2007-A12

Metropolitan Council

Program Evaluation and Audit

Scheduling and Timekeeping System Implementation Audit

September 26, 2007

INTRODUCTION

Background

Metro Transit contracted with GIRO, Inc. to install HASTUS software in 2004. The HASTUS software provides an operator and route scheduling system for buses and trains as well as operator time reporting. The software was installed in two phases, Phase 1 was the operator bid/pick scheduling and Phase 2 added the operator time reporting with an interface to the PeopleSoft payroll system to generate bi-weekly pay. Additional modules have since been purchased and other modules are being considered for purchase.

The project manager for Phase 1 was from the Service Development department and the project manager for Phase 2 and ongoing implementation is from the Bus Transportation department. For purposes of clarity the project managers will be identified as SD project manager for the project manager from Service Development and GO project manager for the manager from garage operations.

Purpose

The purpose of this review is to ensure that the objectives of implementing the HASTUS system have been met and are aligned to meet the needs of the Metropolitan Council. In addition the review identifies potential risks and weakness in controls as well as solutions to mitigate risks and strengthen controls.

Scope

The HASTUS project was reviewed from March 2002 through August 2007. The system development life cycle was reviewed from pre-implementation through post implementation.

Methodology

Data Collection

Interviews were conducted with:

- Project administrators
- Payroll manager
- IS staff
- End users
- Finance department staff

The following were reviewed:

- Original RFP
- Contracts with GIRO, Inc.
- Payments to GIRO, Inc.
- Implementation and ongoing cost documentation
- Documentation of achievement of milestones
- Acceptance testing data
- Ongoing issues documentation

- Service level agreements
- Control process documentation
- System access control and security
- Audit trails
- System performance data
- Business continuity plan

Data Analysis

- Payroll transactions generated by HASTUS were tested for accuracy.
- An analysis was performed of the ongoing and implementation costs of HASTUS.
- Organizational efficiencies achieved as a result of HASTUS were examined.

Evaluation

HASTUS was tested and evaluated to determine:

- The adequacy of procedures and controls over input, processing and output to ensure that information captured is complete and accurate and that information generated is accurate, reliable and timely.
- The adequacy of application level access control.
- The ability to recover from unexpected shutdowns while maintaining data integrity.

Assurances

This review was conducted in conformance with *Government Auditing Standards* and the *Standards for the Professional Practice of Internal Auditing* of the Institute of Internal Auditors. Findings are reported to auditee, senior management, the Regional Administrator and the Audit Committee of the Metropolitan Council.

OBSERVATIONS

Scheduling Software

Phase 1 of the HASTUS implementation included the installation of HASTUS version 2004. This was later upgraded to HASTUS 2005. Phase 1 was primarily scheduling software. The installed software included the following:

- HASTUS-Vehicle -- for scheduling services. It is a graphical scheduler designed to build efficient timetables and vehicle schedules.
- HASTUS-Crew -- for operator duties. Its automated and interactive procedures facilitate cutting vehicle blocks and combining pieces of work into daily operator duties while maintaining consistency with the provisions of collective bargaining unit agreements.
- CrewOpt -- a module which provides a complete set of tools for interactive and automated creation of work assignment.
- Geo -- a geographic data base that interfaces with the other modules to support planning and operations.
- HASTUS-Roster -- Roster assists in efficiently assigning weekly operator assignments. It incorporates daily assignments along with days off.
- Bid -- an automated pick process. This incorporates the operator's seniority rights in the pick.

In order to determine efficiencies achieved as result of the implementation of Phase 1 Program Evaluation and Audit (Audit) interviewed scheduling and garage management staff. Overall there was consensus that this software was a significant improvement over the software it replaced. Garage staff is able to easily review work and vehicle assignments and to fill open blocks of work.

Audit also reviewed financial data concerning operator salaries and fringe benefit costs. This data was reviewed in order to quantify efficiencies achieved as a result of the implementation of the HASTUS scheduling software. Although there are a number of ways to analyze the data Audit chose to review three of the calculations provided by the Metro Transit finance department. The estimated savings scenarios were as follows:

- $3,200,000 Budgeted operator salaries and fringe benefits versus actual operator salaries and fringe benefits.
- $2,961,000 Equivalent of budgeted FTEs versus actual FTES. Savings of 24 full time operator FTEs and 19 part time operator FTES
- $3,000,000 Increase of 96 hours of service per operator in 2006

Based on Audit's review of the data compiled by Metro Transit, we conclude that the HASTUS scheduling system has created cost savings for Metro Transit of approximately $3 million per year.

Payroll Software

Implementation

Phase 2 of the HASTUS implementation occurred in 2006. Payroll time reporting went live in August 2006. The HASTUS time reporting software incorporates the ATU contractual rules to provide data to an interface called Mini Calc which converts the operator time information to finance general ledger codes. The information is then transferred to the PeopleSoft payroll system. Prior to use of the HASTUS time reporting software the Transit Information System (TIS) was used with Timeroll/Timecalc to process driver payroll data. With the implementation of HASTUS time reporting software four fewer positions are utilized for processing the driver payroll. In addition, the GO project and payroll managers have spent a significant amount of time each pay period to ensure timely and accurate processing of the driver payroll.

HASTUS payroll reports do not consistently match paycheck data.

The HASTUS payroll time reports are the equivalent of a timesheet for each driver. Audit sampled 30 operator's time reports and the corresponding paycheck data for three pay periods in 2007. The sample was based on an expected error rate of 2% and a confidence level of 95%. The following is a summary of the sampling results:

Table 1 HASTUS Accuracy for Payroll

Pay Period	Number Tested	Variances from Data Recorded in PeopleSoft	Variance Rate
1	30	9	30%
5	30	8	27%
14	30	5	17%
Total	90	22	25%

The majority of variances were due to issues with processing premium pay, spread time and holidays. A smaller percent of variances had to do with information being provided to payroll after the interface had been completed. In all instances the paycheck data was correct and the payroll department had documentation to support the amount paid on the actual paycheck.

Pay period 14 occurred after the release of HASTUS Version 28. The number of discrepancies was significantly lower than the pay periods tested prior to the release. Several issues concerning payroll were addressed in Version 28, which resulted in fewer discrepancies.

HASTUS payroll reports do not accurately reflect historical data.

The Metro Transit Operations area of the Metropolitan Council Info intranet site includes the posting of HASTUS payroll time reports. The drivers' payroll time reports are posted by pay period for each garage. This information matches the HASTUS payroll data that is imported into the PeopleSoft payroll system.

Audit compared the HASTUS Payroll Report for Pay Period 1 that is posted on the intranet and the historical data for pay period 1 that is within the HASTUS system. The original 30 employees who were used in the payroll testing were also used for this comparison. In ten cases

the historical data in HASTUS does not match the actual HASTUS payroll report data that was used for payroll purposes.

There are at least two explanations for the differences. The first is that changes have been made to HASTUS after the data has been submitted to PeopleSoft.

The second reason is that with the current version of HASTUS, when a rule change is made in the program there is no provision for an effective date. As a result the rule affects historical data. The lack of an effective date on the program changes results in the HASTUS system being unreliable for accurate historical pay data.

In order to ensure accurate support for each paycheck the Payroll department maintains a copy of the HASTUS data that is used for each pay period. Again, it is important to note that the payroll department has documentation for all variances between the HASTUS reports and the actual paycheck data.

Payroll does not reconcile PeopleSoft operator hours paid to HASTUS hours reported.

HASTUS reported time was compared to the PeopleSoft systems reported time for operators for 6 of the first 12 pay periods of 2007. The PeopleSoft operators' payroll exceeded the HASTUS reports by an average of 7,118 hours per pay period. This equates to an average of close to 6% of the total payroll. The operators' payroll is approximately $2,500,000, six percent of that equates to approximately $150,000 per pay period. There is no evidence of inappropriate payments. There are several things such as adjustments not recorded in HASTUS, worker's compensation and various leave payouts that make up the difference. Payroll does not reconcile between PeopleSoft hours and reported hours from any of the systems that interface with PeopleSoft. If payroll does not reconcile reported hours worked to hours paid there is a risk of errors and undetected over or underpayments.

Changes to HASTUS reported time made by system administrator are not monitored.

The GO project manager determines what changes are needed to address new pay issues that occur and makes these changes in HASTUS himself. These changes affect what is paid to operators. Although no major problems have been reported, there is no system in place to monitor the changes that the GO project manager is making.

Processes to address decisions on interpretation of the ATU contract pay rules do not define when the Human Resources Department is to be included.

On a weekly basis the Payroll manager, the Go Project administrator and the Director of Bus Operations meet to discuss ongoing HASTUS time reporting issues. The GO project manager makes decisions regarding interpretation of the ATU contract pay rules in conjunction with the Payroll manager. When there is a disagreement as to how to handle payment for certain types of work, the GO project manager meets with the payroll manager to clarify why or why not an employee should be paid a certain way. At times, the GO project manager disagrees with the payroll manager as to how the contract should be interpreted. In those instances the issue is brought to the Director of Bus Operations for resolution. Resolution of most issues is currently decided by the Director of Bus Operations with input from the GO project manager and the Payroll manager. There are no defined parameters for when the Human Resource department is to be involved in the decisions.

Contract negotiation and administration are the responsibility of the Director of Human Resources and her Labor Relations specialists. HR is considered the "expert" in such matters by the Council. Excluding HR from any decisions related to contract interpretation risks making mistakes, being inconsistent in contract interpretations made and impairs HR's ability to effectively negotiate contract issues that may arise without their knowledge.

HASTUS version 28 has created significant time delays in processing of payroll.

In May 2007 version 28 of HASTUS was installed. This version included a number of fixes for payroll related issues. The GO project manager tested this system prior to installation. This corrected a number of issues with the payroll system. This version also created a significant delay in processing payroll reports. Reports which had previously taken about two hours to run now can take up to 15 hours. This has resulted in delays for users of other parts of the HASTUS system. The data base administrator found a number of sequence statements in the programming that were causing looping. Version 28 caused the servers to be above 80 percent capacity and often closer to full capacity on numerous occasions.

The GO project manager acknowledges that there is a bug in the program and that this has increased payroll processing time ten-fold. He requested that payroll run the major reports after the p.m. rush hour. He has also suggested that they do their work differently and that they run reports differently. However, payroll processing time continues to be an issue for the payroll department.

The GO project manager has reported that HASTUS version 30 should address this issue.

System Security

The password for the schema in the data base is not changed after the vendor has accessed the data base for authorized system work.

The password for the data base schema is currently known by GIRO, Inc. and the database administrator. Failure to change the password after the vendor has completed authorized work can create opportunities for unauthorized persons to enter the system and access private information or compromise the integrity of the data base.

HASTUS does not require a second login, creating additional security risk.

The HASTUS system is activated when users log in to the Citrix server. It does not have a separate login screen where users must enter a username and password. Once a user is in the Citrix server s/he has the access rights to HASTUS assigned to them by the system administrator. This creates additional risk of unauthorized individuals accessing the HASTUS system, which contains a great deal of non-public or private information. The current HASTUS software does not allow for this second password authentication. The GO project manager has reported that a change would require a substantial and costly redesign of the vendor's software product.

HASTUS users have read access to data unrelated to job function.

Various users were asked to look at what HASTUS data they had access to. In each instance the user had access to portions of HASTUS unrelated to their job function. Private data such as home address and phone number could be viewed by the customer service department. Scheduling and Service Events data could be viewed from the payroll department. In each

instance when asked to see if they could view this data the users said that they did not want access to anything that they didn't have a need to know. The GO project manager said he didn't know if he could block the read only access to the entire system from the users.

The SD project manager said he had plans to review access rights that have been granted to people in his area to ensure that those who do still have a business reason to access HASTUS can do so, but any others do not have access.

Users may believe they have changed data on the HASTUS system when they have not.

Authorized users at the garage have the ability to temporarily change personal data on the HASTUS system. When they make these changes they are to submit a change request to the Human Resources department. The users may not be aware that the changes they are inputting on the HASTUS system will be overwritten by regularly scheduled interfaces from HRIS.

System Development

Contract

The original contract was awarded as a result of a request for proposal for scheduling and garage operations software. The RFP review team consisted of a cross-section of staff from transit representing scheduling, garage operations, IS and finance. Review of the contract file found that the Council policy was followed in awarding the original contract. Negotiation of the contract was a lengthy process which culminated in a signed contract on February 3, 2004.

Contract language appears to extremely limit contractor liability.

Section 12.3 of the contract with GIRO, Inc, states:

> In no event shall GIRO have any liability toward the Licensee or any third party for loss (direct or indirect) of profits, loss of business revenue or failure to realize expected savings or for any indirect, special or consequential loss or damages, including, but not limited to, **loss of use or the loss of data or information of any kind, however caused,** damages to equipment or to third party's software **or failure of the Software to work or perform in any way,** or any liability to third parties, even if advised of the possibility thereof **and whether arising from negligence, breach of contract or otherwise**.

In addition, GIRO, Inc.'s liability is limited by contract to the cost of license fees. This language would not seem to be in the best interest of the Council. However, it was the outcome of lengthy negotiations and was ultimately deemed acceptable by Metro Transit, in consultation with representatives from the Contracts and Procurement Unit.

Federal Transit Administration (FTA) contract language with respect to Rights in Data and Patent Rights is missing from contract.

The GIRO, Inc, contracts are funded by FTA Grant MN-90-X172. The FTA requires a "Rights in Data and Patents" clause be included when a FTA funds are used for developmental work. The initial contract with GIRO, Inc. was for existing computer software implementation and a limited amount of customization. The SD project director included a memo to the file that he had reviewed the FTA standard contract language with respect to Rights in Data and Patents and

determined that the language was not applicable to the work covered in the original contract with GIRO, Inc.

On March 13, 2006 the Council approved an amendment to the contract for $146,000 for employee management system software development and procurement. This amendment to the contract increased the total contract with GIRO, Inc. to $1,809,230. The amendment states that the Council's TIS system was recognized by GIRO, Inc. as a transit industry-leading example of what GIRO, Inc, desires to market to all of their customers. The TIS software was developed specifically for the Council utilizing $374,000 in FTA grant funds in 2001 and 2002.

The amendment and the contract language state that the Council is paying GIRO, Inc. for the development of software that GIRO, Inc. intends to sell to other customers. The amendment to contract fails to include the standard FTA contract language with respect to Rights in Data and Patents.

Vendor support is limited.

The maintenance and support contract from GIRO, Inc. provides for electronic mail and telephone support from Monday through Friday from 9am to 5pm Eastern Standard Time excluding Quebec public holidays. The Quebec public holidays are listed as follows:

- Victoria Day, Monday preceding May 25
- Quebec National Day, June 24
- Canada Day, July 1
- Labor Day, First Monday of September
- Thanksgiving Day(Canada) Second Monday of October
- Christmas Day, December 25
- All days between Christmas and New Year's Day

Due to the importance of the functions covered by the HASTUS software the IS department has expressed concern about the limited vendor support timeframe. IS is not comfortable with doing system patches and installations during times when vendor support is unavailable. This forces them to perform the work prime business hours which affects user's ability to utilize the HASTUS system. The project managers said that it is cost prohibitive to have 24 hour service provided by the vendor and felt that this arrangement would provide the necessary level of support. To supplement the vendor support for HASTUS, the project managers and the IS department, in the past, had begun to negotiate a service level of agreement to specify what level of support IS could provide versus what would be provided by GIRO.

Planning Processes

IS processes were not followed.

The Council has a Chief Information Officer (CIO) responsible for IS operations across the Council. At the time of the initial planning for the HASTUS system a return on investment was to be prepared. Both project managers said the ROI was delayed and responsibility for it was frequently reassigned.

IS has had a process in place for the last few years requiring that projects be submitted for review by the Metro Transit IS Advisory Group. There is an Information Technology Project Planning

form that is to be submitted for each proposed IS project. These are then prioritized. For several of the HASTUS projects the sheets were either not submitted or provided limited detail. The GO project manager didn't feel there was a need for IS involvement since he is implementing off the shelf software yet, IS administers the rest of the systems with which HASTUS interfaces and provides the network that enables HASTUS to run. Their role in maintaining HASTUS operability will be crucial, especially with inadequate vendor support.

Employee Management Software

The resolution presented to the Council authorizing the contract for the development of the Employee Management software reflected only the cost of procuring the module. A review of the contract found that this module would not function without the purchase of the HASTUS 2007 upgrade.

Business plans for HASTUS are incomplete and lacking in detail.

During the course of the audit multiple concerns were raised by Metro Transit staff concerning a lack of documentation as to why the GO project manager was planning to replace the systems they currently use. Audit was unable to obtain any comprehensive documentation of a business case for expanding the HASTUS system or eliminating any current systems.

Milestones for the project were developed by the contractor.

Almost all of the documentation received from the GO project manager states that Metro Transit will save money but there is no documentation as to how much will be saved, what the projected future costs of the new technology will be and what ongoing costs are projected to be. An example of this is the employee management software that is replacing TIS. The Council resolution stated that the projected savings would be "up to $200,000 per year". There were no ongoing license fees for TIS and the associated IS salary costs were well below $200,000. In addition, HASTUS cannot duplicate all of the programs in TIS.

Testing

Payroll testing log does not adequately track testing outcomes.

Prior to implementation of the payroll time reporting portion of HASTUS payroll tests were performed to verify the accuracy of the system. Although the payroll manager and the project manager had agreed to the testing process, Audit found that the documentation of results was inadequate. The initial testing outcomes are not documented. Re-testing outcomes are listed under initial testing date. There weren't any pass fail percentages included with the documentation. The GO project manager has retained 1,000s of emails regarding various payroll problems and the fixes to the problems. However, no comprehensive, formal log has been maintained.

The GO project manager is the only staff person currently knowledgeable enough about the system to readily address payroll testing.

The GO project manager is the only staff person with necessary subject-knowledge to address payroll issues and testing. His assistant said that he could learn it but at this time it would take him a significant amount of time to deal with payroll system issues. This leaves the GO project

manager in the sole position of knowledge and authority for the HASTUS system, which creates problems in his absence and also may lead to risks of the system not having adequate controls or verifiable information.

Testing of new releases is inadequate.

The process for implementing new releases of the HASTUS software has been to receive a patch, apply it to a test system, perform some testing by the GO project manager and then the code is put into production. The Data Base Administrator said that release 28 was not well written. The SQL code consumed too many resources and was inefficient. Prior to release 28 when the payroll was processing there were spare CPU resources available to be utilized by other users. Since release 28, once payroll processing begins, all available CPU resources are utilized by the payroll process.

The test server had inadequate capacity for the actual performance to be fully tested. Release 30 is expected to address the performance issues identified after implementation of release 28, and IS is working with the GO Project Manager to establish a more complete testing environment for future releases and patches.

Communication

Throughout the planning and implementation processes communication with stakeholders has been inadequate.

Audit found that there was a significant communications issue between the GO project manager and stakeholders. Stakeholders expressed concerns that they did not know what the business plan was, why they should change processes that they felt were working, how the changes would affect their work and what the overall effects of proposed changes would be**.**

Key stakeholders have been brought into the process with little lead time to review plans.

A portion of HASTUS Service Events is deployed to provide data that Risk Management currently obtains from TIS. The current software used by Risk Management is STARS. The GO project manager encouraged the Director of Risk Management to fly in a STARS system representative within six weeks to work with GIRO, Inc. on an interface. The Risk Manager didn't feel he had sufficient time or information to make a decision on changing his department's business practices.

Training

Training manuals were developed by the GO project manager. He has provided the majority of training to the systems users. Garage staff feels there should be some ongoing training for users at the garages. Some of the staff, who had been trained, indicated that the training wasn't timely. Relief dispatchers are often trained by other garage staff. The costs of training have never been calculated in terms of project costs other than material costs, although there was certainly staff time, computer resources and lost work time for attending training incurred during implementation.

Future training plans are inadequate for a system of this size.

There is no defined training plan. The GO project manager, who provides most of the training himself, felt it would take a year for someone from Learning and Organizational Development to gain enough knowledge to be able to provide HASTUS training. He said that there are manuals that users can refer to for information in addition to the formal training.

Cost of Project

The project managers for Phase 1 and Phase 2 place the cost of HASTUS at about $1,700,000. Audit found that the costs of implementing HASTUS can not be fully calculated since labor costs were not charged to this project. The project managers defined the costs for the implementation as the payments to GIRO, Inc., initial hardware acquisitions and the payroll and manual consultants. They have presented cost data based on that belief. However, full project costing should include hardware, staff costs, interface development and training. Implementation costs that Audit was able to identify and quantify were:

GIRO, Inc.	$1,871,187	Through March 2007
Oracle RAC	500,000	Estimate
Servers and Licenses	97,947	
RFP Costs	28,285	
Payroll Consultant	116,000	
Manual Consultant	3,000	
Siemens Interface	75,000	
Atis Interface	10,000	
	$2,701,419	
Quantifiable IS and Project Management Cost	900,000	
Estimated Costs*	$3,601,419	

At the current time there are costs for the GO project manager, an operations analyst, a data base administrator, two network system support staff and an IS senior application developer. Audit costed these individuals based on information provided as to amount of time spent on the project currently for ongoing maintenance and new patch releases. This cost is over $300,000 annually.

*During implementation multiple departments within Metro Transit worked together to successfully implement this project. Significant amount of employee time has been used for testing GIRO, Inc.'s products as well as for training on their products. Audit estimates these costs to be about $500,000.

Council funds have been expended so that Council staff can test a HASTUS module which has not been purchased.

Council funds have been paid to GIRO, Inc. to allow Council staff to access GIRO, Inc.'s system for purposes of evaluating the Service Events module. A significant amount of Transit Control Center staff time, management time and IS time was spent evaluating the module and telling GIRO, Inc. what they feel is missing from it compared to the current systems used by Metro Transit. The purpose of the testing per the GO project manager is to determine the amount of customizations required to be made to the module prior to purchase. However, the level of

financial expenditure is significant for testing software that has not been selected, especially given that other packages were not tested.

System Backup

There is a single point of failure for this system

The Go project manager has been the main person working on the HASTUS software. He is the only one who is working on aspects other than scheduling. The GO Project Manager stated that he recognized early on in the process that the agency was too thin on project backup and had expressed this concern to the original project steering committee. However, the issue was not addressed. The system is now operational and continues to lack adequate back up for the GO Project Manager.

The Director of Transportation said that he had contacted GIRO, Inc. to see if they could provide the necessary support in the event the Go project manager was no longer available. He reported that they said they would be able to provide the necessary support. However, it should be noted that the cost of such an arrangement may be significant.

The HASTUS system does not have an audit trail.

The GO project manager said that there currently is no comprehensive audit trail for system changes and modifications. He anticipates that Version 2007 will allow most changes to be tracked, maintaining a better trail for review.

CONCLUSIONS

1. **Scheduling software implementation has resulted in significant efficiencies.**

The implementation of the scheduling software has created significant efficiencies for Metro Transit. Bus operator time is scheduled more efficiently as reflected by the both the budgetary savings and the increase in the number of annual service hours per operator. The scheduling software was implemented within the timelines that had been initially scheduled.

2. **Payroll software implementation is a work in process.**

It has taken a year to get the payroll time reporting software to the point where most of the kinks have been worked out. The processing time delays experienced with release 28 still need to be addressed. The effects of a new contract and work rules will not be known until the next ATU contract is implemented. The Payroll Manager, the Director of Bus Transportation and the Go project manager continue to meet weekly to address software issues.

3. **The GIRO, Inc. contract is deficient as to FTA contract regulations.**

The use of FTA funds for a development project requires specific contract language regarding Rights in Data and Patent Rights. The contract with GIRO, Inc. does not include the language required by the FTA. This is a reportable condition under FTA and Yellowbook guidelines.

4. **There is inadequate documentation of plans for replacement of current Metro Transit operations software with HASTUS software.**

The GO project manager has actively been pursuing utilizing HASTUS software to replace various software throughout Metro Transit. There is little evidence to show that business cases have been presented for replacement of current technologies. There has not been adequate review of who utilizes current software for what purposes. A standard business practice would be to involve the stakeholders in making a determination as to whether a change is needed and what the benefits to the organization will be. It is not possible for one person to know how all of transit operational software is used.

5. **The security of the system is inadequate.**

The HASTUS system should be password protected with a requirement that users change their passwords on a regular basis.

When GIRO, Inc. staff is doing work onsite the data base schema password should be changed when their work is completed.

This system is an integral part of Metro Transit operations and must be secured adequately to ensure data integrity.

6. **There is a single point of failure for the HASTUS system which has not been addressed.**

While there are three staff members with system administrator rights the bulk of duties fall with the GO project manager. There isn't anyone else who has been working with the payroll time reporting software or the newly purchased modules. If this person were to leave or be unable to work, the Council would need to rely on GIRO, Inc. to provide daily support.

7. **Vendor support hours for the project are inadequate.**

The HASTUS system is a major operational software for Metro Transit. Standard industry practice is to perform maintenance, patches and upgrades during hours that least affect business operations. The current vendor support does not provide support during non-Canadian business hours. IS support for HASTUS also needs to be defined.

RECOMMENDATIONS

Program Evaluation and Audit recommendations are categorized according to the level of risk they pose for the Council. The categories are:

- **Essential** – Steps must be taken to avoid the emergence of critical risks to the Council or to add great value to the Council and its programs. Essential recommendations are tracked through the Audit Database and status is reported twice annually to the Council's Audit Committee.
- **Significant** – Adds value to programs or initiatives of the Council, but is not necessary to avoid major control risks or other critical risk exposures. Significant recommendations are also tracked with status reports to the Council's Audit Committee.
- **Considerations** – Recommendation would be beneficial, but may be subject to being set aside in favor of higher priority activities for the Council, or may require collaboration with another program area or division. Considerations are not tracked or reported. Their implementation is solely at the hands of management.
- **Verbal Recommendation** – An issue was found that bears mentioning, but is not sufficient to constitute a control risk or other repercussions to warrant inclusion in the written report. Verbal recommendations are documented in the file, but are not tracked or reported regularly.

1. **Metro Transit needs to take steps to ensure that there is adequate backup for the system administrator. (Essential)**

The risk of major disruption to operations will exist until there is adequate backup for the GO project manager who is the main system administrator. Almost all responsibilities for dealing with software issues are being handled by the GO project manager. There is need for duties to be delegated amongst appropriate staff. The GO project manager says that he is the only HASTUS subject matter expert in the organization. The Council employs a significant number of IS staff who may be able to provide the backup that is needed for this system. Metro Transit management must work with the CIO to address this issue.

Management Response: *Management will develop and implement a staffing plan to better distribute and delegate tasks and responsibilities concentrated in the GO project manager/system administrator within 30 days.*

2. **Metro Transit management should correct the language deficiency to ensure contract compliance with FTA regulations. (Essential)**

Metro Transit management should identify the appropriate contract provisions, work to see that any problems can be corrected within two weeks. Metro Transit management should consult with the Grants Manager to determine what steps need to be taken to be in compliance with FTA requirements. In addition, Metro Transit management, the CIO and the Grants Manager should begin discussions on developing Council policies and procedures to address the issue of intellectual property.

Management Response: *Management will provide all the facts regarding FTA contract language that exists in the 02P070 contract (Amendment 3) to the Contracting and Procurement Unit of the Council and the Council's General Counsel in order to make a determination as to whether or not the Rights in Data and Patent Rights contract language have been violated within 30 days.*

3. **All Metro Transit IS projects should be required to be brought before the Metro Transit IS Advisory Group and implemented in coordination with the CIO. (Essential)**

The Council has multiple priorities in the IS area. In order for the CIO to adequately administer the Council's information technologies it is imperative that all technology projects be coordinated with the IS department. The business liaisons were developed in order to coordinate IS projects. The established systems should be utilized and Metro Transit management should not allow these processes to be sidestepped. Each Metro Transit system is connected to the Council's network and vulnerability with one system has the potential to jeopardize the entire system.

Management Response: *Management is developing and will implement an Information Systems governance plan that all project-level work will follow. Management notes that it did follow the process that was in place during the projects life cycle.*

4. **Project staff should work with IS supervisors to identify appropriate testing documentation and criteria. (Significant)**

Best practice standards require complete documentation of all test results. Tests that fail on first attempt, adjustments made, testing dates, results, subsequent retesting should be fully documented. Adequate documentation provides a basis for others to step in and work with the system if the GO project manager is no longer associated with the project. The IS supervisors have extensive knowledge of implementation testing and documentation. The GO project should leverage their expertise to ensure that adequate testing is documented and completed before implementation of new releases.

Management Response: *Management is currently developing a best practices process that will be completed by November 1, 2007 that will be used as a basis for all software and hardware testing and implementation. Individual projects will start with the base test plan and incorporate project dependent variables in its overall project testing plan.*

5. **Training plans should be developed for the HASTUS system. (Significant)**

Users of the system change for various reasons. A plan should be developed for training for both new users and refresher training for current users. The GO project manager should train others to conduct training sessions.

Management Response: *Management meets bi-weekly with its core HASTUS software user community to plan, develop, and implement training and refresher training for all stakeholders – ongoing. Refresher training will be completed by the end of November 2007.*

6. **Metro Transit should coordinate with IS and GIRO, Inc. to ensure adequate system support coverage. (Significant)**

If the use of HASTUS systems expands at Metro Transit the need for 24/7 coverage increases. Metro Transit cannot afford to have major operational systems without 24/7 support. Metro Transit and IS management need to define the level of support that IS will provide in coordination with the service provided by GIRO, Inc. The cost for 24/7 support may be prohibitive but that must be weighed against whether or not Metro Transit can afford to have a major operational system down for an extended period. Metro Transit needs to determine what amount of time they can be down without a major disruption to service.

Management Response: *Management believes that the costs associated to contract for 24/7 vendor support will not resolve unexpected major operational system down time. Therefore, management is not inclined to contract for this type of support coverage due to its very high cost and little return on investment. Metro Transit, and Metropolitan Council IS will assign IS staff to support the HASTUS application when vendor support is not available. Management agrees that some off-hour vendor support for the planned interruption of the operational system can be explored with the vendor.*

7. **Metro Transit should address password issues**. **(Essential)**

The password for the database schema should be changed whenever the contractor has been authorized to access the data base and has completed the work they were authorized to perform.

The system administrators should meet with IS security staff to determine whether the current password system is adequate to ensure that the HASTUS system is secure without having a separate HASTUS password.

Management Response: *Management directed IS staff to immediately modify the default schema password which was completed on September 20, 2007. Both the Service Development and Garage Operations Project Managers/System Administrators met with the IS staff prior to the implementation of the project and the consensus view was that the network authentication process of login and password provided adequate security. However, in light of the audit findings the IS department will, within the next two months, conduct a review for the appropriate password authentication.*

8. **Steps must be taken to ensure that communications improves in order to ensure that future HASTUS ventures meet the needs of the organization and are understood by all stakeholders. (Significant)**

There is a need for better communication between the GO project manager and all affected stakeholders. In order for major changes to operational software to be successful there must be buy in from management and users. It should not be expected that one person can understand all the aspects of the organization. This can only occur if there is open discussion about what the business needs are, how will work be affected, what are the expected long and short term benefits, what are the costs and what will be the affect on individuals.

Management Response: *Management agrees that high quality two-way communication during the development and implementation of all projects is desired. Management will take steps to ensure that documentation, timelines, and standard operating procedures are well understood*

and documented for all of the project's stakeholders. Examples include, but are not limited to; project team meetings, task lists and feedback, follow up discussion, etc.

9. **Payroll staff should reconcile hours reported through the HASTUS system to hours paid on the Bus Operators payroll. (Significant)**

There is an average of 7,118 hours paid on PeopleSoft in excess of the number of hours from the HASTUS system. The difference is expected to reflect workers compensation, sick and FMLA leave payouts. Payroll hours should be reconciled in order to ensure that only authorized payments are being made.

Management Response: *Management notes that the Council's Payroll Department does reconcile the HASTUS system interface to payroll totals loaded into PeopleSoft. After loading the interface there are numerous pay entries (such as accidents, DOT's and leave payoffs) made only in PeopleSoft that account for the difference in pay hours. Within 60 days the Payroll Department will begin to use existing PeopleSoft queries to track these adjustments and determine reasonableness, investigating items that are out of the normal variance.*

10. **Metro Transit should require GIRO, Inc. to have an audit trail for all transactions. (Significant)**

All major operational systems should have an audit trail. In order to identify the source of transactions most major systems, especially those affecting payroll, have an audit trail. The HASUS system is a time reporting system and as such all transactions should be traceable to the source of entry.

In, addition a process should be developed to monitor changes made to the system by the system administrator to ensure that changes accurately reflect the operational intent of Metro Transit Management.

Management Response**:** *Management has specified in HASTUS version 2007 that all payroll and other transactions that affect the pay of employees is tracked in an audit trail. This will occur with the implementation of version 2007 in Spring-2008. Management notes that there are already a large number of transactions affecting employee pay being tracked in an audit trail via the HASTUS User Actions (HUA) functions within version 2005 of the HASTUS software.*

The Assistant Director of Field Operations will be responsible to monitor changes made to the HASTUS system to ensure the changes accurately reflect the operational intent.

11. **The processes for determining when Human Resources management should be included in contract pay rule interpretation should be defined. (Significant)**

When there are disputes concerning contract interpretation for purposes of payroll rules the resolution of the issue is currently, in most instances, decided by the Bus Operations manager, the Payroll Manager and the GO project administrator. There are instances where the interpretations may have an effect on future contract negotiation. It is appropriate that the Bus Operations Director, the Payroll manager and the system administrator work with Human Resource Department management, which oversees Labor Relations, to determine when Labor relations should be involved in contract pay interpretations.

Management Response: *Situations in which software does not accurately apply a labor contract are inevitable. However, such situations must be addressed as they are discovered. The operational manager, in this case the Director of Bus Transportation, will resolve contract/software incongruities wherein 1.) The contract is clear and unambiguous as well as consistent with past practice, or 2.) The contract has been previously interpreted and subsequently applied in a consistent manner. Whenever there is any doubt of the proper application of the contract, the Director of Human Resources or Assistant Director of Human Resources for Labor Relations will be consulted. The GO project administrator will assure that software accurately implements of all contract determinations and interpretations.*

12. **Metro Transit should insist that HASTUS have effective dates for system rules. (Significant)**

The time reporting system is set up with rules that affect how data is treated in the system. When the rules change the current system changes the historical data. As a time reporting system the historical data should not be changed.

Management Response: *Management has specified in HASTUS version 2007 that all payroll attributes be effective dated in order that changes in the labor agreement over time allow historical payroll data to be computed correctly based on expired labor agreements. This will occur with the implementation of version 2007 in Spring-2008 and be in place at the expiration of the current labor agreement. All payroll attributes will be copied and effective dated for the August 1, 2008 labor agreement.*

13. **The HASTUS system should be changed to restrict read only access. (Significant)**

Currently all users of HASTUS have read access to all areas of the HASTUS system. There is personal data that currently can be read by all users. Steps should be taken to limit access on a need to know basis.

Management Response: *Management will evaluate all user level permissions to the HASTUS database within the next 30 days and determine if the level of permissions matches their individual role in the Council.*

14. **User rights and abilities to change things on the HASTUS should be reviewed periodically to ensure that rights meet the current needs of the user. (Significant)**

In order to ensure data integrity the system administrator should periodically assess user rights. As staff assignments change there is a need to ensure that they rights change appropriately. Metro Transit should review user rights at least annually to ensure adequate access to those who need it and only restricted access to anyone else.

Management Response: *Management will re-evaluate individual user level permissions when an employee's role changes.*