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Who Stays? Who Leaves? An Analysis of Higher Achieving Hartford Public Schools Students

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Who Stays? Who Leaves?
An Analysis of Higher-Achieving Hartford Public School Students

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Abstract

This project seeks to follow Hartford students through the Hartford Public Schools (HPS). Our analysis focuses on two simple questions:

- Among the Hartford residents attending HPS, what are the characteristics of the high-achieving students compared to the students who are not high-achieving?
- Among Hartford residents attending HPS, what are the characteristics of those who leave compared to those who stay?

Our study includes all Hartford residents grades 3 through 8 from 2008/09 to 2011/12. We conclude that compared to those students who stay, students who leave the HPS system have different school and resident zones, ethnicities, grade levels, and attend schools that had comparable test score rankings. **However, high-achievement does not distinguish those who leave from those who stay.**
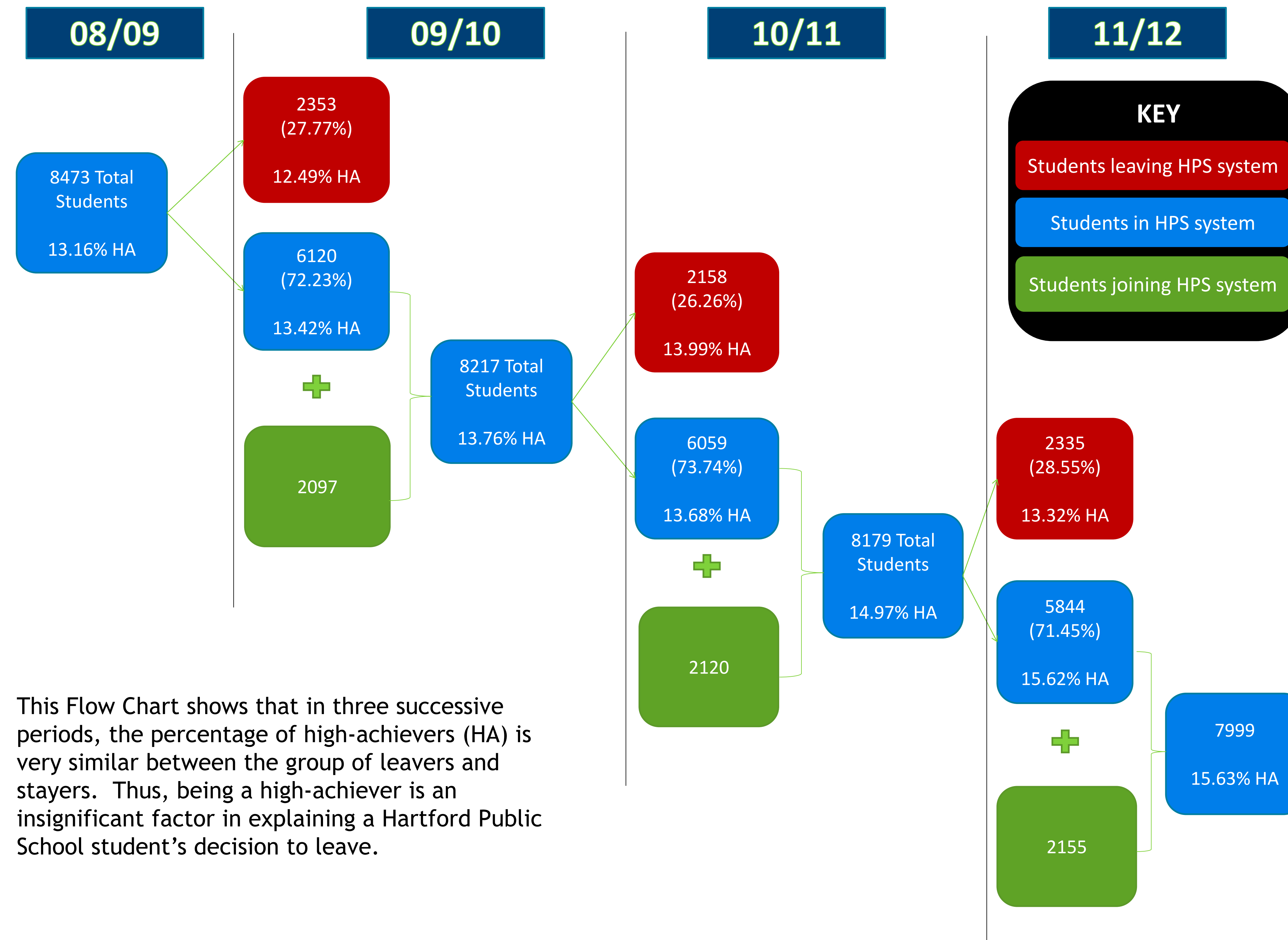
Definition of Variables

- **Hartford Public Schools:** Both district and inter-district magnet schools operated by HPS
- **CMT:** Connecticut Mastery Test
- **Hartford resident:** An HPS student who resides in the city of Hartford
- **Leavers:** Students who appear in the HPS dataset grades 3-8, then disappear for any reason (moved, enrolled in non-HPS magnets, promoted to 9th grade, etc.)
- **High-Achievers (HA):** Grade 3-8 students whose composite CMT score was at or above goal level
- **NAs:** Students who did not take at least one of the CMT exams
- **Racial Majority:** Students who are in the racial majority at their school (e.g., a black student in a predominantly black school)
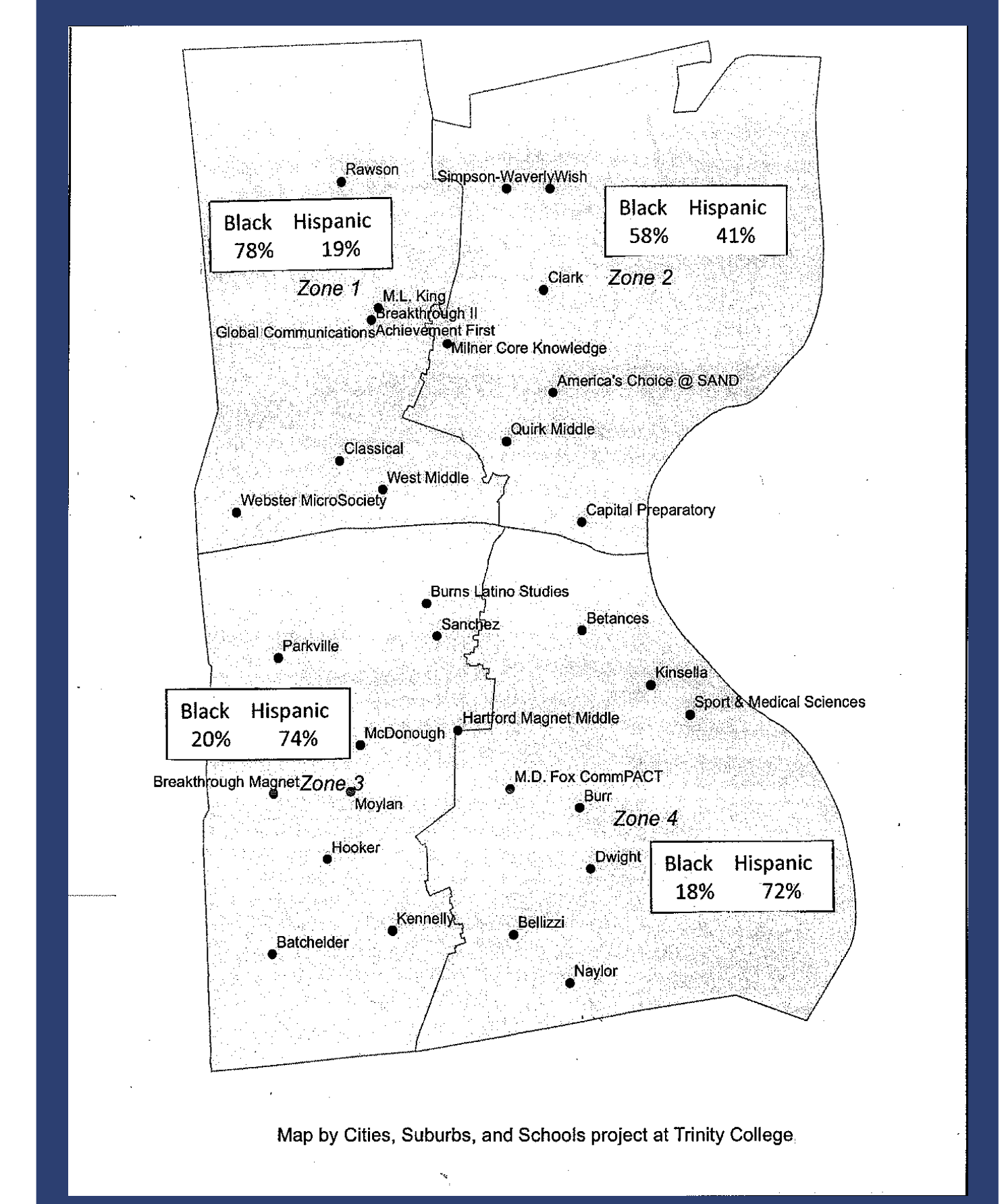
Methodology

Acquire Data	• Data acquired from HPS for years 2008-2012
Geocode Data	• Data geo-coded to secure the privacy of student
Standardize Variable Names	• Standardization completed for all four data sets
Merge Data	• One huge data set created • American Community Survey Data merged • Merged =Hartford Public School Racial Composition data
Create 2-Way Tabulations	• Data examined for possible patterns over 2008-12
Analyze Data	• Characteristics of students who left HPS and • Trajectory patterns of HPS Students identified

HPS Student Trajectory Results

08/09 | **09/10** | **10/11** | **11/12**

KEY
- Students leaving HPS system
- Students in HPS system
- Students joining HPS system

8473 Total Students — 13.16% HA

2353 (27.77%) — 12.49% HA
6120 (72.23%) — 13.42% HA
2097

8217 Total Students — 13.76% HA

2158 (26.26%) — 13.99% HA
6059 (73.74%) — 13.68% HA
2120

8179 Total Students — 14.97% HA

2335 (28.55%) — 13.32% HA
5844 (71.45%) — 15.62% HA
2155

7999 — 15.63% HA

This Flow Chart shows that in three successive periods, the percentage of high-achievers (HA) is very similar between the group of leavers and stayers. Thus, being a high-achiever is an insignificant factor in explaining a Hartford Public School student's decision to leave.
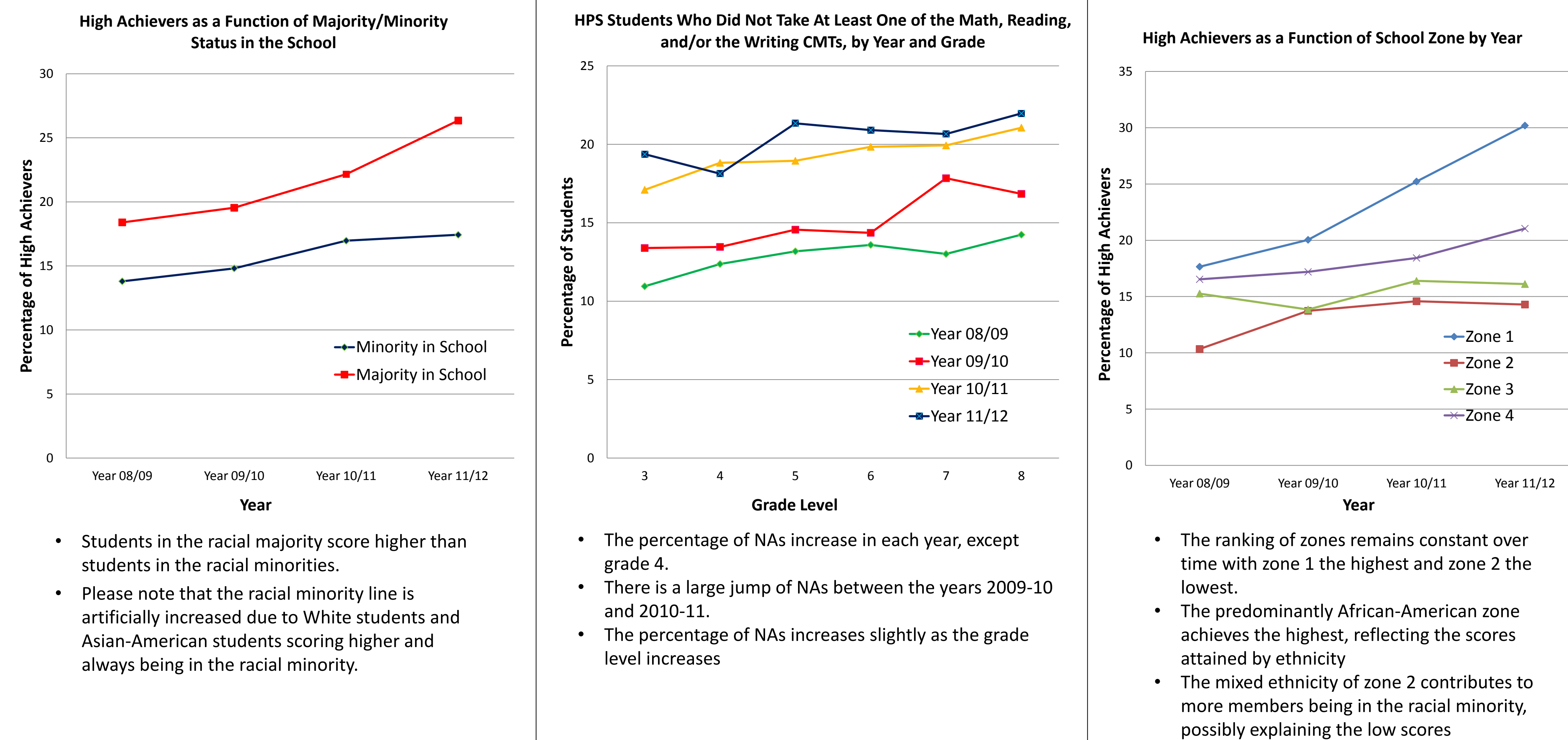
HPS Student Clustering Results

High Achievers as a Function of Majority/Minority Status in the School

- Minority in School
- Majority in School

- Students in the racial majority score higher than students in the racial minorities.
- Please note that the racial minority line is artificially increased due to White students and Asian-American students scoring higher and always being in the racial minority.

HPS Students Who Did Not Take At Least One of the Math, Reading, and/or the Writing CMTs, by Year and Grade

- Year 08/09
- Year 09/10
- Year 10/11
- Year 11/12

- The percentage of NAs increase in each year, except grade 4.
- There is a large jump of NAs between the years 2009-10 and 2010-11.
- The percentage of NAs increases slightly as the grade level increases

High Achievers as a Function of School Zone by Year

- Zone 1
- Zone 2
- Zone 3
- Zone 4

- The ranking of zones remains constant over time with zone 1 the highest and zone 2 the lowest.
- The predominantly African-American zone achieves the highest, reflecting the scores attained by ethnicity
- The mixed ethnicity of zone 2 contributes to more members being in the racial minority, possibly explaining the low scores

Map of Hartford School Zones

Map by Cities, Suburbs, and Schools project at Trinity College

Significant Differences of Stayers and Leavers

	2008-09	2009-10	2010-11
School Zone	✔	✔	✔
Residence Zone	✔	✔	✔
Ethnicity	✔	✔	✔
ELL	✔	✔	✔
Grade	✔	✔	✔
Majority/Minority			
Hispanic	✔	✔	✔
African-American	✔	✔	✔
Goal Level of School	✔	✔	✔
Gain Level of School	✔	✔	✔
Achievement Level			
High-Achieving			
Family's Income			
Homeownership			

Acknowledgements

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