

CHAPTER 2 SYSTEM PERFORMANCE

This chapter provides a high level summary of system performance data based on original data collected for the Short Range Transit Plan. More detailed performance information can be found in the System Level Analysis and Line-by-Line Analysis documents that supplement this plan.

Performance Trends

Figures 2-1 to 2-3 show historic performance trends for the fixed route, rural and paratransit services provided by MCTD. Data for this table comes from the contract operators that provide the service; Golden Gate Transit for fixed route services and rural route 63; Whistlestop Wheels for paratransit services and the West Marin Stagecoach.

Figure 2-1 Historic Performance, Fixed Route

Fiscal Year	Revenue Hours	Pax Trips	Fare Revenue	Marginal Expense	5% TDA
2000-2001	54,033	1,711,798	\$1,569,540	\$1,917,591	\$489,200
2001-2002	56,813	1,863,051	\$1,680,041	\$2,108,026	\$555,200
2002-2003	63,714	1,781,067	\$1,662,648	\$2,330,295	\$420,269
2003-2004	74,686	1,955,512	\$1,781,688	\$6,585,052	\$2,288,896
2004-2005	82,803	2,248,744	\$2,214,667	\$9,476,626	\$3,049,167

Note: This includes rural Route 63

Figure 2-2 Historic Performance, West Marin Stagecoach

Fiscal Year	Total Miles	Total Hours	Pax Trips	Fare Revenue	Total Cost Per Hour	Total Cost
2000-2001	N/A	N/A	N/A	N/A	N/A	N/A
2001-2002*	6,633	330	1,203	\$628	\$35.00	\$11,541
2002-2003	104,002	5,673	20,385	\$19,033	\$35.00	\$198,555
2003-2004	98,709	5,958	22,588	\$21,510	\$40.01	\$238,336
2004-2005	97,937	5,914	21,539	\$19,970	\$46.84	\$276,988

* The stage routes began operation during the 2001-2002 fiscal year.

Figure 2-3 Historic Performance, Paratransit

Fiscal Year	Total Miles	Total Hours	Pax Trips	Rev Miles	Rev Hours	Fares Revenue	Hourly Rate	Admin Costs*	Total Cost Per Hour	Total Cost
2000-2001	673,454	43,314	70,293	595,748	37,930	\$86,131	\$34.85	\$0	\$34.85	\$1,509,480
2001-2002	717,713	43,895	76,122	632,510	37,769	\$90,733	\$21.62	\$65,018	\$23.10	\$1,014,023
2002-2003	718,936	44,469	76,609	631,920	37,812	\$91,576	\$23.62	\$77,285	\$25.36	\$1,127,648
2003-2004	746,040	44,567	83,764	668,093	38,820	\$123,238	\$26.53	\$81,267	\$28.35	\$1,263,636
2004-2005	727,165	45,364	83,961	651,120	39,197	\$164,006	\$29.92	\$87,305	\$31.84	\$1,444,588

* First year administrative costs included in hourly rate.

Evaluating trends on the fixed route system is difficult because the system has changed substantially since 2003. As described in the previous chapter, local service hours have doubled since 2003, as MCTD added many new routes that were formerly part of the larger regional system. With a new five year contract beginning on May 1, 2006, MCTD's local service should begin a period of relative stability which will enable the agency to better evaluate its performance over time.

Peer Comparison

MCTD must also be cautious in comparing its service to others. While peer systems have been identified based on their size and services offered, no single system can be thought of as a "perfect match" for Marin County's local system. Peers were selected because they are comparable to MCTD in terms of size, service area, relation to urban centers, or mixture of local and regional service. No one system matches all of MCTD's unique operating conditions and challenges. Some, such as the Mendocino MTA and Sonoma County Transit, are geographically similar but devote a much

larger share of their resources to low ridership rural service. VTA and SamTrans are in many ways the most analogous to MCTD, but operate larger systems in more urban areas. With the transition of all local service to MCTD, the District will be among the 20 largest districts in the state and will be among the five largest not directly serving a major urban city.

Figure 2-4 compares MCTD's performance against peer operators. While MCTD's costs appear to be higher than many peer agencies, it is important to recognize the differences between operators. MCTD's costs include the capital required to operate the system, such as vehicles and maintenance facilities as part of the operating cost. This is very unusual, since most agencies own their own vehicles and most own their own facilities. In addition, although many of the peers utilize contract operators, MCTD is unusual in that it contracts with another public agency with existing labor agreements and other policies that may impact unit costs. A better measure of comparison is the subsidy per passenger trip, which shows MCTD as competitive compared with its peers.

Figure 2-4 MCTD Fixed Route Peer Data

*Does not include paratransit costs
For local service only (no regional service)*

Agency	Productivity (passengers per hour)	Cost effectiveness (subsidy per passenger trip)	Cost per hour (operating cost/service hours)	Farebox recovery ratio (operating costs/farebox revenue)	Average Fare (farebox revenue/passengers)	Adult Fare (one way, 2005)	Annual Service Hours	Passengers per year
MCTD <i>2004-05 data. Includes MCTD local routes. Does not include transitional, West Marin Stage, EZ Rider, or school routes 117, 123, or 127</i>	27	\$3.34	\$116.00 (\$110 effective 5/1/06)	22%	\$0.94	\$2.00	110,800	2,905,000
Mendocino MTA	10	\$4.15	\$54.00	20%	\$1.05	\$0.75	33,000	342,000
Union City Transit	12	\$4.20	\$58.00	14%	\$0.69	\$1.25	37,500	442,000
LAVTA	15	\$3.87	\$69.00	18%	\$0.86	\$1.25	132,000	1,921,000
Central Contra Costa	15	\$4.07	\$75.00	19%	\$0.93	\$1.50	302,500	4,509,000
Tri Delta	15	\$3.54	\$65.00	18%	\$0.77	\$1.00	148,000	2,225,000
Sonoma County Transit	15	\$4.83	\$91.00	18%	\$1.07	\$1.00	90,400	1,390,000
Napa Vine	17	\$2.84	\$60.00	19%	\$0.68	\$1.00	51,600	881,000
Fairfield Suisun	18	\$3.30	\$72.00	19%	\$0.76	\$1.25	49,000	874,000
YoloBus <i>Excludes regional service to Sacramento</i>	21	\$2.95	\$83.00	24%	\$0.95	\$1.50	7,800	166,000
Monterey-Salinas	22	\$2.35	\$74.00	29%	\$0.98	\$1.75	211,000	4,696,000
Santa Cruz	25	\$3.34	\$107.00	20%	\$0.86	\$1.50	241,000	6,136,000
SamTrans <i>Excludes approximately 85% of service to San Francisco</i>	26	\$3.57	\$112.00	19%	\$0.82	\$1.25	503,000	12,830,000
VTA <i>2004 data, excludes data from Caltrain, Highway 17, and most express regional bus service</i>	29	\$5.15	\$170.00	13%	\$0.80	\$1.75	1,341,000	38,375,000

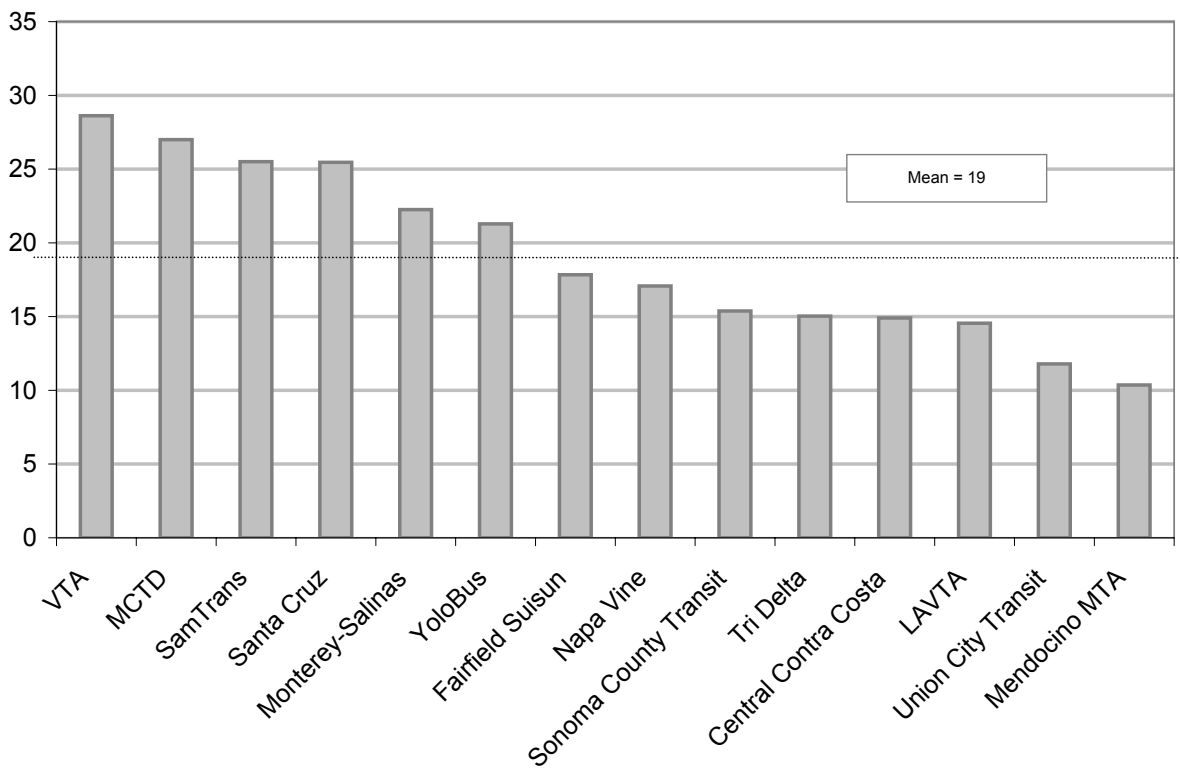
Note: Peer-to-peer comparisons are not relevant and must be approached with caution. Peer data is provided to identify overall trends among systems that operate in similar environments.

Note: MCTD subsidy per passenger trip calculated using MCTD YTD data from 11/1/04 -- 3/31/05. Productivity calculated using YTD (7/1/04--3/31/05) Transtat data. Peer system data from National Transit Database.

Productivity

Figure 2-5 compares productivity, measured in passengers per revenue hour for each of the peer systems. MCTD's local service does very well compared with all peer systems that provide substantial amounts of local service in low-density environments. In fact, MCTD's productivity of 27 passengers per hour (excluding school service and transitional routes) is second only to the VTA, and is the most productive system of its less urban peers.

Figure 2-5 Productivity in Passengers per Hour



Subsidy Per Passenger Trip and Farebox Recovery

Figure 2-6 shows the average subsidy per passenger trip for fixed route transit only. While MCTD has the highest local fare, at \$2.00 per passenger, its average fare is under \$1.00 (about \$0.97). This is due to a high volume of transfers and free fares that had historically been provided through the Ride and Roll Program and Homeward Bound. Meeting farebox recovery targets requires capturing more of the fares in the farebox. The Ride and Roll program was modified in August 2005 to eliminate many of the free fares, instituting a \$1.00 youth fare for all trips. MCTD's subsidy of \$3.34 per passenger is still below the peer mean of \$3.68, in spite of the higher cost of service.

Closely linked to the subsidy per passenger trip is the percent of farebox recovery. Figure 2-7 shows the farebox recovery ratio of peers. At 22% farebox recovery, MCTD recovers more of its total operating cost from the farebox than most of the peers studied. Only Monterey-Salinas Transit and YoloBus recover more.

Figure 2-6 Peer System Comparison Subsidy Per Passenger Trip

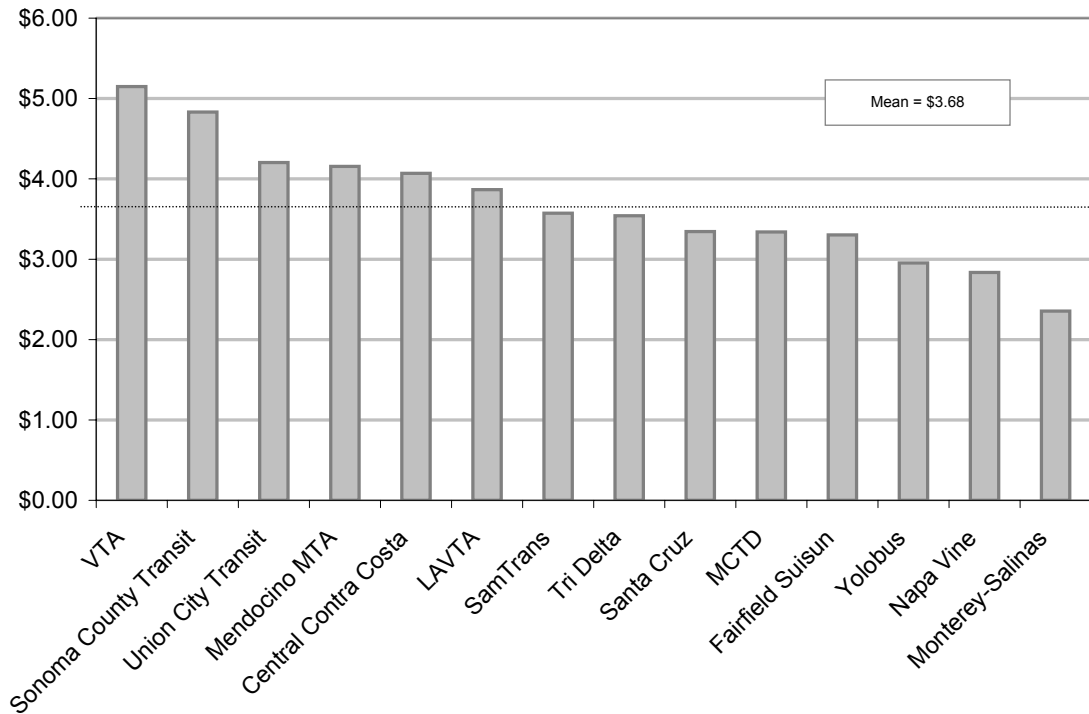
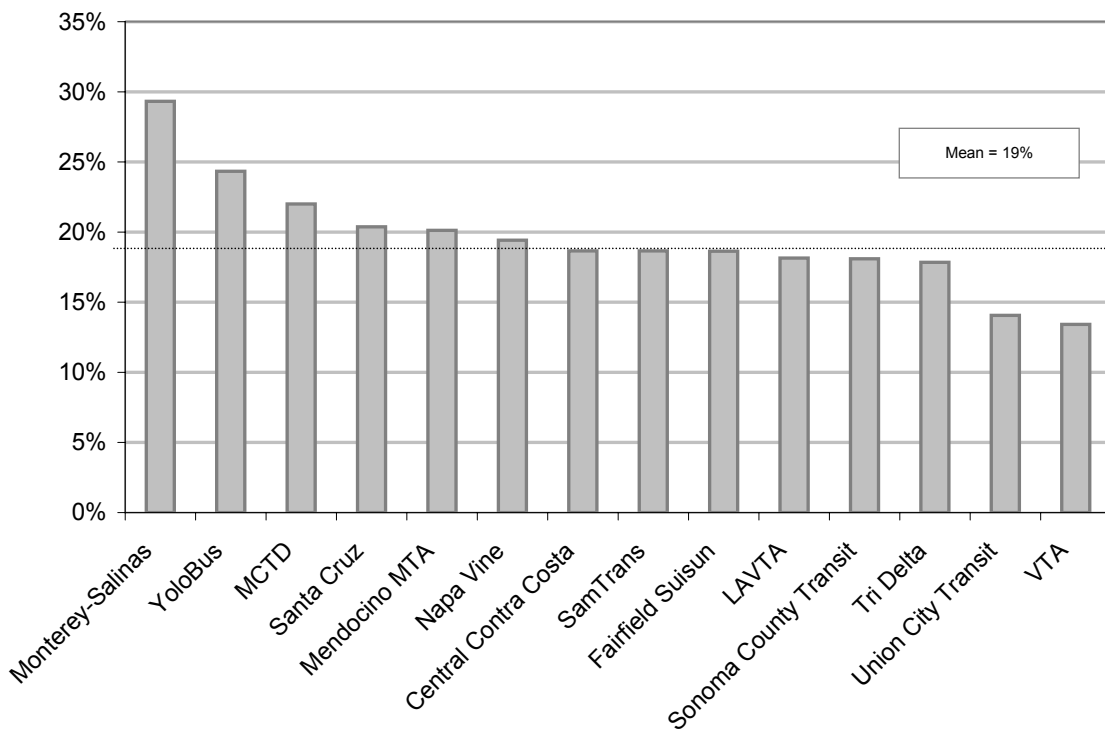


Figure 2-7 Peer System Comparison Farebox Recovery Ratio



Line Level Performance

While the previous sections showed that the MCTD system overall compares favorably with many peer systems, route-by-route performance varies widely. Figure 2-8 shows route level performance for each of the fixed routes operated by MCTD.

Two primary measures of the return on investment for a transit service are system productivity, measured in passengers per hour, and subsidy per passenger trip, which takes into account both the productivity and the cost for a unit of service. In both cases, the range across the MCTD system is extraordinary – the most productive route, Route 35 carries 95 passengers per hour, while the least productive route, Route 21 carries only 4 passengers per hour.

Figures 2-9 and 2-10 show the productivity and subsidy per passenger trip required for each route in the MCTD system, as well as the system average. Only all-day routes are shown in these figures.

Figure 2-9 MCTD Passengers Per Hour

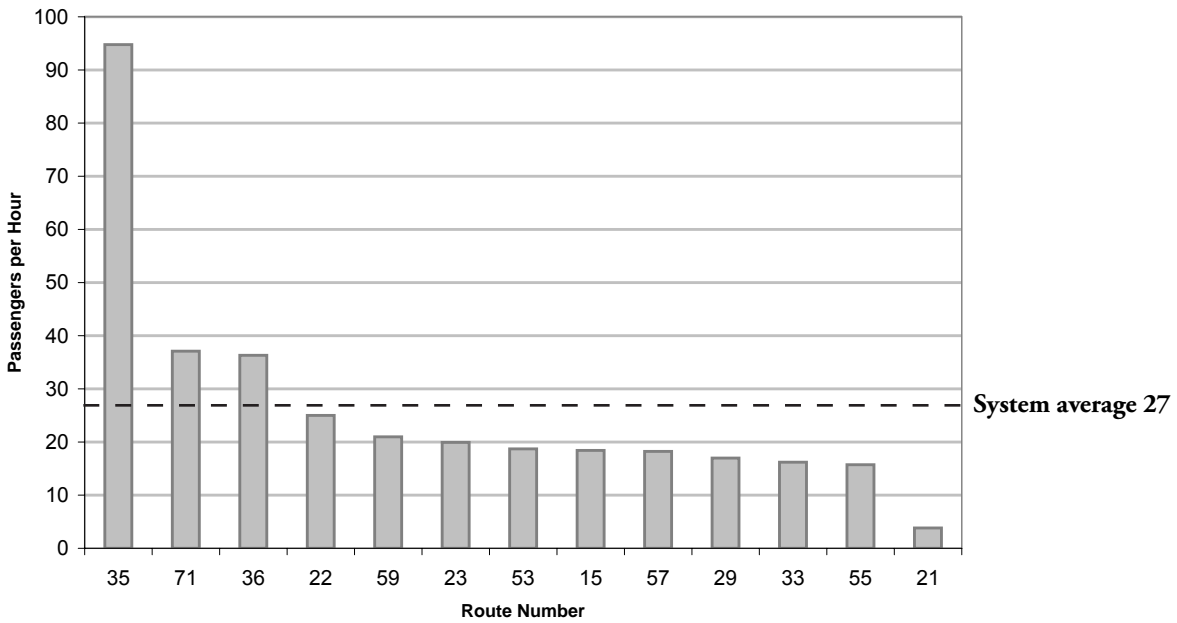
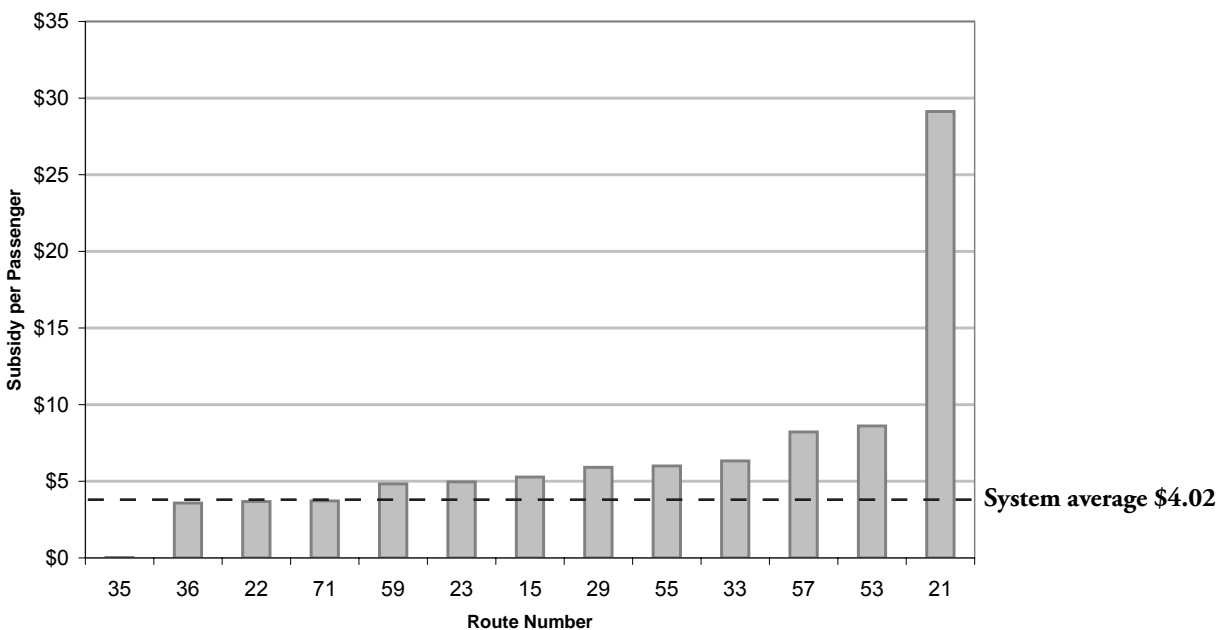


Figure 2-10 MCTD Subsidy Per Passenger Trip



Routes Designed for Ridership and Routes Designed for Coverage

While the productivity data for the MCTD system shows a wide range of results, significant variability in productivity and subsidy data is expected in a system of this type. Some routes, like the Route 35 service in the Canal, are designed specifically for productivity – they are relatively fast, straight routes through very dense areas. These routes travel more or less on the same route a person would drive between the same two points. Routes designed to maximize ridership serve the densest parts of the County and stay on arterial streets. However, given the diversity of population and geography in Marin County, it is not possible to provide comprehensive local transit service where every route is designed for high ridership. Other factors, including the need to serve specific markets such as youth, seniors and transit dependent riders, may justify some services that operate below productivity standards. The performance monitoring system, described in the following section, takes into account the need to provide a balanced service, including services designed more for coverage than for maximizing ridership. Maintaining this balance is important to maximizing mobility in Marin County with limited resources.

Understanding Current Riders

As part of the Short Range Transit Plan effort, a survey of over 2000 riders of the MCTD fixed route system and over 500 paratransit riders was completed. Understanding who uses the transit system is critical for maintaining and

expanding ridership, since it is always easier to increase ridership among those who are already inclined to use the transit system than to reach out to entirely new rider groups.

Fixed Route Riders

Most fixed route riders are working age adults using the system to go to and from work. This is not surprising, since trips that occur frequently and at regular times are more likely to be “captured” by transit than other trips that occur infrequently and require the rider to learn a new route or schedule.

The fixed route system has an unusually high percentage of youth riders, with 18% of the system’s riders reporting being 17 years old or younger. While 20% of the County’s population is in this age group, more than half of all youngsters are usually considered too young to ride unescorted. At the other end of the age spectrum, seniors over age 65 represented only 4% of the ridership on the system, although they make up almost 15% of the current population in the County. Long waits between buses, difficulty walking to stops and limited amenities at stops may contribute to the lack of senior ridership, as well as the fact that seniors are not generally making as many routine and regular trips as working age adults or school aged youth.

Most of MCTD’s riders are lower income riders with limited access to autos. Almost 40% of respondents used the Spanish version of the on-board survey, a much more significant percentage than the population of the County would suggest. Over half of survey respondents reported household incomes under \$25,000 per year in a County where just 10% of households

have incomes below \$25,000. More than ¾ of respondents reported that they did not have a car available to them for their particular trip.

While MCTD's riders are highly "transit dependant" the system still makes a significant contribution to reducing congestion in Marin County. Thirty-one (31%) percent of riders would have generated a new vehicle trip if transit was not available, either by driving alone or being driven by someone else. Applying this factor, MCTD's services replace over 1,000,000 vehicle trips per year.

When asked what improvements would better serve their needs, by far the most common response was for increased frequency rather than new service coverage or expanded service spans. Increasing weekend service and reducing fares were also commonly mentioned by riders as important improvements.

Paratransit Riders

MCTD's paratransit riders tend to be more elderly than those of most paratransit systems. Two-thirds of all paratransit riders reported being over age 75 and one-third reported being over age 85. The population needing services for persons with disabilities is expected to grow significantly over time, increasing from about 4,000 in 2005 to over 6,000 in 2020 according to MTC's Adult Transportation Study.

Paratransit service is offered Countywide; however, the vast majority of riders live in three cities – San Rafael (33%), Novato (20%) and Mill Valley (17%). Paratransit trips can be made for any trip purpose; but medical trips are by far the most common with 85% of respondents indicating they use Whistlestop for that purpose. Shopping and social/recreational trips were also

commonly cited trip purposes.

A high percentage of paratransit riders have very low incomes. Two-thirds of riders (66%) live in households with an annual income of less than \$25,000 and 28% live in households with an annual income of less than \$10,000.

Most paratransit riders indicated that they could not use regular fixed route services even if they were free. Of several changes paratransit riders were asked to evaluate, only local shopping shuttles were supported by a majority of riders. Other changes were not supported by a majority of riders, most of whom want to continue the current service as much as possible.

Performance Monitoring System

The Sales Tax Expenditure plan outlines a number of performance goals that are intended to measure the success of the local transit system:

- Fills a gap in the bus transit network
- Meets productivity standards based on passengers per hour
- Meets cost effectiveness standards based on subsidy per trip
- Relieves congestion as measured in total ridership
- Provides seamless connections to regional service
- Eliminates "pass ups" or overcrowding on existing routes
- Promotes environmental justice based on demographic analysis

- Attracts outside funding sources, including federal, state and toll revenue as well as other local funds

Incorporating these goals into a comprehensive system of performance measures is critical to ensure that the system maximizes mobility for the most people in a system of limited resources.

The performance monitoring system included in this section is based on the requirements of the Sales Tax Expenditure Plan, as well as the values articulated in the workshops held during the development of this plan, and a peer review of similar systems. The general goals provided in the Expenditure Plan are “operationalized” for MCTD – providing specific targets that can be used to measure performance.

This section reviews the standards by which MCTD can judge the effectiveness of its services. Most transit agencies use their performance standards to determine whether a route is carrying enough passengers to justify itself; deficient performance triggers a study process which may lead to remedial actions including enhanced marketing, redesign or elimination of service.

Improvement is needed in some areas to meet the standards identified in this chapter. Standards may need to be adjusted based on the reality of operating conditions or changing values in the system. Performance standards are designed as targets only to be used to measure progress. Performance in any specific area is dependent on many conditions outside of the control of the transit district and its providers. Specific targets are neither a guarantee of performance nor a mandatory requirement, but give the

transit district a goal to strive towards.

The most commonly used and straightforward measure of performance is the standard measure of productivity – passengers per revenue service hour. This measure is broadly used throughout the industry and is included in the Expenditure Plan as a primary measure of transit performance. Routes that fall below this standard should be subject to additional review and potential revision or elimination.

Figure 2-11 provides a comprehensive system of performance measurement for MCTD local routes and shows actual performance of existing routes for the last fiscal year with available data. Data sources are shown in the table where possible. Each performance objective is linked to a Measure A goal.

Areas where substantial improvement are needed, include the following:

- On-time performance, particularly at major transfer centers like the San Rafael Transit Center. Currently on-time performance rates a low 56% of time points within the on-time window, this is particularly poor for a system that depends on timed transfer points. Route supervision particularly at major transfer centers will ensure that the maximum number of scheduled “meets” actually take place.
- Service to schools at bell time. Currently 77% of schools are served by a route within ¼ mile. MCTD plans to work with the remaining schools without service to develop improved service as soon as possible.
- Productivity. Less than half of the routes meet the goal of 20 passengers per hour. Route restructuring focuses on those routes that are performing below this minimum.

- Passenger service ratings. Only 55% of passengers rate MCTD service as “good” or “excellent.”

The recommendations included in the Service Plan, described in Chapter 3 of this plan are designed to improve performance in all of these areas.

Figure 2-11 System Performance Objectives, Measures, and Actual Performance

Measure A Goal	Objective	Three Year Performance Goal	Actual Performance
Fills a gap in the bus transit network.	A. Provide service within ¼ mile of major employers (over 100 employees), schools, colleges, hospitals and other major trip generators in Marin County.	90% of middle and high schools meet standard.	77% of middle and high schools (Source: US Census 2000; County of Marin)
	Provides seamless connections to regional service.	80% of major employers and other trip generators meet standard. New routes do not duplicate existing services but "fill a gap" in the network.	71% of all generators (not including schools) (Source: US Census 2000; County of Marin)
		B. Provide service that provides seamless connections between local and regional service.	95% of all timed connections completed as scheduled.
Meets productivity standards based on passengers per hour.	C. Maximize on-time performance of local transit services.	85% on-time at all time points (0-5 minutes late).	56% (weekday all-day routes) (Source: MCTD/Nelson Nygaard Ride-check Data 2005)
	D. Operate the system in a manner that will maximize system productivity.	95% of all timed connections made.	TBD
		20 passengers per hour minimum for all fixed routes after 1 year of operation.	90% of all paratransit trips arrive within pick-up window.
Meets cost effectiveness standards based on subsidy per trip.	E. Operate the system in a manner that will minimize the need for subsidy.	7 passengers per hour for all local initiative services.	n/a
		20 passengers per TRIP for all special school trips.	71% of school trips meet goal (Source: MCTD/Nelson Nygaard Ride-check Data 2005)
		4 passengers per hour for rural service.	Rt 63: 8 pax/hr Stage routes: 4 pax/hr (Source: TranStat Data, Golden Gate Transit, Whistlestop Wheels)
Relieves congestion as measured in total ridership.	F. Operate the system in a manner that will have the greatest impact on congestion.	2 passengers per hour minimum for paratransit service.	2.14 pax/rev hr (Source: Whistlestop Wheels)
		\$5.00 maximum system average fixed route subsidy.	Meets goal (\$4.10) (Source: TranStat Data, MCTD, Golden Gate Transit)
Eliminates pass-ups or overcrowding on existing routes.		Fares to increase at the rate of inflation.	
		Total ridership increasing at least at the rate of population growth in Marin County.	Exceeds goal: Marin population growth (mid-2000 to mid-2003): -0.5% MCTD Ridership growth (mid-2000 to mid-2003): 4% (Source: US Census Bureau, Golden Gate Transit)
		School ridership increasing at greater the rate of student population growth in Marin County.	Meets goal.
	No pass-ups on regular local fixed routes.		Estimated 0 pass ups per year on regular fixed-route service. (Source: Golden Gate Transit)
	No pass-ups on San Francisco Express Routes		Need Data

Measure A Goal	Objective	Three Year Performance Goal	Actual Performance
Promotes environmental justice based on demographics analysis.	G. Operate the system in a manner that will maximize mobility for the County's most vulnerable citizens.	Maintain a balance between routes designed for ridership and routes designed for coverage. 85% of all residents in Marin County within 1/4 mile of a transit route. 85% of all census block groups exceeding the County median of senior population served by transit (within 1/4 mile). 85% of all census block groups exceeding the County median of disabled persons served by transit (within 1/4 mile) 90% of all census block groups exceeding the County median of zero car households served by transit (within 1/4 mile). 90% of all census block groups below the County median income level served by transit (within 1/4 mile). Meets or exceeds Title IV compliance requirements All Board meetings noticed in English and Spanish All public information available in English and Spanish All meetings to be held in accessible locations that are served by transit (within 1/4 mile). Continued work with Citizens Advisory Committee. Establish School Services Advisory Committee to coordinate bell times and services. 75% of respondents rate the services "good" or "excellent" in surveys taken at least every five years.	50% rev hours are ridership based. 50% are coverage based. 94% of Marin residents within 1/4 mile of transit (Source: US Census 2000) 94 % of block groups exceeding the median senior population are served by transit (Source: US Census 2000) 94% of block groups exceeding the County median # of disabled persons are served by transit (Source: US Census 2000). 97% of block groups w/ over the median # of zero-car households are within 1/4 mile of transit. (Source: US Census 2000). 93% of block groups below the County median income are served by transit (Source: US Census 2000). Meets goal. Meets goal.
	H. Operate the system in manner that encourages public involvement and participation.		
	I. Ensure high levels of customer satisfaction with services performed by the agency.		Meets goal. None. 55% of respondents (Source: MCTD/Nelson Nygaard passenger survey 2005)
	J. Develop a capital plan strategy which 1) seeks to minimize air quality issues and 2) seeks to maximize transit ridership by providing quality amenities and vehicles.	Plan developed	
Attracts outside funding sources including federal, state and toll revenue	K. Maximize outside funding.	Outside grants increase at greater than CPI.	

