# Santa Rosa Paratransit Monitoring Methods

CITY OF
SANTA ROSA

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c o n s u l t i n g   a s s o c i a t e s

# Table of Contents

# Introduction

Nelson\Nygaard was retained by the City of Santa Rosa to conduct a review of ADA paratransit operations.  Specific tasks included:

a. Advise the City concerning better methods to monitor the performance and compliance of its paratransit system, including but not limited to how to count trip denials, improved recording of trip data (e.g., pick up and drop off times, odometer readings, etc.) and how to manage reservation protocols;

b. Advise the City concerning appropriate scheduling software;

c. Evaluate and advise the City concerning ongoing communications with paratransit riders;

d. Attending a total of two meetings on the same days as the Paratransit User Group (PUG) meetings, to the extent possible, of the PUG and convening two private meetings with paratransit riders in order to hear any and all concerns and priorities of the individuals who use the paratransit systems; and

e. Providing written recommendations to the City concerning the above-listed tasks.

These tasks were to be conducted in partial fulfillment of a legal settlement between the City and certain paratransit riders.  Nelson\Nygaard has reviewed current operations of Santa Rosa paratransit and the City's monitoring methods and has developed preliminary recommendations for improvements.  The review has included observations at the facility from which the paratransit system is operated, interviews with operations staff and City oversight staff, review of existing reports, and review of the paratransit services contract between the City and the current contract provider.  In addition, on October 11, 2006, Nelson Nygaard staff attended a meeting of the Paratransit User Group and met privately with members of the group to obtain their opinions and observations about paratransit service.

This memorandum includes a review of ADA paratransit operations in Santa Rosa as of October 2006, a discussion of planned changes, and proposed methods for monitoring and reporting.

# Overview of ADA Paratransit Operations in Santa Rosa

ADA paratransit is operated by MV Transportation under contract to the City of Santa Rosa. A new contract that took effect July 1, 2006 included expanded reporting provisions, and requires implementation of a telephone system that provides access to recordings of conversations between passengers and paratransit staff and that tracks customer wait times.

The new contract also requires the contractor to use scheduling software or another information management system to ensure operational efficiency and data management.

Service operates from 6:00 AM to 8:00 PM weekdays and Saturdays, and from 9:00 AM to 5:00 PM Sundays. Reservations are taken from 8:00 AM to 5:00 PM weekdays and from 10:00 AM to 5:00 PM weekends.[*] Reservations are taken from one to seven days in advance. Service is provided in an area that extends three-quarters of a mile around Santa Rosa CityBus routes. The fare is $2.00 per trip, which can be paid in cash with exact fare, with a pre-paid ticket sold in books of ten, or by check. Riders are not required to pay the fare if their vehicle arrives more than 30 minutes after the scheduled pick-up time.

The remainder of this section describes procedures that were in use as of October 2006. Prior to implementation of Trapeze, planned for January 1, 2007, MV takes reservations, schedules trips, dispatches drivers, and creates performance reports using very basic tools, mostly relying on paper print outs and human judgment.

# Call-taking and Reservations

Three call-taker/dispatchers have recently been supplemented by a driver who has been promoted to dispatcher. All of the staff can take a reservation and respond to radio calls from drivers. The schedule for the three call-taker/dispatchers for a typical weekday is:

|  | 6a | 7a | 8a | 9a | 10a | 11a | 12 | 1p | 2p | 3p | 4p | 5p | 6p | 7p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Early shift |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Middle Shift |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Late Shift |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

There is one person on duty on Saturday (8:00 AM – 6:00 PM) and Sunday (9:00 AM – 6:00 PM). On Tuesdays and Thursdays only, the new dispatcher provides a fourth person on duty from 8:00 AM to 5:00 PM. In addition, the Safety and Training Officer is available to help on the phones beginning at 8:00 AM. Because the staff currently act simultaneously as call-takers and dispatchers, it is not unusual for a reservations call to be interrupted by a conversation with a driver or by some other immediately pressing matter. The same staff also perform clerical functions such as entering driver work hours for payroll purposes. Assuming that the heaviest call volume is in the hour from 8:00 AM to 9:00 AM, the phone staffing does not seem to match the call volume well. Once improved reporting is implemented, the City may wish to review staffing to ensure that it is sufficient to accommodate calling volumes.

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[*] The weekday reservations hours correspond to the pubic office hours of the Transit and Parking Department. ADA regulations specify that, "The entity shall make reservation service available during at least all normal business hours of the entity's administrative offices, as well as during times, comparable to normal business hours, on a day when the entity's offices are not open before a service day." In the interpretative appendix to the regulations, it is clarified that, in this case, "comparable" times are the same times as on weekdays. It is permissible to take reservations using "mechanical means," e.g. voice mail.

The following description of the reservations process is based on an explanation by one of the call-taker/dispatchers. In course of a site visit (from 11:00 AM to 3:00 PM on a Wednesday), the staff people interviewed did not receive any reservations calls. It is possible that reservations calls were routed to other staff, but it was clear that very few reservations calls were received during this time period. This type of calling pattern often indicates capacity constraints. Improved reporting should enable the City to determine if capacity constraints do exist in the form of difficulty obtaining a reservation after the early morning hours.

The rider is asked for an appointment time. Using a simple database program, the appointment time is entered and a pick-up time is quoted, typically one hour before the appointment time, but sometimes earlier depending on the length of the trip. The address of the pick-up and drop-off locations are also entered. A common-location file is available to speed up the process for entering addresses. Most trips are reserved one full week ahead between 8:00 AM and 10:30 AM. Some calls are received between 4:00 PM and 5:00 PM, typically to reserve trips for the next day. The database system does not provide any method for tracking how many reservations have been taken for each time period, information that could be used to even out schedules.

Staff report that they do not deny any valid trip requests, but do record a small number of "adversarial denials," consisting of cases in which a rider refused an offered time that was within one hour of the time requested. For example, in July 2006 there were 56 adversarial denials. Since the number of reservations for any particular time period is not known with precision, any denials, if they did occur, would be based on staff's general knowledge of operations, and not on any determination made by reservations software by comparing trip reservations to capacity. As a result it is likely that any denials would occur informally, before information is even entered into the database.

# Scheduling

Sometime during the afternoon, the database program is used to print a list of all reservations for the next day, in order of pick-up time. This list is called the Dispatch Log. The late-shift call-taker/dispatcher uses this print out to assign trips to drivers. She simply writes  driver/run numbers in a box provided for this purpose on the row for each trip, beginning with the first trip, scanning forward to find the next trip that can be carried on each vehicle, until all trips have been assigned. At some point she also assigns a lunch for each driver/run. The driver/run numbers are then entered into the database and manifests are printed for each run.

The process of scheduling also establishes the driver work assignments for the next day. Driver start and end times vary from day to day according to the trips that have been reserved. Staff indicated that the number of drivers performing ADA service typically varies between eight and ten, and rarely as high as 11. However, all of the days examined had nine drivers working.

The manifests do not show the sequence of pick-ups and drop-offs.  Each trip is listed in one row, with the pick-up time and location on the left and the drop-off time and location on the right.  As a result, it is up to each driver to figure out an efficient order in which to make the pick-ups and drop-offs.   For example, he/she has to decide whether to pick-up the second passenger before or after dropping off the first passenger, and then in which order to drop off these passengers.  Often this will be obvious, but often it is not.

# Dispatching

Staff in the office use the Dispatch Log (showing all trips for the day in sequence) as guide to respond to driver calls.  Each driver also carries a copy of the Dispatch Log to facilitate re-assigning trips when necessary.  Drivers only call in when they need help to resolve a problem.  As a result, staff have no simple way of knowing each driver's location or status in completing his or her manifest.  All office staff have a hand-held Nextel unit, so they are able to answer driver calls.  The communicators can only call one driver at a time.

Since there are only nine ADA vehicles operating on a typical day, this system works despite its obvious limitations.  However, since the computer is not used to record reassignments, staff could be unaware that another person has reassigned a trip.  Finding the right driver to which to reassign a trip is complicated because of the difficulty of determine where each driver is on his/her manifest, the fact that the manifests themselves are not readily accessible to office staff, and the impossibility of broadcasting a message to all drivers.

# Reporting

Reports of compliance-related data are based on manual processes.   For example, adversarial denials are noted in a log as they occur.   Late pick-ups are recorded by examining the manifests that the drivers fill out by hand on their runs.   There is no routine staff monitoring of the drivers that would alert staff to inaccuracy in the drivers' reported arrival times.  Drop-off times are noted in the manifests for the drivers' information only and are not used for measuring on-time performance.  The main check on driver reporting is the policy that passengers pay no fare if the vehicle arrives more than 30 minutes late.  As long as passengers are alert to this and decline to pay the fare, then late trips have to be noted.

By contract a trip is considered late if the vehicle arrives more than 15 minutes after the scheduled pick-up time.  In practice, only the 30-minute window promised to customers is observed.  As long as the vehicle arrives within the 30-minute window, the recorded arrival time is likely to be only approximate and is not used for reporting.  The contract calls for 97% of trips to be picked up within 15 minutes after the scheduled pick-up time.  This is not a realistic target.

There is presently no reporting related to telephone access.  However, the site manager has access to digital recordings of all telephone conversations.  The recordings can only be

played on the site manager's work station.  They can also be exported to .wav files that can be e-mailed or recorded on CDs and played on any computer with commonly available software.

## Complaints

The contract requires the contractor to keep all paratransit vehicles supplied with Customer Comment Cards (provided by City) at all times and to submit all completed cards to City on a daily basis or report accurately the information contained on each card. The contractor is also required to ensure that the City's Customer Comment Line is always prominently displayed in each paratransit vehicle.  On some vehicles the phone number is displayed in type about one inch high, but on at least one vehicle the phone number is posted in type that can only be read at close range.  The comment cards are located at the front of the bus.  As a result, many riders would need to remember to take a card as they board or alight, or else ask for the driver's help.   Two vehicles were observed: one them had no comment cards available.  Having customers turn the cards in to the contractor could discourage customers from using them, since the comments are seen by the driver.

## Planned Changes

MV is planning to train its Santa Rosa staff on use of Trapeze PASS software in early December, and to begin using the software in daily operations beginning in January.  The software will run on a remote server.  Local staff in Santa Rosa will access it via an Internet connection.  According to MV staff involved in the implementation, the software will have the same capabilities as stand-alone versions of Trapeze PASS.  Full implementation of the software will involve major changes in the way that staff perform their jobs:

- Reservations will be taken by entering requested times into Trapeze, which will look for available times that can be quoted to riders.  If a phone script is followed, this should enable an automatic count of denials.

- Before creating driver manifests, the assignment of trips to driver runs will be optimized by the software.

- Since Trapeze requires a set of pre-defined driver runs onto which trips can be scheduled, it will be necessary to adjust these pre-defined runs as part of the optimization process.  Otherwise, the efficiency of the current flexible start and end times will be lost.

- Manifests will show the sequence of pick-ups and drop offs.  Each row on the manifest will show one pick-up or one drop-off in planned time sequence.

- One staff person will be dedicated to dispatching.  Drivers will call in more frequently to advise the dispatcher of their progress.  With Trapeze, the dispatcher can enter the drivers' reported pick-up and drop-off times as they occur.   The

program will look ahead and update estimated times for remaining pick-ups and drop-offs so the dispatcher can determine if some trips should be reassigned.

● If drivers follow the assigned sequence and call in frequently, the dispatcher should be able to reassign trips based on reasonably accurate knowledge of each driver's situation.

● After the completion of each day, the times as entered by the dispatcher and times written on manifests by drivers will be reconciled and used for automatic report generation indicating on-time performance.

● When a driver calls in to obtain approval for a no-show, the no-show can be immediately recorded in the software for later reporting and tracking.

● A variety of standardized reports will be created that can be run by local staff at any time. Customized reports are also possible, although these tend to take specialized skills.

MV is also in the process of completing implementation of the reporting capability of the recently installed telephone system. Like Trapeze, this reporting function will run on a remote server in Iowa but can be accessed by staff in Santa Rosa. According to MV staff, over 70 reports are available providing information about numbers of calls, time until calls are answered by the automatic call distributor, time spent by each call in the queue waiting for an agent to answer, total time for each call, and "agent hold time" (apparently time the caller spends having been put on hold by an agent). The system can be configured to automatically e-mail reports daily, weekly, or monthly. A wall monitor has been installed at the Santa Rosa site showing calls in the queue and longest wait time.

# Proposed Methods for Monitoring and Reporting

Full implementation of Trapeze and the new telephone system will bring opportunities for greatly improved monitoring and reporting. Recommendations for making the best use of these opportunities are presented in this section.

## Denials

Trapeze determines the status of every trip request that is entered into it. For example, trips may be categorized as completed, cancelled, no-show, or denied. However, if a request is never entered into the program, then it cannot be reported. For this reason, accurate reporting requires that every request for a trip be entered immediately, before there is any discussion about availability of times. Some customers might be used to asking first if there is space available before stating a desired time. If this is the case, it should be explained to them that the paratransit system is trying to accommodate all of the trips, so it's important to know when and where everyone wants to travel. Each month, a

report should be produced showing the number of requests in each hour of the day that could not be accommodated, and the number of trips that were scheduled more than an hour before or after the time requested, regardless of whether the customer accepted the offered time.

A written phone script or outline should be created to establish uniformity and accountability and City staff should periodically review phone system recordings to determine whether the script or outline is being followed.  A typical phone outline might be similar to the following:

- Greet passenger:  Thank you for calling Santa Rosa Paratransit. This is (first name).

- Obtain passenger ID or name.

- Ask: How may I help you?  (For items other than a reservation, a separate outline will be needed.)

- Determine day of travel.

- Determine pick-up location and whether that is the customer's home.

- Determine drop-off location.

- Determine if the customer needs to be at the destination at a specific time (appointment time).

- Determine desired pick-up time based on appointment time or desired pick-up time.

- Will the customer be traveling with one or more others?

- Will the passenger be using any mobility devices?

- Look for available times and negotiate if necessary.

- Save the scheduled time or identify as not accepted.

- Repeat the process above for subsequent trips, e.g. return home.

As a matter of policy, a customer who is returning home from some activity and cannot leave before a specific time should be able to request a trip at that time without concern that they will be offered an earlier time.  In this case, anything other than a trip sometime within the hour after the passenger can leave should be considered a denial.

A similar policy is needed to determine whether a denial has occurred in the case of a trip requested on the basis of an appointment time.  Santa Rosa Paratransit does not presently quote scheduled drop-off times.  However, with Trapeze call-takers will be able to determine whether a given pick-up time would result in the passenger arriving before the desired appointment time, at least given the other trips that are already scheduled on that vehicle.  A reservation that is likely to drop off the passenger after their desired appointment time should be considered a denial.

Trapeze reports should be created that give counts of these denial types for each hour of the day. This hourly summary will show whether denials tend to happen at certain times of day. The report should also list each denial and show the addresses of the requested pick-up and drop-off. This information will help determine whether there is a pattern to any denials that occur. The same information should also be provided about so-called adversarial denials (also called rider refusals) when a rider declines an offered reservation that would not have been counted as a denial. These refusals do not necessarily constitute a prohibited capacity constraint. However, a large number of them at certain times or in certain areas would indicate that the system is having difficulty meeting demand at those times or in those areas.

To determine how accurately denials are being recorded, it will be important to encourage riders to call the City's hotline any time they feel they have been denied a legitimate trip request. This will enable to the City to follow up and determine whether a denial did occur and whether or not it is properly recorded in the Trapeze database.

The contract currently specifies liquidated damages of up to $600 for each denial and $1,000 for each unreported denial. These large amounts strongly encourage provider staff to deal with possible denials through informal means. Reducing this penalty would encourage a more formalized approach that would provide better information about service limitations that can be used to plan for sufficient capacity.

# Telephone Access

Ideally measures of telephone access would be tabulated separately for reservations calls and calls about service issues. Presently there are no separate telephone numbers or staff dedicated to receiving these different types of calls. As a result it may not be possible to measure telephone access separately. The service provider contract requires sufficient staffing to ensure that the average incoming call wait time is 1 minute or less for calls relating to service issues and 2 minutes or less for calls from individuals wishing to make a trip reservation.

Monthly reports should show:

- Average number of calls received in each hour of the day (separate reports for weekdays, Saturdays, and Sundays).

- Percent of calls abandoned in each hour of the day (separate reports for weekdays, Saturdays, and Sundays).

- Average initial hold time (sometimes called wait time or time in queue) for each hour of the day (separate reports for weekdays, Saturdays, and Sundays).

- Percentage of calls with initial hold times less than one minute, greater than one minute but less than two minutes, and so forth up to the percentage of calls with initial hold times greater than five minutes.

- Average total call length including initial hold time, talk time, and time on hold during a call for each hour of the day (separate reports for weekdays, Saturdays, and Sundays).

- Percentage of calls with total call length less than one minute, greater than one minute but less than two minutes, and so forth up to the percentage of calls with total call length greater than ten minutes.

The new telephone system creates digital recordings of all telephone calls. City staff should have access to these recordings. At a minimum, there should provision for city staff to listen to them at the provider's site using headphones for privacy in a location that does not interfere with normal operations. This would enable City staff to periodically listed to a random selection of calls for purposes of verifying adherence to phone procedures.

# On-time Performance

Trapeze will permit more detailed reporting of on-time performance. However, the accuracy of the reported data will depend on interactions between drivers and dispatchers in the office. As long as drivers call in only infrequently and are free to choose their own sequence of pick-ups and drop-offs, recorded times will have very limited meaning. Recorded arrival and drop-off times will become more meaningful only if:

- There is frequent communication between drivers and dispatch; and

- Dispatchers routinely enter actual arrival and drop-off times into the system; and

- Dispatchers actively work with drivers to monitor progress on completing manifests and to resolve difficulties; and

- Times recorded by the drivers and times entered into Trapeze are reconciled in a timely fashion.

With these procedures it should be possible to report on-time performance based on 100% of all trips. Monthly reports should show the number and percentage of <u>vehicle arrivals at pick-up locations</u> using at least the following categories:

- More than 5 minutes early

- 1 – 5 minutes early

- 0 – 15 minutes after the scheduled time

- 16 – 30 minutes after the scheduled time

- 31 – 45 minutes after the scheduled time

- 46 – 60 minutes after the scheduled time

- More than 60 minutes after the scheduled time

All completed trips and no-shows should be included in this report.

Under the existing contact language, the contractor is liable for liquidated damages if more than 3% of trips are picked up more than 15 minutes after the scheduled time.  If "picked up" means passenger boarding, then literal interpretation of this provision would penalize the provider for passenger delays in addition to late vehicle arrivals.  Even if the provision is understood to refer to vehicle arrival time, it is an extremely difficult target to meet and discourages accurate reporting.  The City should consider adopting a less stringent standard with an explicit understanding that it will be rigidly enforced with routine application of liquidated damages in the future.

The contractor should also provide a monthly report of ride times.  If possible, ride time should be calculated by subtracting the passenger boarding time from the passenger drop-off time.   Otherwise, the elapsed time from vehicle arrival at the pick-up location to drop-off time should be calculated.   Note that passenger boarding times may be substantially later than vehicle arrival times.   Ride times should be reported using at least the following categories:

- 1 – 15 minutes
- 16 – 30 minutes
- 31 – 45 minutes
- 46 – 60 minutes
- 61 – 75 minutes
- 76 – 90 minutes
- More than 90 minutes

A sample of trips that take more than 60 minutes should be reviewed to determine how long comparable trips would have taken if made using Santa Rosa CityBus.  The calculation of CityBus travel times should include time walking to a bus stop, typical time spent waiting for a bus, time riding on one or more buses, transfer time if any, and time walking from a bus stop to the destination.

# Customer Communications

Customers should be encouraged to report incidents that should be reflected in the contractor's performance reports.  In particular, customers should be encouraged to report any trip denials, especially late pick-ups, and especially long telephone hold times.  If customers provide specifics regarding date, time, and (where appropriate) location and/or vehicle number, then City staff should be able to verify that the incident in question is properly reflected in the contractor's data and reports.  In the case of denials, the provider should be able to provide a print-out of the outcome of the reservations phone call as recorded in Trapeze.  If the trip is listed as anything other than a denial, or is not in the system at all, then the provider should be required to provide telephone recordings for the

period of time in question. City staff can then determine if a denial should be been recorded.

The process of filing comments should be as easy as possible, and should not require interaction with provider staff. The comment phone number should be posted inside every vehicle in numbers <u>clearly visible</u> from the back of the vehicle.[*] Comment cards should always be available in every vehicle and should be placed where customers can reach them without assistance from driver. The cards should be pre-addressed and postage-paid for mailing to the City, and customers should be encouraged to send them to the City directly. Operating a vehicle without this signage or a supply of comments cards should be considered a contract violation.

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[*] ADA accessibility guidelines do not appear to provide specific guidance about the size of letters. Factors such as line thickness and proportions are as important as letter height. If the City has a practice it follows for important signage on its fixed-route buses, that may be applicable to this case as well.