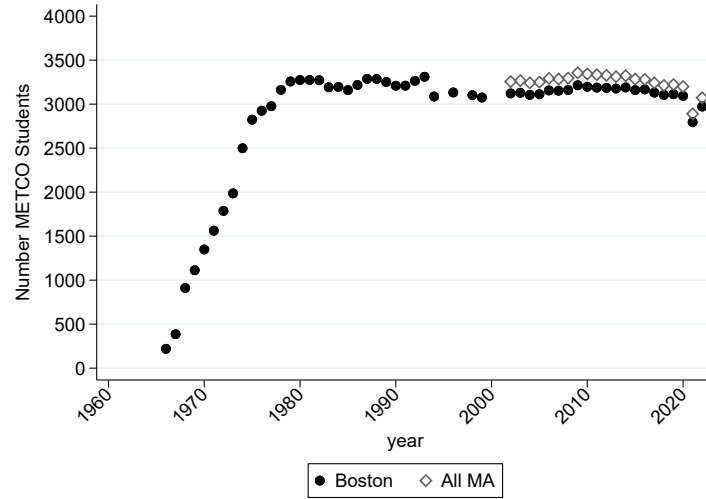# Online Appendix to

The Impact of Increased Exposure of Diversity on Suburban Students' Outcomes: An Analysis of the METCO Voluntary Desegregation Program

Elizabeth Setren

Updated March 2025

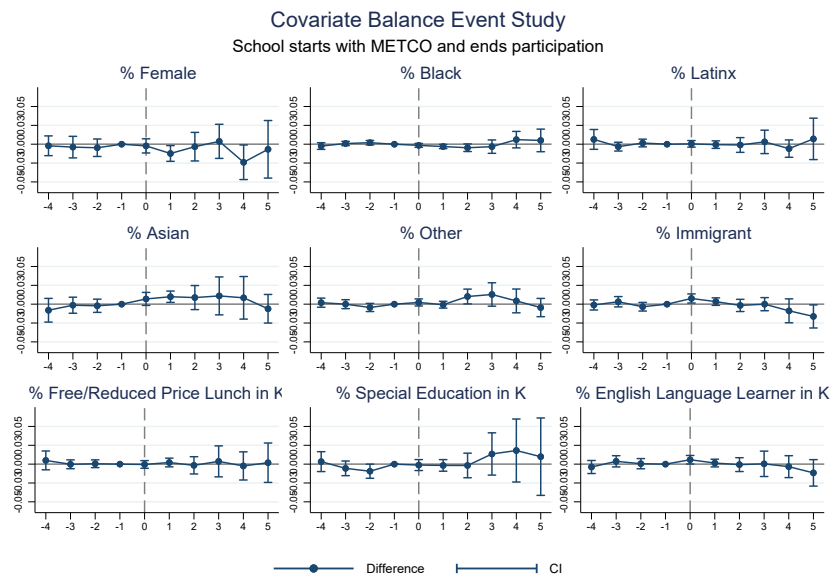Appendix Figure 1: METCO Enrollment Over Time

Notes: This figure plots the total METCO enrollment since the program started in 1966. Pre-2001 data comes from the Northeastern University Archives METCO Collection and was only available for Boston, not for Springfield. Not all years were available in the archives. The 2001 - present data come from the Massachusetts Department of Elementary and Secondary Education. All MA includes the Boston and Springfield programs.

Appendix Figure 2: Event Study of Baseline Covariates

Covariate Balance Event Study

School does not start with METCO and begins participation
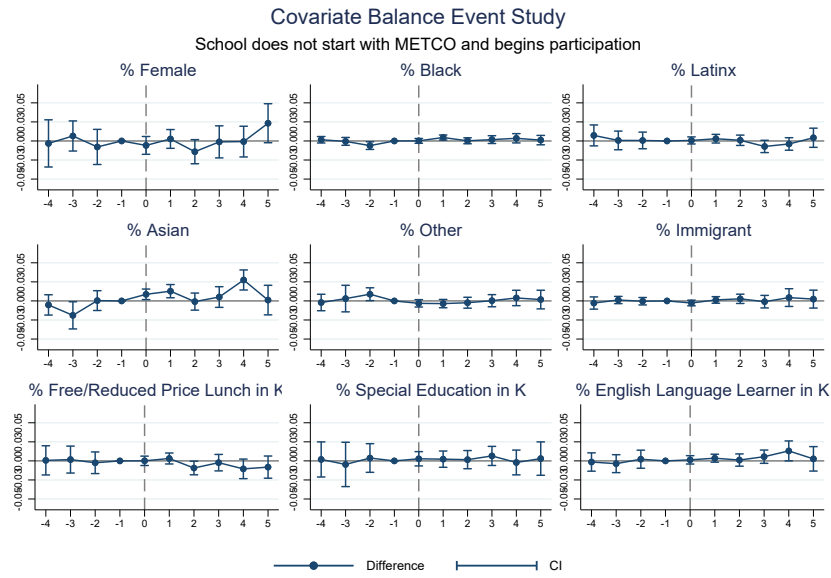
Notes: This figure plots the baseline covariates event study estimates from Equation 4 for schools that did not start with METCO and began enrolling METCO students. The 95% confidence intervals (CI) are displayed.

Appendix Figure 3: Event Study of Baseline Covariates

Covariate Balance Event Study

School starts with METCO and ends participation

Notes: This figure plots the baseline covariate event study estimates from Equation 4 for schools that paused or ended their METCO enrollment. The 95% confidence intervals (CI) are displayed.

Appendix Figure 4: Individual School District Heterogeneity
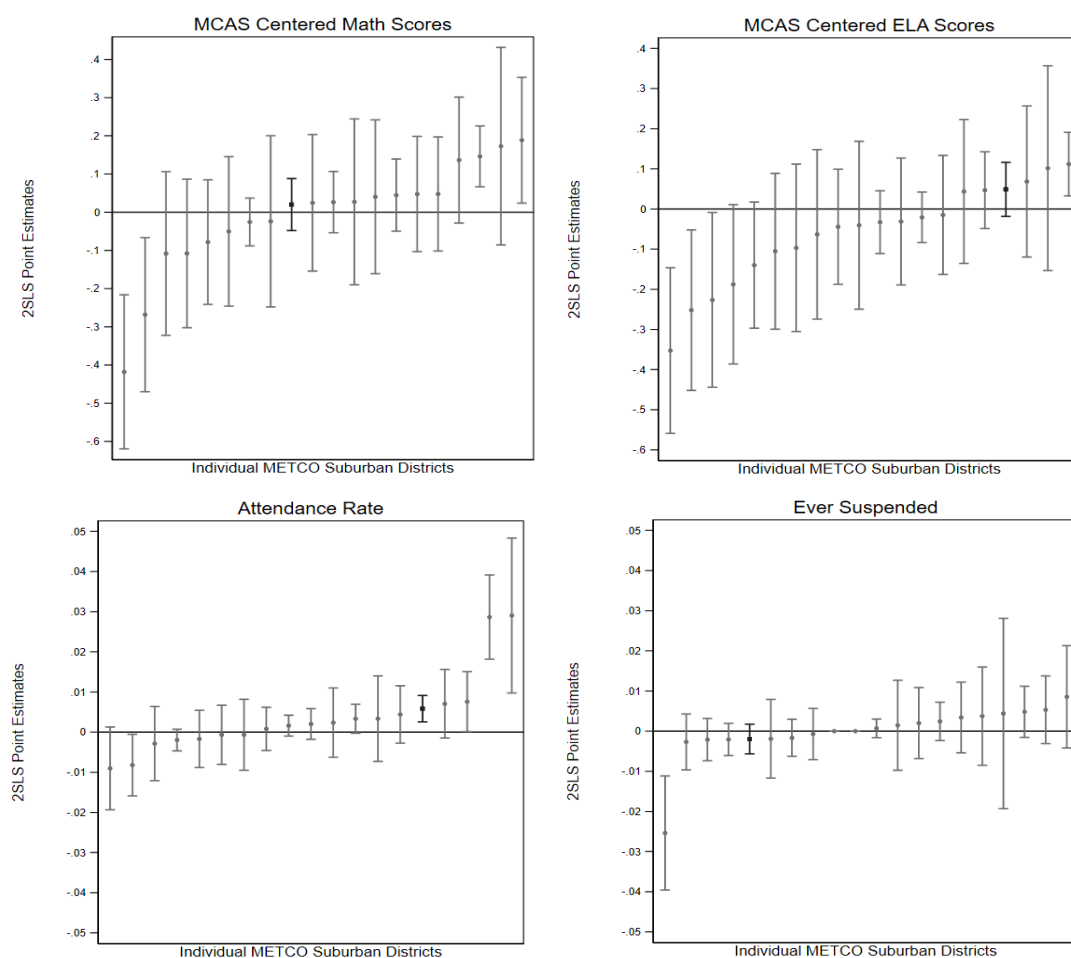
Note: This figure shows the 2SLS point estimates for individual school districts that have a first stage in the class size prediction instrument. Bars reflect the 95 percent confidence intervals. The units for the standardized test scores are standard deviations from the stateXyearXgrade average. The units for attendance and suspension rate range from 0 to 1. The point estimate for all districts combined is in black. See Table 5 for regression specifications.

Appendix Figure 5: Map of Massachusetts METCO districts

- METCO Urban Districts
- METCO Suburban Districts
- Former METCO Suburban Districts
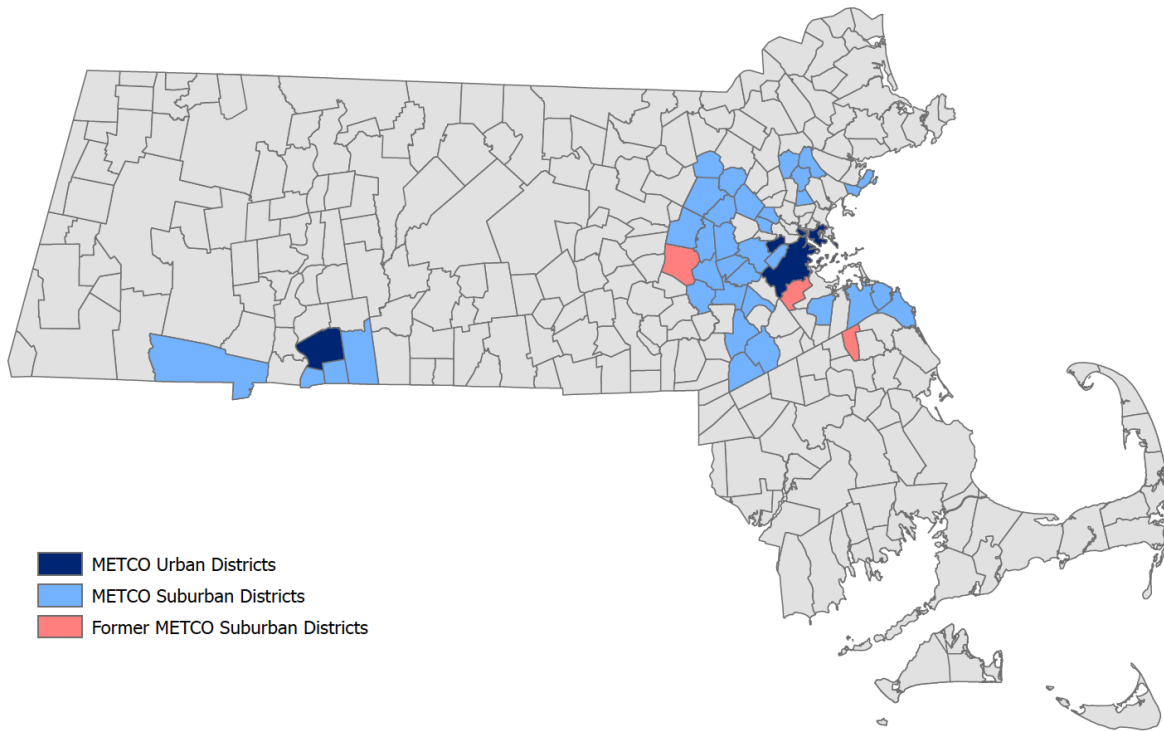
Appendix Table 1: District-level METCO Program Characteristics and Integration Supports

Student Programming	
After school programs	20.7 %
Bus for extracurriculars	50.0 %
Summer programs	20.7 %
Tutoring	48.1 %
Academic advising	44.8 %
METCO student events	66.7 %
College visits or fairs	10.3 %
Host program	35.3 %
STEM program	17.2 %
METCO Staff	
Director	100.0 %
Counselor or Social Worker	17.6 %
Parent Involvement & Access to Information	
Parent-School Liason or Parent Association	41.4 %
Newsletter with METCO information	34.5 %
Updated METCO website	48.3 %
Financial	
College scholarships	23.5 %
Has Kindergarten fees	35.3 %
Reduced tuition for Kindergarten fees	30.0 %
Family dues required	17.2 %
Food program	6.9 %
Community support	
Friends of METCO	8.8 %
Diversity organization in district	52.9 %
Diversity organization in town	35.3 %
Local business funding	16.7 %

Notes: This table shows the percent of METCO suburban districts that have various supports that are either explicitly for the METCO program and students or could help support them. It also catalogs the presence of Kindergarten fees and family dues which could hinder participation. All data was collected in 2018 using publicly available material including town websites and school websites.

Appendix Table 2: OLS Estimates of the Relationship between METCO and Black and Latinx Resident Student Outcomes

	Metro-Area			Receiving Districts				
	Non-METCO mean	Relationship between METCO and Outcome		Non-METCO mean	Relationship between METCO and Outcome			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Math	-0.522	0.445***	0.042***	-0.211	0.104***	0.038***	0.005	0.008
		(0.011)	(0.014)		(0.012)	(0.014)	(0.014)	(0.014)
N		612,030	612,030		59,428	59,428	55,599	55,599
English	-0.490	0.491***	0.029**	-0.106	0.098***	0.024*	0.004	0.003
		(0.010)	(0.013)		(0.011)	(0.013)	(0.014)	(0.013)
N		604,923	604,923		58,912	58,912	55,103	55,103
Attendance Rate	0.894	0.020***	0.006***	0.915	0.006***	0.004***	0.001	0.001
		(0.001)	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
N		1,414,073	1,414,073		132,819	132,819	117,697	117,696
Suspended	0.100	-0.055***	-0.011***	0.030	-0.009***	0.000	0.001	0.001
		(0.001)	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
N		1,354,868	1,354,868		126,640	126,640	117,697	117,696
Number of Suspensions	0.345	-0.222***	-0.045***	0.063	-0.040***	0.001	0.003	0.003
		(0.005)	(0.004)		(0.006)	(0.004)	(0.005)	(0.005)
N		1,354,868	1,354,868		126,640	126,640	117,697	117,696
Year& Grade FE, Region Control		X	X		X	X	X	X
District FE			X			X	X	X
Lagged School Traits							X	X
Individual Baseline Controls								X

Notes: This table reports the OLS estimates of the relationship between the proportion of METCO students in a schoolXgrade and the outcomes of Black and Latinx non-METCO students in that suburban district. The endogenous variable is the ratio of METCO to non-METCO students in a schoolXgrade multiplied by 20 so that a one unit increase in the endogenous variable can be interpreted as adding one METCO student to a 20-person class. All models control for whether the district is in the Springfield metropolitan area and include year and grade fixed effects. Lagged school traits include the prior year's average attendance rate, suspension rate, days suspended, and standardized Math and English test scores as well as the proportion of students receiving free or reduced price lunch, special education or English Language Learner services, and racial demographics. Individual baseline controls include the following information for the first year students appear in the data: gender, race and ethnicity, free and reduced price lunch, special education and level of services, English Language Learner and level of proficiency, and immigrant.

Appendix Table 3: Descriptive Statistics of Analysis Samples

Baseline Characterstics	All Suburban Resident Students (1)	DiD Sample METCO as Treatment (2)	DiD Sample No METCO as Treatment (3)	2SLS Sample (4)
Female	0.49	0.49	0.49	0.49
Black	0.02	0.02	0.02	0.04
Latino/a	0.04	0.04	0.04	0.05
Asian	0.11	0.07	0.13	0.12
White	0.79	0.84	0.78	0.76
Subsidized Lunch	0.06	0.08	0.05	0.06
Special Education	0.14	0.15	0.15	0.14
Immigrant	0.02	0.01	0.03	0.02
English-Language Learner	0.07	0.03	0.07	0.07
English Exam	0.48	0.40	0.50	0.46
Math Exam	0.47	0.41	0.50	0.47
Unique Students	198,170	80,065	91,432	125,724
Unique Students w/ Test Scores	123,541	37,953	48,095	31,827
Years of Data	21	16	16	21
Unique Districts	35	30	31	19
Unique Districts Treated		25	25	
Unique Schools	152	117	102	95
Unique Schools Treated		78	83	
Unique School/Cohorts	2,842	1,165	1,287	
Unique School/Cohorts Treated		595	676	

Notes: This table displays baseline demographic characteristics for the original dataset and each of the analysis samples. Data is unique at the student-level. Math and English exam are the earliest exam scores (often third grade) and only include observations prior to the policy change for the difference and differences and the non-treated observations for 2SLS.

Appendix Table 4: Covariate Balance for Difference in Differences Analysis

		School does not start with METCO and Begins Participation			School starts with METCO and Ends Participation	
Baseline Characterstics	Treated Cohort Mean	Difference between Treated Cohort and Untreated Cohort within Treated Schools	Difference between Cohorts in Treated Schools and Untreated Schools	Treated Cohort Mean	Difference between Treated Cohort and Untreated Cohort within Treated Schools	Difference between Cohorts in Treated Schools and Untreated Schools
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.484	0.007	-0.002	0.486	0.009*	-0.005*
	24,231	(0.006)	(0.004)	34,007	(0.005)	(0.002)
		42,664	1,411,422		51,940	1,901,351
Black	0.017	0.004***	0.000	0.014	0.002	-0.001*
	24,231	(0.001)	(0.001)	34,007	(0.001)	(0.001)
		42,664	1,411,422		51,940	1,901,351
Latino/a	0.041	0.002	0.001	0.036	0.001	0.000
	24,231	(0.002)	(0.001)	34,007	(0.002)	(0.001)
		42,664	1,411,422		51,940	1,901,351
Asian	0.114	0.001	0.005**	0.111	-0.001	0.004***
	24,231	(0.003)	(0.002)	34,007	(0.003)	(0.002)
		42,664	1,411,422		51,940	1,901,351
White	0.794	-0.004	-0.009***	0.811	-0.001	-0.003*
	24,231	(0.004)	(0.003)	34,007	(0.004)	(0.002)
		42,664	1,411,422		51,940	1,901,351
Subsidized Lunch	0.047	-0.001	0.000	0.040	0.000	0.002**
	24,231	(0.002)	(0.002)	34,007	(0.002)	(0.001)
		42,664	1,411,422		51,940	1,901,351
Special Education	0.144	0.002	0.000	0.136	-0.003	-0.001
	24,231	(0.004)	(0.003)	34,007	(0.004)	(0.002)
		42,664	1,411,422		51,940	1,901,351
English-Language Learner	0.063	0.002	0.002	0.056	0.003	0.002*
	24,231	(0.003)	(0.002)	34,007	(0.002)	(0.001)
		42,664	1,411,422		51,940	1,901,351
Immigrant	0.020	0.001	0.001	0.019	0.000	0.001*
	24,231	(0.002)	(0.001)	34,007	(0.001)	(0.001)
		42,664	1,411,422		51,940	1,901,351

Notes: This table shows descriptive statistics for the suburban resident students in cohorts that have METCO peers in Column 1. Column 2 shows the coefficients from regressions of observed characteristics on whether a student is in a treated cohort, controlling for school indicators in the sample of suburban resident students in schools that have METCO enrollment policy changes. Column 3 reports the coefficients from regressions of observed characteristics on whether a student is in a treated school versus a comparison school, controlling for each treatment and comparison group set. Columns 4 through 6 show the analagous information for when METCO enrollment stopping or pausing is the treatment.

Appendix Table 5: Difference in Differences Robustness Checks

| | School does not start with METCO and Begins Participation | | | | School starts with METCO and Ends Participation | | | |
| | Main Specification | Comparisons within Same District | Synthetic Control | Comparisons Eventually Treated | Main Specification | Comparisons within Same District | Synthetic Control | Comparisons Eventually Treated |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Math	0.002	0.018	0.034	0.028*	-0.003	0.006	0.034	0.000
	(0.015)	(0.027)	(0.023)	(0.016)	(0.014)	(0.019)	(0.019)	(0.014)
Observations (Students)	990108	25068	211478	199254	1174017	67098	282499	676205
Treatment Groups	143	51	79	143	156	83	113	156
Comparison Groups	4644	88	777	844	5856	255	956	3431
English	0.006	0.014	-0.005	0.001	0.008	0.002	-0.005	0.009
	(0.015)	(0.032)	(0.022)	(0.017)	(0.013)	(0.017)	(0.015)	(0.014)
Observations (Students)	1103777	27774	264539	225026	1283026	74791	351500	768354
Treatment Groups	155	54	83	155	168	89	124	168
Comparison Groups	5092	93	976	948	6333	280	1262	3864
Attendance Rate	0.0004	-0.004*	0.000	0.002**	0.0000	0.000	0.000	0.000
	(0.001)	(0.002)	(0.001)	(33.666)	(0.001)	(0.001)	(0.001)	(38.363)
Observations (Students)	1125637	28439	311833	228996	1306911	76273	429031	783119
Treatment Groups	155	54	111	155	168	89	124	168
Comparison Groups	5094	93	1140	948	6337	280	1547	3868
Suspended	0.0002	-0.001	0.001	-0.001	0.0004	0.002**	0.001	0.001
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations (Students)	1125566	28438	128273	228978	1306906	76273	130660	783114
Treatment Groups	155	54	104	155	168	89	115	168
Comparison Groups	5094	93	567	948	6337	280	507	3868
Number of Suspensions	-0.0006	-0.002	0.001	-0.005***	0.0023	0.004	0.001	0.003*
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)
Observations (Students)	1125566	28438	120226	228978	1306906	76273	139228	783114
Treatment Groups	155	54	107	155	168	89	114	168
Comparison Groups	5094	93	515	948	6337	280	554	3868

Notes: This table shows the estimates from the main stacked difference-in-differences specification and two alternative specifications. The first only includes cohorts from within the same school district as the treated school in the comparison group. The second uses synthetic control on the group of comparison cohorts from the main specification.

Appendix Table 6: Relationship Between Baseline Covariates and Predicted Class Size

Baseline Trait	Mean	Coefficient	SE	N	t-statistic	P-value
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.489	0.000	(0.001)	122204	0.067	0.946
Black	0.017	0.000**	(0.000)	122206	2.014	0.044
Latino/a	0.041	0.000	(0.000)	122206	1.439	0.150
Asian	0.120	0.000	(0.001)	122206	0.613	0.540
White	0.786	-0.001	(0.001)	122206	1.569	0.117
Subsidized Lunch	0.052	-0.001***	(0.000)	122206	3.423	0.001
Special Education	0.145	0.001*	(0.001)	122206	1.769	0.077
English-Language						
Learner	0.073	0.001***	(0.000)	122206	2.760	0.006
Immigrant	0.039	0.001*	(0.000)	122206	1.842	0.065
Ever Suspended	0.001	0.000	(0.000)	111031	0.047	0.962
Attendance Rate	0.931	0.001***	(0.000)	122206	3.786	0.000
Infant Weight (in grams)	3389.296	-2.385**	(1.136)	90308	2.099	0.036
Married parents	0.937	0.001*	(0.000)	90572	1.836	0.066
Absent father at birth	0.014	0.000	(0.000)	90572	1.093	0.274
On Medicaid at birth	0.066	0.000	(0.000)	90572	0.043	0.966
Mother's highest education level						
Less than high school	0.009	0.000	(0.000)	90242	1.623	0.105
High school grad	0.067	0.000	(0.000)	90242	0.336	0.737
Some college	0.083	-0.001	(0.001)	90242	1.431	0.152
2 year college	0.056	0.000	(0.000)	90242	0.260	0.795
College or more	0.785	0.001	(0.001)	90242	1.024	0.306
Father's highest education level						
Less than high school	0.011	0.000	(0.000)	88884	0.428	0.669
High school grad	0.095	-0.001	(0.001)	88884	1.626	0.104
Some college	0.082	-0.001***	(0.001)	88884	2.623	0.009
2 year college	0.037	0.000	(0.000)	88884	1.312	0.190
College or more	0.775	0.003***	(0.001)	88884	3.467	0.001

Notes: This table displays the mean baseline traits of suburban resident students in the districts included in the class-size instrumental variable analysis. Column 2 displays the relationship between predicted class size and baseline traits after controlling for school district, year, and binned total grade-level enrollment (which proxies for the number of classrooms in a grade) indicator variables.

Appendix Table 7: 2SLS Estimates with Restricted Sample

	Grade 1 (2)	Grade 2 (3)	Grade 3 (4)	Grade 4 (5)	Grade 5 (6)
Math			0.060	0.080	0.019
			0.062	0.072	(0.052)
N			19,462	19,387	18,701
F-stat			402	394	376
English			0.146**	0.003	0.003
			0.063	0.069	(0.047)
N			19,462	19,387	18,701
F-stat			402	394	376
Attendance Rate	-0.001	0.001	0.002	0.000	-0.001
	0.004	0.003	0.002	0.003	(0.002)
N	19,717	19,555	19,462	19,389	18,703
F-stat	351	391	402	394	376
Suspended	-0.005*	-0.003	-0.002	-0.003	0.004
	0.003	0.004	0.003	0.004	(0.003)
N	19,717	19,555	19,462	19,389	18,703
F-stat	351	391	402	394	376
Number of Discrete Class Sizes	10	10	10	10	10
Number of Cohorts (SchoolXYear)	355	354	354	354	354
Number of Schools	88	88	88	88	88
Number of Districts	19	19	19	19	19

Notes: This table shows the two-stage least squares estimates of the impact of an additional METCO student on suburban resident student outcomes. The main endogenous variable is 20 times the average ratio of METCO to non-METCO students in an individual's grade cohort from grade 1 through the outcome grade. A one unit increase in the main endogenous variable represents an additional METCO student in a 20-student classroom. The model includes another endogenous variable: average class size excluding METCO students. This table only includes 2012 -2020 data so that it can use the true average class size excluding METCO students. Linear and integer forms of predicted class size (see Equation 6 for estimation strategy) instrument for both the ratio of METCO to non-METCO students and non-METCO class size. Controls include binned total grade-level enrollment that proxy for the number of classrooms in a grade, school and year fixed effects, individual baseline covariates (including gender, race, free and reduced price lunch status, special education status, and English Language Learner status). The sample includes students with non-missing values for the third through fifth grade Math and English exams.

Appendix Table 8: Descriptive Statistics of Suburban METCO Districts

	Mean	P10	P90	Min	Max	Number of districts
	(1)	(2)	(3)	(4)	(5)	(6)
Number of METCO students	87	19	177	8	428	37
Take SAT	0.72	0.61	0.80	0.50	0.85	32
SAT score of 1400 or higher	0.13	0.05	0.23	0.02	0.35	32
Took AP exam	0.56	0.40	0.71	0.32	0.81	32
Number of AP exams	1.96	1.05	2.91	0.79	3.64	32
AP score of 3, 4, or 5	0.50	0.35	0.66	0.19	0.72	32
AP score of 4 or 5	0.40	0.23	0.56	0.11	0.59	32
Dropout	0.00	0.00	0.01	0.00	0.01	32
Graduate HS in 4 years	0.96	0.95	0.98	0.90	0.99	32
Graduate HS in 5 years	0.99	0.97	1.00	0.92	1.00	32
4-year college enrollment	0.63	0.54	0.70	0.43	0.86	32
4-year public college enrollment	0.28	0.20	0.33	0.18	0.34	32
4-year private college enrollment	0.38	0.27	0.50	0.19	0.58	32
Graduated 4-year college	0.68	0.58	0.77	0.50	0.79	32
Town characteristics						
Median household income	135,107	95,302	181,667	78,843	224,784	37
Percent home owner	0.79	0.64	0.92	0.51	0.93	37
Percent college graduate	0.68	0.43	0.83	0.37	0.84	37
Percent HS graduate	0.96	0.92	0.98	0.90	0.98	37
Percent single parent	0.06	0.04	0.09	0.03	0.10	37
Percent SNAP recipient	0.04	0.01	0.06	0.00	0.08	37

Notes: This table shows descriptive statistics for the METCO districts in the year 2017-2018. Student outcomes data include suburban residents and exclude METCO participants. Town characteristics come from the 2014-2018 American Community Survey.

Appendix Table 9: 2SLS Individual Student Subgroup Effects

	Black or Latinx Boys (1)	White or Asian Boys (2)	Black or Latinx Girls (3)	White or Asian Girls (4)	Low-Income (5)	Not Low-Income (6)
Math	-0.129	0.064	0.041	-0.032	0.185	0.022
	(0.322)	(0.047)	(0.248)	(0.049)	(0.122)	(0.035)
N	1396	27606	1332	26935	3018	55889
F-stat	13	116	7	139	27	204
F-stat p-value	0.000	0.000	0.000	0.000	0.000	0.000
English	0.081	0.066	0.079	0.015	0.255**	0.043
	(0.318)	(0.048)	(0.245)	(0.047)	(0.121)	(0.035)
N	1396	27606	1332	26935	3018	55889
F-stat	13	116	7	139	27	204
F-stat p-value	0.000	0.000	0.000	0.000	0.000	0.000
Attendance Rate	0.005	0.007***	0.000	0.008***	0.007	0.006***
	(0.015)	(0.002)	(0.011)	(0.002)	(0.006)	(0.002)
N	1396	27610	1332	26940	3019	55897
F-stat	13	116	7	114	27	207
F-stat p-value	0.000	0.000	0.000	0.000	0.000	0.000
Suspended	0.025	-0.002	-0.003	-0.001	0.002	-0.003
	(0.031)	(0.003)	(0.013)	(0.001)	(0.010)	(0.002)
N	1396	27610	1332	26940	3019	55897
F-stat	13	116	7	114	27	207
F-stat p-value	0.000	0.000	0.000	0.000	0.000	0.000
Number of Discrete Class Sizes	10	10	10	10	10	10
Number of Cohorts (SchoolXYear)	665	1072	640	1063	829	1083
Number of Schools	87	90	88	91	90	91
Number of Districts	19	19	19	19	19	19

Notes: This table shows suburban resident subgroup 2SLS estimates for third grade outcomes. See Table 4 notes for specification details.

Appendix Table 10: DiD Individual Student Subgroup Effects

	School does not start with METCO and				School starts with METCO and Ends			
	White or Asian Boys	White or Asian Girls	Low-Income	Not Low-Income	White or Asian Boys	White or Asian Girls	Low-Income	Not Low-Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Math	0.018	-0.002	0.009	-0.006	-0.006	-0.001	0.036	0.001
	(0.018)	(0.019)	(0.050)	(0.015)	(0.018)	(0.016)	(0.054)	(0.014)
Observations	449083	435755	26742	804694	523572	509107	16565	1014342
Treatment Groups	139	140	38	140	152	152	42	152
Comparison Groups	4344	4402	734	4416	5340	5340	563	5340
English	0.009	0.008	0.005	0.005	0.021	-0.002	-0.025	0.009
	(0.016)	(0.019)	(0.047)	(0.014)	(0.016)	(0.015)	(0.057)	(0.013)
Observations	508590	495784	27452	912191	583621	565549	17086	1125020
Treatment Groups	153	154	39	154	167	167	42	167
Comparison Groups	4846	4907	750	4921	5911	5911	599	5911
Attendance Rate	0.001	0.000	0.006	0.001	0.000	0.000	-0.005	0.000
	(0.001)	(0.001)	(0.004)	(0.001)	(0.001)	(0.001)	(0.004)	(0.001)
Observations	525463	502787	33777	927349	594886	575122	19957	1142999
Treatment Groups	154	154	43	154	167	167	45	167
Comparison Groups	4917	4907	860	4921	5911	5911	663	5911
Suspended	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.000
	(0.001)	(0.000)	(0.004)	(0.001)	(0.001)	(0.000)	(0.005)	(0.001)
Observations	525435	502744	33777	927278	594886	575117	19957	1142994
Treatment Groups	154	154	43	154	167	167	45	167
Comparison Groups	4917	4907	860	4921	5911	5911	663	5911

Notes: This table shows suburban resident subgroup stacked difference-in-differences estimates for third grade outcomes. Treatment cohorts and control cohorts are included if they have at least 10 students in a grade cohort with that identity. Black and Latinx subgroups are not included because restricting to even 4 students with those identities per grade cohort does not generate a large enough sample to conduct the analyses. See Table 3 notes for specification details.

Appendix Table 11: 2SLS District Traits and Time Period Subgroup Effects

	Early Years (1)	Later Years (2)	Above Mean MCAS District (3)	Below Mean MCAS District (4)	Above Mean METCO (5)	Below Mean METCO (6)	Highest METCO Supports (7)	Lowest METCO Supports (8)
Math	-0.009	0.016	-0.030	0.050	-0.009	0.073	-0.030	0.095**
	(0.019)	(0.064)	(0.034)	(0.050)	(0.026)	(0.070)	(0.033)	(0.042)
N	29781	29126	38584	20323	31909	22782	39893	19014
English	0.014	0.027	-0.026	0.046	0.015	-0.053	-0.003	0.043
	(0.018)	(0.064)	(0.034)	(0.050)	(0.026)	(0.069)	(0.032)	(0.042)
N	29781	29126	38584	20323	31909	22782	39893	19014
Attendance Rate	0.005***	0.000	-0.002	-0.002	0.002*	0.005	0.000	0.000
	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)	(0.004)	(0.002)	(0.002)
N	29790	29126	38586	20330	31914	22786	39897	19019
Suspended	-0.002*	-0.005	-0.004**	0.004	-0.001	0.003	-0.003*	0.006**
	(0.001)	(0.003)	(0.002)	(0.003)	(0.001)	(0.004)	(0.002)	(0.003)
N	29790	29126	38586	20330	31914	22786	39897	19019
F-stat	794	86	219	129	317	102	257	166
F-stat p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Number of Discrete Class Sizes	10	10	10	10	10	10	10	10
Number of Cohorts	558	527	718	367	613	373	734	351
Number of Schools	90	88	59	32	51	32	62	29
Number of Districts	19	19	11	8	9	9	12	7

Notes: This table shows district and cohort subgroup 2SLS estimates for third grade outcomes. Early years include cohorts that entered first grade in 2002-2003 through 2008-2009. Late years include cohorts that entered first grade from 2009-2010 through 2016-2017. I calculate the sum of centered Math and English exams. I then find the district average of the total exam score across all testing grades and years in the sample. Districts that score above the average district score are designated above mean MCAS districts. To get whether the district is above or below mean METCO, I calculate the proportion of students in the district across all grades and years that are in the METCO program and compare it to the average of all of the districts. Districts with above average METCO supports offered more of the integration supports listed in Appendix Table 1.

Appendix Table 12: DiD District Traits and Time Period Subgroup Effects

	School does not start with METCO and Begins Participation								School starts with METCO and Ends Participation							
	Early Years (1)	Later Years (2)	Highest MCAS (3)	Lowest MCAS (4)	Most METCO (5)	Least METCO (6)	Most METCO Supports (7)	Least METCO Supports (8)	Early Years (9)	Later Years (10)	Highest MCAS (11)	Lowest MCAS (12)	Most METCO (13)	Least METCO (14)	Most METCO Supports (15)	Least METCO Supports (16)
Math	-0.017	0.013	0.014	-0.010	-0.038	0.004	-0.001	0.004	0.006	-0.006	-0.007	0.016	0.005	-0.007	-0.020	0.006
	(0.021)	(0.019)	(0.019)	(0.025)	(0.028)	(0.020)	(0.022)	(0.020)	(0.022)	(0.018)	(0.017)	(0.027)	(0.020)	(0.022)	(0.021)	(0.021)
Observations	353288	633412	194040	270442	38963	239240	240553	270194	334809	826746	656559	59279	344699	127547	450855	145344
Treatment Groups	48	95	85	58	62	67	66	77	49	107	99	57	75	75	73	83
Comparison Groups	1623	3021	878	1331	139	1141	915	1455	1915	3941	3101	323	1752	573	1899	889
English	0.026*	-0.010	0.015	-0.026	-0.029	-0.003	-0.002	0.005	0.007	0.001	-0.013	0.053**	0.006	-0.002	0.001	0.002
	(0.015)	(0.019)	(0.017)	(0.027)	(0.023)	(0.024)	(0.019)	(0.023)	(0.016)	(0.015)	(0.014)	(0.024)	(0.018)	(0.020)	(0.016)	(0.022)
Observations	459347	633899	215113	296418	42892	274506	254626	314435	442704	830802	727481	63250	383694	138333	503677	156063
Treatment Groups	60	95	93	62	67	74	69	86	61	107	109	59	80	81	80	88
Comparison Groups	2071	3021	954	1453	153	1290	967	1644	2392	3941	3442	335	1887	614	2121	933
Attendance Rate	0.002	-0.001	0.001	-0.001	-0.002	0.000	0.001	0.000	-0.001	0.000	0.000	-0.002	-0.001	0.001	0.000	0.001
	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	467383	647514	218998	302477	43723	279491	260549	319499	449185	848006	741143	64216	388952	140424	513389	158528
Treatment Groups	60	95	93	62	67	74	69	86	61	107	109	59	80	81	80	88
Comparison Groups	2073	3021	954	1454	153	1291	967	1645	2396	3941	3442	337	1887	616	2121	935
Suspended	-0.001	0.001	0.000	0.001	-0.001	0.001	0.001	0.000	0.000	0.002***	0.001	0.001	0.001	0.000	0.000	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	467325	647514	218986	302450	43723	279448	260544	319467	449180	848006	741139	64216	388951	140424	513386	158528
Treatment Groups	60	95	93	62	67	74	69	86	61	107	109	59	80	81	80	88
Comparison Groups	2073	3021	954	1454	153	1291	967	1645	2396	3941	3442	337	1887	616	2121	935

Notes: This table shows district and cohort subgroup stacked difference-in-differences estimates for third grade outcomes. Early years include cohorts that entered first grade in 2002-2003 through 2008-2009. Late years include cohorts that entered first grade from 2009-2010 through 2016-2017. I calculate the sum of centered Math and English exams. I then find the district average of the total exam score across all testing grades and years in the sample. Districts that score above the average district score are designated above mean MCAS districts. To get whether the district is above or below mean METCO, I calculate the proportion of students in the district across all grades and years that are in the METCO program and compare it to the average of all of the districts. Districts with above average METCO supports offered more of the integration supports listed in Appendix Table 1.