Billings MET Transit

Paratransit Technology Review

by

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DISCLAIMER

The opinions and views in this document are that of the author only, and do not necessarily represent those of the staff and management of the City of Billings or Billings MET Transit.

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EXECUTIVE SUMMARY

Billings MET Transit contracted with the Western Transportation Institute, located at Montana State University-Bozeman (WTI/MSU), to assist in an analysis of the technology currently used in MET Transit's paratransit operations, MET Specialized Transit (MST).

Billings MST currently utilizes Intellitrans software to schedule rides for paratransit clients and to create reports to track the system. Unfortunately, this software is no longer supported. The Western Transportation Institute reviewed documents, talked to transportation providers, and selected three vendors to make presentations to MET Transit. The software vendors that were selected for presentations were: RouteMatch, StrataGen and Trapeze.

Staff from the Western Transportation Institute participated in the demonstrations, and inquired about the technical aspects of the software, such as routing algorithms utilized, and other aspects of the software that might affect its ability to provide a feasible solution to MST.

In addition to the software analysis, MST also asked WTI to review the benefits of adding automatic vehicle location (AVL) and Mobile Data Communications (MDC) or Mobile Data Terminals (MDT). To review the benefits of these additional technologies, the Western Transportation Institute performed a literature review and incorporated those findings into this report.

The purpose of this project was not to select a specific vendor to supply software or AVL/MDT technology, but to provide general recommendations to MET Transit. WTI has compiled general cost information, based on specification supplied to the vendors by WTI. Further, WTI has listed in this report specific references for each vendor, and encourages MET Transit to call these references, using the questions developed by WTI (Appendix B).

It is the recommendation of the author that MET Transit pursue acquiring new computer-aided dispatching and scheduling software. This recommendation is based on the following factors: MST's current software is no longer supported, and the software's automated scheduling function has never performed adequately. In addition, the number of ride requests has increased to a point where the current software is no longer able to efficiently process the requests.

Further, new software could reduce the number of vehicles in-service by as much as ten percent, and incorporating AVL and MDC technology could increase the number of shared rides, further increasing savings (1). This increase in efficiency would allow MST to provide more rides for the same cost. This fact is important, as there is an increasing demand for MST's services, and annexation of new land into the city leads to an increased service area for MST. These technologies should also improve on-time performance, leading to increased customer satisfaction.

The Western Transportation Institute looks forward to its partnership with MET Transit, and hopes to be involved in the process of selecting software and AVL/MDT vendors, implementation of the new technologies, and an evaluation of the new system.

ORGANIZATIONAL REVIEW

Billings MET Special Transit (MST) is a paratransit service that operates within the Billings City limits. Service is available between the hours of 6:30 a.m. and 6:00 p.m. during the weekdays, and between 9:00 a.m. and 5:30 p.m. on Saturdays. The service is offered to persons who have been determined as ADA Paratransit eligible.

A typical day actually starts the night before with printing the manifest. The manifest contains the essential information needed by the paratransit drivers, such as pickup times, drop off times, the order of pickup and drop offs, and any special notes that assist the driver. MST averages 250 to 300 rides on a typical day. Approximately half of these rides are subscription rides, meaning the same rides occur at the same time each day. Currently, these rides are all assigned to a specific route. MST has 15 paratransit vehicles at their disposal. Typically, half of these are out at any particular time, and on busy days, as many as 12 vehicles may be in service. The number of vehicles in service is a function of: the number of ride requests, the time of day, and the geographic location of origins and destinations.

In order to handle ride requests, MST has two dispatchers available throughout the week between the hours of 7:00 a.m. and 5:00 p.m. and a third person that can dispatch as needed. In order to schedule a ride, an individual must call in a ride request at least 24 hours in advance. The individual cannot schedule a ride more than two weeks in advance. Same day ride requests are highly discouraged, and only scheduled if time permits.

Once the drivers have started their routes, they are in constant radio communication with the dispatchers. Typically, there is higher radio communication during the afternoon, when "will calls" are returning. When a rider scheduled as a "will call" phones in to request the return trip, there is a process of locating the nearest vehicle that has the capacity to handle the requested ride then giving the driver the pickup information. This same process would be followed if for some reason a vehicle couldn't handle the rides assigned to its route.

At the end of each day, the next day's rides must be scheduled or assigned to a vehicle. This is a complicated process because the scheduling is currently done by the dispatcher, with no support from the software. The dispatcher needs to know where the vehicles are, the current load of the vehicle, and whether the vehicle can handle dropping off the passengers by the required time. This process is supposed to be handled by the current software. However, the software cannot fulfill many of the requested requirements. In addition to the faults in the software, the software company has been purchased by other organizations several times, resulting in higher maintenance fees and very limited support.

MST recently learned that their current software would no longer be supported, and contacted the Western Transportation Institute to assist in identifying other computer aided-scheduling and dispatching software, as well as evaluating the usefulness of automatic vehicle location (AVL) and mobile data communication/terminal (MDC/MDT) technologies.

TECHNOLOGIES

This project focused on analyzing three primary technologies: computer-assisted scheduling and dispatching software (CASD), automatic vehicle location (AVL), and mobile data communications (MDC) technologies.

Technology Overview

Advances in technology along with Federal and State transportation initiatives in the United States over the last decade have provided an impetus for paratransit operators to invest in technological upgrades such as computer-assisted dispatching, automatic vehicle location and advanced communication technologies. Computer-assisted scheduling and dispatching (CASD) software has the potential to improve performance in a number of ways, including increased vehicle load ratios, interagency connections, interactive voice driven reservation systems and dramatically streamlined billing operations (2).

While Computer-assisted scheduling and dispatching software on its own has the potential to improve the efficiency of paratransit operations, many transportation providers are also adding AVL and MDC technologies. The now common use of global position satellite (GPS) technology has further increased the use of AVL/MDC technologies (3). The AVL/MDC technologies interface with CASD to provide a powerful tool to increase the efficiency of a transportation provider.

How to Select Appropriate Technologies

In addition to computer-assisted scheduling and dispatching software, AVL and MDT technologies, there are a host of other technologies such as smart cards, geographic information systems (GIS) and maintenance software. The best way to select which technologies are relevant is by reviewing the needs of the transit agency. Table 1 reviews technologies (applications) and how they relate to a transportation provider's needs.

Table 1: Transportation Provider's Needs vs. Technologies

NEEDS	APPLICATIONS														
	Accounting Software	Automatic Passenger Counters	Automatic Vehicle Location Systems (AVL)	Communications	Customized Spreadsheets and Databases	Demand-Responsive Transit Software - Automated	Demand-Responsive Transit Software – Computer Assisted	Electronic Payment Systems	Geographic Information Systems (GIS)	Internet website	Maintenance Software	Silent Alarm System	Mobil Data Communications / Terminal	Palmtop Electronic Manifest Device	Personnel Management Software
More Accurate, Easier Reporting and Record Keeping	X				X									X	X
More Efficient Service Coordination		X	X	X	X	X	X		X				X		
Safer, More Accurate Cash Handling					X								X	X	
Improved Operations, Staff Performance, and Productivity			X		X	X	X		X				X	X	
More Effective Maintenance Tracking					X						X		X		
Clearer Communication			X	X									X	X	
More Effective Dispatching			X	X	X	X	X				X			X	
Faster, More Efficient Trip Request Processing						X	X		X	X					
Improved Scheduling Productivity			X		X	X	X		X				X		
Improved Service Quality			X		X	X	X		X				X		
Greater Safety			X		X	X	X						X		
More Accessible, More Useful Customer Information			X		X	X	X		X	X					

Source: Technology In Rural Transit: Linking People With Their Community (4).

Software

Computer-assisted scheduling and dispatching (CASD) software is used to assign demand-responsive transit customers to vehicles. The software makes recommendations, in either real-time or batch processing mode, on which vehicle run to place a requested trip. The software may use Geographic Information Systems to map source and destination address for making recommendations (3).

Because it is difficult for a human mind to keep track of more than about three vehicles at a time, the CASD software is valuable in providing an initial solution. The dispatcher can then review the manifests (schedule) and make any changes necessary. CASD can be a powerful tool for increasing a transportation provider's efficiency.

In Santa Clara County, California, a paratransit operator, OUTREACH, utilized CASD software and was able to reduce its number of vehicles in service from 200 to 130. Using CASD software, the Winston-Salem Transit Authority was able to reduce their operating cost per vehicle-mile 8.5 % and their operating cost per passenger 2.4% (1).

By utilizing CASD software, MET Transit should be able to increase its efficiency, allowing more clients to be served for the same operational budget. When tied to other technologies, such as automatic vehicle location (AVL) and mobile data communications (MDC), MET Transit should be able to realize a measurable increase in efficiency.

Other Technologies

While computer-assisted scheduling and dispatching software is a powerful tool alone, utilizing it in conjunction automatic vehicle location and mobile data communications expands the power of the software.

Automatic vehicle location (AVL) technologies measure the real-time position of vehicles using onboard computers and a positioning system (such as a global positioning system) and relay this information to a central location (such as the dispatching office). With an AVL system, the dispatcher, or CASD software, knows the exact position of each paratransit vehicle and can use that information to assign a ride (such as a "will call" or same day request) to the nearest vehicle.

When changes are made to the schedule, or ride requests are processed, agencies typically use a radio to notify drivers of the change. However, many agencies are now using mobile data communications to relay this information between the drivers and the dispatching center. Mobile data communications (MDC) are accomplished by providing a link between the dispatch center and the paratransit vehicle, equipped with a mobile data terminal (MDT).

Mobile data terminals are small computer terminals in the vehicle that allows a driver to receive and send text and numerical data by radio signal. This communication system, when tied into an AVL and CASD software package allows the dispatcher to make changes to schedules and relay those changes without making a radio call. Further, by monitoring the progress of the schedules, the CASD/AVL/MDC system can alert the dispatcher if any of the paratransit vehicles are falling behind schedule, and can provide recommendations for shifting rides to other vehicles.

While each of the technologies, CASD, AVL and MDC, provide a unique advantage, the true power of the technologies are most effective when they are combined. It is recommended that if MET Transit pursues new technologies that it should invest in all three of the above noted systems.

Vendor Review

After a literature review and discussing technologies with three transportation providers, WTI arranged for three vendors (RouteMatch, StrataGen and Trapeze) to make sales presentations to MET Transit. Following is a brief overview of each provider. In addition to this overview, vendors were asked to supply answers to specific questions about their systems. These answers are found in Appendix A.

RouteMatch

RouteMatch is based in Atlanta, GA and has an experienced management staff. RouteMatch has segmented its software, so that transportation providers can purchase only the level of technology that they need. Based on information from its website, RouteMatch claims a 25-vechicle agency would save between $79,600 to $146,000 per year using its software (5). RouteMatch typically works with transportation providers that are of a similar size to Billings MET Transit. One item to note is that RouteMatch was the first and only company that provided the answers to the vendor questions on time. RouteMatch also noted in its responses (Appendix A) that upgrades between versions are included, as long as the maintenance fee is paid.

StrataGen

StrataGen, based in Kirkland, Washington was founded on academic research (6). StrataGen notes that Valley Transit of Walla Walla, Washington saved over $40,000 per year using its technology. StrataGen focuses on a wide range of customers, from providers smaller than Billings MET Transit, to the New York Paratransit System, providing over 10,000 rides per day. StrataGen will provide support for the past two versions of its software, based on their current plan. This means that MET Transit would have to purchase new software every nine years.

Trapeze

Trapeze is perhaps the best-known software provider, having been in the business for over 10 years (7). Trapeze currently has offices in the United States, Canada, Denmark and the United Kingdom. Trapeze works with a wide-range of transportation providers, from systems smaller that MET Transit, to systems that are significantly larger. Trapeze software's website provides descriptions of how systems utilized their software, but did not quantify any of the savings in dollar terms. Similar to RouteMatch, Trapeze provides all upgrades, including new versions, as long as the maintenance fee is paid.

Technology Cost Analysis

The Western Transportation Institute contacted each of the vendors that made a presentation to MET Transit and asked for data on the cost of their systems. Their responses to the questions are listed in Appendix A. The vendors were instructed that it was likely that MET Transit would use a Request for Proposals to ultimately secure the technologies. **Therefore, the costs used for Table 2 should be considered "estimates".** For this comparison, in determining the annualized cost over a seven-year period, no inflation is assumed. See Appendix C for the calculations used for Table 2.

Table 2: Technology Cost Comparison (Estimated)

	RouteMatch	StrataGen	Trapeze
Initial Cost- basic software	$43,975	$50,000	$50-$60,000
Initial Cost-AVL/MDC software	$58,975	$100,000	$95-$115,000
AVL – Per vehicle	$600-800	n/a	n/a
MDC – Per vehicle	$1,100-1,500	n/a	n/a
AVL/MDC combo. per vehicle	$1,500-3,500	$5,000	$5,000
Annual Fee-basic software	$5,195	$6,500	$9-$11,000
Annual Fee- AVL/MDT software	$8,195	$16,000	$15-$19,000
Annualized Cost over 7 years – no AVL/MDC	$10,735	$12,714	$16,429
Annualized Cost over 7 years – with AVL/MDC	$29,735	$42,286	$43,857
Total Cost (7 year period) - no AVL/MDC	$75,145	$89,000	$115,000
Total Cost (7 year period) – with AVL/MDC	$208,145	$296,000	$307,000

All three vendors noted in their responses that if AVL technology was to be included, MDC technology should be included as well. Most vendors agreed that the power of the AVL technology is best utilized when combined with MDC technology.

Table 2 shows that StrataGen and Trapeze cost about the same, while RouteMatch is approximately 30-50 percent less, depending on if AVL and MDC technologies are incorporated. While reviewing the costs is important, it is also important to remember the benefits of the various systems.

In using a new CASD software system, MET Transit should be able to increase its efficiency by approximately 10 percent. This would save about one vehicle per day (assuming MST typically has 10 vehicles in service). Based on current costs, this would save MET Transit approximately $40,000 per year in driver costs, with additional savings based on reduced insurance, maintenance and fuel use. Based on the annualized costs in Table 2, all three software would have a positive (greater than 1) benefit to cost ratio. Even with the AVL and MDC technologies, all three vendors should still be capable of attaining a benefit to cost ratio of greater than one.

By increasing its efficiency, it is anticipated that instead of reducing staff, MET Transit would use this increased efficiency to serve more clients for the same amount of money. This is possible because rides would be grouped more efficiently, increasing the number of rides per mile, thus reducing the cost per mile and cost per trip.

In addition to analyzing the cost and benefits of the technologies, it is also important to analyze the foundation of the system, the software. In order to quantify the issues surrounding the software, WTI created a matrix, which identified key factors of the software and the company representing the software. Those who were present at the demonstrations completed the matrix

by entering a weight for each factor (how important), and then giving a score for each software. The overall scores are shown in Table 3.

Table 3: Factor Analysis

Factor	Weight	RouteMatch	StrataGen	Trapeze
Ease of Use	5.0	3.0	4.8	3.0
Routing Algorithm	4.7	3.8	4.7	2.6
Customer Service	4.7	3.7	4.7	3.4
Training	4.7	4.3	4.0	3.2
Report Capabilities	4.3	3.9	4.4	2.4
AVL/MDT Integration	4.2	3.4	5.0	1.8
Stability of Company	4.2	3.2	3.3	5.0
Philosophy of Company	4.0	4.5	4.2	2.4
Quality of Product	4.8	2.8	4.0	2.6

The composite scores shown in Table 3 are based on the input of six people. In addition to this composite score, Table 4 lists the ordinal ranking that each individual had for the noted vendors.

Table 4: Vendor Rankings

Individual	RouteMatch	StrataGen	Trapeze
Kathy Barr	2	1	3
Scott Baker	3	1	2
Tamra Hinman	2	1	3
Lisa Ballard	2	1	3
Josh Kay	2	1	n/a
Deepu Philip	2	1	3

The factor analysis and vendor rankings, along with the cost information, provide a foundation for MET Transit to move forward in selecting the appropriate technologies. It is anticipated that MET Transit will utilize a Request for Proposals to select which vendor or vendors it will work with for the new software and AVL/MDC systems.

Evaluating Proposals and Software

By using a proposal process to select vendors, MET Transit will have at least one more opportunity to evaluate each organization. As noted in *Technology in Rural Transit: Linking People with Their Community* (3), there are specific criteria to be used when determining which vendors or contactors to work with. The criteria are as follows:

- Understanding

  Does the contractor really understand your system and what you want to do?

- Approach

  From the proposal, do you understand the contractor's approach? How will they do the job? If you do not understand how they will accomplish your goals, ask before you award the contract. Take the time at this point, to understand exactly what is to be done and how it addresses your objectives.

- Experience

  Does the contractor have experience that is applicable to what you want to do? This experience may be in a different field but similar in the application.

- Quality

  The quality of the proposal will give you an insight into the quality of their final product.

- Level of effort

  The number of people over which the hours are spread is important. Think about the job and how long it would take you to do it.

- Milestone reporting

  Does the contractor offer a reporting system that will keep you informed on the implementation's progress? Ask for formal on-site briefings at important milestones.

- Overall cost

  Consider the price versus hours for each of the contractors. How do they compare?

The final thought is this: if it looks too good to be true, then it probably is.

When selecting a software vendor, you are really selecting a software. The following are recommendations to assist in evaluating software (3):

Remember that not all software are created equal. Software needs differ from system to system. Accordingly, it must be tailored to your system's requirements.

Buy the software instead of trying to build it. Do not try to reinvent the technology if someone has a "tried and true" solution.

Develop a precise and clear set of requirements. You will have a hard time evaluating if you do not know what aspects to examine. What works for one system will not necessarily work for a second system.

Have a professional(s) assist you. Experience and expertise of someone else is invaluable.

Beware of extensive development delays. Remember that the service that you get during software development will be the best you will get. The technical support that follows may not be any better.

Have a test program. Plan an extensive formal testing program to test all of the limits of the software. Have a firm testing schedule for the software (and hardware). Be sure that the tests will replicate what you require the software to do. Have the people you expect to use the system test it.

Include system acceptance criteria in the contract. Have acceptance tests take place at your facility with your hardware and your people involved. If the software does not work at your facility, work with the contractor to resolve the problems.

Go outside the envelope. Remember that demonstrations always work. Make mistakes with the software and see how it responds. Test the limits of the software to see how it will respond.

Have a contingency plan. If tests fail, what will you do?

Use a checklist to conduct a thorough evaluation. There are several checklists available (8) or you can use your own based on your own specifications.

Perform frequent back-ups. Make sure that the installation software is backed up. Have a program to constantly back up the software in the event of a failure.

Make sure that you own the software that you are buying. Get disks not only for the application software, but also the operating system. Obtain or create a restoration disk. Be sure that you have operating and trouble-shooting manuals for software.

CONCLUSIONS AND RECOMMENDATIONS

The Western Transportation Institute (WTI) was contracted to review the operations and technology used by Billings MET Transit's specialized transit operations, known as MST. This paratransit operation encompasses a fleet of fifteen vehicles, with nine to twelve vehicles typically in service. MST uses Intellitrans software for scheduling and dispatching and utilizes a 800 MHz two-way radio system for communications.

After an initial assessment of it operations, it is believed that Billings MET Transit would benefit from purchasing new computer-assisted scheduling and dispatching software. This is because the current software does not produce the schedule, and therefore the schedule is not optimized. This lack of optimization leads to inefficiencies for MST's operations. New software is also necessary since MET Transit's current software is no longer supported.

Given the scope of MST's operations, and the expected growth of the operations, it is recommended that MET Transit pursue automatic vehicle location (AVL) and mobile data communication (MDC) technologies as well. Given previous evaluations, Billings MET Transit should see an increase in efficiency between 10 and 35 percent (1). However, given that approximately one-half of MST's rides are "group" rides, the efficiencies gained would likely be at the lower end of the scale.

After contacting other transit providers and reviewing literature on the subject, WTI concluded that three vendors (RouteMatch, StrataGen and Trapeze) were the most likely candidates to supply new software to MET Transit. WTI arranged for, and participated in, software demonstrations prepared for MET Transit. After reviewing pricing information and other material, it is recommended that MET Transit pursue a request for proposals (RFP) to select one of these companies to supply a new software system for MET Transit.

It is further recommended that MET Transit utilize the RFP process to select a vendor to supply AVL and MDC technologies as well. Based on the literature review, it is recommended that the software vendor selected should be required to be the "system integrator", assuring that the software properly interface with the AVL and MDC technologies.

While it was not the purpose of this study to investigate the fixed-route service provided by MET Transit, it is recommended that the application of AVL/MDC technologies be reviewed for the fixed-route fleet (9). MET Transit can review how these technologies may improve the fixed-route service based on the study done for Pocatello Regional Transit (Appendix D).

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APPENDIX A

SOFTWARE VENDOR RESPONSES

All three vendors were provided the following specifications on which to base their responses:

Number of vehicles: 20

Number of workstations: 4

Rides per month: 6,000 (<300/day)

Active clients: 4,000

Communications capabilities: 800 MHz

The following paragraphs describe RouteMatch's response to the questions.

Price for the basic computerized scheduling/dispatching software.

$43,975 (RouteMatch TS) – Fully Automated Scheduling, Routing, and Dispatch System

Price for the computerized scheduling/dispatching software with the capabilities for automatic vehicle location and mobile data terminals.

$58,975 (RouteMatch TS with Integrated AVL and MDC Modules)

Estimated cost per vehicle for recommended AVL hardware.

$600 - $800 per vehicle for AVL Devices

Estimated cost per vehicle for recommended MDT hardware.

$1,100 - $1,500 per vehicle for MDC.

$1,500 - $3,500 per vehicle for integrated MDC / AVL. Strongly recommended.

Please list all recommended AVL/MDT vendors

Mentor Engineering (Industry Leader)

Radio Satellite Integrators

Panasonic Toughbooks

Digital Dispatch Services

NextBus

Annual maintenance fee for software support.

$5,195 (Base product/RouteMatch TS)

$8,195 (RouteMatch TS w/AVL/MDC Modules)

Briefly describe the training program included with purchase of the software.

RouteMatch Software provides a turnkey implementation service that includes: Project Management, GIS Service Area Development, Data Conversion, and a three phased training program. The training programs are tailored for each client based on their needs and level of experience in implementing technologies. Training programs offered include: On-Site Training, Train-the-Trainer Courses, Remote Based Training, and Computer and Web-based Training Programs. Upon successful deployment of the system our clients are transitioned to our customer support and maintenance program where unique service offerings are provided to ensure the client is up-to-date on the latest technology and has access to additional support and training tools for continuing education on RouteMatch Software.

Briefly describe the support received with the purchase of the software, or with the annual maintenance fee.

Included with annual support and maintenance fees:

Technical Support

Call toll-free (888) 840-8791 on weekdays, between 8:00 AM and 6:00 PM PST

Fax (404) 898-1145

Emergency Beeper Support

Email to *support@routematch.com*

Use our secure online Customer Support Intranet on the RouteMatch Website http://www.routematch.com/login.asp that includes customer only information, latest software updates, new training and seminar opportunities, and many other services to assist our clients in maximizing their investment in RouteMatch Software

Software Maintenance

RouteMatch Software Maintenance Program provides clients with patches, minor upgrades, and major upgrades. This program ensures our clients are using the most up-to-date technologies and software tools.

Core Product Upgrades

Product Patches and Fixes (ie. 2.1 – 2.11)

Minor Version Upgrades (ie. 2.1 – 2.2)

Major Version Upgrades (ie. 2.0 – 3.0)

Briefly describe the costs, if any, associated with new versions/upgrades of the software (i.e., does the customer get the next two versions free of charge?).

New versions, upgrades, patches and bug fixes are included with the annual support and maintenance fees. See Question 8 Above.

How frequently will upgrades be required? Describe how earlier/past versions of the software are supported.

Upgrades are not "required". If a customer is satisfied with the version they have and there is no technical reason for them to upgrade to a new version, they can elect to keep using the version they purchased. RouteMatch currently supports RouteMatch 1.0 and 2.0. Our current version is RouteMatch 2.1 with an anticipated release of RouteMatch 3.0 in Q1 of 2004. Our product development plans call for two to three minor upgrades and one major upgrade per year. All upgrades and migrations are optional.

List three clients with paratransit systems at least as large as MET Transit, and indicate how long they have been using your software, and whether or not they are using AVL and/or MDT systems.

The following customers are similar in scope and size.

Shenandoah Public Mobility Project (Northern VA) – Operational for two years and using AVL

GreenCATS (Xenia, OH) – Operational for approximately 3 years and not using wireless products.

GRITS (Owensboro, KY) – Operational for one year and using MDC and AVL technology.

Having visited Billings, please provide any other information you believe relevant to why MET Transit should select your software

RouteMatch Software has a razor sharp focus on large regional rural and small urban transit systems. Our experience in this market is unparalleled with over 75 larger rural and small urban transit systems with multiple rural transit ITS deployments. Our systems are extremely user-friendly, easily maintained, and integrated with a strong customer support and maintenance programs. RouteMatch Software has been developed in a modular architecture which allows us to easily "plug-in" other modules and features for extensibility and scalability (ie. AVL, MDC, Coordination, ADA, etc..). This approach allows our clients to procure the components they need now and add additional modules as they need them. Our systems are built on industry standards using open systems which allow us to integrate into multiple other ITS and transit software products. RouteMatch views all customers as mutually beneficial partners in extremely important in our corporate growth.

The following paragraphs describe StrataGen's response to the questions.

Price for the basic computerized scheduling/dispatching software.

$50,000 (includes training, installation, etc.)

Price for the computerized scheduling/dispatching software with the capabilities for automatic vehicle location and mobile data terminals.

$100,000 (includes training, installation, etc.)

Estimated cost per vehicle for recommended AVL hardware.

This is a question for the avl/mdt vendors. StrataGen does not supply avl hardware. We do suggest that avl alone is not a good solution for a paratransit operation. It is only marginally helpful to know the current location of a vehicle or to playback location history. It is much more important to communicate trip records and have those records updated as the work is performed in the field. This requires a mobile data unit that can display trip detail and dispatcher messages.

Estimated cost per vehicle for recommended MDT hardware.

This is a question for the avl/mdt vendors. StrataGen does not supply mdt hardware. I did contact Mentor Engineering to get a quick and dirty budget number.

Here is their response: "$50,000 - fixed end equipment, XGate, XGate server, services, travel, shipping and $2,500/vehicle - MDC with GPS, GPS antenna, cabling, mounting bracket, installation.

This is a good guideline for a convention radio system (one dedicated full duplex channel for data), with them providing the mobile radios (which they likely currently have and would continue to use for voice) and a new base station radio (dedicated to data)."

Please list all recommended AVL/MDT vendors

Mentor Engineering, Orbital Sciences, RSI, Siemens ILG, DDS, Greyhawk

Annual maintenance fee for software support.

20% of software and customizations. The fees do not apply to implementation/training/travel expense parts of the installation.

Briefly describe the training program included with purchase of the software.

I have attached a generic training plan document for your review. (see pages 20-32)

Briefly describe the support received with the purchase of the software, or with the annual maintenance fee.

I have attached a document that describes our support services and a sample support and maintenance agreement for your review. (see pages 20-32)

Briefly describe the costs, if any, associated with new versions/upgrades of the software (i.e., does the customer get the next two versions free of charge?).

Customers automatically receive free upgrades to their purchased version of ADEPT only. Our current release schedule is quarterly and release notes are sent to sites before hand. We want all of our sites to be working from the same release, so we positively encourage sites to accept the new release. New versions are a different story. We make all new versions available for upgrade at the then current market price. Currently the market price is around $100 per trip. We offer upgrade credits to offset this cost. The credits are based on a percentage of what the customer paid for the original ADEPT software license. This is a declining scale based on the number years from original purchase. We assume that no site would ever want to upgrade the first year after purchase, so the scale starts at "year 2". Year 2 is 65%, Year 3 is 50%, Year 4 is 35% and Year 5 and beyond is 25%.

How frequently will upgrades be required? Describe how earlier/past versions of the software are supported.

StrataGen anticipates a 3 year version "cycle". The current version is 5.X which was first released in December 2002. This means our next planned version can be expected at or around the end of 2005. Customers are never required to upgrade to a new version, but StrataGen policy is to only support up to 2 versions prior to the current version. This places the expected life of the software at 10 years.

List three clients with paratransit systems at least as large as MET Transit, and indicate how long they have been using your software, and whether or not they are using AVL and/or MDT systems.

I have attached a document showing references for similar sized sites to MET Transit. StrataGen encourages MET to call and visit these sites. (see pages 34-41)

Having visited Billings, please provide any other information you believe relevant to why MET Transit should select your software.

I have attached a list of reasons to buy StrataGen below. Many of these items are highlights from our sales presentation.

- StrataGen scheduling software will reduce vehicle miles/hours by at least 10%. Benchmark tests against the competition have shown 17% improvement. NYCT has improved productivity measured by passengers/rev-hr by 18%.

- StrataGen brokerage module is saving one site $16,000/month (Worcester,MA - WRTA) in purchased transportation by enforcing the selection of low cost carriers and guaranteed contract hours.
- StrataGen eligibility functions will enforce no show and cancellation policies by allowing a site to suspend clients. ClasTran in Birmingham,Al reduced no shows and late cancels by over 20%.
- We are fully automated. When you hit the schedule button, our software finds the optimal assignment to a vehicle by following your strategy and obeying your driving restrictions.
- We allow you to make faster scheduling decisions because we return the one optimal trip assignment and not a list of 5 or 10 to choose from. Scheduling a single trip takes just a second or two. This reduces stress on your reservations and dispatch staff. It also makes it easy to train new staff.
- We allow for very fast batch scheduling and we never violate the client's promised service window, no matter how many times you batch the schedule. We can batch schedule 1000 trips in one minute.
- We mimic how your human experts schedule so that the computer does the heavy lifting and you don't have to spend hours "fixing" what the computer gives you. This means you don't have to rely on human experts who take vacation, go on maternity leave and eventually retire.
- We collaborate with our customers on everything from setting up a scheduling strategy that fits their operation to appointing a customer service rep to communicate with them after we "go live" with the software.
- We produce very accurate travel times by using the actual street network to estimate distance and an integrated Geographic Information System that knows where your speed restrictions are by time of day, and recognizes man-made and natural barriers to travel.
- We built our system using an open architecture which means we can easily interface with 3rd party systems like automatic vehicle location/mobile data terminals, interactive voice response, and other media like the internet, pda's, kiosks, etc…
- Our database is not proprietary; in fact, our data dictionary is one of our standard reports. This means you can use industry standard reporting tools like MS Access or Crystal Reports to write your own reports.
- We use the SQL database management system which is very fast and scalable to very large operations.

The following paragraphs describe Trapeze's response to the questions.

Price for the basic computerized scheduling/dispatching software.

$50,000-$60,000

Price for the computerized scheduling/dispatching software with the capabilities for automatic vehicle location and mobile data terminals.

$45,000-$55,000 more

Estimated cost per vehicle for recommended AVL hardware.

$5,000 per vehicle

Estimated cost per vehicle for recommended MDT hardware.

Included in #3 above

Please list all recommended AVL/MDT vendors.

Mentor, GreyHawk, Digital Dispatch, Siemens, Orbital.

Annual maintenance fee for software support.

$9,000-$11,000 for paratransit, $6,000 -$8,000 for MDT/AVL interface

Briefly describe the training program included with purchase of the software.

About 16-18 days on-site for paratransit. About 12-14 days on-site for MDT/AVL interface.

Briefly describe the support received with the purchase of the software, or with the annual maintenance fee.

24/7 telephone support. Periodic software maintenance releases. Yearly product upgrades

Briefly describe the costs, if any, associated with new versions/upgrades of the software (i.e., does the customer get the next two versions free of charge?).

None, included in annual maintenance payment

How frequently will upgrades be required? Describe how earlier/past versions of the software are supported.

Major updates approximately once per year. Installation of update upon request of the client.

List three clients with paratransit systems at least as large as MET Transit, and indicate how long they have been using your software, and whether or not they are using AVL and/or MDT systems.

Ft. Collins, CO	Dean Erickson	970-224-6105	PASS, MON
Glendale, AZ	Kathy Colbath	623-930-3501	PASS, MON
Mason County (WA)	Connie Behrens	360-426-9434	PASS

Having visited Billings, please provide any other information you believe relevant to why MET Transit should select your software.

Extensive experience in both paratransit (over 250 installs) and MDT/AVL interfaces (over 50). Many installations in Colorado, Washington, and Oregon

STRATAGEN SUPPORT SERVICES

StrataGen provides 24/7 Help Desk support via a 1-800 toll free phone number. StrataGen understands the need for timely response to critical issues and will ensure that the contract service level requirements are met. The Help Desk specialists will create problem tickets within the StrataGen customer support system and attempt resolution of problems at first contact with Pierce Transit users. Problems will be dispatched to the appropriate resource within StrataGen when required and continue to manage the problem ticket through to resolution. Upon reported resolution of a problem, StrataGen technicians will contact the user who first reported the problem to ensure they are satisfied with the resolution before closing the problem ticket.

Please refer to the sample Support and Maintenance Agreement in Section A of this proposal for a description of the StrataGen support process and methods.

Currently StrataGen supports ADEPT versions 2.4, 3.0, 4.0 (New York City Transit), and 5.0. The plan is to have all customers migrated to version 3.0 or above by the end of 2003. In general, StrataGen's goal is to support only two versions prior to the currently available version of ADEPT.

StrataGen recommends that all of its customers retain the services of a database administrator who can develop a maintenance plan and provide the day-to-day tuning required to maintain a desired level of performance.

StrataGen maintains a Master Preferred Escrow account with DSI Technology Escrow Services. In this arrangement, StrataGen and DSI have executed one contract, and individual beneficiaries are added to the contract by executing a three-way addendum to the Master agreement. StrataGen and the beneficiary will receive signed confirmations from DSI that every deposit has been inspected; an account history report to notify them of the status of the escrow; and ongoing monitoring services to ensure compliance of contract terms. The items that StrataGen includes in escrow deposits are listed below:

- All System Requirement documentation such as Architecture Design, Project Development Plan, Software Design, and the ADEPT Application Overview flowchart.
- All Functional Specs, Detailed Specs, Unit and QA Test plans, and Training Manuals.
- TSQL Script of Database structure
- All Source code
- All Executables
- Installation packages
- Release documentation, which includes updates to Functional Specs, Detailed Specs, Unit and QA Test plans, Training Manuals, and
- Steps required to install the updates.

DSI provides three technical verification options.

LEVEL I - Inventory

This series of tests provides insight into whether the necessary information required to recreate the Depositor's development environment has been properly stored in escrow. These tests detect errors that often inhibit effective use of the escrow deposit.

Steps include: Analyzing deposit media readability, virus scanning, developing file classification tables, identifying the presence/absence of build instructions; and identifying materials required to recreate the Depositor's software development environment. At completion of testing, DSI will distribute a report to Preferred Beneficiary detailing DSI's investigation which will include attachments of any build instructions, file classification tables and listings, and listings of required software development materials, including without limitation, required source code languages and compilers, third-party software, libraries, operating systems, and hardware, as well as DSI's analysis of the deposit (when identifying materials required to recreate Depositor's software development environment, DSI will rely on (1) information provided in Depositor's completed questionnaire, this can be obtained via a DSI verification representative, and/or (2) DSI's testing experience).

LEVEL II - Build

This series of tests includes a standard effort to compile the Deposit Materials and build executable code.

Steps include: Recreating the Depositor's software development environment, compiling source files and modules, recreating executable code, and providing a listing of the hardware and software configurations necessary to recreate the Depositor's software development environment. DSI will also create a report detailing the steps necessary to recreate the development environment, problems encountered with testing, and DSI's analysis of the deposit.

LEVEL III - Validation

DSI's Level III verification consists of testing the functionality of the compiled Deposit Materials (in a production setting or similar environment) and can be accomplished through one of the following three options:

Option A – With the Depositor's approval, executables created by DSI during Level II testing are provided to the Preferred Beneficiary for functionality testing.

Option B – The Preferred Beneficiary provides DSI with a copy of its licensed executables. DSI compares the executables created during Level II testing with the licensed executables. DSI provides a comparison report to all parties.

Option C – DSI recreates the runtime environment for the licensed technology and installs the executables created during the Level II testing into that environment. (The environment is generally "scaled down" from the actual live environment.) DSI then runs test scripts supplied by the Preferred Beneficiary. DSI provides a report of the test results to all parties. This may require Depositor approval.

STRATAGEN SOFTWARE MAINTENANCE AGREEMENT

THIS AGREEMENT ("Agreement") is made this ___ day of _____, ____ ("Effective Date") by and between StrataGen Systems, Inc., a Washington corporation with offices at 12413 Willows Rd NE, Suite 210, Kirkland, WA 98034 ("Licensor"), and _____ ("Customer") with offices at _____.

WHEREAS, Licensor has licensed to the Customer certain systems as specified in the Software License Agreement of near or even date herewith (the "License Agreement") and the Customer wishes to have Licensor perform software maintenance services on the licensed systems pursuant to the following terms and conditions and the terms and conditions of the License Agreement:

1 Software Systems Covered

The software covered in this Agreement is the "Program", including Licensor's ADEPT™ Software System, as defined and more fully described in, and which is subject to, the signed License Agreement, and as updated with improvements or modifications furnished to the Customer hereunder (the "Software"). During the term of this Agreement, Licensor shall supply the Customer with any improvements or modifications to the Software which are made available to licensees of the Software, whether or not charged for. This includes both New Releases and New Versions as defined herein and in the License Agreement. Optional modules will be made available to Customer at extra cost.

2 Support Services

During the term of this Agreement as specified in Exhibit A (the "Term"), Licensor shall provide during the service hours specified in Exhibit A (the "Service Hours"):
(1) telephone hot line access for problem reporting and diagnostic services in response to Errors (as defined herein) ("Remedial Support"); (2) on-site response to Customer's requests for Remedial Support and diagnostic repair services in response to Errors that cause Customer to have no essential use of the Software ("Emergency Support"); (3) any new releases of all or part of the Software which substantially rectify Errors or other defects in the then-current release of the Software which are made generally available by Licensor to its Customers ("New Releases") including revised documentation.

The services set forth in this Section shall be referred to collectively as the " Support Services." An "Error" shall mean a material and reproducible failure of the Software to function in conformity with the Specifications. The "Specifications" shall mean the documentation to which the Software must conform as set forth in the License Agreement between the parties.

Upon receipt of a request from Customer for Remedial Support or Emergency Support which Licensor determines cannot be provided through the use of the telephone hot-line, Licensor will use reasonable efforts to provide on-site Remedial or Emergency Support within the respective response time specified in Exhibit A ("Problem Resolution Standards"). To the extent that on-site Remedial or Emergency Support is provided, and the reported problem (1) relates to a

defect which cannot be reproduced or verified by Licensor on-site, or (2) does not constitute an Error, Licensor's on-site Remedial or Emergency Support shall be considered an additional service outside of the Support Services as described in Exhibit C ("Additional Services").

Upon reproduction and verification by Licensor of any Error, Licensor shall file an internal error report and make reasonable efforts to correct the Error, including without limitation by incorporating a repair, modification, change or addition to the Software that substantially rectifies the Error ("Correction") into its next maintenance release ("Maintenance Release"). When appropriate, Licensor will make reasonable efforts to arrange for a modification, procedure or routine that circumvents the practical adverse effect of such Error ("Work Around").

3 Additional Services

Except with respect to the installation, testing, administration, data conversion, 3rd Party software, training, reconfiguration, or relocation as part of the delivery of a New Version of the Program, and except to perform Additional Services critical to sustaining RTP's operations, including but not limited to changes in billing formats or billing codes, Licensor shall be under no obligation to undertake any of the Additional Services and reserves the right, at its sole discretion, to refuse to perform any Additional Services, or to require the parties to enter into a separate agreement for the performance of Additional Services. Unless otherwise agreed, Customer shall pay for Additional Services requested by Customer, as provided in Section 6.

4 Customer Responsibilities

Customer shall give Licensor Customer's full cooperation to facilitate proper and prompt performance of the Support Services and any Additional Services that Customer requests and Licensor agrees to provide. Customer shall (1) designate a key technical contact who is familiar with the Software to provide adequate information and feedback in order to facilitate problem reporting and resolution (2) make the key technical contact aware of the terms and conditions under which StrataGen Systems provides after hours support (3) promptly notify Licensor of any Error in the Software; (4) provide sufficient information for Licensor to effectively diagnose Errors including a detailed description of the issue in text format, an explanation of what the user was doing when the issue occurred, any error messages that the system returned, screen shot images of the error, the current status of the system, a determination if the system is functional, and a state retrieval, if requested ; (5) permit Licensor to take such reasonable steps as Licensor shall consider necessary to remedy any Errors; (6) allow Licensor prompt and reasonable access to the Customer's sites at the locations specified in Exhibit A (the "Sites") and the Software including a fully configured back-up server for ADEPT in case of primary server hardware failure, installed copy of PC Anywhere, and access to other 3rd party systems such as the communications network provider; and (7) provide a safe and secure work environment at the Site(s) for Licensor's authorized personnel performing Support Services and Additional Services on-site.

The Customer shall install and maintain for the duration of this Agreement, a modem and associated dial-up telephone line. The Customer shall pay for installation, maintenance and use of such equipment and associated telephone line use charges. Licensor, at its option, shall use

this modem and telephone line in connection with error correction. Such access by Licensor shall be subject to prior approval by the Customer in each instance.

Customer shall not permit any person other than authorized Licensor personnel to diagnose Errors, make Corrections, or in any way modify the Software. Any work, repair, replacement, Remedial Support, Emergency Support, or Correction necessary as a result of Customer's violation of this provision shall be considered Additional Services.

5 Maintenance Releases, New Releases, Technical Operations Notices and Product Obsolescence

Licensor shall make available to Customer all Maintenance Releases made available to licensees of the Software. Maintenance Releases will be made available to Customer at no additional charge. Licensor will notify Customer of the nature and availability of a Maintenance Release, and Customer shall have six (6) months from receipt of such notice to authorize Licensor to deliver the Maintenance Release. All Maintenance Releases provided to Customer shall be considered Software for purposes of the License Agreement and this Agreement.

Licensor may periodically deliver instructions or procedures in relation to the use of the Software ("Technical Operations Notice(s)") to Customer at no additional charge. Performance improvements introduced by any such Technical Operations Notice for any specified Software shall not obligate Licensor to modify any other Software. Licensor will notify Customer of the nature and availability of any Technical Operations.

The nature and extent of the elements to be included or covered in any Maintenance Release or Technical Operations Notice shall be determined solely by Licensor. Licensor shall not be obligated to provide any specific Maintenance Release or Technical Operations Notice that Licensor does not make generally available to its Customers.

Licensor agrees to continue to provide to Customer Tier One Support Services for Version 5 of the Software and any subsequent Version to which Customer has elected to upgrade, during the full term of this Agreement (including all renewals through year seven, if applicable) provided that Customer has paid the applicable Support Charges hereunder as and when they become due. Licensor agrees that its failure to continue to provide such support shall constitute a material breach of this Agreement and of the License Agreement.

6 Support Charges and Payment

Customer shall pay the support charges set forth in Exhibit B hereto and Exhibit C (“Price and Payment Schedule”) of the License Agreement ("Support Charges") in accordance with the payment terms set forth therein.

In the event that Licensor provides any Additional Services requested by Customer, Licensor shall invoice for such Additional Services based upon its then-current time and material rates. Customer shall pay all charges for such Additional Services within thirty (30) days from the date of invoice. Charges for Additional Services may include without limitation fees for labor, materials, hardware components, software, documentation, and/or other products or services

and associated expenses, including without limitation reasonable travel expenses incurred by Licensor when providing Additional Services at Customer's request.

Customer shall pay or reimburse Licensor for all sales, use, transfer, privilege, excise, and all other taxes and duties, whether national, state or local, however designated, which are levied, imposed or measured upon this Agreement, or upon the Software, Support Services and Additional Services furnished hereunder, excluding, however, taxes based on or measured by Licensor's net income. In the event that the Customer is required to withhold any amount from any payment made hereunder, the relevant amount payable shall be increased by such amount as may be necessary in order that the actual amount received by Licensor after such withholding shall equal the amount that would have been received by Licensor had no such withholding been required, and Customer shall make such withholding and pay the amount withheld to the relevant taxing authority.

Failure by Customer to pay any amounts invoiced under this Agreement in full in accordance with this Agreement shall make Customer liable to pay Licensor interest at the rate of one and a half percent (1.5%) per month on the remaining amount due, such interest to accrue on a daily basis after, as well as before, any judgment relating to collection of the amount due.

7 Travel Expenses

The Customer shall reimburse Licensor for any reasonable out-of-pocket expenses incurred at the Customer's request in providing Additional Services, including travel to and from the Customer site, lodging, meals, telephone and shipping, as may be necessary in connection with the duties performed under this Agreement by Licensor. Installation, Customization, Training and Travel described in Exhibit C ("Price and Payment Schedule") of the License Agreement shall be charged as set forth therein.

8 Confidentiality

The confidentiality provision of the License Agreement is hereby incorporated by reference into this Agreement.

9 Warranty

Licensor represents to Customer that all services provided to Customer hereunder will be performed in a workmanlike manner.

THE WARRANTY SET FORTH IN THIS AGREEMENT IS A LIMITED WARRANTY. THE SOFTWARE, INCLUDING WITHOUT LIMITATION ANY MAINTENANCE RELEASE, NEW RELEASE OR TECHNICAL OPERATIONS NOTICE, IS SUBJECT TO THE REPRESENTATIONS, WARRANTIES, INDEMNIFICATIONS, LIMITATIONS AND DISCLAIMERS SET FORTH IN THE LICENSE AGREEMENT. LICENSOR EXPRESSLY DISCLAIMS, AND CUSTOMER HEREBY EXPRESSLY WAIVES, ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. LICENSOR DOES NOT WARRANT THAT THE SOFTWARE, INCLUDING WITHOUT LIMITATION ANY MAINTENANCE RELEASE, NEW RELEASE OR TECHNICAL OPERATIONS NOTICE, WILL MEET CUSTOMER'S

REQUIREMENTS OR THAT THE OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR FREE

10 Limitation of Liability

LICENSOR SHALL HAVE NO LIABILITY WITH RESPECT TO ITS OBLIGATIONS UNDER THIS AGREEMENT OR OTHERWISE FOR SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. EXCEPT WITH RESPECT TO THE OBLIGATIONS OF LICENSOR PURSUANT TO SECTION 9 OF THE LICENSE AGREEMENT, IN NO EVENT SHALL LICENSOR'S LIABILITY FOR ANY REASON AND UPON ANY CAUSE OF ACTION WHATSOEVER EXCEED THE AGGREGATE FEES PAID BY CUSTOMER TO LICENSOR.

11 Termination

In addition to its rights as set forth elsewhere in this Agreement, Licensor shall have the right to terminate this Agreement at any time upon thirty (30) days written notice to Customer upon: (a) material violation or breach by Customer, its officers or employees of any provision of this Agreement, including, but not limited to, payment, use of the Software and nondisclosure of confidential information; (b) the termination of the business of Customer; (c) the commencement of any proceeding under the Bankruptcy Act, or a comparable statute, by or against Customer, or the levying of a writ of attachment, or execution on any item of the Software, and such proceeding is not terminated or such writ is not satisfied or released within fifteen (15) days after such commencement, attachment or levy, or (d) the written admission by the Customer of its inability to meet its financial obligations. In addition, Customer may terminate this Agreement at any time upon thirty (30) days prior written notice to Licensor, with or without cause. Notwithstanding the foregoing, all provisions hereof relating to confidentiality, proprietary rights, nondisclosure, indemnity and limitations of liability shall survive the termination of this Agreement. In the event of termination under this paragraph, Customer will not be entitled to any refund of any portion of the fees paid to Licensor under this Agreement; provided however, that if Licensor (i) materially breaches this Agreement and fails to cure such breach within thirty (30) days after notice from Customer, (ii) Delivers a notice that the Software has been declared obsolete or withdrawn from sale, or (iii) otherwise discontinues providing Tier One Support Services for the Software, Licensor shall refund to Customer an amount equal to the aggregate Support Charges paid by Customer less depreciation for the time during which Tier One Support Services were provided, assuming straight-line depreciation over a five (5)-year term.

12 General

This Agreement evidences the complete understanding and agreement of the parties with respect to the subject matter hereof and supercedes and merges any prior understandings or agreements. This Agreement may not be modified except by writing signed by both parties. Neither party shall be in default of its obligations hereunder (other than payment obligations) if performance is delayed or prevented by causes beyond its reasonable control, and performance times shall be deemed extended for the length of the delay. This Agreement and performance hereunder shall be governed by the laws of the State of Washington, without regard to conflict of law principles. In the event of an irreconcilable dispute between the Parties under this

Agreement, the Parties agree to resolve such dispute through binding arbitration under the then-current rules of the American Arbitration Association. Such arbitration will apply Washington State law, but venue will be in the county where the responding party is located. The prevailing party shall be entitled to recover all costs and expenses of the arbitration, including actual attorney's fees. The arbitrator's award or ruling may be confirmed and entered by either party as a final judgment in any court of competent jurisdiction, and can be enforced accordingly. The parties agree that no court action at law or equity may be brought by either party until after an arbitration ruling hereunder, except for the institution of a civil action to maintain the status quo during the pendency of any such arbitration proceeding. THIS AGREEMENT SHALL NOT BE SUBJECT TO THE UNITED NATIONS CONVENTION ON THE INTERNATIONAL SALE OF GOODS, THE APPLICATION OF WHICH IS EXPRESSLY EXCLUDED. All payments under this Agreement will be made in U.S. dollars. Neither party may assign or sublicense its rights, duties or obligations under this Agreement to any person or entity, in whole or in part, without the prior written consent of the other party, which consent will not be withheld unreasonably. Any attempt to do so shall be deemed a material breach of this Agreement. Any notice provided pursuant to this Agreement, if specified to be in writing, shall be in writing and shall be deemed given (i) if by hand delivery, upon receipt hereof; (ii) if mailed, three (3) days after deposit in the U.S. mail, postage prepaid, certified mail return receipt requested. All notices shall be addressed to the parties at the respective addresses indicated herein. The waiver or failure of either party to exercise any right in any respect provided for herein shall not be deemed a waiver of any further right hereunder. If any provision of this Agreement is invalid under any applicable statute or rule of law, it is to that extent to be deemed omitted.

_____

By:_____ _____

Date

STRATAGEN SYSTEMS, INC.

By:_____ _____

Date

EXHIBIT A – Support Plan

Covered Software: ADEPT v 5.0

Site(s): Pierce Transit offices located (Insert all locations where software to be installed)

Term: The initial term shall be for 5 year(s), commencing upon the Support Date as defined in the License Agreement. The Agreement shall be automatically renewed at the end of the initial term or any renewal term unless Customer notifies StrataGen Systems at least sixty (60) days prior to the expiration of such term.

Service Hours: For the first 30 thirty (30) days following Project Completion, full 24X7 telephone support is available; After the first thirty (30) days, telephone support will be available from 8 a.m. to 5 p.m. PST, Monday through Friday, except where special arrangements have been made in advance.

Problem Resolution Standards

Category	**Definition**	**Target Action**
1	Business Critical. Production use of the system is not possible and no workaround exists. Customer requires resolution urgently due to financial, legal and public risk exposure.	Initial response within 2 hours. Resource assigned immediately and remains assigned until resolution. Target Resolution: 24 hours.
2	Production use of the system is possible, but a business function is disabled and no workaround exists. This category also applies to problems which severely impact the progress of an implementation project where no workaround exists.	Initial response within a working day. Resource assigned within a day and remains assigned until resolution. Target Resolution: 72 hours.
3	Production use of the system is possible, but a workaround is unacceptable for more than a short period due to the frequency of the affected function's usage and the criticality of the function. This category also applies to problems which severely impact implementation projects where there is an unacceptable long term workaround.	Initial response within a working day. Resource assigned within a day. Target Resolution: 80% within 20 business days, the remainder resolved within 40 business days.

4	All others. Production and/or implementation is not impacted severely for one of the following reasons: a. an acceptable workaround exists; b. the problem is resolved onsite; c. the problem is not severe; or d. the extent of the problem is limited.	Resolved as time permits, and made available as part of a regularly scheduled maintenance release.

Work Flow

Upon receipt of an issue, StrataGen customer support staff begins documentation of the issue using a Customer Support Issue Form in the Customer Support Database. All pertinent information that has been received either by email or telephone will be recorded on or attached to the issue form. Following completion of the Issue Form, StrataGen customer support staff will categorize the issue and communicate the target action pursuant to the Customer's Problem Resolution Standards set forth above.

Once a problem has been identified, StrataGen customer support will work with StrataGen engineering staff to determine a solution timeframe, using the Problem Resolution Standards. Once the solution has been tested, StrataGen customer support will contact the customer to make arrangements for implementation. In the event that the solution cannot be tested and implemented within the timeframe that was initially communicated to the customer, StrataGen customer support will attempt to implement a workaround for the customer while pursuing resolution. In all cases, StrataGen will attempt to minimize the amount of time necessary to resolve the issue.

If StrataGen personnel cannot recreate the problem in the lab configuration, additional information may be required from Customer. This may include but is not limited to screen shots in .bmp or .jpg format and "State Retrieval" files of the schedule.

StrataGen will endeavor to resolve any system problems remotely. If both parties deem it necessary to travel to Customer premises to resolve the problem, the on-site engineering/technical support services are included in this agreement. Customer will be responsible for all travel and living expenses. The engineering/technical support services rendered will be billed to Customer if it is determined while on site that the problem resolution was not due to StrataGen's inability to re-create and resolve the problem remotely.

EXHIBIT B –Support Charges

Annual maintenance includes Standard Support (defined as support during StrataGen Systems' normal office hours of 8:00 A.M. to 5:00 P.M., local Washington State (Pacific Standard) time, Monday through Friday)	See Exhibit C to License Agreement
Cost for "Extended Hours" Support (defined as support during the hours of 5:00 A.M. to 8:00 A.M and from 5:00 P.M. to 8:00 P.M., local Washington State time, Monday Through Friday) past the first 30 days of operation is provided at no additional charge.	Included
Cost for "After Hours" Support (defined as support occurring outside StrataGen Systems' Standard Support and "Extended hours" Support of 5:00 A.M. to 8:00 P.M., local Washington State time, Monday through Friday) past the first 30 days of operation is provided at no additional charge.	Included
StrataGen Systems shall have no obligation to correct problems that are traced to Customer errors, Customer modifications, Customer enhancements, Customer software or Customer hardware. Additional services for resolution of problems to be charged	$100 per incident + $100/hour after the first hour

Standard Rates for Additional Services as of December 31, 2002

Project Management $150/hour

System Administration $100/hour

Application Development $150/hour

EXHIBIT C – Additional Services

Additional Services shall include without limitation:

1) Installation, testing, administration, reconfiguration, or relocation of, or changes, alterations, or modifications to Software outside of the Statement of Work deliverables, except to make Corrections;
2) Installation, testing, administration, data conversion, 3rd Party software, training, reconfiguration, or relocation as part of the delivery of a New Version of the Program.
3) Data conversions, including map data, outside of the Statement of Work deliverables.
4) Installation and setup of ADEPT software on any workstations beyond the first 55 workstations installed at customer site(s) as part of the Statement of Work deliverables;
5) Development and installation of new ADEPT scheduling engine strategies outside of the Statement of Work deliverables or those not part of the generally available Maintenance releases;
6) Development and installation of stored procedures to support the ADEPT Brokerage Module and automated fare calculations outside of the Statement of Work deliverables.
7) Maintenance work on any additional hardware, software, or other products outside of the Statement of Work deliverables.
8) Correction of any Error or defect, including without limitation any reduction in performance, incompatibility, or alteration of the Software, caused by changes or modifications in the engineering, manufacturing, or interface specifications of any 3rd party software or hardware;
9) Correction of any malfunction of any Software caused by misuses of the Software, failure of Customer's operating environment (power, air conditioning, etc.), or the usage or inclusion of procedures or supplies other than those recommended in the Documentation or Specifications.

STRATAGEN APPLICATION SOFTWARE

Version and Release History

StrataGen plans for a two-year version cycle and a maximum of quarterly revisions or "releases". The decision to move to a new version is predicated on both the market demand for new features and functionality as well as migration to new system architectures. The table below shows the history of ADEPT for the last three versions.

Version	***Release Date***	***Major Architectural Change***	***Key Features***
2.4	Sep 2000	• From Access to SQL DBMS	• ADA Compliant • Eligibility Conditions • User Definable Speed Zones
3.0	Aug 2001	• Upgraded database structure • Exclusive use of stored procedures	• ¾ mile eligibility testing • NTD Reporting • Eligibility tracking
5.0	Dec 2002	• Upgraded database structure • Dual server support (application and database servers) • Enhanced security	• Same day re-optimization • Reorganized screens • More intuitive labels • Drag and Drop Dispatch • Subscription "exceptions" • Tools to find slack • "Testing" manual trips • Zone routing restrictions

Note: Version 4.0 is a "customized" version designed for New York City Transit

STRATAGEN REFERENCES

Agency	Contact	Trips/Day	Service Area	Network	Live Date	Special Features
Valley Transit Walla Walla, WA	Dick Fondahn 509-525-9140	200	1 county	Windows 2000	January 2002	AVL/MDC
New York City Transit New York, NY	Howard Ende (646) 252-2750	10500 current 20,000 planned	5 boroughs	Windows 2000	January 2002	20,000 trips per day
Birmingham- Jefferson County/Clastran Birmingham, AL	Sylvia Jenkins, 205-521-0165	1450	2 counties	Windows NT/98	May 2001	
City of Jackson Transportation Authority, Jackson, MI	Oliver Lindsay 517-787-8363	600	1 county	Windows 2000	January 2001	AVL/MDC, IVR, Web
Transit Authority of Northern Kentucky Fort Wright, Kentucky	Lisa Gatwood 606-578-6943 ext 3018	500	2 counties	Windows NT/98	October 1998	AVL/MDC
Martin County Stuart, Florida	Roger Eckert 561-223-7885	350	1 county	Windows NT/98		Manual scheduling Medicaid EDI
South Central Transit Centralia, Illinois	Cindy Schmidt 618-532-8076	800	6 counties	Windows NT/98	December 1999	
St. Clair County Transit District, O'Fallon, Illinois	Lance Peterson 618-628-8090	400	1 county	Windows 2000	April 2002	
Merrimack Valley Transit, Haverhill , MA	Raymond Blethen 978-469-6878	450	2 counties	Windows 2000	October 2001	Fixed-Route Interface, Brokerage

City of Cary Cary ,NC	Wayne Harper (919) 481-2020	300	1 county	Windows 2000	August 2001	Seniors
RTP Portland, ME	Jon McNulty (207) 774-2666	1000	1 county	Windows 2000	March 2003	Medicaid EDI
Wichita Transit Wichita, KS	Jay Banasiak (316) 352-4802	400	1 county	Windows 2000	May 2003	
WRTA Worcester, MA	Nicole Rohan (800) 499-6384 ext 3009	600	1 county	Windows 2000	February 2003	Brokerage

Site:	**New York City Transit**		
Contact:	Howard Ende, Vice President, NYCT Paratransit		
Address:	2 Broadway, 11th Floor Paratransit Command Center New York NY		
Telephone:	646-252-2750		
Registered riders:	50,000	Peak vehicles: 1000	Peak Trips: 10,500 current
Type of LAN:	Server:	Microsoft Windows 2000	
	Client:	Microsoft Windows 2000	

Number of authorized work stations: 250 Reservations booked each day:

Approach used by Proposer in meeting's client requirements:

Subsequent to product demonstrations, trial schedule comparisons and extensive due diligence review by the customer detailed functional specifications were developed to define scope of work. Initial project was delivered in two phases with installation of ADEPT v4.0 with extensive customizations followed six months later with a second phase of customizations. Project delivered on time because of extensive collaboration between the client and StrataGen.

The scope and Proposers specific involvement in project:

Developing software functionality and providing on-site project management; train the trainer, technical support

The deliverables associated with the client's project:

ADEPT v4.0 (extensive customization)

Live 1st Quarter 2002.

Site:	**AC Transit**		
Contact:	Doug Cross		
Address:	1600 Franklin Street Oakland California		
Telephone:	510-891-4843		
Registered riders:	25,000	Peak vehicles: 150	Peak Trips: 2500/day
Type of LAN:	Server:	Microsoft Windows 2000	
	Client:	Microsoft Windows 2000	

Number of authorized work stations: 64 Reservations booked each day:

Approach used by proposer in meeting's client requirements:

In response to the RFP StrataGen conducted a wholesale re-architecture of ADEPT 2.4 to ADEPT v3.0. Collaborative relationship between the client and StrataGen.

The scope and Proposers specific involvement in project:

Software development, installation, training and support

The deliverables associated with the client's project:

ADEPT v3.0, Network Hardware and Software (65 workstations) including remote provider access. Interface with regional eligibility database

Live August 2001

******Issues Encountered ******

- Replaced contract provider's own non-automated scheduling system with a fully automated one. Users insisted on making new system conform to old ways of doing business. This issue is still being mitigated. StrataGen has proposed changes to business processes that would make better use of the ADEPT system and result in operational efficiencies.

- Requirements were not managed and inconsistencies with project plans and work products were not identified. The issue was mitigated by working through the technical requirements matrix over time. Subsequently StrataGen created a management layer over project managers to formalize the implementation process, monitor, and control deviations from project plans.

Site:	**Birmingham-Jefferson County Transit/Clastran**
Contact:	Sylvia Jenkins
Address:	Birmingham, Alabama
Telephone:	205-521-0165
Registered riders:	
Peak vehicles: 17	
Peak Trips:	450/1200

Type of LAN: Server: Microsoft Windows NT

Client: Microsoft Windows 98

Number of authorized work stations: 5 Reservations booked each day: 1500

Approach used by proposer in meeting's client requirements:

In response to the RFP and upon business analysis review of the operational environment the standard suite of ADEPT version 2.4 modules recently upgraded to v3.0. The scope and Proposers specific involvement in project: Software development, installation, training and support The deliverables associated with the client's project:

ADEPT v2.4, two sites

Live 2nd Quarter 2001

Site: **City of Jackson Transit**

Contact: Oliver Lindsay

Address: 2350 E. High St., Jackson MI

Telephone: 517-780-3780

Registered riders: 3000

Peak vehicles: 54

Peak Trips: 600

Type of LAN: Server: Microsoft Windows 2000

Client: Microsoft Windows 2000

Number of authorized work stations: 5

Approach used by proposer in meeting's client requirements: In response to the RFP and upon business analysis review of the operational environment the standard suite of ADEPT version 2.4 upgraded to 3.0 modules and optional AVL/MDT and IVR modules. The scope and Proposers specific involvement in project: Software development, installation, training and support The deliverables associated with the client's project:

ADEPT v2.4

Live 1st Quarter 2001

Site: **South Central Illinois Mass Transit District**

Contact: Cindy Schmidt, Operations Manager

Address: 235 North Walnut Street, Centralia, IL 62801

Telephone: 618.532.8076 Fax: 618.532.8078

Registered riders: 3,000 Peak vehicles: 30 Peak Trips: 800/day

Number of service hours operated per month: 400 service hours of operation

Type of LAN: Server: Microsoft Windows NT

Client: Microsoft Windows 98

Number of authorized work stations: 12 Reservations booked each day: 500

Approach used by proposer in meeting's client requirements: In response to the RFP and upon business analysis review of the operational environment the standard suite of ADEPT version 2.2 modules was deemed appropriate to meet requirements, recently upgraded to v3.0 The scope and Proposers specific involvement in project: Client desired a demand response scheduling system with accompanying GIS for a multi-modal Dial-a- Ride service implementation. Client operates and mixes three different modes on their fleet. StrataGen Systems configured a solution to allow the Client to provide the multi-modal service through the use of multiple scheduling windows. ADEPT has been in exclusive use by South Central Transit since December 1999. SCT is midway through the first year of a two year lease agreement, and has communicated the desire to pursue an upgrade from their Access-based version to Sequel Server version. The deliverables associated with the client's project: ADEPTv2.2 with integrated ArcView GIS, Microsoft Access Database. Upgraded to v3.0/SQL Server

Live: December 1999

Site: **Transit Authority of Northern Kentucky (RAMP Program)**

Contact: Lisa Gatwood, Manager of Planning

Address: 3375 Madison Pike Fort Wright, KY 41017

Telephone: 606.578.6943 ext 3018 Fax: 606.578.6952

Registered riders: 500

Peak vehicles: 14 Peak trips: 400/day

Type of Lan: Server: Microsoft Windows NT Server

Client: Microsoft Windows 98

Approach used by proposer in meeting client's requirements: In response to the RFP and upon business analysis review of the operational environment the standard suite of ADEPT version 2.0 modules was deemed appropriate to meet requirements. The scope and proposer's specific involvement in project: Client operates a complementary paratransit service, along with fixed route. Client desired to replace the existing system of Microsoft Excell spreadsheets with an automated scheduling system. StrataGen Systems installed ADEPT, porting all existing Excel data. ADEPT has been in use by the RAMP program since October of 1998. Client has contracted to upgrade to ADEPT version 3.0 and will be implementing an interface to AVL/MDT's from Orbital.

Live: February 2003

Site:	**Worcester Regional Transit Authority**		
Contact:	Nicole Rohan		
Address:	287 Grove Street Worcester, MA 01605		
Telephone:	800.499.6384 ext. 3009 Fax: 508.752.3153		
Registered riders:			
Peak vehicles:	35	Peak Trips:	600/day
Type of Lan:	Server:	Microsoft Windows 2000 Server	
	Client:	Microsoft Windows 2000	

Reservations booked each day:

Approach used by proposer in meeting's client requirements: In response to the RFP and upon business analysis review of the operational environment the standard suite of ADEPT version 5.0 and the Brokerage module was deemed appropriate to meet requirements.

The scope and Proposer's specific involvement in project: Client desired a cost-effective scheduling system that allowed for both manual as well as automated scheduling. Client provide brokerage rules based on negotiated per mile and per trip costs across service zones. ADEPT selects best provider based on rules and scheduling strategy.

Live April 2000

Site:	**City of Cary**		
Project Manager:	Bill Wetegrove		
Address:	Cary, North Carolina		
Telephone:	(281) 528-9508		
Registered riders:	New Service		
Peak vehicles:	10	Peak Trips:	300
Type of LAN:	Server:	Microsoft Windows 2000	
	Client:	Microsoft Windows 2000	

Number of authorized work stations: 6 Reservations booked each day: 300

Approach used by proposer in meeting's client requirements: Pre-sale operational analysis in cooperation with Management contractor. Standard product suite satisfies their requirements. The scope and Proposers specific involvement in project: Software development, installation, training and support The deliverables associated with the client's project: ADEPT v3.0

Live August 2001

Site: **Lake Tahoe**

Contract signed and development underway to supply scheduling software at the high-profile ITS project underway in Lake Tahoe. The system there will incorporate web-based kiosks, IVR systems, AVL/MDC and coordinates multi-jurisdiction public and private fleets with complex business rules

APPENDIX B

VENDOR/SOFTWARE REFERENCE QUESTIONS

Vendor Reference Check/Questions

Organization: _____

Number of paratransit vehicles: _____

Average rides per month: _____

Number of active clients: _____

How long have you used your current software? _____

What software did you previously use? _____

Do you view this new software as an improvement over your previous software? Why or why not?

Do you use AVL technology? _____

Do you use MDT technology? _____

Do you feel the training provided by the vendor was acceptable?

Do you feel the technical/customer service provide by the vendor is acceptable?

Are there any other issues another organization purchasing this software should be aware of?

APPENDIX C

COST COMPARISON CALCULATIONS

The calculations are based on the following assumptions:

1. No annual maintenance fee will be paid the first year
2. A combined AVL/MDC system will cost $5,000 per vehicle, and 20 vehicles will be equipped
3. The figures are not adjusted for inflation
4. Vendors were told a request for proposals would be used, therefore some costs are given in ranges, and a mid-point of the range is used for comparative purposes

RouteMatch – No AVL/MDC Technologies

Basic Software Cost + (Annual Maintenance Fee x 6 years) = 7 year total cost

$43,975 + ($5,195 x 6) = $75,145

Annual Cost (7 year amortization) = 7 year total cost / 7

$75,145 / 7 = $10,735

RouteMatch – AVL/MDC Technologies

AVL/MDC Capable Software + (Annual Maintenance Fee x 6 years) + (AVL/MDC hardware) = 7 year total cost

$58,975 + ($8,195 x 6) + $100,000 = $208,145

Annual Cost (7 year amortization) = 7 year total cost / 7

$208,145 / 7 = $29,735

StrataGen – No AVL/MDC Technologies

Basic Software Cost + (Annual Maintenance Fee x 6 years) = 7 year total cost

$50,000 + ($6,500 x 6) = $89,000

Annual Cost (7 year amortization) = 7 year total cost / 7

$89,000 / 7 = $12,714

StrataGenRouteMatch – AVL/MDC Technologies

AVL/MDC Capable Software + (Annual Maintenance Fee x 6 years) + (AVL/MDC hardware) = 7 year total cost

$100,000 + ($16,000 x 6) + $100,000 = $296,000

Annual Cost (7 year amortization) = 7 year total cost / 7

$296,000 / 7 = $42,286

Trapeze – No AVL/MDC Technologies

Basic Software Cost + (Annual Maintenance Fee x 6 years) = 7 year total cost

$55,000 + ($10,000 x 6) = $115,000

Annual Cost (7 year amortization) = 7 year total cost / 7

$115,000 / 7 = $16,429

Trapeze – AVL/MDC Technologies

AVL/MDC Capable Software + (Annual Maintenance Fee x 6 years) + (AVL/MDC hardware) = 7 year total cost

$105,000 + ($17,000 x 6) + $100,000 = $307,000

Annual Cost (7 year amortization) = 7 year total cost / 7

$307,000 / 7 = $43,857

APPENDIX D

POCATELLO REGIONAL TRANSIT STUDY

The following report was prepared by Meyer, Mohaddes Associates, Inc. for Pocatello Regional Transit and the Idaho Transportation Department. The author called both Meyer, Mohaddes Associates, Inc. and the Idaho Transportation Department and obtained permission to provide a copy of the report to MET Transit.

Of note is the fact that the report, and the activities it encompasses, cost approximately $85,000.