IMPACT AND EFFECTIVENESS TABLE 41

Safe Routes to School

EFFECTIVENESS TABLES

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
United States				
Author Staunton, Hubsmith (2003) California **Design** Intervention Evaluation Before and after study **Duration** High From 2000-onward (the program was currently in its 3rd year at the time of publication)	**Measures** *Neighborhood walkability* (neighborhood infrastructure changes, safe routes identified, school walking buses and bike trains organized) **Outcome(s) Affected** Walking behavior to school (student surveys)	**Net Positive for Physical Activity in Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. From fall 2000 to spring 2002, there was a 64% increase in the number of children walking, a 114% increase in the number of students biking, a 91% increase in the number of students carpooling, and a 39% decrease in the number of children arriving by private car carrying only one student in the participating public schools. Restricting analysis to 2 private schools (enrollment from both schools=401 students), which draw students from a wider geographic area, led to much more modest results (1% increase in walking, 5% increase in carpooling).	**Effective for Physical Activity in Study Population** Study Design = Intervention evaluation Intervention Duration = High Effect Size = Net positive for physical activity in study population	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported
Author Boarnet, Anderson (2005); Boarnet, Day (2005) California **Design** Intervention Evaluation Before and after study **Duration** Not Reported From 2001 onward; evaluation analyzes projects constructed between Spring 2002 and Fall 2003	**Measures** *Neighborhood walkability* (construction of traffic calming devices, sidewalks, and bike lanes, traffic patterns at each school [number of individuals using pedestrian and bicycle areas, etc], vehicle speeds, length of blocks, amount of graffiti) **Outcome(s) Affected** Walking and biking behavior to school (parental survey and observations)	**Net Positive for Physical Activity in Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. More parents stated that their child walked or biked less (18.0%) than stated that their child walked or biked more (10.6%) following construction of the projects. 2. A significantly greater proportion of students passing improvement projects on their route to school walked/biked more after construction (15.4%) than children not passing a project on their route to school (4.3%, t=5.71, p<0.01). 3. At 4 of the 5 schools receiving nearby sidewalk improvements, the proportion of children who passed improvement projects on their route to school walked/biked more after construction, this was significantly more than the proportion of children who walked/biked more but did not pass these improvements (Murrieta: 13.7% vs. 2.4%, n=93, t=2.12, p=0.04; Sheldon: 15.6% vs. 0%, n=57; t=2.43, p=0.02; Valley: 11.6% vs. 0%, n=89, t=3.01, p<0.01; West Randall: 28.6% vs. 7.4%, n=117, t=3.15, p<0.001) 4. Sidewalk projects led to a statistically significant decrease in the number of observed children walking on a street or shoulder, from before to after construction (Sheldon: from 66% to 35% [-31%], t=5.55; Valley: from 42% to 4% [-38%], t=6.79; West Randall: from 75% to 5% [-70%], t=39.23: Juan Cabrillo: from 7% to 2% [-5%], t=2.70; no p-values). 5. At both of the schools receiving traffic control improvements, the proportion of children passing improvements on their route to school walked/biked more after construction, this was significantly more than the proportion of children who walked/biked more but did not pass these improvements (Cesar Chavez: 20.6% vs. 6.2%, n=133, t=2.52, p=0.01; Newman: 10.9% vs. 0%, n=94; t=2.8, p=0.01).	**Effective for Physical Activity in Study Population** Intervention Evaluation = Before and after Intervention Duration = High Effect Size = Net positive for physical activity in study population	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Mendoza, Levinger (2008) Washington **Design** Intervention Evaluation Before and after study **Duration** Medium March 2005-March 2006 (excluding holidays and summer breaks)	**Measures** *Neighborhood walkability* (distance to school, awareness of routes and safety, and organization of safe walking group) **Outcome(s) Affected** Walking and biking behavior to school (student surveys)	**Net Positive for Physical Activity in Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. At 1-month, a higher proportion of intervention students walked to school (25% ± 3% vs. 11% ± 2%, p=0.0012) compared to control students. 2. At 6-months, a higher proportion of intervention students walked to school (24% ± 2% vs. 11% ± 2%, p=0.0011) compared to control students. 3. At 1-year, a higher proportion of intervention students walked to school (25% ±2% vs. 7% ± 1%, p=0.001), compared to control students. 4. The differences in the proportion of students transported by car did not differ between groups at baseline, 1-month, 6-month, or 1-year follow-up. 5. From baseline to 1-year, the number of students at the intervention school walking to school increased (from 56 to 75 students) while the number of students using other forms of transport did not change (from 225 to 228 students using other transport, p<0.0001). 6. From baseline to 12-months, the number of control students walking to school decreased (from 54 to 24 students) while the number of control students using other forms of transport did not change (from 318 to 316 students using other transport, p<0.0001).	**Effective for Physical Activity in Study Population** Study Design = Intervention evaluation Intervention Duration = Medium Effect Size = Net positive for physical activity in study population	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported
Author Babey, Hastert (2009) California **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood Accessibility* (urbanicity, distance between home and school, adult present after school, parent walks for transportation, school type, parental perception of safety) **Outcome(s) Affected** Active commuting to school (2005 California Health Interview Survey)	**No Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Using a logistic regression model, adolescents who lived within 800 m or about 1/2 mile (OR=11.99, 95% CI= 6.79-20.63), between 800 and 1,600 m (OR=5.01, 95% CI= 3.71-6.79), or between 1,600 and 3,200m (OR=1.86. 95% CI= 1.44-2.40) from school were found to be more likely to walk, bike, or skateboard to school than those who lived more than 3,200 m (~2 miles) from school (all significant p<0.01). 2. Adolescents in urban areas were more likely than those in rural (OR=0.58, 95% CI=0.43-0.79) or suburban (OR=0.69, 95% CI=0.52-0.91) areas to walk or bike to school (p<0.01 for both). 3. Neither parental walking for transportation nor parental perceptions of neighborhood safety were associated with active commuting to/from school.	**No Association for Physical Activity in the Study Population** Study design = Association Effect size = No association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author McMillan (2007) California **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood accessibility* (access to safe places to exercise: presence of sidewalks, streetlights, unattended dogs, traffic, aesthetics, crime) **Outcome(s) Affected** Active commuting to school (survey)	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Child walking/bicycling to school is influenced by urban form (proportion of street segments within 1/4 mile radius of school with >50% of houses with windows facing the street, coefficient =0.036; p<0.001 and proportion of street segments within 1/4 mile radius of school with land use mix; coefficient= 0.015, p<0.001). 2. Concerns about neighborhood safety decreased the probability of a child walking/bicycling to school (factors model; coefficient= -0.135, p=0.005 and urban form model; coefficient= -0.160, p<0.001). 3. Traffic speed greater than 30 miles per hour along the route to school decreased the probability of a child walking/bicycling to school (factors model; coefficient= -1.133, p=0.001 and urban form model; coefficient= -1.029, p=0.002). 4. If the distance from home and school was less than one mile, the probability of walking/bicycling increased (factors model: coefficient=1.473, p<0.001 and urban form model; coefficient=1.406, p<0.001). Children living within one mile of school were 3 times more likely to walk to school rather than being driven. 5. For each unit increase in either reported traffic speed, reported driving convenience, or caregiver's birthplace, the odds of walking/bicycling to school decreased over 60%. 6. For each unit increase in reported not safe neighborhood, the odds of non-motorized travel to school decreased only 13% (p<0.05). 7. While 2 of the 3 urban form variables, land-use mix and windows on houses, were significant in the logit models and added to significant fit of overall model, individually they have little relative influence on mode choice to school (no data shown).	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported
Author Schlossberg, Greene (2006) Oregon **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood walkability* (distance to location, residential density, street connectivity, and intersection density) **Outcome(s) Affected** Active commuting to school (survey))	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Those who live within one mile of school are by far the most likely to walk (ever walk to/from 76.2%, p<.001, primary to 31.7%, p<.001, primary from 52.4%, p<.001), followed by those living 1 to 1.5 miles (not significant). Beyond 1.5 miles, fewer than 4% walk to or from school. 2. Students living less than 1 mile from school were the most likely to walk (no statistic), followed by those living 1 to 1.5 miles away (ever walk OR= 0.21, p<0.01, primary mode OR=0.27, p<0.05). 3. Individuals walking in areas with low intersection density were less likely to walk (OR=0.16 to 0.19, p<0.05 and p<0.01) compared to those in high areas. Students walking in high intersection densities had a 10% probability of walking, compared to 3% and 2% if they had medium or low intersection densities, respectively. 4. Individuals walking to and from school in areas with high dead-end densities (to school: OR= 0.28 (p<0.05), from school: 0.19 (p<0.01) were less likely to walk to school when compared to children in low dead-end densities. Those with low dead-end densities had an 8% probability of walking to school, compared to 3% and 2% for those with medium and high dead-end densities, respectively. 5. Students living farther than 2.5 miles from school were less likely (ever: OR = 0.20, p<0.01, to school: OR= 0.05, p<0.05, from school: OR=0.04, p<0.05) to ride their bicycles to and from school compared to those living closer.	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Low Households from Springfield were slightly poorer than the city average, while those from Bend were slightly wealthier.

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Zhu, Arch (2008) Texas **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood walkability* (distance to school, quality of sidewalks, and land-use mix) **Outcome(s) Affected** Active commuting to school (survey)	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. The sidewalk quality factor and overall walking environment factor did not show significant associations with walking. 2. The busy road barrier (Blanton; n=114, OR=0.203, $p<0.05$) and sidewalk quality (Harris: n=117, OR=0.477, $p<0.05$) decreased the likelihood of walking. 3. Having school bus services lowered the odds of walking by 67% (OR=0.333, β=-1.100, $p<0.01$). 4. Distance to school was the strongest predictor of walking, where the child was about 4 times more likely to walk if the parent perceived the distance to be close enough for their child to walk (OR=4.918, β =1.593, $p<0.01$). 5. A 1-unit increase in the safety concern factor (range: -2.6 to 1.9) reduced the odds of walking by 22% (OR=0.776, β =-0.253, $p<0.01$). 6. The presence of a highway or freeway barrier decreased the likelihood of walking by 52% (OR=0.483, β =-0.727, $p<0.01$). 7. The presence of convenience stores (OR=0.588, β =-0.531, $p<0.01$) and office buildings (OR=0.52, β =-0.654, $p<0.05$) was associated with decreased likelihood of walking after controlling for other variables. 8. In the analysis using 8 separate models for individual schools, the distance to school was the most significant predictor in 6 of the 8 schools [Group 1: Zavala (n=106, OR=7.467, $p<0.05$), Sanchez (n=150, OR=11.735, $p<0.01$), Metz (n=153, OR=9.177, $p<0.01$); Group 2: Blanton (n=114, OR=10.384, $p<0.01$), Andrews (n=215, OR=11.68, $p<0.01$); Group 3: Wooten (n=193, OR=9.441, $p<0.01$)]. 9. This analysis model showed that parental barriers were the second most important correlate for schools independently and was significant in 5 of the schools [Group 1: Zavala (n=106, OR=0.183, $p<0.01$), Metz (n=153, OR=0.453, $p<0.05$); Group 2: Harris (n=117, OR=0.593, $p<0.05$), Andrews (n=215, OR=0.436, $p<0.01$); Group 3: McBee (n=137, OR=0.354, $p<0.01$)].	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not reported With-in groups, schools shared relatively similar socio-demographic and physical environmental characteristics. In group 2, Hispanics were slightly over-represented and African Americans were somewhat under-represented. 5th-grade students were slightly under-represented in the sample.
International				
Author Rowland, DiGuiseppi (2003), England **Design** Intervention Evaluation Group randomized trial **Duration** Medium Intervention schools were offered 16 hours of expert assistance over one school year.	**Measures** *Neighborhood walkability* (travel safety, access to transit, awareness of routes) **Outcome(s) Affected** Active commuting to school (surveys, travel plans)	**Net Positive for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. For the journey to school, the adjusted odds of walking, cycling, or using public transport in intervention schools were almost identical to that in control schools (OR=0.98; 95% CI: 0.61-1.59). Results for travel from school to home in the afternoon were similar (data not shown). 2. Two of the 11 intervention schools and 1 of the 10 control schools reported having travel plans prior to the study. One year later, 9 of the 11 intervention schools and none of the 10 control schools had a written travel plan. 3. None of the 11 intervention schools took action in all four recommended areas in government "Best Practice" guidelines for school travel plans. 4. Of the 9 intervention schools developing their travel plan within the project time frame, all implemented some form of Safe Routes activities, compared to 4 of the 10 control schools.	**Effective for Physical Activity in the Study Population** Study Design = Intervention evaluation Intervention Duration = Medium Effect Size = Net positive for physical activity in the study population	**Maintenance** Not Reported **Sampling / Representativeness** Not Reported

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Ziviani, Scott (2004) Australia **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood walkability* (access to shelters and footpaths, pollution, factors facilitating and/or hindering child walking [heavy traffic, lack of adult presence at cross-walks], safety, extra-mural events, availability of a walking companion, attitudes toward physical activity) **Outcome(s) Affected** Walking to and from school (survey)	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Parental concern about traffic ($x^2 = 14.6$, df = 3, p = 0.002) and the distance a child lived from school ($x^2 = 45.5$, df = 10, p < 0.001) were both statistically significant factors for choice to walk to school. 2. Using the backward elimination procedure to determine the relative impact of these environmental factors, distance was found to have a substantial impact on walking to school (OR = 0.54, 95% CI = 0.35 - 0.74, p = 0.001).	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported
Author Salmon, Salmon (2007) Australia **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood walkability* (distance to school, usual transportation mode, travel time to school, barriers for active transport [lack of social support, preferences, etc.]) **Outcome(s) Affected** Walking and cycling behaviors to school (general survey and items from the Children's Leisure Activities Study Survey [CLASS])	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Using a multiple logistic regression model, two environmental barriers were significantly inversely associated with active commuting; the school is too far for the child to walk to (OR=0.1, 95% CI=0.0-0.1, p<0.01) and there is no direct route to school (OR=0.4, 95% CI= 0.2-0.7, p<0.01). *Subset of children living within a 15-minute walk to school (n=366)* 2. Using a multiple logistic regression two environmental barriers were significantly inversely associated with active commuting; there is no direct route to school (OR=0.3, 95% CI=0.2-0.7, p<0.01) and school too far for child to walk to (OR=0.3, 95% CI=0.1-0.7, p<0.01).	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported
Author Timperio, Ball (2006) Australia **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood walkability* (potential route to school, types of roads and intersections, connectivity, surface analysis or level of incline, presence of lights and crossing, perceptions of barriers [heavy traffic]) **Outcome(s) Affected** Active commuting to school (child questionnaire)	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Children in both age groups were less likely to actively commute to school if their parents reported that there were no lights or crossings (OR= 0.4, 95% CI: 0.1-0.9 for 5-6 years and OR= 0.6, 95% CI: 0.3-0.9 for 10-12 years) for their child to use (p<0.05). 2. In both age groups, children whose route to school was <800 m were more likely to actively commute (OR =5.2, 95% CI: 2.2-12.3 for 5-6years; and OR=10.2, 95% CI: 5.9-17.6 for 10-12 years), while those with a busy-road barrier (OR= 0.1, 95%CI: 0.0-0.5 for 5-6 years old; and OR= 0.3, 95% CI: 0.1-0.9 for 10-12 years) en route to school were less likely to commute (p<0.001). 3. Older children with a direct route (OR= 0.7; 95% CI: 0.5-0.98) were less likely to walk or cycle to school compared with other children (p<0.05).	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported The subsample contained a higher proportion of English speaking children, with married parents, and a lower proportion of employed mothers.

Study Description	Measures & Outcomes	Effect Size or % Change	Effectiveness	Maintenance & Representativeness
Author Larsen, Gilliland (2009) Ontario **Design** Association Cross-sectional study **Duration** Not Applicable	**Measures** *Neighborhood walkability* (sidewalks, road networks, street trees, pathways, land use type and distance from home to school in the shortest path) **Outcome(s) Affected** Active commuting to school (survey)	**Positive Association for Physical Activity in the Study Population (Safe Routes to School)** **Safe Routes to School** PHYSICAL ACTIVITY: 1. Sixty-two percent of students living within 1.6 km of their school used non-motorized (active) travel to get to school in the morning; the vast majority of this group walked (95%), and the remainder biked, skateboarded, rollerbladed, or used a scooter (5%). 2. Analysis of the journey home from school revealed an increase of almost 10% in the number of students using non-motorized travel compared with the journey to school (62.2% to school and 72% from school). 3. Distance between home and school was the most important factor in determining whether a child used a non-motorized form of travel to school (OR=0.523; 95% CI: 0.412, 0.666; $p<0.001$). 4. The likelihood of active travel to school rose with both increased land use mix (OR=2.891; 95% CI: 1.634, 5.117; $p<0.001$) and greater number of street trees (OR= 1.300; 95% CI: 1.034, 1.635; $p=0.025$). 5. With the journey home from school, the presence of street trees is no longer important whereas active travel decreased with higher residential density (OR=0.259; 95% CI: 0.123, 0.547; $p<0.001$). 6. Fewer students walked or biked to school in high-income, suburban neighborhoods ($p=0.023$)	**Positive Association for Physical Activity in the Study Population** Study design = Association Effect size = Positive association for physical activity in the study population	**Maintenance** Not Applicable **Sampling / Representativeness** Not Reported

IMPACT TABLES

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
United States						
Author Staunton, Hubsmith (2003) California	**Participation/ Potential Exposure** Participation = Not Reported Exposure = High During the 2000-01 school year, the program served about 3500 students in 9 schools (7 public, 2 private); by the 2001-02 school year, 4665 students in 15 schools (12 public, 3 private) were enrolled; in the 2002-03 school year, 7609 students in 21 school (17 public, 4 private) were participating (schools include both elementary and middle). **High-Risk Population** Not Reported 5-13 year olds (target population)	**Representative** High All of students in 9 schools (7 public, 2 private) for the 2000-01 school year, students in 15 schools (12 public, 3 private) for the 2001-02 school year, and students in 21 school (17 public, 4 private) for the 2002-03 were exposed. **Potential Population Reach** High Exposure = High Representativeness =High **Potential High Risk Popluation Reach** More Evidence Needed High-risk population =Not reported Representativeness = High	**Intervention Components** Multi-component Promotion of the Safe Routes to School Program to increase walking and biking to school through funding of traffic infrastructure changes and supervised walking school buses and bike trains (groups of children walking or biking together to school) <u>MULTI-COMPONENT:</u> 1. Traffic changes to promotes safety <u>COMPLEX:</u> 1. Classroom education: Safety training (videos, discussions, presentations), toolkit developed for schools (guidelines for teaching pedestrian and biking safety) 2. In-school activities: "Frequent Rider Miles Contest" awarded prizes for children receiving a certain amount of points on tally cards 3. Establishing and mapping safe routes: routes identified at town meeting; safety issues identified by volunteers walking routes, solutions designed 4. Organized walking activities: "Walk and Bike to School Days" (monthly, weekly, or yearly walking/biking to schools) with drinks/treats provided by schools; children living far from school could be dropped off at staging area to walk to school 5. Walking school bus and bike train programs **Feasibility** Intervention Feasibility = Low Policy Feasibility = High Intervention activities: Traffic infrastructure changes, classroom education, safety training, toolkit for schools, in-school activities ("Frequent Rider Miles Contest"), establishing and mapping safe routes and identification of safety issues and designing solutions, organized walking activities Specialized expertise: The program was implemented by 4 paid staff. Resources: Staff (Program Director, part-time supervisor, educator, traffic engineer), parents, teachers, and community volunteers, funds for traffic infrastructure changes and staff, safety training materials, maps, tally cards and prizes, drinks and treats, promotional materials (posters, flyers, newsletters, email listserve, website) Costs: Not reported **Implementation Complexity** High Intervention components = Multi-component Feasibility = High	**Population Impact** High Impact for Physical Activity in Study Population Effectiveness = Effective for physical activity for study population Potential population reach =High Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness for high-risk = Not reported Potential high-risk population reach = More evidence needed Implementation complexity: High **Sustainability** By spring 2002, more than $1 million in additional funding had been received from local foundations, local businesses, and grants. Funding for the 2002-03 school year is expected to exceed $2 million; much of this funding is earmarked for infrastructure changes to decrease traffic dangers to walking and biking.	**Safety Traffic** <u>PHYSICAL ACTIVITY:</u> 1. From fall 2000 to spring 2002, there was a 64% increase in the number of children walking, a 114% increase in the number of students biking, a 91% increase in the number of students carpooling, and a 39% decrease in the number of children arriving by private car carrying only one student in the participating public schools. Restricting analysis to 2 private schools (enrollment from both schools=401 students), which draw students from a wider geographic area, led to much more modest results (1% increase in walking, 5% increase in carpooling). (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Boarnet, Anderson (2005); Boarnet, Day (2005) California	**Participation/ Potential Exposure** Participation = Not Reported Exposure = High In fall 2003, the California Safe Routes to School program had approved funding for more than 270 projects. The first 2 rounds of funding provided for improvements at 186 sites throughout the state. **High-Risk Population** Not Reported 5-13 year olds (target population)	**Representative** Not Reported **Potential Population Reach** More Evidence Needed Exposure = High Representativeness = Not reported **Potential High Risk Popluation Reach** More Evidence Needed High-risk Population = Not reported Representativeness = Not reported	**Intervention Components** Multi-component California Safe Routes to School (SRTS) Program to increase traffic safety to promote active commuting to school MULTI-COMPONENT: 1. Construction of traffic calming devices 2. Addition of sidewalks 3. Addition of bike lanes **Feasibility** Intervention Feasibility = Low Policy Feasibility = High Intervention activities : Construction of traffic improvements (sidewalk, traffic calming, and speed reduction, pedestrian and bicycle crossing, bicycle facilities, traffic control devices, traffic diversions) Specialized expertise: Planners, engineers, construction workers, and other professionals to implement improvements Resources: Funding and materials for traffic improvements, planners, engineers, construction workers, and other professionals to implement improvements Costs: Not reported **Implementation Complexity** High Intervention components = Multi-component Feasibility = High	**Population Impact** More Evidence Needed Effectiveness = Effective for physical activity for study population Potential population reach = More evidence needed Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness high-risk= Not reported Potential high-risk population reach = More evidence needed Implementation complexity = High **Sustainability** Not Reported (for intervention) As of March 2005, both the U.S. Senate and House versions of the 2004 federal transportation bill re-authorization included a national SRTS program, with the Senate version funded at $70 million/ fiscal year and the House version funded at $150 million for the first fiscal year (with increases in subsequent years; U.S. House of Representatives, 2005).	**Street Design** PHYSICAL ACTIVITY: 1. At 4 of the 5 schools receiving nearby sidewalk improvements, the proportion of children who passed improvement projects on their route to school walked/ biked more after construction, this was significantly more than the proportion of children who walked/biked more but did not pass these improvements (Murrieta: 13.7% vs. 2.4%, n=93, t=2.12, p=0.04; Sheldon: 15.6% vs. 0%, n=57; t=2.43, p=0.02; Valley: 11.6% vs. 0%, n=89, t=3.01, p<0.01; West Randall: 28.6% vs. 7.4%, n=117, t=3.15, p<0.001) 2. Sidewalk projects led to a statistically significant decrease in the number of observed children walking on a street or shoulder, from before to after construction (Sheldon: from 66% to 35% [-31%], t=5.55; Valley: from 42% to 4% [-38%], t=6.79; West Randall: from 75% to 5% [-70%], t=39.23: Juan Cabrillo: from 7% to 2% [-5%], t=2.70; no p-values). **Safety Traffic** PHYSICAL ACTIVITY: 1. At both of the schools receiving traffic control improvements, the proportion of children passing improvements on their route to school walked/biked more after construction, this was significantly more than the proportion of children who walked/biked more but did not pass these improvements (Cesar Chavez: 20.6% vs. 6.2%, n=133, t=2.52, p=0.01; Newman: 10.9% vs. 0%, n=94; t=2.8, p=0.01). (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	ENVIRONMENT CHANGE: 1. Traffic control improvements caused decreased vehicular speed during the morning off-peak (-7% [-11, -3]), afternoon peak (-19% [-23,-15]), and afternoon off-peak (-6% [-10, -2]) periods at Cesar Chavez Elementary and during the afternoon off-peak period (-15% [-18, -12]) at Newman Elementary. 2. The number of vehicles yielding to pedestrians increased after construction of traffic control improvements at Cesar Chavez Elementary (from 95.42% to 100%, t=5.42) and Newman Elementary (from 94.86% to 99.62%, t=3.44). 3. Crosswalk improvements led to an increase in vehicles yielding to pedestrians at Glenoaks Elementary—1 of the 3 schools where these improvements were made (from 94.14% to 97.71%, t=1.78, p=0.10). (Note: More results specific to traffic improvement strategies are detailed in the text.)

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Mendoza, Levinger (2009) Washington	**Participation/ Potential Exposure** Participation = Low On average 20-25 students regularly participated in a Walking School Bus (WSB) at least once a week. Exposure = High 820 children from 3 elementary schools were exposed to the study. **High-Risk Population** Not Reported High 5-11 year olds 4% American Indian, 21% Asian, 50% African American, 20% Latino, 5% Caucasian, 91% Free or reduced lunch (intervention school) 1% American Indian, 8% Asian, 72% African American, 14% Latino, 5% Caucasian, 83% Free or reduced lunch (both control schools)	**Representative** High All of the children from 3 elementary schools were exposed. **Potential Population Reach** Low Participation = Low Representativeness = High **Potential High Risk Popluation Reach** High High-risk population= High Representativeness = High	**Intervention Components** Complex Promotion of a walking school bus (WSB) program as alternative transportation to school <u>COMPLEX:</u> 1. In-school activities: awareness of routes and safety (bulletin board, newsletters, presentations) 2. Establishing Walking School Bus routes 3. Organized walking activities: "Two-Feet Tuesdays" (weekly walk to school), walking workshops, and annual walk to school community celebration **Feasibility** Intervention Feasibility = Low Policy Feasibility = High Intervention activities: School wide activities (walking to schools, workshops), community walking trips (guided by police and volunteers) Special expertise: Coordinator trained by Feet First and gave 10-15 hours per week to implementing the program. Resources needed: WSB informational material (newsletter, safety guidelines, bulletin board), materials and funding for "Two-Feet Tuesdays" and community celebration, WSB coordinator, parent volunteers and police officers, funding to conduct criminal background checks for volunteers Cost: Not reported **Implementation Complexity** High Intervention components = Complex Feasibility = High	**Population Impact** Low Impact for Physical Activity in Study Population Effectiveness = Effective for physical activity for study population Potential population reach = Low Implementation complexity = High **High-risk Population Impact** High Impact for Physical Activity in Lower-Income Racial and Ethnic Minorities Effectiveness high-risk= Effective for physical activity in lower-income Racial and Ethinic minorities Potential high-risk population reach = High Implementation complexity = High **Sustainability** Not Reported	Not Reported	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Babey, Hastert (2009) California	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. 14.4 years old (average), 12-17 years old (range), 49% Female, 40% White, 34% Latino, 11% Asian, 9% African-American, 5% Mixed ethnic composition, 13% Rural dwellers 19% Suburban dwellers 68% Urban dwellers (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Perceptions of active commuting to school MULTI-COMPONENT: 1. Neighborhood design and distance **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Community Designs** PHYSICAL ACTIVITY: 1. Using a logistic regression model, adolescents who lived within 800 m or about 1/2 mile (OR=11.99, 95% CI= 6.79-20.63), between 800 and 1,600 m (OR=5.01, 95% CI= 3.71-6.79), or between 1,600 and 3,200m (OR=1.86. 95% CI= 1.44-2.40) from school were found to be more likely to walk, bike, or skateboard to school than those who lived more than 3,200 m (~2 miles) from school (all significant p<0.01). 2. Adolescents in urban areas were more likely than those in rural (OR=0.58, 95% CI=0.43-0.79) or suburban (OR=0.69, 95% CI=0.52-0.91) areas to walk or bike to school (p<0.01 for both). (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	1. Adolescents who had an adult present after school some or none of the time (OR=1.77, 95% CI=1.33-2.35, p<0.01) were more likely to actively commute than those who had an adult present after school most of the time.

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author McMillan (2007) California	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data was provided. 5-13 years old (3-5 grade students) 7 schools had Hispanic enrollment at >80%,11 of the 16 municipalities used fell into "urban fringe of a large city", 50% of the schools were in areas where median incomes fell within ± $15,000 of the California state median ($47,493) (sample population)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Population Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data was provided. Active commuting to school MULTI-COMPONENT: 1. Neighborhood safety from crime 2. Traffic safety 3. Neighborhood design and distance to locations **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Community Design** PHYSICAL ACTIVITY: 1. Child walking/bicycling to school is influenced by urban form (proportion of street segments within 1/4 mile radius of school with >50% of houses with windows facing the street, coefficient =0.036; p<0.001 and proportion of street segments within 1/4 mile radius of school with land use mix; coefficient= 0.015, p<0.001). 2. If the distance from home and school was less than one mile, the probability of walking/bicycling increased (factors model: coefficient=1.473, p<0.001 and urban form model; coefficient=1.406, p<0.001). Children living within one mile of school were 3 times more likely to walk to school rather than being driven. 3. While 2 of the 3 urban form variables, land-use mix and windows on houses, were significant in the logit models and added to significant fit of overall model, individually they have little relative influence on mode choice to school. **Safety Interpersonal** PHYSICAL ACTIVITY: 1. Concerns about neighborhood safety decreased the probability of a child walking/bicycling to school (factors model; coefficient= -0.135, p=0.005 and urban form model; coefficient= -0.160, p<0.001). 2. For each unit increase in reported not safe neighborhood, the odds of non-motorized travel to school decreased only 13% (p<0.05). **Safety Traffic** PHYSICAL ACTIVITY: 1.Traffic speed greater than 30 miles per hour along the route to school decreased the probability of a child walking/bicycling to school (factors model; coefficient= -1.133, p=0.001 and urban form model; coefficient= -1.029, p=0.002). 2. For each unit increase in either reported traffic speed, reported driving convenience, or caregiver's birthplace, the odds of walking/ bicycling to school decreased over 60%. (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	1. Family's approval of the child walking to school (APRVFAM) (factors coefficient= 0.395, p<0.001) (urban form coefficient= 0.392, p<0.001) increased the likelihood of walking/ bicycling to school.

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Schlossberg, Greene (2006) Oregon	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided 11-13 year olds, 89% White Non-Hispanic, 7% Hispanic (evaluation sample)	**Representative** Not Applicable Only cross-sectional data provided The respondents were overwhelmingly White non-Hispanic. **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided Active commuting to school MULTI-COMPONENT: 1. Intersection density, dead end density, and street connectivity 2. Distance to school from residence **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Community Design** PHYSICAL ACTIVITY: 1. Those who live within one mile of school are by far the most likely to walk (ever walk to/from 76.2%, p<.001, primary to 31.7%, p<.001, primary from 52.4%, p<.001), followed by those living 1 to 1.5 miles (not significant). Beyond 1.5 miles, fewer than 4% walk to or from school. 2. Students living less than 1 mile from school were the most likely to walk (no statistic), followed by those living 1 to 1.5 miles away (ever walk OR= 0.21, p<0.01, primary mode OR=0.27, p<0.05). 3. Students living farther than 2.5 miles from school were less likely (ever: OR = 0.20, p<0.01, to school: OR= 0.05, p<0.05, from school: OR=0.04, p<0.05) to ride their bicycles to and from school compared to those living closer. **Street Design** PHYSICAL ACTIVITY: 1. Individuals walking in areas with low intersection density were less likely to walk (OR=0.16 to 0.19, p<0.05) compared to those in high areas. Students walking in high intersection densities had a 10% probability of walking, compared to 3% and 2% if they had medium or low intersection densities, respectively. 2. Individuals walking to and from school in areas with high dead-end densities (to school: OR= 0.28 (p<0.05), from school: 0.19 (p<0.01) were less likely to walk to school when compared to children in low dead-end densities. Those with low dead-end densities had an 8% probability of walking to school, compared to 3% and 2% for those with medium and high dead-end densities, respectively. (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	1. Neighborhood walkability concerns were expressed by some, with almost one quarter (23%) complaining of dangerous traffic conditions (not significant), 15% of high speed vehicles (not significant) and 13% of lack of complete sidewalks (not significant).

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Zhu, Arch (2008) Texas	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. Hispanic, Lower-Income, 5-10 year olds (target) 55.4% Hispanic (in AISD), 60.3% free/ reduced lunch (in AISD) (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Population Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Active commuting in the community to school MULTI-COMPONENT: 1. Distance to school 2. Sidewalk quality 3. Neighborhood safety concerns 4. Busy road barriers **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Street Design** PHYSICAL ACTIVITY: 1. The sidewalk quality factor and overall walking environment factor did not show significant associations with walking. 2. The sidewalk quality (Harris: n=117, OR=0.477, p<0.05) decreased the likelihood of walking. **Community Design** PHYSICAL ACTIVITY: 1. Distance to school was the strongest predictor of walking, where the child was about 4 times more likely to walk if the parent perceived the distance to be close enough for their child to walk (OR=4.918, β =1.593, p<0.01). 2. The presence of convenience stores (OR=0.588, β =-0.531, p<0.01) and office buildings (OR=0.52, β =-0.654, p<0.05) was associated with decreased likelihood of walking after controlling for other variables. 3. In the analysis using 8 separate models for individual schools, the distance to school was the most significant predictor in 6 of the 8 schools [Group 1: Zavala (n=106, OR=7.467, p<0.05), Sanchez (n=150, OR=11.735, p<0.01), Metz (n=153, OR=9.177, p<0.01); Group 2: Blanton (n=114, OR=10.384, p<0.01), Andrews (n=215, OR=11.68, p<0.01); Group 3: Wooten (n=193, OR=9.441, p<0.01)]. **Safety Interpersonal** PHYSICAL ACTIVITY: 1. A 1-unit increase in the safety concern factor (range: -2.6 to 1.9) reduced the odds of walking by 22% (OR=0.776, β =-0.253, p<0.01). **Safety Traffic** PHYSICAL ACTIVITY: 1. The presence of highway or freeway barrier decreased the likelihood of walking by 52% (OR=0.483, β =-0.727, p<0.01). 2. The busy road barrier (Blanton; n=114, OR=0.203, p<0.05) decreased the likelihood of walking. (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	1. Every 1-unit increase in education level was associated with a 19% decreased likelihood of a child walking to or from school. A similar relationship was found for car ownership (data not shown). 2. Parents personal barriers were negatively associated with walking (OR=0.566, β= -0.569, p<0.01), while the factor capturing children's and parents' positive walking behaviors/attitudes was positively associated with walking (OR=1.461, β=-0.379, p<0.01). 3. Having school bus services lowered the odds of walking by 67% (OR=0.333, β =-1.100, p<0.01). 4. Positive peer influences increased the odds of walking by 19% (data not shown). 5. This analysis model showed that parental barriers were the second most important correlate for schools independently and was significant in 5 of the schools [Group 1: Zavala (n=106, OR=0.183, p<0.01), Metz (n=153, OR=0.453, p<0.05); Group 2: Harris (n=117, OR=0.593, p<0.05), Andrews (n=215, OR=0.436, p<0.01); Group 3: McBee (n=137, OR=0.354, p<0.01)].

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
International						
Author Rowland, DiGuiseppi (2003) England	**Participation/ Potential Exposure** Participation = Not Reported Exposure = High 1629 pupils were exposed in the 20 surveyed schools. Nine out of the 11 intervention schools participated. **High-Risk Population** Not Reported 3-10 year olds (target population)	**Representative** High All of the students at 11 intervention schools were exposed. **Potential Population Reach** High Exposure = High Representativeness =High **Potential High Risk Popluation Reach** More Evidence Needed High-risk population= Not reported Representativeness = High	**Intervention Components** Complex A policy providing a travel coordinator to promote safe walking to school practices was implemented in each of the intervention schools. COMPLEX: 1. Meetings and focus groups with teachers, governors, parents, and pupils (identification of road safety problems and solutions) 2. Establishment of school travel working group 3. Meetings with teachers and governors 4. Drafts and recommendations for safe routes **Feasibility** Intervention Feasibility = Low Policy Feasibility = High Intervention activities: Meetings and focus groups with teachers, governors, parents, and pupils, establishment of school travel working group, drafts and recommendations for safe routes, implementation of safe walking to school policies. Special expertise: 16 hours of expert assistance, over one school year, from one of two part-time school travel coordinators with formal teaching qualifications and road safety experience. Resources needed: Travel coordinators, parent and school personnel involvement, personalized individual report on school travel pattern, £150 compensation (control schools), Costs: Not reported **Implementation Complexity** High Intervention components = Complex Feasibility = High	**Population Impact** High Impact for Physical Activity in Study Population Effectiveness = Effective for physical activity for study population Population reach = High Implementation complexity = High **High-risk Population Impact** More Evidence Needed Effectiveness high-risk = Not reported Potential high-risk population reach = More evidence needed Implementation complexity = High **Sustainability** Not Reported	Not Reported	Not Reported

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Ziviani, Scott (2004) Australia	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. 5-13 year olds (9.1 ± 2.02 mean age of sample), 46% Female (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Active commuting to school and amenities necessary to provide safe routes to school after the implementation of a walking program. MULTI-COMPONENT: 1. Neighborhood concerns about traffic safety 2. Distance to school COMPLEX: 1. Companionship on walk to school 2. Parental attitudes toward physical activity 3. Access to a crossing guard en route to school **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Safety Traffic** PHYSICAL ACTIVITY: 1. Parental concern about traffic (x^2 = 14.6, df = 3, p = 0.002) was a statistically significant factor for choice to walk to school. **Community Design** PHYSICAL ACTIVITY: 1. Parental concern about the distance a child lived from school (x^2 = 45.5, df = 10, p <0.001) was a statistically significant factor for choice to walk to school. (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected under different strategies but only under Safe Routes to School)	1. Parental concern about 'other factors' not listed in the survey had a statistically significant impact on the number of days children walked to or from school (x^2 = 16.4, df = 1, p <0.001). 2. 'Other factors' also influenced walking to school (OR = 0.32, 95% CI = 0.13 - 0.8, p =0.01).

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Salmon, Salmon (2007) Australia	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. 4-13 year olds	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided, Active commuting to and from school MULTI-COMPONENT: 1. Distance to school from residence 2. Neighborhood concerns about traffic safety 3. Access to direct routes to school **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Community Design** PHYSICAL ACTIVITY: 1. Using a multiple logistic regression model, the school is too far for the child to walk to (OR=0.1, 95% CI=0.0-0.1, $p<0.01$) was significantly inversely associated with active commuting. *Subset of children living within a 15-minute walk to school (n=366)* 2. Using a multiple logistic regression, the school is too far for a child to walk (OR=0.3, 95% CI=0.1-0.7, $p<0.01$) was significantly inversely associated with active commuting. **Safety Traffic** PHYSICAL ACTIVITY: 1. Using a multiple logistic regression model, having a concern that their child might be injured in a road accident walking to school, was identified as positively associated with active commuting (OR=1.9, 95% CI=1.10-3.18, $p<0.05$). **Street Design** PHYSICAL ACTIVITY: 1. Using a multiple logistic regression model, there is no direct route to school (OR=0.4, 95% CI= 0.2-0.7, $p<0.01$) was significantly inversely associated with active commuting. *Subset of children living within a 15-minute walk to school (n=366)* 2. Using a multiple logistic regression, having no direct route to school (OR=0.3, 95% CI=0.2-0.7, $p<0.01$) was significantly inversely associated with active commuting. (Note: Safe Routes to School incorporates multiple strategies and as such, the results will be reflected under different strategies within Safe Routes to School only)	1. Using a multiple logistic regression model, two individual factors were identified as significantly inversely associated with active commuting; preference (the child prefers to be driven; OR=0.4, 95% CI=0.3-0.6, $p<0.01$) and time (the child does not have enough time in the morning; OR=0.2, 95% CI=0.3-0.8, $p<0.01$). 2. Using a multiple logistic regression model, three social factors were identified as significantly inversely associated with active commuting; lack of a child companion to walk with (OR=0.7, 95% CI=0.4-1.0, $p<0.05$), lack of adult to walk with (OR=0.6, 95% CI=0.4-0.9, $p<0.05$) and risk taking (parents were worried about child taking risks; OR=0.6, 95% CI=0.3-0.9, $p<0.05$). *Subset of children living within a 15-minute walk to school (n=366)* 3. Using a multiple logistic regression two social barriers were significantly inversely associated with active commuting; lack of child companion to walk with (OR=0.6, 95% CI=0.3-0.98, $p<0.05$) and lack of adult companion to walk with (OR=0.5, 95% CI=0.3-0.9, $p<0.05$).

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Timperio, Ball (2006) Australia	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. 5-6 year olds and 10-12 year olds (intervention population)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Active commuting to school MULTI-COMPONENT: 1. Access to lights and cross walks and the presence of busy-road barriers 2. Distance to school from residence COMPLEX: 1. Neighborhood social cohesion **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Safety Traffic** PHYSICAL ACTIVITY: 1. Children in both age groups were less likely to actively commute to school if their parents reported that there were no lights or crossings (OR= 0.4, 95% CI: 0.1-0.9 for 5-6 years and OR= 0.6, 95% CI: 0.3-0.9 for 10-12 years) for their child to use ($p<0.05$). 2. In both age groups children with a busy-road barrier (OR= 0.1, 95%CI: 0.0-0.5 for 5-6 years old; and OR= 0.3, 95% CI: 0.1-0.9 for 10-12 years) en route to school were less likely to commute ($p<0.001$). **Community Design** PHYSICAL ACTIVITY: 1. In both age groups, children whose route to school was <800 m were more likely to actively commute (OR =5.2, 95% CI: 2.2-12.3 for 5-6years; and OR=10.2, 95% CI: 5.9-17.6 for 10-12 years). (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	1. Children in both age groups were less likely to actively commute to school if their parents reported that there were few other children in the neighborhood for their child to play with (OR= 0.3, 95%CI: 0.1-0.8 for 5-6 years; and OR= 0.6, 95% CI: 0.4-0.99 for 10-12 years). 2. Younger children with a steep incline en route to school (OR= 0.3, 95% CI: 0.1-0.8), and older children with a direct route (OR= 0.7; 95% CI: 0.5-0.98), were less likely to walk or cycle to school compared with other children ($p<0.05$).

Study Description	Population	Reach	Intervention	Impact & Sustainability	Other Results	Related Benefits & Consequences
Author Larsen, Gilliland (2009) Ontario	**Participation/ Potential Exposure** Not Applicable **High-Risk Population** Not Applicable Only cross-sectional data provided. 11-13 year olds, Urban, Suburban (evaluation sample)	**Representative** Not Applicable **Potential Population Reach** Not Applicable **Potential High Risk Popluation Reach** Not Applicable	**Intervention Components** Not Applicable Only cross-sectional data provided. Active commuting to school <u>MULTI-COMPONENT:</u> 1. Distance to school from residence, land-use mix, residential density, and neighborhood design 2. Presence or absence of street trees along route to school **Feasibility** Not Applicable **Implementation Complexity** Not Applicable	**Population Impact** Not Applicable **High-risk Population Impact** Not Applicable **Sustainability** Not Applicable	**Community Design** <u>PHYSICAL ACTIVITY:</u> 1. Sixty-two percent of students living within 1.6 km of their school used non-motorized (active) travel to get to school in the morning; the vast majority of this group walked (95%), and the remainder biked, skateboarded, rollerbladed, or used a scooter (5%). 2. Distance between home and school was the most important factor in determining whether a child used a non-motorized form of travel to school (OR=0.523; 95% CI: 0.412, 0.666; p<0.001). 3. The likelihood of active travel to school rose with increased land use mix (OR=2.891; 95% CI: 1.634, 5.117; p<0.001). 4. With the journey home from school, active travel decreased with higher residential density (OR=0.259; 95% CI: 0.123, 0.547; p<0.001). 5. Fewer students walked or biked to school in high-income, suburban neighborhoods (p=0.023) **Street Design** <u>PHYSICAL ACTIVITY:</u> 1. The likelihood of active travel to school rose with greater number of street trees (OR= 1.300; 95% CI: 1.034, 1.635; p=0.025). 2. With the journey home from school, the presence of street trees is no longer important. (Note: Safe Routes to School incorporates multiple strategies and as such the results will be reflected in the impact table under other results but will only appear in the Safe Routes to School strategy.)	Not Reported