

Technical Appendix

Table 1. Summary of school travel literature and equity analyses.

Citation	Geog.	Sample size	Data	Age Group	Modes					Equity Indicators						N	C	Major findings
					W	B	T	S	A	R	I	FR	St	FB				
School choice focused																		
Krizek et al. (2014)	St. Paul, Minn.	NA	Emissions modeling	Grades K-6	x			x	x	x						x	Emissions and costs increase with school choice policies	
Scott and Marshall (2019)	Philadelphia	NA	Spatial modeling	Grades 9-12			x									x	x	Travel to school by transit takes 2x longer than by car limiting capacity for choice
Wilson et al. (2007)	St. Paul, Minn.	NA	Emissions modeling	Elementary	x	x		x	x								x	Students in city-wide school walk 6x less and have 4.5x more VMT, cost, and emissions compared to neighborhood school; school busing increases system costs more in choice systems
Wilson et al. (2010)	St. Paul & Roseville, Minn.	1,216 parents	Original survey	Grades K-6	x			x	x	x	x		x				x	Mode and attitudes differ by school type, income, and race; low-income and students of color use bus more
Yang et al. (2012)	Eugene, Ore.	1,123	Original survey	Grades K-5	x	x			x	x	x						x	School choice increases travel distance and driving to school; no association with race/ethnicity, middle incomes walk/bike more
Zuniga (2012)	Denver	65 parents	Interviews	Elementary	x	x				x	x						x	School choice increases travel distance and driving to school; no association with race/ethnicity, middle incomes walk/bike more
Walking/biking focused																		
Banerjee et al. (2014)	Los Angeles	104	Interviews	Grade 5	x	x				x							x	Inner-city Latino children have more concern for social environments than physical; and avoided walking routes with dangerous objects, gangs, and traffic
Boarnet et al. (2005)	S. Calif.	1,124 parents	Original survey	Grades 3-5	x	x				x	x							SRTS projects along travel route increase walking/cycling; no diff by race ethnicity
Clifton (2003)	US	4,344 trips	NPTS	Age 13-18	x	x	x	x	x									Teens with drivers licenses more likely to drive to and participate in after school activities; teens without car access may have limited destinations available

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Ewing et al. (2004)	Alachua County, Fla.	709	RTS/STS	Grades K-12	x	x		x	x		x					x		Income and car ownership associated with less walking; shorter walk and bike times lead to more walking and biking
He (2011)	S. Calif.	3,646	RTS	Grades K-12	x	x		x	x	x	x					x		School quality has little impact on mode choice; Latino students less likely to drive, older students and higher income more likely to drive; distance highly predictive of mode choice
McDonald (2006)	US	34,593	NHTS	Age 0-18	x	x		x	x	x	x							Low-income children and children of color traveled less and less often for social or recreational trips
McDonald (2007a)	Alameda County, Calif.	614	RTS	Age 5-18	x					x	x			x		x		Social cohesion predicts walking; Black students less likely to walk in Black neighborhoods
McDonald (2007)	US	Varies by survey	NPTS/NHTS	Age 5-18	x	x				x	x							Walking/biking declined from 41% to 13% of trips between 1969 and 2001, half of which can be attributed to increasing distance; low-income students and student of color more likely to walk/bike
McDonald (2008a)	US	14,533	NHTS	Age 5-18	x	x				x	x					x		Low-income, Black, Latino students walk more, but racial differences vanish when controlling for income; Blacks and Latinos live closer to school
McDonald (2008b)	US	8,231	NHTS	Age 5-18	x	x				x	x			x				Young children less likely to walk or cycle when mother commutes in morning; Latino students odds walking/cycling still higher
McDonald et al. (2011)	US	Varies by analysis	NPTS/NHTS	Grades K-8 and K-12	x	x		x	x	x	x			x	x			For K-8 students, less walking with increasing distance; white, immigrant, low-income, and zero vehicle households walk/bike more; concern with weather and crime decreases walking/biking
McDonald et al. (2014)	DC, Fla., Tex., Ore.	801 schools	Original survey	Grades K-12	x	x				x			x			x		Students walk more after SRTS interventions; only higher prop of FRL associated with more walking
McMillan (2007)	S. Calif.	1,128 caregivers	Original survey	Grades 3-5	x	x				x	x			x	x			Convenience, social interaction, family approval associated with walking/cycling and matter more than built form; determinants vary by SES

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Rodriguez and Vogt (2009)	Michigan	1,897	Original survey	Grades 3-5	x												Odds of walking decline with distance, increase with perceptions that walking is safe and saves time. No discussion of variation across socioeconomic status or neighborhood type
Schlossberg et al. (2005)	Bend, Ore.	104	Original survey	Middle school	x	x											Convenience, schools requirements, urban form, and personal safety are barriers to walking to a school located at the urban fringe
Schlossberg et al. (2006)	Oregon	287	Original survey	Grades 6-8	x	x				x	x						Distance strongly predictive of walking and cycling; convenience and attitudes are important predictors; no analysis by race or income
Seraj et al. (2012)	S. Calif.	1,000	NHTS add-on	School age	x	x				x	x						Attitudes toward children walking and cycling varies by race and income; familiarity with alterative modes yields fewer negative attitudes
Yang and Markowitz (2012)	Eugene, Ore.	1,197	Original survey	Grades K-5	x	x					x						Low-income children with low positive attitudes toward active travel were more likely to walk/bike; for high-income families, low car attitudes predicted walking/cycling
Yarlagadda and Srinivasan (2008)	SF Bay Area, Calif.	4,352	RTS	Age 0-18	x	x	x	x	x	x	x		x				Travel to and from school varies by race and flexibility of parents' work schedules; students are less sensitive to distance coming from school; joint decisionmaking includes household members besides parents
Other modes																	
Carlson et al. (2014)	Baltimore, DC, Seattle	294	Original survey	Age 12-15													In a predominately high SES sample, parents who believe pedestrian environment is safe are more likely to walk/bike; psychosocial barriers hinder walking/biking; no examination across race or SES
Das and Fang (2015)	Minneapolis	2,453	Original survey	Grades 9-12			x			x	x	x			x		Free transit pass reduced number of days absent controlling for race/ethnicity but did not influence GPA
Gottfried (2017)	US	14,370	ECLS	Grade K				x		x	x		x		*		Students taking school bus less likely to be absent and have chronic absenteeism controlling

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																		for race, household structure, and student experiences
He (2013)	S. Calif.	1,320	RTS	Age 5-18						x	x			x				Parental employment (especially the mothers') is most significant influence on escorting to school; low-income children more likely to be escorted by others or travel independently; mode specific effects not analyzed
McDonald and Aalborg (2009)	East SF Bay Area, Calif.	432 parents	Original survey	Age 10-14					x	x								Parents cite convenience as most common reason for driving to school, "stranger danger" is number one single reason
McDonald et al. (2004)	SF Bay Area, Calif.	1,073/1,234	Original surveys	MS/JHS & HS			x			x		x						Free transit pass increased bus ridership and after-school participation but not attendance after one year; high variation in transit use to school across race because of parent perceptions of safety and supervision
Vovsha and Petersen (2005)	Atlanta	3,810 school tours	RTS	Age 0-18					x		x							Women are 2.5-3x as likely to escort children to school compared to men but most children are unescorted; fewer characteristics predict escorting back home, highlighting different needs to and from school
Notes: *Variable was English-language learner. W = Walk, B = Bike, T = Transit, S = School Bus, A = Auto; R = Race/ethnicity, I = Income, FR = Free and reduced lunch, St = Household structure, FB = foreign-born status, N = Neighborhood context; Ch = School choice; RTS = Regional travel survey, STS = Statewide travel survey, NPTS = Nationwide Personal Transportation Survey, NHTS = National Household Travel Survey, ECLS = Early Childhood Longitudinal Survey; MS = Middle school, JHS = Junior High School, HS = High school, K = Kindergarten.																		

Table 2. Summary of select studies on school choice decision factors.

Citation	Geography	Sample Size	Data	Academics (class size, outcomes)	Student composition	Distance	Transportation access	Safety	Neighborhood condition or composition	Other
(Altenhofen et al., 2016)	Denver, CO	500	Survey interviews	✓		✓		✓		
(Bell, 2009b)	Detroit	36	Interviews	✓		✓	✓	✓	✓	✓
(Denice & Gross, 2016)	Denver	14,000	Student applications	✓	✓	✓				
(Glazerman & Dotter, 2017)	Washington, DC	22,000	Student applications	✓	✓	✓	✓			
(Harris & Larsen, 2015)*	New Orleans	31,000	Student applications	✓		✓	✓			✓
(Harris & Larsen, 2017)*	New Orleans	33,000	Student applications	✓		✓	✓			✓
(Hastings et al., 2005)	Mecklenburg County, North Carolina	37,000	Student applications	✓	✓	✓	✓			
(Kleitz et al., 2000)	Texas	1,100	Survey	✓		✓		✓		✓
(Jane A. Lincove et al., 2018)	New Orleans	892	Student applications	✓		✓				✓
(Pattillo, 2015)	Chicago	77	Interviews	✓			✓			✓
(Saporito, 2003)	Philadelphia	11,000	Student applications	✓	✓			✓		
(Schneider & Buckley, 2002)	Washington, DC	2,300	User searches	✓	✓	✓			✓	
(Shaw & Northern, 2013)*	National	2,000	Survey	✓	✓					✓
(Stein et al., 2011)*	Indianapolis	1,569 1,050	Survey Student academic records	✓				✓	✓	
(Teske et al., 2009)	Denver and Washington DC	600	Survey	✓		✓	✓			

Notes: “Other” includes extracurriculars, siblings, school facilities. *Non-peer-reviewed gray literature.