



# Memorandum

Date: 11.22.16

RE: Citizens Advisory Committee  
November 30, 2016

To: Citizens Advisory Committee

From: Joe Castiglione – Deputy Director for Technology, Data & Analysis

Subject: **INFORMATION** – Findings of Child Transportation Survey Report

## Summary

Initiated at the request of Commissioner Tang, the Child Transportation Study research effort was led by the Transportation Authority, the Mayor's Office and the San Francisco Municipal Transportation Agency (SFMTA). The goal of the effort was to provide more in-depth and comprehensive information on school transportation issues in San Francisco and to identify potential solutions to help mitigate school commute difficulties. The issues and potential solutions were informed by an inventory and review of existing data sources, focus groups, and an in-depth survey of over 1,700 parents of Kindergarten through 5<sup>th</sup> grade children on their school commutes and preferences. This research revealed that the automobile is the dominant school commute mode, with bicycling and walking comprising less than 10% of all commutes. School commutes can be surprisingly long and complicated because they are often coordinated with other activities such as parents' or caregivers' work commutes and aftercare needs. The high share of auto usage results in congestion impacts focused around school sites at specific times of day, although the overall contribution to citywide congestion is marginal. Most critically, there was a relatively high level of dissatisfaction with school commutes, with over 60% of parents either actively seeking or being open to school commute alternatives. The study report concludes with a set of recommendations that include scoping a pilot program to offer shuttle services in a select geographic area, identification of a preferred mobile application to support carpooling to school, investment in programs that encourage bicycling and walking to school, and improving and expanding transit options to improve competitiveness with driving and reduce barriers to transit. The Study was funded by the Transportation Authority's Prop K transportation sales tax funds and the SFMTA.

## BACKGROUND

San Francisco does not offer yellow school bus transportation to most students, and as a result most parents and caregivers must arrange their own transportation to school and aftercare programs. While elected officials often hear about school commute challenges and the 2013 San Francisco Transportation Plan identified school transportation as a special market warranting further study, the extent of the school commute challenge has not been well understood. The Child Transportation Survey research was initiated in order to inventory all past research on San Francisco school commutes, conduct new research on existing school commute alternatives and preferences via focus groups and a survey, and to develop recommendations for improving school commutes.

## DISCUSSION

The extent of the school commute challenge in San Francisco has not been well understood because no comprehensive data sources exist that describe the existing commute patterns, issues and preferences.

While some information is available on how public school children get to school, little is known about the transportation patterns of students in private or parochial schools, nor about parent attitudes towards the school commute. In addition, no attempts have been made to quantify the impacts of school-related driving on the city's congestion problem. Finally, despite the school commute challenges faced by parents and caregivers, no study has examined whether parents are seeking alternatives to their current choices. To fill these gaps in understanding, Commissioner Tang initiated the Child Transportation Study research effort which was led by the Transportation Authority, the Mayor's Office and the San Francisco Municipal Transportation Agency (SFMTA). The Child Transportation Study set out to identify existing information on school commutes in San Francisco, provide findings regarding critical school commute questions and to propose a set of recommendations. Four key research questions included:

1. How do parents get small children to and from school?
2. What impact does school-related driving have on the transportation system?
3. What challenges do parents face when getting children to/from school?
4. How interested are parents in alternatives to their current transportation choices?

The Study was funded by the Transportation Authority's Prop K transportation sales tax funds and the SFMTA.

## EXISTING INFORMATION

The first study task was a review of existing data sources and literature relevant to school transportation, including population and demographic data; enrollment data from the San Francisco Unified School District (SFSUD), the Archdiocese of San Francisco, and from private schools and school location data. Key demographic findings included:

- About 45,000 Kindergarten through 5<sup>th</sup> grade schoolchildren are enrolled in San Francisco schools
- Most children live in the west, south, and southeast parts of the city
- Schools are distributed all over the city, but relatively few are located in South of Market and northern Potrero/Dogpatch

Other existing sources that were reviewed and guided development of the survey included the SFSUD Student Commute Study, the Bay Area Parents' Survey on Reasons for Driving to School, the San Francisco Department of Public Health/Department of Environment Parent Focus Groups on Transportation to School, and the San Francisco Transportation Plan 2013 Update.

## STUDY FINDINGS

Key findings for the four primary research questions included:

**How do parents get small children to and from school?** Most parents drive their children to school and afterschool programs, consistent with the findings of other prior studies. In addition, it was found that rates of driving are higher among those who live farther from their school, more educated populations, and residents of the central and southwestern parts of the city.

**What impact does school-related driving have on the transportation system?** Parents driving their children to school contributes a small amount of overall driving mileage in San Francisco, but causes localized congestion issues around specific schools during pickup and drop-off times.

**What challenges do parents face when getting children to/from school?** San Francisco school commutes were surprisingly long given the city's size, with about 20% of respondents having 4+ mile school commutes. Complicating matters for most parents is that the schools are not on the way to work, and that most parents have children in aftercare and therefore are picking up during rush hour. In addition, lack of transportation options is limiting choices for aftercare and enrichment programs.

**How interested are parents in alternatives to their current school transportation choices?** Users of public transit and long-distance commuters are most interested in alternatives to their current commute, and those walking and biking were least interested in alternatives. This reflects the fact that public transit users and long-distance commuters are less satisfied than users of other school commute modes. Those seeking alternative commute options are most interested in other buses, shuttles, or carpools, and least interested in bicycling. Interest in shuttles is highest among those with longer commute distances and those living in the southeastern section of the city, while interest in carpooling is highest among those living in the central and northwest sections of the city.

## STUDY RECOMMENDATIONS

**Scope a program or public-private partnership to offer shuttle service in a select geographic area on a pilot basis:** Parents were most interested in shuttles as an alternative to their current commute, and many indicated at least some willingness to pay for such services. Additional research would be needed to develop a scope for a pilot program to provide shuttle services to parents.

**Consider selection of a preferred mobile application to support carpooling to school:** There was strong parent interest in carpooling to school, ideally supported through a mobile application. However, in order to be successful it is likely that a preferred application would need to be identified in order to ensure a critical mass of users.

**Continue investment in programs that encourage bicycling and walking to school:** Parents who are already walking and bicycling to school are much more satisfied with their school commute than parents who use other modes of travel, and use of non-motorized modes should be sustained.

**Improve and expand transit options to improve transit competitiveness with driving and reduce barriers to transit:** Despite being the second most popular mode for school commutes, the survey revealed that transit also had the highest share of dissatisfaction. It was suggested that Muni align routes to more effectively serve schools, including more "school tripper" runs and that Muni consider "family passes" to support use of Muni for escorting children to school.

## ALTERNATIVES

None. This is an information item.

## FINANCIAL IMPACTS

None. This is an information item.

## RECOMMENDATION

None. This is an information item.

Attachment:

1. Findings of the Child Transportation Survey Report



# Findings of the Child Transportation Survey

NOVEMBER 2016



**SFMTA**  
Municipal  
Transportation  
Agency







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## REPORT DESIGN

Bridget Smith, SFCTA

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## Executive Summary

The K–5 school commute in San Francisco is very difficult for parents and caregivers, and stresses San Francisco’s transportation network in the mornings and afternoons. While there are some data on San Francisco Unified School District students’ school commute choices, no previous studies have examined whether parents are seeking alternatives to their current commute choices, or what alternatives would be most appealing. A group of city agencies and elected officials determined that a more in-depth and comprehensive study of school transportation was needed to identify potential solutions to mitigate school transportation difficulties.

Guided by SFCTA Commissioner Katy Tang, the Mayor’s Office, SFCTA and SFMTA, Fall Line Analytics led the research efforts to answer these questions for public, private, and parochial students. The research consisted of three parts:

1. Research all past San Francisco and other governmental data on school transportation, and compile a list of available data
2. Conduct three focus groups with parents and caregivers
3. Conduct an in-depth survey of parents of K–5 children on their school commutes and alternatives preferences

The research on existing governmental data was used to identify key issues to be explored in the focus group and survey. The primary focus of this report is to document the results of the survey. The child transportation survey was an online-only instrument promoted through many channels including parents’ groups, listservs, school officials, paid advertisements, and news coverage. Special effort was taken to reach monolingual Chinese and Latino populations, and the African-American community.

There were 1,746 valid completed surveys that were used for analysis, divided among the three languages. Results were weighted to match proper San Francisco demographics, then cleaned and coded. The results were tabulated and analyzed by Fall Line Analytics and the SFCTA. Summary results include the following, categorized by research question.



### How do parents get elementary school children to and from school and afterschool programs?

- Most parents drive their children to school and afterschool programs—57% of total respondents drive their children to school, 52% drive to pick their children up at the school bell, and 70% drive to pick their children up from afterschool programs. Rates of driving are higher among those who live farther from their school, more educated populations, and residents of the central and southwestern parts of the city. Public transit is the next most common choice, comprising between 14% and 27% of school and aftercare pickup and drop-off trips. Walking, biking, carpooling and other options all generally capture less than 10% of school commute trips.

### What impact does school transportation have on the transportation system in terms of the amount of driving and congestion generated?

- Models estimate that parents driving their children to and from school generate between 60,000 and 80,000 vehicle miles per day. While this represents a relatively small amount of the approximately 9 million vehicle miles travelled in San Francisco, these trips can cause extreme congestion around schools during pickup and dropoff times.

### What challenges do parents face when getting kids to school and aftercare programs?

- About 20% of respondents have school commutes longer than four miles, and approximately 30% have school commutes between two and four miles. These distances are beyond easy walk or bike commutes for most parents, forcing parents or caregivers to drive or take public transportation.
- For most parents (65%), school is not on the way to work. Many parents drive on to work after dropoff.
- Over 50% of parents have children in aftercare and the vast majority are picking up children after 5:00pm, during rush hour. Because of this difficulty, parents feel their choices are more limited for aftercare options. Many parents make aftercare decisions based solely on transportation. This suggests that aftercare transportation issues must be considered in coordination with school commute issues.

### How interested are parents in alternatives to their current transportation choices, particularly choices that could reduce private automobile travel and associated congestion impacts?

- About 20% of respondents are actively interested in or currently seeking an alternative to their current commute, and 40% are open to alternatives. Users of public transit and long-distance commuters were most interested in alternatives to their current commute, and those walking and biking were least interested in alternatives.
- Those seeking alternative commute options are most interested in school buses, shuttles, or carpools, and least interested in bicycling. The survey (and focus groups) tested shuttles and carpooling extensively, as these were seen as the most likely ways to reduce traffic for longer-distance commuters. There was significant support for shuttles and carpools, as long as certain criteria are met.
- Top desired features of shuttle services included driver background checks, text upon arrival, familiarity with the driver, and serving aftercare programs. Desired features of carpools included availability of an easy-to-use app administered by the school, and that ride-matching be within each individual school community and not across multiple schools.

There was strong support among parents across all areas of the city and all demographic groups that the city should help improve school commutes. This report gives several recommendations at the end, a number of which pertain to instituting a pilot shuttle program. More research will be needed to develop such a pilot.

Finally, it is important to note that this study focused on transportation issues, and the research and subsequent recommendations pertain to the transportation network and parents' preferences. This study did not address internal public transportation protocols, or issues of school choice.

## Introduction

Elected officials in San Francisco frequently hear from their constituents about the challenge of getting children to school. Like many cities around the country, San Francisco no longer offers yellow school bus transportation to many students, and as a result most parents and caregivers must arrange their own transportation to school and aftercare programs. The extent of the challenge is not well understood because no comprehensive data source exists on school transportation in San Francisco. The SFCTA's 2013 San Francisco Transportation Plan identified school transportation as a special market warranting further study."

For example, some information is available on how public school children get to school, but little is known about the transportation patterns of students in private or parochial schools, nor about parent attitudes towards the school commute. In addition, many perceive that school-related driving adds to the city's congestion problem, but no attempts have been made to quantify the impact. Finally, no previous studies have examined whether parents are seeking alternatives to their current choices, or what alternatives would be most appealing. To fill this gap in understanding, a group of city agencies and elected officials determined that more in-depth and comprehensive study of school transportation was needed to help answer the following questions:

1. How do parents get elementary school children to and from school and afterschool programs?
2. What impact does school transportation have on the transportation system in terms of the amount of driving and congestion generated?
3. What challenges do parents face when getting kids to school and aftercare programs?
4. How interested are parents in alternatives to their current transportation choices, particularly choices that could reduce private automobile travel and associated congestion impacts?

To investigate these questions, the San Francisco County Transportation Authority commissioned the Child Transportation Study in partnership with the San Francisco Mayor's Office, and at the request of District 4 Supervisor Katy Tang. A stakeholder group consisting of representatives of the San Francisco Municipal Transportation Agency (SFMTA), the San Francisco Department of Public Health (DPH), the San Francisco Department of Environment (SFE), the San Francisco Unified School District (SFSUD), the Department of Children, Youth and Families, San Francisco YMCA, and others, provided input into the study direction and products. The work was funded jointly by the SFCTA and SFMTA, and completed by Fall Line Analytics and SFCTA.

The study focused on parents of elementary school children in public, private, and parochial schools, since they have fewer transportation options than parents of older, more independent children. For younger children, parents are primarily making the decisions for them. The study included the following components:

- A brief review of previous surveys and focus groups relevant to school transportation in San Francisco;
- A review of recent school transportation work and data by several San Francisco agencies;
- Three focus groups with parents of elementary school children;
- A survey covering commute choices, opinions of the commute, and examining alternatives;
- An estimate of driving miles generated by San Francisco parents of K–5 students.

The research focused primarily on investigating parents' attitudes towards their mode of travel (car, carpool, mass transit, school bus, walk, bike, etc) to school and afterschool programs. Parent concerns regarding access issues at specific schools (e.g. localized congestion, inadequate space for pickup and dropoff, bus stop siting) were not an explicit focus, but these issues came up during focus groups.

The ultimate purpose of the survey and other components of the research was to inform whether the city should pursue additional study or partnerships to help expand school transportation options for parents of elementary school children.

The remainder of this report is organized as follows:



- Existing data and research summary
- Methodology
- Focus group summary
- Survey findings
- Recommendations

## Summary of Existing Data and Research

The first study task was a brief review of existing data sources and literature relevant to school transportation in the San Francisco Bay Area, including population and demographic data from the U.S. Census; enrollment data from the SF-SUD, Archdiocese of San Francisco, and from private school web sites; school location data; recent transportation survey results from San Francisco agencies; and miscellaneous other sources.

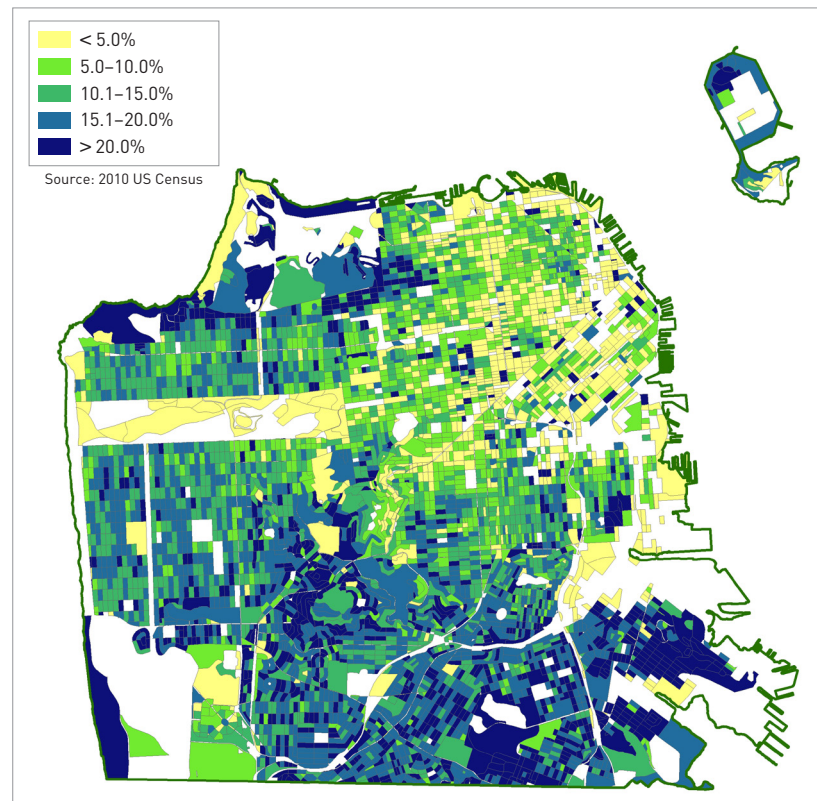
Key demographic findings include:

- About 45,000 K–5 schoolchildren are enrolled in San Francisco schools.
- Most children live in the West, South, and Southeast parts of the city (Figure 1).
- Schools are distributed all over the city, except for the South of Market (SoMa) and northern Potrero/Dogpatch neighborhoods, which have relatively few schools (Figure 2, next page).

Key findings from recent, relevant surveys include:

- **SFSUD Student Commute Study:** The San Francisco Unified School District regularly conducts a survey of how students in grades K, 5, 6, and 9 arrive at school. The survey results have consistently shown that a little over half of public elementary school students are driven to school by their parents, about one quarter walk to school, about 10% take public transit, and another 10% yellow school buses.<sup>1</sup> Very few students bicycle or carpool to school.
- **Bay Area Parents' Survey on Reasons for Driving to School:** A 2007 survey of the parents of children aged 10–14 in the East San Francisco Bay cities of Oakland, Berkeley, Albany, and Richmond found that parents who were driving their children to school a short distance (less than two miles) cited convenience and saving time as the top reason, and that rates of walking and bicycling decline with distance. The study recommended that programs to encourage walking and bicycling to school should take parental convenience and time constraints into account by providing ways children can walk to school supervised by someone other than a parent, and that schools should take a multimodal approach to pupil transportation.<sup>2</sup>

**FIGURE 1.** Percent of population age 0–18 by US Census Block



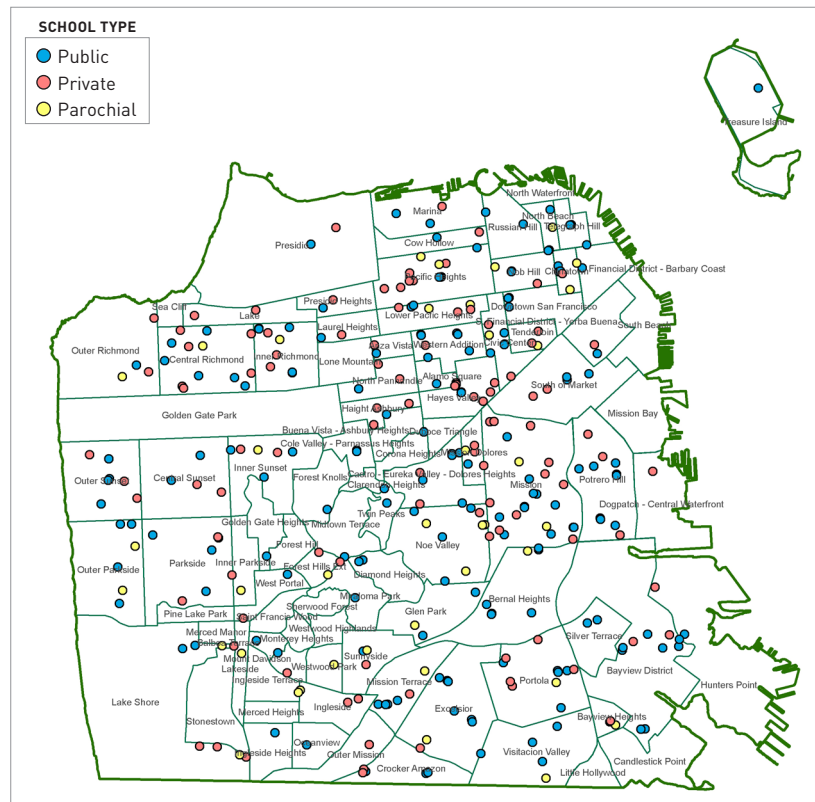
<sup>1</sup> Source: <http://sfsaferoutes.org/resources/commute-study/>

<sup>2</sup> Source: McDonald, N., and Aalborg, A. Why Parents Drive Children to School: Implications for Safe Routes to Schools Programs. *Journal of the American Planning Association*, Summer 2009, Vol. 75, No. 3.

- San Francisco Department of Public Health / San Francisco Department of Environment Parent Focus Groups on Transportation to School.** To inform development of a new school transportation toolkit for parents, the SFDPH and SFE conducted interviews and focus groups with 33 families at five SFSUD schools. This qualitative research provided impressions of the reasons why some parents may be driving their children to school. Several parents mentioned concerns about traffic circulation around schools during pickup and dropoff, and several mentioned interest in having a mobile-phone application to support carpooling to school.

- San Francisco Transportation Plan Update 2013.** As part of the 2013 update to the county's long range transportation plan, the SFCTA and DCYF hosted a student focus group, a parent focus group, and an online survey. The survey included over 1100 completions by parents and students. Key findings from the student and parent survey mirrored those of the general population - that vehicles are often overcrowded, service can be unreliable, travel times lengthy and safety may also be concern.

**FIGURE 2.** Map of San Francisco neighborhoods and locations of public, private, and parochial schools



The survey included over 1100 completions by parents and students. Key findings from the student and parent survey mirrored those of the general population - that vehicles are often overcrowded, service can be unreliable, travel times lengthy and safety may also be concern.

## Focus Groups

As part of the overall Child Transportation Survey research project, Fall Line Analytics conducted three focus groups in San Francisco to: 1) inform the design of the survey instrument and 2) better understand the detailed opinions of San Francisco parents and caregivers on the school commute. Table 1 shows the details of the three groups. The groups were moderated by David Latterman of Fall Line Analytics, in English, using a script that can be found in Appendix 1. SFCTA staff also attended the groups, which were recorded on site. The groups had four main sections: Understanding the dropoff commute, understanding the pickup commute, discussing potential alternatives, and detailing shuttles and carpools.

In all three focus groups, it was clear the participants are unhappy with their school commute. Most of the participants reported driving their children to school and from school or aftercare; a few took Muni and a couple lived close enough to walk their children to school. Drivers stated that the traffic is heavy in the morning and worse for

**TABLE 1.** Focus group details

LOCATION	DATE	DEMOGRAPHIC TARGET
Sunset Community Center	March 26, 2016	Chinese parents
Rooftop Elementary School	April 14, 2016	Mixed, centrally-located citywide school
Ella Hill Hutch Community Center	April 17, 2016	African-American parents and aftercare workers

those who have children in aftercare. In fact, the participants were making aftercare decisions based on the very difficult afternoon commute.

Nearly all of the participants wanted to see some kind of shared transportation system to take their children to and from school/aftercare. There was

mild interest in carpooling, but the schools would need to take a large role in establishing this system. There was a lot of support for a shuttle system, especially in the Sunset and Western Addition groups, but safety was a huge concern and any system would either need to be government sponsored or provided through a public-private partnership.

## Survey

The child transportation survey was intended to ascertain 1) commute modes of parents and caregivers while taking their children to and from school and afterschool programs; 2) parents attitudes towards their current mode of transportation to school and afterschool programs; and 3) parent interest in alternative transportation options. This section describes the survey methodology and key findings.

### SURVEY METHODOLOGY

The survey was fielded over a period of six weeks where it was formally open from May 10, 2016 through June 24, 2016. After filtering all of the responses, there were 1,746 valid completed surveys used for analysis. The instrument can be found in Appendix 2.

Key aspects of the methodology included:

- **School type.** It was decided early on to survey parents who have kids in all school types, especially because there were limited data on the commute data and opinions of parents who send their children to private and parochial schools. As this survey was about transportation specifically and not schools themselves, it was determined that the school commute is a citywide issue and therefore affects all parents.
- **Online format supplemented by paper surveys.** There were several options available to field the survey, including telephone, live administration, online, and mail. To field this survey in Spring 2016, we determined that online was the most efficient and cost-effective mode for the survey. Moreover, it could accommodate lengthier questionnaires and more complex branching sequences. However, some paper surveys were distributed to increase response rates from under-represented populations. The survey was offered in English, Spanish, and Chinese.
- **K-5 parents only.** The survey focused on the parents of elementary school children because they face the greatest constraints when making school transportation decisions. This was limited to Kindergarten—5th grade parents only to avoid sampling parents who have children in middle schools (many San Francisco middle schools include grade 6). In the event that a parent had multiple children in elementary school, the survey instructed parents to answer questions based on their youngest child.

The study team distributed the survey via the following channels

- Facebook ads to adult San Francisco residents, including ads in English, Chinese, and Spanish
- Archdiocese of San Francisco (email sent to all school principals for distribution to parents)
- Direct contacts with many public school officials with a request to distribute to parents
- Direct contact with many school Parent Teacher Associations, including the citywide PTA

In order to ensure a strong sample size from some of the harder-to-reach ethnic groups of San Francisco, the online survey was also supplemented by paper questionnaires distributed through partnerships with local community organizations such as the Bayview YMCA and other organizations in Western Addition. Project staff reached out to several non-profits serving the Latino, African-American, and Chinese communities with varying degrees of success. Dozens of elected officials were also contacted, including the Board of Supervisors and the Board of Education, to distribute the survey links to their networks.

Although over 3000 respondents began or at least opened the survey online, there were 1,746 valid completed surveys that were used for analysis, divided among the three languages. Table 2 shows the final number of valid responses were obtained.



Valid surveys were determined by several criteria, including:

- A completed instrument that included the weighting demographic variables
- Residence and a school in San Francisco
- A child in K–5
- Manual inspection for missing variables or unreliable response patterns

**TABLE 2.** Survey Responses by Language

LANGUAGES	TOTAL (STARTED)	COMPLETION AND RACE	VALID AFTER	
			SCHOOL AND RESIDENCE	MANUAL INSPECTION
English	3077	1763	1710	1654
Chinese	218	66	61	58
Spanish	182	34	34	34
<b>TOTAL</b>	<b>3477</b>	<b>1863</b>	<b>1805</b>	<b>1746</b>

The surveys were then weighted to match the demographics of San Francisco parents and residents. Results were weighted by ethnicity first (using US Census ACS 2014 5-year table of the ethnicities of children from 5–14, the age group most aligned with the students in the survey), and then by parents’ level of education (US Census ACS 5-year table of education levels of San Francisco adults over age 25). A few missing values for education had to be imputed so these respondents would not be excluded. In general, the respondents who took the survey were more likely to be white and more highly educated than the normal San Francisco population, and the weights served to correct that.

Finally, the surveys were cleaned for the standardization of responses, recoded where necessary, and compiled into statistical software (SPSS) for analysis. Some variable notes:

- Home neighborhood—the survey provided 100 home neighborhood choices. Neighborhoods were defined based on a San Francisco neighborhoods map obtained from the Open Data SF web site. A neighborhood map is located in Appendix 3
- City section. The respondent’s home neighborhood and school were each assigned to major geographic section of the city. See Appendix 4 for a map of city sections.
- Home to school distances. Home to school distance was estimated two ways: 1) A crow flies distance from the home neighborhood polygon centroid to the school location; and 2) using the Transportation Authority’s travel modeling software. The software computed the shortest path between the center of the respondent’s home neighborhood and the respondents’ school location. The actual distance could vary.

**FINDINGS**

This section summarizes key survey findings relevant to the research questions presented earlier. Topline frequencies and selected demographic crosstabs for each question are presented in an Excel file that accompanies this report, where each question is in a separate worksheet. A full crosstab book, in pdf format, is also available upon request.

**1. HOW DO PARENTS GET SMALL CHILDREN TO AND FROM SCHOOL?**

**Most parents drive their children to school and afterschool programs.**

The survey responses indicate that the majority of respondents of school-aged children drive their children to school (57% overall). Similarly, 52% of respondents drive to pick their children up from school, and 70% from aftercare (Table 3). This number matches well with data from the San Francisco Unified School District Student

**TABLE 3.** Modeshare by time/place of commute

	PERCENT MODE SHARE BY PICKUP TYPE		
	DROPOFF AT SCHOOL	PICKUP FROM SCHOOL AT THE BELL	PICKUP FROM ON-SITE AFTERCARE
Driven by a family member or caregiver - only family members in the car	56.5%	52.1%	70.0%
Public transit (Muni bus, BART, or light rail)	14.0%	26.7%	18.2%
Carpool with other families	8.2%	1.6%	3.0%
Walk	7.8%	10.6%	4.1%
Other bus, like yellow school bus	7.6%	6.8%	1.9%
Bike	3.3%	0.7%	1.5%
Other (please fill in)	2.2%	0.8%	0.8%
Scooter or skateboard	0.3%	0.3%	0.0%
Taxi or rideshare service like Lyft, Uber, or Shuddle	0.1%	0.6%	0.5%
Shuttle transporting multiple children	0.1%	0.0%	0.0%

Transportation Survey,<sup>3</sup> which shows that 52% of public school elementary and middle school trips are made with only student and driver in the vehicle. After driving, the second most commonly selected mode to school was public transit, with 14% of respondents using this mode for dropoff and 18–27% for pickup. Nearly all other modes are under 10%.

**Rates of driving are higher among those who live farther from their school, more educated populations, and residents of the central and southwestern parts of the city.**

The study team used modeling software to estimate the distance of the shortest path between the center of the home neighborhood and the school site, in order to examine mode share by distance traveled. Figures 3, 4, and 5 (next page) illustrate the drive-to-school mode share by estimated distance to school, by type of commute.

Interestingly, driving rates don’t linearly increase as the distance travelled get larger. For morning dropoff, distances of 3–4 miles see the largest share of driving (73%). This distance range also sees the largest share of driving for parents who pick their kids up at the school bell (82%), but for aftercare pickup the distance range with the highest driving share is 2–3 miles. This may be due to the fact that parents are likely to be coming home from work, which may influence mode choices differently than a midday pickup from school. Walking percentages are unsurprisingly the largest for the shortest distances, and public transit varies—its largest share is 30% at aftercare pickup, making for a difficult evening commute.

Rates of driving were highest in the central and southwestern parts of the city, as shown in Figure 6 (page 11) and among those with higher levels of education. Transit use also varied by city section, but walking generally did not. Other factors such as ethnicity and number of adults responsible for the school commute did not appear to be strongly related to rates of driving.

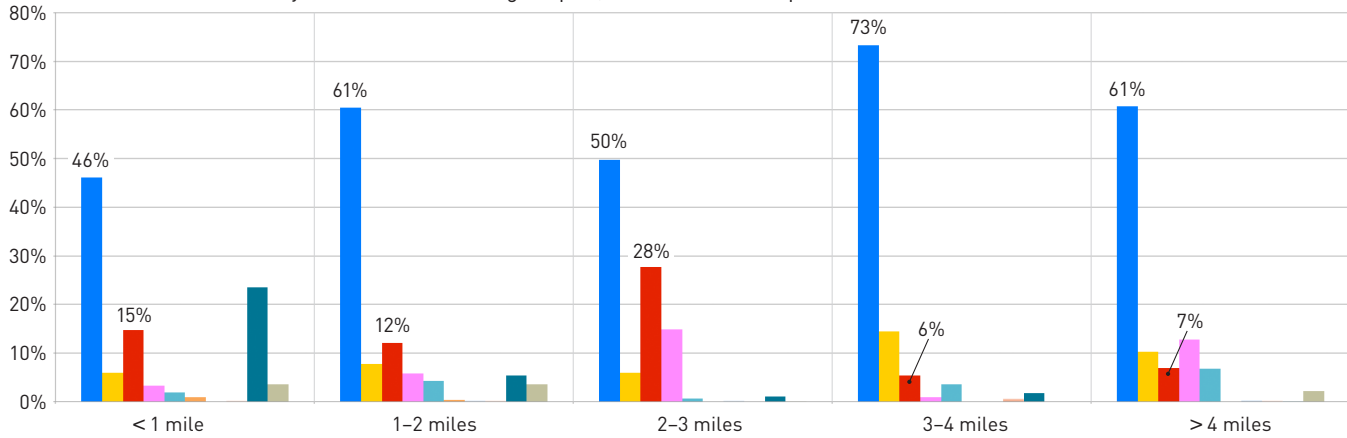
**2. WHAT IMPACT DOES SCHOOL-RELATED DRIVING HAVE ON THE TRANSPORTATION SYSTEM?**

**Parents driving their children to school contributes a small amount of overall driving mileage in San Francisco, but causes localized congestion issues around specific schools during pickup and dropoff times.**

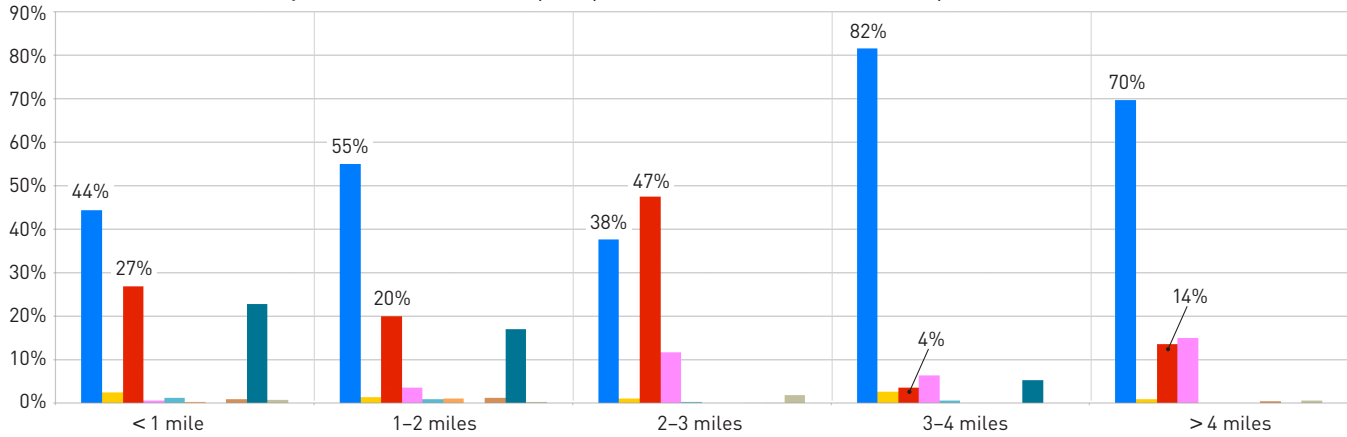
This study was initiated in part to identify ways to reduce the need for parents driving children to school because of the perception that school-related travel is contributing significantly to congestion around the city. One desired outcome of the study was an estimate of how much driving is being generated by school related travel,

<sup>3</sup> <http://sfsaferoutes.org/resources/commute-study/>

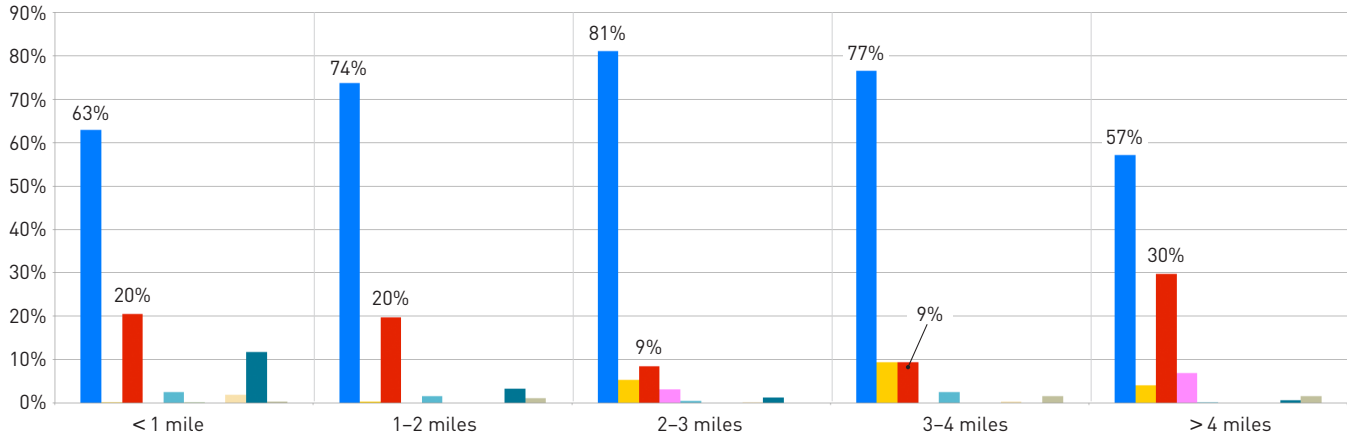
**FIGURE 3.** Mode share by distance for morning dropoff, 'drive alone' and 'public transit' are labeled for reference



**FIGURE 4.** Mode share by distance for afternoon pickup at school bell, 'drive alone' and 'public transit' are labeled for reference



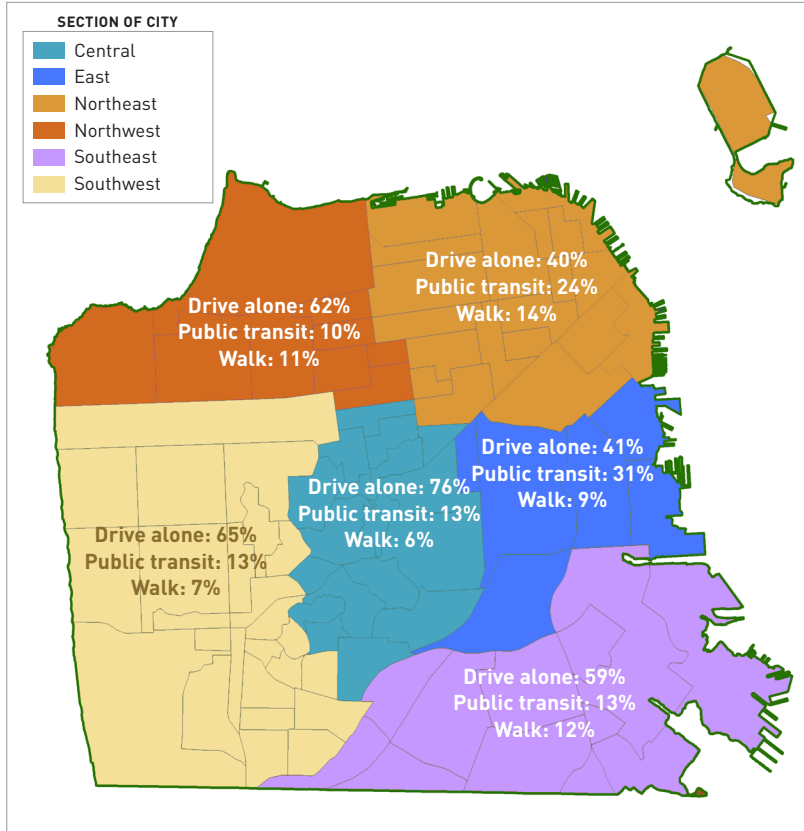
**FIGURE 5.** Mode share by distance for aftercare pickup at school (no aftercare), 'drive alone' and 'public transit' are labeled or reference



- Driven by a family member or caregiver (only family members in the car)
- Carpool with other families
- Public transit (Muni bus, BART, or light rail)
- Other bus (e.g., yellow school bus)
- Bike
- Scooter or skateboard
- Shuttle transporting multiple children
- Taxi or rideshare service (e.g., Lyft, Uber, or Shuddle)
- Walk
- Other



**FIGURE 6.** Top three modes of commuting to school by home city section



and the resulting transportation system impacts (e.g. congestion).

The study team used the survey results and other sources to estimate that approximately 60,000 miles are driven daily in San Francisco by parents taking K–5 children to and from school. See Appendix 5 for details on the assumptions used in the estimate. This is a small share of vehicle miles travelled in San Francisco, which has approximately 9 million daily vehicle miles of travel, over 3 million of which occur during morning and evening peak commute periods combined.<sup>4</sup>

The team did not attempt to directly model the congestion impacts of school related travel but they are likely minimal relative to other sources. However, congestion may still be significant in the immediate vicinity of different schools during pick up and dropoff times. During focus groups for this and prior studies,<sup>5</sup> several individuals noted frustration with congestion issues during pickup

and dropoff, and a need for improved vehicle circulation around certain schools.

It is important to note, however, that most San Francisco traffic—as a rule—moves towards downtown in the morning and away from downtown in the afternoon. Children in San Francisco generally live away from downtown, and travel either to their local school or a school not located downtown. School commute traffic may therefore contribute more to localized neighborhood congestion.

Table 4 illustrates roughly where school-related travel is occurring by showing a matrix of the share of respondents by their school city section and home city section. The largest percentage of school location for every home

<sup>4</sup> Source: Caltrans - California 2013 Public Road Data - Table 6, Daily Vehicle Miles of Travel Estimates by Jurisdiction, and SFCTA SF CHAMP Travel Forecasting Model 2012 base year estimate.

<sup>5</sup> Including recent focus groups completed by the San Francisco DPH and San Francisco Department of Environment to inform development of a school transportation toolkit.

**TABLE 4.** Percentages of school city section attendance by home city section (column percentages)

CITY SECTION FOR SCHOOL	CITY SECTION FOR HOME NEIGHBORHOOD					
	CENTRAL	EAST	NORTHEAST	NORTHWEST	SOUTHEAST	SOUTHWEST
Central	50.2%	32.6%	23.8%	17.2%	11.7%	18.0%
East	18.9%	39.1%	17.1%	8.0%	25.2%	5.4%
Northeast	10.3%	7.4%	44.9%	26.6%	6.1%	6.8%
Northwest	9.0%	1.5%	12.0%	41.0%	0.4%	6.4%
Southeast	2.8%	16.1%	0.9%	0.1%	45.4%	2.6%
Southwest	8.8%	3.4%	1.3%	7.0%	11.3%	60.9%

neighborhood is the same neighborhood, meaning a lot of the travel to schools is localized. However, a large percentage of east section parents travel to the central section (33%), and many southeast parents travel to the east section (25%).

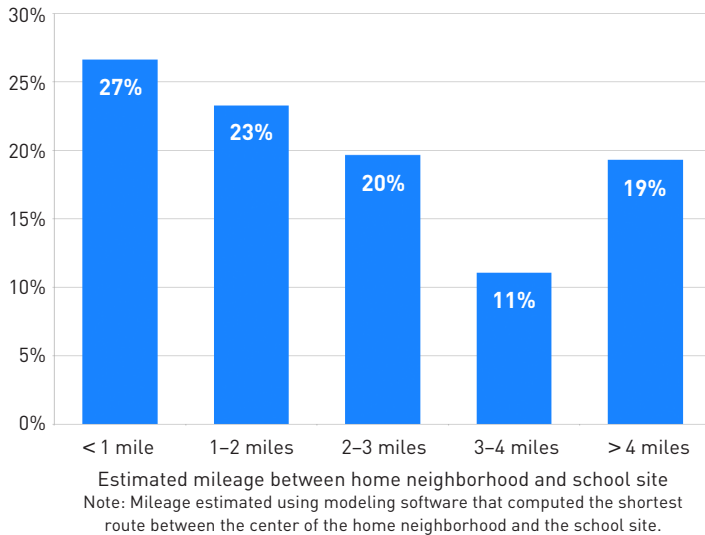
**3. WHAT CHALLENGES DO PARENTS FACE WHEN GETTING CHILDREN TO/FROM SCHOOL?**

Both the surveys and focus groups help illuminate some of the challenges faced by parents in transporting children to school. One clear challenge is the fact that as noted above, the majority of parents are shouldering the responsibility of taking children to school themselves in the family’s private car. Additional challenges are discussed below.

**About 20% of respondents have 4+ mile school commutes**

As discussed above, the study team estimated the distance between the home neighborhood to school, and found that about half of respondents live within about 2 miles of their school, but a significant share—almost

**FIGURE 7.** Share of respondents by approximate distance between home and school site



20%—are living four or more miles away (Figure 7). Many of the longest-distance trips were made by individuals living in the southwestern part of the city, which has the second-highest percentage of parents driving their children to school.

Table 5 shows average distance travelled by school type and by city section, which shows private school children are traveling the farthest distance (2.7 miles). Southwest residents going to charter schools are traveling the farthest overall (4.5 miles), and the shortest distances are by Central parochial and charter parents (1.3 miles).

**For most parents, school is not on the way to work .**

Respondents were asked if their child’s school was on the way to their workplace. About 42% reported that school was a “little out of the way”

and 23% thought it was “very out of the way”. These results did not vary significantly across demographic or geographic groups, and confirm that most parents are detouring to take their children to school.

**Most parents have children in aftercare and therefore are picking up during rush hour.**

Many respondents indicated they had children in after care either every day (46% respondents) or some days (13% of respondents). These parents contend with the additional challenge of rush hour traffic. Figure 8 (next page) shows that over two-thirds of respondents picked up their children from aftercare after 5:00 PM, in the middle of rush hour. In all of the focus groups, this was also mentioned as a particularly difficult challenge.

**TABLE 5.** Mean distance traveled by school type and home geography

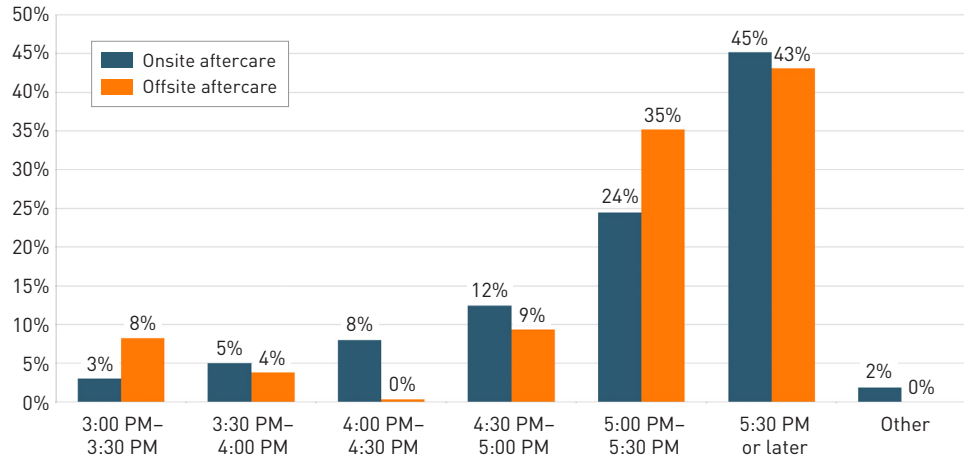
TYPE OF SCHOOL	TOTAL	CENTRAL	EAST	NORTHEAST	NORTHWEST	SOUTHEAST	SOUTHWEST
Public	2.4	1.4	2.1	1.5	2.5	3.1	2.5
Private	2.7	2.7	2.4	2.3	2.9	3.2	3.0
Parochial	2.0	1.3	1.9	3.6	1.8	1.7	1.8
Southwest	2.5	1.3	1.3	2.8	5.5	3.0	4.5

**Lack of transportation options is limiting parents' choices for aftercare and enrichment programs.**

Survey respondents were asked whether there are aftercare options (e.g. cultural, arts, sports, or academic programs) throughout San Francisco that they would like to pursue but can't because of lack of convenient transportation. About

65% of respondents indicated at least one type of aftercare program that they would like to do but can't because of transportation constraints. The challenge of aftercare is also revealed with the responses to "How important it is that a transportation system reaches these aftercare options (as well as getting children to and from school)", where 72% responded either 'very important' or 'extremely important'.

**FIGURE 8.** Aftercare pickup times from onsite and offsite



**4. HOW INTERESTED ARE PARENTS IN ALTERNATIVES TO THEIR CURRENT SCHOOL TRANSPORTATION CHOICES?**

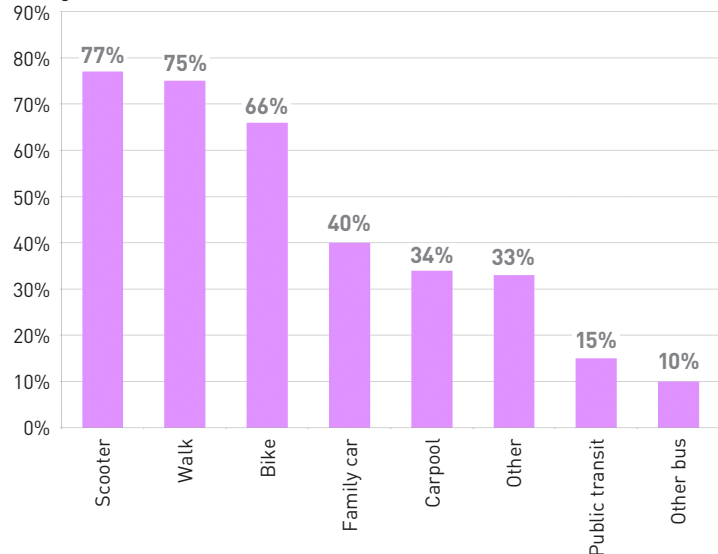
**About 20% of respondents are actively interested in or currently seeking an alternative to their current commute, and 40% are open to alternatives.**

When asked about their overall satisfaction with the school commute, almost 40% said that their current mode of travel is the best option for their family and probably not going to change. Another 40% said they would be open to other possibilities, and the final 20% said they were either actively interested in or currently seeking alternatives to their current commute.

**Users of public transit and long-distance commuters were most interested in alternatives to their current commute, and those walking and biking were least interested in alternatives.**

Figure 9 shows overall commute satisfaction, as indicated by the percentage who said that their commute mode was the best option for their family and not going to change, was highest for those who walk and bike (75% and 66% respectively), followed by drivers and carpoolers (40% and 34%), and last by public transit users (15%). Public transit users were disproportionately zero-vehicle households; in other words, the transit dependent.

**FIGURE 9.** Percent of respondents—by commute mode—indicating that their commute option was the best for them and not going to change



**Transit users and longer distance commuters were less satisfied than others.**

The median commute distance among those who said they are "actively thinking about or



currently exploring” ways to change their commute was about 2.5 miles, or about 25% longer than the overall median of 2.0 miles.

**Those seeking alternative commute options are most interested in other buses, shuttles, or carpools, and least interested in bicycling.**

Overall, survey respondents indicated the most interest in ‘other buses’ (57%), shuttles (54%), and carpooling (50%) as alternatives to their current mode of travel to school. Respondents were least interested in bicycling, with about 70% indicating that they had never tried bicycling and were not interested in doing so. This result was consistent for the sub-group of individuals who said they were either actively thinking about changing or currently exploring ways to change their commute.

**Interest in shuttles is highest among those with longer commute distances and those living in the southeastern section of the city.**

The survey also asked a series of questions about shuttles and carpooling specifically. This was done to provide more detailed options on these alternatives, which may be the only viable alternatives to driving for parents who live outside of a convenient walking or bicycling distance from their school.

Regarding shuttles, about 62% of respondents said that they may use or would like to use shuttles in the future, and about the same percentage indicated being willing to pay something to use a shuttle service (40% said between \$1 and \$25 weekly; almost 20% said between \$25 and \$50). Willingness to pay was highest for those with longer commutes (Figure 10) but was relatively similar geographically. The percentage of respondents willing to pay something for a shuttle service was between 55% and 63% for every home city section except the northwest, where the percentage was 47%.

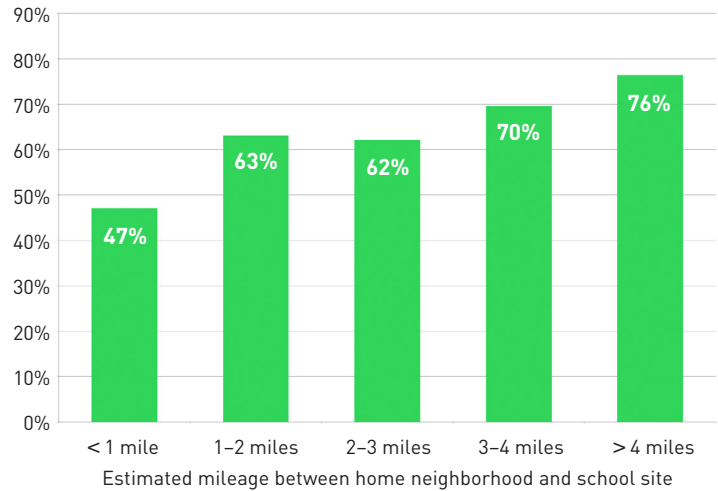
**Interest in carpooling is highest among those living in the central and northwest sections of the city.**

About 50% of respondents said they may use or would like to use carpooling in the future, and interest was greatest in the central and northwest sections of the city (Figure 11).

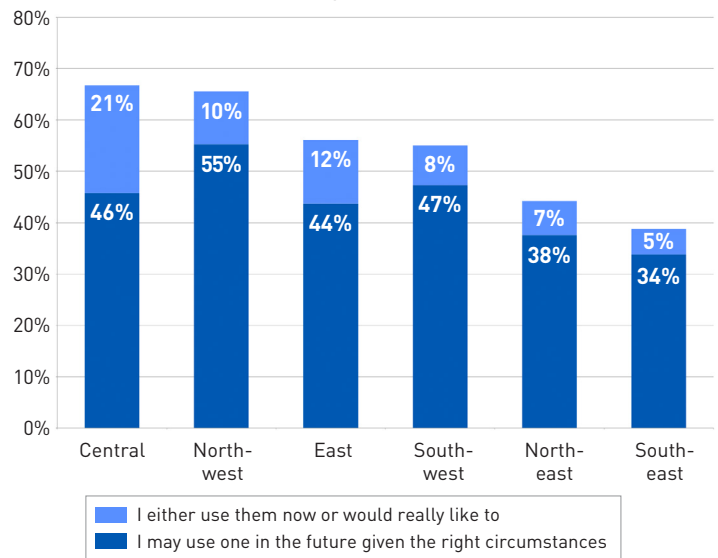
**Top desired features of shuttle services included driver background checks, text upon arrival, familiarity with the driver, and serving aftercare programs.**

The survey tested agree/disagree statements for specific features of shuttles and carpools, which are summarized in Figures 12 and 13 (next page), respectively. For shuttles, top desired attributes included background checks for the shuttle driver, communication with parent via texts upon the child’s arrival at school, having a consistent/familiar driver, and having the shuttle provide service to aftercare in addition to school. Top desired

**FIGURE 10.** Percent of respondents, by home city section, willing to pay something for a shuttle service

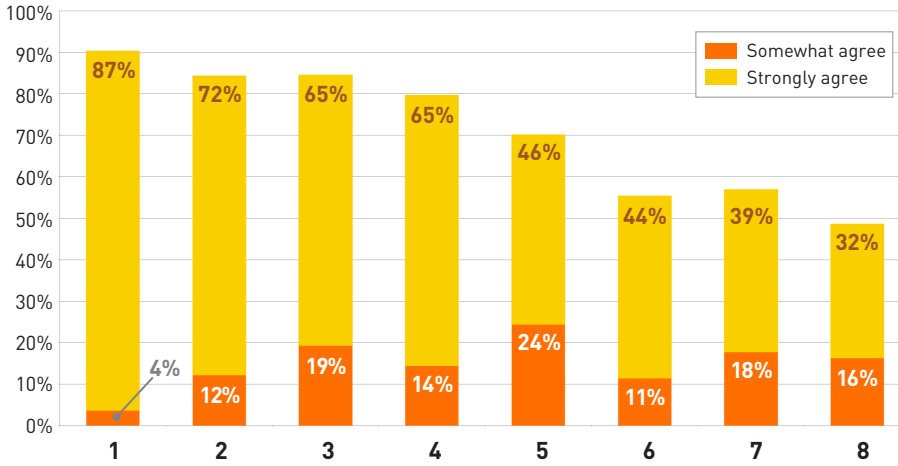


**FIGURE 11.** Interest in carpooling and home city section



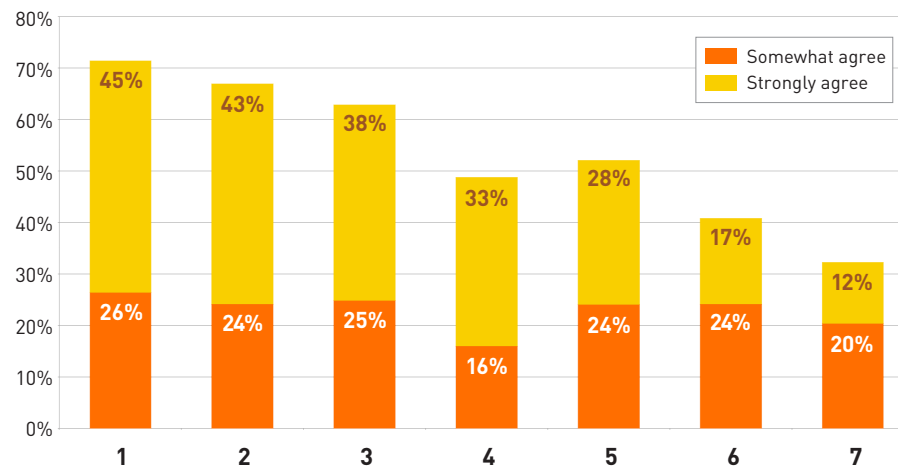
features of a carpooling program included having carpooling be available in both the morning and afternoon, including only other children from the same school (not nearby schools), and having a mobile application to help with finding carpools.

**FIGURE 12.** ‘Somewhat’ and ‘strongly’ agree percentages for shuttle attributes, ordered by ‘total agree’



1. The driver needs to have a complete background check
2. I should get a text upon safe arrival to or from school
3. We should have the same driver every day, and have a chance to meet him/her
4. The shuttle should do an after-care circuit from my school
5. The shuttle should come straight to my door before and after school
6. The shuttle should only transport my child(ren) to and from school
7. Children should be picked up from a nearby bus stop no more than five minutes away
8. The driver must be a government employee

**FIGURE 13.** ‘Somewhat’ and ‘strongly’ agree percentages for carpool attributes, ordered by ‘total agree’



1. A carpool should be available for both mornings and afternoons
2. A carpool should only be with kids of my school
3. I'd like an app to help run the carpool
4. A carpool system should be managed or administered by the school
5. A carpool would be more valuable in the morning
6. I'd be willing to drive in a carpool
7. A carpool should include close-by schools, not just my own

## Recommendations and next steps

The survey results and focus groups paint a picture of the difficult school commute that faces many San Francisco parents of young children. Parents must take time from busy schedules to transport children to school and aftercare programs, many travel several miles during congested periods, and most must detour out of the way to work to complete their dropoff. These results varied little by respondent demographic characteristics or geography, (with a few exceptions as noted previously), showing that the school transportation problem is affecting all types of families across the city.

Because the commute is so challenging, most parents are interested in alternatives to their current situation, with about 60% indicating that they are either interested in or actively seeking an alternative to their current mode of travel to school. Parents are most interested in shared transportation options, such as shuttles and carpools, that take the burden of the school commute off of their shoulders, and want options that will connect them not just to school but to aftercare programs. The needs of transit-dependent families also warrants special

attention. Taken together, these findings indicate that further work to explore expansion of school transportation alternatives is needed and appropriate. The recommendations below suggest how alternatives could be developed.

**Scope a program or public-private partnership to offer shuttle service in a select geographic area on a pilot basis.**

Parents were most interested in shuttles as an alternative to their current commute, and many indicated at least some willingness to pay for such services. Additional research would be needed to develop a scope for a pilot program to provide shuttle services to parents. This effort could include researching the experiences of other jurisdictions in providing and funding shuttle or private bus services to school. San Francisco's challenges are not unique. The UC Berkeley Center for Cities and Schools 2014 "Beyond the Yellow Bus: Promising Practices for Maximizing Access to Opportunity Through Innovations in Student Transportation" describes an overall national shift towards privatization of school transportation, and cites many examples of privately contracted school transportation services. One example is Ride-to-School, a fee-based student transportation service that is contracted through the school, but paid for by parents, that currently holds about 1,200 contracts across North America. In addition, the Bayview Moves van sharing pilot program may provide a template through which community organizations are able to pool transportation resources.

Identifying a geographic area or areas most suitable for a shuttle pilot program is also necessary. This will involve identifying the neighborhoods with the greatest likely potential demand or need (e.g. to close equity gaps) for such services. The results from this survey can be used to identify the best neighborhoods, but a second survey may be required. Also, this may require extensive demographic research of both neighborhood schoolchildren, and school data on where their students live. A pilot program needs to begin where there are enough children going to the same or nearby places.

A critical aspect of this effort will involve working with transit agencies to examine issues pertaining to transportation logistics and to avoid conflicts with other agencies, to identify either fixed transportation routes and bus stops or flexible, demand responsive solutions and to address questions such as whether school shuttles should utilize Muni bus stops. A Request for Information (RFI) from shuttle providers can be used to help gauge the degree to which shuttle providers are interested in providing school transportation and what their funding requirements would be.

Informed by the identified operational and financial considerations, an organizational and funding model can be developed. The results from the RFI and the willingness-to-pay information from this survey can help inform estimates of the degree to which subsidy (public or private) is needed for shuttle service to be viable and available to families with a range of means. This information could then inform development of one or more organizational and funding models for shuttle operation. Additionally, issues of insurance, liability, and other logistical issues would need to be addressed. Identifying funding support for the duration of the pilot program will also be required if the selected organizational model involves subsidy of the shuttle system. Finally, additional focus groups and a more specific market research survey towards targeted parents to refine the shuttle attributes required to make the program successful will be helpful. The child transportation survey documented in this report indicated some of what parents want to see in a shuttle program, like background checks and consistent drivers, but more research is needed.

**Consider selection of a preferred mobile application to support carpooling to school, and enlist more direct help from the schools.**

The survey results indicated strong parent interest in carpooling to school, with about half of respondents saying they were interested in trying carpooling. During focus groups, some parents suggested that a mobile application would be helpful in supporting them to carpool more frequently. This suggestion also surfaced in the recent focus groups completed by the San Francisco Department of Environment and the San Francisco Department of Public Health, as noted in the literature summary.

Many carpooling apps do exist, but one of the major problems is that there is no preferred app, or an app that is

sponsored and promoted by SFUSD or other school districts. With so many apps, each one has difficulty reaching a critical mass needed to ensure success. If one app is sponsored or selected, and then promoted appropriately, perhaps enough parents would be willing to try it. If enrollment is insufficient, parents will be unable to find carpool matches. Some previous efforts to promote carpooling among parents of schoolchildren had limited success, like SFE's School Pool, so this effort would need to be approached carefully to ensure a different result.

San Francisco already has a relationship with Google/Waze, and they have a carpooling app. A private/public partnership could be created to try to test this app and sustain a large user base for various schools.

**Continue investment in programs that encourage bicycling and walking to school and further investigate barriers to bicycling and walking especially among families living close to schools.**

The survey results indicated that parents who are already walking and bicycling to school are much more satisfied with their school commute than parents who use other modes of travel. At the same time, parents who are not currently walking and bicycling are largely not interested in trying. About 70% and 50% respectively reported that they had never tried bicycling or walking to school and were not interested.

The survey did not ask specifically why parents are not interested in walking or bicycling, but the research summarized at the beginning of this report and the focus group results suggest that the amount of time it takes to walk and bicycle, coupled with concerns about safety and challenging topography make bicycling and walking less attractive for parents.

San Francisco's Safe Routes to Schools program is focused on making walking and bicycling to school easier and safer, and overcoming barriers to bicycling and walking. Additionally, the San Francisco Municipal Transportation Agency has numerous capital projects underway designed to improve the safety of walking and bicycling throughout the city. The city should continue to invest in these programs and consider deeper study of barriers to bicycling and walking especially among parents who live close to their schools. Creative solutions will be needed to encourage parents to consider bicycling and walking as attractive options.

**Improve and expand transit options to improve transit competitiveness with driving and reduce barriers to transit.**

Despite being the second most popular mode for school commutes, the survey revealed that transit also had the highest share amongst all modes of people stating that they've tried it but it didn't work for their family. The stakeholder group and focus groups identified a number of potential reasons for this dissatisfaction, including route alignments that don't serve schools effectively, service reliability and costs. Specifically, it was suggested that Muni align routes to more effectively serve schools, including more "school tripper" runs. This school commute demand could both exploit existing offpeak transit capacity, as well as be served by rush hour transit capacity. A further suggestion was to Implement a Muni "family pass" to support use of Muni for escorting children



to school. For households that use Muni for school, or perhaps don't own cars, Family passes would help alleviate the financial burden for parents who must accompany their children to school. This could be particularly effective for parents of younger children.





# Findings of the Child Transportation Survey

## REPORT APPENDICES

NOVEMBER 2016



**SFMTA**  
Municipal  
Transportation  
Agency



## Appendix 1. Focus group script

1. (5 min) Introduce members
  - a. Where they live
  - b. # of kids, ages, and where they go to school
2. (15 min) Discuss morning commute
  - a. What you typically do
  - b. Opinions on it (i.e., convenience, timeliness)
  - c. What do you or where you go do after dropoff
3. (20 min) Afternoon commute
  - a. With or without aftercare (whether kid is in aftercare is part of this)
  - b. How pickup fits into day, i.e. do you pick up from work or home
  - c. Do you wish there were other aftercare options?
4. (25 min) Discussion of alternatives
  - a. What would you consider
  - b. What factors matter
5. (15 min) Shuttles and carpools
  - a. Would you or do you use
  - b. Discuss factors in deciding whether or not to use
  - c. Is there another 'new' option here?
  - d. Second would/do you use ask

## Appendix 2. Survey instrument

*Note: the actual instrument was online, but this is the paper version of the survey that was given to a few respondents. Except for a few branching options, this matches the online instrument.*

### Child transportation survey

The San Francisco County Transportation Authority (SFCTA) and the Mayor's Office of Transportation are conducting a San Francisco-wide survey for families whose kids are in kindergarten through fifth grade, in public, private, or parochial schools located in San Francisco. This survey should take about ten minutes, and the results will be COMPLETELY CONFIDENTIAL. If you are responsible for the commute of more than one child, please complete the survey for the youngest child. We really appreciate your responses and thanks!

### Section 1 - A little bit about you. Remember, please complete only for the youngest child.

Is your child in public, private, or parochial school?

- Public
- Private
- Parochial
- Charter/Other

What school does your child attend? \_\_\_\_\_

How many children do you have at this school?

- 1
- 2
- 3
- 4

Do you have children at other schools?

- Yes
- No

What neighborhood do you live in? \_\_\_\_\_

How many adults in your household are responsible for the school commute? In other words, how many different people do dropoff, pickup, etc.? \_\_\_\_\_

Does your household own one or more cars?

- Yes
- No

**Section 2 - About your morning commute. Remember, please complete only for the youngest child.**

How does your child typically get to school? Think about what you do 3-5 times per week.

- Driven by a family member or caregiver - only family members in the car
- Carpool with other families
- Public transit (Muni bus, BART, or light rail)
- Other bus, like yellow school bus
- Bike
- Scooter or skateboard
- Private shuttle transporting multiple children
- Taxi or rideshare service like Lyft, Uber, or Shuddle
- Walk
- Other (please fill in) \_\_\_\_\_

What time does your child typically get to school?

- 7:00 AM
- 7:15 AM
- 7:30 AM
- 7:45 AM
- 8:00 AM
- 8:15 AM
- 8:30 AM
- 8:45 AM
- 9:00 AM
- Other \_\_\_\_\_

Where do you go after your child goes to school?

- Back home (including if you work at home)
- To work (not at home)
- Other \_\_\_\_\_

**IF YOU GO WORK** How do you get to work?

- Drive alone
- Public transit (Muni bus, BART, or light rail)
- Walk
- Bike
- Services like Lyft or Uber
- Carpool
- Other \_\_\_\_\_

**IF YOU GO TO WORK** Is your child's school generally on the way to work, or would you consider it out of the way?

- School is generally on the way to work
- School is a little out of the way
- School is very out of the way



**Section 3 - About your afternoon commute. Remember, please complete only for the youngest child.**

Does your child attend an aftercare program?

- Yes, everyday GO TO BLOCK 2
- Yes, but only some days per week GO TO BLOCK 2
- No, s/he is picked up from school and taken home, on errands, etc. GO TO BLOCK 1
- No, s/he is picked up from school and brought to an enrichment activity (i.e music lessons, art, karate, etc)  
GO TO BLOCK 1

**BLOCK 1**

*Please answer questions in block 1 only if your previous answer was "No". If "Yes", please skip to Block 2.*

What time is s/he typically picked up?

- 2:00 PM - 2:30 PM
- 2:30 PM - 3:00 PM
- 3:00 PM - 3:30 PM
- 4:00 PM or later
- Other \_\_\_\_\_

How does your child typically get home from school?

- Driven by a family member or caregiver - only family members in the car
- Carpool with other families
- Public transit (Muni bus, BART, or light rail)
- Other bus, like yellow school bus
- Bike
- Scooter or skateboard
- Private shuttle transporting multiple children
- Taxi or rideshare service like Lyft, Uber, or Shuddle
- Walk
- Other (please fill in) \_\_\_\_\_

Where is the person picking your child up coming from right before your child is picked up?

- Work
- Home
- N/A (child gets home by himself/herself)
- Other \_\_\_\_\_

Does your school offer onsite aftercare?

- Yes
- No
- Not sure

**IF NO OR NOT SURE** Would you use onsite aftercare if it were available?

- Yes
- No
- Not Sure

**PLEASE GO TO SECTION 4**

**BLOCK 2**

Is aftercare at your school onsite or offsite?

- Onsite
- Offsite

*If onsite please answer the next three questions. If offsite, please answer the questions after those.*

**IF ONSITE** What time is s/he typically picked up?

- 3:00 PM - 3:30 PM
- 3:30 PM - 4:00 PM
- 4:00 PM - 4:30 PM
- 4:30 PM - 5:00 PM
- 5:00 PM - 5:30 PM
- 5:30 PM - 6:00 PM
- Other \_\_\_\_\_

**IF ONSITE** How is your child typically picked up from aftercare?

- Driven by a family member or caregiver - only family members in the car
- Carpool with other families
- Public transit (Muni bus, BART, or light rail)
- Other bus, like yellow school bus
- Bike
- Scooter or skateboard
- Private shuttle transporting multiple children
- Taxi or rideshare service like Lyft, Uber, or Shuddle
- Walk
- Other (please fill in) \_\_\_\_\_

**IF ONSITE** Where is the person picking your child up coming from right before your child is picked up?

- Work
- Home
- Other

**GO TO SECTION 4, IF YOUR CHILDCARE IS OFFSITE PLEASE ANSWER THE FOLLOWING QUESTIONS**

**IF OFFSITE** Please write the neighborhood of your child's aftercare. \_\_\_\_\_

**IF OFFSITE** How did your child get to this location from school?

- School took him/her
- You or someone else took him/her
- Children took themselves
- Other \_\_\_\_\_

**IF OFFSITE** What was the mode of transportation to this location?

- Driven by a family member or caregiver - only family members in the car
- Carpool with other families
- Public transit (Muni bus, BART, or light rail)
- Other bus, like yellow school bus
- Bike
- Scooter or skateboard
- Private shuttle transporting multiple children
- Taxi or rideshare service like Lyft, Uber, or Shuddle
- Walk
- Other \_\_\_\_\_

**IF OFFSITE** What time is s/he typically picked up from aftercare?

- 3:00 PM - 3:30 PM
- 3:30 PM - 4:00 PM
- 4:00 PM - 4:30 PM
- 4:30 PM - 5:00 PM
- 5:00 PM - 5:30 PM
- 5:30 PM - 6:00 PM
- Other \_\_\_\_\_

**IF OFFSITE** How are your children typically picked up from aftercare?

- Driven by a family member or caregiver - only family members in the car
- Carpool with other families
- Public transit (Muni bus, BART, or light rail)
- Other bus, like yellow school bus
- Bike
- Scooter or skateboard
- Private shuttle transporting multiple children
- Taxi or rideshare service like Lyft, Uber, or Shuddle
- Walk
- Other (please fill in) \_\_\_\_\_

**IF OFFSITE** Does your school offer onsite aftercare?

- Yes
- No
- Not sure

**IF NO OR NOT SURE** Would you use onsite aftercare if it were available?

- Yes
- No
- Not sure

**Section 4 - Alternatives to your school commute. Remember, please complete only for the youngest child.**

How would you describe your satisfaction about how you get your children to school?

- It's currently the best option for my family and me and it's probably not going to change
- It's currently most convenient for my family and me but I'd be open to other possibilities
- I'm actively thinking about changing it but I'm not yet sure how to do so
- I'm currently exploring ways to change our current commute

For each of the following commute modes of getting your child to school, please tell us your experience and your opinion of them by checking the appropriate box

	I've never tried this and I'm not interested	I've never tried this but I'd be interested in trying	I've tried it and it didn't work for my family	I've tried it and I liked it	This is what we normally do	This is our only viable option
• Driven by a family member or caregiver - only family members in the car	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Carpool with other families	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Bike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Muni bus, BART, or light rail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Other bus, like yellow school bus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Private multi-child shuttle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Taxi service like Lyft or Uber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Walk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**Section 5 - Carpool and shuttles. Remember, please complete only for the youngest child.**

More and more, private shuttles are taking kids to their respective schools. We are interested if this is something that you are using or would consider for your children.

If there were a shuttle service available to you in your area, please tell us what you'd be willing to pay per week to use it? Enter whatever value you wish, and enter zero if you have no desire to use a shuttle system. \_\_\_\_\_

Thinking about a shuttle service that takes your children to and from school, for each of the following statements about shuttles, please tell us how much you agree or disagree with the following statements.

	Strongly disagree	Somewhat disagree	I'm not familiar with this	Neither agree nor disagree	Somewhat agree	Strongly agree
• The shuttle should come straight to my door before and after school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Children should be picked up from a nearby bus stop no more than 5 minutes away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• We should have the same driver every day, and I have a chance to meet her/her	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• This driver needs to have a complete background check	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• The driver must be a government employee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• The shuttle should only transport my child(ren) to and from school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• I need to have a real-time app on my phone so I can track the shuttle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• The shuttle should do an aftercare circuit from my school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• I should get a text upon safe arrival to or from school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Overall, what would you say your opinion is on private shuttles that transport children to and from school?

- I don't think these should be part of the school transportation system
- They're okay for other people but I'm not really interested
- I'm not really sure
- I may use one in the future given the right circumstances
- I either use them now or would really like to

Carpooling is an option for some parents who don't wish to drive every day. We are interested if this is something that you are using or would consider for your children. Of the following statements about a carpool system, please rate how strongly you agree or disagree with them (check one).

	Strongly disagree	Somewhat disagree	I'm not familiar with this	Neither agree nor disagree	Somewhat agree	Strongly agree
• A carpool system should be managed or administered by the school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• I'd like an app to help run the carpool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• A carpool should only be with kids of my school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• A carpool should include close-by schools, not just my own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• I'd be willing to drive in a carpool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• A carpool should be available for both mornings and afternoons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• A carpool would be more valuable in the morning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Overall, what would you say your opinion is of carpooling with other families?

- I don't think these should be part of the school transportation system
- They're okay for other people but I'm not really interested
- I'm not really sure
- I may use one in the future given the right circumstances
- I either use one now or would really like to

**Section 6 - A little more on aftercare. Remember, please complete only for the youngest child.**

Are there aftercare options throughout San Francisco that you would like to do but can't because you can't find convenient transportation (check all that apply)?

- Cultural institutions
- Arts programs
- Sports programs
- Academic programs
- None
- Other \_\_\_\_\_

How important it is that a transportation system reaches these aftercare options (as well as getting kids to and from school)?

- Extremely important
- Very important
- Moderately important
- Slightly important
- Not at all important

**Section 7 - Respondent demographics**

Are you Hispanic or Latino?

- Yes
- No

What is your race?

- White alone
- Black or African American alone
- American Indian and Alaska Native alone
- Asian alone
- Native Hawaiian and Other Pacific Islander alone
- Some other race alone
- Two or more races

**IF ASIAN ALONE OR NATIVE HAWAIIAN/OTHER PI** Are you...

- Chinese
- Korean
- Filipino
- Japanese
- Vietnamese
- South Asian
- Thai
- Samoan
- Other \_\_\_\_\_

Do you rent or own your home?

- Rent
- Own
- Other

What is the highest level of education attained by any member in your household?

- No high school, high school degree, or GED
- Some college
- Associates or other 2-year degree
- Bachelors or other 4-year degree
- Post-graduate work or completion

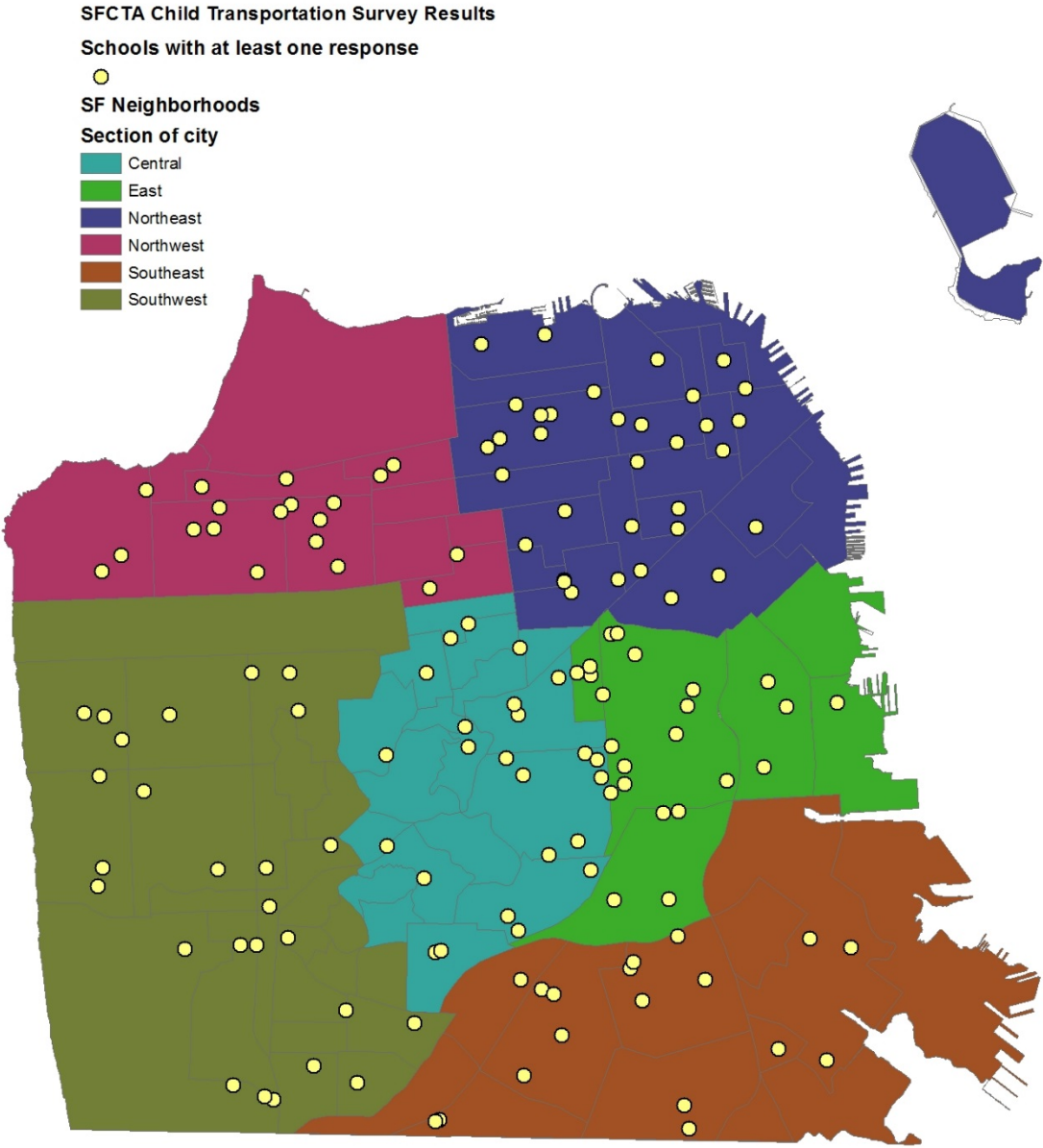
What is your age range?

- Under 30
- 31-39
- 40-49
- 50-59
- 60 or over

Thank you so much for your responses! They are greatly appreciated.



# Appendix 3. City section map



# Appendix 4. Neighborhood map



## Appendix 5. School Related Travel, Mileage Estimate Methodology

Earlier work in this project and this survey have been used to create three crude models of vehicle miles traveled per day for elementary school parents, with two of them from other data sources and one from this survey.

Data from a 2014 SFUSD survey was used to estimate that parents of *public* elementary school-aged children drove around 47,300 miles per day in the city, either via single vehicle occupancy or a carpool. If this is extended to private and parochial school children, which public school attendance is about 65% of the total school share<sup>6</sup>, then we can estimate that parent drive children in grades K-5 nearly 73,000 miles per day in San Francisco.

NHTS data from 2009 indicate that parents drive 14-18 miles per week in the San Francisco area (2.8 to 3.6 miles per day) on schooldays. There are around 40,000 children in elementary school in San Francisco, and although it is difficult to directly calculate total number of families driving from the survey, 36% of respondents had children other schools, and 30% had multiple children at the same school. Thus 33% of respondents drove their one child to school, and another 36% had to presumably drive on to another school. We use this to reduce 40,000 children to 69%, or 27,600 families.

If 65% of families drive, according to the survey, either alone or via carpool, that yields 17,940 families driving per day. Using the NHTS driving ranges results in a range of miles driven per day by parents of elementary school children: the low end is 50,232 miles per day and the high end is 64,584 miles per day.

The survey results can be used to create a third model of vehicle miles traveled by elementary school parents who drive alone or carpool. Using the distance traveled from home (midpoint of neighborhood) to school we can calculate approximate miles traveled per day. Table 6 shows the mean values traveled by mode for dropoff and pickup.

Table 6: mean distances traveled per respondent for commute types

	Mean distance dropoff	Mean distance pickup from school	Mean distance from aftercare
Drive alone	1.95	1.91	1.79
Carpool	2.22	1.34	2.98

Percentages generated from the survey pertaining to mode share for dropoff and pickup are applied to the estimated number of families that have elementary school-aged children. From the survey, 41% of families pick their children up directly from school at least some days, and 59% of children attend aftercare. Table 7 breaks shows the percentages applied to 27,600 total families, and then uses the mean miles travel for each mode to calculate the total miles traveled.

<sup>6</sup> We came at this number through deduction. We have exact numbers for SFUSD and charter students and parochial students from the Archdiocese. The rest are assumed to be private school students.

Table 7: Calculation of miles driven by SOV or carpool by parents for K-5 children

		27,600 families total	Mean miles per mode	Total miles
Dropoff SOV	57% of all families	15,732	1.95	30,677
Dropoff Carpool	8% of all families	2,208	2.22	4,902
Pickup from school SOV	52% of 41% of families	5,884	1.91	11,238
Pickup from school Carpool	2% of 41% of families	226	1.34	303
Pickup from aftercare SOV	40% of 59% of families	6,514	1.79	11,660
Pickup from aftercare Carpool	3% of 59% of families	489	2.98	1,457
			<b>Total:</b>	<b>60,237</b>

Although the models presented here are generalized, they all give relatively similar values for total number of miles travelled per day for elementary school families, averaging 63,548 miles per day. The results are summarized below:

- Model 1: SFUSD survey: 73,000 miles per day
- Model 2: NHTS data: 50,232 - 64,584 miles per day
- Model 3: Child transportation survey: 60,237 miles per day
- Model average: 63,548 miles per day