



## **Research Brief**

### **Student Mobility Analysis**

#### **Sarasota County Public Schools**

#### **Overview**

The following brief summarizes a mobility analysis for Sarasota County students. The research questions were two-fold:

1. Do students who entered a Sarasota County school in kindergarten (KG) and remained in a Sarasota County school perform better academically than those students who entered a Sarasota County school at a later date?
2. Do students enrolled in a Sarasota County school who move within or out of the school district demonstrate academic differences from students who do not demonstrate mobility?

#### **Mobility Categories – Independent Variable**

Analyzing the movement of a cohort of students across a decade is an arduous task. There are many categories of students, each following different patterns of movement. Therefore, in order to proceed with the analysis, the student categories were operationally defined as follows:

1. Entered School District After Kindergarten – includes students who entered a non-charter Sarasota County school in any grade after the first day of kindergarten in School Year 2003-2004 (SY 03-04).
2. Entered School District in Kindergarten – includes students who entered a non-charter County school in kindergarten by the first day of kindergarten in SY 03-04.
3. Single Move Out-of-District (OD) – includes students who moved out-of-district at some point in their academic careers and returned to the district in time for the grade 3 or grade 10 FCAT or for graduation.
4. Multiple Moves Out-of-District (OD) – includes students who moved out-of-district more than one time and returned to the district in time for the grade 3 or grade 10 FCAT or for graduation.

5. Single Move in District – includes students who made a single move to a different non-charter Sarasota County school.
6. Multiple Moves in District – includes students who made more than one move to different non-charter Sarasota County schools.
7. No Unexpected Mobility – includes students who did not demonstrate movement beyond the typical grade span movement trajectory from elementary to middle and then to high school.

**Considerations and Definitions:**

1. A ‘movement’ is when a student moves either to a different ‘same grade span’ school within or out-of-district. The typical grade span movement from elementary to middle to high school does not constitute a ‘movement.’
2. Charter schools were NOT included in the analysis. Sarasota charter schools included different grade spans during the 14 years studied as many were new and adding grade levels. It would have been difficult to determine if a grade level existed during specific time periods. This would have resulted in very small cell sizes.

**Mobility Group Composition:**

The graduating class of 2016 (“Cohort”) was chosen for this analysis because it is the most recent group to have all three outcome measures on record: Grades 3 and 10 FCAT Reading scores and 2016 graduation status. Students included in the analysis were those with an outcome variable and who had not previously been enrolled in a charter school. Their mobility composition differed over time as depicted in Table 1 which includes both students who entered the district on the first day of kindergarten and later.

**Table 1**

**SY 2012-2013 Grade 9 Cohort**

**Mobility by Grade 3, Grade 10, and 2016 (Expected Graduation Year)**

<b>Move Categories</b>	<b>Grade 3 Count</b>		<b>Grade 10 Count</b>		<b>2016 Count</b>	
<b>Single Move OD</b>	<b>57</b>	<b>2.3%</b>	<b>151</b>	<b>6.3%</b>	<b>219</b>	<b>7.9%</b>
<b>Multiple Moves OD</b>	<b>24</b>	<b>1.0%</b>	<b>218</b>	<b>9.1%</b>	<b>357</b>	<b>12.9%</b>
<b>Single Move In District</b>	<b>506</b>	<b>20.6%</b>	<b>436</b>	<b>18.3%</b>	<b>443</b>	<b>16.0%</b>
<b>Multiple Moves Within District</b>	<b>163</b>	<b>6.6%</b>	<b>326</b>	<b>13.7%</b>	<b>375</b>	<b>13.6%</b>
<b>No Unexpected Mobility</b>	<b>1702</b>	<b>69.4%</b>	<b>1252</b>	<b>52.5%</b>	<b>1367</b>	<b>49.5%</b>
	<b>2452</b>	<b>100.0%</b>	<b>2383</b>	<b>100.0%</b>	<b>2761</b>	<b>100.0%</b>

## Findings:

- Almost 70% of students did not demonstrate mobility after entering the district (KG or after) prior to the Grade 3 assessment.
- Over 52% of students did not demonstrate unexpected mobility by Grade 10 and 49.5% remained stable until graduation.
- Over 20% of students demonstrated a single move prior to the Grade 3 assessment. This reduced to 18.3% by the Grade 10 assessment and 16% by graduation.
- Over 6% of students demonstrate multiple moves within the district prior to the Grade 3 assessment; this increases to over 13% by Grade 10 and graduation.
- There were very little movement (12.9% single move, 7.9% multiple moves) out of district by graduation.

In order to answer the research questions more specifically, the Grade 9 Cohort under study was further divided into two groups for comparison:

- Group 1: Students who entered in kindergarten on the first day of school in 2003-2004.
- Group 2: Students who entered after the first day of kindergarten. This group includes any entry after the first day up to the time the measurement was taken. Specifically, when reviewing the Grade 3 outcome data, students in this group include all students who entered a Sarasota County school after the first day of kindergarten in 2003-2004 up until the Grade 3 assessment was taken. Similarly, when reviewing the Grade 10 outcome data, students in this group include all students who entered a Sarasota County school after the first day of kindergarten in 2003-2004 up until the Grade 10 assessment was taken. Finally, when reviewing graduation data, students in this group include all students who entered a Sarasota County school after the first day of kindergarten in 2003-2004 up until 2016 cohort graduated.

Of the 2,452 students in the Cohort, 758 (31%) students entered a Sarasota school after kindergarten and 1,694 (69%) began kindergarten in the district. For both groups of students, the largest subgroups were those who demonstrated either one move or no movement.

Sixty-seven percent of students who entered the district in kindergarten on day one remained at the same elementary school through Grade 3 (Table 2). This stability decreased to 43.7% for students who remained in the same high school for the Grade 10 assessment, and 39.6% for those who remained through graduation. The percent of students who made a single move to another district elementary, middle or high school was fairly consistent at just over 20%. Seven percent of the students moved several times within the district prior to Grade 3. This increases to 17.4% by graduation. Fifteen percent of the students who began kindergarten on day one in Sarasota County move in and out of the district several times by graduation.

**Table 2**  
**SY 2012-2013 Grade 9 Cohort**  
**Students Entered in Kindergarten**  
**Mobility by Grade 3, Grade 10, and 2016 (Expected Graduation Year)**

<b>STUDENTS WHO ENTERED SARASOTA COUNTY SCHOOLS IN KINDERGARTEN</b>						
	<b>Grade 3 Count</b>		<b>Grade 10 Count</b>		<b>2016 Count</b>	
<b>Single Move OD</b>	<b>36</b>	<b>2.1%</b>	<b>67</b>	<b>5.6%</b>	<b>85</b>	<b>6.5%</b>
<b>Multiple Moves OD</b>	<b>19</b>	<b>1.1%</b>	<b>124</b>	<b>10.3%</b>	<b>197</b>	<b>15.0%</b>
<b>Single Move In District</b>	<b>377</b>	<b>22.3%</b>	<b>285</b>	<b>23.8%</b>	<b>282</b>	<b>21.5%</b>
<b>Multiple Moves Within District</b>	<b>120</b>	<b>7.1%</b>	<b>199</b>	<b>16.6%</b>	<b>228</b>	<b>17.4%</b>
<b>No Unexpected Mobility</b>	<b>1142</b>	<b>67.4%</b>	<b>524</b>	<b>43.7%</b>	<b>520</b>	<b>39.6%</b>
<b>Total</b>	<b>1694</b>	<b>100.0%</b>	<b>1199</b>	<b>100.0%</b>	<b>1312</b>	<b>100.0%</b>

Almost 74% of students who entered the district after the start of kindergarten remained at the same elementary school up to Grade 3 (Table 3). This stability decreased to 61.5% for students who remained in the same high school for the Grade 10 assessment and 58.5% for those who remained through graduation. Seventeen percent of students made a single move to another elementary school within the district after entry and before spring of Grade 3. Almost 13 percent of students made a single move prior to or during Grade 10 and 11% made a single move within the district prior to graduation. Ten percent of the students moved several times within the district prior to graduation. Eleven percent of these students made multiple moves out of the district prior to graduation.

**Table 3**  
**SY 2012-2013 Grade 9 Cohort**  
**Entered Students after Kindergarten**  
**Mobility by Grade 3, Grade 10, and 2016 (Expected Graduation Year)**

<b>STUDENTS WHO ENTERED SARASOTA COUNTY SCHOOLS AFTER KINDERGARTEN</b>						
	<b>Grade 3 Count</b>		<b>Grade 10 Count</b>		<b>2016 Count</b>	
<b>Single Move OD</b>	<b>21</b>	<b>2.8%</b>	<b>84</b>	<b>7.1%</b>	<b>134</b>	<b>9.2%</b>
<b>Multiple Moves OD</b>	<b>5</b>	<b>0.7%</b>	<b>94</b>	<b>7.9%</b>	<b>160</b>	<b>11.0%</b>
<b>Single Move In District</b>	<b>129</b>	<b>17.0%</b>	<b>151</b>	<b>12.8%</b>	<b>161</b>	<b>11.1%</b>
<b>Multiple Moves Within District</b>	<b>43</b>	<b>5.7%</b>	<b>127</b>	<b>10.7%</b>	<b>147</b>	<b>10.1%</b>
<b>No Unexpected Mobility</b>	<b>560</b>	<b>73.9%</b>	<b>728</b>	<b>61.5%</b>	<b>847</b>	<b>58.5%</b>
<b>Total</b>	<b>758</b>	<b>100.0%</b>	<b>1184</b>	<b>100.0%</b>	<b>1449</b>	<b>100.0%</b>

## Academic Outcome – Dependent Variables

Three academic outcome measures were included in the analysis:

1. Grade 3 Florida Comprehensive Assessment Test (FCAT 1.0) - Reading
2. Grade 10 Florida Comprehensive Assessment Test (FCAT 2.0) - Reading
3. Graduation and/or Dropout status

## Reading Achievement on Grade 3 and Grade 10 FCAT Reading

The majority of the students in the Cohort participated in the Grade 3 FCAT 1.0 Reading assessment in School Year 2006-2007 and the Grade 10 FCAT 2.0 Reading assessment in School Year 2013-2014. These were two different assessments, aligned to different standards and which utilized different scale ranges. Comparisons within grade are valid but those across grades are not. The scale ranges and achievement levels for the Grade 3 and Grade 10 FCAT Reading assessments are depicted in Table 4.

**Table 4**  
**FCAT Reading Grade 3 and Grade 10**  
**Scale Score and Achievement Levels**

FCAT	Achievement Level	1	2	3	4	5
FCAT 1.0	Grade 3 Scale Range	100-258	259-283	284-331	332-393	394-500
FCAT 2.0	Grade 10 Scale Range	188-227	228-244	245-255	256-270	271-302

## Reading Achievement on Grade 3 FCAT Reading

In 2006-2007, 80% of all Sarasota students scored at a level 3 or above with an average scale score of 329. Students who began kindergarten on the first day in Sarasota County scored 9 points higher on the Grade 3 FSA ELA assessment. (Table 5).

**Table 5**  
**Grade 3 Average Scale Score FCAT Reading**

Category	Average Scale Score	Number of Students
Entered Sarasota Public School after KG	325.50	676
Entered Sarasota Public School in KG	334.35	1638

Table 6 depicts the average scale score on the Grade 3 FCAT reading assessment by mobility status. Data is disaggregated by students who entered the district after the first day of kindergarten and students who entered the district on the first day of kindergarten. Within the two groups, students who did not have any additional movement (No Unexpected Mobility) had the highest average reading scale score. The group which began school at a district

kindergarten on day one and did not move elementary schools before the Grade 3 assessment had the highest scale score of 338.34. The group which began school after the first day of kindergarten and did not have any unexpected mobility before the Grade 3 assessment had an average scale score of 329.69.

**Table 6**  
**SY 2012-2013 Grade 9 Cohort**  
**Performance on Grade 3 Reading FCAT**

		Average Scale Score	Gap Between Subgroup and Those With No Unexpected Mobility	Number of Students
Entered District After KG	Single Move OD	286.11	43.58	9
	Multiple Moves OD	263.33	66.36	3
	Single Move In District	321.48	8.21	125
	Multiple Moves Within District	298.49	31.2	39
	No Unexpected Mobility	329.69		500
Began KG in District	Single Move OD	337.05	1.29	19
	Multiple Moves OD	331.8	6.2	10
	Single Move In District	330.36	7.98	365
	Multiple Moves Within District	308.11	30.0	117
	No Unexpected Mobility	338.34		1127

The students who entered a district school after day one of kindergarten and had multiple moves out of district had the lowest average scale score which was 66.36 points lower than those who demonstrated no unexpected mobility within that group. Compared to those who entered the district after kindergarten, those who began in the district achieved higher average scale scores for each mobility subgroup. Students who began school within a district kindergarten on day one and remained at the same elementary school through Grade 3 scored 75 points higher on the Grade 3 FSA ELA assessment compared to students who began at a Sarasota school after the first day of kindergarten and moved multiple times in and out of the district.

**Reading Achievement on the Florida Standards Assessment – Grade 10**

- In 2013-2014, 68% of all Sarasota students scored at a level 3 or above with an average scale score of 253. Students who began kindergarten on the first day in Sarasota County scored 2 points higher on the Grade 10 FSA ELA assessment. (Table 7).

**Table 7**

**Grade 10 Average Scale Score FCAT Reading**

Category	Average Scale Score	Number
Entered Sarasota Public School after KG	252.08	973
Entered Sarasota Public School in KG	254.56	1055

Table 8 depicts the average scale score on the Grade 10 FCAT reading assessment by when students entered the district and mobility status. Students with no unexpected mobility) had the highest average reading scale scores. Students who began school within a district kindergarten on day one and did not move schools had the highest average scale score of 258.51. Students who entered the district after the first day of kindergarten and did not have any unexpected mobility thereafter had an average scale score of 255.05.

**Table 8**

**SY 2012-2013 Grade 9 Cohort  
Performance on Grade 10 Reading FCAT**

		Grade 10 FCAT Reading		
		Average Scale Score	Gap Between Subgroup and Those With No Unexpected Mobility	Number of Students
Entered District After KG	Single Move OD	249.48	5.57	50
	Multiple Moves OD	241.79	13.26	52
	Single Move In District	249.2	5.85	132
	Multiple Moves Within District	243.22	11.83	97
	No Unexpected Mobility	255.05		642
Began KG in District	Single Move OD	249.95	8.56	43
	Multiple Moves OD	245.87	12.64	75
	Single Move In District	256.1	2.41	269
	Multiple Moves Within District	245.64	12.87	171
	No Unexpected Mobility	258.51		497

Students who demonstrated multiple moves within or out of the district had 11 to 13 point lower average scale scores than students who did not demonstrate unexpected mobility.

Students who entered the district after the first day of kindergarten and made a single movement in or out of the district scored on average over 5 points lower than students who did not demonstrate unexpected mobility. Students who began in a the district kindergarten on day one and made a single move to another district school scored 2.4 points lower on average than students who demonstrated no unexpected mobility. However, these students who made a single move out of district scored on average 8.6 points lower than students who demonstrated no unexpected mobility. Finally, Students who began school within a district kindergarten on day one and did not demonstrate mobility scored 16 points higher on the Grade 10 FSA ELA assessment compared to students who began at a Sarasota school after the first day of kindergarten and moved multiple times in and out of the district.

### **Graduation Rate**

The federal uniform graduation rate is a single four year cohort metric that is used nationally, across states and districts. The graduation rate does not include students passing the General Education Development (GED) assessment, special diplomas, or students transferring to a private school. Specific Florida graduation and dropout codes are used to identify this status; they can be accessed at:

<http://www.fldoe.org/accountability/data-sys/database-manuals-updates/2016-17-student-info-system/index.stml>

In School Year 2015-2016 the Sarasota graduation rate was 85%. Table 9 depicts the percent of the Cohort who received either a standard diploma or a dropout code, disaggregated by when they entered the district.

Ninety-eight percent of students who began kindergarten in Sarasota County schools and did not change schools or make a single move to another school within the district graduated high school. Over 94% of students who entered a Sarasota school after the first day of kindergarten but either did not demonstrate movement thereafter or moved a single time also graduated. Students who demonstrated multiple out of district moves had the highest percent of dropouts at over 34%. Similarly 19% of students who made a single move out of district dropped out. Twenty-four percent of students who entered kindergarten at a later date and made a single movement out of district also dropped out.

**Table 9**  
**SY 2012-2013 Grade 9 Cohort**  
**Graduation and Dropout Percentages**

		Number of Students	Graduated		Dropped Out	
			Percent	N Count	Percent	N Count
Entered District After KG	Single Move OD	134	76%	54	24%	17
	Multiple Moves OD	160	66%	53	34%	27
	Single Move In District	161	96%	111	4%	5
	Multiple Moves Within District	147	78%	69	22%	20
	No Unexpected Mobility	847	94%	536	6%	32
Began KG in District	Single Move OD	85	81%	42	19%	10
	Multiple Moves OD	197	64%	69	36%	39
	Single Move In District	282	98%	254	2%	5
	Multiple Moves Within District	228	88%	141	12%	20
	No Unexpected Mobility	520	98%	450	2%	10

## Summary

### Mobility

- Most students (almost 70%) who enter Sarasota County schools before the Grade 3 assessment demonstrate stability. This stability decreases over time: over 52% of students remained stable through the Grade 10 assessment and 49.5% remained stable through graduation.
- Over 20% of students made a single move prior to the Grade 3 assessment. This decreased by the Grade 10 assessment (18.3%) and graduation (16%).
- Approximately 13% of students demonstrated multiple moves either to other district schools or in and out of district schools by graduation.

### Performance on FSA ELA:

- Students who began kindergarten on the first day in Sarasota County scored 9 points higher on the Grade 3 FSA ELA assessment than any student who entered after the first day of kindergarten.
- Students who began kindergarten on the first day in Sarasota County scored 2 points higher on the Grade 10 FSA ELA assessment than any student who entered after the first day of kindergarten.
- Students who began school within a district kindergarten on day one and remained at the same elementary school through Grade 3 scored 75 points higher on the Grade 3 FSA ELA assessment compared to students who began at a Sarasota school after the first day of kindergarten and moved multiple times in and out of the district.
- Students who began school within a district kindergarten on day one and did not demonstrate mobility scored 16 points higher on the Grade 10 FSA ELA assessment compared to students who began at a Sarasota school after the first day of kindergarten and moved multiple times in and out of the district.
- Students who demonstrated multiple moves within or out of the district had 11 to 13 point lower average scale scores on the Grade 10 FSA ELA than students who did not demonstrate any unexpected mobility.

### Graduation:

- Ninety-eight percent of students who began kindergarten in Sarasota County schools and did not change schools or made a single move to another district school graduated high school on time.
- For students who entered a Sarasota county school either in kindergarten or later, those who demonstrated multiple moves out of district schools had the highest dropout rate at over 34%.