UHSD #6	100.0	88.6	11.4	53.6	46.4	7.3	92.7	65.6	34.4	0.0
Brattleboro Sr. UHSD #6	100.0	91.2	8.8	45.7	54.3	4.5	95.5	87.3	12.7	0.0
Brewster Pierce	100.0	72.0	28.0	54.0	46.0	0.0	100.0	84.0	16.0	0.0
Bridgewater Village	100.0	78.5	21.5	40.0	60.0	3.1	96.9	64.6	35.4	0.0
Bridport Central	100.0	76.0	24.0	42.3	57.7	0.0	100.0	54.8	45.2	0.0
Brighton Elem	100.0	80.3	19.7	51.6	48.4	3.3	96.7	27.0	73.0	0.0
Bristol Elementary	100.0	82.9	17.1	48.0	52.0	2.7	97.3	58.9	41.1	0.0
Brookfield	100.0	76.9	23.1	45.4	54.6	3.7	96.3	75.0	25.0	0.0
Brookline Elementary	100.0	72.2	27.8	38.9	61.1	2.8	97.2	86.1	13.9	0.0
Brownington Central	100.0	82.2	17.8	45.2	54.8	8.2	91.8	17.8	82.2	0.0
Browns River Mid USD #17	100.0	95.9	4.1	48.8	51.2	2.4	97.6	94.4	5.6	0.0
Burke Town	100.0	72.7	27.3	48.4	51.6	6.2	93.8	52.8	47.2	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Burlington Senior High	100.0	86.9	13.1	47.0	53.0	15.5	84.5	60.2	39.8	0.0
Burr & Burton Academy	100.0	81.0	19.0	51.2	48.8	2.3	97.7	96.4	3.6	0.0
C. P. Smith	100.0	77.7	22.3	52.7	47.3	7.0	93.0	76.2	23.8	0.0
Cabot	100.0	85.4	14.6	46.8	53.2	2.0	98.0	58.5	41.5	0.0
Calais Elem	100.0	76.7	23.3	55.3	44.7	2.9	97.1	74.8	25.2	0.0
Cambridge Elem	100.0	74.9	25.1	47.1	52.9	2.7	97.3	78.0	22.0	0.0
Camels Hump Mid USD #17	100.0	95.2	4.8	50.7	49.3	1.5	98.5	84.6	15.4	0.0
Canaan Schools	100.0	83.1	16.9	46.5	53.5	1.2	98.8	81.1	18.9	0.0
Canal St/Oak Grove Schools	100.0	85.1	14.9	54.5	45.5	14.9	85.1	34.7	65.3	0.0
Castleton-Hubbardton USD#42	100.0	82.9	17.1	47.3	52.7	1.4	98.6	73.1	26.9	0.0
Catamount Elem	100.0	80.8	19.2	54.2	45.8	1.2	98.8	41.9	58.1	0.0
Cavendish Town Elem.	100.0	72.3	27.7	53.2	46.8	3.2	96.8	68.1	31.9	0.0
Chamberlin	100.0	69.4	30.6	46.0	54.0	14.1	85.9	81.0	19.0	0.0
Champlain	100.0	72.2	27.8	44.0	56.0	11.6	88.4	58.1	41.9	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Champlain Val UHSD #15	100.0	93.7	6.3	48.6	51.4	3.4	96.6	96.9	3.1	0.0
Charleston Elem. School	100.0	77.1	22.9	48.6	51.4	0.9	99.1	41.3	58.7	0.0
Charlotte Central	100.0	83.8	16.2	48.5	51.5	4.5	95.5	94.9	5.1	0.0
Chelsea Elem. High	100.0	82.7	17.3	48.4	51.6	1.3	98.7	66.7	33.3	0.0
Cherry Hill Elem. School	100.0	67.5	32.5	46.8	53.2	13.0	87.0	45.5	54.5	0.0
Chester-Andover USD #29	100.0	77.8	22.2	51.4	48.6	2.3	97.7	71.6	28.4	0.0
Clarendon Elem	100.0	78.8	21.2	47.7	52.3	4.7	95.3	72.0	28.0	0.0
Colchester High	100.0	91.4	8.6	50.5	49.5	1.7	98.3	92.6	7.4	0.0
Colchester Mid	100.0	92.0	8.0	50.9	49.1	3.8	96.2	87.5	12.5	0.0
Concord I	100.0	78.5	21.5	58.0	42.0	1.0	99.0	45.5	54.5	0.0
Coventry Village	100.0	76.9	23.1	49.1	50.9	2.8	97.2	43.5	56.5	0.0
Craftsbury Schools	100.0	83.3	16.7	53.4	46.6	1.7	98.3	62.1	37.9	0.0
Crossett Brook Mid USD #45	100.0	92.5	7.5	43.3	56.7	1.4	98.6	80.0	20.0	0.0
Currier Memorial USD #23	100.0	70.0	30.0	63.3	36.7	0.0	100.0	58.9	41.1	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Danville	100.0	85.3	14.7	49.0	51.0	1.0	99.0	70.1	29.9	0.0
Deerfield Valley Elem.	100.0	72.2	27.8	53.0	47.0	8.7	91.3	72.2	27.8	0.0
Derby Elem	100.0	77.8	22.2	44.3	55.7	1.5	98.5	57.4	42.6	0.0
Dorset	100.0	83.9	16.1	47.2	52.8	3.7	96.3	95.7	4.3	0.0
Dothan Brook	100.0	77.3	22.7	51.6	48.4	7.0	93.0	87.1	12.9	0.0
Doty Memorial	100.0	75.0	25.0	44.1	55.9	0.0	100.0	63.2	36.8	0.0
Dover Elem	100.0	70.3	29.7	40.5	59.5	0.0	100.0	71.6	28.4	0.0
Dummerston Schools	100.0	84.7	15.3	45.4	54.6	0.6	99.4	85.9	14.1	0.0
E. Taylor Hatton	100.0	80.5	19.5	51.2	48.8	0.0	100.0	48.8	51.2	0.0
East Haven	100.0	73.5	26.5	57.1	42.9	0.0	100.0	26.5	73.5	0.0
East Mont- pelier Elem.	100.0	79.6	20.4	46.9	53.1	3.1	96.9	81.6	18.4	0.0
Eden Central	100.0	79.2	20.8	40.6	59.4	2.0	98.0	52.5	47.5	0.0
Edmunds Elem	100.0	69.0	31.0	51.6	48.4	20.2	79.8	66.9	33.1	0.0
Edmunds Mid	100.0	85.4	14.6	47.9	52.1	17.0	83.0	43.6	56.4	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Elm Hill	100.0	78.3	21.7	47.2	52.8	1.9	98.1	59.4	40.6	0.0
Enosburg Falls Elem.	100.0	72.2	27.8	50.6	49.4	3.4	96.6	44.9	55.1	0.0
Enosburg Falls Jr/Sr High	100.0	84.7	15.3	50.1	49.9	2.9	97.1	69.6	30.4	0.0
Essex Comm. Ed. Ctr. UHSD #46	100.0	92.5	7.5	47.6	52.4	5.2	94.8	92.5	7.5	0.0
Essex Middle	100.0	92.4	7.6	46.8	53.2	5.9	94.1	89.3	10.7	0.0
Fair Haven Grade	100.0	81.3	18.8	48.9	51.1	3.4	96.6	56.8	43.2	0.0
Fair Haven UHSD #16	100.0	92.2	7.8	48.2	51.8	1.7	98.3	79.6	20.4	0.0
Fairfield Center	100.0	81.0	19.0	51.9	48.1	2.2	97.8	67.5	32.5	0.0
Fayston Elem	100.0	78.0	22.0	51.2	48.8	8.5	91.5	87.8	12.2	0.0
Ferrisburgh Central	100.0	81.3	18.7	52.3	47.7	2.6	97.4	0.0	0.0	100.0
Fisher	100.0	80.7	19.3	44.6	55.4	1.2	98.8	77.1	22.9	0.0
Fletcher Elem	100.0	81.4	18.6	51.5	48.5	2.1	97.9	82.5	17.5	0.0
Flood Brook USD #20	100.0	79.9	20.1	48.9	51.1	0.8	99.2	83.3	16.7	0.0
Folsom Ed. & Community Ctr	100.0	83.5	16.5	50.5	49.5	0.0	100.0	86.3	13.7	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Founders Memorial	100.0	91.1	8.9	46.8	53.2	7.4	92.6	87.6	12.4	0.0
Franklin Central	100.0	71.7	28.3	47.2	52.8	7.1	92.9	67.7	32.3	0.0
Frederick H. Tuttle Middle	100.0	89.6	10.4	49.3	50.7	9.3	90.7	85.5	14.4	0.2
Georgia Elem/Middle S	100.0	83.4	16.6	44.8	55.2	0.5	99.5	85.4	14.6	0.0
Glover Comm	100.0	83.3	16.7	43.3	56.7	3.3	96.7	47.8	52.2	0.0
Grafton Elem	100.0	74.5	25.5	51.0	49.0	5.9	94.1	0.0	31.4	68.6
Granby Central	100.0	71.4	28.6	71.4	28.6	0.0	100.0	0.0	0.0	100.0
Grand Isle Elem.	100.0	83.9	16.1	42.2	57.8	2.2	97.8	73.9	26.1	0.0
Granville Village	100.0	71.4	28.6	50.0	50.0	7.1	92.9	64.3	35.7	0.0
Green Mountain THSD #35	100.0	89.6	10.4	46.5	53.5	2.1	97.9	67.1	32.9	0.0
Green Street	100.0	73.6	26.4	44.3	55.7	4.7	95.3	60.8	39.2	0.0
Guildhall Elem	100.0	76.5	23.5	47.1	52.9	5.9	94.1	64.7	35.3	0.0
Guilford Central	100.0	83.7	16.3	49.5	50.5	4.1	95.9	81.1	18.9	0.0
Halifax School	100.0	74.1	25.9	40.7	59.3	0.0	100.0	66.7	33.3	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Hancock Village	100.0	66.7	33.3	47.6	52.4	0.0	100.0	61.9	38.1	0.0
Hardwick Elem	100.0	81.9	18.1	48.3	51.7	1.8	98.2	54.6	45.4	0.0
Hartford High	100.0	93.5	6.5	49.8	50.2	2.1	97.9	93.7	6.3	0.0
Hartford Mem. Middle	100.0	93.9	6.1	45.5	54.5	2.4	97.6	82.9	17.1	0.0
Hartland Elem	100.0	84.0	16.0	40.5	59.5	1.7	98.3	78.9	21.1	0.0
Harwood UHSD #19	100.0	91.6	8.4	45.7	54.3	2.3	97.7	88.7	11.3	0.0
Harwood Union Mid UHSD #19	100.0	92.6	7.4	46.0	54.0	1.1	98.9	84.1	15.9	0.0
Hazen UHSD #26	100.0	94.3	5.7	50.1	49.9	2.9	97.1	64.2	35.8	0.0
Highgate Schools	100.0	74.3	25.7	49.7	50.3	14.2	85.8	58.9	41.1	0.0
Hinesburg Community	100.0	86.1	13.9	45.4	54.6	2.0	98.0	86.9	13.1	0.0
Holland Elem	100.0	90.2	9.8	45.9	54.1	4.9	95.1	24.6	75.4	0.0
Hyde Park Elem	100.0	64.8	35.2	48.0	52.0	3.1	96.9	55.1	44.9	0.0
Irasburg Village	100.0	76.0	24.0	49.3	50.7	2.1	97.9	45.2	54.8	0.0
Isle La Motte Elem.	100.0	78.6	21.4	57.1	42.9	0.0	100.0	71.4	28.6	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
JF Kennedy Elm	100.0	64.3	35.7	47.6	52.4	14.9	85.1	40.2	59.8	0.0
J. J. Flynn	100.0	73.0	27.0	54.0	46.0	13.7	86.3	56.8	43.2	0.0
Jamaica Village	100.0	76.3	23.7	39.5	60.5	0.0	100.0	64.5	35.5	0.0
Jay/Westfield Joint Elem	100.0	80.4	19.6	37.3	62.7	0.0	100.0	45.1	54.9	0.0
Jericho Elem	100.0	71.4	28.6	44.0	56.0	3.0	97.0	90.2	9.8	0.0
Johnson Elem	100.0	77.1	22.9	46.3	53.7	1.0	99.0	56.7	43.3	0.0
Lake Region UHSD #24	100.0	89.4	10.6	47.0	53.0	1.3	98.7	61.6	38.4	0.0
Lakeview USD #43	100.0	75.8	24.2	46.8	53.2	3.2	96.8	41.9	58.1	0.0
Lamoille UHSD #18	100.0	90.4	9.6	49.5	50.5	1.8	98.2	73.7	26.3	0.0
Lawrence Barnes	100.0	64.3	35.7	49.6	50.4	31.0	69.0	2.3	97.7	0.0
Leicester Central	100.0	81.0	19.0	40.5	59.5	0.0	100.0	68.4	31.6	0.0
Leland & Gray UHSD #34	100.0	92.6	7.4	47.2	52.8	2.8	97.2	99.8	0.2	0.0
Lincoln Community	100.0	77.4	22.6	50.5	49.5	1.1	98.9	77.4	22.6	0.0
Lothrop	100.0	77.5	22.5	47.5	52.5	0.5	99.5	75.5	24.5	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Lowell Village	100.0	82.6	17.4	48.8	51.2	1.2	98.8	41.9	58.1	0.0
Ludlow Elem	100.0	77.8	22.2	49.3	50.7	1.4	98.6	59.7	40.3	0.0
Lunenburg Schools	100.0	84.7	15.3	54.7	45.3	0.7	99.3	56.9	43.1	0.0
Lyman C. Hunt Middle	100.0	91.7	8.3	46.6	53.4	12.1	87.9	60.4	39.6	0.0
Lyndon Institute	100.0	91.4	8.6	49.4	50.6	2.4	97.6	60.1	39.9	0.0
Lyndon Town	100.0	80.8	19.2	44.8	55.2	2.9	97.1	51.4	48.6	0.0
Main Street	100.0	86.7	13.3	49.5	50.5	3.7	96.3	81.4	18.6	0.0
Malletts Bay	100.0	91.5	8.5	47.9	52.1	5.9	94.1	80.9	19.1	0.0
Manchester Elem/Mid	100.0	81.5	18.5	53.3	46.7	2.7	97.3	80.1	19.9	0.0
Marlboro Elem	100.0	84.7	15.3	44.4	55.6	4.2	95.8	97.2	2.8	0.0
Mettawee Comm USD #17	100.0	79.3	20.7	43.4	56.6	0.0	100.0	72.4	27.6	0.0
Middlebury ID #4	100.0	82.9	17.1	48.8	51.2	3.1	96.9	73.4	26.6	0.0
Middlebury Sr. UHSD #3	100.0	93.6	6.4	47.8	52.2	2.4	97.6	86.8	13.2	0.0
Middlebury Union Mid#3	100.0	89.6	10.4	50.9	49.1	3.0	97.0	81.0	19.0	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Middletown Springs Elem	100.0	75.0	25.0	43.8	56.3	2.1	97.9	60.4	39.6	0.0
Mill River USD #40	100.0	91.6	8.4	50.0	50.0	2.3	97.7	82.7	17.3	0.0
Millers Run USD #37	100.0	83.3	16.7	59.1	40.9	5.3	94.7	42.4	57.6	0.0
Milton Elem	100.0	76.6	23.4	47.8	52.2	2.1	97.9	77.5	22.5	0.0
Milton Jr High	100.0	95.8	4.2	47.4	52.6	2.1	97.9	81.0	19.0	0.0
Milton Sr High	100.0	93.2	6.8	48.9	51.1	1.6	98.4	90.3	9.7	0.0
Missisquoi Valley UHSD #7	100.0	92.5	7.5	47.4	52.6	19.3	80.7	77.1	22.9	0.0
Molly Stark	100.0	72.8	27.2	50.7	49.3	3.1	96.9	44.1	55.9	0.0
Monkton Central	100.0	75.3	24.7	49.4	50.6	0.6	99.4	80.4	19.6	0.0
Montgomery Center	100.0	75.7	24.3	49.5	50.5	1.9	98.1	67.3	32.7	0.0
Montpelier High	100.0	89.8	10.2	53.3	46.7	4.1	95.9	85.9	14.1	0.0
Monument	100.0	81.8	18.2	45.5	54.5	4.5	95.5	80.0	20.0	0.0
Moretown Elem	100.0	81.7	18.3	45.8	54.2	5.0	95.0	75.8	24.2	0.0
Morristown Elem. Schools	100.0	77.0	23.0	44.4	55.6	2.8	97.2	62.1	37.9	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Mount Abraham UHSD #28	100.0	95.3	4.7	51.5	48.5	1.1	98.9	83.9	16.1	0.0
Mt. Anthony Sr. UHSD #14	100.0	93.2	6.8	49.0	51.0	2.2	97.8	84.8	15.2	0.0
Mt. Anthony Union Middle	100.0	93.5	6.5	48.2	51.8	2.3	97.7	69.4	30.6	0.0
Mt. Holly	100.0	84.3	15.7	47.1	52.9	0.0	100.0	65.7	34.3	0.0
Mt. Mansfield USD #17	100.0	95.8	4.2	45.2	54.8	2.3	97.7	93.6	6.4	0.0
Neshobe	100.0	78.5	21.5	49.5	50.5	0.0	100.0	57.4	42.6	0.0
Newark	100.0	76.2	23.8	50.0	50.0	0.0	100.0	57.1	42.9	0.0
Newbury Elem	100.0	80.6	19.4	52.7	47.3	0.0	100.0	59.7	40.3	0.0
Newfane Elem	100.0	72.3	27.7	57.4	42.6	3.0	97.0	95.0	5.0	0.0
Newport City Elem Schools	100.0	70.4	29.6	57.5	42.5	5.8	94.2	36.7	63.3	0.0
Newport Town	100.0	80.6	19.4	49.2	50.8	0.8	99.2	41.9	58.1	0.0
Newton Elem	100.0	85.6	14.4	52.8	47.2	3.2	96.8	75.2	24.8	0.0
No. Bennington Graded	100.0	73.9	26.1	45.5	54.5	2.2	97.8	73.9	26.1	0.0
North Country Jr UHSD #22	100.0	90.1	9.9	47.3	52.7	5.1	94.9	45.5	54.5	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
North Country Sr UHSD #22	100.0	92.2	7.8	45.9	54.1	3.5	96.5	68.0	32.0	0.0
North Hero Elem.	100.0	74.6	25.4	49.2	50.8	0.0	100.0	72.9	27.1	0.0
Northfield Elem	100.0	69.4	30.6	46.8	53.2	3.8	96.2	69.8	30.2	0.0
Northfield Middle/High	100.0	94.0	6.0	45.5	54.5	2.9	97.1	79.4	20.6	0.0
Norton Village	100.0	75.0	25.0	62.5	37.5	12.5	87.5	62.5	37.5	0.0
Ontop	100.0	37.5	62.5	29.2	70.8	0.0	100.0	12.5	87.5	0.0
Orange Center	100.0	77.7	22.3	44.7	55.3	3.2	96.8	72.3	27.7	0.0
Orchard	100.0	72.1	27.9	49.3	50.7	8.2	91.8	90.7	9.3	0.0
Orleans Elem	100.0	81.8	18.2	48.8	51.2	6.6	93.4	49.6	50.4	0.0
Orwell Village	100.0	86.3	13.7	47.7	52.3	0.0	100.0	71.2	28.8	0.0
Ottauquechee	100.0	73.8	26.2	55.3	44.7	3.4	96.6	85.4	14.6	0.0
Otter Valley UHSD #8	100.0	94.1	5.9	50.9	49.1	1.2	98.8	81.2	18.8	0.0
Oxbow UHSD #30	100.0	90.2	9.8	46.5	53.5	0.8	99.2	79.7	20.3	0.0
Park Street	100.0	61.0	39.0	54.6	45.4	5.6	94.4	53.0	47.0	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Peacham Elem	100.0	87.8	12.2	39.0	61.0	4.9	95.1	80.5	19.5	0.0
Peoples Academy	100.0	89.7	10.3	45.2	54.8	2.6	97.4	63.6	36.4	0.0
Peoples Academy Middle	100.0	91.3	8.7	47.7	52.3	3.5	96.5	74.2	25.8	0.0
Plymouth Elem	100.0	80.0	20.0	45.0	55.0	0.0	100.0	90.0	10.0	0.0
Pomfret	100.0	85.4	14.6	56.1	43.9	4.9	95.1	0.0	1.2	98.8
Poultney Elem	100.0	83.6	16.4	49.1	50.9	2.3	97.7	65.0	35.0	0.0
Poultney High	100.0	89.7	10.3	48.7	51.3	1.8	98.2	63.0	37.0	0.0
Pownal Elem	100.0	73.6	26.4	45.3	54.7	2.4	97.6	59.4	40.6	0.0
Proctor Elem	100.0	81.3	18.7	46.5	53.5	3.9	96.1	67.1	32.9	0.0
Proctor Jr/Sr High	100.0	91.5	8.5	49.2	50.8	3.7	96.3	68.8	31.2	0.0
Putney Central	100.0	78.5	21.5	56.5	43.5	2.2	97.8	61.4	38.6	0.0
Randolph Elem	100.0	71.9	28.1	51.2	48.8	1.7	98.3	68.1	31.9	0.0
Randolph UHSD #2	100.0	93.8	6.2	50.0	50.0	2.2	97.8	77.1	22.9	0.0
Reading Elem	100.0	66.1	33.9	52.5	47.5	0.0	100.0	64.4	35.6	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Readsboro Elem	100.0	90.2	9.8	42.6	57.4	4.9	95.1	52.5	47.5	0.0
Richford Elem	100.0	70.8	29.2	50.6	49.4	1.3	98.7	41.2	58.8	0.0
Richford Jr/Sr High	100.0	92.4	7.6	47.7	52.3	0.8	99.2	58.3	41.7	0.0
Richmond Elem	100.0	75.0	25.0	44.3	55.7	2.0	98.0	86.1	13.9	0.0
Ripton Elem	100.0	77.3	22.7	45.5	54.5	2.3	97.7	68.2	31.8	0.0
Rivendell Academy	100.0	91.4	8.6	53.1	46.9	2.5	97.5	67.6	32.4	0.0
Riverside	100.0	91.2	8.8	51.4	48.6	3.6	96.4	56.5	43.5	0.0
Robinson	100.0	78.6	21.4	49.7	50.3	0.6	99.4	59.5	40.5	0.0
Rochester Elem/High	100.0	87.9	12.1	50.6	49.4	2.0	98.0	64.0	36.0	0.0
Rockingham Central Elem	100.0	55.3	44.7	49.3	50.7	3.3	96.7	58.0	42.0	0.0
Roxbury Village	100.0	76.2	23.8	40.5	59.5	0.0	100.0	66.7	33.3	0.0
Rumney (Middlesex)	100.0	80.4	19.6	61.6	38.4	0.7	99.3	81.2	18.8	0.0
Rutland Intermediate	100.0	88.9	11.1	52.3	47.7	2.9	97.1	51.9	48.1	0.0
Rutland Middle	100.0	89.5	10.5	49.8	50.2	4.4	95.6	55.4	44.6	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Rutland Senior High	100.0	87.8	12.2	50.2	49.8	3.9	96.1	82.0	18.0	0.0
Rutland Town Elem	100.0	83.9	16.1	49.0	51.0	0.6	99.4	85.0	15.0	0.0
Salisbury Community	100.0	74.7	25.3	53.2	46.8	2.5	97.5	92.4	7.6	0.0
Samuel Morey Elem	100.0	72.2	27.8	49.2	50.8	0.8	99.2	78.6	21.4	0.0
Saxtons River Elem.	100.0	74.1	25.9	44.4	55.6	3.7	96.3	59.3	40.7	0.0
Shaftsbury Elem.	100.0	73.5	26.5	45.5	54.5	2.5	97.5	77.0	23.0	0.0
Sharon Elem	100.0	74.3	25.7	51.4	48.6	9.2	90.8	71.6	28.4	0.0
Shelburne Community	100.0	83.0	17.0	51.3	48.7	3.4	96.6	94.3	5.7	0.0
Sheldon Elem	100.0	80.7	19.3	47.4	52.6	5.2	94.8	58.9	41.1	0.0
Sherburne Elem	100.0	81.1	18.9	55.4	44.6	2.7	97.3	81.1	18.9	0.0
Shoreham Elem	100.0	76.0	24.0	50.0	50.0	1.0	99.0	0.0	11.5	88.5
Shrewsbury Mountain	100.0	76.1	23.9	38.0	62.0	1.4	98.6	81.7	18.3	0.0
Smilie Memorial (Bolton)	100.0	65.7	34.3	40.3	59.7	3.0	97.0	73.1	26.9	0.0
So. Burlington Central	100.0	70.9	29.1	52.7	47.3	11.4	88.6	88.3	11.7	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
So. Burlington High	100.0	91.7	8.3	48.9	51.1	7.3	92.7	91.2	8.8	0.0
So. Royalton Elem/High	100.0	85.7	14.3	49.5	50.5	4.5	95.5	65.7	34.3	0.0
Spaulding HSUD #41	100.0	92.7	7.3	50.2	49.8	3.8	96.2	82.3	17.7	0.0
Springfield High	100.0	94.2	5.8	47.7	52.3	3.4	96.6	70.0	30.0	0.0
St Albans City	100.0	79.9	20.1	45.0	55.0	7.0	93.0	61.6	38.4	0.0
St. Albans Town Educ. Center	100.0	79.1	20.9	50.8	49.2	2.6	97.4	72.3	27.7	0.0
St. Johnsbury Academy	100.0	78.6	21.4	48.0	52.0	14.2	85.8	86.1	13.9	0.0
St. Johnsbury Schools	100.0	75.2	24.8	50.9	49.1	5.9	94.1	45.6	54.4	0.0
Stamford Elem	100.0	81.1	18.9	43.2	56.8	2.7	97.3	87.8	12.2	0.0
Stockbridge Central	100.0	78.0	22.0	49.2	50.8	0.0	100.0	54.2	45.8	0.0
Stowe Elem	100.0	71.7	28.3	51.1	48.9	1.8	98.2	87.7	12.3	0.0
Stowe Middle/High	100.0	86.4	13.6	44.9	55.1	1.7	98.3	92.3	7.7	0.0
Sudbury Country	100.0	84.4	15.6	50.0	50.0	0.0	100.0	78.1	21.9	0.0
Sunderland Elem.	100.0	75.0	25.0	48.4	51.6	1.6	98.4	65.6	34.4	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Sutton	100.0	74.8	25.2	48.7	51.3	0.0	100.0	32.2	67.8	0.0
Swanton Schools	100.0	79.1	20.9	50.4	49.6	18.2	81.8	61.4	38.6	0.0
Thatcher Brook Prim. USD #45	100.0	71.9	28.1	44.4	55.6	2.2	97.8	82.2	17.8	0.0
Thetford Academy	100.0	85.5	14.5	47.0	53.0	1.8	98.2	93.4	6.6	0.0
Thetford Elem	100.0	75.8	24.2	52.4	47.6	3.1	96.9	86.8	13.2	0.0
Thomas Fleming	100.0	94.0	6.0	47.4	52.6	5.7	94.3	82.6	17.4	0.0
Tinmouth Elem	100.0	77.1	22.9	33.3	66.7	0.0	100.0	79.2	20.8	0.0
Townshend Village	100.0	66.3	33.7	50.6	49.4	1.2	98.8	67.5	32.5	0.0
Troy	100.0	77.7	22.3	53.4	46.6	2.7	97.3	36.5	63.5	0.0
Tunbridge Central	100.0	83.6	16.4	45.9	54.1	0.0	100.0	63.9	36.1	0.0
Twinfield USD #33	100.0	85.0	15.0	50.8	49.2	6.0	94.0	74.9	25.1	0.0
U-32 High (UHSD #32)	100.0	90.9	9.1	53.6	46.4	2.4	97.6	84.6	15.4	0.0
Underhill Center	100.0	69.1	30.9	49.6	50.4	1.6	98.4	94.3	5.7	0.0
Underhill ID	100.0	67.9	32.1	50.9	49.1	1.9	98.1	98.1	1.9	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Union Elementary	100.0	71.6	28.4	51.7	48.3	8.2	91.8	77.3	22.7	0.0
Union School	100.0	70.8	29.2	56.3	43.8	1.4	98.6	44.4	55.6	0.0
Vergennes UESD #44	100.0	74.7	25.3	46.6	53.4	2.1	97.9	62.7	37.3	0.0
Vergennes UHSD #5	100.0	93.1	6.9	50.7	49.3	3.1	96.9	73.9	21.0	5.2
Vernon Elementary	100.0	75.4	24.6	48.2	51.8	0.5	99.5	83.9	16.1	0.0
Waits River Valley USD #36	100.0	91.2	8.8	53.1	46.9	0.0	100.0	53.1	46.9	0.0
Waitsfield Elem.	100.0	73.4	26.6	57.8	42.2	1.6	98.4	77.3	22.7	0.0
Walden	100.0	78.4	21.6	50.0	50.0	2.0	98.0	62.7	37.3	0.0
Wallingford Village	100.0	68.6	31.4	48.6	51.4	1.4	98.6	70.0	30.0	0.0
Wardsboro Central	100.0	71.7	28.3	51.7	48.3	0.0	100.0	0.0	21.7	78.3
Warren Elem	100.0	72.3	27.7	56.0	44.0	2.8	97.2	70.9	29.1	0.0
Washington Village	100.0	76.9	23.1	40.0	60.0	0.0	100.0	73.8	26.2	0.0
Waterford Elem	100.0	79.9	20.1	41.8	58.2	1.5	98.5	82.1	17.9	0.0
Waterville Elem	100.0	77.6	22.4	38.8	61.2	3.0	97.0	70.1	29.9	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Weathersfield Middle	100.0	94.0	6.0	44.9	55.1	1.2	98.8	72.5	27.5	0.0
Wells Village	100.0	76.9	23.1	51.3	48.7	2.6	97.4	76.9	23.1	0.0
West Rutland	100.0	86.6	13.4	47.3	52.7	4.8	95.2	69.2	30.8	0.0
Westford Elem	100.0	82.0	18.0	50.6	49.4	3.3	96.7	89.4	10.6	0.0
Westminster Schools	100.0	76.2	23.8	48.6	51.4	3.3	96.7	64.3	35.7	0.0
Westshire Elem	100.0	65.8	34.2	45.6	54.4	1.3	98.7	64.6	35.4	0.0
Weybridge Elem	100.0	67.1	32.9	52.6	47.4	0.0	100.0	86.8	13.2	0.0
Wheeler	100.0	61.8	38.2	45.5	54.5	26.1	73.9	0.0	100.0	0.0
Whitcomb Jr/Sr High	100.0	92.1	7.9	48.8	51.2	3.7	96.3	79.1	20.9	0.0
White River	100.0	73.8	26.2	52.4	47.6	0.7	99.3	59.3	40.7	0.0
Whiting Village	100.0	81.0	19.0	66.7	33.3	9.5	90.5	4.8	28.6	66.7
Whitingham	100.0	86.7	13.3	55.0	45.0	0.0	100.0	63.3	36.7	0.0
Williamstown Elem.	100.0	73.0	27.0	45.4	54.6	0.5	99.5	67.0	33.0	0.0
Williamstown Middle/High	100.0	91.7	8.3	42.8	57.2	0.0	100.0	77.0	23.0	0.0

School Rates 2002-2003 School Name	All	Mobile		Gender		Ethnicity		FRLM		
		No	Yes	Fe- male	Male	Non- white	White	No	Yes	Unk.
Williston Schools	100.0	81.3	18.7	48.6	51.4	4.1	95.9	89.7	10.3	0.0
Wilmington Middle High	100.0	88.2	11.8	51.3	48.7	1.7	98.3	74.8	25.2	0.0
Windham Elementary	100.0	75.0	25.0	50.0	50.0	8.3	91.7	0.0	25.0	75.0
Windsor High	100.0	89.2	10.8	47.6	52.4	3.5	96.5	79.0	21.0	0.0
Windsor State Street	100.0	77.7	22.3	51.6	48.4	3.9	96.1	63.3	36.7	0.0
Winooski High	100.0	71.4	28.6	46.9	53.1	11.8	88.2	51.7	48.3	0.0
Wolcott Elem	100.0	71.6	28.4	44.8	55.2	0.0	100.0	64.7	35.3	0.0
Woodbury Elem	100.0	85.0	15.0	37.5	62.5	7.5	92.5	77.5	22.5	0.0
Woodford Hollow	100.0	89.5	10.5	52.6	47.4	0.0	100.0	36.8	63.2	0.0
Woodstock Elem	100.0	72.8	27.2	49.7	50.3	4.7	95.3	81.7	18.3	0.0
Woodstock Sr. UHSD #4	100.0	92.6	7.4	49.1	50.9	2.3	97.7	93.9	6.1	0.0
Woodstock Union Middle	100.0	90.1	9.9	43.9	56.1	2.2	97.8	91.0	9.0	0.0

**Appendix J Vermont Public Schools In-mobility and Stability
According to Educational Classifications Rates 2002-2003**

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Academy (Brattlebo.)	100.0	70.5	29.5	98.1	1.9	0.0	100.0	93.1	6.9
Addison Central	100.0	72.9	27.1	44.9	55.1	0.0	100.0	100.0	0.0
Albany Community	100.0	75.0	25.0	99.0	1.0	0.0	100.0	100.0	0.0
Albert Bridge Sch (W Wind.)	100.0	72.7	27.3	80.3	19.7	100.0	0.0	100.0	0.0
Albert D. Lawton	100.0	90.0	10.0	81.2	18.8	96.4	3.6	99.4	0.6
Alburg Community Ed Center	100.0	81.6	18.4	99.5	0.5	67.1	32.9	100.0	0.0
Arlington Memorial	100.0	87.4	12.6	89.1	10.9	100.0	0.0	100.0	0.0
Bakersfield	100.0	80.2	19.8	89.5	10.5	0.0	100.0	100.0	0.0
Barnard Central	100.0	84.9	15.1	98.1	1.9	100.0	0.0	100.0	0.0
Barnet Elementary	100.0	87.0	13.0	83.1	16.9	0.0	100.0	100.0	0.0
Barre City Elem/Middle	100.0	79.5	20.5	66.9	33.1	0.0	100.0	92.0	8.0
Barre Town Elementary	100.0	82.2	17.8	92.6	7.4	99.9	0.1	98.6	1.4
Barstow Memorial	100.0	80.5	19.5	66.5	33.5	100.0	0.0	99.6	0.4
Barton Graded	100.0	79.1	20.9	92.7	7.3	0.0	100.0	100.0	0.0
Beeman Elementary	100.0	73.8	26.2	93.6	6.4	81.6	18.4	100.0	0.0
Bellows Falls Middle	100.0	90.6	9.4	85.7	14.3	82.2	17.8	98.6	1.4
Bellows Falls UHSD #27	100.0	86.9	13.1	89.7	10.3	83.2	16.8	99.8	0.2

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Bellows Free Acad., Fairfax	100.0	86.3	13.7	94.2	5.8	87.6	12.4	100.0	0.0
Bellows Free Acad., St. Albans	100.0	84.9	15.1	95.6	4.4	100.0	0.0	99.9	0.1
Belvidere Central	100.0	72.4	27.6	93.1	6.9	0.0	100.0	100.0	0.0
Bennington Elem.	100.0	78.7	21.3	93.9	6.1	0.0	100.0	100.0	0.0
Benson Village	100.0	77.4	22.6	91.9	8.1	0.0	100.0	100.0	0.0
Berkshire Elementary	100.0	76.8	23.2	91.7	8.3	0.0	100.0	97.6	2.4
Berlin Elementary	100.0	81.6	18.4	94.2	5.8	88.3	11.7	100.0	0.0
Bethel Elementary	100.0	74.0	26.0	82.9	17.1	69.9	30.1	98.4	1.6
Bingham Memorial	100.0	67.9	32.1	84.5	15.5	100.0	0.0	100.0	0.0
Black River USD #39	100.0	90.0	10.0	92.3	7.7	95.6	4.4	99.6	0.4
Blue Mountain USD #21	100.0	81.5	18.5	87.3	12.7	77.7	22.3	99.7	0.3
Bradford Elementary	100.0	70.8	29.2	72.3	27.7	92.6	7.4	99.0	1.0
Braintree	100.0	74.2	25.8	67.0	33.0	72.2	27.8	100.0	0.0
Bratt. Area Middle Sch UHSD #6	100.0	88.6	11.4	95.3	4.7	0.0	100.0	97.8	2.2
Brattleboro Sr. UHSD #6	100.0	91.2	8.8	94.0	6.0	95.7	4.3	98.1	1.9
Brewster Pierce	100.0	72.0	28.0	82.0	18.0	96.0	4.0	100.0	0.0
Bridgewater Village	100.0	78.5	21.5	60.0	40.0	92.3	7.7	100.0	0.0
Bridport Central	100.0	76.0	24.0	90.4	9.6	0.0	100.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Brighton Elementary	100.0	80.3	19.7	91.8	8.2	0.0	100.0	100.0	0.0
Bristol Elementary	100.0	82.9	17.1	73.6	26.4	74.8	25.2	99.4	0.6
Brookfield	100.0	76.9	23.1	67.6	32.4	73.1	26.9	100.0	0.0
Brookline Elementary	100.0	72.2	27.8	97.2	2.8	100.0	0.0	100.0	0.0
Brownington Central	100.0	82.2	17.8	95.9	4.1	0.0	100.0	98.6	1.4
Browns River Middle USD #17	100.0	95.9	4.1	85.4	14.6	100.0	0.0	100.0	0.0
Burke Town	100.0	72.7	27.3	79.5	20.5	89.4	10.6	100.0	0.0
Burlington Senior High Sch	100.0	86.9	13.1	95.4	4.6	93.4	6.6	93.8	6.2
Burr & Burton Academy	100.0	81.0	19.0	89.6	10.4	100.0	0.0	99.8	0.2
C. P. Smith	100.0	77.7	22.3	96.9	3.1	100.0	0.0	96.1	3.9
Cabot	100.0	85.4	14.6	85.9	14.1	96.6	3.4	100.0	0.0
Calais Elementary	100.0	76.7	23.3	95.1	4.9	76.7	23.3	100.0	0.0
Cambridge Elementary	100.0	74.9	25.1	73.0	27.0	100.0	0.0	100.0	0.0
Camels Hump Middle USD #17	100.0	95.2	4.8	93.4	6.6	88.4	11.6	100.0	0.0
Canaan s	100.0	83.1	16.9	90.1	9.9	55.1	44.9	99.6	0.4
Canal St/Oak Grove	100.0	85.1	14.9	94.2	5.8	0.0	100.0	100.0	0.0
Castleton- Hubbardton USD#42	100.0	82.9	17.1	88.4	11.6	0.0	100.0	100.0	0.0
Catamount Elementary	100.0	80.8	19.2	97.3	2.7	0.0	100.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Cavendish Town Elem.	100.0	72.3	27.7	85.1	14.9	89.4	10.6	100.0	0.0
Chamberlin	100.0	69.4	30.6	78.6	21.4	76.6	23.4	89.9	10.1
Champlain	100.0	72.2	27.8	99.2	0.8	84.2	15.8	91.3	8.7
Champlain Valley UHSD #15	100.0	93.7	6.3	90.8	9.2	100.0	0.0	99.9	0.1
Charleston Elem.	100.0	77.1	22.9	69.7	30.3	40.4	59.6	100.0	0.0
Charlotte Central	100.0	83.8	16.2	92.6	7.4	93.6	6.4	99.8	0.2
Chelsea Elem. High	100.0	82.7	17.3	74.7	25.3	0.0	100.0	100.0	0.0
Cherry Hill Elem.	100.0	67.5	32.5	92.2	7.8	0.0	100.0	94.8	5.2
Chester-Andover USD #29	100.0	77.8	22.2	83.7	16.3	72.8	27.2	98.4	1.6
Clarendon Elementary	100.0	78.8	21.2	75.1	24.9	81.9	18.1	100.0	0.0
Colchester High	100.0	91.4	8.6	84.7	15.3	100.0	0.0	98.7	1.3
Colchester Middle	100.0	92.0	8.0	97.7	2.3	99.8	0.2	99.2	0.8
Concord	100.0	78.5	21.5	96.5	3.5	94.5	5.5	95.5	4.5
Coventry Village	100.0	77.6	22.4	97.2	2.8	0.0	100.0	100.0	0.0
Craftsbury	100.0	83.3	16.7	83.3	16.7	0.0	100.0	100.0	0.0
Crossett Brook Middle USD #45	100.0	92.5	7.5	91.4	8.6	81.9	18.1	100.0	0.0
Currier Memorial USD #23	100.0	70.0	30.0	97.8	2.2	0.0	100.0	96.7	3.3
Danville	100.0	85.3	14.7	78.9	21.1	0.0	100.0	99.0	1.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Deerfield Valley Elem. Sch	100.0	72.2	27.8	95.7	4.3	79.1	20.9	100.0	0.0
Derby Elementary	100.0	77.8	22.2	97.1	2.9	92.1	7.9	99.4	0.6
Dorset	100.0	83.9	16.1	91.9	8.1	100.0	0.0	99.4	0.6
Dothan Brook	100.0	77.3	22.7	92.2	7.8	87.9	12.1	98.8	1.2
Doty Memorial	100.0	75.0	25.0	94.1	5.9	69.1	30.9	100.0	0.0
Dover Elementary	100.0	70.3	29.7	87.8	12.2	70.3	29.7	98.6	1.4
Dummerston	100.0	84.7	15.3	74.2	25.8	100.0	0.0	100.0	0.0
E. Taylor Hatton	100.0	80.5	19.5	75.6	24.4	70.7	29.3	100.0	0.0
East Haven	100.0	73.5	26.5	93.9	6.1	98.0	2.0	100.0	0.0
East Montpelier Elem. Sch	100.0	79.6	20.4	98.5	1.5	100.0	0.0	100.0	0.0
Eden Central	100.0	79.2	20.8	88.1	11.9	0.0	100.0	100.0	0.0
Edmunds Elementary	100.0	69.0	31.0	91.1	8.9	85.5	14.5	91.5	8.5
Edmunds Middle	100.0	85.4	14.6	96.0	4.0	89.9	10.1	91.2	8.8
Elm Hill	100.0	78.3	21.7	75.5	24.5	89.6	10.4	100.0	0.0
Enosburg Falls Elem.	100.0	72.2	27.8	87.5	12.5	0.0	100.0	99.2	0.8
Enosburg Falls Jr/Sr High Sch	100.0	84.7	15.3	84.7	15.3	100.0	0.0	99.2	0.8
Essex Comm. Ed. Ctr. UHSD #46	100.0	92.5	7.5	87.9	12.1	99.9	0.1	98.2	1.8
Essex Middle	100.0	92.4	7.6	87.1	12.9	100.0	0.0	98.9	1.1

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Fair Haven Grade	100.0	81.3	18.8	76.4	23.6	0.0	100.0	100.0	0.0
Fair Haven UHSD #16	100.0	92.2	7.8	82.9	17.1	99.8	0.2	100.0	0.0
Fairfield Center	100.0	81.0	19.0	93.5	6.5	0.0	100.0	100.0	0.0
Fayston Elementary	100.0	78.0	22.0	84.1	15.9	100.0	0.0	98.8	1.2
Ferrisburgh Central	100.0	81.3	18.7	92.2	7.8	93.3	6.7	100.0	0.0
Fisher	100.0	80.7	19.3	96.4	3.6	0.0	100.0	100.0	0.0
Fletcher Elementary	100.0	81.4	18.6	89.7	10.3	78.4	21.6	100.0	0.0
Flood Brook USD #20	100.0	79.9	20.1	97.0	3.0	100.0	0.0	100.0	0.0
Folsom Ed. & Community Ctr	100.0	83.5	16.5	92.9	7.1	81.3	18.7	100.0	0.0
Founders Memorial	100.0	91.1	8.9	84.8	15.2	100.0	0.0	98.3	1.7
Franklin Central	100.0	71.7	28.3	90.6	9.4	80.3	19.7	100.0	0.0
Frederick H. Tuttle Middle Sch	100.0	89.6	10.4	79.8	20.2	98.5	1.5	96.9	3.1
Georgia Elem/Middle	100.0	83.4	16.6	86.2	13.8	84.8	15.2	100.0	0.0
Glover Community	100.0	83.3	16.7	90.0	10.0	0.0	100.0	100.0	0.0
Grafton Elementary	100.0	74.5	25.5	98.0	2.0	100.0	0.0	100.0	0.0
Granby Central	100.0	71.4	28.6	100.0	0.0	100.0	0.0	100.0	0.0
Grand Isle Elem.	100.0	83.9	16.1	94.4	5.6	85.6	14.4	98.9	1.1
Granville Village	100.0	71.4	28.6	92.9	7.1	57.1	42.9	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Green Mountain UHSD #35	100.0	89.6	10.4	74.2	25.8	99.8	0.2	99.3	0.7
Green Street	100.0	73.6	26.4	79.7	20.3	0.0	100.0	98.6	1.4
Guildhall Elementary	100.0	76.5	23.5	100.0	0.0	41.2	58.8	100.0	0.0
Guilford Central	100.0	83.7	16.3	88.3	11.7	100.0	0.0	100.0	0.0
Halifax	100.0	74.1	25.9	90.7	9.3	77.8	22.2	100.0	0.0
Hancock Village	100.0	66.7	33.3	95.2	4.8	61.9	38.1	100.0	0.0
Hardwick Elementary	100.0	81.9	18.1	79.7	20.3	0.0	100.0	100.0	0.0
Hartford High	100.0	93.5	6.5	87.2	12.8	100.0	0.0	99.9	0.1
Hartford Mem. Middle	100.0	93.9	6.1	86.3	13.7	95.4	4.6	99.8	0.2
Hartland Elementary	100.0	84.0	16.0	67.2	32.8	99.7	0.3	100.0	0.0
Harwood UHSD #19	100.0	91.6	8.4	88.3	11.7	95.6	4.4	99.7	0.3
Harwood Union Mid UHSD #19	100.0	92.6	7.4	90.9	9.1	94.3	5.7	100.0	0.0
Hazen UHSD #26	100.0	94.3	5.7	85.0	15.0	0.0	100.0	99.8	0.2
Highgate	100.0	74.3	25.7	86.7	13.3	81.7	18.3	100.0	0.0
Hinesburg Community	100.0	86.1	13.9	81.4	18.6	90.6	9.4	99.8	0.2
Holland Elementary	100.0	90.2	9.8	77.0	23.0	96.7	3.3	100.0	0.0
Hyde Park Elementary	100.0	64.8	35.2	76.0	24.0	88.8	11.2	100.0	0.0
Irasburg Village	100.0	76.0	24.0	95.9	4.1	0.0	100.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Isle La Motte Elem.	100.0	78.6	21.4	100.0	0.0	71.4	28.6	100.0	0.0
J. F. Kennedy Elem.	100.0	64.3	35.7	99.4	0.6	0.0	100.0	87.8	12.2
J. J. Flynn	100.0	73.0	27.0	91.0	9.0	0.0	100.0	83.5	16.5
Jamaica Village	100.0	76.3	23.7	97.4	2.6	63.2	36.8	100.0	0.0
Jay/Westfield Joint Elementary	100.0	80.4	19.6	96.1	3.9	56.9	43.1	94.1	5.9
Jericho Elementary	100.0	71.4	28.6	85.0	15.0	100.0	0.0	100.0	0.0
Johnson Elementary	100.0	77.1	22.9	56.2	43.8	0.0	100.0	100.0	0.0
Lake Region UHSD #24	100.0	89.4	10.6	87.9	12.1	0.0	100.0	98.0	2.0
Lakeview USD #43	100.0	75.8	24.2	88.7	11.3	0.0	100.0	100.0	0.0
Lamoille UHSD #18	100.0	90.4	9.6	90.0	10.0	100.0	0.0	99.6	0.4
Lawrence Barnes	100.0	64.3	35.7	96.1	3.9	0.0	100.0	84.5	15.5
Leicester Central	100.0	81.0	19.0	63.3	36.7	0.0	100.0	100.0	0.0
Leland & Gray UHSD #34	100.0	92.6	7.4	94.4	5.6	93.3	6.7	99.8	0.2
Lincoln Community	100.0	77.4	22.6	94.6	5.4	79.6	20.4	100.0	0.0
Lothrop	100.0	77.5	22.5	79.4	20.6	0.0	100.0	100.0	0.0
Lowell Village	100.0	82.6	17.4	89.5	10.5	89.5	10.5	100.0	0.0
Ludlow Elementary	100.0	77.8	22.2	81.3	18.8	85.4	14.6	100.0	0.0
Lunenburg	100.0	84.7	15.3	91.2	8.8	90.5	9.5	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Lyman C. Hunt Middle	100.0	91.7	8.3	93.8	6.2	91.9	8.1	95.1	4.9
Lyndon Institute	100.0	91.4	8.6	87.7	12.3	100.0	0.0	99.4	0.6
Lyndon Town	100.0	80.8	19.2	83.2	16.8	85.9	14.1	98.9	1.1
Main Street	100.0	86.7	13.3	89.7	10.3	100.0	0.0	95.7	4.3
Malletts Bay	100.0	91.5	8.5	97.8	2.2	81.2	18.8	98.6	1.4
Manchester Elem/Mid	100.0	81.5	18.5	89.2	10.8	0.0	100.0	98.9	1.1
Marlboro Elementary	100.0	84.7	15.3	84.7	15.3	100.0	0.0	98.6	1.4
Mettawee Comm Sch USD #47	100.0	79.3	20.7	83.4	16.6	0.0	100.0	100.0	0.0
Middlebury ID #4	100.0	82.9	17.1	76.2	23.8	0.0	100.0	97.9	2.1
Middlebury Sr. UHSD #3	100.0	93.6	6.4	86.5	13.5	100.0	0.0	99.3	0.7
Middlebury Union Middle Sch #3	100.0	89.6	10.4	81.3	18.8	99.4	0.6	99.7	0.3
Middletown Springs Elem Sch	100.0	75.0	25.0	79.2	20.8	79.2	20.8	100.0	0.0
Mill River USD #40	100.0	91.6	8.4	93.1	6.9	100.0	0.0	99.7	0.3
Millers Run USD #37	100.0	83.3	16.7	93.2	6.8	91.7	8.3	97.0	3.0
Milton Elementary	100.0	76.6	23.4	81.5	18.5	0.0	100.0	99.3	0.7
Milton Jr High	100.0	95.8	4.2	89.3	10.7	0.0	100.0	99.7	0.3
Milton Sr High	100.0	93.2	6.8	82.5	17.5	0.0	100.0	100.0	0.0
Missisquoi Valley UHSD #7	100.0	92.5	7.5	88.8	11.2	100.0	0.0	99.9	0.1

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Molly Stark	100.0	72.8	27.2	87.2	12.8	0.0	100.0	99.3	0.7
Monkton Central	100.0	75.3	24.7	85.4	14.6	100.0	0.0	100.0	0.0
Montgomery Center	100.0	75.7	24.3	89.7	10.3	0.0	100.0	100.0	0.0
Montpelier High	100.0	89.8	10.2	86.1	13.9	100.0	0.0	95.6	4.4
Monument	100.0	81.8	18.2	99.1	0.9	100.0	0.0	97.3	2.7
Moretown Elementary	100.0	81.7	18.3	90.0	10.0	77.5	22.5	100.0	0.0
Morristown Elem.	100.0	77.0	23.0	84.8	15.2	0.0	100.0	98.8	1.2
Mount Abraham UHSD #28	100.0	95.3	4.7	90.0	10.0	99.6	0.4	99.8	0.2
Mt. Anthony Sr. UHSD #14	100.0	93.2	6.8	91.9	8.1	97.5	2.5	99.4	0.6
Mt. Anthony Union Middle Sch	100.0	93.5	6.5	94.0	6.0	90.1	9.9	99.8	0.2
Mt. Holly	100.0	84.3	15.7	82.9	17.1	85.7	14.3	100.0	0.0
Mt. Mansfield USD #17	100.0	95.8	4.2	80.3	19.7	94.5	5.5	99.9	0.1
Neshobe	100.0	78.5	21.5	79.5	20.5	0.0	100.0	100.0	0.0
Newark	100.0	76.2	23.8	73.8	26.2	90.5	9.5	100.0	0.0
Newbury Elementary	100.0	80.6	19.4	76.7	23.3	85.3	14.7	100.0	0.0
Newfane Elementary	100.0	72.3	27.7	94.1	5.9	82.2	17.8	99.0	1.0
Newport City Elem	100.0	70.4	29.6	82.0	18.0	0.0	100.0	100.0	0.0
Newport Town	100.0	80.6	19.4	84.7	15.3	76.6	23.4	99.2	0.8

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Newton Elementary	100.0	85.6	14.4	96.0	4.0	100.0	0.0	100.0	0.0
No. Bennington Graded	100.0	73.9	26.1	100.0	0.0	100.0	0.0	100.0	0.0
North Country Jr UHSD #22	100.0	90.1	9.9	83.7	16.3	0.0	100.0	99.4	0.6
North Country Sr UHSD #22	100.0	92.2	7.8	95.4	4.6	96.0	4.0	99.7	0.3
North Hero Elem.	100.0	74.6	25.4	98.3	1.7	83.1	16.9	100.0	0.0
Northfield Elementary	100.0	69.4	30.6	81.1	18.9	0.0	100.0	100.0	0.0
Northfield Middle/High	100.0	94.0	6.0	90.3	9.7	0.0	100.0	99.8	0.2
Norton Village	100.0	75.0	25.0	93.8	6.3	81.3	18.8	100.0	0.0
Ontop	100.0	37.5	62.5	100.0	0.0	100.0	0.0	100.0	0.0
Orange Center	100.0	77.7	22.3	69.1	30.9	0.0	100.0	98.9	1.1
Orchard	100.0	72.1	27.9	80.7	19.3	100.0	0.0	98.6	1.4
Orleans Elementary	100.0	81.8	18.2	99.2	0.8	0.0	100.0	100.0	0.0
Orwell Village	100.0	86.3	13.7	96.1	3.9	62.7	37.3	100.0	0.0
Ottauquechee	100.0	73.8	26.2	88.8	11.2	92.7	7.3	99.0	1.0
Otter Valley UHSD #8	100.0	94.1	5.9	85.7	14.3	0.1	99.9	100.0	0.0
Oxbow UHSD #30	100.0	90.2	9.8	87.8	12.2	87.0	13.0	100.0	0.0
Park Street	100.0	61.0	39.0	82.3	17.7	0.0	100.0	96.8	3.2
Peacham Elementary	100.0	87.8	12.2	80.5	19.5	0.0	100.0	95.1	4.9

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Peoples Academy	100.0	89.7	10.3	88.9	11.1	0.0	100.0	99.7	0.3
Peoples Academy Middle Sch	100.0	91.3	8.7	85.0	15.0	0.0	100.0	100.0	0.0
Plymouth Elementary	100.0	80.0	20.0	80.0	20.0	85.0	15.0	100.0	0.0
Pomfret	100.0	85.4	14.6	97.6	2.4	100.0	0.0	100.0	0.0
Poultney Elementary	100.0	83.6	16.4	79.4	20.6	93.0	7.0	100.0	0.0
Poultney High	100.0	89.7	10.3	73.0	27.0	99.1	0.9	99.7	0.3
Pownal Elementary	100.0	73.6	26.4	88.2	11.8	0.0	100.0	100.0	0.0
Proctor Elementary	100.0	81.3	18.7	91.0	9.0	89.7	10.3	100.0	0.0
Proctor Jr/Sr High	100.0	91.5	8.5	93.7	6.3	97.4	2.6	100.0	0.0
Putney Central	100.0	78.5	21.5	92.8	7.2	76.2	23.8	98.7	1.3
Randolph Elementary	100.0	71.9	28.1	93.2	6.8	78.6	21.4	100.0	0.0
Randolph UHSD #2	100.0	93.8	6.2	81.6	18.4	94.5	5.5	99.8	0.2
Reading Elementary	100.0	66.1	33.9	88.1	11.9	89.8	10.2	100.0	0.0
Readsboro Elementary	100.0	90.2	9.8	95.1	4.9	0.0	100.0	100.0	0.0
Richford Elementary	100.0	70.8	29.2	93.1	6.9	0.0	100.0	99.1	0.9
Richford Jr/Sr High	100.0	92.4	7.6	97.0	3.0	97.3	2.7	99.6	0.4
Richmond Elementary	100.0	75.0	25.0	63.5	36.5	100.0	0.0	98.0	2.0
Ripton Elementary	100.0	77.3	22.7	72.7	27.3	0.0	100.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Rivendell Academy	100.0	91.4	8.6	95.7	4.3	0.0	100.0	100.0	0.0
Riverside	100.0	91.2	8.8	63.7	36.3	0.0	100.0	98.2	1.8
Robinson	100.0	78.6	21.4	82.7	17.3	76.9	23.1	99.4	0.6
Rochester Elem/High	100.0	87.9	12.1	73.7	26.3	86.2	13.8	99.6	0.4
Rockingham Central Elementary	100.0	55.3	44.7	80.0	20.0	0.0	100.0	100.0	0.0
Roxbury Village	100.0	76.2	23.8	95.2	4.8	0.0	100.0	100.0	0.0
Rumney (Middlesex)	100.0	80.4	19.6	79.0	21.0	100.0	0.0	100.0	0.0
Rutland Intermediate	100.0	88.9	11.1	72.6	27.4	0.0	100.0	99.7	0.3
Rutland Middle	100.0	89.5	10.5	75.9	24.1	0.0	100.0	99.5	0.5
Rutland Senior High	100.0	87.8	12.2	84.2	15.8	100.0	0.0	99.8	0.2
Rutland Town Elem	100.0	83.9	16.1	93.1	6.9	99.7	0.3	100.0	0.0
Salisbury Community	100.0	74.7	25.3	67.1	32.9	78.5	21.5	100.0	0.0
Samuel Morey Elementary	100.0	72.2	27.8	95.2	4.8	0.0	100.0	100.0	0.0
Saxtons River Elem.	100.0	74.1	25.9	93.8	6.2	63.0	37.0	100.0	0.0
Shaftsbury Elem.	100.0	73.5	26.5	84.0	16.0	100.0	0.0	100.0	0.0
Sharon Elementary	100.0	74.3	25.7	89.9	10.1	82.6	17.4	98.2	1.8
Shelburne Community	100.0	83.0	17.0	92.0	8.0	100.0	0.0	99.7	0.3
Sheldon Elementary	100.0	80.7	19.3	81.9	18.1	81.1	18.9	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Sherburne Elementary	100.0	81.1	18.9	90.5	9.5	100.0	0.0	100.0	0.0
Shoreham Elementary	100.0	76.0	24.0	79.8	20.2	0.0	100.0	99.0	1.0
Shrewsbury Mountain	100.0	76.1	23.9	78.9	21.1	76.1	23.9	100.0	0.0
Smilie Memorial (Bolton)	100.0	65.7	34.3	82.1	17.9	82.1	17.9	100.0	0.0
So. Burlington Central	100.0	70.9	29.1	69.5	30.5	100.0	0.0	94.9	5.1
So. Burlington High	100.0	91.7	8.3	82.6	17.4	97.7	2.3	97.3	2.7
So. Royalton Elem/High	100.0	85.7	14.3	91.1	8.9	88.1	11.9	99.6	0.4
Spaulding HSUD #41	100.0	92.7	7.3	90.7	9.3	84.3	15.7	96.5	3.5
Springfield High	100.0	94.2	5.8	82.2	17.8	99.3	0.7	97.9	2.1
St Albans City	100.0	79.9	20.1	95.3	4.7	0.0	100.0	98.6	1.4
St. Albans Town Educ. Center	100.0	79.1	20.9	91.1	8.9	99.8	0.2	99.7	0.3
St. Johnsbury Academy	100.0	78.6	21.4	96.7	3.3	100.0	0.0	90.6	9.4
St. Johnsbury	100.0	75.2	24.8	81.1	18.9	0.2	99.8	98.0	2.0
Stamford Elementary	100.0	81.1	18.9	94.6	5.4	100.0	0.0	100.0	0.0
Stockbridge Central	100.0	78.0	22.0	88.1	11.9	81.4	18.6	100.0	0.0
Stowe Elementary	100.0	71.7	28.3	86.6	13.4	99.6	0.4	100.0	0.0
Stowe Middle/High	100.0	86.4	13.6	86.6	13.4	100.0	0.0	100.0	0.0
Sudbury Country	100.0	84.4	15.6	71.9	28.1	100.0	0.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Sunderland Elem.	100.0	75.0	25.0	90.6	9.4	84.4	15.6	100.0	0.0
Sutton	100.0	74.8	25.2	74.8	25.2	87.0	13.0	99.1	0.9
Swanton	100.0	79.1	20.9	80.4	19.6	87.1	12.9	98.1	1.9
Thatcher Brook Prim. USD #45	100.0	71.9	28.1	99.4	0.6	82.5	17.5	99.4	0.6
Thetford Academy	100.0	85.5	14.5	90.8	9.2	100.0	0.0	99.7	0.3
Thetford Elementary	100.0	75.8	24.2	71.4	28.6	100.0	0.0	98.7	1.3
Thomas Fleming	100.0	94.0	6.0	86.6	13.4	88.3	11.7	99.2	0.8
Tinmouth Elementary	100.0	77.1	22.9	79.2	20.8	77.1	22.9	100.0	0.0
Townshend Village	100.0	66.3	33.7	97.6	2.4	83.1	16.9	100.0	0.0
Troy	100.0	77.7	22.3	91.2	8.8	0.0	100.0	99.3	0.7
Tunbridge Central	100.0	83.6	16.4	91.8	8.2	68.0	32.0	100.0	0.0
Twinfield USD #33	100.0	85.0	15.0	87.0	13.0	91.5	8.5	99.6	0.4
U-32 High (UHSD #32)	100.0	90.9	9.1	92.0	8.0	97.7	2.3	99.2	0.8
Underhill Central	100.0	69.1	30.9	75.6	24.4	100.0	0.0	100.0	0.0
Underhill ID	100.0	67.9	32.1	86.8	13.2	100.0	0.0	100.0	0.0
Union Elementary	100.0	71.6	28.4	97.2	2.8	81.8	18.2	94.9	5.1
Union	100.0	70.8	29.2	62.5	37.5	0.0	100.0	100.0	0.0
Vergennes UESD #44	100.0	74.7	25.3	90.1	9.9	0.0	100.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Vergennes UHSD #5	100.0	93.1	6.9	88.3	11.7	99.7	0.3	99.8	0.2
Vernon Elementary	100.0	75.4	24.6	99.0	1.0	100.0	0.0	99.0	1.0
Waits River Valley USD #36	100.0	91.2	8.8	92.0	8.0	0.0	100.0	100.0	0.0
Waitsfield Elem.	100.0	73.4	26.6	90.6	9.4	85.9	14.1	99.2	0.8
Walden	100.0	78.4	21.6	92.2	7.8	0.0	100.0	100.0	0.0
Wallingford Village	100.0	68.6	31.4	90.0	10.0	85.7	14.3	100.0	0.0
Wardsboro Central	100.0	71.7	28.3	80.0	20.0	76.7	23.3	100.0	0.0
Warren Elementary	100.0	72.3	27.7	96.5	3.5	79.4	20.6	97.9	2.1
Washington Village	100.0	76.9	23.1	61.5	38.5	0.0	100.0	100.0	0.0
Waterford Elementary	100.0	79.9	20.1	86.6	13.4	88.1	11.9	100.0	0.0
Waterville Elementary	100.0	77.6	22.4	89.6	10.4	100.0	0.0	100.0	0.0
Weathersfield Middle	100.0	94.0	6.0	94.6	5.4	70.1	29.9	100.0	0.0
Wells Village	100.0	76.9	23.1	93.6	6.4	89.7	10.3	100.0	0.0
West Rutland	100.0	86.6	13.4	91.6	8.4	96.1	3.9	98.3	1.7
Westford Elementary	100.0	82.0	18.0	92.7	7.3	86.9	13.1	100.0	0.0
Westminster	100.0	76.2	23.8	85.2	14.8	77.1	22.9	100.0	0.0
Westshire Elementary	100.0	65.8	34.2	93.7	6.3	0.0	100.0	100.0	0.0
Weybridge Elementary	100.0	67.1	32.9	67.1	32.9	100.0	0.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Wheeler	100.0	61.8	38.2	92.7	7.3	0.0	100.0	80.6	19.4
Whitcomb Jr/Sr High	100.0	92.1	7.9	95.3	4.7	100.0	0.0	97.2	2.8
White River	100.0	73.8	26.2	74.5	25.5	80.7	19.3	100.0	0.0
Whiting Village	100.0	81.0	19.0	81.0	19.0	100.0	0.0	100.0	0.0
Whitingham	100.0	86.7	13.3	84.4	15.6	74.3	25.7	100.0	0.0
Williamstown Elem.	100.0	73.0	27.0	71.4	28.6	0.0	100.0	100.0	0.0
Williamstown Middle/High Sch	100.0	91.7	8.3	80.2	19.8	100.0	0.0	98.7	1.3
Williston	100.0	81.3	18.7	82.7	17.3	93.7	6.3	98.7	1.3
Wilmington Middle High	100.0	88.2	11.8	78.6	21.4	97.1	2.9	100.0	0.0
Windham Elementary	100.0	75.0	25.0	100.0	0.0	79.2	20.8	100.0	0.0
Windsor High	100.0	89.2	10.8	93.7	6.3	100.0	0.0	100.0	0.0
Windsor State Street	100.0	77.7	22.3	94.5	5.5	0.4	99.6	100.0	0.0
Winooski High	100.0	71.4	28.6	94.0	6.0	76.2	23.8	94.2	5.8
Wolcott Elementary	100.0	71.6	28.4	83.6	16.4	0.9	99.1	100.0	0.0
Woodbury Elementary	100.0	85.0	15.0	95.0	5.0	100.0	0.0	100.0	0.0
Woodford Hollow	100.0	89.5	10.5	94.7	5.3	78.9	21.1	100.0	0.0
Woodstock Elementary	100.0	72.8	27.2	99.4	0.6	100.0	0.0	100.0	0.0

School Rates (percent) 2002-2003 School Name	All	Mobile		504 Plan in Place		Title 1 Read/Math/ Other		Limited English Proficiency	
		No	Yes	No	Yes	No	Yes	No	Yes
Woodstock Sr. UHSD #4	100.0	92.6	7.4	84.8	15.2	100.0	0.0	99.8	0.2
Woodstock Union Middle Sch	100.0	90.1	9.9	76.2	23.8	100.0	0.0	99.6	0.4

Appendix K Vermont Public Schools and NCES Locale

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, large city (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Academy School (Brattleboro)					
Addison Central School				1	
Albany Community School				1	
Albert Bridge Sch (W Wind.)				1	
Albert D. Lawton School		1			
Alburg Community Ed Center					1
Arlington Memorial				1	
Bakersfield School				1	
Barnard Central School				1	
Barnet Elementary School				1	
Barre City Elem/Middle School			1		
Barre Town Elementary School			1		
Barstow Memorial School				1	
Barton Graded School				1	
Beeman Elementary School				1	
Bellows Falls Middle School			1		
Bellows Falls UHSD #27			1		
Bellows Free Acad., St. Albans		1			
Bellows Free Academy, Fairfax				1	
Belvidere Central School				1	
Bennington Elem. School			1		
Benson Village School				1	
Berkshire Elementary School				1	
Berlin Elementary School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Bethel Elementary School				1	
Bingham Memorial School				1	
Black River USD #39				1	
Blue Mountain USD #21				1	
Bradford Elementary School				1	
Braintree School				1	
Bratt. Area Middle Sch UHSD #6			1		
Brattleboro Sr. UHSD #6				1	
Brewster Pierce School					1
Bridgewater Village School				1	
Bridport Central School				1	
Brighton Elementary School				1	
Bristol Elementary School				1	
Brookfield School				1	
Brookline Elementary School				1	
Brownington Central School				1	
Browns River Middle USD #17					1
Burke Town School				1	
Burlington Senior High Sch	1				
Burr & Burton Academy				1	
C. P. Smith School	1				
Cabot School				1	
Calais Elementary School				1	
Cambridge Elementary School				1	
Camels Hump Middle USD #17					1

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Canaan Schools				1	
Castleton-Hubbardton USD#42				1	
Catamount Elementary School			1		
Cavendish Town Elem. School				1	
Chamberlin School		1			
Champlain School	1				
Champlain Valley UHSD #15					1
Charleston Elem. School				1	
Charlotte Central School					1
Chelsea Elem. High School				1	
Cherry Hill Elem. School			1		
Chester-Andover USD #29				1	
Clarendon Elementary School			1		
Colchester High School					1
Colchester Middle School		1			
Concord Schools				1	
Coventry Village School				1	
Craftsbury Schools				1	
Crossett Brook Middle USD #45				1	
Currier Memorial USD #23				1	
Danville School				1	
Deerfield Valley Elem. Sch				1	
Derby Elementary School				1	
Dorset School				1	
Dothan Brook School			1		

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Doty Memorial School				1	
Dover Elementary School				1	
Dummerston School				1	
E. Taylor Hatton School				1	
East Haven River School				1	
East Montpelier Elem. Sch				1	
Eden Central School				1	
Edmunds Elementary School	1				
Edmunds Middle School	1				
Elm Hill School			1		
Enosburg Falls Elem. School				1	
Enosburg Falls Jr/Sr High Sch				1	
Essex Comm. Ed. Ctr. UHSD #46		1			
Essex Middle School		1			
Fair Haven Grade School			1		
Fair Haven UHSD #16			1		
Fairfield Center School				1	
Fayston Elementary School				1	
Ferrisburgh Central School				1	
Fisher School				1	
Fletcher Elementary School				1	
Flood Brook USD #20				1	
Folsom Ed. & Community Ctr					1
Founders Memorial School		1			
Franklin Central School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Frederick H. Tuttle Middle Sch		1			
Georgia Elem/Middle School				1	
Glover Village School				1	
Grafton Elementary School				1	
Granby Central School				1	
Grand Isle Elem. School					1
Granville Village School				1	
Green Mountain UHSD #35				1	
Green Street School			1		
Guildhall Elementary School				1	
Guilford Central School				1	
Halifax School				1	
Hancock Village School				1	
Hardwick Elementary School				1	
Hartford High School			1		
Hartford Mem. Middle School			1		
Hartland Elementary School				1	
Harwood UHSD #19				1	
Harwood Union Middle UHSD #19				1	
Hazen UHSD #26				1	
Highgate Schools				1	
Hinesburg Community School					1
Holland Elementary School				1	
Hunt Middle School	1				
Hyde Park Elementary School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Irasburg Village School				1	
Isle La Motte Elem. School					1
J. F. Kennedy Elem. School		1			
J. J. Flynn School	1				
Jamaica Village School				1	
Jay/Westfield Joint Elementary				1	
Jericho Elementary School		1			
Johnson Elementary School				1	
Lake Region UHSD #24				1	
Lakeview USD #43				1	
Lamoille UHSD #18				1	
Lawrence Barnes School	1				
Leicester Central School				1	
Leland & Gray UHSD #34				1	
Lincoln Community School				1	
Lothrop School				1	
Lowell Village School				1	
Ludlow Elementary School				1	
Lunenburg Schools				1	
Lyndon Institute				1	
Lyndon Town School				1	
Main Street School			1		
Malletts Bay School		1			
Manchester Elem/Middle School				1	
Marlboro Elementary School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Mettawee Community Sch USD #47				1	
Middlebury ID #4 School			1		
Middlebury Sr. UHSD #3			1		
Middlebury Union Middle Sch #3			1		
Middletown Springs Elem School				1	
Mill River USD #40				1	
Millers Run USD #37				1	
Milton Elementary School		1			
Milton Jr High School		1			
Milton Sr High School		1			
Missisquoi Valley UHSD #7				1	
Molly Stark School			1		
Monkton Central School				1	
Montgomery Center School				1	
Montpelier High School			1		
Monument School			1		
Moretown Elementary School				1	
Morristown Elem. Schools				1	
Mount Abraham UHSD #28				1	
Mt. Anthony Sr. UHSD #14			1		
Mt. Anthony Union Middle Sch			1		
Mt. Holly School				1	
Mt. Mansfield USD #17					1
Neshobe School				1	
Newark School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Newbury Elementary School				1	
Newfane Elementary School				1	
Newport City Elem Schools			1		
Newport Town School				1	
Newton Elementary School				1	
No. Bennington Graded School				1	
North Country Jr UHSD #22				1	
North Country Sr UHSD #22			1		
North Hero Elem. School					1
Northfield Elementary School			1		
Northfield Middle/High School				1	
Norton Village School				1	
Oak Grove Schools			1		
Ontop	1				
Orange Center School				1	
Orchard School		1			
Orleans Elementary School				1	
Orwell Village School				1	
Ottaquechee School				1	
Otter Valley UHSD #8				1	
Oxbow UHSD #30				1	
Park Street School			1		
Peacham Elementary School				1	
Peoples Academy				1	
Peoples Academy Middle School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Plymouth Elementary School				1	
Pomfret School				1	
Poultney Elementary School				1	
Poultney High School				1	
Pownal Elementary School				1	
Proctor Elementary School				1	
Proctor Jr/Sr High School				1	
Putney Central School				1	
Randolph Schools				1	
Randolph UHSD #2				1	
Reading Elementary School				1	
Readsboro Elementary School				1	
Richford Elementary School				1	
Richford Jr/Sr High School				1	
Richmond Elementary School					1
Ripton Elementary School				1	
Rivendell Academy				1	
Riverside School			1		
Robinson School				1	
Rochester Elem/High School				1	
Rockingham Central Elementary			1		
Roxbury Village School				1	
Rumney School (Middlesex)				1	
Rutland Intermediate School			1		
Rutland Middle School			1		

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Rutland Senior High School			1		
Rutland Town Elem School				1	
Salisbury Community School				1	
Samuel Morey Elementary School				1	
Saxtons River Elem. School				1	
Shaftsbury Elem. School				1	
Sharon Elementary School				1	
Shelburne Community School		1			
Sheldon Elementary School				1	
Sherburne Elementary School				1	
Shoreham Elementary School				1	
Shrewsbury Mountain School				1	
Smilie Memorial School(Bolton)					1
So. Burlington Central School		1			
So. Burlington High School		1			
So. Royalton Elem/High School				1	
Spaulding HSUD #41			1		
Springfield High School			1		
St Albans City School		1			
St Albans Town Educ. Center		1			
St Johnsbury Academy			1		
St Johnsbury School			1		
Stamford Elementary School				1	
Stockbridge Central School				1	
Stowe Elementary School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Stowe Middle/High School				1	
Sudbury's Country School				1	
Sunderland Elem. School				1	
Sutton School				1	
Swanton Schools			1		
Thatcher Brook Primary USD #45			1		
Thetford Academy				1	
Thetford Elementary School				1	
Thomas Fleming School		1			
Tinmouth Elementary School				1	
Townshend Village School				1	
Troy School				1	
Tunbridge Central School				1	
Twinfield USD #33				1	
U-32 High School (UHSD #32)				1	
Underhill Central School					1
Underhill Graded School					1
Union Elementary School			1		
Union Street School				1	
Vergennes UESD #44			1		
Vergennes UHSD #5			1		
Vernon Elementary School				1	
Waits River Valley USD #36				1	
Waitsfield Elem. School				1	
Walden School				1	

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Wallingford Village School				1	
Wardsboro Central School				1	
Warren Elementary School				1	
Washington Village School				1	
Waterford Elementary School				1	
Waterville Elementary School				1	
Weathersfield Middle School				1	
Wells Village School				1	
West Rutland School			1		
Westford Elementary School					1
Westminster Schools				1	
Westshire				1	
Weybridge Elementary School				1	
Wheeler School	1				
Whitcomb Jr/Sr High School				1	
White River School			1		
Whiting Village School				1	
Whitingham School				1	
Williamstown Elem. School			1		
Williamstown Middle/High Sch				1	
Williston Schools		1			
Wilmington Middle High School				1	
Windham Elementary School				1	
Windsor High School			1		
Windsor State Street School			1		

NCES Locale: See Table 1 for Complete Definitions School Name	NCES-Census Locale				
	Mid-size city (2)	Urban fringe, largecity (4)	Small town (6)	Rural, outside CBSA (7)	Rural, inside CBSA (8)
Winooski High School		1			
Winooski Middle School		1			
Wolcott Elementary School				1	
Woodbury Elementary School				1	
Woodford Hollow School			1		
Woodstock Elementary School				1	
Woodstock Sr. UHSD #4				1	
Woodstock Union Middle School				1	

Appendix L Mobility Map SU Map with Hi-Mobility

SU Map – Insert

Appendix M In-mobility, Enrollment, Grade Levels, FRLM 2002-2003

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Academy (Brattleboro)	319	K-6	29.47	42.01
Addison Central	118	K-6	27.12	22.88
Albany Community	104	K-8	25.00	56.73
Albert Bridge (W Wind.)	66	K-6	27.27	3.03
Albert D. Lawton	361	6-8	9.97	13.85
Alburg Community Ed Center	207	K-8	18.36	100.00
Arlington Memorial	247	7-12	12.55	16.60
Bakersfield	172	K-8	19.77	37.21
Barnard Central	53	K-6	15.09	33.33
Barnet Elementary	154	PK-8	12.99	37.01
Barre City Elem/Middle	774	PK-8	20.54	55.40
Barre Town Elementary	867	PK-8	17.76	15.11
Barstow Memorial	251	K-8	19.52	11.95
Barton Graded	191	K-8	20.94	52.88
Beeman Elementary	141	K-6	26.24	24.11
Bellows Falls Middle	286	5-8	9.44	43.36
Bellows Falls UHSD #27	487	9-12	13.14	25.67
Bellows Free Acad., St. Albans	1100	9-12	15.09	16.91
Bellows Free Academy, Fairfax	869	PK-12	13.69	17.26
Belvidere Central	29	1-6	27.59	41.38
Bennington Elem.	230	K-6	21.30	49.13
Benson Village	124	K-8	22.58	30.65
Berkshire Elementary	168	K-8	23.21	38.69
Berlin Elementary	223	K-6	18.39	30.49

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Bethel Elementary	123	K-6	26.02	40.65
Bingham Memorial	84	K-6	32.14	14.29
Black River USD #39	271	7-12	9.96	28.41
Blue Mountain USD #21	395	PK-12	18.48	44.56
Bradford Elementary	202	K-6	29.21	38.61
Braintree	97	K-6	25.77	47.42
Bratt. Area Middle UHSD #6	317	7-8	11.36	34.38
Brattleboro Sr. UHSD #6	1082	9-12	8.78	12.66
Brewster Pierce	100	K-4	28.00	16.00
Bridgewater Village	65	K-6	21.54	35.38
Bridport Central	104	K-8	24.04	45.19
Brighton Elementary	122	K-8	19.67	72.95
Bristol Elementary	333	K-6	17.12	41.14
Brookfield	108	K-6	23.15	25.00
Brookline Elementary	36	K-6	27.78	13.89
Brownington Central	73	K-6	17.81	82.19
Browns River Middle USD #17	467	5-8	4.07	5.57
Burke Town	161	PK-8	27.33	47.20
Burlington Senior High	1105	9-12	13.12	39.82
Burr & Burton Academy	531	9-12	19.02	3.58
C. P. Smith	256	K-5	22.27	23.83
Cabot	205	PK-12	14.63	41.46
Calais Elementary	103	K-6	23.30	25.24
Cambridge Elementary	259	K-6	25.10	22.01
Camels Hump Middle USD #17	456	5-8	4.82	15.35

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Canaan	243	K-12	16.87	18.93
Castleton-Hubbardton USD#42	438	K-8	17.12	26.94
Catamount Elementary	260	K-6	19.23	58.08
Cavendish Town Elem.	94	K-6	27.66	31.91
Chamberlin	248	K-5	30.65	18.95
Champlain	241	K-5	27.80	41.91
Champlain Valley UHSD #15	1248	9-12	6.33	3.13
Charleston Elem.	109	K-8	22.94	58.72
Charlotte Central	470	K-8	16.17	5.11
Chelsea Elem. High	225	K-12	17.33	33.33
Cherry Hill Elem.	77	1-5	32.47	54.55
Chester-Andover USD #29	257	K-6	22.18	28.40
Clarendon Elementary	193	K-6	21.24	27.98
Colchester High	743	9-12	8.61	7.40
Colchester Middle	599	6-8	8.01	12.52
Concord	200	PK-12	21.50	54.50
Coventry Village	108	K-8	23.15	56.48
Craftsbury	174	K-12	16.67	37.93
Crossett Brook Middle USD #45	360	5-8	7.50	20.00
Currier Memorial USD #23	90	K-6	30.00	41.11
Danville	402	PK-12	14.68	29.85
Deerfield Valley Elem.	115	K-5	27.83	27.83
Derby Elementary	343	K-6	22.16	42.57
Dorset	161	K-8	16.15	4.35
Dothan Brook	256	K-5	22.66	12.89

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Doty Memorial	68	K-6	25.00	36.76
Dover Elementary	74	K-6	29.73	28.38
Dummerston	163	K-8	15.34	14.11
E. Taylor Hatton	41	K-6	19.51	51.22
East Haven River	49	K-8	26.53	73.47
East Montpelier Elem.	196	K-6	20.41	18.37
Eden Central	101	K-6	20.79	47.52
Edmunds Elementary	248	K-5	31.05	33.06
Edmunds Middle	376	6-8	14.63	56.38
Elm Hill	106	K-5	21.70	40.57
Enosburg Falls Elem.	263	K-6	27.76	55.13
Enosburg Falls Jr/Sr High	385	7-12	15.32	30.39
Essex Comm. Ed. Ctr. UHSD #46	1568	9-12	7.46	7.46
Essex Middle	543	6-8	7.55	10.68
Fair Haven Grade	352	K-8	18.75	43.18
Fair Haven UHSD #16	579	9-12	7.77	20.38
Fairfield Center	231	K-8	19.05	32.47
Fayston Elementary	82	PK-6	21.95	12.20
Ferrisburgh Central	193	K-6	18.65	.
Fisher	166	K-6	19.28	22.89
Fletcher Elementary	97	K-6	18.56	17.53
Flood Brook USD #20	264	K-8	20.08	16.67
Folsom Ed. & Community Ctr	182	K-8	16.48	13.74
Founders Memorial	474	3-5	8.9	12.45
Franklin Central	127	K-6	28.35	32.28

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Frederick H. Tuttle Middle	653	6-8	10.41	14.42
Georgia Elem/Middle	567	K-8	16.58	14.64
Glover Village	90	K-8	16.67	52.22
Grafton Elementary	51	K-6	25.49	100.00
Granby Central	7	K-6	28.57	.
Grand Isle Elem.	180	K-8	16.11	26.11
Granville Village	14	1-4	28.57	35.71
Green Mountain UHSD #35	434	7-12	10.37	32.95
Green Street	212	K-6	26.42	39.15
Guildhall Elementary	17	K-5	23.53	35.29
Guilford Central	196	K-8	16.33	18.88
Halifax	54	K-8	25.93	33.33
Hancock Village	21	K-5	33.33	38.10
Hardwick Elementary	271	K-6	18.08	45.39
Hartford High	795	9-12	6.54	6.29
Hartford Mem. Middle	409	6-8	6.11	17.11
Hartland Elementary	351	K-8	15.95	21.08
Harwood UHSD #19	617	9-12	8.43	11.35
Harwood Union Middle UHSD #19	176	7-8	7.39	15.91
Hazen UHSD #26	419	7-12	5.73	35.80
Highgate	338	K-6	25.74	41.12
Hinesburg Community	489	K-8	13.91	13.09
Holland Elementary	61	K-6	9.84	75.41
Hunt Middle	470	6-8	8.30	39.57
Hyde Park Elementary	196	K-6	35.20	44.90

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Irasburg Village	146	K-8	23.97	54.79
Isle La Motte Elem.	28	K-6	21.43	28.57
J. F. Kennedy Elem.	328	PK-5	35.67	59.76
J. J. Flynn	278	K-5	26.98	43.17
Jamaica Village	76	K-6	23.68	35.53
Jay/Westfield Joint Elementary	51	K-6	19.61	54.90
Jericho Elementary	234	K-4	28.63	9.83
Johnson Elementary	201	K-6	22.89	43.28
Lake Region UHSD #24	396	9-12	10.61	38.38
Lakeview USD #43	62	K-6	24.19	58.06
Lamoille UHSD #18	899	7-12	9.57	26.25
Lawrence Barnes	129	K-5	35.66	97.67
Leicester Central	79	K-6	18.99	31.65
Leland & Gray UHSD #34	430	7-12	7.44	0.23
Lincoln Community	93	K-6	22.58	22.58
Lothrop	204	K-6	22.55	24.51
Lowell Village	86	K-8	17.44	58.14
Ludlow Elementary	144	K-6	22.22	40.28
Lunenburg	137	PK-8	15.33	43.07
Lyndon Institute	627	9-12	8.61	39.87
Lyndon Town	547	K-8	19.20	48.63
Main Street	301	6-8	13.29	18.60
Malletts Bay	591	3-5	8.5	19.12
Manchester Elem/Middle	443	K-8	18.51	19.86
Marlboro Elementary	72	K-8	15.28	2.78

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Mettawee Community USD #47	145	K-6	20.69	27.59
Middlebury ID #4	387	K-6	17.05	26.61
Middlebury Sr. UHSD #3	735	9-12	6.39	13.20
Middlebury Union Middle #3	336	7-8	10.42	19.05
Middletown Springs Elem	48	K-6	25.00	39.58
Mill River USD #40	728	7-12	8.38	17.31
Millers Run USD #37	132	PK-8	16.67	57.58
Milton Elementary	852	PK-6	23.36	22.54
Milton Jr High	289	7-8	4.15	19.03
Milton Sr High	513	9-12	6.82	9.75
Missisquoi Valley UHSD #7	1053	7-12	7.50	22.89
Molly Stark	290	K-6	27.24	55.86
Monkton Central	158	K-6	24.68	19.62
Montgomery Center	107	K-8	24.30	32.71
Montpelier High	411	9-12	10.22	14.11
Monument	110	K-6	18.18	20.00
Moretown Elementary	120	PK-6	18.33	24.17
Morristown Elem.	322	K-5	23.0	37.89
Mount Abraham UHSD #28	907	7-12	4.74	16.10
Mt. Anthony Sr. UHSD #14	1232	9-12	6.82	15.18
Mt. Anthony Union Middle	604	7-8	6.46	30.63
Mt. Holly	70	K-6	15.71	34.29
Mt. Mansfield USD #17	1034	9-12	4.16	6.38
Neshobe	331	K-6	21.45	42.60
Newark	42	K-8	23.81	42.86

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Newbury Elementary	129	K-6	19.38	40.31
Newfane Elementary	101	K-6	27.72	4.95
Newport City Elem	294	K-6	29.59	63.27
Newport Town	124	K-8	19.35	58.06
Newton Elementary	125	K-8	14.40	24.80
No. Bennington Graded	134	K-6	26.12	26.12
North Country Jr UHSD #22	332	7-8	9.94	54.52
North Country Sr UHSD #22	1063	9-12	7.81	31.98
North Hero Elem.	59	K-8	25.42	27.12
Northfield Elementary	265	K-5	30.57	30.19
Northfield Middle/High	486	6-12	5.97	20.58
Norton Village	16	K-8	25.00	37.50
Oak Grove	121	K-6	14.88	65.29
Ontop	24	7-12	62.50	87.50
Orange Center	94	PK-8	22.34	27.66
Orchard	280	K-5	27.86	9.29
Orleans Elementary	121	K-8	18.18	50.41
Orwell Village	153	K-8	13.73	28.76
Ottauquechee	206	K-5	26.21	14.56
Otter Valley UHSD #8	749	7-12	5.87	18.83
Oxbow UHSD #30	492	7-12	9.76	20.33
Park Street	249	K-5	38.96	46.99
Peacham Elementary	41	PK-6	12.20	19.51
Peoples Academy	387	9-12	10.34	36.43
Peoples Academy Middle	287	6-8	8.71	25.78

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Plymouth Elementary	20	K-6	20.00	10.00
Pomfret	82	PK-6	14.63	100.00
Poultney Elementary	214	K-6	16.36	35.05
Poultney High	341	7-12	10.26	36.95
Pownal Elementary	254	K-6	26.38	40.55
Proctor Elementary	155	K-6	18.71	32.90
Proctor Jr/Sr High	189	7-12	8.47	31.22
Putney Central	223	K-8	21.52	38.57
Randolph	295	K-6	28.14	31.86
Randolph UHSD #2	598	7-12	6.19	22.91
Reading Elementary	59	K-6	33.90	35.59
Readsboro Elementary	61	K-8	9.84	47.54
Richford Elementary	233	K-6	29.18	58.80
Richford Jr/Sr High	264	7-12	7.58	41.67
Richmond Elementary	244	K-4	25.00	13.93
Ripton Elementary	44	K-6	22.73	31.82
Rivendell Academy	324	6-12	8.64	32.41
Riverside	331	6-8	8.76	43.50
Robinson	173	K-6	21.39	40.46
Rochester Elem/High	247	K-12	12.15	36.03
Rockingham Central Elem	150	K-4	44.67	42.00
Roxbury Village	42	K-6	23.81	33.33
Rumney (Middlesex)	138	K-6	19.57	18.84
Rutland Intermediate	748	3-6	11.1	48.13
Rutland Middle	410	7-8	10.49	44.63

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Rutland enior High	1116	9-12	12.19	18.01
Rutland Town Elem	361	K-8	16.07	14.96
Salisbury Community	79	K-6	25.32	7.59
Samuel Morey Elementary	126	K-5	27.78	21.43
Saxtons River Elem.	81	K-5	25.93	40.74
Shaftsbury Elem.	200	K-6	26.50	23.00
Sharon Elementary	109	K-6	25.69	28.44
Shelburne Community	789	K-8	16.98	5.70
Sheldon Elementary	270	K-8	19.26	41.11
Sherburne Elementary	74	K-6	18.92	18.92
Shoreham Elementary	104	K-6	24.04	100.00
Shrewsbury Mountain	71	K-6	23.94	18.31
Smilie Memorial (Bolton)	67	K-4	34.33	26.87
So. Burlington Central	351	K-5	29.06	11.68
So. Burlington High	933	9-12	8.25	8.79
So. Royalton Elem/High	463	K-12	14.25	34.34
Spaulding HSUD #41	992	9-12	7.26	17.74
Springfield High	566	9-12	5.83	30.04
St Albans City	717	K-8	20.08	38.35
St Albans Town Educ. Center	642	K-8	20.87	27.73
St Johnsbury Academy	972	9-12	21.40	13.89
St Johnsbury	544	PK-8	24.82	54.41
Stamford Elementary	74	K-8	18.92	12.16
Stockbridge Central	59	K-6	22.03	45.76
Stowe Elementary	276	K-5	28.26	12.32

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Stowe Middle/High	403	6-12	13.65	7.69
Sudbury's Country	32	K-6	15.63	21.88
Sunderland Elem.	64	K-6	25.00	34.38
Sutton	115	K-8	25.22	67.83
Swanton	565	K-6	20.88	38.58
Thatcher Brook Primary USD #45	320	PK-4	28.13	17.81
Thetford Academy	379	7-12	14.51	6.60
Thetford Elementary	227	K-6	24.23	13.22
Thomas Fleming	247	4-5	6.0	17.41
Tinmouth Elementary	48	K-6	22.92	20.83
Townshend Village	83	K-6	33.73	32.53
Troy	148	K-8	22.30	63.51
Tunbridge Central	122	K-8	16.39	36.07
Twinfield USD #33	447	PK-12	14.99	25.06
U-32 High (UHSD #32)	824	7-12	9.10	15.41
Underhill Central	123	K-4	30.89	5.69
Underhill Graded	106	K-4	32.08	1.89
Union Elementary	352	K-5	28.41	22.73
Union Street	144	K-5	29.17	55.56
Vergennes UESD #44	292	K-6	25.34	37.33
Vergennes UHSD #5	639	7-12	6.89	22.11
Vernon Elementary	199	K-6	24.62	16.08
Waits River Valley USD #36	226	K-8	8.85	46.90
Waitsfield Elem.	128	PK-6	26.56	22.66
Walden	102	PK-6	21.57	37.25

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Wallingford Village	140	K-6	31.43	30.00
Wardsboro Central	60	K-6	28.33	100.00
Warren Elementary	141	PK-6	27.66	29.08
Washington Village	65	PK-8	23.08	26.15
Waterford Elementary	134	PK-8	20.15	17.91
Waterville Elementary	67	K-6	22.39	29.85
Weathersfield Middle	167	4-8	6.0	27.54
Wells Village	78	K-6	23.08	23.08
West Rutland	357	K-12	13.45	30.81
Westford Elementary	245	PK-8	17.96	10.61
Westminster	210	K-6	23.81	35.71
Westshire	79	K-5	34.18	35.44
Weybridge Elementary	76	K-6	32.89	13.16
Wheeler	165	K-5	38.18	100.00
Whitcomb Jr/Sr High	215	7-12	7.91	20.93
White River	145	K-5	26.21	40.69
Whiting Village	21	K-6	19.05	85.71
Whitingham	218	K-12	13.30	36.70
Williamstown Elem.	185	PK-5	27.03	32.97
Williamstown Middle/High	313	6-12	8.31	23.00
Williston	1059	K-8	18.70	10.29
Wilmington Middle High	238	6-12	11.76	25.21
Windham Elementary	24	K-6	25.00	100.00
Windsor High	490	7-12	10.82	21.02
Windsor State Street	256	K-6	22.27	36.72

School Year 2002-2003 School Name	Enroll- ment	Grades in School	In-mobility Rate (%)	Free / Red. Lunch (%)
Winooski High	433	9-12	28.64	48.27
Wolcott Elementary	116	K-6	28.45	35.34
Woodbury Elementary	40	K-6	15.00	22.50
Woodford Hollow	19	1-6	10.53	63.16
Woodstock Elementary	169	K-6	27.22	18.34
Woodstock Sr. UHSD #4	475	9-12	7.37	6.11
Woodstock Union Middle	223	7-8	9.87	8.97

Appendix N Cohort Mobility Grades 4 to 8, Counts 1999-2003

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Albany Community	16		14	N<=10		N<=10	10	16	N<=10
Albert D. Lawton	212		191	21		188	24	169	43
Alburg Community Ed Center	46		42	N<=10		N<=10	46	46	N<=10
Arlington Memorial	52		39	13		39	13	45	N<=10
Bakersfield	39		33	N<=10		24	15	33	N<=10
Barnet Elementary	38		31	N<=10		27	11	35	N<=10
Barre City Elem/Middle	133		114	19		69	64	91	42
Barre Town Elementary	193		167	26		173	20	178	15
Barstow Memorial	66		56	10		59	N<=10	43	23
Barton Graded	44		40	N<=10		26	18	44	N<=10
Bellows Falls Middle	110		100	10		59	51	95	15
Bellows Free Academy, Fairfax	150		133	17		122	28	144	N<=10
Benson Village	23		18	N<=10		13	10	22	N<=10

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Berkshire Elementary	36	N<=10	26	N<=10		20	16	31	N<=10
Black River USD #39	63		55	N<=10		44	19	55	N<=10
Blue Mountain USD #21	54		45	N<=10		28	26	45	N<=10
Bratt. Area Middle UHSD #6	224		203	21		157	67	213	11
Bridport Central	15		14	N<=10		N<=10	N<=10	15	N<=10
Brighton Elementary	28		25	N<=10		N<=10	19	28	N<=10
Browns River Middle USD #17	218		204	14		212	N<=10	184	34
Burke Town	24		22	N<=10		13	11	17	N<=10
Cabot	18		11	N<=10		N<=10	11	14	N<=10
Camels Hump Middle USD #17	216		174	42		188	28	199	17
Canaan	23		22	N<=10		19	N<=10	23	N<=10
Castleton-Hubardton USD#42	108		98	10		92	16	102	N<=10
Charleston Elem.	22		19	N<=10		13	N<=10	17	N<=10
Charlotte Central	114		110	N<=10		111	N<=10	98	16

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Chelsea Elem. High	28		26	N<=10		16	12	22	N<=10
Colchester Middle	326		292	34		299	27	318	N<=10
Concord	18		12	N<=10		N<=10	10	16	N<=10
Coventry Village	22		20	N<=10		12	10	20	N<=10
Craftsbury	25		11	14		15	10	21	N<=10
Crossett Brook Middle USD #45	152		139	13		123	29	139	13
Danville	57		51	N<=10		43	14	41	16
Dorset	37		33	N<=10		36	N<=10	34	N<=10
Dummerston	27		24	N<=10		23	N<=10	20	N<=10
East Haven River	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Edmunds Middle	140		119	21		83	57	135	N<=10
Enosburg Falls Jr/Sr High	51		46	N<=10		37	14	41	10
Essex Middle	305		278	27		271	34	265	40
Fair Haven Grade	47		38	N<=10		29	18	30	17

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Fairfield Center	57		52	N<=10		38	19	53	N<=10
Flood Brook USD #20	31		30	N<=10		25	N<=10	31	N<=10
Folsom Ed. & Community Ctr	42		40	N<=10		36	N<=10	36	N<=10
Frederick H. Tuttle Middle	357		305	52	N<=10	308	48	299	58
Georgia Elem/Middle	129	N<=10	116	12		108	21	111	18
Glover Village	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Grand Isle Elem.	37		35	N<=10		26	11	35	N<=10
Green Mountain UHSD #35	76		53	23		47	29	55	21
Guilford Central	53		50	N<=10		42	11	47	N<=10
Halifax	15		14	N<=10		12	N<=10	14	N<=10
Hartford Mem. Middle	216		200	16		194	22	186	30
Hartland Elementary	87		79	N<=10		75	12	79	N<=10
Harwood Union Middle UHSD #19	121		107	14		101	20	109	12
Hazen UHSD #26	97		81	16		58	39	79	18

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Hinesburg Community	127		119	N<=10		117	10	97	30
Hunt Middle	220		192	28		153	67	207	13
Irasburg Village	29		21	N<=10		N<=10	21	24	N<=10
Lamoille UHSD #18	199		175	24		144	55	175	24
Leland & Gray UHSD #34	117		102	15		116	N<=10	111	N<=10
Lowell Village	24		19	N<=10		12	12	21	N<=10
Lunenburg	31		30	N<=10		15	16	30	N<=10
Lyndon Town	128		118	10		71	57	104	24
Main Street	173		150	23		148	25	147	26
Manchester Elem/Middle	102		83	19		82	20	91	11
Marlboro Elementary	13		13	N<=10		13	N<=10	10	N<=10
Middlebury Union Middle #3	270		231	39		217	53	217	53
Mill River USD #40	200	N<=10	176	23		154	46	179	21
Millers Run USD #37	33		25	N<=10		16	17	31	N<=10

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Millers Run USD #37	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Milton Jr High	230		213	17		194	36	202	28
Missisquoi Valley UHSD #7	206		172	34		162	44	185	21
Montgomery Center	25		21	N<=10		17	N<=10	20	N<=10
Mount Abraham UHSD #28	297		272	25		244	53	236	61
Mt. Anthony Union Middle	382		362	20		291	91	354	28
Newark	12		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Newport Town	20		18	N<=10		10	10	15	N<=10
Newton Elementary	24		18	N<=10		18	N<=10	24	N<=10
North Country Jr UHSD #22	221		175	46		107	114	192	29
North Hero Elem.	15		10	N<=10		10	N<=10	14	N<=10
Northfield Middle/High	106		97	N<=10		82	24	95	11
Norton Village	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Ontop	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Orange Center	23		19	N<=10		20	N<=10	17	N<=10
Orleans Elementary	28		25	N<=10		15	13	28	N<=10
Orwell Village	35		29	N<=10		27	N<=10	34	N<=10
Otter Valley UHSD #8	200		185	15		155	45	170	30
Oxbow UHSD #30	88		80	N<=10		57	31	66	22
Peoples Academy Middle	180		138	42		140	40	151	29
Poultney High	81		70	11		55	26	63	18
Proctor Jr/Sr High	26		21	N<=10		16	10	26	N<=10
Putney Central	42		40	N<=10		30	12	38	N<=10
Randolph UHSD #2	166		139	27		119	47	130	36
Readsboro Elementary	12		11	N<=10		N<=10	N<=10	12	N<=10
Richford Jr/Sr High	56		49	N<=10		32	24	53	N<=10
Rivendell Academy	15		11	N<=10		10	N<=10	15	N<=10
Riverside	177		166	11		108	69	111	66

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Rochester Elem/High	39		33	N<=10		24	15	35	N<=10
Rutland Middle	297		260	37		176	121	219	78
Rutland Town Elem	106		97	N<=10		94	12	101	N<=10
Shelburne Community	174		162	12		165	N<=10	162	12
Sheldon Elementary	66		56	10		44	22	55	11
So. Royalton Elem/High	70		61	N<=10		51	19	61	N<=10
St Albans City	146		134	12		103	43	139	N<=10
St Albans Town Educ. Center	76		55	21		57	19	67	N<=10
St Johnsbury	120		100	20		58	62	83	37
Stamford Elementary	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Stowe Middle/High	91		75	16		81	10	80	11
Sutton	19		18	N<=10		N<=10	13	16	N<=10
Thetford Academy	74	N<=10	66	N<=10		72	N<=10	68	N<=10
Troy	31		28	N<=10		17	14	28	N<=10

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Tunbridge Central	27		24	N<=10		14	13	24	N<=10
Twinfield USD #33	72		62	10		49	23	59	13
U-32 High (UHSD #32)	253		228	25		211	42	226	27
Vergennes UHSD #5	182		158	24	25	112	45	155	27
Waits River Valley USD #36	55		47	N<=10		27	28	49	N<=10
Walden	20		16	N<=10		12	N<=10	17	N<=10
Washington Village	N<=10		N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Waterford Elementary	26		24	N<=10		20	N<=10	23	N<=10
Weathersfield Middle	49		42	N<=10		34	15	45	N<=10
West Rutland	49		39	10		35	14	46	N<=10
Westford Elementary	49		44	N<=10		45	N<=10	44	N<=10
Whitcomb Jr/Sr High	37		29	N<=10		26	11	32	N<=10
Whitingham	31		28	N<=10		20	11	27	N<=10
Williamstown Middle/High	72		64	N<=10		54	18	56	16

Grade 4 to 8 Cohorts 1999-2003 Counts School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Williston	199		176	23		181	18	169	30
Wilmington Middle	41		32	N<=10		32	N<=10	29	12
Windsor High	44		41	N<=10		36	N<=10	41	N<=10
Winooski High	52		N<=10	52		27	25	52	N<=10
Winooski Middle	52	N<=10	N<=10	51		33	19	51	N<=10
Woodstock Union Middle	165		142	23		147	18	128	37

Appendix O Cohort Mobility Grades 4 to 8 Rates 1999-2003

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Albany Community	100.0		87.5	12.5		37.5	62.5	100.0	0.0
Albert D. Lawton	100.0		90.1	9.9		88.7	11.3	79.7	20.3
Alburg Community Ed Center	100.0		91.3	8.7		0.0	100.0	100.0	0.0
Arlington Memorial	100.0		75.0	25.0		75.0	25.0	86.5	13.5
Bakersfield	100.0		84.6	15.4		61.5	38.5	84.6	15.4
Barnet Elementary	100.0		81.6	18.4		71.1	28.9	92.1	7.9
Barre City Elem/Middle	100.0		85.7	14.3		51.9	48.1	68.4	31.6
Barre Town Elementary	100.0		86.5	13.5		89.6	10.4	92.2	7.8
Barstow Memorial	100.0		84.8	15.2		89.4	10.6	65.2	34.8
Barton Graded	100.0		90.9	9.1		59.1	40.9	100.0	0.0
Bellows Falls Middle	100.0		90.9	9.1		53.6	46.4	86.4	13.6
Bellows Free Academy, Fairfax	100.0		88.7	11.3		81.3	18.7	96.0	4.0
Benson Village	100.0		78.3	21.7		56.5	43.5	95.7	4.3
Berkshire Elementary	100.0	2.8	72.2	25.0		55.6	44.4	86.1	13.9

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Black River USD #39	100.0		87.3	12.7		69.8	30.2	87.3	12.7
Blue Mountain USD #21	100.0		83.3	16.7		51.9	48.1	83.3	16.7
Bratt. Area Middle UHSD #6	100.0		90.6	9.4		70.1	29.9	95.1	4.9
Bridport Central	100.0		93.3	6.7		60.0	40.0	100.0	0.0
Brighton Elementary	100.0		89.3	10.7		32.1	67.9	100.0	0.0
Browns River Middle USD #17	100.0		93.6	6.4		97.2	2.8	84.4	15.6
Burke Town	100.0		91.7	8.3		54.2	45.8	70.8	29.2
Cabot	100.0		61.1	38.9		38.9	61.1	77.8	22.2
Camels Hump Middle USD #17	100.0		80.6	19.4		87.0	13.0	92.1	7.9
Canaan	100.0		95.7	4.3		82.6	17.4	100.0	0.0
Castleton-Hubardton USD#42	100.0		90.7	9.3		85.2	14.8	94.4	5.6
Charleston Elem.	100.0		86.4	13.6		59.1	40.9	77.3	22.7
Charlotte Central	100.0		96.5	3.5		97.4	2.6	86.0	14.0
Chelsea Elem. High	100.0		92.9	7.1		57.1	42.9	78.6	21.4

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Colchester Middle	100.0		89.6	10.4		91.7	8.3	97.5	2.5
Concord	100.0		66.7	33.3		44.4	55.6	88.9	11.1
Coventry Village	100.0		90.9	9.1		54.5	45.5	90.9	9.1
Craftsbury	100.0		44.0	56.0		60.0	40.0	84.0	16.0
Crossett Brook Middle USD #45	100.0		91.4	8.6		80.9	19.1	91.4	8.6
Danville	100.0		89.5	10.5		75.4	24.6	71.9	28.1
Dorset	100.0		89.2	10.8		97.3	2.7	91.9	8.1
Dummerston	100.0		88.9	11.1		85.2	14.8	74.1	25.9
East Haven River	100.0		88.9	11.1		55.6	44.4	100.0	0.0
Edmunds Middle	100.0		85.0	15.0		59.3	40.7	96.4	3.6
Enosburg Falls Jr/Sr High	100.0		90.2	9.8		72.5	27.5	80.4	19.6
Essex Middle	100.0		91.1	8.9		88.9	11.1	86.9	13.1
Fair Haven Grade	100.0		80.9	19.1		61.7	38.3	63.8	36.2
Fairfield Center	100.0		91.2	8.8		66.7	33.3	93.0	7.0

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Flood Brook USD #20	100.0		96.8	3.2		80.6	19.4	100.0	0.0
Folsom Ed. & Community Ctr	100.0		95.2	4.8		85.7	14.3	85.7	14.3
Frederick H. Tuttle Middle	100.0		85.4	14.6	0.3	86.3	13.4	83.8	16.2
Georgia Elem/Middle	100.0	0.8	89.9	9.3		83.7	16.3	86.0	14.0
Glover Village	100.0		88.9	11.1		66.7	33.3	100.0	0.0
Grand Isle Elem.	100.0		94.6	5.4		70.3	29.7	94.6	5.4
Green Mountain UHSD #35	100.0		69.7	30.3		61.8	38.2	72.4	27.6
Guilford Central	100.0		94.3	5.7		79.2	20.8	88.7	11.3
Halifax	100.0		93.3	6.7		80.0	20.0	93.3	6.7
Hartford Mem. Middle	100.0		92.6	7.4		89.8	10.2	86.1	13.9
Hartland Elementary	100.0		90.8	9.2		86.2	13.8	90.8	9.2
Harwood Union Middle UHSD #19	100.0		88.4	11.6		83.5	16.5	90.1	9.9
Hazen UHSD #26	100.0		83.5	16.5		59.8	40.2	81.4	18.6
Hinesburg Community	100.0		93.7	6.3		92.1	7.9	76.4	23.6

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Hunt Middle	100.0		87.3	12.7		69.5	30.5	94.1	5.9
Irasburg Village	100.0		72.4	27.6		27.6	72.4	82.8	17.2
Lamoille UHSD #18	100.0		87.9	12.1		72.4	27.6	87.9	12.1
Leland & Gray UHSD #34	100.0		87.2	12.8		99.1	0.9	94.9	5.1
Lowell Village	100.0		79.2	20.8		50.0	50.0	87.5	12.5
Lunenburg	100.0		96.8	3.2		48.4	51.6	96.8	3.2
Lyndon Town	100.0		92.2	7.8		55.5	44.5	81.3	18.8
Main Street	100.0		86.7	13.3		85.5	14.5	85.0	15.0
Manchester Elem/Middle	100.0		81.4	18.6		80.4	19.6	89.2	10.8
Marlboro Elementary	100.0		100.0	0.0		100.0	0.0	76.9	23.1
Middlebury Union Middle #3	100.0		85.6	14.4		80.4	19.6	80.4	19.6
Mill River USD #40	100.0	0.5	88.0	11.5		77.0	23.0	89.5	10.5
Millers Run USD #37	100.0		75.8	24.2		48.5	51.5	93.9	6.1
Millers Run USD #37	100.0		100.0	0.0		0.0	100.0	100.0	0.0

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Milton Jr High	100.0		92.6	7.4		84.3	15.7	87.8	12.2
Missisquoi Valley UHSD #7	100.0		83.5	16.5		78.6	21.4	89.8	10.2
Montgomery Center	100.0		84.0	16.0		68.0	32.0	80.0	20.0
Mount Abraham UHSD #28	100.0		91.6	8.4		82.2	17.8	79.5	20.5
Mt. Anthony Union Middle	100.0		94.8	5.2		76.2	23.8	92.7	7.3
Newark	100.0		75.0	25.0		58.3	41.7	66.7	33.3
Newport Town	100.0		90.0	10.0		50.0	50.0	75.0	25.0
Newton Elementary	100.0		75.0	25.0		75.0	25.0	100.0	0.0
North Country Jr UHSD #22	100.0		79.2	20.8		48.4	51.6	86.9	13.1
North Hero Elem.	100.0		66.7	33.3		66.7	33.3	93.3	6.7
Northfield Middle/High	100.0		91.5	8.5		77.4	22.6	89.6	10.4
Norton Village	100.0		66.7	33.3		66.7	33.3	100.0	0.0
Ontop	100.0		0.0	100.0		0.0	100.0	100.0	0.0
Orange Center	100.0		82.6	17.4		87.0	13.0	73.9	26.1

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Orleans Elementary	100.0		89.3	10.7		53.6	46.4	100.0	0.0
Orwell Village	100.0		82.9	17.1		77.1	22.9	97.1	2.9
Otter Valley UHSD #8	100.0		92.5	7.5		77.5	22.5	85.0	15.0
Oxbow UHSD #30	100.0		90.9	9.1		64.8	35.2	75.0	25.0
Peoples Academy Middle	100.0		76.7	23.3		77.8	22.2	83.9	16.1
Poultney High	100.0		86.4	13.6		67.9	32.1	77.8	22.2
Proctor Jr/Sr High	100.0		80.8	19.2		61.5	38.5	100.0	0.0
Putney Central	100.0		95.2	4.8		71.4	28.6	90.5	9.5
Randolph UHSD #2	100.0		83.7	16.3		71.7	28.3	78.3	21.7
Readsboro Elementary	100.0		91.7	8.3		75.0	25.0	100.0	0.0
Richford Jr/Sr High	100.0		87.5	12.5		57.1	42.9	94.6	5.4
Rivendell Academy	100.0		73.3	26.7		66.7	33.3	100.0	0.0
Riverside	100.0		93.8	6.2		61.0	39.0	62.7	37.3
Rochester Elem/High	100.0		84.6	15.4		61.5	38.5	89.7	10.3

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Rutland Middle	100.0		87.5	12.5		59.3	40.7	73.7	26.3
Rutland Town Elem	100.0		91.5	8.5		88.7	11.3	95.3	4.7
Shelburne Community	100.0		93.1	6.9		94.8	5.2	93.1	6.9
Sheldon Elementary	100.0		84.8	15.2		66.7	33.3	83.3	16.7
So. Royalton Elem/High	100.0		87.1	12.9		72.9	27.1	87.1	12.9
St Albans City	100.0		91.8	8.2		70.5	29.5	95.2	4.8
St Albans Town Educ. Center	100.0		72.4	27.6		75.0	25.0	88.2	11.8
St Johnsbury	100.0		83.3	16.7		48.3	51.7	69.2	30.8
Stamford Elementary	100.0		87.5	12.5		100.0	0.0	87.5	12.5
Stowe Middle/High	100.0		82.4	17.6		89.0	11.0	87.9	12.1
Sutton	100.0		94.7	5.3		31.6	68.4	84.2	15.8
Thetford Academy	100.0	1.4	89.2	9.5		97.3	2.7	91.9	8.1
Troy	100.0		90.3	9.7		54.8	45.2	90.3	9.7
Tunbridge Central	100.0		88.9	11.1		51.9	48.1	88.9	11.1

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Twinfield USD #33	100.0		86.1	13.9		68.1	31.9	81.9	18.1
U-32 High (UHSD #32)	100.0		90.1	9.9		83.4	16.6	89.3	10.7
Vergennes UHSD #5	100.0		86.8	13.2	13.7	61.5	24.7	85.2	14.8
Waits River Valley USD #36	100.0		85.5	14.5		49.1	50.9	89.1	10.9
Walden	100.0		80.0	20.0		60.0	40.0	85.0	15.0
Washington Village	100.0		42.9	57.1		85.7	14.3	85.7	14.3
Waterford Elementary	100.0		92.3	7.7		76.9	23.1	88.5	11.5
Weathersfield Middle	100.0		85.7	14.3		69.4	30.6	91.8	8.2
West Rutland	100.0		79.6	20.4		71.4	28.6	93.9	6.1
Westford Elementary	100.0		89.8	10.2		91.8	8.2	89.8	10.2
Whitcomb Jr/Sr High	100.0		78.4	21.6		70.3	29.7	86.5	13.5
Whitingham	100.0		90.3	9.7		64.5	35.5	87.1	12.9
Williamstown Middle/High	100.0		88.9	11.1		75.0	25.0	77.8	22.2
Williston	100.0		88.4	11.6		91.0	9.0	84.9	15.1

Grade 4 to 8 Cohorts 1999-2003 Rates School Name	Total	School Changes			FRLM Program			504 Plan	
		Un-known	0	1-3	Un-known	No	Yes	No	Yes
Wilmington Middle High	100.0		78.0	22.0		78.0	22.0	70.7	29.3
Windsor High	100.0		93.2	6.8		81.8	18.2	93.2	6.8
Winooski High	100.0		0.0	100.0		51.9	48.1	100.0	0.0
Winooski Middle	100.0	1.9	0.0	98.1		63.5	36.5	98.1	1.9
Woodstock Union Middle	100.0		86.1	13.9		89.1	10.9	77.6	22.4

Appendix P Cohort Mobility Grades 8 to 10, Counts 1999-2003

Grade 8 to 10 Cohorts 1999-2003 Counts School Name	Total	School Changes		FRLM Program			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Arlington Memorial	112	103	N<=10	N<=10	93	18	105	N<=10
Bellows Falls UHSD #27	372	354	18		272	100	323	49
Bellows Free Acad., St. Albans	950	648	302		814	136	899	51
Bellows Free Academy, Fairfax	316	269	47		270	46	287	29
Benson Village	N<=10	N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Black River USD #39	136	132	N<=10		100	36	130	N<=10
Blue Mountain USD #21	126	109	17		89	37	115	11
Brattleboro Sr. UHSD #6	855	803	52		744	111	794	61
Burlington Senior High	683	641	42		432	251	647	36
Burr & Burton Academy	353	286	67	70	264	19	303	50
Cabot	65	53	12		42	23	56	N<=10
Canaan	64	63	N<=10		55	N<=10	61	N<=10
Champlain Valley UHSD #15	1064	1032	32		1032	32	980	84
Chelsea Elem. High	95	75	20		67	28	73	22

Grade 8 to 10 Cohorts 1999-2003 Counts School Name	Total	School Changes		FRLM Program			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Colchester High	658	620	38		604	54	594	64
Concord	45	27	18		27	18	43	N<=10
Craftsbury	47	43	N<=10		31	16	36	11
Danville	141	130	11		99	42	120	21
Enosburg Falls Jr/Sr High	250	181	69		181	69	209	41
Essex Comm. Ed. Ctr. UHSD #46	1374	1228	146		1283	91	1205	169
Fair Haven UHSD #16	452	433	19		370	82	371	81
Green Mountain UHSD #35	164	151	13		119	45	136	28
Hartford High	658	631	27		626	32	572	86
Harwood UHSD #19	545	527	18		476	69	479	66
Hazen UHSD #26	243	231	12		167	76	209	34
Lake Region UHSD #24	314	266	48		188	126	284	30
Lamoille UHSD #18	475	462	13		361	114	434	41
Leland & Gray UHSD #34	258	242	16	N<=10	256	N<=10	245	13

Grade 8 to 10 Cohorts 1999-2003 Counts School Name	Total	School Changes		FRLM Program			504 Plan	
		0	1-3	Un- known	No	Yes	No	Yes
Lyndon Institute	497	458	39		312	185	430	67
Middlebury Sr. UHSD #3	658	624	34		575	83	570	88
Mill River USD #40	416	392	24		365	51	400	16
Milton Sr High	446	423	23		404	42	382	64
Missisquoi Valley UHSD #7	540	508	32		432	108	459	81
Montpelier High	353	322	31		309	44	309	44
Mount Abraham UHSD #28	488	467	21		420	68	458	30
Mt. Anthony Sr. UHSD #14	964	951	13		857	107	892	72
Mt. Mansfield USD #17	918	890	28		857	61	749	169
North Country Sr UHSD #22	934	891	43		626	308	864	70
Northfield Middle/High	241	233	N<=10		192	49	220	21
Ontop	N<=10	N<=10	N<=10		N<=10	N<=10	N<=10	N<=10
Otter Valley UHSD #8	373	363	10		322	51	328	45
Oxbow UHSD #30	265	242	23		221	44	234	31

Grade 8 to 10 Cohorts 1999-2003 Counts School Name	Total	School Changes		FRLM Program			504 Plan	
		0	1-3	Un- known	No	Yes	No	Yes
Peoples Academy	316	294	22		207	109	274	42
Poultney High	141	129	12		93	48	92	49
Proctor Jr/Sr High	126	99	27		98	28	121	N<=10
Randolph UHSD #2	280	265	15		212	68	226	54
Richford Jr/Sr High	148	127	21		95	53	143	N<=10
Rivendell Academy	57	51	N<=10		44	13	54	N<=10
Rochester Elem/High	88	83	N<=10		57	31	56	32
Rutland Senior High	956	826	130		771	185	811	145
So. Burlington High	746	695	51		687	59	625	121
So. Royalton Elem/High	159	148	11		103	56	143	16
Spaulding HSUD #41	800	745	55		687	113	729	71
Springfield High	499	479	20		370	129	421	78
St Johnsbury Academy	442	316	126		337	105	422	20
Stowe Middle/High	127	111	16		116	11	107	20

Grade 8 to 10 Cohorts 1999-2003 Counts School Name	Total	School Changes		FRLM Program			504 Plan	
		0	1-3	Un- known	No	Yes	No	Yes
Thetford Academy	146	111	35		135	11	137	N<=10
Twinfield USD #33	156	146	10		119	37	137	19
U-32 High (UHSD #32)	452	429	23		396	56	401	51
Vergennes UHSD #5	286	273	13	N<=10	228	57	247	39
West Rutland	122	109	13		93	29	115	N<=10
Whitcomb Jr/Sr High	144	139	N<=10		117	27	141	N<=10
Whitingham	73	70	N<=10		53	20	62	11
Williamstown Middle/High	106	90	16		89	17	90	16
Wilmington Middle High	106	99	N<=10		81	25	83	23
Windsor High	218	207	11		170	48	207	11
Winooski High	130	118	12		95	35	125	N<=10
Woodstock Sr. UHSD #4	413	397	16		386	27	346	67

Appendix Q Cohort Mobility Grades 8 to 10, Rates 1999-2003

Grade 8 to 10 Cohorts 1999-2003 Rates School Name	Total	School Changes		FRLM Plan			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Arlington Memorial	100.0	92.0	8.0	0.9	83.0	16.1	93.8	6.3
Bellows Falls UHSD #27	100.0	95.2	4.8		73.1	26.9	86.8	13.2
Bellows Free Acad., St. Albans	100.0	68.2	31.8		85.7	14.3	94.6	5.4
Bellows Free Academy, Fairfax	100.0	85.1	14.9		85.4	14.6	90.8	9.2
Benson Village	100.0	0.0	100.0		100.0	0.0	100.0	0.0
Black River USD #39	100.0	97.1	2.9		73.5	26.5	95.6	4.4
Blue Mountain USD #21	100.0	86.5	13.5		70.6	29.4	91.3	8.7
Brattleboro Sr. UHSD #6	100.0	93.9	6.1		87.0	13.0	92.9	7.1
Burlington Senior High	100.0	93.9	6.1		63.3	36.7	94.7	5.3
Burr & Burton Academy	100.0	81.0	19.0	19.8	74.8	5.4	85.8	14.2
Cabot	100.0	81.5	18.5		64.6	35.4	86.2	13.8
Canaan	100.0	98.4	1.6		85.9	14.1	95.3	4.7
Champlain Valley UHSD #15	100.0	97.0	3.0		97.0	3.0	92.1	7.9
Chelsea Elem. High	100.0	78.9	21.1		70.5	29.5	76.8	23.2

Grade 8 to 10 Cohorts 1999-2003 Rates School Name	Total	School Changes		FRLM Plan			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Colchester High	100.0	94.2	5.8		91.8	8.2	90.3	9.7
Concord	100.0	60.0	40.0		60.0	40.0	95.6	4.4
Craftsbury	100.0	91.5	8.5		66.0	34.0	76.6	23.4
Danville	100.0	92.2	7.8		70.2	29.8	85.1	14.9
Enosburg Falls Jr/Sr High	100.0	72.4	27.6		72.4	27.6	83.6	16.4
Essex Comm. Ed. Ctr. UHSD #46	100.0	89.4	10.6		93.4	6.6	87.7	12.3
Fair Haven UHSD #16	100.0	95.8	4.2		81.9	18.1	82.1	17.9
Green Mountain UHSD #35	100.0	92.1	7.9		72.6	27.4	82.9	17.1
Hartford High	100.0	95.9	4.1		95.1	4.9	86.9	13.1
Harwood UHSD #19	100.0	96.7	3.3		87.3	12.7	87.9	12.1
Hazen UHSD #26	100.0	95.1	4.9		68.7	31.3	86.0	14.0
Lake Region UHSD #24	100.0	84.7	15.3		59.9	40.1	90.4	9.6
Lamoille UHSD #18	100.0	97.3	2.7		76.0	24.0	91.4	8.6
Leland & Gray UHSD #34	100.0	93.8	6.2	0.8	99.2	0.0	95.0	5.0

Grade 8 to 10 Cohorts 1999-2003 Rates School Name	Total	School Changes		FRLM Plan			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Lyndon Institute	100.0	92.2	7.8		62.8	37.2	86.5	13.5
Middlebury Sr. UHSD #3	100.0	94.8	5.2		87.4	12.6	86.6	13.4
Mill River USD #40	100.0	94.2	5.8		87.7	12.3	96.2	3.8
Milton Sr High	100.0	94.8	5.2		90.6	9.4	85.7	14.3
Missisquoi Valley UHSD #7	100.0	94.1	5.9		80.0	20.0	85.0	15.0
Montpelier High	100.0	91.2	8.8		87.5	12.5	87.5	12.5
Mount Abraham UHSD #28	100.0	95.7	4.3		86.1	13.9	93.9	6.1
Mt. Anthony Sr. UHSD #14	100.0	98.7	1.3		88.9	11.1	92.5	7.5
Mt. Mansfield USD #17	100.0	96.9	3.1		93.4	6.6	81.6	18.4
North Country Sr UHSD #22	100.0	95.4	4.6		67.0	33.0	92.5	7.5
Northfield Middle/High	100.0	96.7	3.3		79.7	20.3	91.3	8.7
Ontop	100.0	11.1	88.9		22.2	77.8	88.9	11.1
Otter Valley UHSD #8	100.0	97.3	2.7		86.3	13.7	87.9	12.1
Oxbow UHSD #30	100.0	91.3	8.7		83.4	16.6	88.3	11.7

Grade 8 to 10 Cohorts 1999-2003 Rates School Name	Total	School Changes		FRLM Plan			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Peoples Academy	100.0	93.0	7.0		65.5	34.5	86.7	13.3
Poultney High	100.0	91.5	8.5		66.0	34.0	65.2	34.8
Proctor Jr/Sr High	100.0	78.6	21.4		77.8	22.2	96.0	4.0
Randolph UHSD #2	100.0	94.6	5.4		75.7	24.3	80.7	19.3
Richford Jr/Sr High	100.0	85.8	14.2		64.2	35.8	96.6	3.4
Rivendell Academy	100.0	89.5	10.5		77.2	22.8	94.7	5.3
Rochester Elem/High	100.0	94.3	5.7		64.8	35.2	63.6	36.4
Rutland Senior High	100.0	86.4	13.6		80.6	19.4	84.8	15.2
So. Burlington High	100.0	93.2	6.8		92.1	7.9	83.8	16.2
So. Royalton Elem/High	100.0	93.1	6.9		64.8	35.2	89.9	10.1
Spaulding HSUD #41	100.0	93.1	6.9		85.9	14.1	91.1	8.9
Springfield High	100.0	96.0	4.0		74.1	25.9	84.4	15.6
St Johnsbury Academy	100.0	71.5	28.5		76.2	23.8	95.5	4.5
Stowe Middle/High	100.0	87.4	12.6		91.3	8.7	84.3	15.7

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Grade 8 to 10 Cohorts 1999-2003 Rates School Name	Total	School Changes		FRLM Plan			504 Plan	
		0	1-3	Un-known	No	Yes	No	Yes
Thetford Academy	100.0	76.0	24.0		92.5	7.5	93.8	6.2
Twinfield USD #33	100.0	93.6	6.4		76.3	23.7	87.8	12.2
U-32 High (UHSD #32)	100.0	94.9	5.1		87.6	12.4	88.7	11.3
Vergennes UHSD #5	100.0	95.5	4.5	0.3	79.7	19.9	86.4	13.6
West Rutland	100.0	89.3	10.7		76.2	23.8	94.3	5.7
Whitcomb Jr/Sr High	100.0	96.5	3.5		81.3	18.8	97.9	2.1
Whitingham	100.0	95.9	4.1		72.6	27.4	84.9	15.1
Williamstown Middle/High	100.0	84.9	15.1		84.0	16.0	84.9	15.1
Wilmington Middle High	100.0	93.4	6.6		76.4	23.6	78.3	21.7
Windsor High	100.0	95.0	5.0		78.0	22.0	95.0	5.0
Winooski High	100.0	90.8	9.2		73.1	26.9	96.2	3.8
Woodstock Sr. UHSD #4	100.0	96.1	3.9		93.5	6.5	83.8	16.2

Appendix R Cohort Completion Rates Grades 4 to 8 and 8 to 10

GRADE 4 TO 8 COHORTS

Cohort	Student Information		Merged	Not Merged	% Merged w/t/t previous N	% Not Merged
1	Grade 4 Tests ¹	Spring 1999	6,722	--		
	Grade 5 Census	Fall 1999	6,720	2	100%	0%
	Grade 6 Census	Fall 2000	6,248	472	93%	7%
	Grade 7 Census	Fall 2001	6,004	244	96%	4%
	Grade 8 Census	Fall 2002	5,829	175	97%	3%
	Grade 8 Tests	Spring 2003	5,595	234	96%	4%
	Final Student File		5,595	1,127	83%	17%
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Cohort	Student Information		Merged	Not Merged	% Merged w/t/t previous N	% Not Merged
2	Grade 4 Tests ¹	Spring 2000	7,652	--		
	Grade 5 Census	Fall 2000	7,328	324	96%	4%
	Grade 6 Census	Fall 2001	7,091	237	97%	3%
	Grade 7 Census	Fall 2002	6,848	243	97%	3%
	Grade 8 Census	Fall 2003	6,627	221	97%	3%
	Grade 8 \Tests	Spring 2004	6,400	227	97%	3%
	Final Student File		6,400	1,252	84%	16%

Grade 8 to 10 Cohorts

Cohort	Student Information		% Merged w/t/t previous N	% Not merg.		
	Merged	Not				
1	Grade 8 Tests	Spring 1999	6,443	--		
	Grade 9 Census	Fall 1999	6,144	299		
	Grade 10 Census	Fall 2000	5,526	618		
	Grade 10 Tests	Spring 2001	5,215	311		
			5,215	1,228	81%	19%
Cohort	Student Information		% Merged w/t/t previous N	% Not merg.		
	Merged	Not				
2	Grade 8 Tests	Spring 2000	7,964	--		
	Grade 9 Census	Fall 2000	7,353	611		
	Grade 10 Census	Fall 2001	7,072	281		
	Grade 10 Tests	Spring 2002	6,608	464		
	Final Student File		6,608	1,356	83%	17%
Cohort	Student Information		% Merged w/t/t previous N	% Not merg.		
	Merged	Not				
3	Grade 8 Tests	Spring 2001	7,956	--		
	Grade 9 Census	Fall 2001	7,365	591		
	Grade 10 Census	Fall 2002	7,066	299		
	Grade 10 Tests	Spring 2003	6,608	458		
	Final Student File		6,608	1,348	83%	17%
Cohort	Student Information		% Retained w/t/t previous N	% Lost		
	Retained	Lost				
4	Grade 8 Tests	Spring 2002	7,971	--		
	Grade 9 Census	Fall 2002	7,382	589		
	Grade 10 Census	Fall 2003	7,050	332		
	Grade 10 Tests	Spring 2004	6,737	313		
	Final Student File		6,737	1,234	85%	15%

**Appendix S Cohort Non-Promotional School Changes Grades 4 to 8
and 8 to 10**

**Cohort Mobility: Non-Promotional School Changes
Grade 4 Spring to Grade 8 Spring
Vermont Public Schools, 1999-2004**

School Change	Grade 4 Spring to Grade 5 Fall		Grade 5 Fall to Grade 6 Fall		Grade 6 Fall to Grade 7 Fall	
	No	Yes	No	Yes	No	Yes
Cohort 1	5592	3*	5163	432	5371	224
Cohort 2	6133	267	6124	276	6156	244
	12,000	270	11,000	708	12,000	468
Total in cohort period		12,270		11,708		12,468
		2.2%		6.0%		3.8%

	Grade 7 Fall to Grade 8 Fall		Grade 8 Fall to Grade 8 Spring		All
	No	Yes	No	Yes	
	5405	190	5546	49	5595
	6176	224	6344	56	6400
	12,000	414	12,000	105	12,000
Total in cohort period		12,414		12,105	
		3.3%		0.9%	

*Number unreliable due to the loss of about 5000 student record identification numbers, 1999.

**Cohort Mobility: Non-Promotional School Changes
Grade 8 Spring to Grade 10 Spring
Vermont Public Schools, 1999-2004**

	Summer Move I Before High School		Annual October 1 Census		Intra-School Year Change		
	Grade 8 Spring to Grade 9 Fall		Grade 9 Fall to Grade 10 Fall		Grade 10 Fall to Grade 10 Spring		
School Change	No	Yes	No	Yes	No	Yes	All
Cohort 1	5,149	62	4,831	380	5,172	39	5,211
Cohort 2	6,191	408	6,449	150	6,552	47	6,599
Cohort 3	6,191	417	6,451	157	6,579	29	6,608
Cohort 4	6,295	442	6,567	170	6,686	51	6,737
	23,826	1,329	24,298	857	24,989	166	25,155
Total in cohort period		25,155		25,155		25,155	
		5.3%		3.4%		0.7%	

**Appendix T Hierarchical Generalized Linear Modeling Summaries
Five Mobility Groups**

Part 1. HGLM Estimates of Student Mobility: Grade 4

	Null Model	Student Model	Composition & Student Model	School & Composition & Student Model
<i>Average rates (intercept)</i>				
Base rate	-2.337**	-2.375**	-2.375**	-2.378**
<i>Composition^a</i>				
Math portfolio ^d			-0.621 n.s.	-0.643 n.s.
Writing portfolio ^d			-0.679 n.s.	-0.695 n.s.
<i>School variables^b</i>				
Ave spec ed services rate ^d				-5.740*
<i>Student-level controls^c</i>				
SES proxy firm (1=low) ^d		0.607**	0.606**	0.626**
Math perform. (1=meet/exc stnd) ^d		-0.289**	-0.283*	-0.287*
School-level variance component	0.756	0.786	0.721	0.696
Variance explained relative to the null model (%)	---	0	4.6	7.9
Reliability	0.625	0.631	0.613	0.605

^a Composition measures are individual student variables aggregated to the school level; exploratory level-2 analysis yielded significant t-to-enter for only two composition variables, proportion of students with math (writing) portfolio 2+ years; see Table 2, page 70 for other student composition variables tested.

^b School variables include school composition and resource variables listed in Table 2, page 70; only the proportion of special education services was significant.

^c Student-level controls include background and experience variables listed in Table 2, page 70; only the SES proxy and performance on math test were statistically significant.

^d Variable is grand-mean centered around the overall statewide mean.

* p < 0.05; ** p < 0.001; n.s. not statistically significant.

Part 2. HGLM Estimates of Student Mobility: Grade 8

	Null Model	Student Model	Composition & Student Model	School & Composition & Student Model
<i>Average rates (intercept)</i>				
Base rate	-2.577**	-2.699**	-2.693**	-2.698**
<i>Composition^a</i>				
Prop with 504 plan ^d			1.691*	1.640*
<i>School variables^b</i>				
Ave pup/teach ratio ^d				-2.625 n.s.
<i>Student-level controls^c</i>				
SES proxy frlm (1=low) ^d		0.326*	0.296**	0.316*
Plan 504 (1=yes) ^d		-0.861**	-0.935**	-0.930**
M portfolio (1=2+ yr) ^d		-0.552**	-0.581**	-0.553**
EW portfolio (1=2+ yr) ^d		-0.374*	-0.392**	-0.376*
M perform nsre (1=mt/ex) ^d		-0.521**	-0.543**	-0.535**
School-level variance component	0.07	0.063	0.049	0.059
Variance explained relative to the null model (%)	---	11.1	30.9	16.8
Reliability	0.209	0.161	0.131	0.152

^a Composition measures are individual student variables aggregated to the school level; exploratory level-2 analysis yielded significant t-to-enter for only one composition variable, proportion of students with a 504 plan; see Table 2, page 70 for other student composition variables tested.

^b School variables include school composition and resource variables listed in Table 2, page 70; only the average pupil/teacher was statistically significant.

^c Student-level controls include background and experience variables listed in Table 2, page 70; only performance on English test was not statistically significant.

^d Variable is grand-mean centered around the overall statewide mean.

* p < 0.05; ** p < 0.001; n.s. not statistically significant.

Part 3. HGLM Estimates of Student Mobility: Grade 10

	Null Model	Student Model	Composition & Student Model	School & Composition & Student Model
<i>Average rates (intercept)</i>				
Base rate	-2.834**	-2.909**	-2.901**	-2.885**
<i>Composition^a</i>				
Prop with 504 plan ^d			2.052*	1.969 [†]
<i>School variables^b</i>				
Pupil/teacher ratio ^d				-3.410 n.s.
<i>Student-level controls^c</i>				
Plan 504 (1=yes) ^d		-0.717*	-0.767**	-0.767**
M portfolio (1=2+ yr) ^d		-0.641**	-0.637**	-0.634**
EW portfolio (1=2+ yr) ^d		-0.327*	-0.327**	-0.329**
M perform nsre (1=mt/ex) ^d		-0.445**	-0.447**	-0.447**
School-level variance component	0.145	0.153	0.135	0.136
Variance explained relative to to the null model (%)	---	0	6.90	6.21
Reliability	0.382	0.354	0.366	0.370

^a Composition measures are individual student variables aggregated to the school level. exploratory level-2 analysis yielded significant t-to-enter for only one composition variable, proportion of students with a 504 plan; see Table 2, page 70 for other student composition variables tested.

^b School variables include school composition and resource variables listed in Table 2, page 70; only the average pupil/teacher was statistically significant..

^c Student-level controls include background and experience variables listed in Table 2, page 70; only SES proxy and performance on English test were not statistically significant.

^d Variable is grand-mean centered around the overall statewide mean.

[†] p < 0.10; * p < 0.05; ** p < 0.001; n.s. not statistically significant.

Part 4. HGLM Estimates of Student Mobility: Cohort 4-8

	Null Model	Student Model	Composition & Student Model	School & Composition & Student Model
<i>Average rates (intercept)</i>				
Base rate	-2.021**	-2.114**	-2.088**	---
<i>Composition^a</i>				
Prop participate in frlm ^d			-1.239 [?]	---
<i>School variables^b</i>				
				n.s.
<i>Student-level controls^c</i>				
SES proxy frlm (1=low) ^d		1.021**	1.004**	---
Plan 504 (1=yes) ^d		-0.285*	-.269*	---
School-level variance component	0.411	0.394	0.364	---
Variance explained relative to to the null model (%)	---	4.1	11.4	---
Reliability	0.663	0.654	0.654	---

^a Composition measures are individual student variables aggregated to the school level; proportion of students in grade 8 (a) participating in frlm and (b) with a 504 plan were tested, and only participation in frlm was statistically significant.

^b School variables include school composition and resource variables listed in Table 2, page 70; none were statistically significant.

^c Student-level controls include background and experience variables for grade 8 listed in Table 2 page 70; only SES proxy and Plan 504 were tested for the grade 4 to 8 cohort, and both were statistically significant.

^d Variable is grand-mean centered around the overall statewide mean.

* p < 0.05; ** p < 0.001; n.s. not statistically significant.

Part 5. HGLM Estimates of Student Mobility: Cohort 8-10

	Null Model	Student Model	Composition & Student Model	School & Composition & Student Model
<i>Average rates (intercept)</i>				
Base rate	-2.690**	-2.718**	-2.679**	-2.677**
<i>Composition^a</i>				
Prop participate in frlm ^d			-2.102*	-2.027*
Prop with 504 plan ^d			-4.969**	-4.977**
<i>School variables^b</i>				
Ave pup/teach ratio ^d				-0.253**
Ave prop inst coord/sup ^d				0.073*
<i>Student-level controls^c</i>				
SES proxy frlm (1=low) ^d		**0.457	0.477**	0.481**
Plan 504 (1=yes) ^d		-0.252 [?]	-0.214*	-0.213*
School-level variance component	0.683	0.666	0.658	0.475
Variance explained relative to the null model (%)	---	2.5	3.7	30.5
Reliability	0.869	0.866	0.866	0.828

^a Composition measures are individual student variables aggregated to the school level; proportion of students in grade 10 (a) participating in frlm and (b) with a 504 plan were tested, and both were statistically significant.

^b School variables include school composition and resource variables listed in Table 2, page 70; average (a) pupil/teacher ratio and (b) proportion of instructional coordinators/supervisors were statistically significant.

^c Student-level controls include background and experience variables for grade 10, listed in Table 2 page 70; only SES proxy and Plan 504 were tested for the grade 8 to 10 cohort, and both were statistically significant.

^d Variable is grand-mean centered around the overall statewide mean.

* p < 0.05; ** p < 0.001; n.s. not statistically significant.