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Executive Summary

In order to improve both air quality and congestion on local streets and roads, the Marin County Transit District (MCTD) and Golden Gate Transit (GGT) worked together to develop the pilot Ride & Roll Program which provided free bus tickets to Marin County students in grades six through 12.¹ Regular one-way youth (ages 6–18) bus fares are \$1.35 for travel within Marin County. Students could use their tickets during the school year Monday through Friday from 6:00 am to 7:00 pm. The program was developed in response to significant traffic congestion caused by school-based trips and the fact that the cost of transit was a significant barrier to attracting additional youth riders. Consequently, the program's goals focused on improving traffic congestion and air quality by reducing the number of automobile trips made to schools.

The Ride & Roll Program was funded by grants from the Bay Area Air Quality Management District's (BAAQMD) Transportation Fund for Clean Air (TFCA) totaling \$300,500 (\$178,000 for Phase I and \$90,000 for Phase II), and the Marin County Board of Supervisors' General Fund totaling \$268,000 (\$178,000 for Phase I and \$90,000 for Phase II), for a combined project budget of \$568,500 for Phases I and II. Through the end of calendar year 2003, program costs totaled \$426,089 for a total of 246,871 one-way bus trips provided.

The pilot program was conducted in two phases. Phase I was conducted from February 28, 2003 through June 30, 2003. Phase II began September 8, 2003 and will conclude on June 30, 2004. For the purposes of this report, only program data from calendar year 2003 was evaluated.

In Phase I, 42 out of 58 eligible public and private high schools and middle schools throughout Marin County with adjacent GGT bus service participated in the program. (GGT's participation criteria required that schools be within one-half mile of the nearest bus stop.) For Phase II, the number of participating schools increased to 49 (23 with high school grades and 26 with middle school grades; 19 private schools and 30 public schools). Appendix A includes a list of

¹ Regular one-way youth (ages 6-18) bus fares are \$1.35 for travel within Marin County. Golden Gate Transit has proposed a fare increase (to be effective July 1, 2004) which would increase youth fares to \$1.50 for travel within Marin County.

participating schools, their total enrollment, and the number of students participating in both phases of the program.

MCTD and GGT developed all marketing and informational materials, and GGT provided transit tickets and bus schedule information to each school. Individual schools were responsible for informing students and parents about the program, distributing tickets to students, and conducting a program survey (which was developed by MCTD) of all participating students.

Bus Transit Service to Schools

In addition to an evaluation of the Ride & Roll Program, this report also examines current public bus service levels to public and private schools within Marin County. Bus service levels are an important component of the Ride & Roll Program's success (in terms of the program's ability to increase the number of transit trips taken by students in grades 6–12). It is unlikely that further ridership increases will be realized as a result of the Ride & Roll Program unless bus service levels to schools can be improved.

GGT operates several types of public bus service within Marin County and between Marin County and San Francisco. Marin County schools are primarily served by two types of transit service: Local routes (including supplemental service) and Basic routes. Some students also ride commute services that circulate locally before traveling to San Francisco.

November Golden Gate Transit Service Changes

In November 2003, GGT instituted substantial service changes that reduced the frequency of service on a number of routes (from every 30 minutes to every 60 minutes) and eliminated other routes entirely. Service along those routes that were eliminated was replaced by a combination of new and existing routes (requiring a greater number of transfers to reach certain destinations). All but four of the 43 schools participating in the Ride & Roll Program as of November 2003 were affected by the service cuts (either route segments were cut or less service was provided on a particular route).

While the November service cuts did not eliminate service to any school, the reduction of bus frequencies from half-hourly to hourly in many cases made some school trips nearly impossible (assuming that no changes were made in school bell times). GGT initially estimated that the service cuts would reduce use of Ride & Roll tickets by over 10%. The number of tickets used did decrease after the service changes went into effect: 42,272 tickets were used in October 2003, 30,864 tickets were used in November 2003, and 32,520 tickets were used in January 2004. (It should be noted that the number of tickets used in October 2003 was the highest for any month since the program's inception.) The number of tickets used declined by 27% between October and November. When comparing ticket use in October 2003 to January 2004, 23% fewer tickets were used in January.

Recommended School Service Criteria

Currently, neither Golden Gate Transit nor the Marin County Transit District have specific standards with regard to school service (other than the requirement that schools must be within one-half mile of a bus stop to participate in the Ride & Roll Program). In July 2003, the Marin County Transit District completed a study of the adequacy of existing and planned bus service with regard to school transportation. The following criteria were used to determine the adequacy of GGT bus service to middle and high schools and to identify service gaps within each school district. Service gaps were defined as those areas where public bus service failed to meet the criteria defined below, and where no yellow school bus service was provided to fill that gap.

- Bus arrival and departure times are within 15 minutes of bell times, but are at least five minutes before the morning bell and five minutes after the afternoon bell.
- Service is available for both morning and afternoon bell times.
- Bus stops are located within one-quarter mile of schools.
- A minimal number of transfers are needed.
- Service is provided to the most densely populated residential corridors in all directions surrounding a school.

Overall, relatively few schools in Marin County currently have bus service that meets the criteria listed above.

Program Successes and Benefits

The Ride & Roll Program's stated goals were as follows:

- Provide alternatives to automobile travel for the trip to school.
- Increase the number of students riding the bus.
- Improve air quality.
- Lessen traffic congestion.

Based on the number of transit trips taken as a result of the program and the resulting estimated reduction in automobile trips, the program has succeeded in meeting all of these goals. For Phases I and II of the Program combined (approximately 144 school days in calendar year 2003):

- A total of 246,871 one-way trips were made, a significant increase over pre-program youth ridership levels.
- The estimated mode shift from automobiles to bus trips was 100,732 trips.
- An estimated 46,906 one-way automobile trips were completely eliminated (326 one-way trips per day).
- An estimated 90,083 fewer automobile trips (626 one-way trips per day) were made to schools.

Additional program benefits included:

- Cost savings to students' families (if students were formerly driven to school by parents) in the form of lower fuel and maintenance costs.
- Expanded transportation options to or from school for students and their families.
- Anecdotal evidence from San Rafael High School indicated that a significant number of students from the Canal area would regularly come

to school late or not come to school at all if transportation was not available. Many of these students and their families could not afford the added expense of purchasing bus tickets. Consequently, the Ride & Roll Program provided an important means of primary or secondary transportation to these students that enabled them to improve their school attendance and performance.

- Improved student access to after-school programs and activities and jobs.
- Better access to job or educational opportunities for working parents who no longer needed to drive their children to school.

Program Costs

If all aspects of the program remain the same, program costs will grow in proportion to increased student participation. The average cost per trip (ticket) in 2003 was \$1.73, including both ticket reimbursement and marketing costs. For the next three years, we assume that the program's Phase II marketing costs increase 2% per year, and that trip costs are either fixed at \$26,000 per month (increasing 2% in each subsequent school year) or are equivalent to a full youth fare of \$1.50 per trip (youth fares are likely to increase to this level in July 2004). The fixed monthly rate of \$26,000 is equivalent to 19,260 one-way youth trips (based on the current rate of \$1.35 per trip).

Based on these assumptions, we calculated future annual and daily program costs for the next three years. Figure ES-1 shows the estimated program costs based on full reimbursement of \$1.50 per Ride & Roll ticket used. Figure ES-2 shows the estimated program costs based on a fixed monthly fee. The estimated growth in participation is the same regardless of which cost calculation method is used.

Figure ES-1 Estimated Three Year Program Costs, Full Reimbursement for Youth Fares

	Schools	Average Participation Rate	Number of Participants	Trips/Week	Trips/Year	Cost/Trip	Total Trip Costs	Marketing Costs*	Annual Cost	Cost/School Day
2004-5 School	52	23%	3,654	2.7	355,169	\$1.50	\$532,754	\$8,016	\$540,769	\$3,004

Year										
2005-6 School Year	55	25%	3,764	2.8	379,411	\$1.50	\$569,117	\$8,176	\$577,292	\$3,207
2006-7 School Year	58	27%	3,876	2.9	404,655	\$1.50	\$606,983	\$8,339	\$615,322	\$3,418

*Assumes a 2% annual growth rate.

Figure ES-2 Estimated Three Year Program Costs, Fixed Monthly Fee

	Monthly Cost*	Annual Cost**	Marketing Costs*	Total Annual Cost	Cost/School Day	Trips/Year	Cost/Trip
2004-5 School Year	\$26,520	\$238,680	\$8,016	\$246,696	\$1,371	355,169	\$0.69
2005-6 School Year	\$27,050	\$243,454	\$8,176	\$251,629	\$1,398	379,411	\$0.66
2006-7 School Year	\$27,591	\$248,323	\$8,339	\$256,662	\$1,426	404,655	\$0.63

*Assumes a 2% annual growth rate.

**Based on a nine-month school year.

With full reimbursement of youth fares, program costs will increase 27% in the coming 2004–5 school year to \$540,769. In subsequent years, program costs will increase at about 7% per year, and will reach \$615,322 in the 2006–7 school year. Program costs will be significantly lower under the fixed monthly fee cost scenario, and will increase by 2% per year (the assumed rate of inflation) to \$256,662 in the 2006–7 school year. Both of these cost scenarios assume that any additional ridership will be accommodated through excess capacity on existing vehicles and that no additional service will need to be added. If additional service *does* need to be added in order to accommodate ridership growth, then the cost projections for future years will be significantly higher.

Given the huge difference in program costs resulting from the two different scenarios, it is important to explain the rationale behind each approach. The fixed cost scenario reimburses GGT for the approximate amount of lost youth fare revenue based on pre-Ride & Roll youth ridership. Assuming that the *increase* in youth ridership attributable to the Ride & Roll program simply uses existing excess bus capacity and does not impose any additional costs on GGT, it is both reasonable and fair to simply reimburse GGT for the amount of revenue they otherwise would have earned had the Ride & Roll program not

been in place (and for any additional administrative costs attributable to the Ride & Roll Program).

Under the full youth fare reimbursement scenario, MCTD not only reimburses GGT for pre-Ride & Roll ridership, but for any ridership gains resulting from the Ride & Roll program as well. This reimbursement methodology would be fair and reasonable only if each additional Ride & Roll trip (above pre-Ride & Roll ridership levels) imposed a cost on GGT equivalent to the full youth fare, rather than simply filling empty seats.

A key question is whether GGT is required to add service on those routes that become crowded. If GGT is required to add new service, then it may make sense to reimburse the transit operator for the full student fare rather than for the marginal value of unsold seats. Currently, Golden Gate has indicated that there are several routes experiencing overcrowding due to increased ridership induced by the Ride and Roll program. If MCTD continues to reimburse GGT at a fixed rate, then GGT cannot reasonably be required to increase service on those routes without additional funding.

Charging for Student Tickets

In order to offset the cost of the program, we evaluated the effects of a high and low user fee on both program participation and program costs. The low fee would charge \$0.30 per ticket, or \$6.00 per 20-ticket book, and the high fee would charge \$0.60 per ticket, or \$12.00 per 20-ticket book. We estimate that a \$6.00 per book charge would have reduced the 2003 ridership from 246,871 to 214,654 (a 13.5% reduction), while a \$12.00 per book charge would have reduced the 2003 ridership from 246,871 to 182,439 (a 26.1% reduction). Figure ES-3 summarizes the changes in estimated program participation (trips per year) that would result from a \$6.00 and \$12.00 charge per 20-ticket book.

Figure ES-3 Estimated Program Participation, 2005-2007

	Projected Annual Participation (Trips/Yr): No Fee	Projected Annual Participation (Trips/Yr): \$6.00 Charge/Ticket Book	Projected Annual Participation (Trips/Yr): \$12.00 Charge/Ticket Book
2004-5 School Year	355,169	307,221	262,470
2005-6 School Year	379,411	328,191	280,385
2006-7 School Year	404,655	350,027	299,040

Figure ES-4 projects net annual program costs assuming that the program (under the full reimbursement scenario) charges \$6.00 per ticket book, starting with the 2004-5 school year. Figure ES-5 projects net annual program costs with the \$6.00 per ticket book user fee and the fixed monthly cost scenario. Figures ES-6 and ES-7 present this same information for the scenario in which ticket books are \$12.00. The combination of a lower net cost per trip and a reduction in the number of trips results in significantly lower annual program costs for both cost scenarios. Charging \$6.00 and \$12.00 per ticket book is estimated to generate an average of approximately \$100,000 and \$170,000 per year, respectively. Charging \$12.00 per 20-ticket book results in the highest annual revenues and lowest net costs per school day and per trip, despite the decline in program participation that might result from such a charge.

Figure ES-4 Projected Program Costs (Full Reimbursement Scenario) Based on a \$6.00 Charge per 20-Ticket Book

	Trips/Year*	Cost/Trip	Annual Ticket Cost	Marketing Costs	Annual Total Costs	Annual Revenue	Annual Net Cost	Annual Net Cost/School Day	Annual Net Cost/Trip
2004-5 School Year	307,221	\$1.50	\$460,832	\$8,016	\$468,847	\$92,166	\$376,681	\$2,093	\$1.23
2005-6 School Year	328,191	\$1.50	\$492,286	\$8,176	\$500,462	\$98,457	\$402,004	\$2,233	\$1.22
2006-7 School Year	350,027	\$1.50	\$525,040	\$8,339	\$533,379	\$105,008	\$428,371	\$2,380	\$1.22

*Reflects a 13.5% reduction in ridership resulting from a \$6.00 charge per ticket book.

Figure ES-5 Projected Program Costs (Fixed Monthly Fee Scenario) Based on a \$6.00 Charge per 20-Ticket Book

	Trips/Year*	Monthly Cost**	Annual Cost***	Marketing Costs**	Total Annual Cost	Annual Revenue	Annual Net Cost	Annual Net Cost/School Day	Annual Net Cost/Trip
2004-5 School Year	307,221	\$26,520	\$238,680	\$8,016	\$246,696	\$92,166	\$154,529	\$858	\$0.50
2005-6 School Year	328,191	\$27,050	\$243,454	\$8,176	\$251,629	\$98,457	\$153,172	\$851	\$0.47
2006-7 School Year	350,027	\$27,591	\$248,323	\$8,339	\$256,662	\$105,008	\$151,654	\$843	\$0.43

*Reflects a 13.5% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Assumes a 2% annual growth rate.

***Based on a nine-month school year.

**Figure ES-6 Projected Program Costs (Full Reimbursement Scenario)
Based on a \$12.00 Charge per 20-Ticket Book**

	Trips/Year*	Cost/Trip	Annual Ticket Cost	Marketing Costs	Annual Total Costs	Annual Revenue	Annual Net Cost	Annual Net Cost/School Day	Annual Net Cost/Trip
2004-5 School Year	262,470	\$1.50	\$393,705	\$8,016	\$401,720	\$157,482	\$244,238	\$1,357	\$0.93
2005-6 School Year	280,385	\$1.50	\$420,577	\$8,176	\$428,753	\$168,231	\$260,522	\$1,447	\$0.93
2006-7 School Year	299,040	\$1.50	\$448,560	\$8,339	\$456,899	\$179,424	\$277,475	\$1,542	\$0.93

*Reflects a 26.1% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Figure ES-7 Projected Program Costs (Fixed Monthly Fee Scenario)
Based on a \$12.00 Charge per 20-Ticket Book**

	Trips/Year*	Monthly Cost**	Annual Cost***	Marketing Costs**	Total Annual Cost	Annual Revenue	Annual Net Cost	Annual Net Cost/School Day	Annual Net Cost/Trip
2004-5 School Year	262,470	\$26,520	\$238,680	\$8,016	\$246,696	\$157,482	\$89,214	\$496	\$0.34
2005-6 School Year	280,385	\$27,050	\$243,454	\$8,176	\$251,629	\$168,231	\$83,399	\$463	\$0.30
2006-7 School Year	299,040	\$27,591	\$248,323	\$8,339	\$256,662	\$179,424	\$77,238	\$429	\$0.26

*Reflects a 26.1% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Assumes a 2% annual growth rate.

***Based on a nine-month school year.

If ticket books are provided free to low-income students, then the cost savings resulting from a \$6 charge per ticket book would not be as great. However, if MCTD were able to obtain grant funds to offset the cost of providing free

tickets to low-income students, then the cost impact of providing free ticket books to low-income students would be negligible.

Potential Funding Sources

The most likely sources of future program funding are user fees (as previously discussed) and the County's proposed half-cent transportation sales tax. The Bay Area Air Quality Management District's (BAAQMD) Transportation Fund for Clean Air (TFCA), which has helped fund both phases of the Ride & Roll Program, may also provide a likely source of future funding. However, this program primarily funds pilot rather than ongoing projects.

Recommended Program Changes

Overall, the Ride & Roll Program has been successful in accomplishing its stated program goals. The program has done an excellent job of providing each school with a standardized and comprehensive set of marketing materials and program information, and no significant problems or issues were reported with regard to program administration or abuse of the program in any way. Consequently, we do not recommend any changes to program marketing or implementation at this time.

The following recommendations for improvement focus on program data collection and reporting. Without accurate and comprehensive data reporting, it is not possible to completely assess the full costs and benefits of the Ride & Roll Program.

- **Survey data must be collected accurately, and it may be beneficial to collect additional information via surveys.** We observed several inconsistencies and apparent errors in survey data. While it is difficult (if not impossible) to carefully monitor survey administration since it is being carried out by individual school staff members, it is important to provide specific and clear instructions to those administering the survey and stress the importance of collecting accurate results (since survey data is used for program evaluation which in turn is used to obtain continued program funding). We also recommend examining ways in which the

program might collect data about trip lengths, the frequency of different mode use before and after program participation, whether or not parents continue to drive to work if their children take the bus, and additional benefits such as better access to after-school activities and job opportunities for students and to job or work training opportunities for parents. To collect this information, it may be necessary to conduct a survey of the parents of participating students as well as of the students themselves.

- **All program costs, including administrative time, should be accounted for.** Program costs did not include administrative time contributed by the Marin County Transit District (MCTD), Golden Gate Transit (GGT) and school staff. These administrative costs can be significant, and should be fully accounted for.

The experiences of peer transit agencies in the San Francisco Bay Area do indicate that the Ride & Roll Program could be modified in order to make the program more attractive to users and more cost effective. Based on the experiences of other transit agencies and the unique situation of MCTD and GGT, we recommend the following modifications to the Ride & Roll Program:

- **Investigate the feasibility of using the TransLink universal fare system in the future.** Generally, transit passes are preferable to transit tickets since they provide users with greater flexibility and ease of use. Passes can be used at any time or on any day, and allow their user to transfer between lines without having to purchase an additional transfer fare. It is likely that the use of passes would result in even more youth transit trips, since it would make free or reduced cost transit travel available on evenings and weekends and would allow students to transfer without having to use additional bus tickets. However, GGT cannot accommodate the use of passes due to the increased administrative and operational costs they would incur, and the fact that it is GGT's operational policy that every passenger present a fare, so that there is a direct correlation between the number of boardings and the amount of fares collected. Transit passes

represent *proof* of payment rather than *actual* payment and are consequently not in accordance with this policy.

The implementation of the TransLink universal fare card in early 2005 could provide an ideal solution, however. TransLink will provide transit riders throughout the Bay Area with a universal transit fare card that can be used on any transit agency vehicle. The card functions as a debit card, and money is deducted from the user's account each time the card is used. GGT estimates that TransLink will be implemented on its system in early 2005. The TransLink card would essentially function as a pass, providing students with additional transportation benefits, and would also enable GGT to fully account for each student transit trip made as part of the Ride & Roll Program.

- **Charge a small user fee.** None of the peer programs reviewed provide free passes or tickets to youth. Instead, they either provide free passes for a very limited period of time (two to five weeks) and then charge a full fare, or provide significantly discounted passes or tickets. Charging a small amount for the Ride & Roll Program would help offset costs and increase the likelihood of the program's continuation while still providing a significant benefit to students and their families. To initiate students' participation in the program, free tickets could be offered during the first few weeks of school. Free tickets could continue to be offered to qualified low-income youth. Chapter 4 provides a further discussion of program fees and their impacts on program costs and participation.
- **Implement a discount college fare program on certain routes that serve community colleges or other interested colleges or universities.** Both AC Transit and SamTrans have successfully implemented reduced fare programs for local college/university students. These programs are subsidized by student fees (which must be approved by the student body). Generally, the cost of any subsidy provided by the transit agency is offset by increases in ridership. Fees are typically collected from all students, regardless of whether or not they use transit. Use can be restricted to certain routes, a certain mile radius, or can be for universal

travel. Student fees for such a program would go directly to MCTD, who would then reimburse GGT for each student ticket used.

Chapter 1. Project Background and Existing Transit Service to Schools

In order to improve both air quality and congestion on local streets and roads, the Marin County Transit District (MCTD) and Golden Gate Transit (GGT) worked together to develop the pilot Ride & Roll Program which provided free bus tickets to Marin County students in grades six through 12. The program was developed in response to significant traffic congestion caused by school-based trips and the fact that the cost of transit was a significant barrier to attracting additional youth riders. The Traffic Division of the Marin County Department of Public Works estimated that school-based trips represent approximately 27% of traffic during the peak morning commute. Additionally, Marin County's comprehensive plan for improving local bus transit service, *Marin Bus Transit Futures: Improving Local Transit Choices* (2001), identified the cost of youth fares and lack of free or inexpensive transfers as a significant barrier to increasing youth ridership on local buses. Consequently, the following program goals focused on improving traffic congestion and air quality by reducing the number of automobile trips to schools:

- Provide alternatives to automobile travel for the trip to school.
- Increase the number of students riding the bus.
- Improve air quality.
- Lessen traffic congestion.

MCTD, in cooperation with GGT, conducted the pilot Ride & Roll Program in two phases. Phase I was conducted from February 28, 2003 through June 30, 2003. Phase II began September 8, 2003 and will conclude on June 30, 2004.

In Phase I, 42 out of 58 eligible public and private high schools and middle schools throughout Marin County with adjacent GGT bus service agreed to participate in the program. (GGT's participation criteria required that schools be within one-half mile of the nearest bus stop.) For Phase II, the number of

participating schools increased to 49 (23 with high school grades and 26 with middle school grades; 19 private schools and 30 public schools). Appendix A includes a list of participating schools, their total enrollment, and the number of students participating in both phases of the program.

The Ride & Roll Program was funded by grants from the Bay Area Air Quality Management District's (BAAQMD) Transportation Fund for Clean Air (TFCA) totaling \$300,500 (\$178,000 for Phase I and \$122,500 for Phase II), and the Marin County Board of Supervisors' General Fund totaling \$268,000 (\$178,000 for Phase I and \$90,000 for Phase II), for a combined project budget of \$568,500 for Phases I and II.

Program Operations and Marketing

To participate in the program, schools had to complete an on-line interest form or contact MCTD directly. Interest forms were reviewed by MCTD and forwarded to GGT for review of bus stop and school locations, bus routes, and a timeline to coincide with the school's start and end times. GGT's criteria for participation required that schools be within one-half mile of the nearest bus stop.

GGT was responsible for delivering a packet of program materials and tickets to each school. GGT provided all marketing materials, and participating schools were responsible for distributing materials and advertising the program to students and parents. Additionally, GGT set up a website with details about the program and specific bus schedules and routes for each participating school. Program materials included:

- An article for school newsletters or mailing
- A parent letter (in Spanish and English)
- Program brochures (providing details about the program, behavioral rules, and instructions on how to ride the bus)
- Student survey forms (administered to each student only once during each phase of the program)

- Bus schedules and maps particular to each school. (Due to service changes that went into effect in November 2003, maps and schedules were only distributed during Phase I of the program.)
- Student ticket logs and ticket books
- Student coin purses (limited number for Phase I only)
- Posters (to be placed in key locations around participating schools)

School contacts were responsible for issuing tickets to students and for logging all ticket books issued. They were also responsible for administering and collecting surveys from participating students. Schools were asked to send completed ticket logs and surveys to MCTD on a monthly basis.

Participating students could use their free bus tickets during the school year Monday through Friday from 6:00 am to 7:00 pm. Students in grades 6–8 received one 20–ticket book at a time, while those in grades 9–12 received two ticket books at a time. Special education programs gave students one ticket at a time (per their request). Ticket books were either delivered to schools, picked up at the GGT offices or mailed. When ticket supplies ran low, schools were instructed to contact GGT directly for additional tickets. All requests for additional tickets were referred to GGT. Unused or expired tickets were mailed to MCTD or were recycled. Very few schools had a surplus of tickets, however. Initially, MCTD reimbursed GGT for those tickets that were used by students, which were valued at either \$1.24 or \$1.65 each. Beginning in 2004, GGT charged MCTD a flat rate of \$26,000 per month, regardless of the number of Ride & Roll tickets used.²

Bus Transit Service to Schools

This section describes current bus service to schools, including the effects of the GGT service changes that went into effect November 3, 2003. It also includes a discussion of potential new school service criteria and an analysis of current service levels based on those criteria. While the Ride & Roll Program has significantly increased the level of youth ridership of GGT buses, it is unlikely

² MCTD is currently negotiating with GGT in order to make all Phase II payments a flat \$26,000 per month.

that further ridership increases will be realized unless service levels can be improved.

GGT operates several types of public bus service within Marin County and between Marin County and San Francisco. Marin County schools are primarily served by two types of transit service: Local routes (including supplemental service) and Basic routes. Some students also ride commute services that circulate locally before traveling to San Francisco.

Local routes, which include Supplemental Local routes (additional runs that are open to the general public but are designed to meet school transportation needs), operate entirely within Marin County. These routes are funded by MCTD and several local school districts.

Basic routes operate all day, seven days per week along trunk routes between various suburban centers in Marin and Sonoma counties and San Francisco. These routes serve both inter- and intra-county travel, and significant numbers of students use these routes to travel to and from school, mostly making intra-county trips. MCTD pays a portion of the cost for these routes, and MCTD and GGT are currently negotiating a cost sharing arrangement for future Basic transit service.

GGT's other weekday services - commute and ferry shuttle routes - primarily serve commuters traveling between Marin and San Francisco. Some of these routes do serve schools in Marin County. However, relatively few students use them, and those that do often find the route convenient on only one peak (morning or afternoon).

November Golden Gate Transit Service Changes

In November 2003, GGT instituted substantial service changes that reduced the frequency of service on a number of routes (from every 30 minutes to every 60 minutes) and eliminated other routes entirely. Service along those routes that were eliminated was replaced by a combination of new and existing routes (requiring a greater number of transfers to reach certain destinations).

All but four of the 43 schools participating in the Ride & Roll Program as of November 2003 were affected by the service cuts (either route segments were cut or less service was provided on a particular route). GGT sent out a list of route changes and schedules to each participating school, and parents and students were advised to check the GGT website for schedule and route changes.

While the November service cuts did not eliminate service to any school, the reduction of bus frequencies from half-hourly to hourly in many cases made some school trips nearly impossible (assuming that no changes were made in school bell times). GGT initially estimated that the service cuts would reduce use of Ride & Roll tickets by over 10%. The number of tickets used did decrease after the service changes went into effect: 42,272 tickets were used in October 2003, 30,864 tickets were used in November 2003, and 32,520 tickets were used in January 2004. (It should be noted that the number of tickets used in October 2003 was the highest for any month since the program's inception.) The number of tickets used declined by 27% between October and November. When comparing ticket use in October 2003 and January 2004, 23% fewer tickets were used in January.

Recommended School Service Criteria

In July 2003, MCTD completed a study of the adequacy of existing and planned bus service with regard to school transportation. The following criteria were used to determine the adequacy of GGT bus service to middle and high schools and to identify service gaps within each school district. Service gaps were defined as those areas where public bus service failed to meet the criteria defined below, and where no yellow school bus service was provided to fill that gap. These criteria were developed through an informal survey of Bay Area transit operators in order to identify common approaches and standards with regard to supplemental school service. The criteria also reflected the findings of the *Bus Transit Futures Plan*.

Currently, neither GGT nor MCTD have specific standards with regard to school service (other than the requirement that schools must be within one-half mile of a bus stop to participate in the Ride & Roll Program). It is important to note

that while these standards result in the need to increase school supplemental services, they represent a minimum standard for school coverage and do not provide service at the robust levels anticipated in the *Bus Transit Futures Plan*.

Recommended Service Criteria

- **Bus arrival and departure times are within 15 minutes of bell times, but are at least five minutes before the morning bell and five minutes after the afternoon bell.** Security can become a problem if students have too much time either before or after class. However, students also need enough time to travel from the bus stop to school, and from school to the bus stop. *This was not a criterion for participation in the Ride & Roll Program.*
- **Service is available for both morning and afternoon bell times.** Ideally, schools should have both morning and afternoon bus service available so that students can travel both to and from school. Although bus service to and from after-school activities is also important, the main priority is to ensure that schools have bus service that is coordinated with school hours. *This was not a criterion for participation in the Ride & Roll Program.*
- **Bus stops are located within one-quarter mile of schools.** For student safety and security, bus stops should be located no more than one-quarter mile from schools. Schools are responsible for student safety, and either school officials or local police may need to monitor bus stops to ensure the security of both students and surrounding property. *The criterion for participation in the Ride & Roll Program was one-half mile rather than one-quarter mile.*
- **A minimal number of transfers are needed.** Both parents and students are reluctant to use public buses if more than one transfer is needed. Timed transfers are important in order to eliminate the need for large groups of students to wait a long time at a transit center or other transfer point.
- **Service is provided to the most densely populated residential corridors in all directions surrounding a school.** This may include either direct

service, or service requiring a transfer. No transit service can be designed to serve all students who attend a given school. By looking at service from each direction approaching a school, we begin to get a picture of how well the service covers the surrounding neighborhood.

Existing Bus Transit Service Gaps to Marin County Schools

The following section evaluates existing transit service to determine whether or not schools were adequately served, according to the recommended service criteria discussed previously. While many schools are located near bus stops (within one-half to one-quarter mile), service frequencies and schedules make coordination with bell times extremely difficult. Thus, while many schools are near a transit route, students may not be able to use bus transit to arrive at and depart from school within 15 minutes (or, in some cases, even 30 minutes) of bell times.

Northern Marin

After the November service changes, Northern Marin's schools were generally no farther from public transit service than they were previously, although service frequency generally decreased from half-hourly to hourly. Hourly service is not adequate to meet the needs of at least one middle/high school – Nova Independent Study School. Public transit service to San Jose Middle School, the Novato Charter School, and the Indian Valley Campus of the College of Marin has also deteriorated. Public transit service to Hill Middle School, Sinaloa Middle School, Our Lady of Lorretto School, and Novato Christian School remains inadequate.

Students who live less than three miles from school have no bus options other than GGT service. After the November service changes, the only Novato public schools that meet the recommended service criteria are San Marin High School, Novato High School, and Marin Oaks High School. However, these schools are served by only one morning and one afternoon trip between the school and residential areas.

In Novato, students traveling longer distances will continue to have access to school bus service. To meet the recommended standards, additional

supplemental school bus service will be needed for all of Novato's middle and high schools (except San Marin), particularly to residential areas that are one to three miles from schools.

San Rafael

Reductions in bus frequencies have resulted in a number of service gaps for San Rafael schools. Most San Rafael schools no longer have adequate service in both morning and afternoon periods, since greater headways have made bell time coordination extremely difficult. Schools located adjacent to the San Rafael Transit Center are relatively well-served by transit, however. Service to San Rafael High School and Miller Creek Middle School does not meet the recommended criteria for adequate transit service, nor does service to several private middle schools near the Marin Civic Center. The only public school, in addition to those adjacent to the San Rafael Transit Center, that has adequate public transit coverage is Davidson Middle School in San Rafael.

With no yellow school bus service to public high schools, service cutbacks have created gaps in school coverage in San Rafael. Terra Linda and San Rafael high schools are adequately served only in one peak travel period. Although it exceeds the distance standard, San Rafael High School is a little over one-half mile (about a 15-minute walk) from the San Rafael Transit Center, where students can access a number of different bus routes.

To better serve schools in this area, additional supplemental service could be provided to Terra Linda High School in the mornings, to San Rafael High School in the mornings and afternoons, and to Miller Creek Middle School in the mornings and afternoons.

Southern Marin and Ross Valley

Because existing school supplemental service has not changed and because more of the schools are located on or near existing Local or Basic routes, Southern Marin schools were less affected by the November service reductions. However, some schools that were served by both regular and supplemental routes now have less service than before, and the loss of frequency has impacted whether or not school service will meet the recommended standard.

Impacted schools include the Greenwood School and Mill Valley Middle School in Mill Valley, Ring Mountain Day School in Strawberry, and Del Mar Middle School in Tiburon.

Most Ross Valley schools have maintained their existing level of transit service because these schools are well served by supplemental routes that have not changed. The Kent Middle School in Kentfield and the St. Patrick School and Marin Primary and Secondary School in Larkspur are the only Ross Valley schools which have suffered a deterioration of service as a result of the November service changes.

Additional supplemental service is needed in Kentfield, Larkspur, Mill Valley, Marin City and Tiburon to provide bell time coverage to local schools. Highest priority should be given to the public schools that draw students locally. Mill Valley Middle School in Mill Valley is a high priority for supplemental services as are San Andreas High School in Larkspur and Kent Middle School in Kentfield. Providing supplemental bus service to Martin Luther King Jr. Academy in Marin City and Del Mar Middle School in Tiburon is a somewhat lower priority, since both schools have unrestricted yellow school bus service.

West Marin

Given the rural nature of West Marin, GGT does not provide public bus service to schools in this area, with the exception of Lagunitas Elementary School which is served by a school supplemental route.

Chapter 2. Benefits and Costs of the Ride & Roll Program

This chapter provides an overview of the benefits and costs of the Ride & Roll Program. It should be noted that, for the purposes of this evaluation, Phase II data is for the months of September, October, November and December 2003 only.

Program Participation

Participation in the Ride & Roll Program has been significant from three perspectives:

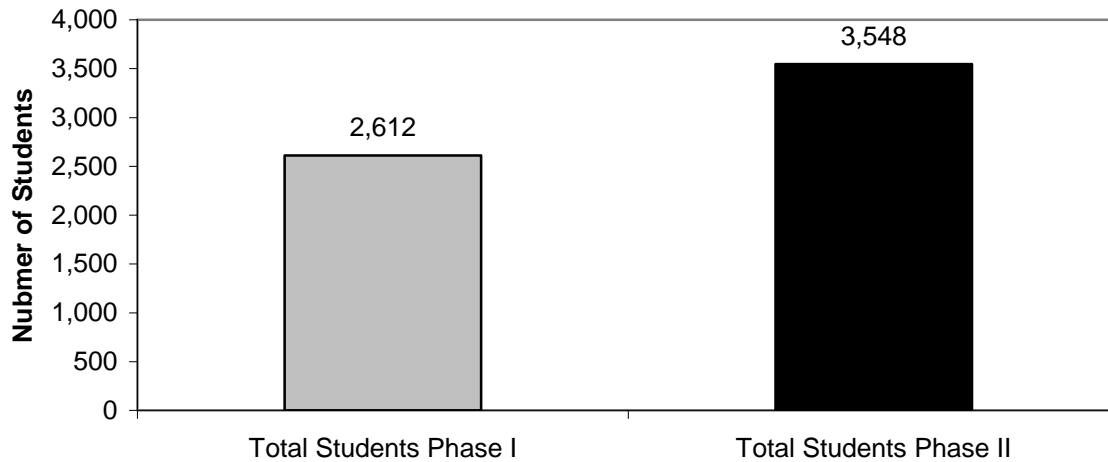
Percentage of Participating Schools

In Phase I (February 28 – June 30, 2003), 42, or 72%, of the 58 eligible high schools and middle schools with adjacent GGT bus service participated in the Ride & Roll Program. In Phase II (September 8 – December 31, 2003), the number of participating schools increased to 49, or 84%, of the eligible schools.

Number of Students and Percentage of Enrollment Participating in Ride & Roll

Participant surveys were used to measure the number of students at each school who participated in the program. (Surveys were administered by each school representative when students picked up their first ticket book.) In Phase I, 2,612 students, reflecting 15.2% of the total enrollment of participating schools (17,137), indicated that they were participating in the program. In Phase II, 3,548 students, or 20.7%, of enrolled students indicated that they were participating in Ride & Roll. Figure 2-1 shows the change in total student participation between Phases I and II.

Figure 2-1 Total Number of Participating Students, Phases I and II

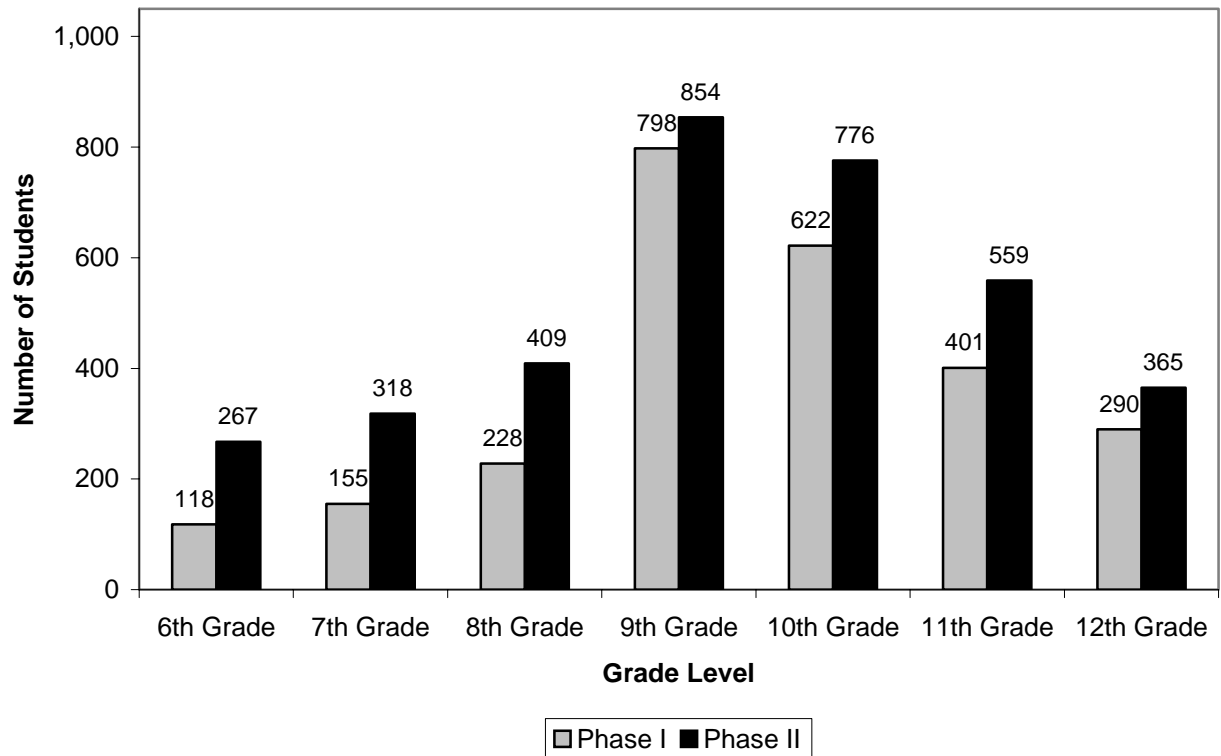


Details of student participation by school are presented in Appendix A. Two-thirds or more of those students participating in the program can be attributed to the top seven schools in each phase (in terms of the number of students participating), as presented below.

Top Seven Schools – Phase I		Top Seven Schools – Phase II	
San Rafael High School	432	San Rafael High School	600
Tamalpais High School	310	Tamalpais High School	356
Terra Linda High School	277	Davidson Middle School	348
Redwood High School	275	Redwood High School	313
Sir Francis Drake High School	273	Terra Linda High School	307
San Marin High School	180	Sir Francis Drake High School	275
<u>Del Mar Middle School</u>	<u>87</u>	<u>San Jose Middle School</u>	<u>188</u>
Top 7 Total	1,834	Top 7 Total	2,387
% of Total Students Participating	70%	% of Total Students Participating	67%

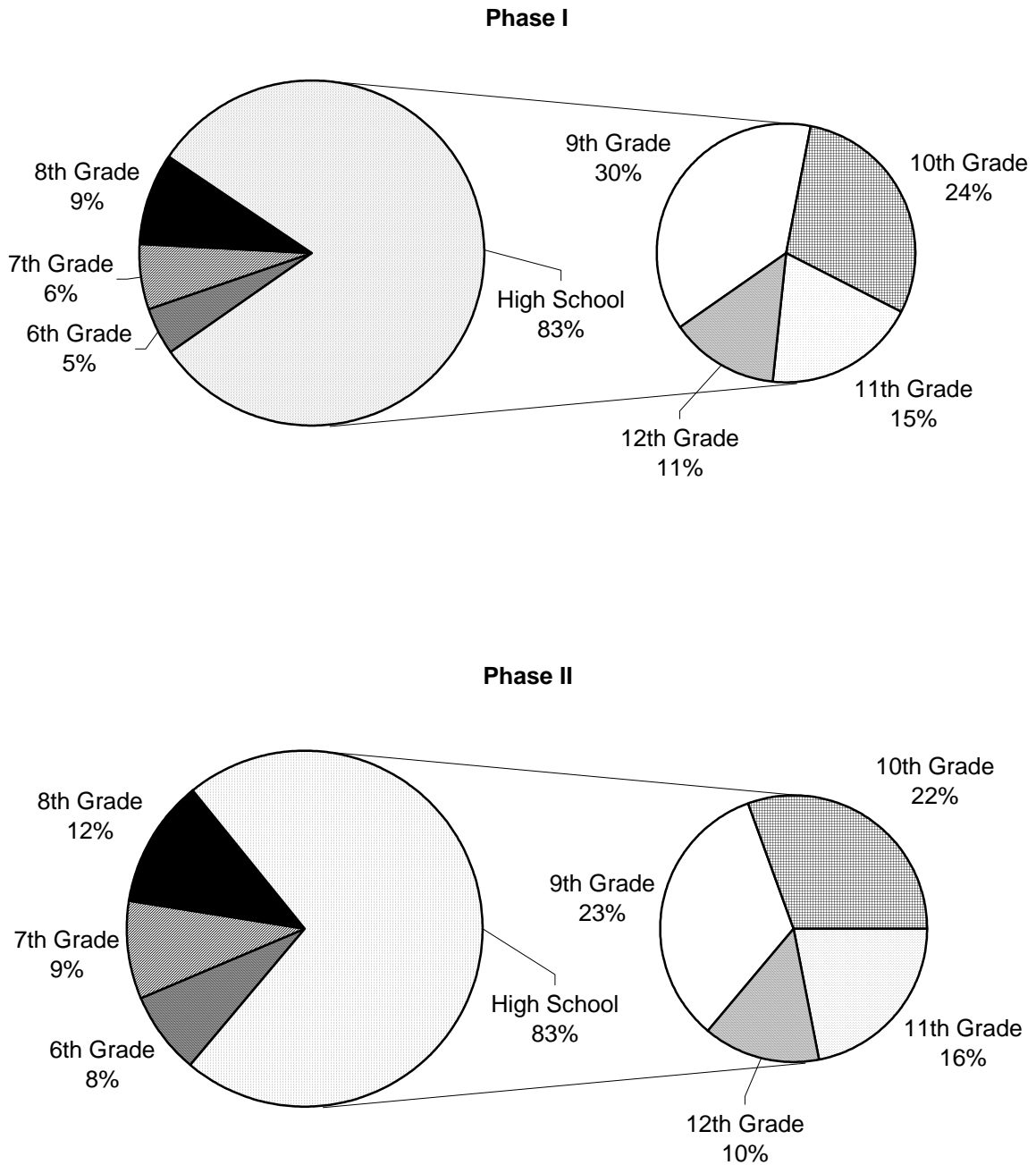
Participation by Grade Level

Participation in the Ride & Roll program by grade level remained relatively consistent between Phase I and Phase II as seen in Figure 2-2.

Figure 2-2 Participation by Grade Level, Phases I and II

As might be expected, program participation among high school students dwarfed program participation by middle school students. This result corresponded with a prior survey of parents of school children who indicated a reluctance to allow younger students to ride GGT buses because of perceived safety concerns. And, among high school students, program participation among 9th and 10th graders was significantly higher than that of 11th and 12th graders. This too is not surprising since older high school students are much more likely to drive to school or get a ride with friends than ride the GGT bus. Figure 2-3 shows the percent of participants from each grade level for Phases I and II of the program. Redwood High School, San Rafael High School, and Tamalpais High School had the highest numbers of 9th and 10th graders participating in the program.

Figure 2-3 Breakdown of Program Participation by Grade Level, Phases I and II



Number of Tickets Used

The number of Ride & Roll tickets used per month is presented below. The number of weeks in each month is indicated in parentheses. In Phase I, 125,977 tickets were used, based on GGT invoices, with one ticket equaling a single one-way trip. In Phase II, 120,894 tickets were used. Together, the two phases accounted for 246,871 one-way student trips taken on GGT bus routes. Estimates of transit ridership prior to the inception of the Ride & Roll Program indicate that only about 65,000 student tickets were used in a comparable time period (15 weeks).

<u>Phase I</u>		<u>Phase II</u>	
02/03 (1)	4,035	09/03 (2)	18,880
03/03 (4)	28,410	10/03 (5)	42,272
04/03 (4)	30,518	11/03 (4)	30,864
05/03 (4)	36,530	12/03 (3)	<u>28,878</u>
06/03 (2)	<u>26,484</u>		
Total (15)	125,977	Total (14)	120,894
Weekly Avg.	8,398		8,635
Participants	2,971		3,548
Wkly trips/part.	2.8		2.4

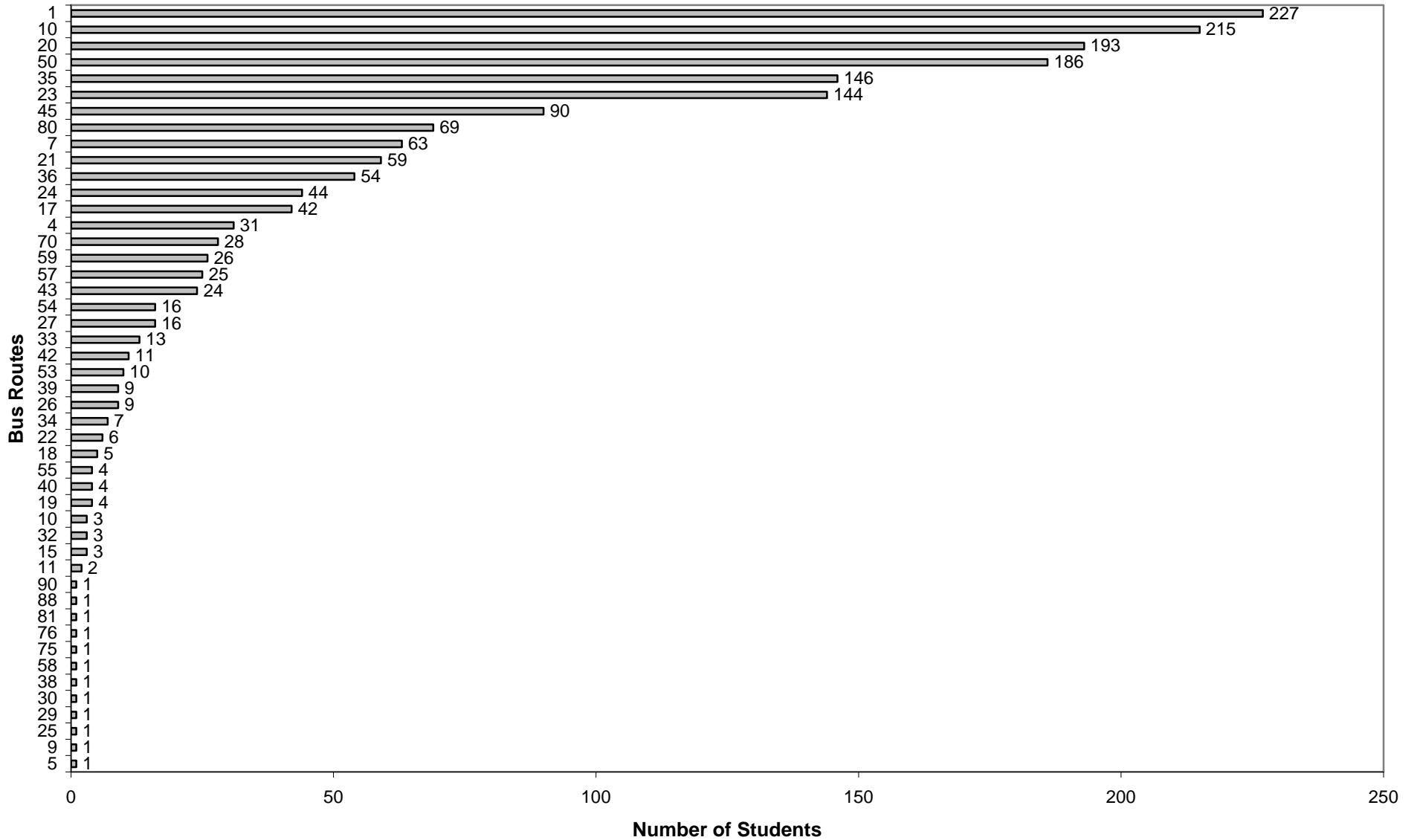
Accounting for vacation time and start-up delays, Phase I was roughly 15 weeks long, while Phase II was approximately 14 weeks long. In Phase II, while school started immediately after Labor Day, there were start-up delays resulting from schools not getting back to program staff with whether they would be participating and subsequent ticket book printing time. Thus, the Phase II program did not begin until the last two weeks of September. Average weekly ticket use was approximately 8,400 trips per week in Phase I, compared to 8,635 trips per week in Phase II. This reflects the fact that a greater number of students participated in Phase II of the program. The average number of one-way bus trips per participant appears to have been lower for Phase II (2.4 trips per week) than in Phase I (2.8 trips per week), however. This may be due to the GGT service reductions that went into effect on November 3, 2003.

Additional Participant Characteristics

Bus Route Patronage

Figure 2-4 shows the number of participating students who reported using certain GGT bus routes. (Note that this figure includes a number of routes that have been eliminated or modified since November 3, 2003, as well as new routes that were created.) Routes 1 (eliminated and replaced by a combination of new routes), 10 (modified), 20 (eliminated and replaced by modified existing routes), 50 (eliminated and alternate service provided by other routes), 35 (modified), and 23 (modified) had the greatest numbers of student riders. Appendix B provides further detail on the bus routes patronized by Ride & Roll participants (as reported on participant surveys).

Figure 2-4 Phase I and II (Combined) Golden Gate Transit Bus Route Patronage



Prior Travel Modes

Although survey respondents were asked to indicate only one prior travel mode, the number of responses to this question was significantly greater than the total number of survey responses. Consequently, it appears that students marked more than one prior travel mode on their surveys. It is assumed that the relative percentages calculated from the responses reflect actual prior mode use by program participants, however. Figure 2-5 shows the percentage of participants who reported using various types of travel modes *before* their participation in the Ride & Roll Program. It is assumed that some students still used their previous travel mode some days out of the week after signing up for the Ride & Roll program since actual ticket usage indicated that participants made, on average, between two to three transit trips per week.

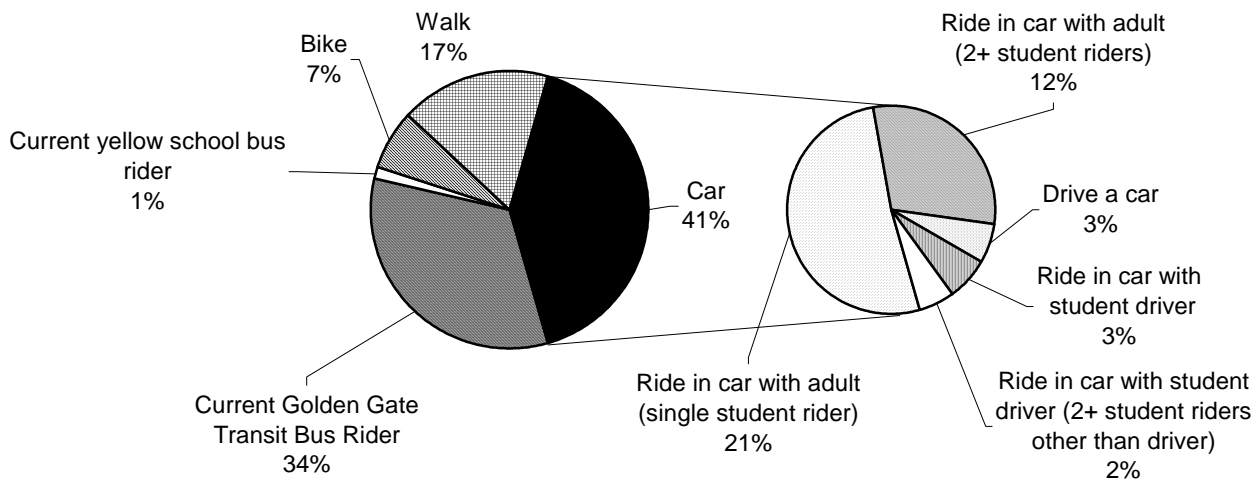
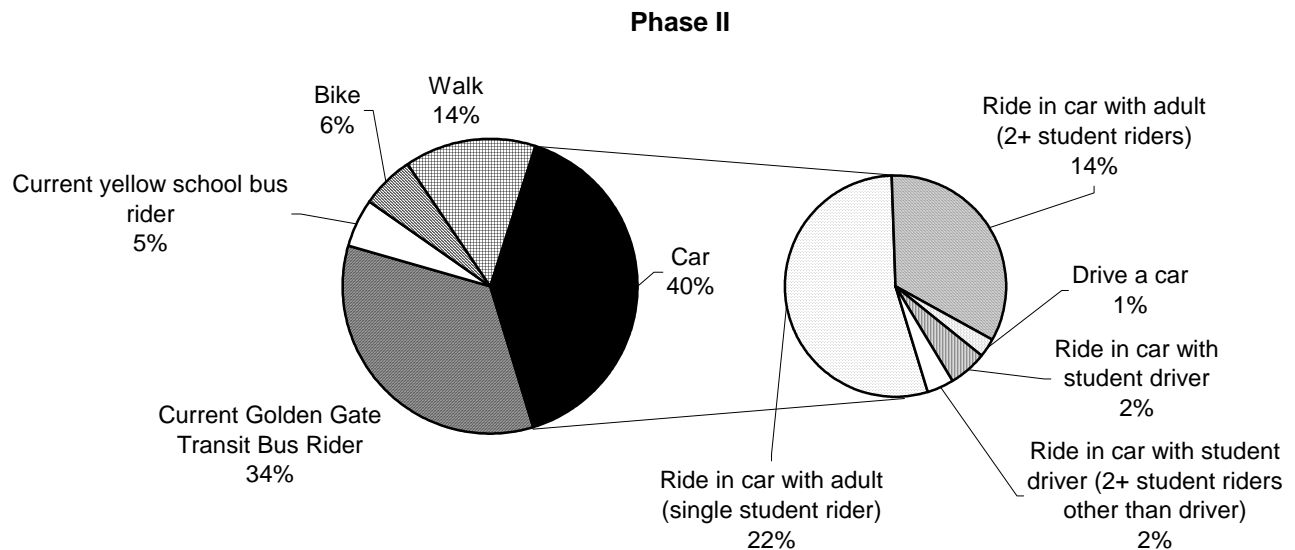


Figure 2-5 Prior Mode Use, Phases I and II



Results for Phases I and II were very similar, with the greatest percentage of participants (41%) reporting that they previously traveled by car. Almost as many (34%) used GGT buses prior to participating in the program. The most significant change between Phase I and Phase II was the number of students who reported riding a yellow school bus as their prior travel mode. In Phase I,

only 1% of participants were yellow school bus riders, while in Phase II, 5% reported riding a yellow school bus previously.

In terms of estimating program benefits, we may reasonably assume that at least half the adult drivers plus the students who formerly drove to school will no longer be making those home-to-school trips at all. This is approximately 19% (18% of adult drivers plus 1% of student drivers) for both phases of the program. In making this conservative assumption, we assume that (1) the remaining half of the adult drivers were dropping off their children on the way to work (and will continue to drive to work, but not necessarily via school), and (2) the student drivers with whom other students were riding to school will continue to drive to school.

Program Benefits

Based on the program observations discussed previously, we can make the following statements in terms of benefits gained in 2003:

- **Increased numbers of students riding GGT.** Discounting the students who formerly rode GGT and yellow school buses to school, the Ride & Roll program resulted in a 65% mode shift in Phase I, and a 61% mode shift in Phase II. Applied to the respective number of trips in each phase (125,977 in Phase I and 120,894 in Phase II), this amounted to 81,885 and 73,745 or a total of 155,630 trips shifted to the bus. If we eliminate those students who formerly walked or biked to school, the mode shift from auto to bus is estimated to be 51,165 plus 49,567, or a total of 100,732 trips.
- **Reduction of automobile trips.** We estimated previously that 19% of the home-to-school trips formerly made by auto are now *not* being made. This results in a reduction of 46,906 one-way automobile trips in 2003 (or about 326 one-way trips per day, assuming 144 school days of program operation). Furthermore, there were an *additional* 43,177 trips (or a total of 90,083 trips, or 626 one-way trips per day) that were no longer stopping at school. This was derived from the other half of the adult drivers (17% in Phase I and 18% in Phase II) who we assumed would

continue to use an auto to go to work, but would no longer be dropping off/picking-up children at school. It should be noted that reductions in vehicle miles traveled (on the part of parents and students who formerly drove to school) also resulted in a cost savings in the form of lower fuel and maintenance costs.

- **Additional benefits.** In addition to the quantitative benefits described above, the Ride & Roll Program also provided students and their families with expanded transportation options to or from school. Anecdotal evidence from San Rafael High School indicated that a significant number of students from the Canal area would regularly come to school late or not come to school at all if transportation was not available. Many of these students and their families could not afford the added expense of purchasing bus tickets. Consequently, the Ride & Roll Program provided an important means of primary or secondary transportation to these students that likely enabled them to improve their school attendance and performance. It is also likely that the availability of free bus transportation provided students with better access to after-school programs and activities and jobs. Students' families also benefited, since working parents may no longer have needed to drive their children to school themselves, enabling them to have more flexible work hours or better access to job or educational opportunities.

Program Costs

Detailed program costs for Phases I and II are presented in Appendix C. A summary of program costs for Phases I and II (calendar year 2003) is presented below.

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	<u>Phase 1</u>	<u>Phase 2</u>	<u>Total (2003)</u>
Marketing	\$10,372	\$7,858	\$18,230
Tickets	<u>\$181,294</u>	<u>\$226,565</u>	<u>\$407,859</u>
Total	\$191,666	\$234,423	\$426,089
Tickets Used	125,977	120,894	246,871
Cost /Trip	\$1.52	\$1.93	\$1.73
<u>Cost/Trip Shifted to GGT:</u>			
Trips Shifted to GGT	81,885	73,745	155,630
Cost / Trip Shifted	\$2.34	\$3.18	\$2.73
Auto Trips to GGT	51,165	49,567	100,732
Cost / Trip Shifted	\$3.74	\$4.73	\$4.23
<u>Cost/Auto Trip Removed:</u>			
Auto Trips Removed	23,936	22,970	46,906
Cost / Trip Removed	\$8.01	\$10.21	\$9.08
<u>Cost/Auto Trip to School Removed:</u>			
Auto Trips Removed	45,352	44,731	90,083
Cost / Trip Removed	\$4.23	\$5.24	\$4.73

The cost of providing free bus tickets (charged at either \$1.24 per ticket or \$1.65 per ticket) made up the great majority of program costs. In comparison, marketing costs (including the printing of Ride & Roll tickets) were relatively minor. The costs of program administration and oversight (on the part of MCTD, GGT and school personnel) have not been accounted for, however.

The cost effectiveness estimates provided are conservative ones based on the estimated number of automobile trips removed from Marin County roadways and the number of automobile trips no longer being made to schools. Unfortunately, comparable peer data is unavailable, so it is not currently possible to assess whether or not the Ride & Roll Program's cost effectiveness was in line with that of other San Francisco Bay Area transit agencies' youth fare programs. Additionally, there were fuel and maintenance cost savings that accrued to those parents and students who formerly drove to school, but were not considered in the cost-benefit analysis.

Chapter 3. Analysis of Youth Discount Fare Programs for Transit

This chapter describes the various types of youth and college student free and reduced fare programs provided by other San Francisco Bay Area transit operators with systems comparable to that of Golden Gate Transit (GGT). Later in this chapter, we use this information to develop recommendations for ways in which the Ride & Roll Program might be modified in order to make the program more cost efficient and attractive to potential riders.

Youth and College Student Fare Programs in the San Francisco Bay Area

Figure 3-1 summarizes the types of youth and college student fare programs operated by peer transit operators in the San Francisco Bay Area. Following are some of the key characteristics of and findings from these programs:

- The cost of fare subsidies (for reduced fare passes or tickets) can be offset by increases in ridership (for both college and youth programs), assuming that *no* additional transit services are needed to accommodate increased passenger loads.
- Nearly all agencies found that the availability of free or reduced cost passes increased youth ridership.
- Most agencies provide reduced cost rather than free passes or tickets. The Livermore Amador Valley Transit Authority (LAVTA) provides a free pass to all students for the first two to five weeks of school, then charges students the regular fare price.
- The provision of clear and comprehensive information and marketing materials is an important component of program success.
- Administrative costs can be significant, depending on the type of program. Some agencies found that administration was less burdensome with passes than it was with individual tickets.

- Most programs have similar goals of reducing automobile trips to schools and school-related congestion. AC Transit's program, which primarily targeted low-income youth, was focused on improving students' attendance at school and after-school programs, improving school performance, and effects on student and family travel patterns (during weekdays *and* weekends).
- One program recommended that school identification cards should *not* be used as the pass media since it was difficult and time consuming to replace lost or stolen IDs.
- For programs serving low-income students, it may be more efficient to determine program eligibility through existing low-income programs such as the Federal Free and Reduced Lunch Program.
- Maintaining good lines of communication between transit agencies and school districts is key. Some agencies meet regularly with school representatives to discuss service issues and problems.

Figure 3-1 Summary of Youth and College Student Fare Programs at Peer Transit Agencies in the San Francisco Bay Area

Operator	Program Description	Funding	Cost per Trip	Implementation	Effects on Reducing Auto Trips to School	Effects on Ridership
Petaluma Transit	\$25 monthly student pass and \$5 summer pass for July and August. (Adult passes are \$29.)	No special funding is available to subsidize youth passes.	Not known.	Student prices have been in existence since service began in 1976. No marketing efforts are undertaken.	Estimated to reduce 220-225 one-way AM and PM trips distributed between two high schools and junior highs.	Used most heavily by ages 13-16. Other ridership effects are not known.
Livermore Amador Valley Transit Authority (LAVTA)	Free pass distributed to each middle and high school student every fall as part of the pre-school mail out performed by every district. Passes are only good for 2-5 weeks. Passes are used instead of tickets in order to defray costs and administrative time associated with the distribution of single ride tickets. The pass is good on all routes.	Funded by TFCA in the past. Total cost of the program is based on actual number of rides taken, but it is estimated to be about \$10,000/yr.	\$1.25	LAVTA works closely with school districts to implement the program. LAVTA provides the passes and schedules, while schools provide administrative and marketing assistance.	Not known.	Have over 1,000 student riders per day. After the free pass program expires, these turn into revenue rides for the operator. Program is most heavily used by middle school students.
Santa Rosa Transit	\$15 student monthly pass for middle and high school students. (Adult pass is \$25.) Also offers a summer youth pass for \$10/month.	Funded by TFCA. Total cost is \$80,000 for the \$10 subsidy. Do not know the marketing and clerical costs for providing student passes. These costs are grouped in the "soft costs" category of the agency's marketing budget.	Regular cash fare is \$0.75.	Passes are sold at middle and high schools. The school receives \$1 for every pass sold which goes into the School Activity Fund. Each school appoints a staff person to administer the program, sell passes and market the program. Students can also purchase passes at any off-campus bus pass outlet with their student ID.	Not known.	7,660 passes were sold between Nov 2001 and Dec 2002. 248,916 one-way student pass trips were made, out of a total of 467,938 one-way student trips. 7,675 students enrolled at Santa Rosa middle and high schools in the 2001/2002 school year.

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Operator	Program Description	Funding	Cost per Trip	Implementation	Effects on Reducing Auto Trips to School	Effects on Ridership
SamTrans Cañada College Pass	Pilot program to provide Cañada College (part of the community college system) students with discount monthly passes (\$17 vs. \$40).	Jointly funded by SamTrans and Assoc. Students of Canada College. SamTrans contributes 78% of the subsidy and Assoc. Students contributes 22%.	\$18 monthly discount for each rider.	Students can purchase an adult monthly bus pass at a discount when purchased at the college with a valid photo ID. The price of a regular adult pass is \$40. For each pass sold, SamTrans receives \$22 (students pay \$17 and the Assoc Students pays \$5). Program marketing consists of a banner at the school, flyers, mass e-mail from the college, and posting on college's web site. Total SamTrans marketing costs were \$3,020.	Not known.	Sold an average of 245 passes for the 2003 winter semester (\$4,410 per month in discounts provided by SamTrans). Costs are offset by the fact that the program has attracted new riders who would not have otherwise ridden the bus. Average weekday ridership on the route serving the college increased an average of 17.5% after the program was put in place. Even though the number of cash fares decreased, SamTrans estimates that total revenues on the route serving the college increased by 16%.

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Operator	Program Description	Funding	Cost per Trip	Implementation	Effects on Reducing Auto Trips to School	Effects on Ridership
AC Transit Youth Pass	Two-year pilot program to provide free bus passes to low-income students. Free bus passes were distributed to those students who qualified for the Free and Reduced Lunch Program. Free passes were only provided during the first year due to loss in revenues. In the second year, all students could purchase monthly passes for \$15 (reduced from \$27).	\$2 M in LIFT funds for the two-year pilot.	Subsidy of \$27 per free youth rider per month. Subsidy of \$12 per month for \$15 youth pass.	Free passes were distributed by schools based on income eligibility. Students used their IDs as the pass medium, which was problematic. The program also required significant AC Transit and school staff time.	Specific effects on reducing auto trips were not evaluated.	Nearly 25,000 free passes were distributed. Bus ridership and route operations were not strongly affected by the free pass program. Ridership after school among pass holders residing in denser, more transit-accessible parts of the service area rose significantly, however. Students who received passes reported using the bus more for school trips. Low-income students made more weekend trips on the bus. High school students used their free bus access to get better after-school jobs.

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Operator	Program Description	Funding	Cost per Trip	Implementation	Effects on Reducing Auto Trips to School	Effects on Ridership
AC Transit Class Pass	<p>Class Pass for UC Berkeley Students that allows unlimited use on all AC Transit bus lines. Students use a sticker that they pick up at the start of each semester. Students can either register on-line and have a sticker mailed to them, or they can go to the Cal ID office on the main campus to pick it up year-round. Students used to only be able to pick-up the pass in person during the first month of validation, but that changed over a year ago (agreement worked out between Parking and Transportation and Cal ID). Must be a full-time student or grad student to receive a sticker.</p>	<p>The program is funded by student fees assessed to every enrolled student for that particular semester (100% mandatory participation). Pricing for 2002-2003 was \$34.20 total (\$20 for AC Transit, \$2.80 to the UCB Parking & Transportation department and \$11.40 for "Return-to aid" (goes into the student aid pot)). For 2004-2005, the fees increased to \$37.20 (\$22.00 to AC Transit, \$2.80 to P&T and \$12.40 to aid). The students must renew the fees every four years through a voting referendum. The next referendum will be in 2006. The 2001 referendum passed with over 88% of students voting "yes" to continue the program, even with a doubling of the fees.</p>	<p>Estimated 3 million rides per year in 2000. No current cost estimate available. The equivalent full fare would be an adult monthly transbay 31-day pass at a price of \$100 (\$1200 annually). Instead, students pay \$74.40 annually.</p>	<p>AC Transit provides in-person staff the first two weeks of each semester to provide bus schedules, trip planning, customized transit guides and other information at the Cal ID office, the same place most students pick up their new sticker in person. AC Transit also helps host a student forum each semester to keep students updated about the program and the District.</p> <p>UC Berkeley sends out a campus-wide e-mail during the semester, advertises the in-person distribution with posters and flyers around campus. Each semester, the number of students picking up the sticker increases. Only about 5-10% of eligible students do NOT pick up a sticker, so extensive campus newspaper advertising promoting the pass is no longer used.</p>	<p>No information available.</p>	<p>Reliability of bus service has a big impact on ridership. If the bus runs consistently and reliability when students need it, they are more likely to use their Class Pass.</p> <p>When asked on a survey what changes would make them more likely to ride the bus, students responded, "better information available at bus stops and to the general public," "more frequent service," and "better on-time performance" (as respondents' top 3 choices).</p> <p>No data were available regarding specific impacts on ridership.</p>

Recommended Modifications to the Ride & Roll Program

Based on the experiences of peer transit agencies in the San Francisco Bay Area and the unique situation of the Marin County Transit District (MCTD) and Golden Gate Transit (GGT), we recommend the following modifications to the Ride & Roll Program:

- **Investigate the feasibility of using the TransLink universal fare system in the future.** Generally, transit passes are preferable to transit tickets since they provide users with greater flexibility and ease of use. Passes can be used at any time or on any day, and allow their user to transfer between lines without having to purchase an additional transfer fare. It is likely that the use of passes would result in even more youth transit trips, since it would make free or reduced cost transit travel available on evenings and weekends and would allow students to transfer without having to use additional bus tickets. However, GGT cannot accommodate the use of passes due to the increased administrative and operational costs they would incur, and the fact that it is GGT's operational policy that every passenger present a fare, so that there is a direct correlation between the number of boardings and the amount of fares collected. Transit passes represent *proof* of payment rather than *actual* payment and are consequently not in accordance with this policy.

The implementation of the TransLink universal fare card in early 2005 could provide an ideal solution, however. TransLink will provide transit riders throughout the Bay Area with a universal transit fare card that can be used on any transit agency vehicle. The card functions as a debit card, and money is deducted from the user's account each time the card is used. GGT estimates that TransLink will be implemented on its system in early 2005. The TransLink card would essentially function as a pass, providing students with additional transportation benefits, and would also enable GGT to fully account for each student transit trip made as part of the Ride & Roll Program.

- **Charge a small user fee.** None of the peer programs reviewed provide free passes or tickets to youth. Instead, they either provide free passes for a very limited period of time (two to five weeks) and then charge a full fare, or provide significantly discounted passes or tickets. Charging a small amount for the Ride & Roll Program would help offset costs and increase the likelihood of the program's continuation while still providing a significant benefit to students and their families. To initiate students' participation in the program, free tickets could be offered during the first few weeks of school. Free tickets could continue to be offered to qualified low-income youth. Chapter 4 provides a further discussion of program fees and their impacts on program costs and participation.
- **Implement a discount college fare program on certain routes that serve community colleges or other interested colleges or universities.** Both AC Transit and SamTrans have successfully implemented reduced fare programs for local college/university students. These programs are subsidized by student fees (which must be approved by the student body). Generally, the cost of any subsidy provided by the transit agency is offset by increases in ridership. Fees are typically collected from all students, regardless of whether or not they use transit. Use can be restricted to certain routes, a certain mile radius, or can be for universal travel. Student fees for such a program would go directly to MCTD, who would then reimburse GGT for each student ticket used.

Chapter 4. Continuing the Ride & Roll Program: Projected Costs and Potential Funding Sources

Projected Program Costs

Projected program costs are calculated using the following assumptions and factors derived from the analysis in Chapter 2. The first program cost estimate presented assumes that the program remains unchanged. Next, we estimate the effect that changes to the program (namely, a student charge per ticket book or pass) may have on program participation, and hence cost.

Key assumptions:

- **Percentage of participating schools.** The current (Phase II) participation rate is 84%. Given that all the larger high schools and middle schools are already participating, an increase in the participation rate will have only a marginal effect at best. For example, while seven more schools joined the program in Phase II, the average ridership per participant went down, decreasing from 2.8 to 2.4 trips per week. Nevertheless, we assume the addition of three more schools per year.
- **Percentage of enrollment participating in Ride & Roll.** The current (Phase II) participation rate is 21%. As the program matures, we may expect the participation rate to increase gradually. We believe that a growth rate of 2% per year is reasonable.
- **Number of students participating in Ride & Roll.** Based on the expected increases in school participation, as well as the success of the program in Phases I and II, we would expect a minimum 3% annual increase in student participation.
- **Trip rate per week.** As noted above, the average trip rate per week for Phase I and Phase II was 2.8 and 2.4 trips per week, respectively. Thus

for calendar year 2003, the average trip rate was approximately 2.6 trips per week per participant. Assuming that this average rate will continue for the 2003–2004 school year, we assume a gradual increase of 0.1 trips/week per year thereafter.

- **Trips per year.** This is calculated from the forecast number of participants and trip rate times 36 weeks (180 days in a school calendar).
- **Cost per trip.** The average cost per trip (ticket) in 2003 was \$1.73, including both ticket reimbursement and marketing costs. For the next three years, we assume that the program's Phase II marketing costs increase 2% per year, and that trip costs are either fixed at \$26,000 per month (increasing 2% in each subsequent school year) or are equivalent to a full youth fare of \$1.50 per trip (youth fares are likely to increase to this level in July 2004). The fixed monthly rate of \$26,000 is equivalent to 19,260 one-way youth trips (based on the current rate of \$1.35 per trip).

Based on these assumptions, we calculated future annual and daily program costs for the next three years. Figure 4–1 shows the estimated program costs based on full reimbursement of \$1.50 per Ride & Roll ticket used. Figure 4–2 shows the estimated program costs based on a fixed monthly fee. The estimated growth in participation is the same regardless of which cost calculation method is used.

Figure 4-1 Estimated Three Year Program Costs, Full Reimbursement for Youth Fares

	Schools	Average Participation Rate	Number of Participants	Trips/Week	Trips/Year	Cost/Trip	Total Trip Costs	Marketing Costs*	Annual Cost	Cost/School Day
2004-5 School Year	52	23%	3,654	2.7	355,169	\$1.50	\$532,754	\$8,016	\$540,769	\$3,004
2005-6 School Year	55	25%	3,764	2.8	379,411	\$1.50	\$569,117	\$8,176	\$577,292	\$3,207
2006-7 School Year	58	27%	3,876	2.9	404,655	\$1.50	\$606,983	\$8,339	\$615,322	\$3,418

*Assumes a 2% annual growth rate.

Figure 4-2 Estimated Three Year Program Costs, Fixed Monthly Fee

	Monthly Cost*	Annual Cost**	Marketing Costs*	Total Annual Cost	Cost/School Day	Trips/Year	Cost/Trip
2004-5 School Year	\$26,520	\$238,680	\$8,016	\$246,696	\$1,371	355,169	\$0.69
2005-6 School Year	\$27,050	\$243,454	\$8,176	\$251,629	\$1,398	379,411	\$0.66
2006-7 School Year	\$27,591	\$248,323	\$8,339	\$256,662	\$1,426	404,655	\$0.63

*Assumes a 2% annual growth rate.

**Based on a nine-month school year.

With full reimbursement of youth fares, program costs will increase 27% in the coming 2004–5 school year to \$540,769. In subsequent years, program costs will increase at about 7% per year, and will reach \$615,322 in the 2006–7 school year. Program costs will be significantly lower under the fixed monthly fee cost scenario, and will increase by 2% per year (the assumed rate of inflation) to \$256,662 in the 2006–7 school year. Both of these cost scenarios assume that any additional ridership will be accommodated through excess capacity on existing vehicles and that no additional service will need to be added. If additional service *does* need to be added in order to accommodate ridership growth, then the cost projections for future years will be significantly higher.

Given the huge difference in program costs resulting from the two different scenarios, it is important to explain the rationale behind each approach. The fixed cost scenario reimburses GGT for the approximate amount of lost youth

fare revenue based on pre-Ride & Roll youth ridership. Assuming that the *increase* in youth ridership attributable to the Ride & Roll program simply uses existing excess bus capacity and does not impose any additional costs on GGT, it is both reasonable and fair to simply reimburse GGT for the amount of revenue they otherwise would have earned had the Ride & Roll program not been in place (and for any additional administrative costs attributable to the Ride & Roll Program).

Under the full youth fare reimbursement scenario, MCTD not only reimburses GGT for pre-Ride & Roll ridership, but for any ridership gains resulting from the Ride & Roll program as well. This reimbursement methodology would be fair and reasonable only if each additional Ride & Roll trip (above pre-Ride & Roll ridership levels) imposed a cost on GGT equivalent to the full youth fare, rather than simply filling empty seats.

A key question is whether GGT is required to add service on those routes that become crowded. If GGT is required to add new service, then it may make sense to reimburse the transit operator for the full student fare rather than for the marginal value of unsold seats. Currently, Golden Gate has indicated that there are several routes experiencing overcrowding due to increased ridership induced by the Ride & Roll program. If MCTD continues to reimburse GGT at a fixed rate, then GGT cannot reasonably be required to increase service on those routes without additional funding.

Charging Students for Ticket Books

It is likely that charging for tickets would decrease the number of participants, assuming that existing transit service to schools remains the same. However, it is difficult to determine the extent of this decrease because there is no relevant fare elasticity data that reflects only home-to-school travel on public transit. The value of a youth ticket for local travel within Marin County is currently \$1.35. Note that the current adult one-way fare on GGT for local travel within a Marin County zone is \$1.80, and a one-way fare on GGT for a senior/disabled trip is half the adult fare, or \$0.90. It is likely that GGT will increase youth fares

to \$1.50 in July 2003.³ Consequently, we will assume that in future years of the Ride & Roll program, the cost of a youth ticket is \$1.50.

For this exercise, we shall establish two prices for students buying ticket books: (1) \$0.30 per ticket, or \$6.00 per 20–ticket book; and (2) \$0.60 per ticket or \$12.00 per 20–ticket book. These two pricing levels reflect 20% of the cost and 40% of the cost of a regular, \$1.50 youth ticket, respectively. Neither of these fees is unrealistic, although any type of fee may be unaffordable for some families. Furthermore, we would expect many of those who formerly walked or biked to resume their former mode, and that others who rode with an adult to school or caught rides with friends would resume their former modes as well.

Using Phase II former mode splits and number of trips, we estimate that the \$6.00 fee will cause a 50% program departure rate and that the \$12.00 fee will cause a 100% program departure rate as applied to those program participants *most likely* to return to their former mode (walk, bike). We will assume that the lower fee and higher fees will cause a 25% and 50% program departure rate, respectively, as applied to those program participants *likely* to return to their former mode (student driver and rode with student driver). Lastly, we will assume the lower fee and higher fee will cause a 5% and 10% program departure rate, respectively, as applied to those program participants who *possibly* would return to their former mode (students riding with adults). Based on all these assumptions, we estimate that program ridership might be reduced by the following percentages:

³ Golden Gate Transit has proposed a fare increase (to be effective July 1, 2004) which would increase the adult one-way fare for local travel within a Marin County zone to \$2.00. Youth fares would increase to \$1.50 for travel within Marin County.

	<u>\$6/book</u>	<u>\$12/book</u>
Walked	-7%	-14%
Biked	-3%	-6%
Student Driver	-0.25%	-0.5%
Rode with Student Driver	-1%	-2%
Rode with Adult	-1.8%	-3.6%
<u>Total</u>	<u>-13.5%</u>	<u>-26.1%</u>

Applying these percentage reductions to the 2003 ridership level of 246,871 shows a trip reduction of:

	<u>\$6/book</u>	<u>\$12/book</u>
Walked	-17,281	-34,562
Biked	-7,406	-14,812
Student Driver	-617	-1,234
Rode with Student Driver	-2,469	-4,937
Rode with Adult	-4,444	-8,887
<u>Total</u>	<u>-32,217</u>	<u>-64,432</u>

Thus, we estimate that a \$6.00 per book charge would have reduced the 2003 ridership from 246,871 to 214,654, while a \$12.00 per book charge would have reduced the 2003 ridership from 246,871 to 182,439. Figure 4-3 summarizes the changes in estimated program participation (trips per year) that would result from a \$6.00 and \$12.00 charge per 20-ticket book.

Figure 4-3 Estimated Program Participation, 2005-2007

	Projected Annual Participation (Trips/Yr): No Fee	Projected Annual Participation (Trips/Yr): \$6.00 Charge/Ticket Book	Projected Annual Participation (Trips/Yr): \$12.00 Charge/Ticket Book
2004-5 School Year	355,169	307,221	262,470
2005-6 School Year	379,411	328,191	280,385
2006-7 School Year	404,655	350,027	299,040

Figure 4-4 projects net annual program costs assuming that the program (under the full reimbursement scenario) charges \$6.00 per ticket book, starting with the 2004-5 school year. Figure 4-5 projects net annual program costs with the \$6.00 per ticket book user fee and the fixed monthly cost scenario.

Figures 4-6 and 4-7 present this same information for the scenario in which ticket books are \$12.00. The combination of a lower net cost per trip and a reduction in the number of trips results in significantly lower annual program costs for both cost scenarios. Charging \$6.00 and \$12.00 per ticket book is estimated to generate an average of approximately \$100,000 and \$170,000 per year, respectively. Charging \$12.00 per 20-ticket book results in the highest annual revenues and lowest net costs per school day and per trip, despite the decline in program participation that might result from such a charge.

**Figure 4-4 Projected Program Costs (Full Reimbursement Scenario)
Based on a \$6.00 Charge per 20-Ticket Book**

	Trips/ Year*	Cost/ Trip	Annual Ticket Cost	Marketing Costs	Annual Total Costs	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	307,221	\$1.50	\$460,832	\$8,016	\$468,847	\$92,166	\$376,681	\$2,093	\$1.23
2005-6 School Year	328,191	\$1.50	\$492,286	\$8,176	\$500,462	\$98,457	\$402,004	\$2,233	\$1.22
2006-7 School Year	350,027	\$1.50	\$525,040	\$8,339	\$533,379	\$105,008	\$428,371	\$2,380	\$1.22

*Reflects a 13.5% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Figure 4-5 Projected Program Costs (Fixed Monthly Fee Scenario)
Based on a \$6.00 Charge per 20-Ticket Book**

	Trips/ Year*	Monthly Cost**	Annual Cost***	Marketing Costs**	Total Annual Cost	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	307,221	\$26,520	\$238,680	\$8,016	\$246,696	\$92,166	\$154,529	\$858	\$0.50
2005-6 School Year	328,191	\$27,050	\$243,454	\$8,176	\$251,629	\$98,457	\$153,172	\$851	\$0.47
2006-7 School Year	350,027	\$27,591	\$248,323	\$8,339	\$256,662	\$105,008	\$151,654	\$843	\$0.43

*Reflects a 13.5% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Assumes a 2% annual growth rate.

***Based on a nine-month school year.

**Figure 4-6 Projected Program Costs (Full Reimbursement Scenario)
Based on a \$12.00 Charge per 20-Ticket Book**

	Trips/ Year*	Cost/ Trip	Annual Ticket Cost	Marketing Costs	Annual Total Costs	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	262,470	\$1.50	\$393,705	\$8,016	\$401,720	\$157,482	\$244,238	\$1,357	\$0.93
2005-6 School Year	280,385	\$1.50	\$420,577	\$8,176	\$428,753	\$168,231	\$260,522	\$1,447	\$0.93
2006-7 School Year	299,040	\$1.50	\$448,560	\$8,339	\$456,899	\$179,424	\$277,475	\$1,542	\$0.93

*Reflects a 26.1% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Figure 4-7 Projected Program Costs (Fixed Monthly Fee Scenario)
Based on a \$12.00 Charge per 20-Ticket Book**

	Trips/ Year*	Monthly Cost**	Annual Cost***	Marketing Costs**	Total Annual Cost	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	262,470	\$26,520	\$238,680	\$8,016	\$246,696	\$157,482	\$89,214	\$496	\$0.34
2005-6 School Year	280,385	\$27,050	\$243,454	\$8,176	\$251,629	\$168,231	\$83,399	\$463	\$0.30
2006-7 School Year	299,040	\$27,591	\$248,323	\$8,339	\$256,662	\$179,424	\$77,238	\$429	\$0.26

*Reflects a 26.1% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Assumes a 2% annual growth rate.

***Based on a nine-month school year.

If ticket books are provided free to low-income students, then the cost savings resulting from a \$6.00 or \$12.00 charge per ticket book would not be as great. However, if MCTD were able to obtain grant funds to offset the cost of providing free tickets to low-income students, then the cost impact of providing those free ticket books would be negligible.

Potential Funding Sources

Figure 4-6 summarizes federal, state, regional, and local funding sources that may be available for continued funding of the Ride & Roll Program. The most likely sources of future program funding are user fees (as previously discussed) and Marin County's proposed half-cent transportation sales tax (which is likely to be considered by voters in November 2004). The Bay Area Air Quality

Management District's (BAAQMD) Transportation Fund for Clean Air (TFCA), which has helped fund both phases of the Ride & Roll Program, may also provide a likely source of future funding. However, this program primarily funds pilot rather than ongoing projects.

Figure 4-8 Potential Funding Sources for Continuing the Ride & Roll Program

Funding Source	Funding Purpose	Use Of Funds	Application/ Approval Process	Applicability	Chances For Success
Federal					
Temporary Assistance for Needy Families (TANF)	Provides assistance to promote job preparation, among other goals	Primary federal funding source for welfare to work programs. Covers both operating and capital costs	County/City approval process	May be applicable if the program can demonstrate that providing youth transit tickets helps promote job preparation.	Competitive
Job Access and Reverse Commute (JARC)	Projects and services designed to connect welfare recipients and low-income persons to employment and support services	Funds must be used for delivery of services (including capital costs), but not planning	Application process through MTC	MTC currently uses JARC to fund LIFT grants. May be eligible for a Job Access grant in future depending on how MTC structures program.	Competitive
Low Income Flexible Transportation Grants (LIFT)	Funding for welfare-to-work transportation projects	Implementation of new or expanded transportation services, including capital and planning	Application process through MTC	Program will need to demonstrate that it improves access to job or job training opportunities. This grant was used to fund AC Transit's low-income fare program.	Low – it is uncertain as to whether or not this program will be continued
Community Development Block Grants (CDBG)	Activities directed toward neighborhood revitalization, economic development, and provision of improved community facilities and services	May be used for public services within certain limits. Must benefit low- and moderate-income persons	County/City approval process		Competitive

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Funding Source	Funding Purpose	Use Of Funds	Application/ Approval Process	Applicability	Chances For Success
State					
Proposition 42	Funds to support transportation projects throughout the state	Capital and operating expenditures	County/City process		Highly unlikely – funds are committed through 2008 and most funds will go to streets, roads and other transit
Regional					
Transportation Fund for Clean Air (TFCA)	Transit capital and operating support for projects that reduce emissions	Capital projects or operating support, with considerable funding flexibility	Application process through BAAQMD and the Marin County CMA	TFCA funds are primarily used for pilot projects, however it may be possible to obtain funding for ongoing programs. This funding program is directly applicable and has been used to fund the pilot Ride & Roll Program.	Competitive, but is current source of program funding
Local					
Sales Tax Funds	Implement transportation projects in Marin County	Funds would be specifically dedicated for this purpose.	Funds would need to be authorized by the Transportation Authority.	Directly applicable and funding for Ride & Roll is currently included in the Sales Tax Expenditure Plan.	Uncertain, depending on voter approval of a sales tax
User Fees	Fund transit operations	Transit operating or capital	Approval of MCTD Board	A small user fee could offset program costs without significantly decreasing program participation.	High given that an appropriate fee level is established

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Funding Source	Funding Purpose	Use Of Funds	Application/ Approval Process	Applicability	Chances For Success
School Fees	Fund transit service to schools	Transit operating or capital	Funds would need to be requested by MCTD and authorized by each school or school district, or by the student body for colleges and universities	Directly applicable since Ride & Roll specifically benefits students traveling to school	Highly unlikely for K-12 schools, given limited school budgets. More likely for colleges and universities
Foundation Grants	Wide range of projects and programs that benefit the community	Wide range of fund uses, depending on the grant program	Application and approval process through foundation	Marin Community Foundation sponsors discretionary grants which fund a wide range of program areas. May be especially applicable to funding tickets for low-income youth.	Uncertain given recent reductions in available grant funds
County General Fund	To fund a wide range of projects and programs benefiting Marin County residents	Transit operating and capital	Approval of County Board of Supervisors	Currently funds the Ride & Roll Program.	Uncertain given limited availability of County General Funds.
MCTD Operating Budget (TDA and fares)	Fund local transit operations within Marin County	Transit operations	Approval of MCTD Board	Directly applicable to Ride & Roll.	Dedicated but extremely limited source of funds.

Chapter 5. Conclusions and Recommendations

This chapter summarizes program successes and benefits as well as projected program costs. It also includes several recommendations regarding ways in which the program could be modified, expanded, or further improved.

Program Successes and Benefits

The Ride & Roll Program's stated goals were as follows:

- Provide alternatives to automobile travel for the trip to school.
- Increase the number of students riding the bus.
- Improve air quality.
- Lessen traffic congestion.

Based on the number of transit trips taken as a result of the program and the resulting estimated reduction in automobile trips, the program has succeeded in meeting all of these goals. For Phases I and II of the Program combined (approximately 144 school days in calendar year 2003):

- A total of 246,871 one-way trips were made, a significant increase over pre-program youth ridership levels.
- The estimated mode shift from automobiles to bus trips was 100,732 trips.
- An estimated 46,906 one-way automobile trips were eliminated (326 one-way trips per day).
- An estimated 90,083 fewer automobile trips (626 one-way trips per day) were made to schools.

Additional program benefits included:

- Cost savings for parents and students who formerly drove other students to school in the form of lower fuel and maintenance costs.

- Expanded transportation options to or from school for students and their families.
- Anecdotal evidence from San Rafael High School indicated that a significant number of students from the Canal area would regularly come to school late or not come to school at all if transportation was not available. Many of these students and their families could not afford the added expense of purchasing bus tickets. Consequently, the Ride & Roll Program provided an important means of primary or secondary transportation to these students that enabled them to improve their school attendance and performance.
- Improved student access to after-school programs and activities and jobs.
- Better access to job or educational opportunities for working parents who no longer needed to drive their children to school.

Program Costs

If all aspects of the program remain the same, program costs will grow in proportion to increased student participation. The average cost per trip (ticket) in 2003 was \$1.73, including both ticket reimbursement and marketing costs. For the next three years, we assume that the program's Phase II marketing costs increase 2% per year, and that trip costs are either fixed at \$26,000 per month (increasing 2% in each subsequent school year) or are equivalent to a full youth fare of \$1.50 per trip (youth fares are likely to increase to this level in July 2004). The fixed monthly rate of \$26,000 is equivalent to 19,260 one-way youth trips (based on the current rate of \$1.35 per trip).

Based on these assumptions, we calculated future annual and daily program costs for the next three years. Figure 5-1 shows the estimated program costs based on full reimbursement of \$1.50 per Ride & Roll ticket used. Figure 5-2 shows the estimated program costs based on a fixed monthly fee. The estimated growth in participation is the same regardless of which cost calculation method is used.

Figure 5-1 Estimated Three Year Program Costs, Full Reimbursement for Youth Fares

	Schools	Average Participation Rate	Number of Participants	Trips/Week	Trips/Year	Cost/Trip	Total Trip Costs	Marketing Costs*	Annual Cost	Cost/School Day
2004-5 School Year	52	23%	3,654	2.7	355,169	\$1.50	\$532,754	\$8,016	\$540,769	\$3,004
2005-6 School Year	55	25%	3,764	2.8	379,411	\$1.50	\$569,117	\$8,176	\$577,292	\$3,207
2006-7 School Year	58	27%	3,876	2.9	404,655	\$1.50	\$606,983	\$8,339	\$615,322	\$3,418

*Assumes a 2% annual growth rate.

Figure 5-2 Estimated Three Year Program Costs, Fixed Monthly Fee

	Monthly Cost*	Annual Cost**	Marketing Costs*	Total Annual Cost	Cost/School Day	Trips/Year	Cost/Trip
2004-5 School Year	\$26,520	\$238,680	\$8,016	\$246,696	\$1,371	355,169	\$0.69
2005-6 School Year	\$27,050	\$243,454	\$8,176	\$251,629	\$1,398	379,411	\$0.66
2006-7 School Year	\$27,591	\$248,323	\$8,339	\$256,662	\$1,426	404,655	\$0.63

*Assumes a 2% annual growth rate.

**Based on a nine-month school year.

With full reimbursement of youth fares, program costs will increase 27% in the coming 2004–5 school year to \$540,769. In subsequent years, program costs will increase at about 7% per year, and will reach \$615,322 in the 2006–7 school year. Program costs will be significantly lower under the fixed monthly fee cost scenario, and will increase by 2% per year (the assumed rate of inflation) to \$256,662 in the 2006–7 school year. Both of these cost scenarios assume that any additional ridership will be accommodated through excess capacity on existing vehicles and that no additional service will need to be added. If additional service *does* need to be added in order to accommodate ridership growth, then the cost projections for future years will be significantly higher.

Given the huge difference in program costs resulting from the two different scenarios, it is important to explain the rationale behind each approach. The fixed cost scenario reimburses GGT for the approximate amount of lost youth

fare revenue based on pre-Ride & Roll youth ridership. Assuming that the *increase* in youth ridership attributable to the Ride & Roll program simply uses existing excess bus capacity and does not impose any additional costs on GGT, it is both reasonable and fair to simply reimburse GGT for the amount of revenue they otherwise would have earned had the Ride & Roll program not been in place (and for any additional administrative costs attributable to the Ride & Roll Program).

Under the full youth fare reimbursement scenario, MCTD not only reimburses GGT for pre-Ride & Roll ridership, but for any ridership gains resulting from the Ride & Roll program as well. This reimbursement methodology would be fair and reasonable only if each additional Ride & Roll trip (above pre-Ride & Roll ridership levels) imposed a cost on GGT equivalent to the full youth fare, rather than simply filling empty seats.

A key question is whether GGT is required to add service on those routes that become crowded. If GGT is required to add new service, then it may make sense to reimburse the transit operator for the full student fare rather than for the marginal value of unsold seats. Currently, Golden Gate has indicated that there are several routes experiencing overcrowding due to increased ridership induced by the Ride and Roll program. If MCTD continues to reimburse GGT at a fixed rate, then GGT cannot reasonably be required to increase service on those routes without additional funding.

Charging for Student Tickets

In order to offset the cost of the program, we evaluated the effects of a high and low user fee on both program participation and program costs. The low fee would charge \$0.30 per ticket, or \$6.00 per 20-ticket book, and the high fee would charge \$0.60 per ticket, or \$12.00 per 20-ticket book. We estimate that a \$6.00 per book charge would have reduced the 2003 ridership from 246,871 to 214,654, while a \$12.00 per book charge would have reduced the 2003 ridership from 246,871 to 182,439. Figure 5-3 summarizes the changes in estimated program participation (trips per year) that would result from a \$6.00 and \$12.00 charge per 20-ticket book.

Figure 5-3 Estimated Program Participation, 2005-2007

	Projected Annual Participation (Trips/Yr): No Fee	Projected Annual Participation (Trips/Yr): \$6.00 Charge/Ticket Book	Projected Annual Participation (Trips/Yr): \$12.00 Charge/Ticket Book
2004-5 School Year	355,169	307,221	262,470
2005-6 School Year	379,411	328,191	280,385
2006-7 School Year	404,655	350,027	299,040

Figure 5-4 projects net annual program costs assuming that the program (under the full reimbursement scenario) charges \$6.00 per ticket book, starting with the 2004-5 school year. Figure 5-5 projects net annual program costs with the \$6.00 per ticket book user fee and the fixed monthly cost scenario. Figures 5-6 and 5-7 present this same information for the scenario in which ticket books are \$12.00. The combination of a lower net cost per trip and a reduction in the number of trips results in significantly lower annual program costs for both cost scenarios. Charging \$6.00 and \$12.00 per ticket book is estimated to generate an average of approximately \$100,000 and \$170,000 per year, respectively. Charging \$12.00 per 20-ticket book results in the highest annual revenues and lowest net costs per school day and per trip, despite the decline in program participation that might result from such a charge.

Figure 5-4 Projected Program Costs (Full Reimbursement Scenario) Based on a \$6.00 Charge per 20-Ticket Book

	Trips/ Year*	Cost/ Trip	Annual Ticket Cost	Marketing Costs	Annual Total Costs	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	307,221	\$1.50	\$460,832	\$8,016	\$468,847	\$92,166	\$376,681	\$2,093	\$1.23
2005-6 School Year	328,191	\$1.50	\$492,286	\$8,176	\$500,462	\$98,457	\$402,004	\$2,233	\$1.22
2006-7 School Year	350,027	\$1.50	\$525,040	\$8,339	\$533,379	\$105,008	\$428,371	\$2,380	\$1.22

*Reflects a 13.5% reduction in ridership resulting from a \$6.00 charge per ticket book.

Figure 5-5 Projected Program Costs (Fixed Monthly Fee Scenario) Based on a \$6.00 Charge per 20-Ticket Book

	Trips/ Year*	Monthly Cost**	Annual Cost***	Marketing Costs**	Total Annual Cost	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	307,221	\$26,520	\$238,680	\$8,016	\$246,696	\$92,166	\$154,529	\$858	\$0.50
2005-6 School Year	328,191	\$27,050	\$243,454	\$8,176	\$251,629	\$98,457	\$153,172	\$851	\$0.47
2006-7 School Year	350,027	\$27,591	\$248,323	\$8,339	\$256,662	\$105,008	\$151,654	\$843	\$0.43

*Reflects a 13.5% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Assumes a 2% annual growth rate.

***Based on a nine-month school year.

**Figure 5-6 Projected Program Costs (Full Reimbursement Scenario)
Based on a \$12.00 Charge per 20-Ticket Book**

	Trips/ Year*	Cost/ Trip	Annual Ticket Cost	Marketing Costs	Annual Total Costs	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	262,470	\$1.50	\$393,705	\$8,016	\$401,720	\$157,482	\$244,238	\$1,357	\$0.93
2005-6 School Year	280,385	\$1.50	\$420,577	\$8,176	\$428,753	\$168,231	\$260,522	\$1,447	\$0.93
2006-7 School Year	299,040	\$1.50	\$448,560	\$8,339	\$456,899	\$179,424	\$277,475	\$1,542	\$0.93

*Reflects a 26.1% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Figure 5-7 Projected Program Costs (Fixed Monthly Fee Scenario)
Based on a \$12.00 Charge per 20-Ticket Book**

	Trips/ Year*	Monthly Cost**	Annual Cost***	Marketing Costs**	Total Annual Cost	Annual Revenue	Annual Net Cost	Annual Net Cost/ School Day	Annual Net Cost/ Trip
2004-5 School Year	262,470	\$26,520	\$238,680	\$8,016	\$246,696	\$157,482	\$89,214	\$496	\$0.34
2005-6 School Year	280,385	\$27,050	\$243,454	\$8,176	\$251,629	\$168,231	\$83,399	\$463	\$0.30
2006-7 School Year	299,040	\$27,591	\$248,323	\$8,339	\$256,662	\$179,424	\$77,238	\$429	\$0.26

*Reflects a 26.1% reduction in ridership resulting from a \$6.00 charge per ticket book.

**Assumes a 2% annual growth rate.

***Based on a nine-month school year.

If ticket books are provided free to low-income students, then the cost savings resulting from a \$6 charge per ticket book would not be as great. However, if MCTD were able to obtain grant funds to offset the cost of providing free

tickets to low-income students, then the cost impact of providing free ticket books to low-income students would be negligible.

Potential Funding Sources

The most likely sources of future program funding are user fees (as previously discussed) and the County's proposed half-cent transportation sales tax. The Bay Area Air Quality Management District's (BAAQMD) Transportation Fund for Clean Air (TFCA), which has helped fund both phases of the Ride & Roll Program, may also provide a likely source of future funding. However, this program primarily funds pilot rather than ongoing projects.

Recommended Program Changes

Overall, the Ride & Roll Program has been successful in accomplishing its stated program goals. The program has done an excellent job of providing each school with a standardized and comprehensive set of marketing materials and program information, and no significant problems or issues were reported with regard to program administration or abuse of the program in any way. Consequently, we do not recommend any changes to program marketing or implementation at this time.

The following recommendations for improvement focus on program data collection and reporting. Without accurate and comprehensive data reporting, it is not possible to completely assess the full costs and benefits of the Ride & Roll Program.

- **Survey data must be collected accurately, and it may be beneficial to collect additional information via surveys.** We observed several inconsistencies and apparent errors in survey data. While it is difficult (if not impossible) to carefully monitor survey administration since it is being carried out by individual school staff members, it is important to provide specific and clear instructions to those administering the survey and stress the importance of collecting accurate results (since survey data is used for program evaluation which in turn is used to obtain continued program funding). We also recommend examining ways in which the

program might collect data about trip lengths, the frequency of different mode use before and after program participation, whether or not parents continue to drive to work if their children take the bus, and additional benefits such as better access to after-school activities and job opportunities for students and to job or work training opportunities for parents. To collect this information, it may be necessary to conduct a survey of the parents of participating students as well as of the students themselves.

- **All program costs, including administrative time, should be accounted for.** Program costs did not include administrative time contributed by the Marin County Transit District (MCTD), Golden Gate Transit (GGT) and school staff. These administrative costs can be significant, and should be fully accounted for.

The experiences of peer transit agencies in the San Francisco Bay Area do indicate that the Ride & Roll Program could be modified in order to make the program more attractive to users and more cost effective. Based on the experiences of other transit agencies and the unique situation of MCTD and GGT, we recommend the following modifications to the Ride & Roll Program:

- **Investigate the feasibility of using the TransLink universal fare system in the future.** Generally, transit passes are preferable to transit tickets since they provide users with greater flexibility and ease of use. Passes can be used at any time or on any day, and allow their user to transfer between lines without having to purchase an additional transfer fare. It is likely that the use of passes would result in even more youth transit trips, since it would make free or reduced cost transit travel available on evenings and weekends and would allow students to transfer without having to use additional bus tickets. However, GGT cannot accommodate the use of passes due to the increased administrative and operational costs they would incur, and the fact that it is GGT's operational policy that every passenger present a fare, so that there is a direct correlation between the number of boardings and the amount of fares collected. Transit passes represent *proof* of payment rather than *actual* payment and are consequently not in accordance with this policy.

The implementation of the TransLink universal fare card in early 2005 could provide an ideal solution, however. TransLink will provide transit riders throughout the Bay Area with a universal transit fare card that can be used on any transit agency vehicle. The card functions as a debit card, and money is deducted from the user's account each time the card is used. GGT estimates that TransLink will be implemented on its system in early 2005. The TransLink card would essentially function as a pass, providing students with additional transportation benefits, and would also enable GGT to fully account for each student transit trip made as part of the Ride & Roll Program.

- **Charge a small user fee.** None of the peer programs reviewed provide free passes or tickets to youth. Instead, they either provide free passes for a very limited period of time (two to five weeks) and then charge a full fare, or provide significantly discounted passes or tickets. Charging a small amount for the Ride & Roll Program would help offset costs and increase the likelihood of the program's continuation while still providing a significant benefit to students and their families. To initiate students' participation in the program, free tickets could be offered during the first few weeks of school. Free tickets could continue to be offered to qualified low-income youth. Chapter 4 provides a further discussion of program fees and their impacts on program costs and participation.
- **Implement a discount college fare program on certain routes that serve community colleges or other interested colleges or universities.** Both AC Transit and SamTrans have successfully implemented reduced fare programs for local college/university students. These programs are subsidized by student fees (which must be approved by the student body). Generally, the cost of any subsidy provided by the transit agency is offset by increases in ridership. Fees are typically collected from all students, regardless of whether or not they use transit. Use can be restricted to certain routes, a certain mile radius, or can be for universal travel. Student fees for such a program would go directly to MCTD, who would then reimburse GGT for each student ticket used.