SAN JOAQUIN RTD

# 2009 Comprehensive Operational Analysis

## *Survey Analysis*



August 2009

**Draft**

TMD

## Survey Analysis

### Background

RTD conducted a passenger survey for their fixed-route service (Local, Metro Express and Interregional) as part of the Comprehensive Operational Analysis to determine the demographics of its ridership as well as to assess the current passengers' transit needs. Every passenger was asked to complete the survey, which was available in English and Spanish. Passengers were asked to indicate certain demographic characteristics as well as their origins and destinations, and other travel-related information. The information collected on the on-board survey was compared with RTD's in-person survey administered in October 2008.

To review travel habits for non-RTD customers, RTD issued an online survey in May 2009. The purpose of the survey was to elicit responses from employees of businesses, the City of Stockton and San Joaquin County with the goal of determining the primary transportation mode used for work, school, recreation/shopping, and medical trips. The results of the survey, when combined with the onboard survey will form the basis of the Transit Gap Study. The study will provide recommendations for areas in the City of Stockton currently under or un-served by transit. The Transit Gap Study will also include future under or un-served areas using land use and demographic data provided by the County.

### On-board Rider Survey

The questionnaires were designed so that they could be self-administered by the respondents. Respondents who agreed to participate in the survey were given a clipboard with the questionnaire and a pencil. The interviewer explained the survey and offered to read it to respondents (so that less literate respondents were not excluded or did not self-exclude). The interviewer checked with respondents periodically to answer questions and to ensure the quality of the survey process. Completed questionnaires were edited on-board by the interviewers, with additional editing performed by experienced supervisors at TMD's main office.

The surveys were analyzed separately based upon service type. The results show that Local and Metro Express surveys and Interregional services had a different customer demographic.

*Local and Metro Express*

Based upon the analysis of the survey responses, the most common responses were submitted by female English-speaking, Black/African American persons between the ages of 31-59, with an average income of less than $15,000. These results are in line with the hand out survey completed by RTD in October 2008. The typical passenger rides RTD at least seven trips per week and uses the system to get to school primarily.  Most customers have do not have regular access to a car and walk an average of 10 minutes to the bus stop.

Ethnic Origin

Over 33 percent of all respondents were Black/African American, with an additional 24 percent White/Caucasian.  The remainder of the respondents indicated that they were Hispanic/Latino (26 percent), Asian/Pacific Islander (7 percent), or “Other” (2 percent).

| Ethnic Origin | Total |
|---|---|
| Black/African American | 33% |
| Hispanic/Latino | 26% |
| White/Caucasian | 24% |
| Asian | 6% |
| Other | 2% |
| Pacific Islander | 1% |
| American Indian | 1% |

Gender

| Gender | Total |
|---|---|
| Female | 60% |
| Male | 40% |

RTD’s local and Metro Express ridership is split 60/40 between females and males.

Age

Over 72 percent of the respondents were between the ages of 18-59, while 22 percent were under 17.  Only five percent of respondents were over 65 years old, despite the fact that 16 percent of the region’s population is of the same age.

| Age | Total |
|---|---|
| Under 17 | 22% |
| 18-30 | 35% |
| 31-59 | 37% |
| 60 + | 5% |

Income

| Total Annual Household Income | Total |
|---|---|
| Less than $15,000 | 61% |
| $15,000-$35,000 | 23% |
| $35,000-$50,000 | 8% |
| $50,000-$100,000 | 6% |
| $100,000 + | 2% |

The typical Local and Metro Express RTD customer has a low income.  Over 84 percent of customers earn less than $35,000, while almost two thirds of the respondents (61 percent) make less than $15,000.  Eight percent of all respondents earn greater than $50,000 per year.  This is an indication that Local and Metro Express RTD customers are dependent upon the service for their transportation needs.

## Trip Purpose

| Trip Purpose | Total |
|---|---|
| School | 37% |
| Work | 22% |
| Medical | 8% |
| Shopping | 8% |
| Errands | 8% |
| Other | 7% |
| Visit family/friends | 6% |
| Recreation | 4% |

Nearly 37 percent of the respondents indicated that school was their main trip purpose. School trips were followed by work trips (22 percent), Medical, Shopping, Visiting and Errand trips followed for between 6-8 percent of respondents. "Other" trips comprised over seven percent of all responses.

Other than the 300 Routes, which are primarily designed to provide public transportation to schools, Routes 66 and 81 carried the largest number of students.

## Frequency of Use

The typical Local and Metro Express RTD customer rides frequently. Nearly 74 percent of respondents said they take at least four roundtrips per week. Only six percent of riders use the bus for one or fewer roundtrips per week. Of the customers that rode seven or more roundtrips per week, the 31-day pass was the predominant method of payment (over 55 percent of the time). For those that rode four or fewer trips per week, cash was the most common form of payment.

| Ride Frequency (roundtrips) | Total |
|---|---|
| Less than one trip per week | 3% |
| 1 trip per week | 3% |
| 2 trips per week | 9% |
| 3 trips per week | 10% |
| 4 trips per week | 8% |
| 5 trips per week | 23% |
| 6 trips per week | 7% |
| 7+ trips per week | 36% |

## Access to a Car

| Access to a Car | Total |
|---|---|
| Always | 8% |
| Sometimes | 34% |
| Occasionally | 24% |
| Never | 34% |

Approximately 66 percent of Local and Metro Express RTD customers have access to a car at least occasionally. This information corroborates the income and ride frequency data presented earlier.

Bus Stop Access

The typical Local and Metro Express RTD customer walks between 5-10 minutes to a bus stop. For those that transfer, over 50 percent do so from Route 40.

| Bus Stop Access | Total |
|---|---|
| Walked | 56% |
| Transferred from RTD | 28% |
| Got a ride | 6% |
| Transferred from Other System | 3% |
| Bike | 3% |
| Other | 2% |
| Drove alone and parked | 1% |

Fare Payment

Respondents were generally split between adults travelling to or from work and students/youths travelling to and from school. These customers make more than one trip daily and use the 31-Day pass as their most frequent form of payment.

| Fare Category | Total |
|---|---|
| Adult | 43% |
| Student/Youth | 43% |
| Elderly/Disabled | 14% |

| Fare Method | Total |
|---|---|
| Single Ride | 30% |
| Day Pass | 18% |
| 10-Ride Pass | 6% |
| 31-Day Pass | 42% |
| Transfer | 5% |

*Onboard Attitudinal Results*

64 percent of bus riders rated the overall quality of bus facilities as “excellent” or “very good” (top two box assessment). Riders’ overall perceptions of the quality of bus facilities was in line with the 2008 survey. The mean quality rating for riders in 2009 was 3.74 (on a five-point scale), which equates to an overall rating between “very good” and “good.”

53 percent of riders feel RTD plans services (on-time performance) very well for the public’s transportation needs. Where as 64 percent said the system was safe.

*Interregional Passenger Survey Analysis*

Interregional passenger surveys were distributed concurrently with surveys performed on local fixed-routes. Surveys were distributed to each passenger as they boarded the bus and were collected at the end of each trip. Similar to local fixed-routes, the goal was to determine the demographics and travel habits of customers using interregional services.

Interregional customers use RTD 5 days per week for one round trip each day. Over 73 percent of all interregional customers who answered the survey have been riding for greater than three years.

Ethnic Origin

Over 46 percent of all interregional customers are White/Caucasian. 21 percent are Hispanic/Latino, with the remaining 33 percent being Black/African American, Asian, Pacific Islander, American Indian or chose not to answer.

| Ethnic Origin | Total |
|---|---|
| White/Caucasian | 46% |
| Hispanic/Latino | 21% |
| Black/African American | 13% |
| Asian | 9% |
| Other | 7% |
| Pacific Islander | 3% |
| American Indian | <1% |

Gender

| Gender | Total |
|---|---|
| Male | 65% |
| Female | 35% |

RTD's interregional ridership is split 65/35 between males and females.

Age

Unlike RTD's local fixed-route customers, interregional customers between 31-59 years of age make up the highest proportion of survey respondents (86 percent). Next, are those over the age of 60 (10%) rounded out by very few 18-30 (4 percent). No respondents were under the age of 17.

| Age | Total |
|---|---|
| Under 17 | 0% |
| 18-30 | 4% |
| 31-59 | 86% |
| 60 + | 10% |

## Income

Interregional customers traditionally have higher incomes than local fixed-route customers. This is the case industry-wide when comparing commuter and local services. Most commuter services also do not carry students, who traditionally do not have a high income. All of these are evident when comparing interregional survey respondents to local-fixed route respondents.

| Total Annual Household Income | Total |
|---|---|
| Less than $15,000 | 4% |
| $15,000-$35,000 | 6% |
| $35,000-$50,000 | 18% |
| $50,000-$100,000 | 47% |
| $100,000 + | 25% |

## Trip Purpose

| Trip Purpose | Total |
|---|---|
| Work | 99% |
| Recreation | 1% |

RTD has designed its interregional service as a commuter based system, carrying customers to and from work during peak periods. Buses are generally timed to follow generally accepted start and end times and are coordinated through employers. As a result, almost all of the respondents chose “work” as their primary trip purpose.

## Frequency of Use

Interregional customers do have a few things in common with RTD local fixed-route customers. One of those is the frequency of use. While the majority of RTD local fixed-route customers use the system for seven or more roundtrips per week, most interregional customers use the system for between four-five roundtrips per week.

| Ride Frequency | Total |
|---|---|
| Less than one trip per week | 0% |
| 1 trip per week | 0% |
| 2 trips per week | 1% |
| 3 trips per week | 2% |
| 4 trips per week | 16% |
| 5 trips per week | 73% |
| 6 trips per week | 1% |
| 7 trips per week | 7% |

## Access to a Car

| Access to a Car | Total |
|---|---|
| Always | 83% |
| Sometimes | 9% |
| Occasionally | 5% |
| Never | 3% |

RTD’s interregional customers have access to a car and use transit for its time and cost savings.

## Bus Stop Access

One area where RTD's interregional customers differ from commuters nationwide is bus stop access. Traditionally, commuters drive to a park and ride and board a commuter bus. Half of RTD's Interregional customers follow the traditional "drive and park" plan, and 34 percent either walked or got a ride to the bus stop. This indicates that bus stops for the interregional routes are easily accessible by either walking or driving.

| Bus Stop Access | Total |
|---|---|
| Transferred from RTD | 8% |
| Transferred from Other System | 5% |
| Walked | 19% |
| Got a ride | 15% |
| Drove alone and parked | 53% |
| Bike | 0% |
| Other | 0% |

## Fare Payment

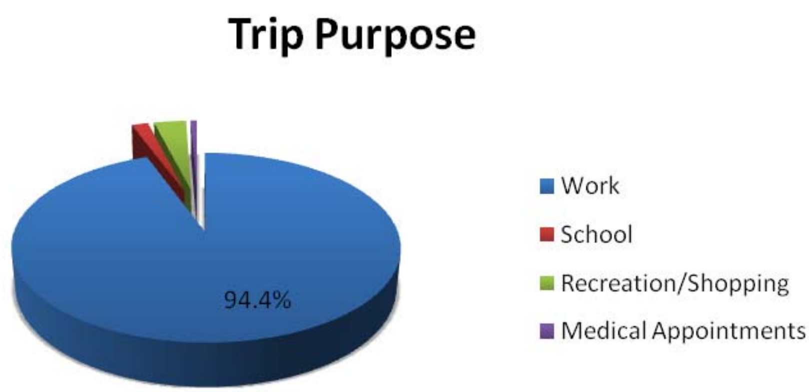
99 percent of all interregional survey respondents paid the full adult fare, with 97 percent using a 31-day pass to pay the fare.

| Fare Category | Total |
|---|---|
| Adult | 99% |
| Elderly/Disabled | 1% |
| Student/Youth | 0% |

| Fare Method | Total |
|---|---|
| Single Ride | 2% |
| Day Pass | 1% |
| 10-Ride Pass | 0% |
| 31-Day Pass | 97% |
| Transfer | 0% |

*Non-user Survey Analysis*

The original goal for the survey was to provide samples for commonly used trips, based upon the population sample it is unsurprising that over 94 percent (of 1,137 total responses) chose "work" as the primary trip purpose. Based upon this survey response, the majority of analysis will be based on these trips. Other trips make up too small of a sample to develop recommendations.




Trip Characteristics

Respondents were requested to provide details on travel habits, such as primary transportation mode and travel distance as well as origin and destination information.

Of the respondents, an overwhelming majority (82 percent) lived in the Stockton metropolitan area, most traveling from the northwest City boundaries. A smaller percentage of respondents travel to work from other surrounding cities with Tracy having the next highest percentage (8 percent). Over 95 percent of all respondents traveled into Stockton from their origin. Of these commuters over 90 percent had to arrive between 7am and 8am daily and left between 4pm and 6pm daily.

| City | % of Respondents |
|---|---|
| Stockton | 82% |
| Tracy | 8% |
| Valley Springs<br>Lodi<br>Elk Grove | 6% |
| Galt Lockforde<br>Ripon Modesto<br>Escalon<br>Lathrop | 4% |

The survey results also show that over 75 percent of respondents travel 20 miles or less to work, with over 30 percent traveling 5-10 miles daily.

Of the respondents, almost all drove in some fashion (carpool – 11 percent, single occupancy 88 percent) to work. Many downtowns are limiting or eliminating parking spaces in favor of new development including live/work spaces. This practice generally drives up the cost of parking which acts as an additional limiting factor to driving to work.

To determine the availability of parking, respondents were requested to answer where and how much parking was near or at their employment location. Over 90 percent of respondents had parking within their building or nearby and over 95 percent of those that had parking paid less than $10 per day, with 70 percent paying nothing to park. Free parking encourages single occupancy vehicle trips and makes it tougher to convert commuters to using transit or carpooling.


Transit Usage

A very small number (2 percent) of respondents used transit for their daily commute. All of the respondents were asked to provide information regarding what would motivate them into taking transit more frequently. Over 38 percent of commuters stated that transit is either not available or takes too much time. The remaining percentage distributed equally amongst the population of commuters that required their cars either for work or the need to drop off or pick up children.

The respondents also provided information about what would make transit a more attractive option for them for their work commutes. The highest number of respondents (33 percent) stated they would be more inclined to use transit if it was further subsidized by their employer or a guaranteed ride home program was provided.

**Observations**

The RTD service area features a large number of residents within each of the different market segments (commuters, seniors, students, etc). Each of these market segments have dramatically different needs, and thus, a "one-size fits all" transit service will not effectively or efficiently serve the population.

Some segments of the population demand an inexpensive and reliable transportation option. Others may demand one that is fast, frequent, and comfortable. Some segments lie somewhere in between.

In an area as dispersed as the San Joaquin Valley, providing fast, frequent, and reliable transportation service for everyone is near impossible and incredibly expensive, and even the provision of great service may not be enough to attract some residents out of their cars. Maximizing resources and focusing on the core of the service area will provide the best response to improved transit.

There was one major difference in the onboard survey and the survey administered by hand at transit facilities in 2008. The hand survey found that 32 percent of riders were new to the system, whereas the onboard survey responses indicated that the overwhelming majority used the system for more than one year. Aside from this difference, the onboard surveys of Local and Metro Express customers followed the results from the 2008 hand survey. This is especially true in terms of demographics, which were discussed earlier.

Based upon the responses, designing successful commuter services beyond what is currently offered with RTD's service is possible. Given the proximity of the majority of commuters to their employment destination, special services can be designed to provide high-speed, frequent transportation. The key will be to market these services to employees around the Stockton Metropolitan area.

There might not be a need in targeting senior ridership. While traditionally seniors use transit frequently, this is not true for RTD. Many Stockton-area seniors live in low-density housing developments, and in out-of-the-way places that are very difficult for transit to serve effectively and efficiently. Seniors make up about 16 percent of the population, but only about five percent of RTD's ridership.

New services will be investigated based upon these survey responses, the Market Assessment, and the review of existing service performance. These new services will be designed in the Preferred Service Plan of the COA to meet the needs of the Transit Gap Study.