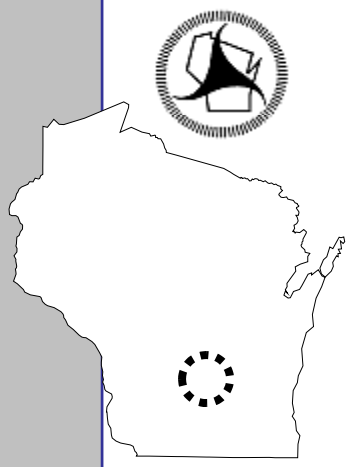

Wisconsin Department of Transportation

Transit System Management Performance Audit

of the

Madison Metro Transit System

FINAL REPORT

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In association with
AECOM

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EXECUTIVE SUMMARY

The Wisconsin Department of Transportation (WisDOT) is required by Wisconsin Statutes to conduct a management performance audit of all urban transit systems receiving state aid at least once every five years. This report addresses the Management Performance Audit of the City of Madison Metro Transit.

This is the fifth management performance audit of Metro Transit. Previous audits were conducted in 1987, 1993, 1999, and 2003.

The Wisconsin Statutes indicate that the scope of the audit shall be determined by WisDOT in cooperation with the management of the transit system subject to the audit. The established scope for these audits consists of three major elements. The first element is the conduct of a peer group and trend analysis to determine the overall system effectiveness and operating efficiency. Second, the scope includes a review of the policy and decision-making process of the system in terms of its impact on system effectiveness and operating efficiency. The third element is a detailed review of each functional area involved in operating and administering a transit system.

This report summarizes the results of each of these elements and highlights overall findings and recommendations.

Peer Group and Trend Analysis

The initial analysis task in this management performance audit is a comprehensive review of the operating efficiency and effectiveness of Metro Transit through the use of selected performance indicators. Three techniques were employed for this purpose, as follows:

- **Peer Group Analysis** - Compared the performance of Metro Transit with a group of transit systems of similar size and service characteristics from locations throughout the country.

- **Trend Line Analysis** - Defines Metro Transit's performance over a five-year period beginning with the previous review in 2003.

- **Combination Analysis** – Provides a synthesis of the two techniques.

The peer group analysis conducted for this audit followed the same methodology of that used for the 2003 report. That is, two separate peer groups were used to analyze Metro Transit's performance in different measures. The two peer groups are comprised of the same transit systems used in the 2003 audit.

The first group included 11 systems with similar service level characteristics (i.e., hours and miles of service, and peak vehicles). The 11 systems that were selected are listed below. These systems also had overall expenses, passenger revenue and unlinked passenger trips levels similar to Metro Transit. However, among transit systems of this size, it was not possible to replicate the population and density characteristics of Metro Transit. This is due to the fact that Metro Transit provides a much higher level of service relative to the population that it serves than any of its peers.

To analyze the overall level of service provided by Metro Transit, eight transit systems were selected with service area populations similar to Metro Transit regardless of the size of the transit system (i.e., hours and miles of service, and peak vehicles). This group has been termed the Population Peer Group. The group with similar service levels has been termed the Service Level Peer Group. The Service Level Peer Group was the primary peer group used to review Metro Transit's performance.

- **Service Level Peer Group -** The 11 systems that comprised the Service Level Peer Group are listed below. This group was the primary group used to review Metro Transit's performance.

  - Capital District Transit Authority (CDTA) in Albany
  - Miami Valley Regional Transit Authority (RTA) in Dayton
  - Connecticut Transit (CT Transit) in Hartford
  - Indianapolis Public Transportation Corporation in Indianapolis
  - Metro Area Transit in Omaha
  - Rhode Island Public Transit Authority (RIPTA) in Providence
  - Rochester-Genesee Regional Transportation Authority (RTA) in Rochester
  - Spokane Transit Authority (STA) in Spokane
  - Central New York Regional Transportation Authority (Centro) in Syracuse
  - Pierce County Public Transportation Benefit Area (Pierce Transit) in Tacoma
  - Toledo Area Regional Transit Authority (TARTA) in Toledo

- **Population Peer Group -** The selected group of eight systems with service area populations similar to Metro Transit are listed below. This Population Peer Group was only used to evaluate Metro Transit' s performance for per capita measures.

  - Ann Arbor Transportation Authority in Ann Arbor
  - Berks Area Reading Transportation Authority in Reading
  - Cumberland-Dauphin-Harrisburg in Harrisburg
  - Erie Metropolitan Transit Authority in Erie
  - Fort Wayne Public Transportation Corporation in Fort Wayne
  - Knoxville Transportation Authority in Knoxville
  - StarTran in Lincoln

- Transit Authority Lexington-Fayette Urban County Government in Lexington

Population Peer Group Results - Using the Population Peer Group that is similar to the population size served by Metro Transit, it was determined that Metro Transit provides a much higher level of service on a per capita basis compared to transit systems with similar service area populations. Highlights of the comparison include:

- The level of service provided by Metro Transit in terms of revenue miles and revenue hours provided on a per capita basis is approximately one and a half times higher than the peer average, while the number of peak vehicles operated by Metro Transit per 100,000 people is over two times higher than the peer average.

- Since Metro Transit provides a much higher level of service than the peer group, it is not surprising that Metro Transit exhibits the highest operating expenditures per capita compared to the peer group ($148.02 for Madison vs. $47.45 for the peer average). In response to this higher level of service, Metro Transit attains much higher utilization rates than its population peers. In fact, Metro Transit carries almost three times as many passengers per capita as the peer average.

In summary, Metro Transit provides a much higher level of service compared to the Population Peer Group. This higher level of service is attributed to the fact that Madison is home to the main campus of the University of Wisconsin, which has an enrollment of approximately 42,000 students, and is also the state capital of Wisconsin. The University of Wisconsin and the state offices located in the city, represent major transit generators. As a result, the residents of Madison expect a high level of service from Metro Transit and in turn, utilize the service at a much higher level than the peer group systems. This high ridership level on a per capita basis is indicative of a transit riding habit in the City of Madison.

Service Level Peer Group Analysis - Key findings from the peer group comparisons using the Service Level Peer Group are summarized below by the categories that were reviewed.

- **Transit Revenue Sources** - The most significant conclusion from the information included in the analysis is that Metro Transit relies more heavily than its peers on local and state, general revenue sources for its operating funding. Metro ranks 1 of 12 among the peers in terms of the percent of operating funding coming from local government general revenue funding. Metro Transit does not receive any funding from dedicated sources at the directly generated, local, or state level.

- **Financial and General & Administrative (G&A) Measures** - Metro Transit's performance in the financial and G&A areas is favorable. Metro Transit's costs on a per revenue mile and per revenue hour basis are similar to its peers, but the agency has a lower cost per passenger, a higher farebox recovery ratio, and exhibits lower G&A costs, and a lower number of G&A employees. Metro Transit's revenue per

passenger in FY 2006 was $0.66 which was the lowest figure of the peer group and was 22.4 percent lower than the peer average of $0.85. Metro Transit's lower revenue per passenger is attributed to the fact that the system offers Unlimited Ride Pass Agreements with several local institutions and major employers.

- **Transportation Performance** - Metro Transit spends a considerably higher share of its expenses compared with its peers on operations, and indicates that the agency is focused on providing the greatest amount of bus service possible. However, the provision of service might not be as efficient as the peer group based on the fact that Metro Transit has a below average vehicle hours per operating employee ratio.

- **Maintenance Performance** - Metro Transit's vehicle maintenance performance is generally favorable. The agency performed better than the peer average in the areas of spares ratio, fuel efficiency, and maintenance costs, and is comparable with the peer group in terms of maintenance workforce efficiency. Although Metro Transit's road call performance was similar to the peer average, this performance exhibited a significant decline from the 2003 performance review.

Service Level Peer Trend Analysis - The second analysis technique reviews Metro Transit's performance over time rather than a single "snapshot" as in the preceding peer group analysis. Many of the same indicators were used as those used in the peer group analysis.

- **Overall Trend** - Metro Transit provided about the same level of service in 2006 as it provided in 2002 in terms of revenue hours and peak vehicles. For revenue miles, the amount of service declined between 2002 and 2006. This period was used since 2006 was the most recent full year of data available for all of the peer systems at the time the peer group analysis was prepared. The peer group exhibited a slightly higher increase in service during the review period, with its operating costs increasing at higher rate compared to Metro Transit accordingly. Although Metro Transit's level of service stayed about the same during the review period, ridership on the transit system increased by 10.5 percent. The increase in ridership and average fare at Metro Transit resulted in a significant increase in revenue.

- **Financial and G&A Trends** - Metro Transit's performance in these measures is generally favorable. Cost per passenger and cost per peak vehicle were below the peer average, while an increase in passenger revenue at the agency resulted in a higher revenue per passenger figure and a better farebox recovery compared with the peer group. Although the peer group lowered administrative costs and reduced the administrative workforce as a percent of total costs and employees at a rate higher than Metro Transit during the review period, Metro Transit's G&A measures were still lower than the peer average at the end of 2006.

- **Transportation Performance Trends** - In terms of transportation efficiency, operations cost as a percent of total costs at Metro Transit increased by approximately six percent, while the peer average exhibited a very modest increase of 0.3 percent. Metro Transit continues to spend a larger portion of its total costs on placing service on the street which has resulted in a positive trend in ridership and effectiveness during the review period.

- **Maintenance Performance Trends** - The maintenance trend performance at Metro Transit is generally favorable. Metro Transit exhibited an improving trend in the areas of maintenance staff productivity and maintenance costs, and was very similar to the peer average in terms of the spares ratio. Although the fuel efficiency of the Metro Transit bus fleet declined relative to the peer average, Metro Transit buses still attained better mileage in 2006 compared to the peer group. The one area where Metro Transit was clearly outperformed by the peer group was in the area of road call performance. The detailed review of Metro Transit's maintenance function conducted by study team as part of this audit found that this is most likely due to the fact that Metro Transit has numerous buses which have exceeded their economic useful life.

Service Level Peer Combination Analysis - This final technique combines the results of the peer group analysis and the trend analysis. The results of this combination approach are summarized below.

- **Financial and G&A Measures** - Metro Transit exhibited improving performance relative to the peer average in five of the eight measures. Metro Transit exhibited declining trends in both G&A measures and cost per revenue mile. However, Metro Transit's G&A measures still outperformed the peer group in 2006.

- **Transportation Performance Measures** - Metro Transit was above the peer average and improving relative to the peer group average in three of the four measures including passengers per revenue mile, passengers per revenue hour, and passengers per peak vehicle, and was above the peer average but declining in the area of passengers per total employee. However, Metro Transit still carried more passengers per employee compared to the peer average in 2006.

- **Maintenance Performance Measures** - Overall, Metro Transit was below or worse than the peer average in five of the seven maintenance measures, with three of these measures also exhibiting a declining trend relative to the peer group average. Only one measure (i.e., buses per maintenance employee) was above the peer average and showing an improving trend.

The results of the combination analysis indicate a mostly favorable performance by Metro Transit. Metro Transit exhibited above average and improving performance in 44 percent

of the review areas, and was above the peer average in 16 of the 25 categories, or 64 percent. Of the nine areas with below average performance, five were in maintenance, three were in financial and G&A, and one was in transportation. Four categories, or 16 percent, were below the peer average and declining.

The Wisconsin Department of Transportation has six measures that it uses to evaluate the overall performance of its transit systems. These measures include farebox recovery, expense per passenger, expense per revenue hour, revenue hours per capita, passengers per capita, and passengers per revenue hour. The performance of Metro Transit is very good compared with its peers in these six measures. The system outperforms the peer average in most measures and ranks as the best performing system in four of the six measures.

Metro Transit Performance Relative to State Measures

Performance Measures	Ranking	Performance Relative To Peer Average
Farebox Recovery	7 of 12	1.7%
Expense per Passenger	1 of 12	-26.4%
Expense per Revenue Hour	7 of 12	2.0%
Revenue Hours per Capita	1 of 9	151.3%
Passengers per Capita	1 of 9	280.3%
Passengers per Revenue Hour	1 of 9	36.1%

Policy and Decision Making Process

Metro Transit is a division of the City of Madison, part of the Department of Transportation of the City of Madison created under Section 3.51 of the City of Madison Ordinances. Under the City Ordinance, the transit division is responsible for planning, developing, operating, maintaining, and coordinating the transit system and facilities of the City of Madison. The Transit Division is headed by Transit General Manager.

The overall policy direction for Metro Transit comes from two sources. In the Madison executive-legislative government relationship, the Common Council sets the policy while the Mayor has veto power that can be utilized to change or influence a policy decision.

The city also has a Transit and Parking Commission (TPC) which is the official public body to fulfill the function of transit commission per Section 66.943 of Wisconsin Statutes. The role of the Commission is to establish certain policies and make recommendations to the Common Council regarding policies on all transit and parking matters. Similar to other municipal utility commissions, the TPC has jurisdiction over the pricing and level of service of the utilities for which it is charged. Therefore, the TPC is responsible for establishing the fare structure and the level of service provided by Metro Transit.

The other participating body in the policy and decision making process for Metro Transit is the City of Madison Board of Estimates.

The city's policy and decision making process regarding Metro Transit is similar to other city functions. The Transit General Manager reports directly to the Mayor. The City has purchased the capital facilities, revenue equipment, office furniture and machinery, and other major items used by Metro Transit through federal and state transit capital grants, with the local share provided by the city. The city also provides the necessary working capital for the operation of the system. Operating funds for Metro Transit come from a variety of sources including the City of Madison, City of Middleton, City of Fitchburg, Town of Madison, Village of Shorewood Hills, Dane County, the University of Wisconsin-Madison, Madison Area Technical College, Edgewood College, and the Madison Metropolitan School District, as well as from state and federal funding sources.

Overall, the various parties involved in the policy and decision making process perform the following roles:

- **Mayor:**
  - establishes overall administrative policy;
  - hires the Transit General Manager with approval of Common Council;
  - provides direction to the Transit General Manager;
  - directs the development of Metro Transit's annual operating budget;
  - reviews, through the office of the Comptroller, operating and capital budgets submitted by Metro Transit, and submits an Executive Budget for transit to Common Council for consideration; and
  - appoints members to the Transit and Parking Commission, subject to Common Council approval.

- **Common Council:**
  - reviews, amends, and approves annual budgets; and
  - reviews and acts on resolutions forwarded from the TPC.

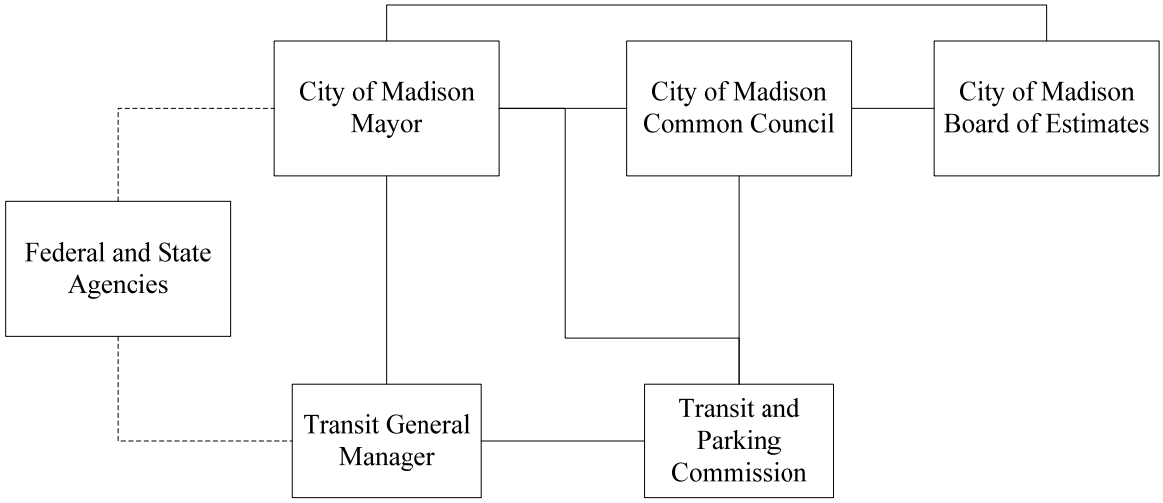
- **Transit and Parking Commission:**
  - establishes fare and service level policy;
  - reviews and approves route and schedule changes;
  - considers policy matters including but not limited to service standards, performance plans, route and schedule changes, fare structure, capital acquisition and capital maintenance plans, marketing plans, and insurance programs; and
  - forwards Common Council resolutions, as appropriate, with recommendations for action.

- **City Board of Estimates:**

    - reviews and acts on resolutions having a bearing on transit operating or capital budgets, usually in advance of TPC review. Board of Estimates action and comments are attached to resolutions sent to Common Council; and
    - reviews the Executive capital and operating budgets for transit, conducts hearings and makes recommendations to the full Common Council.

The overall arrangement in the City of Madison to direct and control Metro Transit is illustrated in the figure below.

Metro Transit Policy Making Organization



Additionally, Metro Transit obtains some direct support from several other City Departments including Comptroller, Human Resources and Labor Relations, and City Engineer.

Overall, the relationship between the city officials and the staff at Metro Transit is excellent. Metro Transit is very responsive to the needs and requirements of the city and keeps the city well informed of current performance. Likewise, the support that is provided by city staff to Metro Transit is performed in a timely and efficient manner. No significant issues were mentioned regarding the current division of duties or the delivery of those services.

Members of the TPC expressed the opinion that they are provided with sufficient and timely information, allowing them to make informed policy decisions. In general, the current governance structure tends to function effectively. However, the current municipal statutes

defining the role and authority of the TPC can result in a situation in which Metro Transit has an insufficient budget to address the policy decisions of the TPC.

This can occur when the TPC makes a decision that has an effect on Metro Transit's annual budget. This decision can be appealed to the Common Council which can vote to uphold the decision with a simple majority vote. However, if this vote is made outside of the annual budget preparation process, a two-thirds vote of the council would be necessary to approve an amendment to Metro Transit's budget that would address the policy decision. If this vote fails, Metro Transit could have an insufficient budget to implement the policy. It would then be the responsibility of Metro Transit and the Mayor to determine how to fund the policy decision. It should also be noted that the TPC does not have the authority to reallocate funds in the Metro Transit budget to address its policy decisions.

Some of the coming challenges to the Metro Transit system mentioned by the participants in this review included the need to develop a strategic vision for transit in the city and region. Without such a vision, there is no consistent guidance for transit policy decision making. It was also noted that the funding required to maintain Metro Transit's current service structure and level will be a challenge in the coming years. It was also noted that the current funding mechanism used to support transit expansion into the suburban areas is not sustainable over the longer term.

Based on these findings, there are four recommendations that the City of Madison, the TPC, and Metro Transit should pursue:

- The TPC should be involved in the development of the annual budget prepared by Metro Transit staff under the guidelines provided by the Mayor before it is submitted to the Comptroller. This may allow the TPC to suggest changes that meet the Mayor's guidelines while forwarding other priorities of the Commission. The TPC should then act on any fare or service level changes in a way to allow their decisions to be reviewed by the Common Council as part of the budget process.

- The City of Madison should investigate changes to the statutes concerning the TPC to ensure that a situation does not arise in which a policy decision of the TPC which affects Metro Transit's budget is upheld by the Council, but the Council then does not approve the Metro Transit budget amendments necessary to implement the policy. One way would be to require all TPC actions regarding fare structure and service increases to be done as part of the annual budget process.

- The City of Madison should address the need to develop a strategic transit vision that can guide transit policy decision making. This would set forth such goals as what the city would like the transit system to look like and what the priorities of the transit system should be. If it is agreed that the Long Range Metro Transit Planning Ad Hoc Committee report provides such a vision, it should be used as an active policy guide.

- The City of Madison should continue to pursue and support state legislation allowing for the creation of a Regional Transit Authority (RTA). The creation of an RTA would address several of the issues discussed in this review. First, an RTA would be governed by a true transit board, which would have ultimate control and responsibility for addressing the budget implications of its policy decisions. Second the RTA structure with a dedicated funding source would allow for a more sustainable funding structure for suburban services. A regional funding structure would also provide Metro Transit with a stable funding mechanism for its core service area. Lastly, the RTA model would provide a body that would be charged with developing a regional vision for transit and making decisions regarding transit resource allocations based on that regional vision.

Audit of Functional Areas

Metro Transit is headed by the Transit General Manager. Metro Transit's current organization chart includes five direct reports to the Transit General Manager (not including the Administrative Services Coordinator). These five direct reports include the: Transit Service Manager; Transit Finance Manager; Transit Marketing and Customer Service Manager; Transit Planning and Scheduling Manager; and the Transit Information Systems Coordinator.

The Transit Service Manager administers the largest unit within Metro Transit. Direct reports to the Transit Service Manager include the Transit Operations Manager, Transit Maintenance Manager, Paratransit Programs Manager, and the Employee Relations Specialist.

The Metro Transit organization is relatively straightforward and there are no organizational issues that further review in this audit.

The organization structure of Metro Transit was used to identify the areas that would be addressed in the functional area review. The areas of the detailed review are listed below:

- Planning and Scheduling
- Vehicle Maintenance
- Transit Operations
- Finance
- Personnel and Labor Relations
- Marketing and Customer Service
- Information Technology
- Parts
- Building and Grounds
- Safety Management and Security
- Paratransit Services

The recommendations resulting from the detailed review of the current policies and procedures followed in each of the above areas are provided below.

Summary of 2009 Audit Recommendations

This section includes all the recommendations from each review area. While the reviews and findings in most areas were favorable, a number of items were identified that could be a focus for further improvements.

Planning and Scheduling

- One of the more important recommendations is for Metro Transit to direct staff resources to get the Automated Passenger Counters (APCs) to function properly. Currently, the perceived inaccuracy of the APCs is minimizing their use. An analysis of the data provided by the APCs should be undertaken, with results from the units compared to manual ridership counts, so that the exact level of accuracy can be determined and related to what is reasonable and acceptable. Proper calibration of the units, and perhaps further training of their use by staff is required. Since other transit systems utilize APCs, there is no reason why Metro Transit cannot join this group of transit agencies that have benefited from this technology. The use of video cameras or time referencing the registering fareboxes is not viewed as cost effective replacement of the APC equipment. The data provided by the APC units along with the information provided by the registering fareboxes and the Automatic Vehicle Location (AVL) system, can be invaluable for the planning process. Additionally, Metro Transit should consider purchasing APC units for all new vehicles once the current situation is rectified.

- The review of the Information Technology function recommended the completion of an information management plan. This information management plan should specify the way that data is collected from the various technologies and address its use in terms of storage, analysis and reporting method. The plan would also outline what information is used for in-house analysis and data that is provided to outside agencies, such as the Transit and Parking Commission. As noted in prior reviews, the level of detail and information presented would be less than that used by the planning staff for their internal use. It would be beneficial for Metro Transit to contact various outside agencies to solicit comments about their potential use of the gathered data.

- Staffing levels need to be increased to permit the gathering and analysis of data to better gauge the performance of existing bus routes and propose changes. It is suggested that one Planner and two technicians be added to the Planning unit. The relationship with the Transit Information Systems (IS) unit seems to work well and

any staffing plans should be made in coordination with IS. A review of staffing to address data systems was an element recommended as part of the information management plan.

- A specific set of goals and objectives along with an annual work plan should be specified for both planning and scheduling activities. The results of this review would suggest items to be included in the work plan.

- Currently, the focus of the Planning Unit is on monitoring the current bus system and developing short range proposals. As also noted in the Policy and Decision Making recommendations, Metro Transit needs to consider whether it wishes to pursue a more pro-active role with respect to mid range and long term transit proposals. This decision would need to be made on the basis of technical and policy/institutional considerations as well as consistency with staffing levels. The mid term planning is performed by the MPO as part of the TDP process while long range planning is done by the MPO and Madison Planning Department as part of the rail feasibility analysis. It is recognized that additional moneys would be required in order for Metro Transit to begin planning on these two additional levels; however, the investment would produce a more coordinated approach and one where Metro Transit would more directly control its destiny.

- The Transit Development Plan (TDP) that is currently underway should be completed and include the same activities that were performed as part of the previous TDP. It should also respond to problems facing Metro Transit now and in the future. This includes such issues as increasing the system size to respond to ridership gains, inability to maintain cycle times and expansion of system coverage. While Metro Transit staff examines these items to some extent from a near term or tactical perspective, the TDP should include a strategic review for a five year horizon period. As part of this effort, fleet and facility needs should be addressed since the system appears to be approaching capacity of the current physical plant. Other relevant issues for exploration are the impacts of a Regional Transportation Authority (RTA) and what would be an appropriate transit plan with an RTA.

- Metro Transit's Planning Unit should continue to monitor the use and effectiveness of the Transfer Point System and make timely adjustments as necessary. Furthermore and as mentioned in the previous review, the unit should consider analyzing the system in one of two ways, either by studying a grouping of routes by geographical sector, or by looking at the system as a whole as changes to one sector may inversely affect another area due to the nature of a timed-transfer system.

- In addition to continued monitoring of the current system, Metro Transit should explore other service types which can complement the existing Transfer Point System. Potential service options include Bus Rapid Transit (BRT) or elements of

BRT in heavily utilized corridors. It is possible that short range proposals could be formulated that would represent start up improvements that include BRT features. Other possible service options that should be explored for use are flex routes, where vehicles can deviate from their routing to pick up passengers who request a pick-up or drop-off. Another program is ride request, where demand service connects people to the bus system.

- The Service Development Committee process is working well and should be continued. The active participation of senior management underscores the importance of the planning function. The previous management review suggested a six step process which should be followed as listed: (1) – problem statement and definition of the routes and study area; (2) – analysis of ridership, travel time and other data; (3) – identification of deficiencies and opportunities; (4) formulation of alternatives; (5) – impact of preferred alternatives; and (6) – recommended plan. The Planning and Scheduling Unit would have responsibility for preparing an informal memorandum for each of the six analysis phases listed above.

  The Planning Unit would shape the information and process in each of the steps above, which would be presented to the Service Development Committee for discussion and further guidance. As noted above, the Service Development Committee would be an appropriate forum for considering mid term and long range proposals should Metro Transit expand its role in this area. The selection of a recommended plan for any potential service change, regardless of magnitude, would be the responsibility of the Service Development Committee.

- The Service Evaluation and Performance Measurement Program, adopted since the previous study, provide a number of service measures which should be used to evaluate the performance of the operated routes. While standards were created for passengers per revenue hour, revenue miles and cost per ride, the only measure that is currently being employed by the Planning and Scheduling staff is passengers per revenue hour. Use of all of the standards within the Service Evaluation and Performance Measurement document should be used by Metro Transit so a better understanding of the current system and the system's performance by route can be attained.

  Additionally, other performance measures should be added to the document and used through a routine monitoring process. On-time performance, farebox recovery ratio and subsidy per passenger are among these other standards which should be considered for implementation. The objective of this recommendation is that the planning process consider several statistical measures, which – when combined with other quantitative and qualitative information, and agency policies and priorities – will assist with service decisions.

- Related to the above item, as well as with costing activities, is the method used to estimate costs. The Finance unit has established procedures that are used for service contracts, as well as service changes. Differences reflect incremental and fully allocated costs along with charges for capital expenditures in some instances. One common element of the costing methods is that they rely on the single unit of cost per hour. As with the previous review, the recommended approach for determining costs is to calibrate and apply a three-variable cost model. The model could be used for different purposes throughout the agency, but not necessarily for all cost purposes.

  To illustrate this approach, financial and operating statistics from the most recent NTD submission (FY 2007) have been inserted into a three-variable cost model shown below:

Development of Three Variable Cost Allocation Model

Variable	Allocated Amount	Operating Statistic	Unit Cost
Vehicle Hours	$21,545,100	407,600	$52.86
Vehicle Mile	$9,791,400	5,357,400	$1.83
Peak Vehicles	$4,862,800	167	$29118.56
Total	$36,199,300		

  With this approach, the cost of service is determined by multiplying each of the three unit costs by the appropriate operating statistic and then summed. Different cost models could be obtained by whether fixed, variable or capital costs are included. The model above includes all operating costs. The benefit of this approach is that it reflects differences in operating speed and vehicle utilization.

  Reflecting the different uses that costing procedures are applied, the recommendations are oriented to the intended audience. For example, existing contracts rely on a single unit cost per hour. Since this is relatively simple and accepted by the parties, no revisions for this costing purpose are suggested. For budgeting, elements of the three variable model are used already. In the area of estimating the cost of current service as part of monitoring or incremental cost with a change, the three variable method would be beneficial. In light of this intended in-house use, staff might try a limited demonstration program to cost out proposals and gauge the benefits of the suggested approach.

- A more formal approach to driver and operations feedback could be employed to acquire additional qualitative data. Currently, Metro Transit utilizes an "open door" policy when it comes to discussing issues and complaints from these groups of employees. A program developed around regular discussions with drivers and operators – perhaps once per month or quarterly - will create an environment where

these employees will expect to be approached for their opinions on a regular basis, thus increasing the amount of qualitative data and create an inclusionary atmosphere and a sense of ownership for the drivers and operators. As with any such feedback mechanism, there should be a response to all suggestions.

- The Scheduling Unit is important to the operations of Metro Transit's bus system. There is currently no clear succession plan to replace the current Scheduler once the position becomes vacant. Metro Transit should create such a plan and provide training to assure continuity in the scheduling function.

- One way to improve the transition with new scheduling personnel is to purchase the latest version of the Trapeze software which includes an improved runcutting feature. This would eliminate the need for two version of Trapeze being used and custom written software. Further, it would improve the transition process.

- A scheduling timeline should be documented along with any other processes to assure an orderly succession plan.

- As suggested in the Planning section of this review, the current service standards outlined in the Service Evaluation and Performance Measurement Program should be expanded to include such metrics as on-time performance and farebox recovery ratio. The Scheduling Unit currently relies heavily on computed value of passengers per hour. The inclusion of other measures will afford additional refinement to the scheduling process.

- In accordance with the previously presented recommendation, the Scheduling Unit should increase its reliance on data collected through the available technologies. This is similar to what has been recommended for the Transit Operations Unit. The current usage of data received from registering fareboxes and the AVL system should be expanded with the APC equipment. Once the issues with the APC system have been fixed, the scheduling process should include an analysis of the data provided from this technology.

- A more formal process to receive comments from drivers and operations personnel should be implemented. The current "open door" policy is helpful, but a more formal process can produce additional benefits to the planning and scheduling function.

- A related issue to the previous recommendations, and as stated in the Planning section of this review, is the need for a data collection program which will allow the collection, archiving and analysis of data to occur in a more routine manner. This is related to the recommendation included in the review of Information Technology function which called for an information management planning effort to be undertaken.

- While it is recognized that Metro Transit does use Trapeze as an analytical tool, expanding these functions of the software will improve the efficiency of the scheduling process. Staff performed an analysis of implementing four, ten hour work days which led to its implementation. Using the scheduling software as analytical tool should be continued and expanded. This would include investigation of expanded use of part time drivers as well as the cost associated with runs that are more attractive to drivers. Clearly, the focus of the scheduling process should be on achieving efficient use of drivers and minimizing labor costs.

- The Scheduling Unit should continue to be an active participant of the Service Development Committee. The Scheduler should continue to monitor and refine the Transfer Point System in order to create more favorable service. Similarly, other service options, such as BRT service, express service, flex routes and demand responsive service, should be explored to complement the existing system.

Vehicle Maintenance

- Metro Transit should move forward with its plans to construct a new maintenance facility on site. The problem with the current complex has been noted in each of the past three performance audits.

- Metro Transit should address the problem of having a large number of ripped driver seats on its bus fleet. While not a major issue, ripped seats do hurt the overall appearance of the system.

- Metro Transit should investigate its performance in terms of the apparent large number of PM inspections that are performed early. While inspecting the bus before the inspection due mileage may be beneficial in that problems can be discovered more sooner, it can also increase costs unnecessarily.

- Metro Transit should attempt to meet its detailed interior bus cleaning goal of a detailed clean for each bus at least every six weeks. This would mean that two additional bus cleaners would need to be hired to increase the staff size of this group to four employees. With four employees doing two buses a day each, 40 buses can be cleaned in one week and 240 in six weeks.

Transit Operations

- Metro Transit should develop a specific program to monitor overall service quality. This program should establish target levels, data collection procedures, and analysis processes regarding the following:

- On-Time Performance – Metro Transit does not have an adopted service performance guideline for on-time performance, and on-time performance information is not currently gathered, tracked, or analyzed.

- Passenger Loads – Metro Transit does have adopted guidelines regarding overcrowding on its services, however, there are no procedures in place to systematically identify and respond to instances.

- Schedule Adherence – This includes data regarding missed pull-outs and missed trips along with the reason for the miss (i.e., lack of equipment, insufficient staffing, accidents/incidents, operator error, etc.). Metro Transit also does not currently have adopted target levels for these measures.

- Passenger Experience – Metro Transit should separately track complaints regarding the actual operation of service (i.e., on-time performance, missed trips, trips operated incorrectly).

- Safety – Metro Transit currently tracks the number of chargeable accidents that involve Metro vehicles. Metro Transit had also established a target of 93 chargeable accidents for 2008; which represented a 20 percent reduction from Metro Transit's 2007 performance in this measure. Metro Transit did not meet this target. However, rather than establishing a set number for overall chargeable accidents, Metro Transit should make use of tracking tools developed by its insurance carrier, Transit Mutual Insurance of Wisconsin. These tools can allow Metro Transit to identify trends in areas such as operators, locations, and situations, etc. Metro Transit can then develop annual targets for reducing the number of accidents resulting from the identified contributing factor through individual operator retraining, staff retraining, routing changes, etc. Metro Transit should also conduct a preventability judgment for all occurrences involving a vehicle, rather than considering certain occurrences as incidents rather than accidents. Metro Transit should also make use of any analysis assistance made available through Transit Mutual Insurance. Also, as more transit systems in Wisconsin use the same tracking tools, overall metrics can be identified to measure general performance (i.e., chargeable accidents per 100,000 miles).

- Security – Metro Transit should continue to keep detailed records of incidents regarding Metro employees or passengers. This information should be reviewed by the SMT with particular attention to incidents at the five transit centers.

To the greatest extent possible, this information should be collected through Metro Transit's mobile information technology (i.e., GPS/AVL and APC equipment). The information collected can be used by the Senior Management Team to determine the overall quality of Metro Transit service. In addition, Metro Transit's performance in

comparison to established targets for these measures will provide valuable input to decisions regarding on-street supervision and control staffing levels.

- Metro Transit should formalize its quarterly meeting of Transit Operations Supervisory staff. Metro Transit should incorporate a "how did we do" component into these meetings by reviewing Metro Transit's response to any accidents that may have occurred during the quarter (i.e., how quickly was the incident responded to, how quickly was service restored, how much service was missed), or other disruptions such as major cultural events or weather incidents. Many transit systems with AVL and computer aided dispatch systems have used this equipment to recreate the situation being reviewed to facilitate discussion at these types of sessions.

- Metro Transit should continue its efforts to develop standard operating procedures manuals for operators and Transit Operations Supervisors. The manual for supervisors should specifically address line management techniques. This includes such areas as:

  - Detours
  - Switching and short-routing buses
  - Trouble calls and bus changes

- Metro Transit should continue monitoring and responding to instances of Absent without Pay (AWOP) that require disciplinary action in accordance with the contract. Metro Transit should also continue its policy of assigning a specific Transit Operations Supervisor to each Worker's Compensation (IOD) case among Transit Operators. Metro Transit should also continue participating in the city's case management committee.

- Metro Transit currently fills vacant paratransit driver positions with the most senior fixed route driver who has applied. Paratransit service is much different than fixed route operations, and operators need different skills to be effective. It is recommended that Metro Transit closely monitor trends in turnover among paratransit drivers as well as operator's customer service habits with paratransit passengers. If either of these trends warrants concern, Metro Transit should consider adopting an application process for these positions that allows for the evaluation of applicant's compatibility with the duties of the position.

Finance

- An important budget issue from the current fiscal year relates to the process through which the most recent fare increase was handled. This issue was also addressed in the Policy and Decision Making Process element of this audit. The Policy and Decision Making analysis recommended that all decisions of the Transit and Parking

Commission (TPC) which affect Metro Transit's budget should be made in a timely manner and within the timeframe of the city's annual budgeting process. While there are governance benefits to this recommendation, the ramifications to Metro Transit's budget must also be noted. In this instance, the time necessary for political resolution of the issues raised by the proposed fare increase exceeded the needs of the operating agency to begin to receive the additional expected revenue. This can create an unfunded portion of the annual budget.

- While Metro Transit develops a five-year capital plan, there is no specific program to develop an articulated, longer-range vision for the system as a whole. Metro Transit should use the capital planning process to guide an intermediate and long term strategic plan which would be supported by the capital plan. This strategic vision, in turn, could then be used to guide subsequent capital plans. This need for intermediate and longer term strategic planning was also recommended as part of the Planning and Scheduling functional review, as well as the Policy and Decision Making element of this audit.

- This review did not result in any particular current concerns related to Metro's revenue-handling. A previous management performance audit had included the recommendation for a full security audit of revenue handling. Metro Transit has maintained the position that this is not necessary since there is no indication of any problems. Based on experience throughout the transit industry, it is recommended that Metro Transit develop a program for the ongoing review of this important, and unique, function. The annual CPA audit of Metro Transit could be an important input to this ongoing review program. While making no statement about Metro's veracity and effectiveness in processing and protecting its collected revenue, this is an area worthy of the highest level of vigilance in safeguarding the public's funds.

Personnel and Labor Relations

- It is the intention of Metro Transit to use the newly developed employee relations database to track all data regarding grievances. Data regarding the trend and result of grievances was requested as part of this audit and, while the information was available, the compilation was not convenient and readily accessible. The employee relations database should be designed in a way to allow for queries of the number of cases filed and the number advanced to each step. The database should also track the employee, supervisor, unit, and contract clause in question. The database should also allow for reports providing the number of grievances settled, withdrawn, and the number advanced to arbitration along with the result of arbitration (i.e., upheld or denied). Reports should be run from this database on a regular basis to identify any trends in terms of increased grievances from a particular unit. In addition, the database can be a valuable tool in preparation for contract negotiations. This tool will allow for the identification of any contract clauses which have resulted in an

inordinate number of grievances. It could then be a goal of the negotiations to seek more definitive language in that particular clause in subsequent contracts.

- The contract between Metro Transit and the Teamsters Union Local 695 stipulates that part-time transit operators can only be assigned to service that is operated under contract with the School District. In addition, the contract provides a particular staffing level for part-time operators which cannot be exceeded. Typical practice in the transit industry is to stipulate a specified number or percent of allowable part time operators. It is also common to stipulate the maximum number of hours which part-time operators can work. However, most contracts do not limit the type of service to which these employees can be assigned. In future contract negotiations, Metro Transit should pursue more flexibility in the use of part-time transit operators, while maintaining limits on allowable staffing level and work hours.

- The contract also provides for premium wages for transit operators operating Sunday and evening service. While Sunday and overnight shift premiums are common in the transit industry for shop employees, these types of premiums are not common in the industry for transit operators. Longevity pay is an additional benefit of City of Madison employees which is not typical among the industry. While some transit agencies stipulate longevity bonuses in their contracts, Metro Transit's is more generous than what is typically seen in the industry.

- Metro Transit should continue its efforts to implement the employee relations database and incorporate the tool into management procedures to the greatest extent possible.

- This review showed that Metro Transit is experiencing a lower rate of FMLA usage among its employees than is being seen at other transit agencies. This may be due to the availability of AWOP. As AWOP use is addressed, FMLA use among Metro Transit employees may begin to increase. Metro Transit, and the City of Madison, should consider addressing FMLA leave in the same manner as Worker's Compensation (IOD) cases. That is, a Metro Transit supervisor should be assigned to each case, along with a case worker from the City of Madison. These cases should then be discussed at the monthly case management meetings. Also, Metro Transit should ensure the collection of data necessary to gauge Metro Transit's experience with FMLA leave in comparison to other transit agencies. This would require the collection and tracking of data items including the percent of employees taking FMLA leave, median length of leave, total days of leave taken, or other appropriate measures. Metro Transit should then periodically compare its performance to industry or national usage rates provided by APTA, the Transit Labor Exchange, or other labor relations trade groups.

- Related to the above, Metro Transit should request data from the Human Resources Department on a regularly occurring frequency that would allow them to track the rate of non-FMLA AWOP used by Metro Transit employees in comparison to that of city employees overall.

Marketing and Customer Service

- It is imperative that Metro Transit develop and implement a more robust advertising and promotion program which includes TV, radio, and print elements. The current practice of relying on trade arrangements is not sustainable over the long term. Metro Transit should pursue additional appropriations for this purpose, as well as investigate new and alternative revenue sources to fund such a program. One potential source of revenue, which has been employed in other communities with significant U-Pass and employer pass programs, would be to dedicate a portion of the revenue from these sources specifically for advertising and promotion. This could possibly be used as a justification for rate increases among these pass programs.

  The Long Range Metro Transit Planning Ad Hoc Committee made a similar observation and suggested increasing the annual marketing budget to $500,000. The committee did note that this should not be done at the expense of service levels.

- Bus stop signs are currently installed and maintained by the City of Madison Traffic Engineering Department. The June 2008 Final Report issued by the Long-Range Metro Transit Planning Ad Hoc Committee noted that bus stop signs are installed at a 45 degree angle facing the street, since they are seen as an instrument to communicate to drivers that parking is prohibited in front of the stop. The ramification of this policy is that bus passengers cannot see the bus stop sign from the sidewalk. Another issue is that the Traffic Engineering Department must install these signs at the beginning of the parking prohibition zone, which is not always the same location as the actual bus stop. The Ad Hoc Committee recommended a program which would place adhesive stickers on the back of all bus stop signs identifying the location as a bus stop, along with instructions to bus passengers (i.e., "Board bus at corner"). It is recommended that Metro Transit advocate for this program and assume responsibility for implementation as part of the marketing and customer service function. It is also advisable that Metro Transit investigate the feasibility of assuming responsibility for signage designed to communicate to bus passengers, while leaving responsibility for signage which communicates to motorists with the Traffic Engineering Department.

- By spring 2009, Metro Transit will have the ability to record all calls received at the Customer Service Center (CSC). With the availability of this equipment, it is recommended that Metro Transit develop a program to review a random sample of calls for the purposes of ongoing training for the CSC staff as a whole. Also, Metro Transit should develop an individual annual review program for CSC Reps. As part

of this program, a sample of calls fielded by that representative would be reviewed to assess the representative's customer service skills as well as the accuracy of the information being provided to callers.

- Metro Transit does not currently track call volume by call type on an automated basis. This information is collected manually through reviewing sample days of activity for the CSC. As a part of this data collection, it is also recommended that Metro Transit calculate the average length of calls by call type. This data would allow for more accurate calculations of impacts to CSC staffing as a result of changes to the fixed route system or paratransit program.

- Metro Transit currently relies primarily on customer feedback for market research purposes. One of Metro Transit's market research goals is to conduct a comprehensive on-board rider survey once every five years. The most recent comprehensive survey efforts were conducted at an interval of eight years. It is recommended that Metro Transit adhere to its goal of conducting a comprehensive system-wide survey every five years. This would suggest that the next such survey effort would be conducted in 2013. It would be advisable for Metro Transit to make more extensive use of focus groups to understand the effectiveness of its advertising materials and the utility of new on-line and mobile tools. The Long Range Metro Transit Planning Ad Hoc Committee made a similar recommendation, specifically identifying focus groups or targeted surveys designed to elicit information from:

  - current customers through on-board surveys;
  - core Madison service area riders and non-riders; and
  - new areas for potential growth.

- Metro Transit does not currently have a procedure for following up on customer complaint files that remain open beyond the 90 day period. It is recommended that this become an item which is routinely reviewed by the Customer Service Group.

- Metro Transit has a valuable service planning tool in the Trip Planner utility of the website. Important data is collected in that riders and potential riders enter information regarding desired trips (i.e., origin, destination, as well as time and day of travel). Metro Transit should develop procedures to extract this data and assemble it into a database that can be queried or mapped for service planning purposes.

Information Technology

- It appears the Metro staff is expecting an unnecessary level of accuracy from APC equipment. The level of expected accuracy provided by the manufacturer should be assumed when using the data. Data should be reviewed for anamolies and anomalies should be discarded, however, not at the expense of all data collected by the APC

equipment. Metro should utilize its maintenance contract to determine a calibration schedule to ensure that all equipment is properly calibrated. Staff concerns with APC equipment seem overly exacting. APC equipment APC's are being used by several transit properties throughout the country It is recommended that Metro come to consensus on the role that APCs will play in Metro Transit's operations, and if it is not expanded upon, that a suitable alternative be implemented.

- From an asset management standpoint, the fare collection infrastructure is in need of replacement. It is recommended that a program be developed to replace this equipment.

- As Metro Transit continues to expand on its existing systems and the ITEAM continues its role in identifying and implementing significant IT projects, it is recommended that a formal implementation plan be developed for planned and future projects. The need to have documented operating procedures becomes increasingly important as Metro Transit's operations become more systematic.

- It was not indicated during interviews for this review that existing staffing levels and IT background were insufficient to meet the needs of new systems. However, given the ambitious program planned for this function, the large number of existing systems that the IT unit supports, as well as the added data management needs resulting from initiatives such as the video cameras, it is recommended that Metro undertake a detailed staffing level review for this function.

  Metro Transit staff expressed the need for significant post-processing of data collected by the APC and GPS/AVL equipment. This is not unique to Metro Transit. Many systems that have implemented this technology have found that they do not have the staff resources for effective post processing. Various systems have created positions in their IT or Planning units specifically dedicated to post processing, manipulation, and reporting of this data. The APC and GPS/AVL systems are significant capital assets for Metro Transit which can have a significant benefit to operations management and planning. However, without proper staffing resources, Metro Transit cannot realize the full benefit of the tools.

- Based on the above recommendations, as well as recommendations included in the Transit Operations, and Planning and Scheduling reviews, it is recommended that Metro Transit pursue the completion of an Information Management Study that addresses the following issues:

  - Information technology staffing needs;
  - Actions necessary to improve reliability of mobile information technology to desired levels; and

- Business processes designed to incorporate data collected through mobile information technology into planning and management decision making.

Parts

- Update the current computer system to addresses certain improvements such a establishing a formal cycle count program and bar coding.

- As part of the new facility construction project, emphasis should be placed on better security and access control to the parts room. Also, an effort should be made to centralize the bus parts now found in four or five different places into one or two.

Building and Grounds

- The computerized Buildings and Grounds (B&G) recordkeeping system should be used to track and analyze expenditures on outside contractors. This information should then be used for costing analysis and decision making regarding in-house B&G staffing and the use of outside contractors. For example, after reviewing the amount spent annually on outside electrical contractors, Metro Transit may find it more economical to hire an electrician as part of the in-house staff to perform this type of work. During down-time, this person could also perform other functions that are not related to electrician work.

Safety Management and Security

- Similar to the previous audit, a "feedback" and review process should be undertaken to ensure the effectiveness of training activities.

- A review should be conducted of shop safety procedures. These should be standardized, reviewed, committed to written form and properly communicated, disseminated, controlled and updated.

- While Metro deserves credit for creating the Security and Emergency Response Plan, as noted in the previous audit, Metro should take steps to develop a true Safety and Security Program Plan as advised by the FTA. It appears as if Metro is doing many things correctly in this area however the Plan will help tie together the numerous related efforts and activities currently underway or planned. The plan should contain the following elements:

    - Responsibility and authority for preparation, implementation and maintaining the plan
    - The primary goal of the program
    - An overview of the agency, its structure and the services it provides

- An overview of the current security program
- Summaries of current security conditions and report
- An outline of employee safety and security responsibilities across the organization and succession structure.
- Threat and vulnerability identification, assessment and resolution procedures
- Emergency contingency service planning
- Process for modifying the plan

- A true program of public security awareness should be ongoing. Metro should consider revamping, updating and reinstituting the program of rider security alerts.

- Consideration should be given for Metro Transit personnel to help plan and participate in Police and Fire Department live drills.

- It is useful for the City of Madison to track Metro's Worker's compensation expenses but consideration should be given to tracking the number and type of incidents. Metro operations staff have limited ability to affect the overall cost of Worker's Compensation incidents; that is more a matter for Worker's Compensation administration. However, they are likely to have a stronger ability to limit the number of incidents which occur and to look out for potential exposure and hazardous conditions.

Paratransit Service

- On-street supervision is critical to successful operations, customer satisfaction, and safety. Road supervisors do cover both fixed route and paratransit operations, yet Metro Plus currently relies more on the monitoring of performance data than on-street monitoring of its services in terms of ride checks and performance evaluation. Although budget limitations have been cited as the reason for reducing supervision since 2005, a greater emphasis should be placed on regular, on-street supervision of both directly-operated and contracted paratransit operations to conduct ride checks and verify service issues highlighted through regular data reporting.

- Previous FTA recommendations have noted the need for greater documentation of customer service calls to customers that may also be used to verify eligibility for ADA paratransit services. To date, Metro Plus does not explicitly call customers for the purpose of eligibility verification. While customer service calls are placed to gather feedback, greater effort should be made to use these calls as additional verification of eligibility rolls and they should be documented accordingly.

- Sections of the City of Madison website (and other public information materials) should feature the universal handicap icon for better visibility and customer association.

- Metro Plus Paratransit is not currently tracking the outcomes of registered customer complaints. For both customer service (i.e., providing responses to customers and following through on corrective actions) and internal monitoring of the effectiveness of complaint responses, Metro Plus should track these outcomes in the same database used to track and assign incoming complaints.

- As identified in the previous audit, increased travel training can help Metro encourage more ADA paratransit riders to use the fixed route bus system. The current Paratransit Schedule Coordinator has received training from the National Transit Institute to assist with eligibility certification and conduct more in-person reviews. Additional consideration should be given to providing travel training or seeking a qualified organization in the Madison area that can perform this service.

The recommendations listed above include all the recommendations developed as part of this performance audit. While numerous recommendations were developed, overall, the audit found Metro Transit to be a very efficient and effective organization. Further information on the functional area review, and the details of the rationale for the above recommendations, are contained in the functional area review sections of this report.

PEER AND TREND ANALYSIS

Introduction

One of the initial tasks in this management performance audit is to conduct a peer review and trend analysis to compare and contrast Metro Transit's fixed route operating statistics with other similarly sized fixed route transit operators. However, some caution should be exercised in comparing one transit system to another due to inherent differences between the transit systems which management has little control over, such as funding sources, local political legislation, land use patterns and the built environment, and the demographic and socioeconomic characteristics of the area being served. In spite of these limitations, peer group reviews do provide valuable insight into agency operations.

The peer systems selected for this analysis were the same peers used in the prior management performance review of Metro Transit which was completed in October 2003. The Metro Transit peer group consists of 11 systems which are:

- Capital District Transit Authority in Albany, NY
- Miami Valley Regional Transit Authority in Dayton, OH
- Connecticut Transit in Hartford, CT
- Indianapolis Public Transportation Corporation in Indianapolis, IN
- Metro Area Transit in Omaha, NE
- Rhode Island Public Transit Authority in Providence, RI
- Regional Transit Service Inc. and Lift Line Inc. in Rochester, NY
- Spokane Transit Authority in Spokane, WA
- CNY Centro, Inc. in Syracuse, NY
- Pierce Co. Public Transportation Benefit Area in Tacoma, WA
- Toledo Area Regional Transit Authority in Toledo, OH

The 11 peer systems were chosen for being northern climate systems and having similar size characteristics (hours, miles and peak vehicles) and modes (i.e., bus and paratransit) of service as Metro Transit. The systems also have similar overall expenses, passenger revenue and unlinked passenger trips. However, the 11 peer systems differ significantly from Metro Transit in terms of population and population density characteristics. Metro Transit is a much larger bus system relative to the population that it serves than any of its peers. There are no systems in the country that serve slightly more than 200,000 people and provide 4.7 million miles of service with a fleet of nearly 200 vehicles. In large part, this reflects the unique situation of Madison as the state capital and the host community of a major university. Some of these attributes are noted for several of the peer systems listed above. For example, Albany is the state capital of New York and the location of the State University of New York at Albany (SUNY). Similar situations are noted in Hartford, Indianapolis, and Providence.

As a result, the 11 peer systems are not a fair representation to Metro Transit in terms of the level of service provided by Metro Transit on a per capita basis. Because the selected peer group systems are much larger than Metro Transit in terms of service area population, Metro Transit's outstanding performance in per capita measures would be understated. To remedy this situation, eight transit systems were elected with service area populations similar to Metro Transit even though other characteristics were much lower than Metro Transit. The eight systems that were selected included:

- Ann Arbor Transportation Authority in Ann Arbor, MI
- Berks Area Reading Transportation Authority in Reading, PA
- Capital Area Transit in Harrisburg, PA
- Erie Metropolitan Transit Authority in Erie, PA
- Fort Wayne Public Transportation Corporation in Fort Wayne, IN
- Knoxville Transportation Authority in Knoxville, TN
- StarTran in Lincoln, NE
- Lexington Transit Authority in Lexington, KY

The eight systems listed above are termed Population Peer Group and are compared to Metro Transit only in the area of per capita performance (Table 1). The remainder of the peer group analysis is based on data for the 11 peer systems listed at the beginning of this chapter. This peer group has been termed the Service Level Peer Group.

Using the two peer groups, this report develops performance measures for Metro Transit and the peer systems and compares Metro Transit's performance with the overall peer average for each measure; Metro Transit is then ranked against the peer systems for comparison purposes. Operating statistics are based on FY 2006, which is the most recent year that data for Metro Transit and the peer systems are available in their entirety. The peer group data was obtained from the Florida Transit Information System (FTIS) which is a web-based data source for all transit systems while Metro Transit's data was taken from its FY 2006 NTD Report that the agency provided.

The use of NTD data attempts to ensure that the data included has been compiled in a consistent manner by all transit agencies included in the peer group. The trend analysis is based on two end years – FY 2006 and FY 2002. The FY 2002 data is also derived from the data base and was used in the prior Metro Transit Management Performance Review that was completed in October 2003. In that earlier analysis, FY 2002 was the end of the trend analysis period while it is the starting point for the current review.

Overview of Analysis Techniques

The peer group analysis is based on the results for the fixed route bus system using three different analysis techniques – peer group, trend line, and combination. The methodology used in each is described below.

Peer Group Analysis - This technique compares Metro Transit's performance at a single point in time (FY 2006) with a group of transit systems exhibiting similar characteristics. As noted previously, at the time this analysis was performed, the data for Metro Transit was not available for FY 2007 as well as the peer systems from the FTIS data base. Selection of the peer group takes into consideration a number of factors which influence the population's tendency to use transit.

As the objective of a peer group analysis is to comment on Metro Transit's performance relative to comparable systems, the presentation of the findings focuses on only the group average and range of performance. Therefore, the tables which appear in the subsequent section follow a standard format as follows:

- Peer Group Performance
  - Minimum value recorded
  - Maximum value recorded
  - Average of all peer systems (an unweighted value)

- Metro Transit Performance
  - Value recorded
  - Percent difference from peer group average
  - Rank within the group (With "1" always the best performer)

Trend Line Analysis - This second technique reviews Metro Transit's performance over time. For this analysis, the previous management performance review from October 2003 was used, with the final year (i.e., 2002) compared against the NTD results for FY 2006. The technique of this trend line analysis is to compare the trend of Metro Transit's performance with the trend of its peers. A comparison is made of the trend of each selected performance measure with the average trend of the peers. The analysis emphasizes the full five-year trend; not interim or year-to-year changes in key indicators.

Combination Analysis - The previous two techniques are synthesized in this third step. The combination analysis enables the reviewer to take those areas where Metro Transit performs below its peers, for example, and ascertain if this condition had declined over time, thus suggesting a critical area in need of attention. This technique can also offset a below average peer group standing by pointing out that Metro Transit has made great strides in a particular indicator over the past years even though it still was ranked below its peers in 2006. The combination analysis results in the grouping of performance into four different categories:

1. Better/improving - better than peer group average and improving over time.

2. Better/declining - better than peer group average but declining over time.

3. Worse/improving - worse than peer group average but improving over time.

4. Worse/declining - worse than peer group average and declining over time.

At the conclusion of all three analyses, it is then possible to suggest areas where Metro Transit performs well and areas where improvement opportunities should be explored. As noted previously, the analysis focuses on the fixed route bus system.

Classification of Performance Indicators

Performance indicators can be used to determine how the entire agency is performing with respect to stated objectives. Our approach to performance evaluation recognizes that these indicators are made up of statistics which reflect key factors in transit service delivery. For this review of Metro Transit's relative performance, many of the performance indicators used in the prior management performance review are also used in this report. However, in some instances, data used in prior audits has been excluded from this performance review. This data includes the non-wage fringe benefits and wage and fringe benefit comparisons, which is data no longer reported in NTD reports. In addition, there are several performance measures that have not been used before, and include measures related to transportation efficiency and cost efficiency. These measures are used throughout the industry and provide additional analysis tools for the review of Metro Transit performance. The performance indicators are grouped into the following five areas:

1. Level of service measures
2. Transit revenue sources
3. Financial and general and administrative measures
4. Transportation performance measures
5. Maintenance performance measures

The level of service measures and transit revenue sources are not included as part of the trend analysis.

Peer Group Analysis

This section compares Metro Transit's 2006 operating performance to that of the peer systems. The results of the peer analysis are presented in the aggregate for the peers. No specific references are made to the individual systems. Rather, the information in this report presents the range of peer group performance and its unweighted group average which excludes the data for Metro Transit from the calculation. Then, Metro Transit's performance is shown as the numerical value, percent above or below the peer group average and rank within the peer group, which would be one to 12 for this analysis. With this ranking scheme, the system ranked first is always the best performer.

Level of Transit Service Available - This section analyzes the intensity or prevalence of transit service in the Metro Transit service area to that of the other service areas included in the peer group. As noted earlier, the Population Peer group is utilized in this section since it is similar to Metro Transit in terms of service area population. As seen in Table 1, the level of transit service available to the residents of Metro Transit's service area, on a per capita basis, is significantly higher than the average of the Population Peer Group average.

Table 1
Peer Comparison of Per Capita Measures (Population Peer Group)

	Peer Group			Metro Transit		
Characteristic	Minimum	Maximum	Average	Value	Percent Difference	Rank*
Revenue Miles per Capita	3.92	14.95	7.88	19.81	151.3	1
Revenue Hours per Capita	0.35	1.23	0.64	1.54	140.6	1
Cost per Capita	$20.33	$90.59	$47.45	$148.02	211.9	1
Passengers per Capita	6.96	26.10	13.33	50.69	280.3	1
Peak Vehicles per 10,000 Pop	10.44	37.20	22.37	70.34	214.4	1

**Rank of 1 is best, 9 is worst*
Source: 2006 National Transit Database

Highlights of the comparison include:

- The level of service provided by Metro Transit in terms of revenue miles and revenue hours provided on a per capita basis is approximately one and a half times higher than the peer average, while the number of peak vehicles operated by Metro Transit per 100,000 people is over two times higher than the peer average.

- Since Metro Transit provides a much higher level of service than the peer group, it is not surprising that Metro Transit exhibits the highest cost per capita compared to the peer group ($148.02 for Madison vs. $47.45 for the peer average). Madison residents reward the system for this higher level of service by utilizing transit much more than the peers. In fact, Metro Transit carries almost three times as many passengers per capita as the peer average.

In summary, Metro Transit provides a much higher level of service compared to the peer group. This higher level of service is attributed to the fact that Madison is home to the main campus of the University of Wisconsin, which has an enrollment of approximately 42,000 students, and is also the state capital of Wisconsin. The University of Wisconsin as well as the state offices located in the city represent major transit generators. As a result, the residents of Madison expect a high level of service from Metro Transit and in turn, utilize the service at a much higher level than the peer group systems. This high ridership level on a per capita basis is indicative of a transit riding habit in the City of Madison. The remaining sections of this report use only the Service Level Peer Group.

Service Area and Operating Characteristics - As seen in Table 2, Metro Transit serves the smallest service area population and operates within the smallest geographical area compared with the peer group. However, due to the compact nature of the service area, Metro Transit exhibits the highest population density at 3,298 persons per square mile compared to the peer average of 2,861 persons per square mile.

Table 2
Peer Comparison of Peer Group with Metro Transit (Service Level Peer Group)

	Peer Group			Metro Transit		
Characteristic	Minimum	Maximum	Average	Value	Percent Difference	Rank*
Population	334,857	1,048,319	653,652	237,652	-63.6	12
Area (Sq. Mi)	142	1,760	541	72	-86.7	12
Population Density	451	2,861	1,863	3,298	77.0	1
Peak Vehicles	99	209	153	167	9.2	5
Revenue Miles	3,577,700	7,651,100	5,618,500	4,703,900	-16.3	9
Revenue Hours	248,900	618,900	426,800	365,500	-14.4	9
Unlinked Passenger Trips	3,881,100	19,383,000	10,494,800	12,034,500	14.7	6
Operating Expenses (in 000's)	$17,891.4	$70,658.0	$41,160.1	$35,143.9	-14.6	7
Operating Revenue (in 000's)	$3,962.7	$21,374.3	$9,105.4	$7,912.2	-13.1	6
Miles per Hour	12.1	15.2	13.4	13.3	-0.7	7

**Rank of 1 is best, 9 is worst*
Source: 2006 National Transit Database

Metro Transit is a smaller system than the peer average in terms of revenue miles and revenue hours. As a result of this lower level of service, Metro Transit exhibits lower operating costs and lower operating revenue. However, Metro Transit carries significantly more passengers than the peer average and also operates a much higher number of peak vehicles. The average operating speed of Metro Transit buses, systemwide, is 13.3 mph, which is very similar to the peer average speed of 13.4 mph.

Although Metro Transit is a smaller system compared to its peers in terms of its overall size, it is a much larger system relative to the population that is serves compared to the peer group. As noted above, there are no transit systems in the country that serve slightly more than

200,000 people and yet provide 4.7 million miles of service with a fleet of approximately 200 vehicles. When the level of service Metro Transit provides is compared with the population peer group on a per capita basis, as is shown in Table 1, Metro Transit provides a much higher level of service compared to the peer group.

Transit Revenue Sources - This section reviews the amount of operating and capital funding that Metro Transit and the peer systems obtained from directly generated, local, state, and federal sources. The information is presented in Table 3 and is based on data from Report Year 2006. Because of the different funding sources for combined operating and capital assistance, the results are presented as averages in terms of total operating and capital sources. It is important to note that capital funding and expenditures for transit systems can fluctuate from year to year depending upon the fleet replacement needs and facility projects of the given system. Another point to note is that funding levels reported to the NTD include both fixed route and demand responsive services and are not separated by mode.

- The largest source of operating funds for Metro Transit is the state (35.7%), with all of the state funding coming from the general revenue fund. Local funds account for 32.5 percent of Metro Transit's operating funding, with all of these funds coming from the City of Madison's general revenue fund. Revenue directly generated by Metro Transit accounted for 19.9 percent, which represented 18.9 percent from passenger fares and 1.0 percent from other revenue generating activities. In 2006, Federal funding comprised the remaining portion of Metro Transit's operating funding sources (11.8%). It should be noted that none of Metro Transit's operating funding is obtained from a dedicated source.

  On average, the peer systems obtain 35.6 percent of their operating funding from state sources. Unlike Metro Transit, however, almost half of this state funding comes from dedicated sources such as gasoline or sales taxes. It should be noted that only four of the twelve peer systems receive state funding from a dedicated source. These four systems receive a much smaller allocation, if any, from the state's general revenue fund. The next largest source of operating funds for the peer group comes from directly generated sources. On average, the peers generate 19.4 percent of their operating funding from passenger fares. An additional 13.7 percent comes from dedicated sources such as taxes. Like dedicated state funding, only four systems receive funding from a directly generated dedicated source. All four of these systems receive small amounts of state funding. The peer systems also obtain 11.1 percent of their operating funds from local government sources. Two peer systems receive funding from a locally dedicated funding source, while four additional systems receive general revenue local funding. Similar to Metro Transit, the peers obtain 13.4 percent of their operating funding from Federal funding programs.

  Overall, Metro Transit ranks 7 of 12 in terms of total state funding, and for overall state funding as a percent of operating funding, Metro ranks 6 of 12. Within the categories of state funding, Metro ranks 5 in terms of the overall value of state funding coming from

general revenue funds, and ranks 4 in terms of the percent of operating funding comprised of by general revenue state funding. In terms of local funding, Metro Transit ranks 3 or 12 for the overall value of local funding provided as well as the percent of operating funding comprised of by local funding. In terms of general revenue local funding, Metro Transit ranks 3 of 12 in terms of the value of general revenue local funding provided, and 1 of 12 in terms of the percent of operating funding comprised of by local general revenue funding. In terms of passenger fares, Metro Transit ranked 8 of 12 in terms of the overall value of passenger fares collected, and 7 of 12 in terms of the percent of operating funding that passenger fares represent.

- In terms of capital assistance, in 2006 the state of Wisconsin was the primary entity that funded capital projects for Metro Transit (65.2%), with all funds coming from the general revenue fund. However, this is somewhat misleading in that the funds reported as state capital funding by Metro to the National Transit Database represents a federal source of capital funding which is passed through the State of Wisconsin. There is no State of Wisconsin program for capital assistance to Metro. When combining this source with other federal sources reported, a total of 80.0 percent of capital funding comes from the federal government, with the remaining 20.0 percent being provided by local sources. In 2006, capital funding for the peer group largely came from the federal government (64.9%), with 21.4 percent of capital funding coming from the state and 13.7 percent from local and directly generated sources.

  Capital spending data can fluctuate significantly from year to year depending upon the projects undertaken by the system. The data for Metro and the peer group is in accordance with typical patterns with between 65 and 80 of funding for capital purchases coming from the federal government with local and state funding sources comprising the match. The overall percent of federal funding can decrease during certain years if projects primarily funded locally are undertaken, such as new facilities. The important point to note is that the non-federal funds used by Metro for capital projects are provided by the local government from the general revenue fund. Most of the peer systems obtain their non-federal share of capital projects from state sources, mainly from general revenue funds. Three systems receive local funding for capital projects and two use directly generated funds.

The overall conclusions from the information included in Table 3 are that Metro Transit relies more heavily on general revenue local and state sources for its operating funding. Metro ranks 1 of 12 among the peers in terms of the percent of operating funding coming from local government general revenue funding. Metro Transit does not receive any funding from dedicated sources at the directly generated, local, or state level.

Table 3
Peer Comparison of Transit Funding Sources
All dollar ($) amounts in thousands

	Peer Group		Metro Transit		Rank*	
	Average	Percent of Total	Value	Percent of Total	Value	Percent of Total
Operating Funding Sources						
Directly Generated						
Passenger Fares	9,470.0	19.4	8,223.3	18.9	8	7
Dedicated at Source	6,676.0	13.7	0	0.0	(4)	(4)
Other	3,313.6	6.8	430.1	1.0	10	12
Local						
Dedicated at Source	1,668.8	3.4	0	0.0	(3)	(3)
General Fund	3,758.9	7.7	14,119.7	32.5	3	1
State						
Dedicated at Source	8,049.4	16.5	0	0.0	(5)	(5)
General Fund	9,304.8	19.1	15,523.4	35.7	5	4
Federal	6,522.1	13.4	5,127.2	11.8	6	7
Total	48,763.6	100.0	43,423.7	100.0	8	-
Capital Funding Sources						
Directly Generated						
Passenger Fares	269.6	4.1	0	0.0	(2)	(2)
Dedicated at Source	154.0	2.3	0	0.0	(3)	(3)
Other	0	0.0	0	0.0	(1)	(1)
Local						
Dedicated at Source	238.1	3.6	0	0	(2)	(2)
General Fund	239.2	3.6	1,013.3	20.0	2	2
State						
Dedicated at Source	814.6	12.4	0	0	(2)	(2)
General Fund	594.9	9.0	3,305.5	65.2	1	1
Federal	4,274.7	64.9	747.7	14.8	10	12
Total	6585.1	100.0	5,066.5	100.0	6	-
Total Operating and Capital Sources						
Directly Generated						
Passenger Fares	9,739.6	17.6	8,223.3	17.0	8	2
Dedicated at Source	6,830.0	12.3	0	0.0	(5)	4
Other	3,313.6	6.0	430.1	0.9	10	2
Local						
Dedicated at Source	1,906.9	3.4	15,133.0	0.0	(3)	(3)
General Fund	3,998.1	7.2	0	31.2	3	4
State						
Dedicated at Source	8,864.0	16.0	0	0.0	(5)	(5)
General Fund	9,899.7	17.9	18,828.9	38.8	4	4
Federal	10,796.8	19.5	5,874.9	12.1	9	9
Total	55,348.7	100.0	48,490.2	100.0	8	-

**Rank of 1 is best, 12 is worst*
(#) indicates that Metro holds this rank along with the remaining systems in the group
Source: 2006 National Transit Database

Financial, and General and Administrative Measures - Table 4 presents a number of key financial, and general and administrative (G&A) performance measures. In this analysis, the ranking represents performance in terms of general and administrative activities from best (1) to worst (12), as opposed to highest and lowest in the prior tables.

Table 4
Peer Comparison of Financial and G&A Measures

Variable	Peer Group			Metro Transit		
	Minimum	Maximum	Average	Value	Percent Difference	Rank*
Cost Measures						
Cost per Passenger	$3.19	$5.66	$3.97	$2.92	-26.4	1
Cost per Revenue Mile	$4.66	$9.92	$7.17	$7.47	4.2	8
Cost per Revenue Hour	$64.10	$128.49	$94.30	$96.14	2.0	7
Cost per Peak Vehicle	$162,734	$494,323	$267,417	$210,443	-21.3	3
Overall Financial						
Revenue per Passenger	$0.69	$1.10	$0.85	$0.66	-22.4	12
Farebox Recovery Ratio	13.0%	30.3%	22.1%	22.5%	1.7	7
General &Administrative						
G&A Costs per Total Operating Costs	10.0%	25.1%	16.2%	12.2%	-24.5	2
G&A Employees per Total Employees	8.4%	11.9%	9.9%	8.6%	-13.1	3

**Rank of 1 is best, 12 is worst*
Source: 2006 National Transit Database

- The cost per passenger at Metro Transit was $2.92 during FY 2006, which was the lowest (best) among the peer group and was 26.4 percent lower than the peer average of $3.97. This favorable performance can be attributed to Metro Transit carrying more riders than the peer average while also having lower operating costs.

- Financial efficiency is measured utilizing three factors. These factors are cost per revenue mile, cost per revenue hour, and cost per peak vehicle. These measures indicate the value metro Transit attains in terms of vehicle usage in comparison to its peer systems. In terms of costs per revenue mile, Metro Transit was higher than the peer average cost of $7.17. This productivity measure assesses and compares the cost of each mile of service provided. Metro Transit was 4.2 percent higher than the peer average for this measure. Cost per revenue hour measures the fully allocated cost of system operation per each hour of revenue service for each of the peer systems. Metro Transit was two percent above the peer average of $94.30 with an hourly rate of $96.14. The third measure assesses the amount of operating costs expended per peak vehicle, which allows for a comparison of costs while controlling for the general size of the transit system. For this indicator, Metro Transit was 21.3 percent below the peer average of $267,417, with a cost per peak vehicle of $210.443.

- Metro Transit's revenue per passenger in FY 2006 was $0.66 which was the lowest figure of the peer group and was 22.4 percent lower than the peer average of $0.85.

Metro Transit's lower revenue per passenger is attributed to the fact that the system offers Unlimited Ride Pass Agreements with several local institutions and major employers including UW-Madison and the City of Madison; in addition, Metro Transit also offers discounted fare programs such as the 31-Day Pass and the EZ Rider Semester Youth Pass. These programs offer free or deeply discounted rides, which lower the average fare that is paid by the riders. The low revenue per passenger figure is viewed negatively in the peer group context, although it is not necessarily negative from a policy standpoint. Rather, it reflects local policy of encouraging ridership by providing low or discounted fares.

Metro Transit's low revenue per passenger performance coincided with a farebox recovery ratio that was slightly better than the peer average. In FY 2006, Metro Transit's farebox recovery was 22.5 percent compared to the peer average of 22.1 percent. This above average performance can be attributed to the fact that Metro Transit had a much higher ridership level than the peer group, which in turn helped to offset some of the effects of providing discounted fares to Metro Transit riders.

- Metro Transit exhibits favorable performance in terms of G&A costs as percent of total operating costs, and G&A employees as a percentage of total employees. G&A costs at Metro Transit account for 12.2 percent of total operating costs compared to the peer average of 16.2 percent. This is a difference of almost 25 percent and is the second lowest figure of the peer group. G&A employees at Metro Transit account for 8.6 percent of total employees, which is the third lowest figure of the peer group and is about 13 percent lower than the peer average of 9.9 percent. These statistics indicate that a much lower proportion of Metro Transit's costs are dedicated to administrative activities when compared to its peers.

  Metro Transit's performance in the above areas is favorable. Metro Transit costs on a per revenue mile and per revenue hour basis are similar to its peers, but the agency has a lower cost per passenger, a higher farebox recovery ratio, and exhibits lower G&A costs and a lower number of G&A employees. Although Metro Transit collects a smaller amount of revenue per passenger, this decision to keep fare prices low may be contributing to Metro Transit's higher ridership when compared to the peer average (See Table 2).

Transportation Performance - Table 5 shows the performance measures related to transportation activities at Metro Transit. These performance measures relate to the efficiency of day-to-day operations including scheduling, street supervision, dispatching and training. Several different categories of transportation performance are presented below:

Table 5
Peer Comparison of Transportation Performance Measures

Characteristic	Peer Group			Metro Transit		
	Minimum	Maximum	Average	Value	Percent Difference	Rank*
Transportation Efficiency						
Operations Cost/Total Costs	46.9%	64.2%	59.8%	69.0%	15.4	1
Operation Employ/Total Employ	62.7%	73.5%	69.6%	73.6%	5.8	1
Vehicle Hours/Operations Employee	976	1,855	1,507	1,302	-13.9	10
Transportation Effectiveness						
Passengers per Revenue Mile	1.01	2.64	1.84	2.56	39.1	2
Passengers per Revenue Hour	13.9	32.1	24.2	32.9	36.1	1
Passengers per Peak Vehicle	39,203	95,483	67,343	72,063	7.0	4
Passengers per Total Employees	15,906	29,958	22,359	28,484	27.4	2

** Rank of 1 is best, 12 is worst*
Source: 2006 National Transit Database

- The total cost of the transportation function accounts for 69.0 percent of the total cost of the Metro Transit system. This is highest relative cost of the peer comparison. Along with the G&A measures, this demonstrates that Metro Transit spends more of its funds on placing bus service on-the-street and fewer funds on administrative activities when compared to its peers. Operating employees at Metro Transit comprise almost three-quarters of the work force, which is the highest percentage of the peer group. However, the high number of operating employees may indicate an inefficient use of resources at Metro Transit in that the agency had the third lowest number of vehicle hours per operating employee in 2006 (1,302), and was 13.6 percent lower than the peer average of 1,507.

- Metro Transit performs better than the peer average for all measures related to transportation effectiveness including passengers per revenue mile, passengers per revenue hour, passengers per total employees, and passengers per peak vehicle. The four measures are each ranked near the top of the peer group, and indicate that the service provided by Metro Transit is being utilized at a higher rate compared to the overall peer average.

In summary, Metro Transit spends a considerably higher share of its expenses compared with its peers on operations, and indicates that the agency is focused on providing the greatest amount of bus service possible. However, the provision of service might not be as efficient as the peer group based on the fact that Metro Transit has a below average vehicle hours per operating employee ratio.

Maintenance Performance - The information on Table 6 provides a summary of the relative efficiency of the Metro Transit maintenance program. Maintenance efficiency measures and maintenance cost performance are reviewed below:

Table 6
Peer Comparison of Maintenance Measures

Characteristic	Peer Group			Metro Transit		
	Minimum	Maximum	Average	Value	Percent Difference	Rank*
Maintenance Measures						
Spares Ratio	11.9%	30.8%	18.7%	18.1%	-2.9	6
Vehicle Miles per Active Bus	23,405	46,134	34,118	23,396	-31.4	9
Vehicle Miles per Maintenance Employee	49,145	121,130	87,478	80,010	-8.5	8
Vehicle Hours per Maintenance Employee	4,076	8,578	6,450	6,016	-6.7	8
Buses per Maintenance Employee	1.60	3.84	2.60	3.03	16.5	3
Miles per Gallon	2.77	5.18	3.97	4.24	6.8	5
Vehicle Miles per Maintenance Road Calls	1,430	21,184	7,252	7,057	-2.7	5
Maintenance Costs						
Per Active Bus	$17,767	$60,429	$39,810	$28,350	-28.8	3
Per Peak Bus	$25,664	$74,898	$48,736	$34,631	-28.9	3
Per Vehicle Mile	$658	$2,110	$1,209	$1,074	-11.1	6

** Rank of 1 is best, 12 is worst*
Source: 2006 National Transit Database

- Metro Transit's spare ratio (18.1%) is similar to the peer average of 18.7 percent and ranks in the middle of the peer group. According to the Federal Transit Administration (FTA), a spare ratio of 20 percent or higher may indicate an inefficient use of resources, since more vehicles have been purchased than are needed for normal operations. However, a small spare ratio of 10 percent or less may indicate potential service reliability problems due to the fact that not enough vehicles are available to substitute for other vehicles in the fleet undergoing regular maintenance or for vehicles that have broken down during the day. Metro Transit's spare ratio is appropriate.

- Metro Transit operates the fourth lowest number of vehicle miles per active bus. This can indicate a less efficient use of resources. However, the fact that Metro Transit operates at an average speed (13.3 MPH) which is practically equal to the peer average (13.6 MPH) indicates that Metro Transit uses its vehicles at a similar level of efficiency as its peers. One contributing factor could be the inclusion of vehicles that are not typically used in daily operation in the list of active buses. This issue will be investigated further as part of the functional area review.

- The Metro Transit maintenance workforce is below the peer average in terms of vehicle miles and vehicle hours per maintenance employee (-8.5 % and -6.7 %, respectively). This finding is in line with the fact that Metro Transit operates fewer vehicle miles per active bus in the fleet. The fact that Metro Transit has 3.03 buses per maintenance employee, which is 16.5 percent higher than the peer average of 2.60, could be indicative of more efficient use of maintenance employees when compared to the peers, or an indication of understaffing in this area. Again, this will be further assessed in the functional area review.

- The Metro Transit bus fleet has a better fuel efficiency (4.24 miles per gallon) than the peer average (3.97 miles per gallon). However, this performance is down from the 2003 performance review when Metro Transit buses averaged 4.34 miles per gallon. Modest improvements in fuel efficiency could have significant cost benefits in light of today's high fuel prices. This may also be a function of changes in fleet mix (i.e., a higher percentage of full sized buses).

- The next category measures the number of vehicle miles operated for each maintenance road call performed for mechanical reasons. It is an indicator both of maintenance quality and the age and condition of the bus fleet. Higher values generally indicate better performance. Metro Transit exhibited a slightly higher road call rate than the peer average, with 7,057 miles between road calls compared with 7,251 miles for the peer group. This performance places Metro Transit in the middle of the peer group with a ranking of 5. Metro Transit exhibited a much better road call rate during the 2003 performance review when the system exhibited 12,371 miles between road calls while the peer average was 5,806 miles between road calls.

- Metro Transit's maintenance costs per active bus and per peak bus are the third lowest of the peer group and are approximately 29 percent lower than the peer average. Metro Transit's maintenance cost per vehicle mile is approximately 11 percent lower than the peer average and places Metro Transit in the middle of the peer group with a rank of 6. This may be a favorable performance in that it indicates efficiency, or could be an indicator that maintenance expenditures are too low. This will be investigated further as part of the functional area review.

In summary, Metro Transit's vehicle maintenance performance is generally favorable. The agency performed better than the peer average in the areas of spares ratio, fuel efficiency, and maintenance costs, and is comparable with the peer group in terms of maintenance workforce efficiency. Although Metro Transit's road call performance was similar to the peer average, this performance exhibited a significant decline from the 2003 performance review.

Trend Analysis

The second analysis technique reviews Metro Transit's performance over time rather than a single "snapshot" as in the preceding peer group analysis. Many of the same indicators are used as those used in the peer group analysis. The results of the two analyses are combined in the next section. Only the Service Level Peer Group is used in this section, rather than the smaller group of systems and communities from the Population Peer Group for the per capita analysis.

The information presented here focuses on the two end years (i.e., FY 2002 and FY 2006) since five years should provide sufficient time to delineate discernable trends. The overall rate of change is calculated. FY 2006 was used since it is the last year in which peer data was available for all of the systems.

In the analysis that follows, the average of the peer systems for the evaluation measures is computed for both 2002 and 2006. The percent change between 2002 and 2006 is computed. The Metro Transit information for both 2002 and 2006 is reported along with the percent change. Therefore, the relative change in the peer average can be compared with the change in performance by Metro Transit for the same period.

In performing the peer analysis, only the results of the Service Level Peer Group data (Table 2), the financial and G&A measures (Table 4), transportation performance measures (Table 5), and maintenance performance measures (Table 6) are compared with 2002 data. Funding levels (Table 3) which indicate the sources of operating and capital assistance for both fixed route and demand responsive services was not examined in the trend analysis. While there was some fluctuation in capital funding which is affected by specific projects, the operating funding sources were similar between 2002 and 2006.

Peer Group Characteristics Trend Comparison - As seen in Table 7, the change in the peer system averages between 2002 and 2006 are compared with the change in the same statistics for Metro Transit between 2002 and 2006. Comparisons with population and population density were not performed because both end years are based on the 2000 U.S. Census and thus, population statistics are the same.

Table 7
Trend Analysis of Overall Statistics

Characteristic	Peer Group			Metro Transit		
	2002	2006	Percent Change	2002	2006	Percent Change
Revenue Miles	5,785,000	5,618,500	-2.9	5,373,200	4,703,900	-12.5
Revenue Hours	414,500	426,800	3.0	363,100	365,500	0.7
Peak Vehicles	156	153	-1.9	167	167	0.0
Unlinked Passenger Trips	10,245,200	10,494,800	2.4	10,895,100	12,034,500	10.5
Operating Expenses (in 000's)	$32,488.0	$41,160.1	26.7	$29,385.6	$35,143.9	19.6
Operating Revenue (in 000's)	$7,499.7	$9,105.4	21.4	$6,172.1	$7,912.2	28.2
Miles per Hour	15.9	13.4	15.7	13.2	13.3	0.8

Source: 2002 & 2006 National Transit Database

Highlights of the peer group trend analysis include the following:

- The amount of service provided by Metro Transit declined relative to the peer group average during the review period. Metro Transit's revenue miles decreased by 12.5 percent, while the amount of revenue hours increased by less than one percent. The peer group exhibited a 2.9 percent decline in terms of revenue miles and a three percent increase in revenue hours.

- The peak vehicle requirement at Metro Transit did not change during the review period, while the peer average exhibited a 1.9 percent decline in peak vehicles.

- Ridership on the Metro Transit system increased by 10.5 percent during the review period, while the peer group average increased by 2.4. The fact that Metro Transit's ridership increased at a much higher rate than revenue hours indicates an increase in productivity and suggests that the slight service increase has been concentrated in the core of the service area.

- Metro Transit relies more heavily than its peers on state and local general revenue sources for its operating funding. Metro Transit receives no operating funding from dedicated sources at the directly generated, local, or state level.

- In terms of financial measures, Metro Transit's total operating costs increased by 19.6 percent, which was lower than the 26.7 percent increase experienced by the peer group. Metro Transit's operating revenue increased by approximately 28 percent during the review period compared to a 21.4 percent increase exhibited by the peer group. This increase in revenue is consistent with Metro Transit's increase in ridership.

- Finally, the average operating speed of Metro Transit buses in FY 2006 was 13.3 miles per hour, which was about the same speed as in FY 2002 when Metro Transit averaged

13.2 miles per hour. This was better than the peer average, which exhibited a 15.7 percent decline in average speed during the review period.

In summary, Metro Transit provided about the same level of service in 2006 for two of the three operating statistics as it provided in 2002. For revenue miles, the amount of service declined between 2002 and 2006. The peer group exhibited a slightly higher increase in service during the review period, with its operating costs increasing at higher rate compared to Metro Transit accordingly. Although Metro Transit's level of service stayed about the same during the review period, ridership on the transit system increased by 10.5 percent. The increase in ridership and average fare at Metro Transit resulted in a significant increase in revenue.

Financial and G&A Trends - Table 8 presents trends between 2002 and 2006 for a number of key financial and G&A performance measures.

Table 8
Trend Analysis of Financial and G&A Measures

Characteristic	Peer Group			Metro Transit		
	2002	2006	% Change	2002	2006	% Change
Cost Measures						
Cost per Passenger	$3.43	$3.97	15.7	$2.70	$2.92	8.1
Cost per Revenue Mile	$5.60	$7.17	28.0	$5.47	$7.47	36.6
Cost per Revenue Hour	$77.57	$94.30	21.6	$80.94	$96.14	18.8
Cost per Peak Vehicle	$206,500	$267,417	29.5	$175,962	$210,443	19.6
Overall Financial Measures						
Revenue Per Passenger	$0.78	$0.85	9.0	$0.57	$0.66	15.8
Farebox Recovery	23.6%	22.1%	-6.0	21.0%	22.5%	7.2
General &Administrative						
G&A Costs per Total Costs	16.8%	16.2%	-3.7	12.0%	12.2%	1.8
G&A Employ per Total Employees	12.4%	9.9%	-20.7	9.0%	8.6%	-4.8

Source: 2002 & 2006 National Transit Database

- Metro Transit's cost per revenue hour increased by 18.8 percent compared to the peer average increase of 21.6 percent, and Metro Transit's cost per peak vehicle increased by 19.6 percent compared to a 29.5 percent increase exhibited by the peer group. Further, Metro Transit's cost per passenger increased at a lower rate than the peer average during the review period, 8.1 percent versus 15.7 percent. The only area where Metro Transit's costs increased at a greater rate than the peer group was cost per revenue mile, which increased 36.6 percent compared to a 28 percent increase exhibited by the peer group. Overall, this is favorable performance.

- Metro Transit's revenue per passenger increased by $0.09 or about 16 percent between 2002 and 2006, while the revenue per passenger for the peer group increased by nine percent. Metro Transit's farebox recovery increased 7.2 percent during the review period compared to a six percent decline in farebox revenue exhibited by the peer group.

- The G&A costs at Metro Transit increased to 12.2 percent of total costs in 2006, which is only about two percent higher than the statistic was in 2002. The peer average exhibited a 3.7 percent decline in G&A costs during the review period, but the peer group G&A costs still represented 15.8 percent of total costs in 2006 which is higher than the Metro Transit figure of 12.2 percent. The number of Metro Transit G&A employees as a percent of total employees declined by 4.8 percent during the review period, while the percentage of G&A employees per total employee for the peer group declined by almost 21 percent. In FY 2006 almost 10 percent of the peer group workforce was made up of G&A employees compared to about nine percent for Metro Transit.

In summary, Metro Transit's performance in the above measures is generally favorable. Cost per passenger and cost per peak vehicle were below the peer average, while an increase in passenger revenue at the agency resulted in a higher revenue per passenger figure and a better farebox recovery compared with the peer group. Although the peer group lowered administrative costs and reduced the administrative workforce as a percent of total costs and employees at a rate higher than Metro Transit during the review period, Metro Transit's G&A measures were still lower than the peer average at the end of 2006.

Transportation Performance Trends - As shown in Table 9, transportation performance of Metro Transit is compared with the peer average for the 2002 and 2006 review period, with the following results:

Table 9
Trend Analysis of Transportation Performance Measures

Characteristic	Peer Group			Metro Transit		
	2002	2006	Percent Change	2002	2006	Percent Change
Transportation Efficiency						
Operations Cost/Total Costs	59.6%	59.8%	0.3	65.0%	69.0%	6.1
Operation Employ/Total Employ	68.0%	69.6%	2.4	72.2%	73.6%	2.0
Vehicle Hours/Operations Employees	1,540	1,507	-2.1	1,410	1,302	-7.7
Transportation Effectiveness						
Passengers per Revenue Mile	1.77	1.84	4.0	2.03	2.56	26.1
Passengers per Revenue Hour	24.1	24.2	0.2	30.01	32.9	9.7
Passengers per Peak Vehicle	64,546	67,343	4.3	65,240	72,063	10.5
Passengers per Total Employees	21,489	22,359	4.0	27,522	28,484	3.5

Source: 2002 & 2006 National Transit Database

- In terms of transportation efficiency, operations cost as a percent of total costs at Metro Transit increased by approximately six percent, while the peer average exhibited a very modest increase of 0.3 percent. A total of 73.6 percent of the Metro Transit work force is employed in operations, which is a slight increase from 72.2

percent in 2002. The percentage of peer group employees who were employed in operations increased from 68.0 percent to 69.6 percent during the review period. The number of vehicle hours per operations employee at Metro Transit decreased by 7.7 percent during the review period, while the peer average exhibited a decrease of 2.1 percent.

- In the four measures related to passengers, Metro Transit was increasing at a higher rate than its peers in three of the four measures including passengers per revenue mile, passengers per revenue hour, and passengers per peak vehicle. Although the number of passengers per total employees at Metro Transit increased 3.5 percent during the review period, the peer average increased at a higher, but similar, rate of four percent. However, Metro Transit still carried more passengers per employee in FY 2006 compared with the peer average.

In summary, Metro Transit continues to spend a larger portion of its total costs on placing service on the street which has resulted in a positive trend in ridership and effectiveness during the review period.

Maintenance Performance Trends - As shown in Table 10, the trend in Metro Transit maintenance performance between 2002 and 2006 was reviewed with the following results:

- The spares ratio at Metro Transit has increased by 19.1 percent between 2002 and 2006 while the peer average increased at a lower rate of 4.1 percent. However, the Metro Transit spare ratio was 18.1 percent in 2006, which was very similar to the peer group average of 18.7 percent. Further, this spares ratio is an appropriate value and is now more in line with Federal Transit Administration guidelines regarding this issue than it was in 2002.

- Metro Transit has decreased the number of miles per active bus by 14.2 percent, which is higher than the 2.3 percent decline exhibited by the peer group.

- Metro Transit's maintenance staff productivity measures (i.e., miles per maintenance employee, hours per maintenance employee, and buses per maintenance employee) have improved at a greater rate than the peer group.

Table 10
Trend Analysis of Maintenance Performance Measures

Characteristic	Peer Group			Metro Transit		
	2002	2006	Percent Change	2002	2006	Percent Change
Maintenance Measures						
Spares Ratio	17.9%	18.7%	4.1	15.2%	18.1%	19.1
Vehicle Miles per Active Bus	34,913	34,118	-2.3	27,275	23,396	-14.2
Vehicle Miles per Maintenance Employees	88,278	87,478	-1.3	76,541	80,010	4.5
Vehicle Hours per Maintenance Employees	6,308	6,450	2.3	5,809	6,016	3.6
Buses per Maintenance Employees	2.55	2.60	2.0	2.81	3.03	7.8
Miles per Gallon	4.04	3.97	-1.7	4.40	4.24	-3.6
Vehicle Miles per Maintenance Road Calls	7,445	7,252	-2.6	8,396	7,057	-15.9
Maintenance Costs						
Per Active Bus	$33,221	$39,810	19.8	$29,427	$28,350	-3.7
Per Peak Bus	$40,358	$48,736	18.3	$34,714	$34,631	-2.4
Per Vehicle Mile	$973	$1,209	24.3	$1,079	$1,074	-0.5

Source: 2002 & 2006 National Transit Database

- The fuel efficiency of Metro Transit buses declined by 3.6 percent during the review period compared to a 1.7 percent decline exhibited by the peer group. However, in FY 2006, Metro Transit's bus fleet attained better mileage (4.24 mpg) compared with the peer group (3.97 mpg). The declining trend in fuel efficiency could be the result of changes in the fleet mix.

- Metro Transit exhibited a declining trend in the area of road call performance. Between 2002 and 2006, the number of vehicle miles per road calls declined by 15.9 percent compared to a 2.6 percent decline exhibited by the peer group. This change in performance may be the result of changes or improvements in recordkeeping. Further, a review of Metro Transit's maintenance unit will be conducted as part of this performance review, and will provide the necessary analysis needed to determine whether or not Metro Transit is deficient in the area of road call performance.

- Metro Transit exhibited an improving trend in terms of maintenance efficiency in that maintenance costs per active bus, per peak bus, and per vehicle mile all declined during the review period. Conversely, the peer group's maintenance costs increased at a rate of between 18.3 percent and 24.3 percent.

In summary, the maintenance trend performance at Metro Transit is generally favorable. Metro Transit exhibited an improving trend in the areas of maintenance staff productivity and maintenance costs, and was very similar to the peer average in terms of the spares ratio. Although the fuel efficiency of the Metro Transit bus fleet declined relative to the peer average,

Metro Transit buses still attained better mileage in 2006 compared to the peer group. The one area where Metro Transit was clearly outperformed by the peer group was in the area of road call performance. As noted, this may be the result of how these figures have been reported. The detailed review of Metro Transit's maintenance function to be conducted by study team will investigate these issues further.

Combination Analysis

This final technique combines the results of the peer group analysis and the trend analysis. Placing these results side by side enables each indicator to be assigned to one of four categories:

1. Better than the peer group average and improving relative to the peer group average over time. For any performance in this category, Metro Transit should be commended.

2. Better than the peer group average and declining relative to the peer group average over time. This performance indicates that symptoms of future problems may be evident. In the case of the Metro Transit, it may also mean that the past performance levels were so high that a decline relative to its peers is reasonable.

3. Worse than the peer group average but improving relative to the peer group average over time. This performance indicates a positive trend but where additional work is needed.

4. Worse than the peer group average and declining relative to the peer group average over time. This performance indicates a problem that may require attention.

The results of this combination approach are presented below.

Financial and Per Capita Measures - As seen in Table 11, Metro Transit performs better than the peer group average in the areas of cost per passenger and cost per peak vehicle, farebox recovery, and G&A employees per total employees and G&A costs per total costs.

Table 11
Combination Analysis of Financial and G&A Measures

Characteristic	Metro Transit Performance Relative to Peer Group For FY 2006	Metro Transit Performance for Trend FY 2002 – FY2006	Rating
Cost Measures			
Cost per Passenger	Better	Improving	1
Cost per Revenue Mile	Worse	Declining	4
Cost per Revenue Hour	Worse	Improving	3
Cost per Peak Vehicle	Better	Improving	1
Overall Financial Measures			
Revenue per Passenger	Worse	Improving	3
Farebox Recovery	Better	Improving	1
G&A Measures			
G&A Costs per Total Costs	Better	Declining	2
G&A Employees per Total Employees	Better	Declining	2

In terms of the trend comparison, Metro Transit exhibited improving performance relative to the peer average in five of the eight measures. Metro Transit exhibited declining trends in both G&A measures and cost per revenue mile. However, Metro Transit's G&A measures still outperformed the peer group in 2006.

Transportation Performance Measures - As seen in Table 12, Metro Transit performed above the peer average in two of the three transportation efficiency measures including operations cost per total costs and operations employees per total employees. In terms of trend analysis, Metro Transit's performance was reversed - declining relative to the peer average in two of three measures including operations employees per total employees and vehicle hours per operations employees. However, the ratio of operations employees to total employees did improve during the review period, but just not at the same rate as the peer average.

Table 12
Transportation Performance Measures

Characteristic	Metro Transit Performance Relative to Peer Group For FY 2006	Metro Transit Performance for Trend FY 2002 – FY2006	Rating
Transportation Efficiency			
Operations Cost/Total Costs	Better	Improving	1
Operations Employ/Total Employ	Better	Declining	2
Vehicle Hours/Operations Employees	Worse	Declining	4
Transportation Effectiveness			
Passengers per Revenue Mile	Better	Improving	1
Passengers per Revenue Hour	Better	Improving	1
Passengers per Peak Vehicle	Better	Improving	1
Passengers per Total Employees	Better	Declining	2

In terms of transportation effectiveness, Metro Transit was above the peer average and improving relative to the peer group average in three of the four measures including passengers per revenue mile, passengers per revenue hour, and passengers per peak vehicle, and was above the peer average but declining in the area of passengers per total employee. However, Metro Transit still carried more passengers per employee compared to the peer average in 2006.

Maintenance Performance Measures - As seen in Table 13, the maintenance performance of Metro Transit is mixed. Overall, Metro Transit was below or worse than the peer average in five of the seven maintenance measures, with three of these measures also exhibiting a declining trend relative to the peer group average. Only one measure (i.e., buses per maintenance employee) was above the peer average and showing an improving trend. Even though Metro Transit was below average and declining in terms of spares ratio, the 18.14 percent spares ratio Metro Transit exhibited in 2006 is appropriate. Further, even though Metro Transit's bus fleet exhibited declining fuel efficiency during the review period, the bus fleet still attained better mileage than the peer group in 2006. Finally, Metro Transit's below average and declining road call performance is inconclusive until further review can determine if this is a result of reporting. These results may be more indicative of anomalies in the data over the five year period and differences in reporting in spite of using NTD information.

Table 13
Maintenance Performance Measures

Characteristic	Metro Transit Performance Relative to Peer Group For FY 2006	Metro Transit Performance for Trend FY 2002 - FY 2006	Rating
Maintenance Measures			
Spares Ratio	Worse	Improving	3
Vehicle Miles per Active Bus	Worse	Declining	4
Vehicle Miles per Maintenance Employees	Worse	Improving	3
Vehicle Hours per Maintenance Employees	Worse	Improving	3
Buses per Maintenance Employees	Better	Improving	1
Miles per Gallon	Better	Declining	2
Vehicle Miles per Maintenance Road Calls	Worse	Declining	4
Maintenance Costs			
Per Active Bus	Better	Improving	1
Per Peak Bus	Better	Improving	1
Per Vehicle Mile	Better	Improving	1

However, Metro Transit excelled in the area of maintenance costs, with the three related measures being above the peer average and improving at a much greater rate than the peer group. In fact, Metro Transit's maintenance costs declined during the review period while the peer average maintenance costs increased at a rate of between 18.3 percent and 24.3 percent.

The results of the combination analysis indicate a mostly favorable performance on the part of Metro Transit. As seen in Table 14, Metro Transit exhibited above average and improving performance in 44 percent of the review areas, and was above the peer average in 16

of the 25 categories, or 64 percent. Of the nine areas with below average performance, five were in maintenance, three were in financial and G&A, and one was in transportation. Four categories, or 16 percent, were below the peer average and declining.

Table 14
Summary Performance Rating

Category	Financial and G&A Measures		Transportation Measures		Maintenance Measures		Total	
	Ratings	Percent	Ratings	Percent	Ratings	Percent	Ratings	Percent
1-Better Than Peer and Improving	3	37.5	4	57.1	4	40.0	11	44.0
2-Better Than Peer and Declining	2	25.0	2	28.6	1	10.0	5	20.0
3-Worse Than Peer and Improving	2	25.0	0	0.0	3	30.0	5	20.0
4-Worse Than Peer and Declining	1	12.5	1	14.3	2	20.0	4	16.0
Total	8	100.0	7	100.0	10	100.0	25	100.0

The Wisconsin Department of Transportation has six measures that it uses to evaluate the overall performance of its transit systems. These measures include farebox recovery, expense per passenger, expense per revenue hour, revenue hours per capita, passengers per capita, and passengers per revenue hour. As seen in Table 15, the performance of Metro Transit is very good compared with its peers in these six measures. The system outperforms the peer average in most measures and ranks as the best performing system in four of the six measures.

Table 15
Metro Transit Performance Relative to State Measures

Performance Measures	Ranking	Performance Relative To Peer Average
Farebox Recovery	7 of 12	1.7%
Expense per Passenger	1 of 12	-26.4%
Expense per Revenue Hour	7 of 12	2.0%
Revenue Hours per Capita	1 of 9	151.3%
Passengers per Capita	1 of 9	280.3%
Passengers per Revenue Hour	1 of 9	36.1%

Summary

The results of the peer group and trend analysis show that Metro Transit is a smaller system than the peer average in terms of the amount of service supplied and the dollar amount needed to maintain the current level of service in the Metro Transit service area. Metro Transit also receives a lower level of operating and capital funding compared with the peer average, which has a direct effect on the amount of service that can be provided and hinders Metro Transit's ability to plan and implement new projects and services that would improve public

transit in the service area. However, because the City of Madison is the location of a major university and is also the state capital, Metro Transit has the advantage of having a large market of residents who are typically more likely to ride transit and as a result, carries more passengers and exhibits much better passenger productivity levels compared to the larger peer systems. Further, Metro Transit far exceeds its service area population peers in terms of the level of service on a per capita basis.

Metro Transit is generally a more cost efficient and cost effective agency compared to the peers, with half of the cost measures being better than the peer average and the other half only slightly below average. In addition, Metro Transit generally does a better job than the peer group at containing cost increases, which is an improvement from the 2003 performance review when Metro Transit's operating costs increased at a higher rate than the peer average. However, the cost increases at that time were justified on the basis that Metro Transit had to provide a higher level of service to meet higher demand. Although ridership increased on the Metro Transit system during the most recent review period, the agency did not provide a substantial increase in service which would have resulted in higher operating costs. Finally, Metro Transit is above the peer average as measured by the percentage of operating costs that are allocated for operations. This performance indicates that Metro Transit spends more of its resources on providing service while spending less on administrative functions.

POLICY AND DECISION MAKING PROCESS

The Wisconsin Department of Transportation is required by Wisconsin Statutes to conduct a management performance audit of all urban transit systems receiving state aid at least once every five years. This study entails the audit of the Madison Metro Transit System. One analysis task in this management performance audit is a review of the policy decision-making process.

This report reviews and documents the decision making process regarding Metro Transit. Information for the review was obtained through interviews with City of Madison, Transit and Parking Commission (TPC) and Metro Transit officials, and reviews of various documents including the City Ordinance and minutes of past TPC meetings. Individuals interviewed included:

- **Dave Cieslewicz**, Mayor
- **Carl Durocher**, Chair - Transit and Parking Commission, Member – ADA Paratransit Oversight Subcommittee
- **Jed Sanborn**, Alder, Member of TPC
- **Robbie Webber**, Alder, Member of TPC
- **Ray Harmon**, Assistant to Mayor
- **Larry Nelson**, City Engineer
- **Dean Brasser**, City Comptroller
- **Brad Wirtz**, City Human Resources Director
- **Charles Kamp**, Transit General Manager

Organization and Governance Structure

Metro Transit is a division of the City of Madison, part of the Department of Transportation of the City of Madison created under Section 3.51 of the City of Madison Ordinances. Under the City Ordinance, the transit division is responsible for planning, developing, operating, maintaining, and coordinating the transit system and facilities of the City of Madison. The Transit Division is headed by a Transit General Manager.

The overall policy direction for Metro Transit comes from two sources. In the Madison executive-legislative government relationship, the Common Council sets the policy while the Mayor has veto power that can be utilized to change or influence a policy decision.

The city also has a Transit and Parking Commission (TPC) which is the official public body to fulfill the function of transit commission per Section 66.943 of Wisconsin Statutes. The role of the Commission is to establish certain policies and make recommendations to the

Common Council regarding policies on all transit and parking matters. Similar to other municipal utility commissions, the TPC has jurisdiction over the pricing and level of service of the utilities for which it is charged. Therefore, the TPC is responsible for establishing the fare structure and the level of service provided by Metro Transit.

The other participating body in the policy and decision making process for Metro Transit is the City of Madison Board of Estimates.

The city's policy and decision making process regarding Metro Transit is similar to other city functions. The Transit General Manager reports directly to the Mayor. The City has purchased the capital facilities, revenue equipment, office furniture and machinery, and other major items used by Metro Transit through federal and state transit capital grants, with the local share provided by the city. The city also provides the necessary working capital for the operation of the system. Operating funds for Metro Transit come from a variety of sources including the City of Madison, City of Middleton, City of Fitchburg, Town of Madison, Village of Shorewood Hills, Dane County, the University of Wisconsin-Madison, Madison Area Technical College, Edgewood College, and the Madison Metropolitan School District, as well as from state and federal funding sources.

Overall, the various parties involved in the policy and decision making process perform the following roles:

- **Mayor:**
  - establishes overall administrative policy;
  - hires the Transit General Manager with approval of Common Council;
  - provides direction to the Transit General Manager;
  - directs the development of Metro Transit's annual operating budget;
  - reviews, through the office of the Comptroller, operating and capital budgets submitted by Metro Transit, and submits an Executive Budget for transit to Common Council for consideration; and
  - appoints members to the Transit and Parking Commission, subject to Common Council approval.

- **Common Council:**
  - reviews, amends, and approves annual budgets; and
  - reviews and acts on resolutions forwarded from the TPC.

- **Transit and Parking Commission:**
  - establishes fare and service level policy;
  - reviews and approves route and schedule changes;

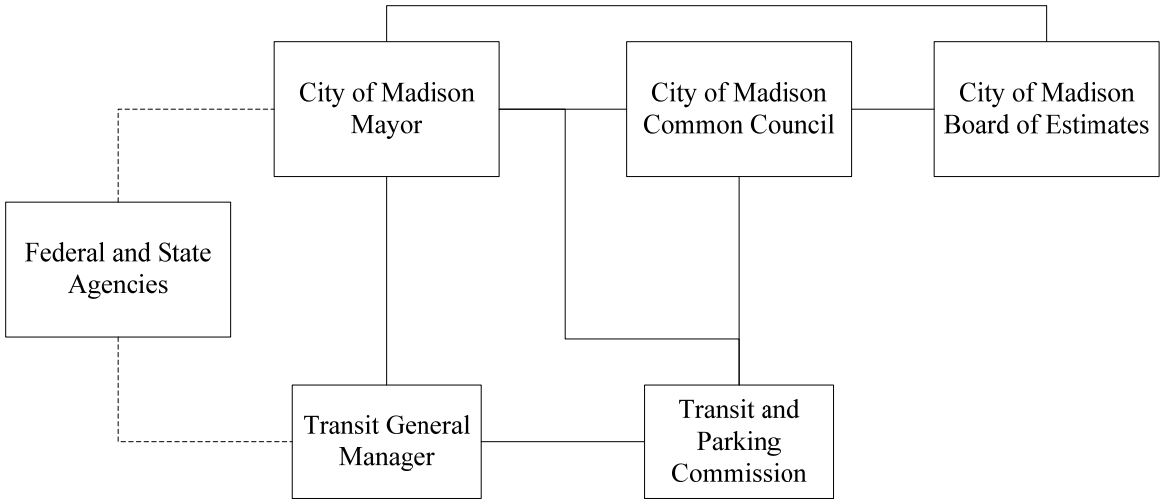
- considers policy matters including but not limited to service standards, performance plans, route and schedule changes, fare structure, capital acquisition and capital maintenance plans, marketing plans, and insurance programs; and
- forwards Common Council resolutions, as appropriate, with recommendations for action.

- **City Board of Estimates:**

  - reviews and acts on resolutions having a bearing on transit operating or capital budgets, usually in advance of TPC review. Board of Estimates action and comments are attached to resolutions sent to Common Council; and
  - reviews the Executive capital and operating budgets for transit, conducts hearings and makes recommendations to the full Common Council.

The overall arrangement in the City of Madison to direct and control Metro Transit is illustrated in the figure below.

Organizational Structure - Metro Transit Policy and Decision Making



Functioning of the Transit and Parking Commission (TPC) - The most significant transit policy decisions are made by the TPC. The Commission functions as a Board of Directors for Metro Transit in that it sets transit policy. However, while the TPC establishes a wide range of policies for Metro Transit, unlike a Board of Directors, the TPC does not establish or control the annual budget for the system. The TPC also does not have the authority to

reallocate funds from different line items in the Metro budget to address changes in expenditures resulting from TPC decisions.

The TPC was formed in June 1997 as a result of splitting the former Transportation Commission into two parts. It was determined that the Transportation Commission's responsibilities were too extensive and resulted in several areas not receiving sufficient attention. Therefore, two separate commissions were formed:

- Transit and Parking
- Pedestrian/Bicycle/Motor Vehicles

The rationale for grouping transit and parking on the same committee was that both functions required rates (i.e., transit fares or parking fees) and supply levels (i.e., transit service level or parking capacity) to be established. At the same time a new Long-Range Transportation Planning Committee was formed to address long range issues across all transportation disciplines.

The TPC is comprised of nine voting members and two alternatives consisting of a minimum of three members of Common Council with the remainder of the Commission comprised of residents. All members are appointed by the Mayor. The Commission elects one member as a Chairman and one as a Vice-Chair. One member shall be an individual with special transportation needs requiring accessible fixed route service or paratransit. It is encouraged that two members of the TPC overlap membership on the Pedestrian/Bicycle/Motor Vehicles Commission. One member of the TPC shall also be a member of the Long-Range Transportation Planning Committee.

The Commission meets monthly to address transit issues which are identified by either Metro Transit, a Commission member, or by a Common Council member that is not a Commission member but is acting on behalf of his or her jurisdiction. Most changes are initiated by Metro Transit regarding a change that they would like to implement. Examples of transit issues discussed by the TPC over the past several months include:

- authorizing the mayor and Common Council to amend the contract for the purchase of 75 transit buses;
- authorizing the Common Council to amend Metro Transit's 2008 capital budget to reallocate funding from other line items to support the purchase of the new transit buses;
- accepting corporate sponsorship funding to support free New Year's Eve transit service;
- amending the agreement with St. Mary's Hospital to continue the program allowing free transit service for hospital employees and volunteers;
- discussing Metro Transit fare and revenue options for the upcoming budget year;
- scheduling public hearings regarding proposed fare increases;

- revising bus shelter standards;
- addressing transit easement issues on private property; and
- reviewing the impact on Metro Transit of proposed Federal Transit Administration rules regarding school bus operations.

As noted, some of the items are for information of the Commission and some are for action. In other cases, the Commission through its resolution process accepts a report or directs that some actions are taken. The minutes of each Commission meeting are forwarded to all members of Common Council so that they are kept informed of any matters related to Metro Transit.

Decisions of the TPC can be appealed to the Common Council and can be overridden by a majority vote of the Council.

The Transit General Manager is the Chief Administrative Officer of the TPC, and acts as its Executive Secretary. The Transit General Manager addresses transit topics on the agenda and requests attendance of other transit staff as necessary to address a specific issue or to make a presentation.

For each meeting, the Transit General Manager prepares a packet of transit information for consideration at the meeting together with an Executive Secretary Report. This report provides information on year-to-date and monthly financial and performance summaries including ridership by service type. The rest of the report contains items that require TPC action or are items for information purposes only. The packet may also include information that has been requested by the TPC at previous meetings.

If the TPC adopts a Common Council resolution, it is forwarded to the Common Council for consideration and subsequent action. This approval step by the Common Council is typically just a routine process. All issues are generally resolved at the Commission level before they reach the entire Council. Other policy actions of the TPC are typically sent to Common Council as a report for the information of Council members.

The TPC has three standing subcommittees as follows:

- Contract and Service Oversight
- Disability Parking Council
- ADA Paratransit Oversight

The TPC will also establish ad hoc subcommittees to address special situations as they arise.

The standing committees meet once a month and consist of seven members appointed by the Mayor and confirmed by the Common Council. Two of the standing committee members are

also members of the TPC. The TPC members act as a liaison between the subcommittee and the TPC as a whole, and present recommendations made by the subcommittees to the TPC.

The ADA Paratransit Oversight Committee meeting is typically attended by the Metro Transit Paratransit Program Manager. Areas addressed by this committee have included:

- reviewing the Duplication of Services report prepared by the Dane County Human Services Department;
- approval of the 2009 agreement for the MA Waiver Program, a cooperative program between Dane County and the City of Madison;
- progress in the agreement between the City of Madison and Care Wisconsin, an operator of Medicaid paratransit service;
- ramifications of proposes fixed route fare and service changes on paratransit service;
- endorsed the continuation of the Retired Senior Volunteer Program;
- paratransit vehicle replacements; and
- 2009 paratransit service provider transitions.

Budget Process – The annual operating budget process for City of Madison departments begins with the issuance of budget guidelines by the Mayor's office. These guidelines include spending targets and other goals. The department heads then prepare an annual budget, based on these guidelines, that is then submitted to the City Comptroller. As a department of the City of Madison, Metro Transit follows this budget process.

The annual capital budget process follows the same procedures. Separately, each city department submits a five year capital improvement program to the Comptroller's office. This five year program is reviewed, amended, and approved by the Board of Estimates and the Common Council. On an annual basis, line items in the department's capital budget will be derived from the adopted five year program.

After the proposed operating and capital budgets are submitted to the City Comptroller, the document is reviewed by the Comptroller's staff. A specific staff person is assigned to all Metro budget issues. This staff person, an Analyst, will ensure that the budget proposed by staff is in compliance with the Mayor's guidelines. After this review, the Comptroller's office assembles what is referred to as the "Executive Budget", which is submitted to the Common Council.

The Common Council refers the Executive Budget to the City's Finance Committee, the Board of Estimates. The Board of Estimates consists of the Mayor, the President of the Common Council, and five additional members of the Common Council. The Board reviews the budget and holds public hearings. The Board can amend the budget before returning it to the Common Council. The Common Council then reviews the Executive Budget as amended by the Board of Estimates, and can amend the budget document further. Additional public hearings are held

regarding the budget. The budget must them be approved by a majority vote of the Common Council. The Mayor can veto the budget, which can be overridden by two-thirds vote by the Council.

It is important to note that the annual budget for Metro often relies on assumptions regarding the level of service to be operated and the fare structure. Fare increases and changes to service must be approved by the TPC under the current structure. The most recent budget proposed by the Mayor was predicated on a Metro fare increase. The TPC did not approve the fare increases proposed as part of the budget. As noted earlier, the TPC does not have the authority to reallocate funds between Metro budget line items to address this decision.

The decision of the TPC can be appealed to the Common Council, as noted earlier. The Council can override the vote of the TPC with a simple majority vote. If the Council votes to uphold the decision of the TPC, they would then need to address any impact on the annual operating budget. If this appeal is done as part of the annual budget process, amendments can be made to the Metro budget with a majority vote of the Council. If the appeal is done outside of the annual budget process, amendments to Metro's annual budget require a two-thirds vote of the Council for approval. This could create a situation in which the Council, through a majority vote, has voted to uphold a TPC decision, but fails to garner the two-thirds vote necessary to amend the Metro budget accordingly.

This may result in a situation in which Metro has an insufficient budget for the annual period. Due to the current separation of authorities, this budget shortfall would need to be addressed by the Mayor and the Transit General Manger. However, the ability to make these budget modifications is also limited. The Transit General Manager could request an additional appropriation from the Council; however, this would again require a two-thirds vote of the Council to approve.

Assessment of Current Governance Structure – As part of the interviews conducted for this review, the Mayor and the three members of the TPC interviewed (two of which are members of the Common Council) were asked for their opinions regarding the functionality of the current governance structure, and whether there were any governance issues. To make this assessment, these individuals were asked the following questions:

- Do you feel the current governance structure is functional and satisfactory?
- Does the current structure allow for the implementation of the priorities of the administration, the Common Council, or the TPC?
- Is there a need for a separate oversight committee specifically for transit?
- On a regular basis, are you provided with sufficient information for effective decision making and performance monitoring?
- Is the continuous communication between the Transit General Manager and the Mayor's office, the Common Council, or the TPC satisfactory?
- Going forward, what do you see as the most significant challenges for Metro?

- What improvements would you like to see at Metro; service or otherwise?

The details of the interviews are summarized below:

- **Mayor -** The Mayor reported that communications between Metro Transit management and the administration are very good. The Mayor has a specific Assistant to the Mayor that is dedicated to Metro Transit issues. The Mayor meets with the Transit General Manager, individually, three times throughout the year, but has frequent contact with Transit General Manager throughout the year. The Mayor reported that Metro Transit staff is responsive to his requests and always provides useful and sufficient information for the purposes of decision making.

  In terms of the governance structure, the Mayor expressed that the current structure allows for the implementation of the city priorities and generally works well. He did note that there is an inconsistency in the governance structure in that the TPC establishes the fare structure and service levels, which are items that have significant impact on Metro Transit's operating budget, but has no authority or responsibility to address the impact of those decisions.

  When asked to identify the most significant challenge for Metro Transit in the coming years, the Mayor offered the opinion that it will be a challenge to provide Metro Transit with adequate funding to meet the transit needs of a growing community. A related challenge will be addressing the regional transit needs. The Mayor feels the current model for funding Metro Transit service in the suburban communities is not sustainable.

  The Mayor offered the opinion that progressing to a Regional Transit Authority model would provide for a more stable regional funding base and structure for Metro Transit.

- **Alders/TPC Members** – Two members of the TPC, who are also currently members of the Common Council, were also interviewed. Each expressed the opinion that the current governance structure works. Neither member felt it was necessary to split the TPC into a parking commission and a transit commission. They expressed the opinion that attendance has not been an issue at the TPC meetings, and that the work load for members of the Commission is manageable.

  Both members stated that the information provided to them on a monthly basis is sufficient to monitor activity at Metro Transit and is provided in a comprehendible format. Both also stated that the Metro Transit staff is responsive to the requests of the TPC. They both also felt that Metro Transit staff provides the members of the TPC with sufficient information when asked to make policy decisions.

Both Alders expressed the need to develop a vision for transit in the Metro area. This would include determining the locally preferred scope and role for transit in the city and the region. That is, what are the priorities for transit, which would then guide decisions regarding how and where transit resources should be used.

In terms of desired improvements, one Alder mentioned the need for continuous improvement in customer information including technology solutions such as an improved internet based trip planner or "next bus" electronic signage, and posted signage at bus stops and major destinations. This Alder also felt that there is a need to improve conditions at major transit transfer points so that these locations are furnished with information kiosks, passenger amenities, and retail elements. The second Alder interviewed noted the need to adopt service changes that allow for faster travel times on transit services.

- **TPC Chair** - The Chairperson of the TPC was also interviewed as part of the process. The current TPC Chair also sits on the ADA Paratransit Oversight Committee. The Chairman agreed with the Alder members of the TPC in that he felt it is not necessary to split the TPC into two separate committees. Again, he stated that attendance has not been a problem, and the amount of work expected of the TPC members has not been an issue. He also stated that the sub-committees help by dealing with specific issues in more detail.

  The Chairman also expressed the opinion that Metro Transit staff has been very responsive to the requests of the TPC. He noted that the Transit General Manager attends every TPC meeting and brings the necessary Metro Transit staff persons when needed. The Chairman also stated that the monthly information packet includes sufficient data with which to monitor Metro Transit and that the information is in a comprehendible format. He also offered the opinion that Metro Transit staff provides sufficient information to the TPC when the Commission is asked to make a policy decision.

  In terms of the governance structure, the Chairman expressed the opinion that the TPC plays an important role in providing different perspectives into the oversight of the transit system. The Chairman noted that, despite occasional issues, the current structure works well in providing effective oversight of Metro Transit. However, the Chairman did note that situations like the current budget situation can arise from the fact that the TPC is not involved in developing the Metro Transit annual budgets that are submitted to the City Comptroller and are reviewed by the Board of Estimates. These budgets are presented to the TPC for information purposes only.

  The Chairman also noted that the TPC's stance to oppose the most recent fare increase proposal was based on goals set forth in the final report from the Long Range Metro Transit Ad Hoc Committee. The Chairman expressed the opinion that

this document should act as the local strategic vision for the transit system and should actively guide policy decisions.

When asked to identify the most significant challenge to the Metro Transit system moving forward, the Chairman offered the opinion that it will be difficult to maintain the structure and level of service currently provided by Metro Transit. To do this, the Chairman feels the system will need to continue building ridership and the political will to fund a transit system that provides such a higher level of service than its peers.

In terms of desired improvements, the Chairman stated that the priority for Metro Transit will be to maintain the level of service that is currently operated and continue to make improvements that allow the system to be clean, safe, and convenient. If system expansions were possible, additional service should be provided in the evening, and the frequency of service should be enhanced on certain routes. In addition, the perception of safety, especially at the transfer points, should be addressed.

Municipal Support Activities

Metro Transit obtains support services from other City departments including the Comptroller, Human Resources, Traffic and City Engineer, Safety, City Attorney, and Information Technology. The support given by these departments is charged back to Metro Transit. Key support services are summarized below.

- **Comptroller**

  - maintains city's enterprise financial system;
  - general accounts payable and receivable;
  - general accounting/bookkeeping;
  - payroll records and processing;
  - review of operating and capital budget documents prepared by staff; and
  - tracks actual versus budgeted expenditures.

  The City Comptroller noted that the current division of duties works well. He also noted that there are some current inadequacies in the city's current enterprise financial system. The city is currently identifying a replacement system.

- **Human Resources and Labor Relations**

  - performs position control functions including maintenance of job descriptions and salary tables, and vacancy tracking;
  - conducts the hiring process;

- manages employee benefits programs;
- provides management training and staff development services;
- provides guidance regarding disciplinary actions and oversees employee discipline investigations;
- provides guidance during the first step of grievance process, represents Metro for the second step of the grievance process, and represents the city at arbitrations;
- manages the random drug testing program;
- manages FMLA program;
- assists Metro in developing proposals for labor negotiations; and
- acts as city's chief spokesperson in labor negotiations.

The city's Human Resources Director expressed the opinion that the current division of duties works well. In terms of human resources issues, he noted that Metro employees represent a disproportionate percentage of the Absence without Pay used by city employees. The latest labor contract has addressed this to some extent, but it remains an issue.

- **City Engineer**

  - provides standard specifications for public works projects;
  - advises Metro on public works contract through the bidding process;
  - provides advisory services regarding construction management;
  - coordinates public works projects and notifies Metro of potential disruptions to transit service;
  - provides advisory services and specifications for facilities energy improvements as part of the city's sustainability program; and
  - installs cement pads where necessary for bus stops and shelters.

  The City Engineer expressed the opinion that there are no issues with the current division of duties.

Metro Transit obtains direct support from various other city departments including the following:

- The city's Safety Department provides support for safety issues and manages the Injured on Duty (IOD or Worker's Compensation) program.
- The Mayor's office coordinates security issues between Metro Transit and the Madison Police Department.
- The City Attorney's office provides legal counsel.
- The city's IT Department provides additional support to Metro's in-house IT function.
- The city's Traffic Engineer's office is responsible for installing and maintaining bus stops signs.

The only issue regarding the current division of duties among the city departments concerns the use of the Traffic Engineer's office to install and maintain bus stops signs. The June 2008 Final Report issued by the Long-Range Metro Transit Planning Ad Hoc Committee noted that bus stop signs are installed at a 45 degree angle facing the street, since they are seen as an instrument to communicate to drivers that parking is prohibited in front of the stop. The ramification of this policy is that bus passengers cannot see the bus stop sign from the sidewalk. Another issue is that the Traffic Engineering Department must install these signs at the beginning of the parking prohibition zone, which is not always the same location as the actual bus stop. This issue is addressed further in the customer information element of the functional area review.

Status of Prior Audit Recommendations

There were two recommendations included as part of the 2003 review. As seen below, one recommendation has not been implemented; however, the local sentiment is that the recommended change to the TPC structure is not necessary.

- The TPC involves both transit and parking issues. Sometimes, the issues of one area overshadow the other. Other times, the issues are so intense that separate meetings are needed for discussion in order to give an issue its proper review. In this regard, the City may wish to consider establishing a separate Transit Commission and assigning parking and taxi ordinances oversight to other committee(s). At most transit systems throughout the country, the board of directors is only involved in transit issues.

  The Mayor and members of the TPC interviewed as part of this review all stated that they not think this change was necessary. The members of the TPC stated that attendance is not a problem at TPC meetings and the workload has been manageable.

- Another recommendation is for Metro Transit to provide the TPC with more choices/options regarding a particular issue requiring a policy decision. Because the TPC is involved in many parking and transit issues, having a few viable options to chose from along with impact of each option would improve the decision making process.

  Members of the TPC interviewed as part of this review all stated that they feel they are provided with sufficient information to make informed policy decisions.

Conclusions and Recommendations

Overall, the relationship between the city officials and the staff at Metro Transit is excellent. Metro Transit is very responsive to the needs and requirements of the city and keeps

the city well informed of current performance. Likewise, the support that is provided by city staff to Metro Transit is performed in a timely and efficient manner. No significant issues were mentioned regarding the current division of duties or the delivery of those services.

Members of the TPC expressed the opinion that they are provided with sufficient and timely information, allowing them to make informed policy decisions. In general, the current governance structure tends to function effectively. However, the current municipal statutes defining the role and authority of the TPC can result in a situation in which Metro Transit has an insufficient budget to address the policy decisions of the TPC.

This can occur when the TPC makes a decision that has an effect on Metro Transit's annual budget. This decision can be appealed to the Common Council which can vote to uphold the decision with a simple majority vote. However, if this vote is made outside of the annual budget preparation process, a two-thirds vote of the council would be necessary to approve an amendment to Metro Transit's budget that would address the policy decision. If this vote fails, Metro Transit could have an insufficient budget to implement the policy. It would then be the responsibility of Metro Transit and the Mayor to determine how to fund the policy decision. It should also be noted that the TPC does not have the authority to reallocate funds in the Metro Transit budget to address its policy decisions.

Some of the coming challenges to the Metro Transit system mentioned by the participants in this review included the need to develop a strategic vision for transit in the city and region. Without such a vision, there is no consistent guidance for transit policy decision making. It was also noted that the funding required to maintain Metro Transit's current service structure and level will be a challenge in the coming years. It was also noted that the current funding mechanism used to support transit expansion into the suburban areas is not sustainable over the longer term.

Based on these findings, there are four recommendations that the City of Madison, the TPC, and Metro Transit should pursue:

- The TPC should be involved in the development of the annual budget prepared by Metro Transit staff under the guidelines provided by the Mayor before it is submitted to the Comptroller. This may allow the TPC to suggest changes that meet the Mayor's guidelines while forwarding other priorities of the Commission. The TPC should then act on any fare or service level changes in a way to allow their decisions to be reviewed by the Common Council as part of the budget process.

- The City of Madison should investigate changes to the statutes concerning the TPC to ensure that a situation does not arise in which a policy decision of the TPC which affects Metro Transit's budget is upheld by the Council, but the Council then does not approve the Metro Transit budget amendments necessary to implement the policy.

One way would be to require all TPC actions regarding fare structure and service increases to be done as part of the annual budget process.

- The City of Madison should address the need to develop a strategic transit vision that can guide transit policy decision making. This would set forth such goals as what the city would like the transit system to look like and what the priorities of the transit system should be. If it is agreed that the Long Range Metro Transit Planning Ad Hoc Committee report provides such a vision, it should be used as an active policy guide.

- The City of Madison should continue to pursue and support state legislation allowing for the creation of a Regional Transit Authority (RTA). The creation of an RTA would address several of the issues discussed in this review. First, an RTA would be governed by a true transit board, which would have ultimate control and responsibility for addressing the budget implications of its policy decisions. Second the RTA structure would allow for a more sustainable funding structure for suburban services. A regional funding structure would also provide Metro Transit with a stable funding mechanism for its core service area. Lastly, the RTA model would provide a body that would be charged with developing a regional vision for transit and making decisions regarding transit resource allocations based on that regional vision.

FUNCTIONAL AREA REVIEW
PLANNING AND SCHEDULING

The current management review of Metro Transit's Planning and Scheduling Unit is based on interviews held in the winter of 2009 and an analysis of the existing operation practices. Individuals interviewed included the General Manager and all professional staff members of the Unit and the head of the Information Systems Unit . Other interviewees included representatives from the Metropolitan Planning Organization (MPO) and the Madison City Planning Department. In this way, those individuals most directly involved in the planning and scheduling activities of the public transportation system were contacted to understand their current efforts and suggested improvements.

For the most part, the review analyzes the daily functions of the Planning and Scheduling Unit and explores various challenges that are faced, as well as searching for improvement opportunities. A number of topics were identified which are discussed in detail and include the need for increased staff levels, utilization of technology to obtain necessary planning data and staff succession. Other issues are the assignment of responsibilities for short, mid term and long range planning which are currently shared among several agencies. This would include consideration of Metro Transit's role as passive, re-active or pro-active. The review and resulting recommendations should provide timely and useful guidance to the Unit as it continues to respond to conditions in the future.

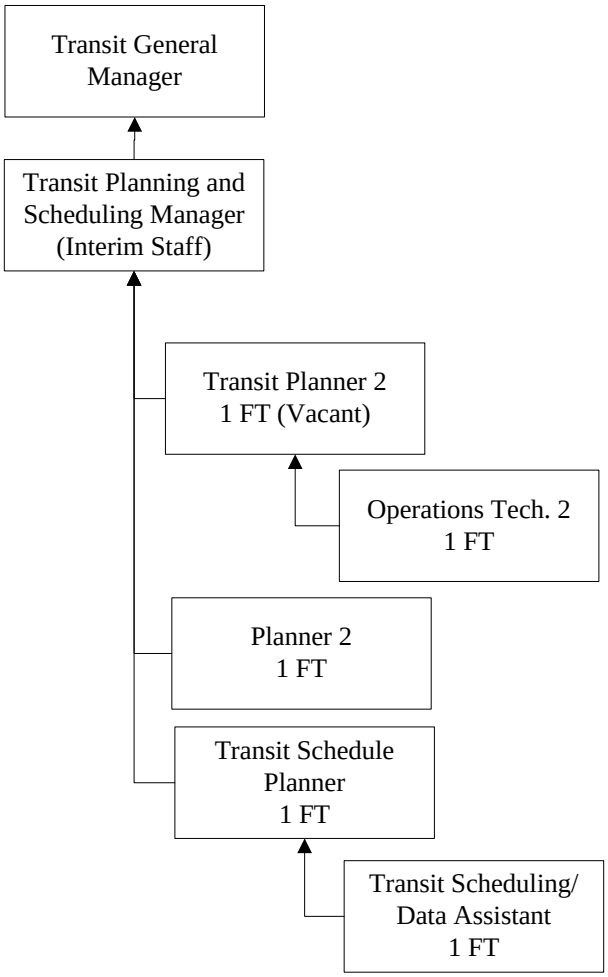
Organization and Staffing

Approved staffing levels of the Planning and Scheduling Unit are unchanged from the prior performance review. The authorized strength of the unit is four professional positions and two employees who are assistants/technicians. The four professional staff members are the Manager, two Planners and the Scheduling Manager. One technician supports the planning function while the other assists in the scheduling process. While all of the professional positions provide support and input to the overall development of the bus system, each position's title and responsibilities are reflective of the expertise and experience of the individual.

The Manager, who reports directly to the General Manager, heads the group and has senior management responsibilities. Recently, that individual retired and one of the planners is serving in that position on a provisional basis. There has been some consideration given to consolidating the Manager and Planner positions. This is not viewed favorably since the number of staff positions was recommended to be increased in the last review. In order to continue with the group's current planning capacity, the Planner position should be filled if the current individual is named the new Manager.

The Planner, who is currently the Unit Manager has responsibilities that include gathering and analyzing ridership data and assembling reports for various agencies, including h nationwide agencies and functions as the Federal Transit Administration (FTA), the American Public Transportation Association (APTA) and the National Transit Database (NTD), as well as state and local agencies like the Wisconsin Department of Transportation (WisDOT), the City of Madison and the Madison Area Transportation Planning Board, which serves as the Metropolitan Planning Organization (MPO) for the Madison Urban Area. This position also holds responsibilities for planning route detours, and special events. The Operations Technician reports to this individual, providing support and additional analysis.

Organizational Structure – Planning and Scheduling Function



The second Planner is relied upon to fill a specific technical role, as the position calls for responsibilities in geographical mapping of data from the Automatic Vehicle Locator (AVL)

system, the registering fareboxes and the Automatic Passenger Counters (APC). Other technical responsibilities include the implementation of the live bus tracking system and maintenance of the web based trip planner on Metro Transit's website, as well as maintenance of the audio and video displays. The Planner is also responsible for neighborhood development plans, schedule vetting and coordination of the ride guide, as well as assembling data for various reports either performed in-house or through outside agencies such as the MPO and some marketing responsibilities.

The Scheduler, as the title implies, performs all of the scheduling tasks and also participates in service planning. The Transit Scheduling Data Assistant works under the Scheduler and has clerical responsibilities and also arranges the supplemental school day services. This position is currently being upgraded to professional status under the title of Assistant Schedule Planner.

As mentioned in the previous management review, Metro Transit formerly had a third Planner; however, that position became the Transit Information Systems (IS) Coordinator, who deals full time with information technology and is no longer part of the Planning and Scheduling Unit. However, the IS Coordinator continues to have significant interactions with the Planning and Scheduling personnel, due to the data that he manages and is able to provide for planning and scheduling purposes. It should be noted that the IS staff should play an expanded role in the collection and analysis of the data provided by the AVL, APC and registering farebox systems with particular focus on the APC technology.

Several years ago, the Service Development Committee was created with participation of the General Manager, members of the Planning and Scheduling Unit along with Metro Transit's Marketing, Customer Service and Operations units. The committee is lead by the Planning and Scheduling Unit. As noted in the earlier review, there is no formal document that governs the Service Development Committee. Such a document is suggested as it would help direct the committee towards proper service changes and the implementation of possible new routes or service areas. That being said, the Service Development Committee is a positive activity performed by Metro Transit as it provides a regular setting for collaboration between Metro Transit employees.

As mentioned in the previous review, Planning and Scheduling Unit's staff level is less than what would be expected given the system size and unit responsibilities. Further, the unit's professional employees are often tasked with responsibilities not typically assigned to such organizations. For instance, development of website features would not be the responsibility of a Planner, while data collection and assembly could be supported by an IS staff member so that planning staff can concentrate on their designated analytical roles.

Should the Planner now serving as the provisional Manager become permanent, two Planner positions will have been vacated in recent years with no one, as yet, hired to replace either. Additionally, as the use of technology continues to increase, data will need to be

collected and properly archived so that it can be easily accessed for analysis. These points underscore the need for additional staff members to serve in a planning capacity with coordination of the IS unit.

Budget

Previous reviews have stated that the Planning and Scheduling Unit budget reflects the costs of personnel salaries, wages and benefits and services only. Excluded from the Unit's budget are costs allocated for materials, supplies, equipment and outside services, unless identified as part of a grant. While this deficiency is relatively minor, it limits the ability to identify the total cost associated with the planning and scheduling activities within Metro Transit. One additional minor point is that mid range and long term planning is performed by the MPO and Madison Planning Department which are not fully reflected in the unit or agency budget.

Goals and Objectives

Metro Transit has a Service Evaluation and Performance Measurement Program which serves as a guide for the annual service modification process and has the overall goal to "develop processes and outcome measures about service quality, customer satisfaction, financial considerations and human resources." The program, which contains broad mission and vision statements intended to serve as policy direction, consists of service goals and standards, service modification standards, a level of service assessment and route performance standards. The Service Development Committee uses these standards to identify service needs and to prepare service proposals in conjunction with data and information gathered from other sources, such as performance data and customer feedback.

While the Service Evaluation and Performance Measure Program provides guidance for annual service modifications, its scope is relatively limited and general in nature. There are two comments relative to goals and objectives. The first relates ranking routes based on passengers per revenue hour ant not taking additional factors into account, such as the subsidy per passenger and farebox recovery ratio. This can provide a more detailed view of the current system and will allow for a more in depth analysis of performance. The second comment relates to goals and objectives that can be used to gauge how well the Planning and Scheduling Unit is performing its function. As with past reviews, it is suggested that Metro Transit adopted a more formalized set of goals and objectives which are specifically related to the activities of planning and scheduling groups and the completion of specific projects or achieving certain milestones.

Planning

The Planning Unit is responsible for monitoring the performance of the current bus system and developing proposals in terms of alignments, frequency and span of service. Their efforts are directed towards a short range planning horizon of one year or less. The planning unit has the responsibility to integrate information received from various sources and then develops proposals based on analysis and review of these data. The planning process is often reactive in nature which is primarily attributable to staffing limitations.

Mid range transit planning is performed by the MPO, which develops a Transit Development Plan (TDP) for the Madison Urban Area every four years. Work on the next TDP, which will detail the planning direction for years 2009-2012, is currently ongoing. Two concerns with the TDP process are the inability to use results from the 2010 U.S. Census and the responsiveness to specific issues facing Metro Transit during the next few years.

Long range planning consists of two primary efforts. The first is the preparation of the long range plan for the region which is a recurring activity of the MPO and required to receive federal transit and highway funds. The second effort is the conduct of a major investment study/alternatives analysis for a potential new start commuter rail option for the area which is being led by the staff of the Madison Planning Department (Transport 2020). Should there be follow-up studies such as preliminary engineering and environmental assessment, it is assumed that these activities would continue to be directed by the Planning Department with current division of responsibilities being maintained.

Another issue that has significant implications for the public transportation system is the creation of a Regional Transportation Authority (RTA). Such an agency could extend the coverage of the transit system beyond Madison's municipal boundaries and provide a dedicated funding mechanism. This would have considerable impact on the planning function and the transit system design. Currently Metro Transit participates in the activities related to new modes and the RTA, but does not lead or direct this activity.

Metro Transit could explore the possibility of increasing their planning efforts beyond the current one year focus with efforts directed to mid and long range planning, although this would mandate an expansion of staffing levels. An expanded planning role for Metro Transit for the short, mid term and long range time periods could afford a higher level consistency in planning than the three different organizations which are currently responsible for each of the planning horizon periods. Currently, Metro Transit does participate and there is coordination between the agencies; however, its role could be characterized as passive, rather than pro-active. In addition to adding staff members to achieve such a goal, additional funding will be required for the planning budget. Another consideration would be institutional and policy related issues since it involves staff and elected officials in Madison and the region.

Staff resources are applied to short range planning which includes data collection and analysis as well as development of service proposals for the next schedule change or one year period. As noted in the prior study, a position does not exist that focuses solely on data collection activities. Data from the AVLs and registering fareboxes are archived regularly; however, analysis using these data is performed in response to inquiries or problems. Little or no use is made of the APC equipment. Many systems have a planning process to examine portions of the system annually with the entire system reviewed every three to five years.

As noted above, the APC data is not gathered or used because of concerns regarding its reliability. This is an issue that will be discussed later in this chapter. It is recognized that the volume of incoming data is massive and that an analysis of all of the data would require significant staff hours to complete. Nonetheless, these data should be gathered in a systematic basis and subject to a continuing process to routinely review the bus system. This would suggest the limitations of current staffing which restricts the extent of data analysis and formulating proposals on a systematic basis.

Metro Transit continues to employ the Transfer Point System (TPS), which has been in place for nearly a decade. Metro Transit has refined some of the bus route departure times at the hubs to eliminate platooning of vehicles in the downtown area. Other concerns relate to overcrowding, since ridership continues to increase, and the limited resources to expand service. As running times increase, there is an impact on layover and the overall cycle time. The timed-transfer nature of the system may warrant changes to route alignments, headways or required number of buses. Other innovative service options could include flex routes, ride request or other demand responsive service in outlying areas as an alternative to conventional fixed route bus service. The creation of a Regional Transportation Authority should be the focus of increased planning activities. These are all planning issues which need to be more fully explored as part of the planning function.

It is also recognized that Metro Transit needs additional service to the communities on the periphery of the City of Madison; however, service to these areas should not come at the expense of the core system. Metro Transit should continue their current practice of billing these areas for service. Additionally, Metro Transit is currently studying the possibility of reducing the number of bus stop locations to every other block, which could alleviate some of the stress on the system and help to improve on time performance. Also, Metro Transit should explore the use of a Bus Rapid Transit (BRT) features in select corridors to improve service levels, reliability and passenger amenities.

As part of this analysis, the planning function is reviewed in terms of internal unit activities and relationships within Metro Transit and other government agencies. Additionally, the status of the prior management review is presented and their relevance in the current environment. The last section presents a series of proposals that attempt to improve the planning function at Metro Transit. Reflecting the strong interrelationship between the planning and scheduling units, some of the recommendations are appropriate for both functions.

Relationships – The close proximity of the scheduling and planning units allows for coordination between the two units and the staff size of each allows for constant and needed collaboration. Each staff member leads the efforts or performs several tasks which reflect their expertise and specialization. The Planning and Scheduling Manager oversees both units and works equally with all units.

Relations with the other Metro Transit units are also maintained. Members of the planning staff perform certain functions which go beyond their scope, and are found working with the Operations, Marketing, Finance and Grants units, as well as in support of the General Manager. Furthermore, the Service Development Committee brings together each of the units on a bi-weekly basis, which facilitates coordination among the participants.

The Operations Unit maintains coordination with the Planning and Scheduling Units for a number of purposes, including dealing with detours due to construction. Operations personnel also report on current service and problems as they arise. Coordination between these units is also accomplished when deciding on bus stop locations and to program bus head signs.

The Planning and Scheduling Units work with the Maintenance Unit for detour sign placement and for farebox repairs. The Marketing Unit, responsible for generating the public timetables and other related information, is kept abreast of any changes slated for implementation. The Finance Unit, which provides information for analytical reasons and for the NTD report, also works with the Planning and Scheduling units when dealing with contracts.

Outside of Metro Transit, the Planning and Scheduling units maintain relationships with the City of Madison, Dane County and the MPO for the Madison Urban Area, as well as with the University of Madison and the Madison Area Technical College. The City of Madison performs the long range planning for Metro Transit through a committee structure.

As previously mentioned, the City of Madison's Planning Department is also working on Transport 2020, which is analyzing a commuter rail option for the Madison area. The Planning Department also provides socioeconomic and demographic data that support transit planning efforts. Additionally, Metro Transit and the City of Madison communicate regularly to discuss street alignment changes, construction issues and special events, all of which can cause detours and require route realignment. Other contacts include the review of land development proposals for the impact on the bus system and support of transit friendly design features.

Metro Transit has some communication with Dane County in regards to the fixed route service; however, the two entities have more coordination issues with respect to paratransit service. The relationship between the MPO and Metro Transit is built around the mid term planning efforts, which produces a TDP once every four years. Metro Transit has contact with municipalities and the University of Wisconsin that contract for service through the transit

agency. WisDOT maintains oversight and review of the bus system as evidenced by the current review.

Overall, the relationships identified in this recent analysis are similar to those documented five years earlier. Coordination is achieved in a variety of areas within Metro Transit, other Madison departments and agencies external to municipal government.

Inputs – The prior management review indicated that the extent of quantitative data was limited to information from registering fareboxes and reliance placed on knowledge of the system, comments from drivers and supervisors and through customer complaints. These sources continue to be used with data being routinely captured through registering fareboxes and Automatic Vehicle Locators (AVLs), and occasionally through the use of Automatic Passenger Counters (APCs).

There is no data management plan which directs the data to be gathered, the analysis to be performed and reports generated. Such a plan would indicate the frequency of analyzing each bus route and the entire system. The information that is currently being gathered is accessed on an as needed basis in response to specific problems and concerns. Other transit agencies employ staff members to analyze available data on a regular basis, which allows for a more pro-active approach to the planning process. A deficiency at Metro Transit process is the ability of staff to utilize the large data base being created which relates to the size of the planning staff.

Another area of concern is the failure to utilize the APC generated information on passenger boardings, alightings and loads. Discussions with staff indicate concerns regarding the accuracy of the data which has resulted in not utilizing this equipment. Some use of the APC data has resulted in the number of ons not matching the number of offs for each or several bus trips. There is a dichotomy of views among staff as to how large an error is introduced by using the APC data. Further, there is the issue of what reliability is acceptable for planning purposes.

The current process of using AVLs and the registering fareboxes to produce information on boarding locations is time consuming and very limited since it does not provide data on offs and passenger loads. APCs can provide similar data without having to compute results from two separate sources. In order to rectify this situation, Metro Transit should first quantify what is an acceptable reliability (e.g., 5 to 10 percent) and the nature of the decisions to be made using the APC data. Metro Transit should invest the necessary staff time and possibly incur costs for outside assistance to be able to obtain useful data. Many systems have found APCs to be a cost effective means to obtain detailed ridership information. Some of the system experienced some problems at the outset, but did devote the time and energy to resolve any problems. Many transit systems are installing APC units on all of their vehicles because the cost of the technology is relatively low, while the data received is timely and useful.

As already mentioned, Metro Transit staff utilizes demographic and land use data provided by the City's Planning Department, reflecting the working relationship between the two

entities. Metro Transit staff has training and capabilities in Graphical Information System (GIS) technologies, which is employed to analyze the data provided by the City.

A set of guidelines used for assessing current routes and developing new services is provided by the Service Evaluation and Performance Measurement Program. The program offers a relatively complete set of service standards that are used in the planning process, including route categories and standards for frequency and headways, route design and bus stops design and location. Standards are also presented for restructuring, adjustments and extensions. Levels of service performance standards are quantified through a rating system that examines service frequency and passenger loads, among other categories.

While the service standards provide useful information, all of the guidelines necessary to fully support planning and scheduling are not addressed. For instance, on-time performance – an important measure for a Transfer Point System which relies heavily on timed transfers – on the route level is not included in the service standards. There is no process to estimate individual route costs which precludes financial measures such as the farebox recovery ratio and subsidy per passenger in the service standards document.

Other inputs to the planning and scheduling process include customer, driver and operations feedback, all of which are reviewed regularly. Customer feedback is maintained by the customer service unit in a database. Most of the customer feedback is acquired through Metro Transit's web based feedback program, which is available through their website. For driver and operations feedback, Metro Transit practices an "open door" policy, where drivers and operations personnel can discuss complaints and issues in an open and frank manner. A more formal process for driver and operations feedback could be employed that would require communication on a more regular basis. Some transit agencies have found it helpful to have a process with forms to be completed by operating personnel or brief meetings during report times. Some agencies pay a sample of drivers to attend quarterly meetings to bring issues to the planning staff.

Reporting – Data is more readily available since the prior review with the use of registering fareboxes and AVL equipment. The failure to utilize the APCs results for necessary and useful information for route planning purposes is a deficiency. Expanded use of existing data will provide for a more thorough vetting of route performance, enhance internal and external reporting of route and system performance and allow for further refinement to the existing system.

Status of Prior Audit Recommendations

The current analysis represents the continuation of the past practice of the prior management and performance reviews of Metro Transit at regular intervals. For this reason, the last performance review was examined and recommendations reviewed with staff. Proposals

with respect to planning were examined in terms of their implementation status. In some cases, the prior recommendations relate to both planning and scheduling and for this reason they are discussed here and in the next section, which describes the scheduling function. The status of implementing the planning proposals is summarized below:

- Obtain Useful Ridership Information.

  Metro Transit utilizes the information provided by the registering fareboxes and AVLs with little or no use of the APC equipment. Metro Transit staff will need to specify realistic accuracy requirements for the APC equipment recognizing that errors occur with on-board personnel. Since other transit systems have found the technology beneficial, Metro Transit needs to invest further time and effort into the APCs to get them to function properly. The IS staff is a resource that should be brought in to assist with getting the APCs to meet staff expectations. As mentioned earlier, other systems are installing APCs on all of their vehicles because of the relatively low cost of data acquisition and the benefits and utility of the resulting data.

- Create a Data Management Plan.

  The prior study suggested that a data management plan should specify information not only used by staff, but also provide information to the Transit and Parking Commission. To date, no data management plan has been developed.

- Review Planning Function Staffing Levels.

  Related to the data management plan is the number and organization of staff to process and analyze the data that is available. The earlier analysis suggested the addition of a planner and two technician positions. This has not been accomplished because of funding constraints. Moreover, one planning position has been lost with the retirement of the unit head and one planner serving in that position on a provisional basis.

- Continue to Explore Modifications to the Transfer Point System.

  Since the last management review, Metro Transit has altered some of the routes to eliminate a concentration of some of the vehicles in the downtown area during certain periods of the day. These changes detail the Planning and Scheduling Unit's willingness to improve the functionality of the system and that they are aware of the need to constantly monitor the performance of their routes. As with prior reviews, it is concluded that the staff's actions have been consistent with this recommendation. It should be recognized that this activity will need to be

continued since the system faces other challenges such as increased cycle times and overcrowding.

- Explore suggested alternates to the Transfer Point System.

  The previous review mentioned two ways to undertake revisions to Metro Transit's current Transfer Point System, an analysis of groups of routes by geographic sector or an analysis of the entire system since changes in one sector could have unintended consequences in another area due to the nature of the Transfer Point System. While prior discussions with staff indicated a preference for the first approach, neither method of analysis of the current system is being performed. This is an area where the planning process should be more systematic, rather than respond to problems. As noted previously, the remedy to this situation would include additional planning staff.

- Create a formal process for the Service Development Committee.

  The Service Development Committee, which meets every other week, is the forum for discussing service options and selecting preferred changes to Metro Transit's system. Metro Transit's continued reliance on this committee is to be commended as it reflects the importance of planning and the need for participation from many of Metro Transit's units as well as the General Manager. The past review suggested that the committee should follow a more formal and deliberative process when substantial changes involving several routes are proposed. The six steps process which was recommended is currently not being followed as staff levels limit the ability of the planning unit to accomplish these tasks.

- Update Service Standards.

  While a set of service standards was previously created in response to a prior management review, the document should be updated to include additional criteria, such as on-time performance and financial measures like the farebox recovery ratio. Additionally, the only measure that is currently being used by the Planning and Scheduling Units is productivity by route (passengers per revenue hour). The Planning Department should take full advantage of the service standards when evaluating routes during the planning process.

- Calculate route level financial performance measures.

  As mentioned above, route level performance monitoring should include financial measures, such as the farebox recovery rate and the subsidy per passenger level. These standards, which are not currently being calculated, would provide a much

broader vision of the current system's performance and provide additional measures that can be used in the planning process.

- Utilize a three variable cost model.

  Currently, Metro Transit's Financial Unit relies on the single unit of cost per hour. The previous review presented a model that employs three different cost variables: vehicle hours, vehicle miles and peak vehicles. The benefit of a multi-variable cost model is that it reflects differences in operating speed and vehicle utilization. This recommendation, to date, has not been implemented.

- Minimize manual data collection.

  The prior study recommended that once new technologies are delivered and their use is implemented, manual techniques for acquiring data should be eliminated. Due to the ongoing issues with the APC system, this recommendation has not been fully followed. Data from the registering fareboxes and AVL equipment are useful sources of information. An alternate approach has been to utilize the registering fareboxes in conjunction with AVL so boardings can be identified by location. This is rather time consuming and does not yield passenger offs or loads. Currently, Metro Transit is exploring alternate ways of collecting data, such as installing video cameras on every bus which can be used to count passengers. It is suggested that a more cost effective approach would be to invest resources into getting the APCs to function properly.

- Provide staff training in technology areas.

  As additional technologies are acquired by Metro Transit, staff should be trained on their proper use so that the information obtained is both complete and accurate. Further training is needed as there are continuing issues with the APC data collection system.

- Create a Work Plan.

  The previous review recommended that a work plan should be created to detail the planning activities to be accomplished. The plan would include assignment of responsibilities, resources required, a schedule and products to be delivered. The plan would provide a means to compare progress during the year. While senior management does follow a work plan, both the Planning and Scheduling Units should also follow such a plan.

The review of these past proposals suggests that some of the recommendations have been implemented; however, others have not been accomplished. The main concern continues to be

a lack of a data management plan to aid with the collection and analysis of the information provided by the registering fareboxes, AVLs and APCs. Staff should work towards a detailed data management plan, which will allow for greater use of the data collected by these new technologies. Such a plan was also recommended as part of the review of the information technology review.

Conclusions and Recommendations – During the last review, the transit system was facing two major challenges: (1) the installation of technology to obtain data to support the planning and scheduling function and (2) the refinement of the Transfer Point System to respond to current deficiencies and opportunities. Other issues were also identified and proposals made to improve the situation. As noted above, some of the recommendations were implemented while others have not and should be part of any recommendations of this more recent review. Accordingly, some of the previous proposals have been included again since they continue to be relevant and valid. Other proposals are made to respond to new challenges facing the planning function and emerged from this current review.

- One of the more important recommendations is for Metro Transit to direct staff resources to get the APCs to function properly. Currently, the perceived inaccuracy of the APCs is minimizing their use. An analysis of the data provided by the APCs should be undertaken, with results from the units compared to manual ridership counts, so that the exact level of accuracy can be determined and related to what is reasonable and acceptable. Proper calibration of the units, and perhaps further training of their use by staff is required. Since other transit systems utilize APCs, there is no reason why Metro Transit cannot join this group of transit agencies that have benefited from this technology. The use of video cameras or time referencing the registering fareboxes is not viewed as cost effective replacement of the APC equipment. The data provided by the APC units along with the information provided by the registering fareboxes and the AVLs, can be invaluable for the planning process. Additionally, Metro Transit should consider purchasing APC units for all new vehicles once the current situation is rectified.

- The review of the Information Technology function recommended the completion of an information management plan. This information management plan should specify the way that data is collected from the various technologies and address its use in terms of storage, analysis and reporting method. The plan would also outline what information is used for in-house analysis and data that is provided to outside agencies, such as the Transit and Parking Commission. As noted in prior reviews, the level of detail and information presented would be less than that used by the planning staff for their internal use. It would be beneficial for Metro Transit to contact various outside agencies to solicit comments about their potential use of the gathered data.

- Staffing levels need to be increased to permit the gathering and analysis of data to better gauge the performance of existing bus routes and propose changes. It is

suggested that the Planning and Scheduling Manger and the Planner 2 position both be filled, along with one additional Planner. It should be noted that Metro Transit is currently considering upgrading on technician position to a Planner position. The relationship with the Transit Information Systems (IS) Unit seems to work well and any staffing plans should be made in coordination with IS. A review of staffing to address data systems was an element recommended as part of the information management plan.

- A specific set of goals and objectives along with an annual work plan should be specified for both planning and scheduling activities. The results of this review would suggest items to be included in the work plan.

- Currently, the focus of the Planning Unit is on monitoring the current bus system and developing short range proposals. Metro Transit needs to consider whether it wishes to pursue a more pro-active role with respect to mid range and long term transit proposals. This decision would need to be made on the basis of technical and policy/institutional considerations as well as consistency with staffing levels. The mid term planning is performed by the MPO as part of the TDP process while long range planning is done by the MPO and Madison Planning Department as part of the rail feasibility analysis. It is recognized that additional moneys would be required in order for Metro Transit to begin planning on these two additional levels; however, the investment would produce a more coordinated approach and one where Metro Transit would more directly control its destiny.

- The TDP that is currently underway should be completed and include the same activities that were performed as part of the previous TDP. It should also respond to problems facing Metro Transit now and in the future. This includes such issues as increasing the system size to respond to ridership gains, inability to maintain cycle times and expansion of system coverage. While Metro Transit staff examines these items to some extent from a near term or tactical perspective, the TDP should include a strategic review for a five year horizon period. As part of this effort, fleet and facility needs should be addressed since the system appears to be approaching capacity of the current physical plant. Other relevant issues for exploration are the impacts of a Regional Transportation Authority and what would be an appropriate transit plan with an RTA.

- Metro Transit's Planning Unit should continue to monitor the use and effectiveness of the Transfer Point System and make timely adjustments as necessary. Furthermore and as mentioned in the previous review, the unit should consider analyzing the system in one of two ways, either by studying a grouping of routes by geographical sector, or by looking at the system as a whole as changes to one sector may inversely affect another area due to the nature of a timed-transfer system.

- In addition to continued monitoring of the current system, Metro Transit should explore other service types which can complement the existing Transfer Point System. Potential service options include Bus Rapid Transit or elements of BRT in heavily utilized corridors. It is possible that short range proposals could be formulated that would represent start up improvements that include BRT features. Other possible service options that should be explored for use are flex routes, where vehicles can deviate from their routing to pick up passengers who request a pick-up or drop-off. Another program is ride request, where demand service connects people to the bus system.

- The Service Development Committee process is working well and should be continued. The active participation of senior management underscores the importance of the planning function. The previous management review suggested a six step process which should be followed as listed: (1) – problem statement and definition of the routes and study area; (2) – analysis of ridership, travel time and other data; (3) – identification of deficiencies and opportunities; (4) formulation of alternatives; (5) – impact of preferred alternatives; and (6) – recommended plan. The Planning and Scheduling Unit would have responsibility for preparing an informal memorandum for each of the six analysis phases listed above.

  The Planning Unit would shape the information and process in each of the steps above, which would be presented to the Service Development Committee for discussion and further guidance. As noted above, the Service Development Committee would be an appropriate forum for considering mid term and long range proposals should Metro Transit expand its role in this area. The selection of a recommended plan for any potential service change, regardless of magnitude, would be the responsibility of the Service Development Committee.

- The Service Evaluation and Performance Measurement Program, adopted since the previous study, provide a number of service measures which should be used to evaluate the performance of the operated routes. While standards were created for passengers per revenue hour, revenue miles and cost per ride, the only measure that is currently being employed by the Planning and Scheduling staff is passengers per revenue hour. Use of all of the standards within the Service Evaluation and Performance Measurement document should be used by Metro Transit so a better understanding of the current system and the system's performance by route can be attained.

  Additionally, other performance measures should be added to the document and used through a routine monitoring process. On-time performance, farebox recovery ratio and subsidy per passenger are among these other standards which should be considered for implementation. The objective of this recommendation is that the planning process consider several statistical measures, which – when combined with

other quantitative and qualitative information, and agency policies and priorities – will assist with service decisions.

- Related to the above item, as well as with costing activities, is the method used to estimate costs. The Finance unit has established procedures that are used for service contracts, as well as service changes. Differences reflect incremental and fully allocated costs along with charges for capital expenditures in some instances. One common element of the costing methods is that they rely on the single unit of cost per hour. As with the previous review, the recommended approach for determining costs is to calibrate and apply a three-variable cost model. The model could be used for different purposes throughout the agency, but not necessarily for all cost purposes.

  To illustrate this approach, financial and operating statistics from the most recent NTD submission (FY 2007) have been inserted into a three-variable cost model shown below:

Development of Three Variable Cost Allocation Model

Variable	Allocated Amount	Operating Statistic	Unit Cost
Vehicle Hours	$21,545,100	407,600	$52.86
Vehicle Mile	$9,791,400	5,357,400	$1.83
Peak Vehicles	$4,862,800	167	$29118.56
Total	$36,199,300		

  With this approach, the cost of service is determined by multiplying each of the three unit costs by the appropriate operating statistic and then summed. Different cost models could be obtained by whether fixed, variable or capital costs are included. The model above includes all operating costs. The benefit of this approach is that it reflects differences in operating speed and vehicle utilization.

  Reflecting the different uses that costing procedures are applied, the recommendations are oriented to the intended audience. For example, existing contracts rely on a single unit cost per hour. Since this is relatively simple and accepted by the parties, no revisions for this costing purpose are suggested. For budgeting, elements of the three variable model are used already. In the area of estimating the cost of current service as part of monitoring or incremental cost with a change, the three variable method would be beneficial. In light of this intended in-house use, staff might try a limited demonstration program to cost out proposals and gauge the benefits of the suggested approach.

- A more formal approach to driver and operations feedback could be employed to acquire additional qualitative data. Currently, Metro Transit utilizes an "open door"

policy when it comes to discussing issues and complaints from these groups of employees. A program developed around regular discussions with drivers and operators – perhaps once per month or quarterly - will create an environment where these employees will expect to be approached for their opinions on a regular basis, thus increasing the amount of qualitative data and create an inclusionary atmosphere and a sense of ownership for the drivers and operators. As with any such feedback mechanism, there should be a response to all suggestions.

The above recommendations illustrate improvements which Metro Transit can implement in order to improve its Planning Unit and the overall planning process. Individually, each suggestion represents an improvement on existing practices and policies. When considered collectively, they provide an ambitious program which will provide better information, create a more thorough analysis process and will produce more informed choices in allocating finite transit resources.

Scheduling

Transit is a labor intensive industry where drivers' wages and benefits account for more than half of all bus operating costs. Because of this, scheduling has a significant influence on transit expenditures as proper scheduling can maximize the use of drivers while attempting to minimize operating costs. Additionally, Metro Transit's Transfer Point System relies on timed transfer hubs that require specific running and cycle times, adding to the importance of the Scheduling Unit. The schedule process also influences the attractiveness of service in terms of convenience and reliability.

As with the Planning section of this review, this portion describes scheduling in terms of relationships within the unit and other units of Metro Transit, inputs and reports of the process and the individual steps that comprise the schedule building process. Next, the status of the prior management review recommendations is reviewed. Finally, specific recommendations are listed which can improve the performance of this activity of the Planning and Scheduling Unit.

Relationships – Since the planning and scheduling activities are within the same unit, both efforts are well coordinated. Operations planning considerations are easily incorporated into the scheduling process since the Scheduler also serves as a key individual in terms of route proposals. Further, there is recognition by all that scheduling is critical with the Transfer Point System. As the discussion in the planning section noted, quantitative data has greatly increased within Metro Transit. To the extent that information is available from the Planners, the data is provided for use in the scheduling process.

Relationships between the Scheduling Unit and the other Metro Transit units remain mostly unchanged since the prior management review. Communication continues with the drivers, supervisors and operations staff through Metro Transit's "open door" policy. The Scheduler participates on the Service Development Committee, providing lines of

communication with all of the units involved with the committee. Metro Transit patrons provide input through comments and complaints given through Metro Transit's web based feedback program. These comments are regularly reviewed and actions taken as appropriate.

Relationships with outside agencies remains limited, with little interaction between the Scheduler and the City of Madison, Dane County, the MPO of the Madison Urban Area or WisDOT. Primary responsibility for this coordination is the responsibility of the Planning Unit. It should be recognized that the Scheduler is an active participant of the planning function. The Scheduler does communicate with the transportation unit at the University of Wisconsin to discuss service related issues. Similarly, the Scheduler has a relationship with the Assistant Superintendant of the Madison Area School District and representatives of the Madison Area Technical College. Other communication is maintained where bus arrival and departure times rely on specific activities and their start and end times.

Inputs – Since the prior study, when the key ingredients to the scheduling process were policy guidelines and quantitative data mostly acquired through manual checks, a stronger reliance on automated data collection has unfolded in addition to the continued use of the policy guidelines. As mentioned previously in the planning section, the policy guidelines provide headways and level of service standards, but lack a standard for on-time performance. The Scheduler utilizes both the guidelines and past practices to establish line specifications.

The use of technology to acquire data has increased with the further use of AVLs and registering fareboxes. As noted previously, the failure to use the APC equipment is a deficiency in the scheduling process. The Scheduler does use the AVL and registered farebox data to calculate running times and create headway tables. Similar to the Planning Unit, the Scheduling Unit gathers specific data items to respond to problems or concerns. An information management plan, as described in the information technology review element of this audit, and increased IS staff support, would further support the scheduling function with increased and improved data.

Another issue related to the scheduling function is the time needed to proceed from a service plan to the actual runs that can be posted for the drivers' "pick". In some bus systems, the necessary time to prepare the schedule can range from six weeks to three months. Often last minute changes require "patches" which are usually more costly to operate. This undesirable situation is not the case with Metro Transit as the Scheduler is actively involved in the planning process and members of the Service Development Committee are cognizant of the time required to prepare a run cut. Additionally, the Scheduler strives to complete the scheduling process in a month or less. Further, reliance on scheduling software and staff capability in its use insures adequate lead time.

Other inputs to the scheduling process include the special requirements for the trips operated for the area's middle and high schools, the University of Wisconsin schedule (as there is a 40 percent drop in ridership during the summer months when the University is not in

session) and customer, driver and operations feedback. The Scheduler receives customer feedback as well input from the drivers and operations staff through Metro Transit's "open door" policy. As mentioned in the planning section, a more formalized driver feedback program would increase communication and qualitative data, mirroring the scheduler's wishes.

Reporting – Various outputs from the scheduling process are achieved by reliance on the scheduling software – a combination of TRAPEZE for DOS and TRAPEZE for Windows. The Scheduler believes that the DOS version is superior to the Windows version in terms of runcutting. It should be noted that Metro Transit does not have the later and more costly Windows version of the software which would eliminate the use of two programs. Additionally, numerous statistics are generated by the Scheduling unit which are used by the Operations and Finance Units. As noted in the prior review, the Scheduler has developed software that supports the Finance Unit in determining drivers' pay records and paychecks.

An important gauge of the scheduling process is the computation of the Pay to Platform Ratio (PPR). Since the previous study, the process used to create the run cuts has not changed, which leads to the stability of the relatively low PPR of Metro Transit. To assess the reasonableness and efficiency of the run cut, the Scheduler examines the types of runs generated and the different categories of pay hours by service day. It should be recognized that these results are also influenced by the nature of service (i.e., peak/base ratio and span) and terms of the labor agreement (e.g., spread premium and percent part-time operators). Because the Scheduler utilizes computerized scheduling, several iterations are made until a preferred run cut is selected. One feature of the runcutting process is that an attempt is made to create assignments that are attractive to the drivers.

Scheduling Steps – Each of the scheduling steps were examined and relevant comments made as appropriate. For the most part, and to the benefit of Metro Transit, there have not been significant changes from the process noted in the earlier review.

- **Headway Determination** – To a great extent, determination of headways rely on knowledge of the system, past policies, experiences with overcrowding and by responding to comments of riders, drivers and supervisors. The step has benefitted with the creation of the Service Evaluation and Performance Measurement Program, as noted previously. It would be improved further with other measures added to the service guidelines and information from the APC equipment.

- **Headway Table** – Timed transfers and similar headways are required to assure a convenient service and ameliorate the time penalty normally associated by trip makers with transferring. An issue brought up through the prior study was vehicles platooning in the downtown area. As mentioned earlier, this has been addressed by rescheduling some of the routes so that not all of the buses leave at the top of the hour or half past. Quantitative information on running times is provided by the AVL system as well responding to problems and concerns by customers and operations

staff. Because the Scheduler is actively involved in the planning process, ambiguities on line specifications are avoided.

- **Vehicle Assignment (Blocking)** – The challenge facing this aspect of the scheduling process is that Metro Transit has the Transfer Point System which mandates schedule coordination among routes and clock face headways. In some instances, this adds layover to a route with an increase in unproductive time. Scheduling staff now has considerable experience with the Transfer Point System and the implication for this aspect of scheduling and resources. Future challenges facing the transit system have been discussed as part of the planning review.

- **Driver Assignment (Run Cutting)** – Run cutting usually takes a month to complete and are distributed to the Planning and Scheduling Manager, the Finance Unit, the union stewards and the General Manager. Numerous iterations are tried utilizing the scheduling software to explore options and achieve efficiency. The benefits of monitoring the scheduled and ultimate pay/platform ratios on an ongoing and continuous basis have been achieved. One change since the last review is the creation of a limited number of four, ten hour workdays.

- **Rostering** – The concluding step of the scheduling process is to assign each full-time driver consecutive daily assignments during the week. Currently, rosters are all for five day period; however the next pick will have a few four day options, each with ten hours per day. This adjustment has been made due to driver recommendations. There are four picks per year. There are 251 full time drivers and 29 part-timers. Metro Transit could explore the possibility of creating greater flexibility with their part-time drivers by not limiting their service to school runs. The extraboard is established to cover absences. No formal calculation process is used to gauge the size of the extraboard and the number of drivers; instead, the scheduler relies on a headcount and experience. One factor in the rostering process is to maintain good relations with drivers.

The discussion above summarizes the scheduling process and the key features of the activities performed by the Scheduler and the Scheduling Assistant. The scheduling process appears to be performed in a competent and professional manner. Since the Transfer Point System has been in place for nearly a decade, many of the implications from a scheduling perspective are known. Similar to planning, the impact and consequences of changes or modifications to the bus network should be continually analyzed and explored.

One issue that should be addressed for the Scheduling Unit is determining a succession plan. While the current Scheduler has no plans to retire now, the position may become vacant within five years. The Scheduler has an unparalleled knowledge of the process and systems used to create Metro Transit's schedules. While the Assistant Scheduler is versed in scheduling and has had some training, additional guidance and an altered job scope will be needed in order for

Assistant to seamlessly transfer into the Scheduler position. Another requirement will be the use of a single software package without resort to customized software.

Computerized Process – Metro Transit utilizes two versions of Trapeze software; the old DOS based version of the program, and the more recently purchased Windows based version. The Scheduler uses the DOS version to create run cuts, while the Windows version is used for other portions of the process. This practice, seen as temporary in the prior review, continues to this day. One option that will eliminate the need for the use of both versions of the software is to explore a later version of the Trapeze software, with an improved run cutting process. One concern with the current hybrid approach is that it mandates custom software developed by the Scheduler.

Status of Prior Audit Recommendations

Metro Transit's Planning and Scheduling Units went through a similar management review process in the Fall of 2003. A number of items were identifies with specific improvement recommendations. In some instances, these suggested actions addressed deficiencies and opportunities across both Units. The status of the earlier proposals for the Scheduling Unit are presented below:

- Service Standards

  While some service standards have been created by the Service Evaluation and Performance Measurement Program, additional refinement to the program should be considered. Such measures as on-time performance and the farebox recovery rate would increase Metro Transit's assessment of route performance and allow for improved planning and scheduling.

- Data Management Plan

  As mentioned in the planning section of this review, a data management program was recommended in the prior review. Such a program would allow the Scheduler to rely more heavily on quantitative data and help to create a scheduling process that is less reactive to comments, problems and complaints. While a stronger reliance on available data processed from the AVLs and registering fareboxes has been achieved, a comprehensive data management program, including APC equipment derived data has not been put into place.

- Trapeze for Windows

  The Windows based version of Trapeze has been installed; however the software has not demonstrated its usefulness for all of the Scheduling Unit's needs.

Parallel processing continues through the use of the DOS and Windows based Trapeze packages.

- Trapeze as an Analytical Tool

  Metro Transit does utilize the Trapeze software to analyze their current route performance; however, this practice can be expanded.

- Pay to Platform Ratio

  The last study suggested that pay to platform ratios should be computed with imputed values associated with premiums and that acceptable threshold should be established and serve as a benchmark for gauging scheduling efficiency. In accordance with this recommendation, Metro Transit now factors overtime into their computed pay to platform ratio. The Scheduler attempts to keep the pay to platform ratio for all routes under 1.09.

- Service Development Committee

  The Scheduler remains an active participant on the Service Development Committee.

- Manpower Planning

  The previous review suggested that the Scheduler remain an active participant in manpower planning. This practice has not been implemented and the Scheduler should be engaged in establishing extraboard and driver staffing levels.

- Scheduling Timeline

  It was recommended that the Scheduling Unit create a timeline to further clarify the activities associated with schedule service changes and run cutting. With the need for a staff transition plan transit mentioned previously, it would be worthwhile to document the scheduling process.

While some of the recommendations from the prior study have been implemented, others continue to await implementation. Some of these issues, such as the use of the two versions of the Trapeze software, should be addressed in a timely manner to improve the effectiveness of the scheduling process.

Conclusions and Recommendations – As with the Planning Unit, the Scheduling Unit is operated in a professional and proficient manner. The ability to quickly make scheduling adjustments continues to be impressive and reflects positively on the wealth of knowledge and

capabilities of the Scheduler and the coordination with the Planning Department. That being said, there are opportunities for further refinement. The recommendations listed below include some from the prior review, as well as those emerging from this study.

- The Scheduling Unit is important to the operations of Metro Transit's bus system. There is currently no clear succession plan to replace the current Scheduler once the position becomes vacant. Metro Transit should create such a plan and provide training to assure continuity in the scheduling function.

- One way to improve the transition with new scheduling personnel is to purchase the latest version of the Trapeze software which includes an improved runcutting feature. This would eliminate the need for two version of Trapeze being used and custom written software. Further, it would improve the transition process.

- A scheduling timeline should be documented along with any other processes to assure an orderly succession plan.

- As suggested in the Planning section of this review, the current service standards outlined in the Service Evaluation and Performance Measurement Program should be expanded to include such metrics as on-time performance and farebox recovery ratio. The Scheduling Unit currently relies heavily on computed value of passengers per hour. The inclusion of other measures will afford additional refinement to the scheduling process.

- In accordance with the previously presented recommendation, the Scheduling Unit should increase its reliance on data collected through the available technologies. This is similar to what has been recommended for the Transit Operations Unit. The current usage of data received from registering fareboxes and the AVL system should be expanded with the APC equipment. Once the issues with the APC system have been fixed, the scheduling process should include an analysis of the data provided from this technology.

- A more formal process to receive comments from drivers and operations personnel should be implemented. The current "open door" policy is helpful, but a more formal process can produce additional benefits to the planning and scheduling function.

- A related issue to the previous recommendations, and as stated in the Planning section of this review, is the need for a data collection program which will allow the collection, archiving and analysis of data to occur in a more routine manner. This is related to the recommendation included in the review of Information Technology function which called for an information management planning effort to be undertaken.

- While it is recognized that Metro Transit does use Trapeze as an analytical tool, expanding these functions of the software will improve the efficiency of the scheduling process. Staff performed an analysis of implementing four, ten hour work days which led to its implementation. Using the scheduling software as analytical tool should be continued and expanded. This would include investigation of expanded use of part time drivers as well as the cost associated with runs that are more attractive to drivers. Clearly, the focus of the scheduling process should be on achieving efficient use of drivers and minimizing labor costs.

- The Scheduling Unit should continue to be an active participant of the Service Development Committee. The Scheduler should continue to monitor and refine the Transfer Point System in order to create more favorable service. Similarly, other service options, such as BRT service, express service, flex routes and demand responsive service, should be explored to complement the existing system.

The list of recommendations, along with those from the planning review, represent a full agenda, although each of the proposals are not of equal importance or will require the same level of necessary resources. They provide a constructive set of proposals that will assure the efficient use of operators and respond to challenges in the future. In many cases, the recommendations reinforce the actions taken during the last five years.

FUNCTIONAL AREA REVIEW
VEHICLE MAINTENANCE

This section provides a detailed review of the vehicle maintenance function at Metro Transit and includes analysis of staffing levels, facilities, fleet condition, preventive maintenance inspection program, running repair performance, vehicle servicing and other maintenance related work. A status of recommendations made in the prior audit as well as recommendations made in this audit is included.

Organization and Staffing

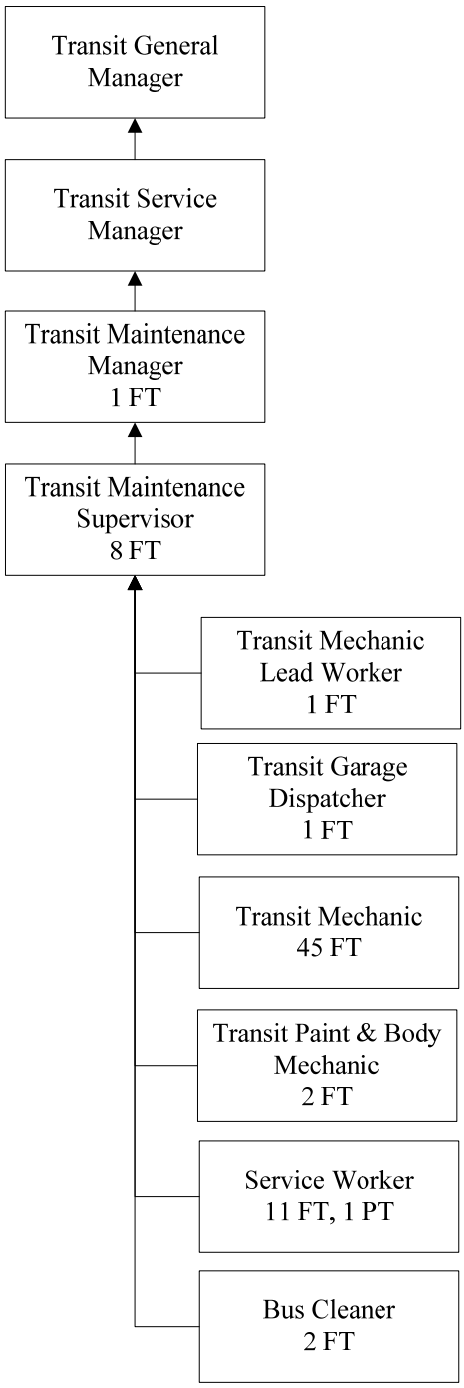
The mechanics employed by Metro Transit perform almost all of the transit system's vehicle maintenance activities at its bus garage located at 1101 East Washington Avenue, Madison, Wisconsin. The work includes routine vehicle maintenance activities including preventive maintenance inspections and diagnostic (running) repairs as well as major work including body repair, bus painting, removal of engines and transmissions, engine and transmission overhauls, component rebuilds, brake rebuilds, repairs to the fareboxes, two way radios and tire work. In addition, Metro Transit has a dedicated fleet of support (non-revenue) vehicles that it also maintains.

Work sent to outside vendors includes some communications equipment repair, electronic equipment repair such as bus head signs and rebuilds of certain components where it makes financial sense such as radiator cores. Further, some engine, transmission and component overhauls and rebuilds are also being performed by outside vendors.

As of November 1, 2008, the Metro Transit active fleet consists of 204 full size buses for fixed route service and 19 smaller vehicles for paratransit services. Of this number, approximately 164 buses are needed for peak period fixed route service. This results in a spare ratio of about 24 percent (40 spare vehicles divided by 164 vehicles needed for peak service). This is slightly above the FTA guideline of 20 percent. Typically, 15 of the 19 smaller vehicles are used in peak paratransit service, which results in a spare ratio of about 21 percent.

The current overall unit organization chart is illustrated in Figure 2.

Organizational Structure - Vehicle Maintenance Function



As of November 1, 2008, Metro Transit employed a staff of 71 full-time and one part-time person in its maintenance unit.

Excluding the Manager, Supervisors, Dispatcher, Service Workers and Cleaners, there are 47 employees that are considered mechanics to support the vehicle maintenance function of the Metro Transit fixed route and paratransit fleet (45 mechanics and two paint and body mechanics). Of this group, one mechanic is assigned the primary responsibility for the maintenance of the paratransit fleet.

Staff Size Ratios – There are 179 peak vehicles that are the responsibility of 71.5 maintenance employees. This is a ratio of 2.5 peak buses per maintenance employee. Typical staff size ratios at similarly sized systems are approximately 1.5 peak buses per maintenance employee. This indicates that Metro performs this function with a smaller staff when compared to similarly sized systems. On a per mechanic basis, Metro's fixed route service requires 164 vehicles. With 46 mechanics assigned to the fixed route fleet, this is a ratio of 3.6 peak buses per mechanic. Typical staff utilization averages about 2.5 peak buses per mechanic. This is another indicator that Metro's maintenance staff for this function is smaller than what would typically be expected.

Another way to review staff size is vehicle miles per mechanic. This measure is more accurate and accounts for actual vehicle utilization. Based on past experience, Metro Transit's fixed route fleet will accrue about 5.4 million miles annually. With 46 mechanics (one mechanic assigned to the paratransit fleet), the ratio of miles to mechanic is 117,400 miles. The average for this statistic at other systems is generally in the 100,000 to 125,000 miles range. Metro Transit's mechanic work force is within this range. Another indicator is that Metro Transit's vehicle miles per mechanic ratio was shown to be within 10 percent of the average for this measure among its peer group. This is favorable performance considering that some mechanics are often used to support the one mechanic assigned to the paratransit fleet, and the fact that Metro Transit still performs major overhauls to engines and transmissions, as well as paint and body work with in house staff. Many systems have changed and now only use outside vendors for this more major work.

Metro Transit has the equivalent of 13.5 full-time service workers and cleaners responsible for the entire vehicle servicing and cleaning function. Typically about nine workers are assigned to the service line each weekday evening including two "fuelers", two "vaulters", four "hostlers" and one "parker". With 179 vehicles requiring servicing each weekday evening, this represents a ratio of 20 buses per employee dedicated to this function. Typically, a ratio of at least 20 buses or more is acceptable.

The staff ratio for this group appears to be acceptable. In fact, at Metro, these employees perform additional activities such as farebox removal (vaulters) that typically is done within another staff function at other transit systems.

Facilities and Equipment

Metro Transit currently functions out of an operating base that houses vehicle maintenance, servicing and indoor storage functions. This base also includes the transportation function as well as parts storage. The administrative offices were recently moved to an adjacent building which has helped reduce some of the congestion. The operating base was converted from a Sears complex in 1980. It is designed to provide indoor storage for up to 190 buses. The facility must accommodate 204 buses and 19 paratransit vehicles. Metro Transit also stores five non-revenue parade type buses at this complex. With the current fleet size, the capacity of the facility has been exceeded. This does not include the potential for future growth in services.

There are a number of problems with the current facility including:

- Bus storage area is crowded and requires strict adherence to bus parking assignments to preclude the need for significant bus maneuvering. The limited indoor bus storage space is a major problem since buses cannot be stored outside in the winter months. Therefore, bus storage is accommodated in every possible space in the facility including travel aisles.

- Space devoted to vehicle maintenance is too small for the current fleet size. A general "rule of thumb" is for a facility to be furnished with one bus repair bay per 10 buses. With 204 buses, the Metro Transit facility should have approximately 20 repair bays. Metro Transit has 12 repair bays with 12 operable in-ground lifts. There are four additional bays in the body shop and one in the A/C shop. This limited space has mandated that a significant portion of the vehicle maintenance work be performed in travel aisles throughout the complex.

- Vehicle maintenance and transportation office space is also very limited with no room for supervisor's desks or sufficient space for files. In fact, transportation supervisors must share limited desk space. This issue is in the process of being addressed as a result of the move of the administrative offices to an adjacent building. This move has freed up office space that can be used by the transportation staff;

- Other maintenance areas that are undersized include the component rebuild area and parts storage room;

- Other facility problems include:

    - The engine/transmission rebuild area is located in an open and unclean environment. The sensitivity of the rebuild functions requires a clean working space.
    - The body shop and paint booth are located in two separate parts of the facility when they should be located next to one another for efficiency.

- The tire shop and brake repair room are combined in one room when they should be separate.
- The A/C repair shop is located in a remote repair bay within the bus storage area.
- Mechanic tools are stored in unsecure locations along the walls throughout the facility when they should be stored in a locked or secured room.
- Bus parts are stored in a number of locations throughout the complex instead of one central location.

In summary, the maintenance facilities of Metro Transit are inadequate to support the vehicle maintenance requirements. The complex is generally old, overcrowded and not well laid out. The facility is, however, equipped with the necessary shop and garage equipment to support the vehicle maintenance function.

Revenue Fleet

As of November 1, 2008, the Metro Transit had an active fleet of 204 buses and 19 paratransit vehicles or a total fleet of 223 vehicles. All Metro Transit buses and paratransit vehicles are equipped with diesel engines. Full size buses are all equipped with bike racks. The entire fleet either has a wheelchair lift or a low floor ramp.

Federal Transit Administration guidelines suggest that the average age of the fleet should be no more than half of the average economic useful life of the fleet. For Metro, this would be a suggested average fleet age of 6.0 years. The average age of Metro's bus fleet is 8.4 years, which exceeds the suggested level. This high fleet age is due to 57 buses exceeding the 12 year replacement age: twenty-two 1992 Orion V's, twenty 1994 Orion V's, and fifteen 1995 Gillig Phantom's. It should be noted that during 2009, Metro Transit will be obtaining 33 replacement buses with 42 additional replacement buses being obtained by 2013. These 75 buses will replace the entire Orion V fleet (42 buses) as well as most of the Gillig Phantom fleet (36 buses).

The average age of the 19 paratransit vehicles is about 2.3 years. Since these vehicles have a useful life of seven years, this would suggest a target average age of 3.5 years. The Metro fleet is within that suggested guideline.

Metro Transit Fleet
(as of November 1, 2008)

Type of Bus	Year	Number of Seats	Number
Fixed Route Bus Fleet			
Orion V	1992	43	22
Orion V	1994	42	20
Gillig Phantom	1995	43	15
Gillig Phantom	1996	43	12
Gillig Phantom	1997	43	9
New Flyer	2000	39	30
New Flyer	2001	38	16
New Flyer	2002	38	14
New Flyer	2003	38	15
Gillig Low Floor	2004	38	15
Gillig Low Floor	2005	38	15
Gillig Low Floor	2006	38	16
Gillig Hybrid	2007	38	5
		TOTAL	204
Paratransit Fleet			
ELF	2004	12	3
Starcraft	2006	12	16
		TOTAL	19
		Fleet Total	223

A visual inspection of 24 Metro Transit fixed route and paratransit vehicles (or about 11 percent of the fleet) indicated that the fleet was in relatively good condition. Buses were generally clean inside and outside along both sides. Seats were generally in very good condition and no broken or cracked windows were observed. However, there were a few problems found during the inspections that are worth noting, including:

- Nine of the buses that were inspected had ripped driver's seats.

- Minor body damage was observed on four of the buses. These buses were the older vehicles in the fleet and included a 1992 Orion V (#513), 1994 Orion V (#549), 1995 Gillig Phantom (#560) and 1995 Gillig Phantom (#568).

- Many of the windows on ten of the buses were dull and foggy. This condition is a result of the plastic insert material that is installed in many of the buses to protect the windows from vandalism damage.

- One issue with using automated bus washer equipment is that the rear exterior of buses can often be left dirty. This is due to the fact that staff drives the bus through the washer at too fast a pace, precluding the washer from adequately cleaning the exterior. As part of this inspection, it was found that only two of the 24 buses had dirty rear exteriors.

There were no problems with graffiti and ripped passenger seats. However, as noted above, the driver seats on nine buses were found to be ripped. Again, Metro Transit should be commended on the absence of any broken or cracked glass on the entire inspected fleet. Further, the three paratransit vehicles that were inspected were found to be in very good condition.

Road calls are recorded by Metro Transit by day, time, description of the problem, length of any delay, and whether a maintenance truck or another bus was sent to the problem bus. During September and October 2008, there were 126 mechanical road calls on the fixed route fleet. During this period, the fixed route fleet traveled about 970,000 miles. The overall road call rate for the two month sample for the fixed route fleet is about 7,700 miles between road calls. Road call performance is typically in the 4,000 to 6,000 mile range. The Metro Transit fixed route road call performance is very favorable. The road call performance for the paratransit fleet was found to be even better with a road call rate for the two month period of about 12,200 miles.

In summary, Metro Transit's bus fleet is relatively old with over one-quarter of the fleet having exceeded its economic useful life. Overall, the fleet was found to be in good condition with minor body damage on the oldest models, a few buses with dirty backs, some ripped driver's seats, and some foggy windows on a few buses. The fleet appears to be well maintained as exhibited by its very favorable road call performance.

Preventive Maintenance (PM) Program

Metro Transit has in place a very extensive PM program for all revenue vehicles. A detailed form with clear and concise instructions is used by all mechanics when performing

preventive maintenance inspections. Different forms are used depending on the bus type as well as the inspection interval. Separate forms are also used for wheelchair lift, A/C, and farebox PM inspections.

Metro's PM program includes four inspection categories that are performed on a 6,000 mile interval. The "A" inspection is the basic inspection and involves changing of engine oil and filters. The "B" level inspection is the next interval and involves the same activities as the "A" inspection plus additional tasks. The "C" inspection is performed at the sixth interval and includes all "A" and "B" activities plus additional tasks. The "D" level inspection is the final category and includes all inspection activities from the "A", "B" and "C" inspection plus a road test, as well as changing differential fluid change. The "D" inspection is performed on an annual basis in place of one of the other inspections. It should be noted that Metro Transit uses a 3,000 mile interval for the paratransit fleet.

PM inspections are completed by either a Class "B" or Class "C" mechanic. The mechanic is responsible for the inspection plus completion of any needed repairs. However, if repairs are major, the problem will be noted on the inspection sheet for future work.

The PM schedule for the Metro Transit fleet is based primarily on the mileage of each vehicle as well as time for those vehicles that accrue little mileage. The mileage is determined during the fueling process. The process is computerized to keep accurate records of fuel levels, PM intervals, and mileage. Metro Transit utilizes the upgraded Fleet Mate computer system known as Transit Fleet for all vehicle maintenance record keeping and reporting. This computer system identifies those vehicles that are due for a PM inspection.

The computer also generates a daily output itemizing the type of PM inspection scheduled to be performed. In addition to basic PM inspection work, periodic PM inspections are performed on the wheelchair lift, A/C system, and fareboxes.

It should be noted that during PM inspections, engine oil and transmission fluid is sampled and an analysis is performed. This analysis not only determines whether impurities exist in the sample, but also addresses whether the lubricating properties of the fluids have deteriorated. This analysis can help in making engine and transmission replacement decisions as well as in determining which of the 44 Orion V buses will be replaced by the new 33 Gillig low floor buses being obtained in 2009.

Overall, Metro Transit's PM program is extensive and thorough. Adherence to the schedule for all PM inspection categories was analyzed based on data for a sample period of September 18, 2008 to November 18, 2008. During the sample period, 221 separate inspections were conducted. There were no inspections performed more than 10 percent later than the prescribed interval of 3,000 miles for paratransit vehicles, and 6,000 miles for buses. In fact, there were only four cases where the actual inspection was conducted more that 500 miles above the planned 6,000 mile interval. The performance was not as favorable in terms of early

inspections. There were 21 inspections that were performed more than 10 percent (i.e., 600 miles) earlier than the planned 6,000 mile interval. Overall, more than 90 percent of the inspections were performed within 10 percent of the planned interval. This is excellent performance considering that no inspections were performed later than 10 percent of the planned interval.

Running Repair

Repair work on Metro Transit vehicles occurs when a problem is discovered through one of several ways including information from drivers, due to a road call, from the service workers while the bus is being serviced, or during the PM inspection. The driver's Defect Card allows space for operators to comment on their vehicle's condition. As previously mentioned, almost all of Metro Transit's repair work is performed by in-house staff mechanics.

One way to analyze the performance of a vehicle maintenance program is to review how often vehicles are brought into the shop for repair work. For a good program, the frequency of repair work should be no less than one half the PM interval. Therefore, with a planned PM interval at Metro Transit of 6,000 miles, vehicles should need repair no less than every 3,000 miles. For the paratransit fleet with the planned interval of 3,000 miles, vehicles should need repair no less than every 1,500 miles.

The performance of Metro Transit was reviewed for a sample of 17 buses and three paratransit vehicles for a six month review period spanning May 18, 2008 to November 18, 2008. Repair records for the 20 vehicles were reviewed with defects noted where the repair work was major and required more than two hours of mechanics time to complete. Results indicted that Metro Transit has an average interval of about 2,100 miles for the fixed route bus sample where buses were at the shops for major repair work (more than two hours) and about 3,000 for the paratransit sample. The sample of paratransit vehicle performance is above the goal of 1,500 miles but the performance of the 17 bus sample is below the 3,000 mile goal. A more detailed review of the bus performance indicates that eight buses in the sample were from the older fleet of 1992/1994 Orion V's and 1995 Gillig Phantom's. These older buses required much more repair work. In fact, the major repair on these vehicles occurred on average every 1,100 miles. The performance on the newer buses was much better and exceeded 2,700 miles between major repairs.

Overall, this result indicates that the Orions and 1995 Gillig buses do not meet the suggested criteria. These buses have already exceeded their useful life and therefore, are in the shop for repairs more frequently than desirable. The performance of the remainder of the Metro Transit bus fleet is slightly below the standard but acceptable.

Vehicle Servicing

After the completion of all daily runs, drivers return the buses to the garage for vehicle servicing. The servicing procedure begins with the hostlers driving the bus from a drop-off point in front of the service lane entrance into one of two service lanes. At the first servicing stage, fareboxes are emptied by one vault puller who services both service lanes. The bus is than moved to the next station where the cyclone cleaner is attached to the front door for interior cleaning by the hostler. While the cyclone cleaner is operating and the interior is being cleaned by the hostler, fuel is added and other vehicle fluids are checked and replenished if necessary by the fueler. There is one fueler per service lane. It should be noted that the servicing function is computerized. When the bus is parked at this stage, an appropriate key is inserted into the terminal to identify the bus. The fueler enters his or her number and notes the mileage from the hubodometer. The system automatically records the fuel added.

The next step in the servicing process involves the hostlers driving the buses through the automatic bus washer to clean the exteriors. After the wash cycle, buses are then driven to the vehicle storage area where they are parked for the night.

There is also a parker assigned to the service line whose function is to obtain defect cards from the drivers and determine the location in which the buses should be stored.

The time it takes to compete the servicing of each Metro Transit is relatively fast and indicates a very high level of activity. Also, the work method followed, whereby the service line employees work as a team, appears to be very efficient.

Metro Transit performs a more detailed interior cleaning of each bus with a goal of every 45 days, or about once every six weeks. Discussions with maintenance staff indicated that goal was not being met for a number of reasons, but primarily due to the limited number of staff that is devoted to this function. Currently, two cleaners are assigned the detailed cleaning function and are each able to clean two buses per day. At four buses per day, and 20 buses per week, it takes approximately 12 weeks to perform detailed interior cleanings on the entire fleet. This is about twice the Metro Transit goal. Metro Transit indicated in the past review that they recognized this problem and planned to hire two part time staff to work weekends on detailed bus cleans. This has not happened.

Overall, the vehicle servicing function at Metro Transit appears very efficient. The bus interiors and exteriors were observed to be clean. There were only a few cases where the bus backs were observed to be dirty.

Computer Maintenance Information System

Another favorable aspect of Metro Transit's vehicle maintenance function is the computer records maintained for every transit vehicle. The Transit Fleet system, which is the upgrade to the prior FleetMate system, is a work order system which keeps files that list every task performed on each vehicle. Consequently, recurring problems can be discovered and acted upon appropriately. This computerization of all vehicle maintenance records enables close monitoring of the vehicle fleet in terms of repairs, PM intervals, and rebuild intervals. The computer file also lists the amount of time it takes the mechanics to complete a task as well as the cost of repair parts associated with the repair. This has enabled Metro Transit to perform a number of analyses. One such analysis reviewed the cost of maintaining and fueling Metro Transit's five Hybrid buses compared to its newest Gillig Low Floor buses. These types of analyses allow Metro Transit to make more informed decisions regarding fleet maintenance and practices.

Status of Prior Audit Recommendations

During 2003, the management review conducted of the vehicle maintenance function identified three recommendations. Status of the actions taken by Metro Transit on each recommendation is summarized below:

- Facility Needs Assessment – Metro Transit should not delay on conducting the Facility Needs Assessment study and acting upon the recommendations that are made in the study.

  This study was performed and has resulted in certain improvements such as moving the administrative offices to an adjacent building and expanding the space for the Transportation function. The study also identified that a new maintenance facility should be constructed on the existing site with automobile parking on the second floor and bus storage remaining in the same location.

- Cleaner Bus Floors – Metro Transit should develop a program to remove mud from the floors of its buses. This mud occurs for days after inclement weather.

  During the recent inspection of buses, muddy floors were not observed. However, Metro Transit indicated that they have not taken any specific action to improve on this situation.

- New Computer System – Once the new Maximo computer system becomes operational, a number of analyses should be performed to evaluate the vehicle maintenance performance.

The Maximo system was never installed. However, the FleetMate computer system was upgraded and is now called Transit Fleet. The upgraded system has given Metro Transit the capability to perform a number of maintenance analyses.

Conclusions and Recommendations

As part of the current review of the Metro Transit's vehicle maintenance activities, certain conclusions were reached. The following are the favorable aspects of the maintenance activities at Metro Transit:

- Metro Transit's performance in terms of vehicle miles per mechanic, when compared to typical industry ratios as well as the average ratio among its peers, would suggest that the maintenance staff is appropriately sized. It was also observed that the staff is guided by an extensive and up-to-date set of systems and procedures.

- The Metro Transit fleet includes 69 buses that are at or older than the 12 year suggested replacement age. Metro Transit has recognized this fact and is in the process of obtaining 75 replacement buses in the next five years.

- Overall, the fleet was found to be in good condition with no broken or cracked glass and little body damage. Some ripped drivers seats were noted as a problem.

- The systems, procedures, and methods of the Maintenance Unit are excellent. The fleet appears to be well maintained as exhibited by its favorable road call and times in shop for defect repair performance.

- The decisions made in areas such as tire type, fuel type, and the performance of engine oil analyses are favorable and are aimed at a more effective vehicle maintenance program.

- The PM inspection activities are very extensive and well documented. Vehicles are inspected within the established mileage intervals. Further, the policy under which the mechanic performing PM inspection work also makes identified needed repairs, appears efficient. An important positive factor in this method is that the work which is identified as needed during the PM inspection is completed immediately.

- The need repair work interval is favorable for the newer bus fleet but not for the buses that are due for replacement.

- The computerized system of record keeping is excellent and is better than in the past with more analysis capability.

- Overall, the vehicle servicing function at Metro Transit appears efficient. The production levels of the service line staff are reasonable considering the number of buses that are serviced and the overall staff size.

During the review, certain areas of Metro Transit's performance appear to be questionable and warrant further analysis and possible change. Recommendations are also made and include:

- Metro Transit should move forward with its plans to construct a new maintenance facility on site. The problem with the current complex has been noted in each of the past three performance audits.

- Metro Transit should address the problem of having a large number of ripped driver seats on its bus fleet. While not a major issue, ripped seats do hurt the overall appearance of the system.

- Metro Transit should investigate its performance in terms of the apparent large number of PM inspections that are performed early. While inspecting the bus before the inspection due mileage may be beneficial in that problems can be discovered more sooner, it can also increase costs unnecessarily.

- Metro Transit should attempt to meet its detailed interior bus cleaning goal of a detailed clean for each bus at least every six weeks. This would mean that two additional bus cleaners would need to be hired to increase the staff size of this group to four employees. With four employees doing two buses a day each, 40 buses can be cleaned in one week and 240 in six weeks.

The lower In general, except for the few areas noted above, the maintenance activities at Metro Transit are very positive.

The Peer and Trend Analysis Report, prepared as part of this audit, noted that Metro Transit's maintenance costs per peak vehicle and per vehicle mile were lower than its peers. It was observed that this could indicate favorable performance, or could suggest that maintenance expenditures are too low. Metro Transit's lower maintenance cost on a per vehicle basis can be attributed to the fact that Metro Transit operates fewer vehicle miles per peak vehicle than its peers. This is due to the fact that Metro Transit's service area is much more compact, and a greater proportion of Metro Transit's service is operated in the urban core. This would not explain the lower maintenance cost per vehicle mile. However, while maintenance cost per peak vehicle was 28 percent below the peer average, maintenance cost per vehicle mile was only 11 percent below the peer average. This, along with the fact that there was nothing observed as part of this current review of the vehicle maintenance function that would suggest that Metro Transit is not expending sufficient resources on the maintenance function, would suggest that the lower ratio is the result of efficiencies or other factors.

FUNCTIONAL AREA REVIEW
TRANSIT OPERATIONS

This section includes a detailed review of the transit operations function at Metro Transit. This includes an analysis of staffing levels, management of daily operations, on-street supervision and control, as well as operator personnel and labor relations issues. While the Transit Operations Unit at Metro Transit is also responsible for paratransit operations, this review focuses only on the fixed route activities, since the paratransit functions were reviewed in a separate report. Metro Transit's actions in response to recommendations made in the prior audit, as well as recommendations made as the result of this audit, are described.

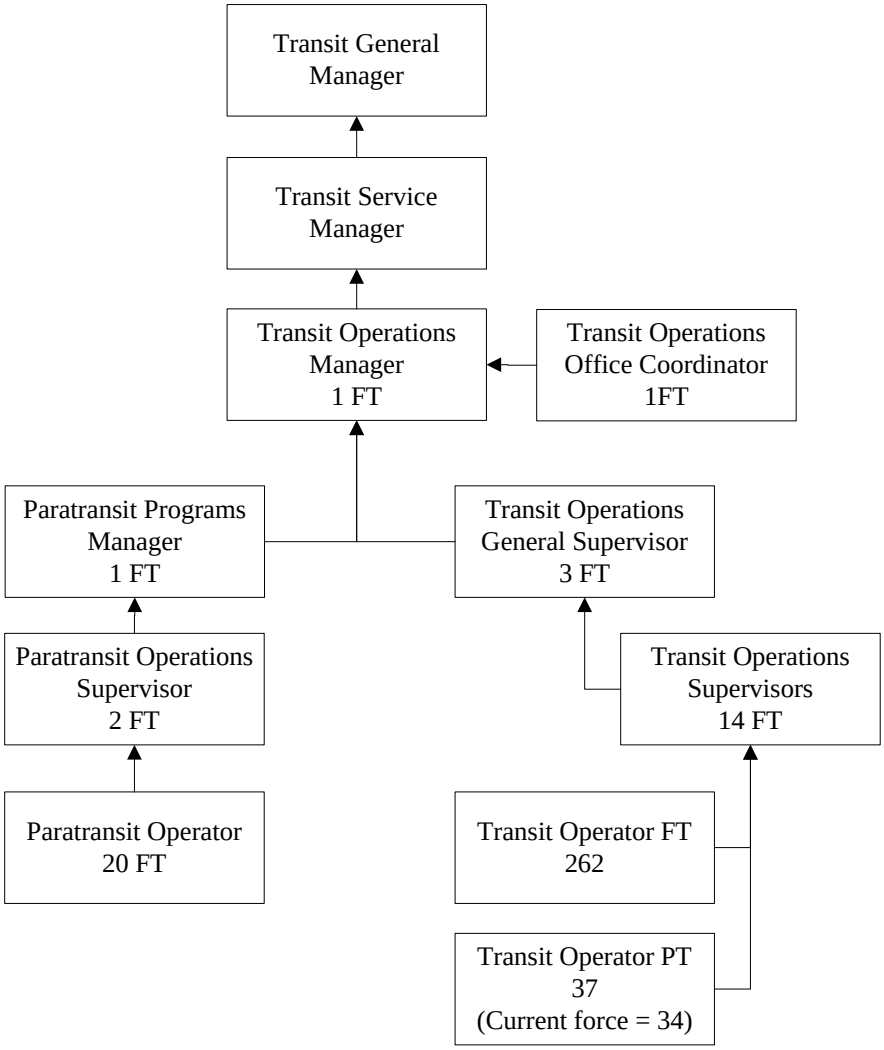
Organization and Staffing

The Transit Service unit is responsible for the administration and operation of Metro Transit's fixed route services. The Transit Service Unit is headed by the Transit Service Manager who reports to the Transit General Manager. The Transit Service Manager has two direct reports; the Transit Operations Manager and the Transit Maintenance Manager. The Transit Operations Manager is responsible for the administration of the fixed route and paratransit operations function. The organizational structure of the Transit Operations section of the unit has recently undergone some minor modifications. The current overall organization chart for the operations section of the Transit Service Unit is illustrated in Figure 1.

The Transit Operations Manager has four direct reports which include the three Transit Operations General Supervisors, and the Paratransit Programs Manager. Reporting to the Transit Operations General Supervisors are 14 Transit Operations Supervisors. The pool of Operations Supervisors at Metro Transit also includes personnel who are typically referred to as dispatchers and transportation clerks at other transit agencies. The Operations Supervisors manage the pool of fixed route transit operators, which currently includes 262 full-time operators and 34 part-time operators. The budgeted maximum headcount for these classifications of operators is 262 and 37, respectively. The administration of the Transit Operations section also includes the Transit Operations Office Coordinator who reports to the Transit Operations Manager.

The Transit Operations General Supervisor position was created as part of the recent reorganization of the unit. In the past, all transit supervisors reported directly to the Transit Operations Chief. It was decided that the creation of an intermediate level position would improve effectiveness in the administration of the function.

Organizational Structure - Transit Operations Function



Paratransit operations are administered by the Paratransit Programs Manager, who reports to the Transit Operations Manager. Reporting to the Paratransit Operations Manager are two Paratransit Operations Supervisors. There are currently 20 full-time paratransit operators who report to the Paratransit Operations Supervisors.

The largest group of employees in the transit operations section, Transit Operators, consists of two categories; full-time and part-time. Metro Transit's Transit Operators are represented by the Teamsters Union Local 695. According to the labor agreement between the City of Madison and the Teamsters Local 695, part-time Transit Operators can only be used to operate supplemental school services and cannot exceed a number equal to 15 percent of the full-time operator positions in the transit budget, which currently represents 37 positions. These operators make up what the contract between the City of Madison and the Teamsters Local 695

refers to as the "School Extra Board". In this regard, part-time operators are laid off each spring when summer schedules start, and then begin work again with the implementation of the fall schedules.

Management of Daily Operations

In terms of daily operations, one of the most important functions of the Transit Operations administrative staffs is to ensure that a sufficient number of operators are available to cover each of the scheduled runs and that an operator is available to operate the service. At Metro Transit, the Transit Operations Supervisors assigned to "Window" duties (described later) are responsible for covering work due to operator absences that are known in advance (i.e., vacations, long term absences) as well as absences that are not known in advance (i.e., short term illness). All pieces of work resulting from absences for vacation, long-term illness or injury, holidays, or unpaid leaves which can be made into picks of five days and forty hours are posted on the Tuesday of the prior week. The full-time extra board drivers then pick this work based on seniority. This is referred to as the Weekly Pick Board. All uncovered pieces of work that do not fall into this category are posted to the Rotating Board. Extra Board drivers pick from this work based on an order stipulated in the labor contract. This is done on the day prior to the scheduled run and is finalized by 6:00 PM.

All uncovered work identified after 6:00 PM the prior day is assigned to Extra Board stand by operators. Again, the Transit Supervisor assigned to the window will be responsible for assigning uncovered work to stand by drivers. If there are insufficient stand by drivers, the Transit Operations Supervisor will begin to offer the work to drivers who have signed up for extra work by 2:00 PM on the previous day. The contract specifies the order in which this work will be offered to operators on the list. School supplemental service is posted on the Tuesday of the week prior to operation. The part-time school extra board drivers then pick this work based on seniority.

One method of measuring the effectiveness of covering work is to monitor the amount of scheduled service that was not operated. This includes the number of missed scheduled pull-outs and the number of trips that were missed as a result of that missed pull-out. Typical operating standards in the transit industry call for a missed pull out rate of 0.002 percent or better, that is, no more than one out of every 500 pull outs. At this time, Metro Transit does not track the number of missed scheduled pull-outs or the resulting number of missed trips.

The Transit Operations Chief is responsible for managing operator staff levels at Metro Transit. He reviews attrition levels, expected service levels and the use of vacation leave to determine the timing and level of full-time and part time staffing needs, as well as the appropriate number of stand-by operators.

One measure commonly used in the industry to measure the efficiency of managing the extra board and covering work is the amount of unscheduled overtime pay as a percent of total pay hours. For 2008, the total number of unscheduled overtime pay hours for fixed route

operators equaled 22,198 hours. This represented 4.3 percent of the 517,745 total pay hours for the year. An industry rule of thumb is that this number should be less than or equal to approximately 5 percent. Therefore, Metro Transit's performance is within an acceptable range in this regard.

Metro Transit also has a specified target of maintaining the amount of total overtime (scheduled and unscheduled) at 850 pay hours per pay period. The Transit Service Manager tracks the amount of scheduled and unscheduled overtime for transit operators for each pay period and maintains a database of trend information over a ten year period. Over the past two years, unscheduled overtime has equaled approximately 80 percent of total overtime. Therefore, the effective target for unscheduled overtime would be approximately 680 hours per pay period. The average number of pay hours per pay period in 2008 was 19,913. The target of 680 pay hours for unscheduled overtime represents 3.4 percent of the average number of pay hours. This, again, is consistent with the industry rule of thumb. In 2008, Metro Transit exceeded its target due to the fact that Transit Operations was short on class of new full-time operator trainees for much of the year.

The use of unscheduled overtime is a difficult balancing exercise between relying on overtime to operate service and increasing staffing levels, which increases the amount spent on fringe benefits. In 2007, Metro Transit reported $11,517,003 in operator wages, and $8,265,360 in operator fringe benefits. At 367,083 revenue hours, these figures represent $31.37 per revenue hour and $22.52 per revenue hour, respectively. This is a total wages and benefits cost of $53.89 per revenue hour. The ratio of total wage and benefits cost per revenue hour to the wages per revenue hour is 1.72. Therefore, at a multiplier of 1.5 of wages, overtime can be less costly. For comparisons sake, Madison Metro's total operator wage and fringe benefits per revenue hour in 2006 was 1.74, which was within 10 percent of the peer group average of 1.62. This indicates the Metro Transit has no need to be more reliant than its peers on unscheduled overtime.

It should be noted that when transit systems rely too heavily on overtime, costs can increase in other areas, such as an increase in operator absenteeism or an increase in the number of accidents. As the system relies more heavily on overtime, dependability can suffer in that there may be more instances when there are insufficient operators to cover scheduled service. As noted, this is a difficult balancing exercise. The most effective way to address this is to establish levels of acceptable unscheduled overtime which will allow Metro Transit to operate the planned level of service within the adopted budget. It is then necessary to track the level of unscheduled overtime in a detailed manner. Metro Transit currently has an adopted target rate which is based on their budget, and has procedures in place to identify and analyze the use of unscheduled overtime and compare that to past trends for the figure.

Another measure of the effectiveness in the management of daily operations is the level of guaranteed time paid. In situations where Metro Transit is overstaffed in terms of stand by drivers, the amount of guaranteed time would be increasing. In understaffed situations, unscheduled overtime would be increasing. In 2008 Metro Transit paid 7,068 weekly guarantee pay hours, which represented 1.3 percent of total operator pay hours for the year. This figure

also represented an average of 271.9 weekly guarantee pay hours per pay period. This is a decrease from 2007 when the average number of weekly guarantee pay hours per pay period equaled 300.7. However, the 2008 figure is almost equal to the five year average of 265.8.

There are no industry standards for an appropriate level of guarantee pay. Again, the important thing is to monitor the level of guarantee pay hours and adjust staffing accordingly. To make effective decisions, it is necessary to track the use of extra board guarantee pay, or weekly guarantee pay hours as they are referred to at Metro Transit, and understand how guarantee pay affects Metro's ability to operate its scheduled service within its adopted budget. Currently, Metro Transit has procedures in place to identify and analyze the level of guarantee pay hours each pay period. Metro Transit also maintains a database of guarantee pay levels for a ten year period. The results of each pay period are then compared to past trends and current staffing conditions to determine if the level is appropriate. These procedures are sufficient for Metro Transit to effectively control the use of guarantee pay.

Service Supervision and Control

This section reviews the policies and procedures followed by Metro Transit to monitor and supervise the on-street operations of its fixed route services. This includes the on-street supervision and radio control functions, as well as the procedures for the recruitment and training of supervisory staff.

The Transit Operations Supervisors are assigned shifts that can have a combination of duties including "road", "radio", or "window". Road duties include on-street supervision, radio duties cover the radio control function, and window duties involves the required communication with operators at the time of report, as well as assigning stand by drivers to uncovered scheduled runs as necessary. In addition, certain window duty shifts involve scheduling the weekly and daily extra boards.

On-Street Supervision – The on-street supervision function at Metro Transit is administered by the Transit Operations Chief. In the past, the Transit Operations Chief directly managed 15 Transit Supervisors. After a recent reorganization, three Transit Operations General Supervisor positions were created who report directly to the Transit Operations Chief. In turn, the remaining twelve Transit Operations Supervisors report to the General Supervisors. It should be noted that at Metro Transit, the staff of Transit Supervisors also includes what would be considered Transportation Clerks and Radio Dispatchers at other transit systems. Transit Supervisors are non-represented employees.

Among the pool of Transit Operations Supervisors, a certain number will be assigned for all or part of their shift to "Road" duty. That is, these are the supervisors actually monitoring service on the street.

The staff of Route Supervisors is responsible for traditional supervision tasks, that is, service monitoring, line management, complaints investigations and accident/incident

management. The manner in which these are addressed at Metro Transit is described in the following paragraphs.

- Service Monitoring - Service monitoring mainly entails observing service to determine and rectify issues with on-time performance, incorrect operation of scheduled service, and overcrowding. Road Transit Operations Supervisors are assigned to this type of work to investigate specific issues identified by the public or internally by drivers and other staff. At this time, Metro Transit does not have any program to systematically monitor on-time performance, proper operation of scheduled service, or overcrowding.

- Line Management – The key function of Transit Operations Supervisors on road duty is line management. Road and radio Transit Operations Supervisors must monitor service on a daily basis to determine if any disruptions to service have occurred and if corrective action is needed. Disruptions could be a number of things from traffic congestion to equipment failure. These disruptions can be addressed in various ways. If done correctly, Transit Supervisors can minimize both the cost and passenger convenience impact of these disruptions. At Metro Transit, all Transit Operations Supervisors have the authority to utilize line management tools. These include detours (establishing and administering); switching and short-routing buses; as well as trouble call and bus changes. Metro Transit is currently developing a Standard Operating Procedures manual for Transit Operations which will specify policies and procedures for line management activities.

- Complaint Investigations – Route Supervisors are also responsible for investigating specific complaints submitted by passengers and other members of the general public to Metro Transit's Customer Service Center. Transit Supervisors assigned to road duty investigate complaints regarding the operation of bus routes (e.g., on time performance issues, missed trip issues, bus stop issues, etc.) as well as those concerning operator behavior or incidents.

- Accident/Incident Management - Transit Operations Supervisors on road duty also respond to accidents and incidents involving in-service Metro Transit buses. All accidents and incidents are first reported to the Transit Supervisor on radio duty. The Transit Operations Supervisor on radio duty will then dispatch a Transit Supervisor on road duty to the scene when necessary. The exception to this is during the late evening when one Transit Supervisor performs the radio and road functions. In the case of accidents, accident scene responsibilities include securing the scene from Metro Transit's standpoint and collecting the necessary information to complete a comprehensive report of the occurrence. Under certain circumstances (i.e., injuries requiring transport to hospital, reasonable suspicion, etc.), the Metro Transit operator involved in the accident or incident must be transported to a medical facility for an immediate drug and alcohol screening within two hours of the incident. If this is the case, the Transit Supervisor will transport the operator to the facility.

The service area is not broken into specific zones for the purposes of street supervision. Transit Operations Supervisors on road duty will monitor general areas but will respond to an issue at any location when dispatched. In terms of Transit Operations Supervisor staffing assigned to road duty, the chart below provides the number of road duty supervisors assigned to time periods throughout the service day, along with the corresponding number of Metro Transit fixed route vehicles operating at that time. The chart provides figures for the AM peak period, midday, PM peak, and the night period (after 9:00 PM).

Road Supervisor Staffing

Service Period	Vehicles in Operation	Transit Supervisors (Road)	Vehicles per Supervisor
AM Peak	153	3	51
Midday	55	2	27
PM Peak	161	3	53
Night (after 9:00 PM)	41	0.5*	82

* One Transit Operations Supervisor covers road and radio dispatch duties after 9:00 PM

As the chart shows, the ratio of vehicles in operation to road Transit Operations Supervisor is 51 to 1 during AM peak operating hours, 27 to 1 during the midday, 53 to 1 during the PM peak, and 82 to 1 during the evening. During the AM peak and PM peak periods, the complement of supervisors includes two supervisors assigned to road duty, as well as an additional "swing" supervisor who can be assigned to whichever duty needs staffing. In all instances when there are no significant absences among supervisors, the swing supervisor will be assigned to road duty. On many days, a second swing supervisor is assigned to road duty during the PM peak, bringing the staffing level to four supervisors.

A general industry threshold is that there should be one street supervisor for every 50 vehicles in operation. This standard would suggest that Madison Metro is adequately staffed during the AM peak, midday, and PM peak periods, but is understaffed during the night hours. During the night hours, the rule of thumb would suggest one supervisor dedicated to the on-street supervision function, rather than one supervisor for both the on-street supervision and radio function. While the chart may suggest that Metro Transit is overstaffed for street supervision during the midday, it is common to have much lower ratios during the midday since scheduling supervisory shifts requires a spike during the peaks which then overlap into the intervening or following periods.

It should be noted, however, that while the industry threshold of a ratio of 50:1 can be useful, street supervisory staffing can vary widely depending on each local situation. Staffing levels must take into account the geographic area covered by the service and any special

responsibilities of the supervisors. As noted earlier, Transit Supervisors assigned to road duty typically dedicate a portion of their shift to complaint investigations. This can take away from the time that supervisors can dedicate to general service monitoring. Some transit systems have altered their policies to have road supervisors only investigate complaints regarding the operation of bus routes, and have assigned complaints dealing with incidents or operator's dealings with passengers to an administrative staff person in the Transportation function.

As noted above, any unique responsibilities of supervisors can affect the appropriate level of staffing. For instance, Metro Transit operates five Transfer Point facilities throughout its service area. Security, and passenger's perception of the security, at these centers has become an issue for Metro Transit. One of Metro Transit's peer systems, the Rhode Island Public Transit Authority (RIPTA), has a similar system structure in that RIPTA makes use of three major hubs in the cities of Providence, Pawtucket, and Newport. It is a goal of RIPTA to have a supervision presence at the three major hubs at all times. As a result, RIPTA's street supervisor to vehicles in operation ratio is 30 to 1 during the peak periods.

Another issue that can affect the staffing level for street supervisors is the use of technology. Many transit systems have made use of GPS/AVL systems to effectively monitor on-time performance and proper operation of scheduled service. This can significantly reduce the amount of manual follow up and investigation that is needed to analyze an issue, thereby allowing street supervisors to focus more time on line management and customer services duties. While Metro Transit has implemented a GPS/AVL system, it is not being used to routinely monitor, report on, and analyze schedule adherence (i.e., on time-performance and proper operation of service).

In addition, Automated Passenger Counter (APC) equipment is more commonly being used in the industry to monitor and identify situations in which overcrowding is occurring on buses. This has also typically been a task assigned to street supervisors. With APC equipment, this can be automated. Again, Metro Transit has APC equipment installed on a portion of its transit fleet. However, the data collected by this equipment has not been used for monitoring issues such as overcrowding.

Since what would be considered appropriate street supervision staffing can vary depending upon local conditions and policies, the best way to determine if the level of service supervision is appropriate is to monitor the effectiveness of the function. The primary purposes of street supervision for a transit system are:

- Maintain quality of service
  - Ensure on-time performance
  - Ensure operation of scheduled service
  - Ensure correct operation of scheduled service

- Line Management
  - Minimize impact on scheduled service due to external incidents (i.e., weather, traffic, road closures, accidents involving non-Metro vehicles, etc.)

- Minimize impact on scheduled service due to accidents involving Metro vehicles

- Safety
  - Minimize accidents through monitoring operator driving habits
  - Ensure timely response to accidents/incidents involving Metro vehicles

- Security
  - Personal safety of Metro employees
  - Personal safety of Metro passengers

- Customer Service
  - Monitor operator customer service habits
  - Provide service information to passengers (especially during disruptions)

Currently, Metro Transit does not have any adopted policy guidance for many of the items listed above. Also, as noted earlier, Metro Transit does not currently have any adopted procedures for routinely monitoring, reporting on, and analyzing schedule adherence.

Radio Control - Radio communications are staffed with Transit Operations Supervisors on "radio" duty from 4:00 AM to 8:00 PM on weekdays. There is no dedicated radio control operator for evenings and weekends. Instead, one Transit Supervisor covers both road and radio functions. In addition, the Transit Supervisor assigned to "window" duty will cover the radio during certain hours on the weekend.

Since the most recent audit, a new radio system, along with a GPS/AVL system have been implemented by Metro Transit.

The Dispatchers are the command center for the Metro Transit operations. Calls from all Metro Transit fixed route buses and paratransit vehicles are handled by the central radio room. Typically, the operators will activate a call button indicating a problem and the need to communicate with the Transit Supervisor. Operators can categorize their calls as Request to Talk, Priority request to talk, or emergency.

Transit Operations Supervisor Recruitment, Training, and Review – A common problem among transit agencies is recruiting qualified Transit Operations Supervisors. This is especially true for agencies like Metro Transit where the Transit Operations Supervisors are non-represented employees who lose their operator seniority upon assuming one of these supervisory positions. In addition, at Metro Transit, non-represented employees must live in Dane County. However, at Metro Transit, Transit Operations management indicated that recruiting qualified personnel into these positions has not been an issue and that there are always several qualified applicants when positions become vacant.

New Transit Operations Supervisors attend the Management Academy conducted by the City of Madison's Human Resources Department. New supervisors also receive training from the Transit Mutual Insurance Company, Metro Transit's insurance provider, regarding accident

scene management and investigation. New supervisors must also complete the Prohibited Harassment Training conducted by the City of Madison. New supervisors also receive field training in which the new supervisor works with current Transit Operations Supervisors.

New Transit Operations Supervisors also receive training on the CAD/AVL and computer equipment, as well as the radio system. They will then receive on the job training by working with current Transit Operations Supervisors in the radio room.

Metro Transit does not currently have any adopted procedures regarding line management and dispatch practices. However, the General Transit Operations Supervisors are currently developing a Standard Operating Procedures manual for this area

Metro Transit also does not have a formal ongoing review process for Transit Operations Supervisors. There is also no formal post-incident review process, however, in certain instances; a team will be assembled to review the actions of Metro Transit staff after an event or incident. Metro Transit also does not have a specified continuing training program for Transit Operations Supervisors. However, Supervisors often participate in training sessions conducted by the city, the insurance provider, or by transit industry groups. Metro Transit also does attempt to conduct quarterly meetings with the Transit Operations Supervisory staff to discuss any issues that may arise.

Operations Personnel Issues

This section describes Metro Transit's policies and procedures regarding personnel issues as they pertain to bus operators. This includes operator staffing, training, availability, and performance monitoring.

Operator Staffing - Over the past five years, the number of operators has remained stable. Along with 20 full-time paratransit operators, and 17 transit supervisors and office coordinator, the current number of non-executive team operations employees is 332. Between 2003 and 2008, this number has fluctuated within a range of between 332 and 339, a range of only 7, which represents 2.1 percent of the average of 335. All transit or paratransit drivers start as part-time fixed route drivers. When paratransit driver openings occur, the position is posted internally. Fixed route drivers can request the job, and the position is awarded based on seniority. There is no pay differential between the paratransit and transit drivers, and many transit drivers find the work hours of the paratransit system appealing. Paratransit drivers must then stay in the paratransit service for six months before transferring back. If they decide to transfer back to a transit position, they lose their seniority.

The Transit Operations Chief monitors current and upcoming vacancies due to long term absences, retirements, transfers to paratransit, resignations, or terminations. He must then decide how many full-time vacancies should be filled. The Transit Operations Chief monitors the need to fill full-time vacancies in consideration of scheduled service and the budgeted headcount of operators.

The headcount is established as part of the budget process. Annually, the Mayor of Madison provides the Transit General Manager with budget targets; this typically includes a budget for the maintenance of current service levels, a budget based on a particular percentage change in the prior year's budget, and a contingency budget for a more significant percentage change in the budget. The senior management team at Metro Transit then meets to discuss strategies to meet the various budget targets. The Finance Unit will then meet with each operating unit in Metro Transit to discuss and determine the impacts of the proposed changes under the various scenarios. The Planning and Scheduling unit is consulted to determine the number of driver assignments that would be required to operate the level of service proposed under the different budgets. The budgeted headcount for the applicable budget is then adopted by the city as part of whichever budget is eventually enacted.

When the Transit Operations Chief determines that it is necessary to fill a full-time operator position, the openings are filled with part-time drivers based on seniority. Average attrition among operators over the past five years has been approximately 21 operators each year. As this occurs, new part-time operators must be hired. Metro Transit works with the City of Madison's Human Resources Department to facilitate the hiring process, which is discussed in more detail in the Personnel and Labor Relations review. Hiring of part-time operators is done in groups to create training classes. In a typical year, three classes of six to eight students are hired and go through the training program for new operators.

Operator Training –New operator training is administered by full-time drivers on temporary assignment as trainers. Before a new operator begins training, they must have a CDL permit, which is obtained by passing the written test of the CDL license process. The driver training program consists of 15 days (three work weeks) of both classroom instruction and behind the wheel training. The first two weeks of training consists of both classroom and behind the wheel training with the instructor. During the second week, students must pass a CDL pre-trip inspection and road skill test to continue with the training program. Metro Transit has staff people who are licensed third party CDL Examiners through Wisconsin Department of Transportation. One of these staff persons conducts any needed tests with the new hires. The third week of training includes classroom training regarding policies and procedures as well as on-road training to learn routes. As noted, new operators begin work at Metro Transit as part-time operators. These operators are only allowed to operate school supplemental services. Therefore, they are only trained on the school supplemental services.

When a part-time operator becomes a full-time operator, they receive an additional six to eight weeks of training. This includes customer service training, route familiarization, ADA training, vehicle training, radio procedures, as well as other policy and procedure training.

Metro Transit does not have a specific ongoing retraining program for all operators. However, Metro Transit attempts to provide each driver with refresher training once every three years. In addition, training campaigns are often undertaken which are mandatory for all operators. This includes programs such as the Homeland Security training conducted in 2008.

Metro Transit is also currently developing a Standard Operating Procedures manual for operators. Once completed, this could be used as a guide for retraining purposes. Metro Transit is also currently working with the Madison Police Department to have police department staff provide training to Metro Transit operators regarding dealing with difficult people.

On an individual basis, various criteria are used to identify retraining needs. This includes issues identified by Transit Operations Supervisors. In addition, all accidents are reviewed by the Transit Service Manager and the Transit Operations Chief to identify any needed remedial actions on the part of the operator.

Operator Availability – The peer group report completed as part of this audit noted that Madison Metro was 13.9 percent below the peer group average in terms of vehicle hours operated per operations employee. Metro Transit also ranked 10 of 12 in this measure. Interviews conducted as part of this review revealed that the extensive use of Absent without Pay (AWOP) leave among Metro Transit employees could be affecting Metro Transit's performance in this regard. While all City of Madison employees have access to AWOP, this leave category is disproportionately used by Metro Transit employees. Metro Transit comprises 16 percent of all City of Madison employees, but accounts for 29 percent of all non-FMLA AWOP leave used by city employees. In addition, the use of Family and Medical Leave (FMLA) among operators is significant. This issue is discussed in more detail in the Human Resources section of this audit.

The table below summarizes the amount of operator hours lost to the categories mentioned above.

2008 Lost Hours by Category - Bus Operators

Total Pay Hours	517,745		
Category	Hours Lost	Percent of Total Pay Hours	Equivalent Workdays Lost
Family and Medical Leave Act (FMLA)	15,282	3.0	1,910
Absent without Pay (non- FMLA AWOP)	19,928	3.8	2,491
Total	35,210	6.8	4,401

The amount of paid sick leave taken by operators is predictable since the rate of sick leave accrual is established in the labor contract between the City of Madison and the Teamsters Local 695. Unpaid leave, such as AWOP and FMLA, is less predictable since it is not an accrued benefit. Industry benchmarks suggest that unpaid leave should equal less than five percent of total pay hours. The chart shows that Metro Transit lost 19,928 operator work hours to non-FMLA AWOP leave in 2008. When FMLA related AWOP is included, the total AWOP hours equal 29,016 hours. This represents 5.6 percent of total operator pay hours. Metro Transit exceeds the industry benchmark in this category. The 29,016 hours of AWOP leave represents 3,627 eight-hour workdays, which is equal to 13.8 work days annually per full-time transit operator.

In 2008, Metro Transit lost 15,282 hours to FMLA leave (including FMLA related AWOP). This represents an equivalent of 1,910 equivalent workdays. This is an average of 7.3 days per full-time operator annually. The Human Resources section of this review showed that Metro Transit is observing similar patterns of FMLA usage among employees when compared to other transit agencies. For comparison, in 2007, Metro Transit lost 16,865 operator work hours to FMLA, which represented 8.0 days per full-time operator annually. MCTS in Milwaukee experienced a rate of 12.8 days lost per full-time operator due to FMLA in 2007. While Metro Transit's experience may be in line with that observed throughout the industry, FMLA usage is a significant concern. The Human Resources section discusses various actions that can be taken to manage the usage of this program.

Since the last audit, Metro Transit and the City of Madison have taken steps to control the amount of AWOP used by Metro Transit employees. The previous contract between the City and Teamsters Union established a progressive discipline process for the use of AWOP.

To implement this program, the Payroll Clerk reports the use of AWOP to a General Transit Operations Supervisor who has been assigned to enforcing the AWOP clauses of the contract. The Supervisor is making use of the newly developed employee database to track infractions. The database has been designed to automatically alert the Supervisor when an operator has reached a milestone in terms of AWOP use that requires disciplinary attention in accordance with the contact. In addition, the Transit Service Manager reviews the amount of

AWOP each pay period and compares the rate to trend data. This allows for the issue to be tracked in a more general sense as well as on the individual level.

In addition, Metro Transit management has undertaken various other measures to address operator availability. To manage the Injured on Duty (IOD), or Worker's Compensation, cases among operators, and ensure that staff returns to work as early as possible, Metro Transit management participates in a City of Madison committee designed to manage these cases. The City of Madison contracts with a medical case management firm to work with city employees on IOD leave. The city holds monthly meetings which management staff persons from the various departments attend. Each current case is reviewed by the department management along with the medical case worker. In addition, Metro Transit assigns a specific Transit Operations Supervisor to each operator out on IOD leave. The Supervisor will attend the monthly meeting with the city to discuss the cases to which they are assigned.

In terms of FMLA usage, the City of Madison does not have a specific contract with a third-party medical consultant to monitor cases. However, on a case-by-case basis, employees will be referred to medical professionals with whom the city works on various matters.

Operator Performance Monitoring – As noted above, Metro Transit attempts to provide refresher training to each of its operators every three years. As part of this refresher training, Metro Transit conducts a performance review of each operator participating in the class. As a part of this process, Transit Operations Supervisors review any accidents or incidents in which the operator may have been involved, the operator's attendance record, as well a review of any customer service complaints or commendations regarding the operator. These issues are discussed with the operator. If necessary, specific follow up retraining may be planned for the individual operator as a result of this review. This program is not a required process and there are no personnel or compensation ramifications.

It should be noted that, overall, the City of Madison has not established annual performance reviews for the employees of any city department.

Status of Prior Audit Recommendations

As a result of the previous audit, three recommendations were made for the Transit Operations function as follows:

- Metro Transit should evaluate the positive and negative impacts from a service, financial, and organizational standpoint of remaining a division of the City of Madison, and assess the pros and cons of re-configuration as a separate corporate identity as a transit authority.

  Metro Transit agrees with this recommendation and has been supporting the efforts to pass legislation in the State of Wisconsin to allow for the formation of Regional Transit Authorities (RTA's). Recent proposed legislation has been

supported by the Governor to allow for the formation of RTA's in the Milwaukee, Madison, and Fox Cities areas.

- Metro Transit should develop a software report incorporating operations indicators for analysis of performance by Transit Operations and other units within Metro Transit. Other unit indicator data currently collected could also be included in the same report for review by SMT (Senior Management Team) and SDC (Service Development Committee) on a regular basis.

  Metro Transit management has initiated a program in which Metro Transit has specific identified goals for performance and other measures, which are developed and agreed upon with the Mayor's office. On a quarterly basis, the Transit General Manager updates the Mayor on the status of each goal. In turn, the Transit General Manager uses these organization wide goals to establish goals for individual units. Each unit head then reports the status of these goals to the Transit General Manager as part of the SMT meetings.

- Metro Transit should change its budget development process to include more direct input from Transit Operations. Metro Transit's Service Development Committee and Senior Management Team should include the issue of peer comparisons in their on-going discussions.

  As part of the budget development process, the SMT meets to determine what steps Metro Transit can take to meet the budget guidance established by the Mayor's office. Based on these meetings, the Finance Unit will prepare draft budgets. In developing these draft budgets, the Finance Unit will meet with each individual unit to discuss the ramifications and requirements of the proposed budget elements.

Based on these findings, it can be concluded that Metro Transit has adequately addressed each of the recommendations for the Transit Operations function made as part of the previous audit.

Conclusions and Recommendations

This review found the Transportation function at Metro Transit to be managed in an effective manner with detailed records maintained regarding certain key data items, such as pay hours by category. This audit makes various recommendations designed to encourage Metro Transit to further incorporate its technology tools into the Transit Operations function, and to improve on already sound practices in areas such as increasing operator availability. The recommendations resulting from this audit are as follows:

- Metro Transit should develop a specific program to monitor overall service quality. This program should establish target levels, data collection procedures, and analysis processes regarding the following:

  - On-Time Performance – Metro Transit does not have an adopted service performance guideline for on-time performance, and on-time performance information is not currently gathered, tracked, or analyzed.

  - Passenger Loads – Metro Transit does have adopted guidelines regarding overcrowding on its services, however, there are no procedures in place to systematically identify and respond to instances.

  - Schedule Adherence – This includes data regarding missed pull-outs and missed trips along with the reason for the miss (i.e., lack of equipment, insufficient staffing, accidents/incidents, operator error, etc.). Metro Transit also does not currently have adopted target levels for these measures.

  - Passenger Experience – Metro Transit should separately track complaints regarding the actual operation of service (i.e., on-time performance, missed trips, trips operated incorrectly).

  - Safety – Metro Transit currently tracks the number of chargeable accidents that involve Metro vehicles. Metro Transit had also established a target of 93 chargeable accidents for 2008; which represented a 20 percent reduction from Metro Transit's 2007 performance in this measure. Metro Transit did not meet this target. However, rather than establishing a set number for overall chargeable accidents, Metro Transit should make use of tracking tools developed by its insurance carrier, Transit Mutual Insurance of Wisconsin. These tools can allow Metro Transit to identify trends in areas such as operators, locations, and situations, etc. Metro Transit can then develop annual targets for reducing the number of accidents resulting from the identified contributing factor through individual operator retraining, staff retraining, routing changes, etc. Metro Transit should also conduct a preventability judgment for all occurrences involving a vehicle, rather than considering certain occurrences as incidents rather than accidents. Metro Transit should also make use of any analysis assistance made available through Transit Mutual Insurance. Also, as more transit systems in Wisconsin use the same tracking tools, overall metrics can be identified to measure general performance (i.e., chargeable accidents per 100,000 miles).

  - Security – Metro Transit should continue to keep detailed records of incidents regarding Metro employees or passengers. This information should be reviewed by the SMT with particular attention to incidents at the five transit centers.

  To the greatest extent possible, this information should be collected through Metro Transit's mobile information technology (i.e., GPS/AVL and APC equipment). The

information collected can be used by the Senior Management Team to determine the overall quality of Metro Transit service. In addition, Metro Transit's performance in comparison to established targets for these measures will provide valuable input to decisions regarding on-street supervision and control staffing levels.

- Metro Transit should formalize its quarterly meeting of Transit Operations Supervisory staff. Metro Transit should incorporate a "how did we do" component into these meetings by reviewing Metro Transit's response to any accidents that may have occurred during the quarter (i.e., how quickly was the incident responded to, how quickly was service restored, how much service was missed), or other disruptions such as major cultural events or weather incidents. Many transit systems with AVL and computer aided dispatch systems have used this equipment to recreate the situation being reviewed to facilitate discussion at these types of sessions.

- Metro Transit should continue its efforts to develop standard operating procedures manuals for operators and Transit Operations Supervisors. The manual for supervisors should specifically address line management techniques. This includes such areas as:

  - Detours
  - Switching and short-routing buses
  - Trouble calls and bus changes

- Metro Transit should continue monitoring and responding to instances of AWOP that require disciplinary action in accordance with the contract. Metro Transit should also continue its policy of assigning a specific Transit Operations Supervisor to each IOD case among Transit Operators. Metro Transit should also continue participating in the city's case management committee.

- Metro Transit currently fills vacant paratransit driver positions with the most senior fixed route driver who has applied. Paratransit service is much different than fixed route operations, and operators need different skills to be effective. It is recommended that Metro Transit closely monitor trends in turnover among paratransit drivers as well as operator's customer service habits with paratransit passengers. If either of these trends warrants concern, Metro Transit should consider adopting an application process for these positions that allows for the evaluation of applicant's compatibility with the duties of the position.

FUNCTIONAL AREA REVIEW
FINANCE

This assessment covers the major functions of the Finance Unit, including accounting, budgeting, treasury and grants management. The evaluation reviews the previous performance audit's findings and includes recommendations for future action.

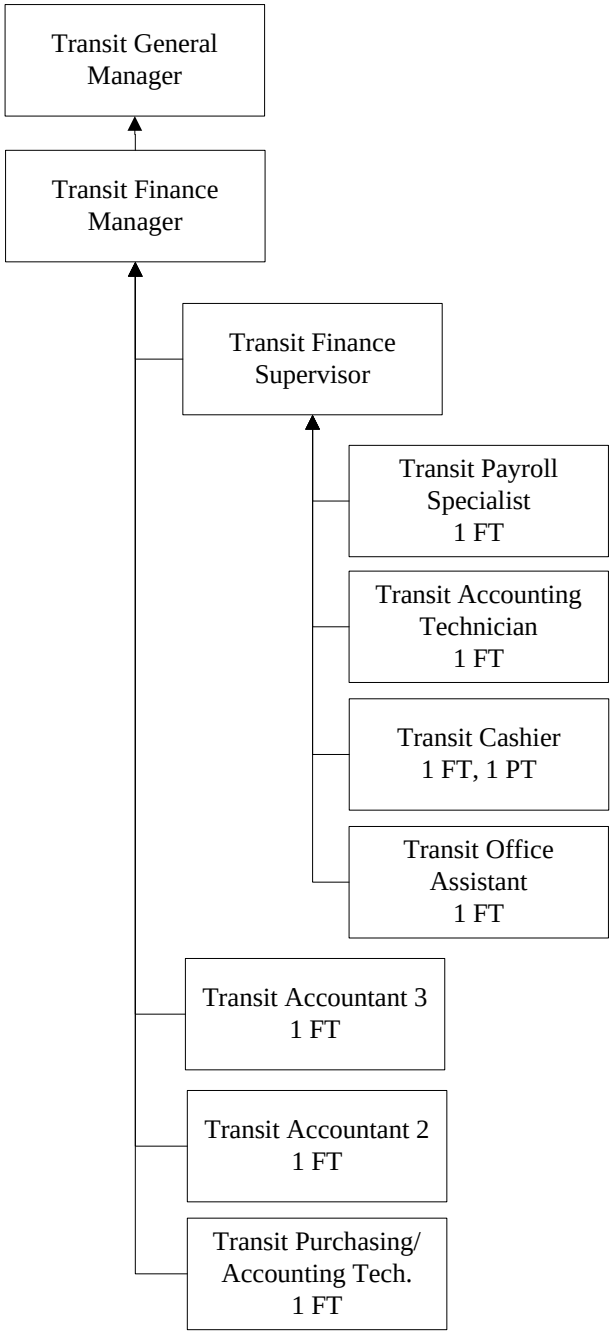
Organization and Staffing

The Finance Unit is lead by the Transit Finance Manager, who reports directly to the Transit General Manager. There are eight full-time equivalent staff positions within the unit, including four direct reports to the Transit Finance Manager. This represents a decrease of one from the last audit. A Transit Employee Relations specialist formerly within the Finance Unit now reports to the Transit Service Manager. The structure of the unit is depicted in Figure 1.

The Finance Unit develops capital and operating budgets; grant applications, and is responsible for financial administration including grant balances, payments, drawdowns, and reporting; sending billings to funding partners as per prior contract arrangements; cash handling from fareboxes and ticket sales; payroll; accounts payable and receivable; fixed asset inventory; periodic financial reports and overall, maintaining appropriate accounting mechanisms to properly process and track all financial transactions related to Metro.

As an operating agency within the City of Madison, Metro Transit uses the City's financial systems, supplemented by certain, defined Metro Transit pre- and post-processing software applications, to make the interface with the City's system work and produce the required reports for both the City and the Finance Unit. However, as will be discussed later, the Finance Unit is currently working with the City Comptroller's office in exploring a new enterprise software package which may ultimately be more seamless in its application. While there have been improvements in the city's software systems over time, and there are presently "work-arounds" in place to allow computer systems to interface, there is a hope that a new system will be produce superior results

Organizational Structure – Finance Function



Metro Transit's Finance Unit develops operating and capital budgets which are then integrated into the City's budget process. The Grants Management function is now well integrated into the Finance Unit and appears to be working well. This is currently the responsibility of the Accountant 3 position. Metro Transit is currently in the process of re-classifying this position as the Transit Grants Program Analyst. Parenthetically, the Finance

Unit employee currently responsible for grants management served, temporarily, as the acting Transit Finance Manager as that position was recently unfilled during a transition period. The existence of this function within the unit provided another important set of senior-level personnel who were able to fill-in during the transition. This review showed that the existence of the Grants Management function within the Finance Unit has improved grants management procedures, including the timely close out of open grants.

Despite some recent transition of leadership within the Finance function, based on this review, it appears that the Finance Unit has put in place the proper procedures and processes to manage the financial systems of Metro Transit successfully. While there is comparatively new management in the position of the Transit Finance Manager, historically the unit has been proactive in responding to recommendations of prior audits that were within this group's control, resulting in incremental improvements within the Unit and with the City of Madison. Officials representing other agencies within the City of Madison, who were interviewed as a part of this review process, expressed appreciation at the close cooperation with which the Finance Unit has approached issues such as the procurement of the new enterprise software system.

Budget

As stated earlier, as an agency within the governmental structure of the City of Madison; the city controls the procedures and timing of Metro Transit's budget preparation. Relevant elements of Metro Transit's budget are described below.

Funding Sources - Within the city, the Metro Transit budget process is somewhat unique, since Metro Transit receives a variety of federal and state funds from outside the city's normal processes, while also receiving capital and operating funds from the city. With regard to operating funding, the State of Wisconsin budgets on a two-year cycle, while the city budget is an annual process. The state budget includes a separate funding process for Madison and Milwaukee, which in recent years has resulted in a cap on the amount of state funding for Metro Transit. Slightly less than 50 percent of the system's transit operating expenses are comprised of federal 5307 funds (for preventative maintenance and limited other purposes) and state operating assistance. A somewhat larger percentage of 5307 funds is currently being used for eligible operations and maintenance-related purposes because of the state funding cap.

The city share of operating funds allocated to Metro Transit has been quite constant, while Metro, over the years, has received increased funding for certain services (e.g. for clients eligible for ADA services) from Dane County. This year, a proposed Metro Transit fare increase has lead to controversy and confusion and ultimately, delay in implementation which, due to the delay, has cost Metro anticipated revenue. In addition, while having engaged in highly beneficial purchase agreements for diesel fuel in past years, the procurement cycle was not favourable to Metro Transit this past year and the city purchased contracts when diesel fuel was quite high as compared to subsequent months. This circumstance has been addressed through the Contingency Fund, which Metro Transit has maintained for some time.

Revenue Sources – Other than traditional passenger fare revenue sources, Metro also has unlimited ride pass agreements with several regional institutions which provide free passes to their employees or students. Metro is very fortunate to have made these mutually-advantageous agreements for a number of reasons and the list of participating institutions has grown since the last performance audit. The list currently includes University of Wisconsin (UW) and UW Hospitals, St. Mary's Hospital, Meriter Hospital and the City of Madison for employees, and UW, MATC, and Edgewood College for students.

In addition, Metro Transit provides transit service in a number of neighbouring municipalities, with which it has service agreements. Metro is compensated for its delivered service based on actual, experienced costs. Costs are estimated at the beginning of the year (based on fully burdened expenses), billed quarterly and then redressed, based on actual, experienced costs, at the end of the year. The institution of a contingency fund for many of these agreements has helped the funding agencies avoid unfunded balances at year's end as any required additional funds are likely to be absorbed by the partner's contingency fund. This allows for a more orderly, less contentious budgeting and authorization process with Metro Transit's municipal partners.

However, discussions with city officials have shown that this process of annual operating agreements with neighbouring communities is not ideal and is not a sustainable model for the regional expansion of Metro Transit service. There have been recent instances in which Dane County provided the unfunded portion of an annual service budget for one of the communities purchasing service from Metro Transit, when that community was unwilling to increase its level of funding. County funding is not guaranteed, and cannot be relied upon for continued service. Therefore, a more stable funding regimen for regional services will need to be addressed if this is pursued more in the future.

Capital Budget - The local share of Metro Transit's capital budget is funded by the city using general obligation bonds with a ten-year life. The capital budget is a five years process. As the city ultimately assumes responsibility for funding the budget's local share, Metro Transit competes with other city departments/divisions in the capital budgeting process. Currently, Metro Transit has budget approval to fund the purchase of 15 buses each year, on average, though 2012. The other projects on Metro's list include building refurbishment, replacement of the bus vacuum system, a variety of comparatively small upgrades to current systems, including a project to place security cameras on all buses and farebox replacement. Although not just a Metro Transit initiative, the replacement of the city's enterprise software system will also benefit Metro Transit, especially in financial systems which must interface with the city's system.

Employee Wages and Benefits - As city employees, Metro Transit employees are entitled to city benefits including longevity pay (applied every third year) and wage/salary increases established by the city through contract negotiations (for represented employees) or otherwise for non-represented employees. Wage increases usually occur annually and identically city-wide. City wage or salary increases are not subject to an annual performance review process for either represented or unrepresented employees. The city entered into a new, two-year collective bargaining agreement with the union representing Metro's hourly employees

(Teamsters Union, Local 695) on January 1, 2008. The contract calls for wage increases of approximately three percent, reduced by a fraction of the cost increase in healthcare premiums above a certain rate. The new contract made changes to the work rules, imposing discipline for abuse of "absence without pay" provisions of the contract. Non-represented Metro employees traditionally receive the same increases negotiated with represented employees, after labor negotiations with all of the various unions representing city employees throughout the City are completed, making the collective bargaining process all the more important.

Organizational Relationship - The relationship of Metro with the city is one with both obvious advantages and disadvantages. While the affect of wage adjustments and particularly unique work rules might make it preferable to be a stand-alone entity, Metro benefits from its relationship with the City in areas such as making use of the City's borrowing capability in underwriting the local share of capital improvements and using the City's size and economies of scale in areas such as fuel purchases and securing insurance. Even in times of national economic stress, Madison as both a university as well as a government town has shown considerable resiliency as a local economy. All parties interviewed as a part of this audit were pleased with the relationship and level of cooperation that Metro has with the city.

Accounting

The City of Madison makes payments on Metro's behalf. As may be expected, the Vehicle Maintenance Unit is the largest purchaser within the agency. Maintenance produces its own purchase orders using Fleetmate software. The City also has provided a Contract Release Order (CRO) process for some vendors, to purchase a variety of items ranging from computer-related supplies to fuel. This can be an effective method to purchase and control frequently-used items, particularly consumables bought in bulk.

Payroll is developed using a spreadsheet approach. Payroll changes are handled on an exception-basis by the payroll clerk within the Finance Unit. While Metro has considered using Trapeze software to develop payroll for processing, this change has not yet occurred.

Treasury

The Treasury functions of cash and revenue control are the responsibility of the Finance Unit at Metro Transit. The duties of the personnel responsible for accounting of fares include counting cash in the cash room, reconciling cash deposited into the vault through the fareboxes, and reconciling the cash return from outlets that distribute the different fare media. They also prepare tickets and passes for delivery to the outlets.

Metro Transit expects to replace its existing fareboxes in 2010 and may be able to retrieve additional revenue data from the new fareboxes. Questions to all parties related to a recommendation for a specific audit of revenue handling included in a previous performance audit revealed no concerns in this area.

Grants Management

Grants administration is also a responsibility of the Finance Unit, which is an organizational change from previous audits. One benefit of this structure has been a greater focus on the number of open grants which has now been reduced to approximately eight. As noted earlier, this is the responsibility of the Accountant 3 position. Metro Transit is currently in the process of re-classifying this position as the Transit Grants Program Analyst.

The capital budgeting function for Metro Transit is the responsibility of the Transit Grants Program Analyst (Accountant 3).

Status of Prior Audit Recommendations

- Continue to resolve shortfalls to City's computer system through new databases and in-house acquisition of new software.

  The city is in the process of specifying a new enterprise software package and Metro has been a party to the process of developing the specification process. It should be noted that Metro was specifically commended for their part in this process. It is expected that the specification-writing process will conclude shortly with an RFP which will be issued in April. While the shape of the final product is not clear at this point, it is hoped that the final, installed product will require fewer custom-developed "bridges" to allow all parties the retrieve the information they require.

- Work with all units, especially operations, in the preparation of Metro's budget.

  In the most recent budget process, all unit heads were met with and prior year results were reviewed as well as current-year trends and anticipated, required expenses.

- Make the city aware of the importance of establishing conservative wage and benefit objectives in citywide negotiations in terms of their effect on Metro's budget.

  The most recent collective bargaining agreement with the Teamsters included a work rule change intended to address abuse of "absence without pay provisions of the prior contract. Recent wage increases, appear to be somewhat above three percent, as calculated for the highest paid operators, reduced somewhat by one-tenth of the year-to-year percent increase in healthcare premiums above 11 percent. In including the provision for reduction by healthcare premium increases, negotiated wage increases for 2009 have been negotiated to be not less than 2.5 percent.

Conclusions and Recommendations

As stated earlier, the Finance Unit, in particular, has had a positive history in being responsive to the results of prior audits. This review found no major issues with the policies and procedures followed to perform this function. The three recommendations resulting from this review are designed to support already sound practices.

- An important budget issue from the current fiscal year relates to the process through which the most recent fare increase was handled. This issue was also addressed in the Policy and Decision Making Process element of this audit. The Policy and Decision Making analysis recommended that all decisions of the Transit and Parking Commission (TPC) which affect Metro Transit's budget should be made in a timely manner and within the timeframe of the city's annual budgeting process. While there are governance benefits to this recommendation, the ramifications to Metro Transit's budget must also be noted. In this instance, the time necessary for political resolution of the issues raised by the proposed fare increase exceeded the needs of the operating agency to begin to receive the additional expected revenue. This can create an unfunded portion of the annual budget.

- While Metro Transit develops a five-year capital plan, there is no specific program to develop an articulated, longer-range vision for the system as a whole. Metro Transit should use the capital planning process to guide an intermediate and long term strategic plan which would be supported by the capital plan. This strategic vision, in turn, could then be used to guide subsequent capital plans. This need for intermediate and longer term strategic planning was also recommended as part of the Planning and Scheduling functional review element of this audit.

- This review did not result in any particular current concerns related to Metro's revenue-handling. A previous management performance audit had included the recommendation for a full security audit of revenue handling. Metro Transit has maintained the position that this is not necessary since there is no indication of any problems. Based on experience throughout the transit industry, it is recommended that Metro Transit develop a program for the ongoing review of this important, and unique, function. The annual CPA audit of Metro Transit could be an important input to this ongoing review program. While making no statement about Metro's veracity and effectiveness in processing and protecting its collected revenue, this is an area worthy of the highest level of vigilance in safeguarding the public's funds.

FUNCTIONAL AREA REVIEW
PERSONNEL AND LABOR RELATIONS

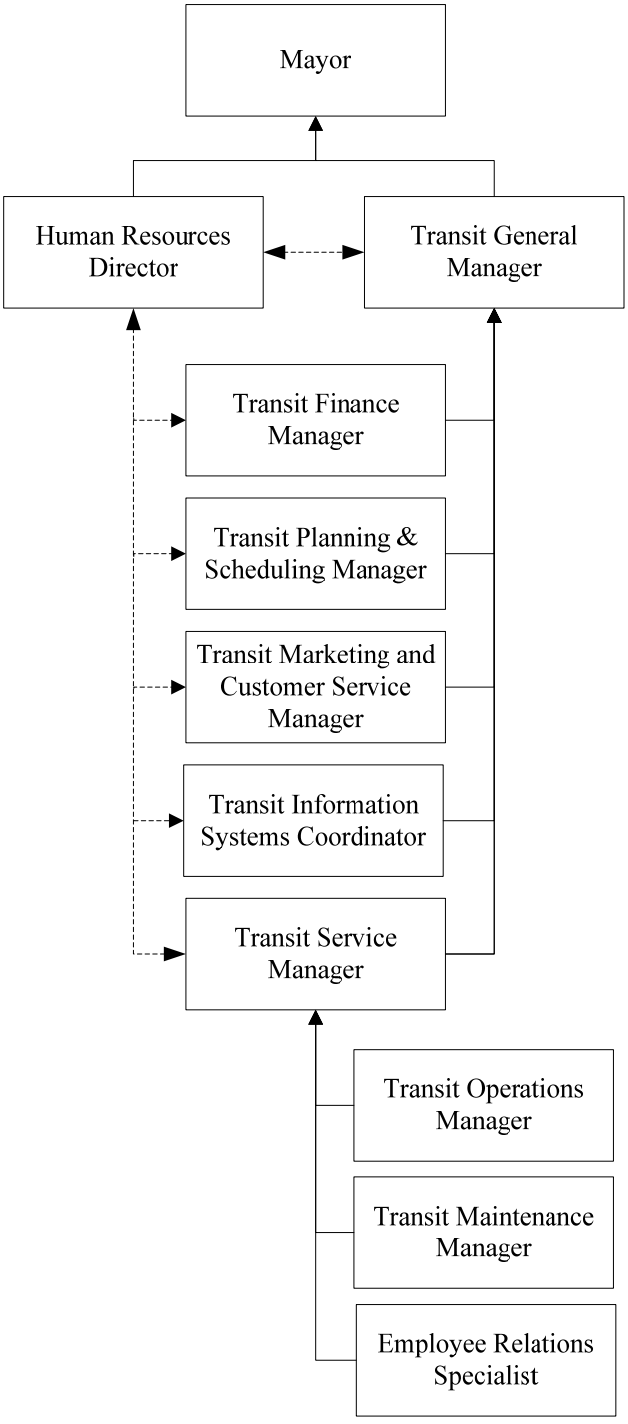
This section includes a detailed review of the Personnel and Labor Relations function at Metro Transit and includes five key areas:

- **Position Management –** policies related to job descriptions, organizational structure, pay scales, monitoring vacancies as well as administering the hiring process.
- **Employee Benefits –** policies related to employee health and welfare benefits.
- **Employee Relations and Staff Development** – policies related to training, performance evaluations, discipline, and availability.
- **Governmental Mandates –** policies related to state and federal laws and regulations (e.g., Drug and Alcohol Screening, and Family and Medical Leave Act).
- **Labor Relations** – policies related to labor contract negotiations and administration.

Organization Structure

Human resources and labor relations functions at Metro Transit are the responsibility of the Transit General Manager, as well as unit heads. In addition, the City of Madison's Human Resources Department provides support or is directly responsible for various tasks.

Organizational Structure – Personnel and Labor Relations Function



Position Management

A primary element of the human resources function is position management. This includes the responsibilities of position definition, department organization, establishing staffing levels, monitoring vacancies, and hiring personnel.

Position Definition - This process begins with the creation of job descriptions and establishing the parameters of each position (i.e., pay scale and applicable union representation). The Human Resources Department works with Transit General Manager and appropriate Metro Transit unit heads to develop job descriptions. Human Resources will also work with Metro Transit management to update job descriptions when necessary. Human Resources is also responsible for determining appropriate salary levels for each position based on labor contracts, similar positions in other city departments, or through compensation studies when necessary. The Human Resources Department then maintains the most recent copies of all job descriptions.

Department Organization – Any re-organization efforts are managed within Metro Transit. The Transit General Manager is responsible for creating and updating the organization structure of the various units and positions, along with input from the unit heads. The city's Human Resources Department also provides guidance and assistance in these efforts.

Metro Transit's current organization chart includes five direct reports to the Transit General Manager (not including the Administrative Services Coordinator). These five direct reports include the: Transit Service Manager; Transit Finance Manager; Transit Marketing and Customer Service Manager; Transit Planning and Scheduling Manager; and the Transit Information Systems Coordinator.

The Transit Service Manager administers the largest unit within Metro Transit. Direct reports to the Transit Service Manager include the Transit Operations Manager, Transit Maintenance Manager, Paratransit Program Manager, and the Employee Relations Specialist.

The most recent reorganization was performed by Metro Transit in 2008. As part of this reorganization, the Transit Operations Unit was re-aligned in terms of reporting and a new level of Transit Operations Supervisors was created.

Establishing Staffing Levels – For each of the staff positions within each unit, a staffing level is determined. This is a budget driven number. The budgeted head count for each position is established by the annual budget prepared by Transit General Manager and the Senior Management Team.

Monitoring Vacancies – Using the budgeted staffing levels, each unit monitors whether or not all budgeted positions within the unit are filled with current employees. If the number of current employees is fewer than the budgeted number, the applicable unit head, along with input from the Transit General Manager, will initiate the hiring process for the appropriate position. In the Transit Operations Unit, the Transit Operations Manager projects upcoming vacancies by monitoring terminations, retirements, and staffing needs determined by the schedules. For

Vehicle Maintenance, the Transit Maintenance Manager monitors upcoming vacancies. The hiring process begins when a unit head files a requisition, or "cert", with the Human Resources Department requesting that a vacant position be filled.

Hiring Personnel – The Human Resources Department plays a significant support role in the hiring of Metro Transit personnel. When a requisition for a new hire is submitted to Human Resources, a Personnel Analyst will check the position control file and, along with input from Metro Transit, make any necessary updates to the job classification. The Personnel Analyst will then develop a hiring strategy for the position. The strategy will include the posting of the position, establishing selection criteria, identifying an interview committee, developing or updating interview scripts, and determining any other requirements. The development of the strategy is completed with the input of appropriate Metro Transit staff.

The Human Resources Department is responsible for publicizing the vacancies. In many instances, this must be done in a manner consistent with negotiated labor contracts. After posting the position, Human Resources will accept and screen all applications. In the case of Transit Mechanics and Transit Operators, who are required to take certain tests as a part of the application process, Human Resources will schedule the test for the qualified candidates.

After application screening, and any required tests are completed, the Personnel Analyst will rank the applicants based on established scoring criteria. The Analyst will then provide Metro Transit with the top four ranked candidates for the first vacancy, and the subsequent two ranked candidates for any additional vacancy for the same position.

Metro Transit is then responsible for conducting interviews. These are typically conducted by an interview committee consisting of appropriate staff persons. In the case of Transit Operators, the committee currently consists of:

- One Transit Operations General Supervisor
- One Transit Operations Supervisor
- One Driver Trainer

The interview follows a set of established questions. Metro Transit is responsible for developing the interview script. The Human Resources Department provides guidance in the development of the script and must also approve the list of questions for legality.

Each candidate is then ranked bases on scoring criteria established for the interview process. The appropriate Metro Transit staff persons then make the selection of the candidate. This is then communicated to Human Resources who reviews the scoring and selection process.

One issue that can be difficult for transit agencies is maintaining staffing levels in the operations area. When turnover is high in the operations area, the hiring process for operators can be continuous, which can result in understaffing. The table below shows that the number of operations employees at Metro Transit has remained stable over the past five years. The number of operations employees (which includes full and part-time fixed route vehicle operators,

paratransit operators, and transit supervisors) ranged from 332 to 339 between 2004 and 2008. This is a range of 7, which represents 2.1 percent of the average. Also, on average, 21 vehicle operations employees will either retire, resign, or be terminated throughout any given year. This is an average turnover of approximately 6.3 percent, which represents a highly stable employee group. The five year trend data also shows that there has not been wide variation in the number of operations employees leaving in any given period. The total number of retirements, resignations, and terminations has ranged from a minimum of 18 to a maximum of 23 during the five year period. As a result, the number of operations employees that need to be hired during any given year has also remained stable ranging from a minimum of 18 to a maximum of 29 in any one year.

Turnover – Metro Transit Operations Employees
2004-2008

Year	Number of Vehicle Operators	Retirements, resignations, terminations	New Hires
2004	335	23	28
2005	332	18	18
2006	333	19	19
2007	336	23	29
2008	339	21	23
Average	335	21	23
Minimum	332	18	18
Maximum	339	23	29
Range	7	5	11

This indicates that Metro Transit has experienced a stable turnover in operations, allowing for a predictable level of hiring on an annual basis. The figures above also indicate that Metro Transit has been able to hire operations personnel when needed, and maintain its staffing level. It should be noted, these figures represent year-end totals. Therefore, there may have been periods within any given year during which Metro Transit was understaffed in the operations area. This was the case in 2008 when Transit Operations was delayed in hiring and training a class of new operators. This resulted in a short-staffed situation for a period of several months, resulting in a higher than usual reliance on unscheduled overtime pay hours.

Employee Benefits Management

Another major task addressed by the city's Human Resources Department is establishing and administering employee benefits programs. These include:

- **Health Insurance** – Metro Transit employees have access to the State of Wisconsin Public Employees Health Insurance Plan which allows them to select from among four Health Management Organization (HMO) options. The City of Madison contributes an amount equal to 105 percent of the premium of the lowest cost option available in Dane County towards the employee's monthly premium.

- **Dental Insurance** – Employees have the option of participating in a dental insurance program. The employee can opt to make a payroll deduction in an amount equal to 100 percent of the monthly premium. The city makes no contribution.

- **Life Insurance** – The city provides life insurance benefits to Metro Transit employees.

- **Pension** – The city pays the full cost of all contributions required to be made to the Wisconsin Retirement System for represented employees, and also makes a contribution for non-represented employees.

- **Employee Assistance Program** – The city also makes an Employee Assistance Program (AEP) available.

All benefits programs for Metro Transit employees are consistent with those offered to all City of Madison employees.

Retired employees represented by Teamsters Union Local 695 can continue their health insurance benefits. Retirees who are at least 55 years old and have completed ten years of continuous service with the city are eligible for health care benefits for a period of five consecutive years, or until they become eligible for Medicare. This is funded through an escrow account capitalized through a fixed amount annual deposit by the city which is established in the negotiated contract with the Teamsters Union Local 695. The city will then continue to contribute an amount equal to 105 percent of the premium of the least expensive HMO option available to Metro Transit employees towards the retiree's monthly premium. This contribution is only paid if funds are available in the escrow account and the retiree has paid their portion of the premium in advance.

Employee Relations and Staff Development

The next group of tasks typically related to the Human Resources function concern the Metro Transit's relations with its employees and practices designed to maintain and develop the skills of its staff. This includes policies and procedures related to training, performance evaluations, employee availability, and the disciplinary process.

Training and Skills Development – Much of the training of Metro Transit employees is done by the applicable unit. This includes initial training and retraining of Metro Transit operators, Operations Supervisors, and Mechanics by the Transit Operations Unit. The training and retraining programs for Transit Operators are described in the review of Transit Operations. Maintenance training for existing employees makes use of NTI courses and vendor-supplied materials and courses generally for new equipment. New maintenance employees are trained by senior mechanics who volunteer to instruct the new employees.

Metro Transit does not have any established staff development program. Much of the staff development training is provided by the city's Human Resources Department which conducts training in various areas such as management, computer skills, and customer service. Metro Transit employees are eligible to participate in these training sessions.

The Human Resources Department also conducts a Management Academy which is required for all new supervisory employees in all City of Madison departments.

Employee Performance Evaluation and Progression – Currently, Metro Transit does not have any adopted program for the evaluation of its employees. This is the case for most City of Madison departments. The only program that Metro Transit has is a retraining program for all of its Transit Operators. Metro Transit attempts to provide retraining for each of its operators every three years. As a part of this retraining, a Transit Operations Supervisor will meet with the individual operator and review that operator's record in terms of attendance, complaints and commendations, and accidents, to provide the operator with some indication of performance. This program is not required and has no ramifications in terms of advancement or salary.

Monitor Employee Availability – The overall availability of certain operations employees has significant cost ramifications for a transit agency. This is due to the fact that much of the operations work must be covered whether or not a regularly scheduled employee is present. If they are not, in many instances the work must be covered with additional employees or existing employees working overtime. At Metro Transit, monitoring employee availability is not centralized in the Human Resources Department, but instead, is addressed by the individual departments. For Transit Operations, the Transit Service Manager and Transit Operations Manager are responsible for calculating and monitoring operator availability. This is used to determine staffing needs and recommended schedule attributes. The Transit Operations Manager tracks information used to calculate availability. This includes pending retirements, terminations, and information regarding the amount of operator work days lost from approved absences covered under the Family and Medical Leave Act (FMLA) as well as approved and non-approved absence due to "Absence without Pay" (AWOP) leave.

At Metro Transit, the use of AWOP leave is significant. The table below provides some relevant figures.

AWOP Use among Metro Transit Employees
2004-2008

Year	Total City Employees	Metro Transit Employees	% Metro	Total AWOP (Hours)	Metro AWOP (Hours)	% Metro
2004	2,736	439	16.0	85,436.54	39,215.26	45.9
2005	2,740	439	16.0	88,304.18	46,865.36	53.1
2006	2,730	439	16.1	73,712.94	37,250.69	50.5
2007	2,755	439	15.9	79,740.93	39,347.58	49.3
2008	2,774	439	15.8	81,152.56	39,315.28	48.4

As the table shows, in 2008, Metro Transit accounted for 15.8 percent of all City of Madison employees, but represented 48.4 percent of all AWOP leave used by city employees. Since 2005 this trend has been declining slightly, but the amount is still disproportionate. Also, assuming an 8 hour work day, the 39,315 hours of AWOP leave represents 4,914 workdays, which is an annual average of 11.2 workdays per employee annually.

Metro Transit has begun to address the use of AWOP among its employees. The most recent contract between Metro Transit and the Teamsters Union Local 695 establishes a discipline schedule for incidents of AWOP use by employees. The contract stipulates that any employee with three (3) or more instances of AWOP in any quarter is subject to progressive disciplinary action under the following schedule:

Violations in One Quarter	Action
First	Verbal Warning
Second	Written Warning
Third	One (1) Day Suspension
Violations in One Year Period Following Quarter with Third Violation	
Fourth	Five (5) Day Suspension
Fifth	Ten (10) Day Suspension
Sixth	Discharge

The contract clauses concerning AWOP proscribe this disciplinary schedule based on the number of violations in one quarter, Also the stipulations for AWOP specifically state that “on a quarterly basis”, pre-determination hearings will be held with employees with three or more

instances. After the employee has had a quarter in which they used unexcused AWOP leave more than three times, they face progressive disciplinary actions for each violation over the next twelve (12) month period. This begins a revolving twelve month period, and an employee must then go a period of twelve months without any instances of AWOP to start the process over.

This schedule in the contract would allow an employee to be absent without pay for eight (8) days throughout the year without any disciplinary action more significant than a written warning, as long as they never used AWOP more than twice in one quarter. The data from the table above shows that in 2008, the average AWOP use per Metro Transit employee was 11.2 days. This indicates that there is a significant level of violation of this policy among Metro Transit employees.

Administer Employee Discipline Process – Metro Transit's policies and labor contract specify certain actions or milestones which warrant disciplinary action. The disciplinary process includes a progression of verbal and written warnings through suspension and ultimately termination. Individual unit heads track the performance of their employees in terms of actions or milestones. This tracking is becoming more computerized with an employee relations database developed in-house by Metro Transit's Information Technology Unit. This database will act as a central source for information regarding employees including:

- attendance history;
- disciplinary history;
- communications from supervisory staff;
- accidents/incidents;
- complaints and commendations; and
- training history

When fully implemented, the employee relations database will be used to keep record of all conversations, corrections, and verbal warnings issue by supervisors to employees. Any corrective direction communicated to the employee by the supervisor will be recorded. This would include the results of any complaint investigations.

In the Transit Operations Unit, Transit Operations General Supervisors have the authority to initiate the first step of any discipline process on their own. Once a disciplinary action reaches the level of an employee suspension, the Transit Operations Manager will administer the process.

This database has also been incorporated into the procedures used to enforce the contract provisions regarding AWOP use. After each payroll period, the Payroll Clerk provides each supervisor with a list of employees who have used unexcused AWOP during that period. The supervisor will then enter that information into the employee relations database. To monitor AWOP among vehicle operators, the Transit Operations Unit has assigned a designated Transit Operations Supervisor to monitor AWOP use. This Supervisor will make use of the database to identify any violations requiring action.

In all areas of discipline, the city's Human Resources Department provides guidance to supervisors regarding disciplinary actions when requested. Also, when the termination of an employee is in question, the Human Resources Department will oversee any investigations to ensure legality and consistency.

Governmental Mandates

As a publicly funded agency, Metro Transit must comply with various employee related programs mandated by the federal or state government. This section describes the policies and procedures followed by Metro Transit to comply with the employee drug and alcohol screening program mandated by the U.S. Department of Transportation. Also, similar to all employers of a particular size threshold, Metro Transit is required to provide the benefits specified under the Family and Medical Leave Act.

Employee Drug and Alcohol Screening Program - As a requirement of this program, Metro and its contractors must have adopted and implemented a drug and alcohol testing program that meets the regulations outlined in Title 49, Part 655 of the Code of Federal Regulations (49 CFR Part 655). The testing procedures that are used by Metro Transit and its contractors must meet the requirements of Title 49, Part 40 of the Code of Federal Regulations (49 CFR Part 40). These drug and alcohol testing regulations apply to all safety sensitive employees of Metro Transit and its contractors. Employees who meet the following criteria are considered to be safety sensitive:

- operating a revenue vehicle including when not in revenue service;
- operating a non-revenue vehicle when required to be operated by a holder of a Commercial Driver's License (CDL);
- controlling dispatch or movement of a revenue service vehicle;
- maintaining, repairing, overhauling, and rebuilding a revenue service vehicle or equipment used in revenue service; and
- carrying a firearm for security purposes.

The following paragraphs describe the attributes of the Drug and Alcohol Testing program at Metro Transit.

- **Organization and Staffing –** Elements of the Drug and Alcohol Testing Program is administered by the Human Resources Department. In addition, the Transit Service Manager at Metro Transit is responsible for the implementation of the program at Metro Transit. The Transit Service Manager also monitors the compliance of Metro Transit's paratransit contractors.

- **Random Screening Procedures –** The Human Resources Department maintains the list of safety sensitive employees for all departments of the City of Madison. As this

list is updated, the Human Resources Department supplies the list to Meriter, which acts as a third party administrator. Meriter selects the random sample of employees to be screened. This is then sent to the Human Resources Department. Human Resources schedules the screening with the test center and then sends the list of selected employees to Metro Transit. Metro Transit then instructs the selected employee to proceed to the test center as the report to work on the given day.

- **Post Accident Determinations -** An important part of the drug and alcohol program involves the decision making process used to make determinations as to whether or not to test following an accident. These decisions at Metro Transit rest with the Transit Operations Supervisor at the scene of the accident. Metro Transit's post accident testing procedures are consistent with FTA regulations in that Metro Transit conducts post accident tests in all cases involving a fatality. Also, unless the employee's actions could not have contributed to the accident, tests are conducted in cases where individuals involved need medical transport away from the scene and cases where disabling damage to the vehicles is involved.

- **Testing Levels** – Metro Transit and its contractors are required to ensure that, at a minimum, their programs include provisions for conducting drug tests for the following circumstances: pre-employment, random, reasonable suspicion, post-accident, return-to-duty, and follow-up. In addition alcohol testing also must be conducted for the aforementioned circumstances, with the exception of pre-employment. For random drug tests, Metro Transit must ensure that it conducts a number of tests throughout the calendar year that is equal to or greater than 25 percent of the safety sensitive workforce. Similarly, the number of random alcohol tests must be equal to or greater than 10 percent of the safety sensitive workforce. The table below shows that Metro Transit has consistently met this threshold. The requirement for random drug screenings decreased from 50 percent of the safety sensitive pool to 25 percent effective in 2007. For this reason, the level of screenings dropped during that annual period.

Random Testing Figures

Year	Safety Sensitive Employees	Drug Tests Completed	% of Pool	Alcohol Tests Completed	% of Pool
2004	411	201	48.9	46	11.2
2005	408	195	47.8	46	11.3
2006	403	192	47.6	44	10.9
2007	409	100	24.4	35	8.6
2008	408	112	27.5	47	11.5

As required, Metro Transit also has a specified program for monitoring the compliance of their contracted paratransit operators. Compliance and reporting are required as part of the service contract with the MCTS.

Family and Medical Leave Act – It is also the responsibility of the Human Resources Department to administer and monitor employee leave benefits as stipulated in the Family and Medical Leave Act (FMLA). The Human Resources Department has one Compensation and Benefits Specialist designated for the administration of this program. At Metro Transit, the Employee Relations Specialist is responsible for the initial screening of applications, as well as the advising of employees.

The Employee Relations Specialist conducts the initial screening to determine the employee's eligibility as well as the eligibility of the purpose of the leave requested. After approval by the Employee Relations Specialist, the application is then reviewed by the applicable unit head and then approved by the Transit General Manager.

The application is then forwarded to the Human Resources Department where the designated Compensation and Benefits Specialist makes a determination of the eligibility of the application. This Compensation and Benefits Specialist also advises City of Madison employees and supervisors about FMLA and its applicability to given situations.

Due to the ambiguity of the FMLA, the benefits extended under the law can be applied to numerous situations. In addition, employees are becoming more aware of the benefits extended under the law. As a result, FMLA has become an increasingly significant cost and administrative burden to mid and large sized transit agencies throughout the country. A June 2007 U.S. Department of Labor report, *Family and Medical Leave Act Regulations,* quoted officials from the Port Authority of Allegheny County which stated that the percent of employees making use of FMLA benefits increased from 6 percent in 2002 to 11 percent in 2006. NJ Transit reported that 9.0 percent of their employees made use of FMLA in 2006. This report also presented a calculated estimate that 6.5 percent of employees eligible for FMLA benefits make use of approved leave. The report also noted that certain industries seem to be

affected more by FMLA than others. This is evident in the discrepancy between the estimated national usage average and the usage rates reported by the transit properties.

The U.S. Department of Labor report *Family and Medical Leave Act Regulations* also documented the increasing use of FMLA leave by covered employees. The report quoted officials from Dallas Area Rapid Transit (DART). DART reported that FMLA usage among employees increased from 1,965 workdays in FY 2003 to over 6,100 in FY 2006. This is an increase of 210 percent over a four year period.

At MCTS in Milwaukee, there was a total of 76,459 hours of FMLA leave taken by employees in 2007. That represents approximately 9,560 work days, or approximately 9.0 workdays per employee. This was an increase from 69,234 hours (or approximately 8,650 days) in 2006. The 2007 figure represents an increase of 10.4 over 2006.

The table below provides similar trend numbers for Metro Transit. As the table shows, Metro Transit has experienced a much lower incidence of FMLA use among its employees, 4.3 workdays per employee in 2008. This is down from 5.3 in 2006. Along with this information, data provided in the Transit Operations review would indicate that FMLA usage is much more prevalent among transit operators than other categories of employees. While, on average, Metro Transit employees used 4.3 workdays of FMLA annually, data presented in the Transit Operations review showed that transit operators used an average of 7.3 workdays of FMLA in the same year.

FMLA Trend – Metro Transit Employees
2006-2008

Year	Hours Lost for FMLA Leave	Workdays Lost per Employee for FMLA Leave
2006	18,727.67	5.3
2007	16,846.82	4.8
2008	15,281.54	4.3

The trend figures indicates that not only is FMLA use less among Metro Transit employees, but the trend is stable to declining, rather than increasing like at other transit systems. One explanation for this finding could be the significant use of AWOP among Metro Transit employees discussed earlier. Between the average of 11.2 workdays of AWOP per Metro Transit employee, and 4.3 workdays of FMLA leave, Metro Transit experiences an average loss of 15.5 workdays annually per employee from these two categories of leave.

While the use of FMLA among Metro Transit employees is lower than what has been seen at other transit systems, use of the leave may increase as more employees are disciplined for excessive use of AWOP leave. Due to the nature of the law, the most effective ways for Metro Transit to limit the impacts of FMLA leave on their operations is to (1) ensure that all approved

leaves are, in fact, covered under the FMLA regulations, and (2) ensure that employee's leaves are not longer than necessary.

The first of these two strategies is addressed by the fact that FMLA application processing is addressed by a single dedicated staff person. Due to this specialization, this staff person can gain a level of expertise in the act that is necessary to make accurate determinations of eligibility. The Employee Relations Specialist at Metro Transit processes all FMLA applications prior to the applications being forwarded to the city Human Resources Department. At Human Resources, the Compensation and Benefits Specialist responsible for FMLA receives continuous training on the issue to ensure the needed level of expertise.

In terms of the second strategy, the City of Madison and Metro Transit have begun to effectively address the number of cases of employees out on IOD (Injured on Duty) leave by assigning a Metro Transit supervisor to each case as well as through the city's hiring of an outside medical consulting firm to provide case management services for city employees out on IOD leave. The case managers will continuously review and monitor each employee's situation to determine if anything can be done medically or otherwise to allow the employee to return to work. The case managers and the applicable supervisors attend a monthly meeting to review each case and develop action steps that need to be taken. The city has not yet hired a third party medical group to provide similar review of FMLA cases. The city does, however, consult medical professionals on a case by case basis.

Labor Relations

This section addresses the labor relations function at Metro Transit and includes the separation of duties, labor contract negotiations, current labor contract elements, contract interpretation and application, as well as grievance processing.

Separation of Duties - Labor relations for union personnel belonging to Teamster Local No. 695 are handled by the unit heads in Marketing and Customer Service, Planning and Scheduling, and Finance (or their designees), and by the Transit Service Manager, Transit Operations Manager, and Maintenance Manager for union personnel in the Transit Operations and Transit Maintenance units. Grievances are settled by a joint union-management committee. Metro Transit management is represented on the committee by the Transit General Manager, Transit Service Manager, and Operations and Maintenance Managers, with participation by other unit heads when appropriate. Union negotiations are conducted with Teamster Local No. 695 by the Transit General Manager and the City Labor Relations Manager negotiating on behalf of Metro Transit.

Labor relations for non-represented (i.e. non-union) employees are handled by Unit Managers. Non-represented personnel are composed of two Compensation Groups - #43 (2 confidential employees only) and #44 - composed of all other professional and management staff at Metro Transit. Comp. Group 43 and 44 employees belong to voluntary professional groups city-wide and are required to live in Dane County. Comp. Group 43/44 employees, together

with other city personnel of comparable pay status, have their voluntary associations perform consensus bargaining for raises and benefits with the Mayor's office. Employees in Compensation Groups 43 and 44 are entitled to longevity pay as are all other city employees.

Labor Contract Negotiations – The City of Madison enters into multi-year labor contracts with the Teamsters Union Local 695. In preparation for negotiations, the Human Resources Director will work with the Transit General Manager and appropriate unit heads to develop proposals for negotiations. During negotiations, the city's Labor Relations Manager, which is a position within the Human Resources Department, acts as the chief spokesperson for the Mayor and the City of Madison. Throughout the negotiations, various Metro Transit staff members such as the General Manager, Transit Finance Manager, Transit Service Manager, or the Planning and Scheduling Manager will be called upon to determine cost implications of proposals forwarded by the union. Counter proposals will also be developed with input from applicable staff.

The Human Resources Director is responsible for developing proposals for wages and benefits. These elements are based on similar wages in other city departments and peer cities, as well as from guidelines provided by the Mayor's office.

Labor Contract – The City of Madison entered into a labor agreement with the Teamsters Union Local 695 in 2008. The term of the current contract is for two years; from January 1, 2008 to December 31, 2009. However, this current contract was not ratified by the union and the city until late 2008. Negotiations for the next contract have already commenced. Therefore, Metro Transit and the city have, in effect, will have been in contract negotiations with the union almost on a continuous basis for two years. Relevant elements of the current contract include:

- **Transit Operator Wage Rates** – Operator wages and benefits are the most significant cost drivers of the operating expenses of a transit system. Metro Transit's contracts with the Teamsters Union Local 695 have established five salary steps among operators. Over the two year term of the current contract, the wage rates will increase as indicated in the accompanying table.

Transit Operator Bi-Weekly Pay

Step	Tenure	Figures in dollars ($)		% of Top Rate
		1/1/2008	1/1/2009	
1	0 - 6 months	1,354.76	1,395.40	75
2	6 - 18 months	1,445.07	1,488.42	80
3	18 – 30 months	1,535.39	1,581.45	85
4	30 – 42 months	1,625.68	1,674.45	90
5	42 months +	1,806.34	1,860.53	100

The negotiated annual wage rate increase was for 3.0%. However, the contract provides for reductions in wage rate increases if the annual increase in monthly health insurance premiums exceeds a particular percentage threshold. Metro Transit employees are also eligible for longevity pay which is awarded on the following schedule:

Longevity Bonus Schedule

Continuous Service Tenure (upon completing)	Figures in percent (%)	
	Added to Base Pay	Total Bonus
48 months	3.0	3.0
108 months	3.0	6.0
156 months	2.0	8.0
180 months	1.0	9.0
204 months	1.0	10
228 months	1.0	11.0
288 months	1.0	12.0

Longevity pay is a benefit extended to all City of Madison employees.

- **Part-Time Operators** – The contract allows Metro Transit to employ part-time transit operators. However, the contract limits the use of these operators to school related services operated under an agreement between Metro Transit and the Board of Education. The contract does allow these operators to also be used for some regular route service. However part-time operators can only operate vehicles used to

supplement, not supplant, regular route service. Specific allowable circumstances are described in the contract. The contract also stipulates that the number of part-time drivers employed at any time cannot exceed a figure equal to 15 percent of the full-time operator positions in the city's budget for Metro Transit.

Part-time operators earn the hourly rates established for full-time operators, as described above. Part-time operators are not eligible for the benefits programs stipulated in the contract.

- **Labor Work Rules Comparison** - The most recent labor contract between Metro Transit and the Teamsters Union Local 695 did not make any major changes to work rules that existed in the contract that was in place at the time of the previous management audit. Since work rules concerning transit operators are a key component of the transit system's operating expenses, key elements concerning transit operators are summarized below.

  - Pull-Out Time – Metro Transit pays 15 minutes for report time on an operator's first pull out of the day, and 10 minutes on any subsequent pull-outs. Report time pay of 10 minutes is more typical throughout the industry.

  - Turn-In Time – Metro Transit does not pay turn-in time. This is typical throughout the industry since transit operators are rarely required to "turn in" materials at the end of their shift anymore.

  - Overtime Policy – Metro Transit provides for a wage rate of "time and a half" for working more than 40 hours per week. Leave time used during the period is included in the calculation of 40 hours.

  - Evening and Sunday Premiums – Transit Operators are paid an hourly rate of their applicable base pay plus $0.35 for all hours worked between 6:00 PM and 6:00 AM. Also, all employees performing work on Sunday are paid an hourly rate of their applicable base pay plus $0.50. While evening and Sunday pay premiums are common for shop employees, these premiums are no longer common in the industry for vehicle operators.

  - Spread Time - The contract establishes that operators will be paid time and one-half for all hours exceeding a spread of 11.5 hours. Typical spread time premiums in the transit industry range from 11.0 to 13.0 hours. states that no more than 12 percent of scheduled runs shall have a spread time of more than 12.5 hours on a weekday or 10.5 hours on weekends or holidays, and no runs shall exceed 13.0 hours on weekdays or 12.5 hours on weekends or holidays; two of the other systems state that the spread time shall not exceed 11 hours, while the other system's spread time shall not exceed 13 hours.

Labor Contract Interpretation and Application – After negotiated contracts are in place, it is necessary to ensure that all management employees are interpreting and applying the contracts in a consistent manner. Therefore, it is necessary to train managers on how to administer and implement the contract provisions. This includes group training sessions as well as continuous consulting.

The Human Resources Department provides training for all supervisory staff persons. This training is done upon hire when new supervisory employees participate in the city's Management Academy. New supervisors are trained on how to interpret existing contracts and how to handle situations with represented employees. Also, the Labor Relations Manager provides ongoing guidance to supervisors on how to interpret and apply contract provisions.

Grievance Procedure - Metro Transit's labor contract with the union provides a process by which employees or the union can address grievances with the organization in an orderly and formal manner. The grievance procedure has three possible steps. In each step, the grievance is reviewed by a different group or individual as follows: 1) the applicable supervisor; 2) the Joint Employer and Union Grievance Committee; and 3) an arbitrator. Maximum time periods for review and action for each step are stipulated in the contract.

The Labor Relations unit of the city's Human Resources Department becomes involved during the second stop of the grievance process. The Labor Relations unit will represent Metro Transit at the hearing of the Joint Employer and Union Grievance Committee, and will also prepare any necessary briefs. In addition, the Labor Relations unit will represent the city during arbitration. After the settlement of grievances, after any step, the Labor Relations unit provides guidance into the implementation of the grievance decision.

Between 2004 and 2008, Metro Transit had 192 grievance cases filed, which represents an average annual figure of 48 cases. The number of grievances filed was higher in 2004 and 2007 than in other years. Both of these years were periods leading up to the commencement of labor negotiations between Metro Transit and the Teamsters Union. It is common for the number of grievance cases to spike prior to negotiations taking place. This is due to the fact that both management and labor would like to clarify certain points for the purposes of the negotiation.

Grievance Cases
2004-2008

Year	Cases Filed
2004	53
2005	38
2006	27
2007	44
2008	30

Total	192

Metro Transit plans to use the employee relations database, described above, to track grievance history.

Status of Prior Audit Recommendations

The previous audit included one recommendation for the personnel and labor relations function:

- Metro Transit should pursue the goal of developing an annual evaluation process within Metro Transit. Annual evaluations, whether used with pay for performance programs, or whether used as a management tool, have been proven to be effective management tools in communicated with employees, including promotions and disciplining.

  Metro Transit has continued its program of providing an evaluation to each of its operators as part of the refresher training course. Each operator receives this retraining and evaluation once every three years. Metro Transit has not developed an annual evaluation process for any of its employees. An official employee evaluation process is not a policy that has been adopted at any City of Madison departments.

Conclusions and Recommendations

This review found the personnel and labor relations function at Metro Transit to be addressed in an effective manner between internal Metro Transit staff and support from the City of Madison's Human Resources Department. The separation of duties within this function allows for the timely execution of the necessary tasks. The following recommendations are designed to assist Metro Transit improve on already sound practices.

- It is the intention of Metro Transit to use the newly developed employee relations database to track all data regarding grievances. Data regarding the trend and result of grievances was requested as part of this audit and, while the information was available, the compilation was not convenient and readily accessible. The employee relations database should be designed in a way to allow for queries of the number of cases filed and the number advanced to each step. The database should also track the employee, supervisor, unit, and contract clause in question. The database should also allow for reports providing the number of grievances settled, withdrawn, and the number advanced to arbitration along with the result of arbitration (i.e., upheld or denied). Reports should be run from this database on a regular basis to identify any trends in terms of increased grievances from a particular unit. In addition, the

database can be a valuable tool in preparation for contract negotiations. This tool will allow for the identification of any contract clauses which have resulted in an inordinate number of grievances. It could then be a goal of the negotiations to seek more definitive language in that particular clause in subsequent contracts.

- The contract between Metro Transit and the Teamsters Union Local 695 stipulates that part-time transit operators can only be assigned to service that is operated under contract with the School District. In addition, the contract provides a particular staffing level for part-time operators which cannot be exceeded. Typical practice in the transit industry is to stipulate a specified number or percent of allowable part time operators. It is also common to stipulate the maximum number of hours which part-time operators can work. However, most contracts do not limit the type of service to which these employees can be assigned. In future contract negotiations, Metro Transit should pursue more flexibility in the use of part-time transit operators, while maintaining limits on allowable staffing level and work hours.

- The contract also provides for premium wages for transit operators operating Sunday and evening service. While Sunday and overnight shift premiums are common in the transit industry for shop employees, these types of premiums are not common in the industry for transit operators. Longevity pay is an additional benefit of City of Madison employees which is not typical among the industry. While some transit agencies stipulate longevity bonuses in their contracts, Metro Transit's is more generous than what is typically seen in the industry.

- Metro Transit should continue its efforts to implement the employee relations database and incorporate the tool into management procedures to the greatest extent possible.

- This review showed that Metro Transit is experiencing a lower rate of FMLA usage among its employees than is being seen at other transit agencies. This may be due to the availability of AWOP. As AWOP use is addressed, FMLA use among Metro Transit employees may begin to increase. Metro Transit, and the City of Madison, should consider addressing FMLA leave in the same manner as Worker's Compensation (IOD) cases. That is, a Metro Transit supervisor should be assigned to each case, along with a case worker from the City of Madison. These cases should then be discussed at the monthly case management meetings. Also, Metro Transit should ensure the collection of data necessary to gauge Metro Transit's experience with FMLA leave in comparison to other transit agencies. This would require the collection and tracking of data items including the percent of employees taking FMLA leave, median length of leave, total days of leave taken, or other appropriate measures. Metro Transit should then periodically compare its performance to industry or national usage rates provided by APTA, the Transit Labor Exchange, or other labor relations trade groups.

FUNCTIONAL AREA REVIEW
MARKETING AND CUSTOMER SERVICE

This section provides a detailed review of the marketing and customer service function at Metro Transit and includes analysis of:

- marketing and customer service administration;
- public information activities;
- advertising and promotion;
- relationship marketing and partnerships;
- public participation and public relations; and
- customer feedback and market research.

The report includes a description of the status of recommendations made in the prior audit, as well as recommendations made as a result of this review.

Marketing and Customer Services Administration

This section will deal with evaluating the fundamental organizational issues and resources related to marketing and customer service; this includes organization and staffing, budgets, and marketing planning.

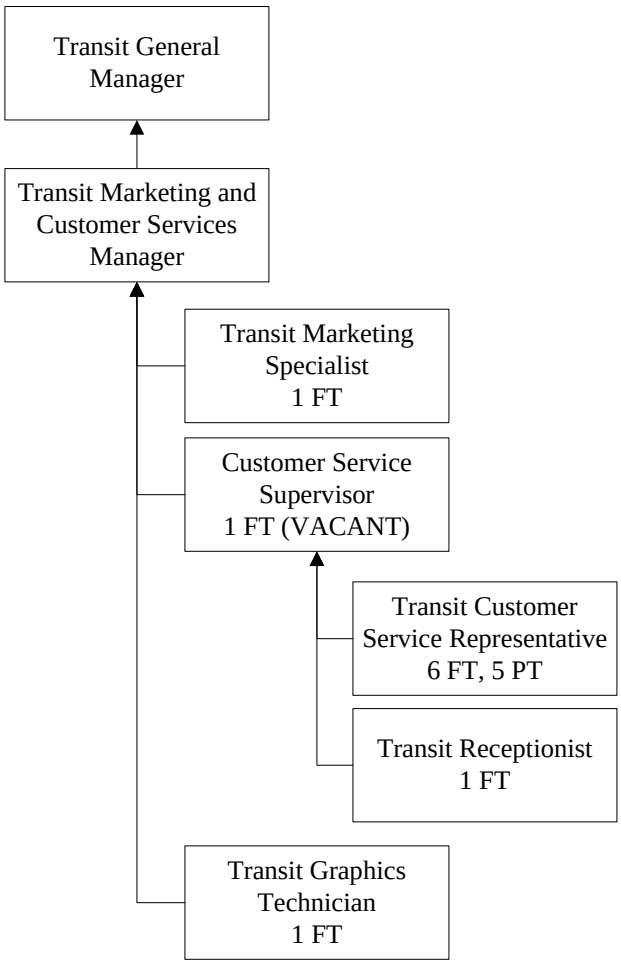
Organization and Staffing – The Marketing and Customer Services Unit is responsible for managing all marketing and customer service aspects of the transit system. Primary marketing activities are in the advertising and public relations areas. The customer service functions are performed through the Customer Service Center (CSC). This unit also handles reception duties at the Metro Transit administrative office.

The unit is led by the Transit Marketing and Customer Services Manager. The Manager oversees the full range of marketing services for Metro Transit, as well as all unit and staff activities. This position is part of the senior management team, reporting directly to Metro Transit's General Manager. Examples of other duties include:

- develop long and short range marketing plans and associated activities;
- prepare annual budget and monitor expenditures;
- serve as member of Metro Transit's Customer Service Group;
- direct market research activities;
- administer the contract between Metro Transit and the bus advertising concessionaire;
- direct the development of information materials; and
- utilize/develop emerging internet technologies to promote rider access and utilization of services.

The Transit Marketing Specialist, Customer Service Supervisor, and the Transit Graphics Technician report directly to the Transit Marketing and Customer Service Manager.

Organizational Structure – Marketing and Customer Service Function



The Transit Marketing Specialist is responsible for performing a variety of marketing, advertising and customer relations activities and projects. Examples of specific duties include producing and maintaining an inventory of customer relations materials, coordinating special events and campaigns, developing transit information outlets, and other activities as needed.

The Customer Service Supervisor is responsible for supervising the Customer Service Center (CSC) staff and the Transit Receptionist. In the role, the Customer Service Supervisor also oversees Metro Transit's customer feedback program. This position has been vacant for over one year, but Metro Transit is currently in the hiring process to fill the position.

The Transit Graphics Technician prepares various visual communications materials and provides a liaison with contractors on transit printing matters.

The remaining unit staff includes the Transit CSC Representatives and the Transit Receptionist. The CSC staff provides transit information to the public by phone or in person, handles paratransit trip reservations and ride confirmations, sell tickets and passes, and administer the Lost and Found. The Transit Receptionist covers reception at the Metro Transit administrative office, and performs clerical duties.

Budget - The 2008 budget for the Marketing and Customer Service Unit, excluding staff salaries and benefits and general office expenses, was $161,018, distributed as follows:

Annual Marketing Activities Budget

Line Item	2008		2003	
	Amount ($)	% of Budget	Amount ($)	% of Budget
Printed Material	99,800	62.0	105,000	43.1
TV/Radio Advertising	25,000	15.5	90,200	37.0
Other Advertising	36,218	22.5	48,643	19.9
Total	161,018	100.0	243,843	100.0

For comparison purposes, the 2003 budget numbers for the same line items is shown in Table 1. It is important to note that Metro Transit spent 33.9 percent less on marketing activities in 2008 than in 2003. In addition, printed materials accounted for 62.0 percent of the marketing activities budget in 2008, compared to 43.1 in 2003. In 2008, Metro Transit's total budget for advertising was $61,218, a decrease of 55.9 percent from the $138,843 spent in 2003.

Marketing Plan – In previous years, the Marketing and Customer Service Unit would prepare an Annual Marketing Plan. This plan would be based on the Strategic Annual Plan, which was a document developed through a coordinated effort of Metro Transit's senior management team. The Annual Marketing Plan would outline a series of new initiatives to support the Strategic Annual Plan as well as the continuation or revision of on-going programs for Strategic Plan elements applicable to the time period. Programs were associated with specific adopted goals and strategies. Progress was then tracked for each goal and strategy.

In the past year, Metro Transit has considered the Metro Transit Long Range Planning Ad Hoc Committee Report the document to guide its marketing program. The Marketing and Customer Service Unit is currently developing the marketing agenda for the coming year. Again, the Ad Hoc Committee report is being used as the guiding document. It is envisioned that the initiatives for the coming year will focus on improving customer communications for detours and other service changes, developing and marketing new mobile and web-based services, as well as promoting and administering a new pass program for small employers. The Metro Transit budget recently adopted by the Common Council includes a fare increase. It is intended that one of the uses of additional revenue would be hiring an additional marketing staff

person dedicated to the new pass program. The fare increase was not approved by the Transit and Parking Commission, a decision which is currently under appeal with the Common Council.

Public Information Activities

This section addresses Metro's efforts in the core public information activities. This includes the following elements: the design and distribution of printed information (System Map and Ride Guide), non-printed information tools (telephone information, web site, real-time information), and signage.

Printed Information – Metro Transit's printed public information includes a system map and a single combined ride guide booklet which includes maps and schedules for each route. The following paragraphs provide a more comprehensive description of these materials as well as the program utilized for their distribution.

- **System Map** – The Metro Transit System Map is a geographically based map which shows the map of the underlying road network to orient the user. The map utilizes the commonly used format of depicting routes in different colors with periodic tabs showing the route number to allow users to follow the alignment. Arrows are also used to designate the direction in which the bus travels along streets that are only served in one direction. There is a map inset which depicts the routing through the Capitol Loop, as well as the bus stop locations in the Loop. The inset also depicts the detour routing around the Capital Loop for when there are events on Capitol Square. Trunk corridors served by numerous routes are depicted in gray with notes showing which routes serve the segment. There are also various map insets of areas that do not appear on the map or require further detail.

  The document includes smaller scale maps that show the details of service in the University of Wisconsin campus area. Other maps on the document depict Metro Transit's evening and weekend services; another shows the supplemental school day services.

  Additional information on the system map document includes the hours and telephone number of the Customer Service Center, as well as Metro Transit's internet web site address. Another feature is a list of popular destinations in the service area and the routes which serve that location. Unlike the system maps for other transit systems, the Metro Transit System Map does not include fare information or "How to Ride" instructions. It should be noted that this information is included in the Ride Guide booklet.

  Overall, the Metro Transit System Map is well laid out and easy to follow, and provides useful information to the user.

- **Ride Guide** – Metro Transit publishes one combined route schedule document for all of its routes. This is a comprehensive document that provides the user with information regarding Metro's administration, the hours and contact information for the Customer Service Center, web site information, instructions on how to read and use the schedule booklet, fare information, "how to ride" instructions, as well as instructions on how to use the bike racks on Metro buses. This information is all laid out in an organized and comprehendible manner.

  The Ride Guide also includes a route description table that shows which routes operate on the weekdays and weekends, which serve Park & Ride lots, and which routes serve similar areas. Similar to the System Map, the Ride Guide also includes a list of popular destinations in the area and identifies which routes serve the location.

  The Ride Guide then includes a schedule and map for each of Metro Transit's bus routes. Only one route is shown on each map. The maps depict the route followed by bolding the streets on which the route operates. Cross streets are shown to orient the user, but they are shown at a much lighter weight. For each route that operates through the Capitol Loop, there is an inset map showing the alignment through the Loop. The schedule for each route shows the scheduled arrival time at various time points along the route, which are typically spaced five to ten minutes apart. Each time point is designated by a number. The time points are also shown on the map for the route and are designated with the corresponding number. Another useful characteristic of the Ride Guide document is the consistent use of icons for transfer points and major landmarks. These icons are used for all routes and are depicted on the schedule and map for the appropriate routes.

  The consolidated schedule document for all routes differs from the practice of many transit agencies of publishing individual schedules for each route. In the past, Metro has published individual route timetables, but found that riders prefer the consolidated document. Also, individual route schedules and maps can be accessed on the Metro Transit web site. As with the System Map, the Ride Guide is designed well and is effective at communicating necessary information to the user.

- **Distribution of Printed Materials** – The Metro Transit System Map and Ride Guide are made available on Metro buses, at the Metro administrative building, and at the transfer points. The System Map and Ride Guide are also available at over 200 locations throughout the service area. Locations can request System Map and Ride Guide documents by signing up on Metro's web site. These locations can then order additional copies when needed also through the web site. As Metro receives requests, Marketing and Customer Services staff will either mail or deliver the materials to the site. Using the information gathered through the web site, the Marketing and Customer Services staff will mail or deliver updated materials to each site every August when service changes are instituted.

Metro Transit prints 80,000 copies of the Ride Guide annually. However, the Ride Guide document is also available on the internet web site. Metro Transit has observed increasing activity of riders accessing the Ride Guide through that medium. It should also be noted that the System Map is also available on the web site.

Non-Printed Information - Metro Transit also has a comprehensive program for providing information to the public through non-printed media. This includes the telephone Customer Service Center and Metro's internet web site.

- **Telephone Information –** Metro Transit Customer Service Center (CSC) Representatives are available by telephone between the hours of 6:15 AM and 6:00 PM on weekdays, 8:00 AM and 4:30 PM on Saturday, and 12:30 PM and 4:30 PM on Sundays and holidays.

  As noted earlier, one of the Customer Service Supervisor administers the Customer Service Center. There are currently six full-time and five part-time customer service representatives. The CSC is staffed with five to six Representatives at any time during its hours of operation on weekdays, and by two Representatives on weekends.

  Customer Service Representatives answer questions regarding routes and schedules. The tools they have available to them include a Trapeze software based trip planner to answer point to point questions for callers. In addition, Representatives will use the Metro Transit website to look up departure information or detour information.

  Customer Service Representatives also take reservations for paratransit trips. Information is entered into the Trapeze paratransit scheduling software.

  Metro Transit implemented a new phone system for the customer service function in 2008. Through the new phone system, Metro Transit has access to a significant amount of data regarding call center activity. Statistics show that the average weekday call volume to the CSC is approximately 1,000. Volume typically increases to approximately 1,300 calls on days with weather situations. Metro is currently working with the Information Systems Unit to finalize the phone system metrics that will be routinely assembled and reported. They are also determining the format in which that data will be reported.

  The previous audit noted that Metro does not track call volume by call type (i.e., paratransit, fixed route service information, complaint, etc.). This is still the case. Metro Transit investigated the option of having callers press a particular number to schedule a paratransit trip after dialing the main number. The ADA Paratransit Oversight Committee objected to this added step, so the option was not pursued. To determine volume by type, the Customer Service Supervisor will periodically take a sample of calls by call type to determine the percentage breakdown. Since all calls come into the same center, and all CSC Representatives can handle any type of call,

the overall volume is the more important statistic to monitor to ensure adequate staffing, as opposed to volume by type.

Metro Transit provides one month of training to its Customer Service Representatives. This time is dedicated to learning the fixed route network, paratransit service, fare structure, and how to ride instructions. During the one month training periods, new Customer Service Representatives are paired with experienced Representatives with the new employee listening to calls. The new Representative then fields call themselves with an experienced Representative listening. After that period, the new Representative begins fielding calls without assistance.

Metro Transit does not currently have a system in place to continuously monitor the quality and accuracy of the information being provided to callers. It has been a goal of Metro Transit to institute a program that would allow management to record and randomly review calls to monitor performance and use for training purposes. This would also provide Metro Transit with a record of occurrences when there are complaints against Customer Service Representatives. Metro Transit has recently purchased the equipment necessary to record calls into the CSC. It is anticipated that this equipment will be operational by spring 2009.

In terms of continuous training, the Marketing and Customer Service Manager, and the Customer Service Supervisor will conduct periodic meetings with the Customer Service Center staff to discuss relevant issues. Metro Transit does not have a specified continuous training program for this staff. However, CSC staff members do attend ongoing training sessions conducted by the City of Madison covering customer service issues such as dealing with the general public.

- **Website** – Metro Transit has a comprehensive internet website through which passengers and potential passengers can find the essential information for using Metro Transit service. This includes route and schedules, the system map, fare information, how to ride instructions, and contact information. The Ride Guide booklet is also available on the website. Interested members of the public can also access information regarding public hearings for Metro Transit issues, as well as the schedules, agendas, and minutes from Transit and Parking Commission or ADA Paratransit Oversight Committee meetings.

  The primary web site address for Metro Transit is cityofmadison.com/metro. This is accessed through the main City of Madison website. However, Metro also utilizes an alternative URL, mymetrobus.com, which automatically redirects the user to the cityofmadison.com/metro site. The alternative address, mymetrobus.com, is what is published on Metro Transit informational materials. This is advisable since this is easier to memorize and is more recognizable.

  Currently, the Metro Marketing and Customer Services Unit designs and provides content for the website. The City of Madison's Information Systems Unit provides

technical back up for the site. The City of Madison is currently redesigning the web sites of all city departments to incorporate consistent templates, formatting, and interfaces. After the redesign is complete, the City of Madison IT Department will be responsible for the design of the site with Metro's Marketing and Customer Services Unit providing content only. With the redesign, the alternative URL address will be retained and will continue to redirect users to the main site.

The website recognizes that most visitors to a transit system website are looking for route and schedule information, and locates the tab for routes and schedules prominently at the top of the home page. The Metro site also includes a trip planner tool through which users can enter origin and destination bus stop numbers, addresses, intersections, or landmarks and be provided step by step instructions on how to use the Metro system to make the trip. Users can also plan their return trip easily using the tool. The output from the Trip Planner provides details regarding the bus stop location at which the passenger should board the bus. This information can be selected for more detailed information regarding the bus stop, including a map. The trip information also provides a summary showing the duration of the bus ride, the number of transfers required, and the required walking distance. Fare information is not indicated. However, since Metro does not have a zone fare structure, the fare information is not as important as it would be at transit systems that employ more complicated fare structures. The trip planner page does include a direct link to the fare information page. The fare information page also provides instructions regarding transfers.

In the past, there have been issues with the trip planner tool. The trip planner has not always been available to users. Also, there have been issues with the accuracy of the information provided. To address these issues, capacity has been added to the trip planner to improve availability. Also, the database used by the trip planner has been updated to improve the accuracy of the information.

An interesting feature of the website is that all information regarding paratransit services includes audio recordings that can be accessed on the site.

The website also includes a video library which allows users to view various videos produced by Metro Transit. Some videos are available in additional languages. The video library currently includes the following:

- Winter Weather Travel Tips and Information (Spanish)
- 31 day Pass – How to Use
- 10 Ride Cards – How to Use
- One Day Pass and Transfers – How to Use
- Program Passes – How to Use
- Supplemental School Services (Spanish, Hmong)
- How to Use Metro's Bike Racks
- Hybrid Buses

All videos are available in English; additional languages are noted in ( )

Through the website, users can also access information regarding the Commuter Choice pre-tax benefit program. This page also includes a direct link to the State of Wisconsin page that allows state employees to sign up for the benefit. Another page is dedicated to the Metro Transit's Rack & Roll program. This page provides instructions on how to use the bike racks on Metro buses. There is also a link to an instructional video which is part of the video library described above.

Other useful tools included on the Metro Transit website allow members of the public to sign up to order Ride Guides and System Maps for display and distribution purposes. Also included is a list of fare media sales outlets throughout the area. The website also includes a tool that allows users to buy fare media on-line. As with other transit systems that offer this feature on-line, there is no provision for users to apply Commuter Choice Pre-Tax Benefit vouchers (i.e., Transit Check) to their on-line purchase. Passengers using this benefit must purchase their fare media at a sales outlet or through the U.S. mail.

Another new feature allows users to subscribe to email or text message alerts regarding detours and service disruptions. Subscribers also receive a weekly newsletter via email with Metro Transit news. Metro Transit is also planning to institute a new tool on a trial basis entitled WebWatch which will allow users to obtain real time information about their bus route. Marketing and Customer Service staff plan to monitor how this tool is being accessed (i.e., via computers or via mobile phone devices) and design the interface accordingly.

Metro Transit currently tracks the number of hits per page on the system's web site. Also, the amount of time spent on various pages is tracked. In addition the navigation pattern between pages is monitored. Data for 2007 showed an annual total number of hits on the mymetrobus.com of 487,000.

The data gathered regarding the hits per page and the navigation patterns are routinely monitored and are used in the design and maintenance of the site. The Marketing and Customer Services Manager uses the data to identify the most frequently used pages on the site to determine priorities in terms of the upkeep of content. Also, the City of Madison IT Department is using the website activity data in its redesign of the site.

- **Bus Stop Signage** – All Metro bus stops are marked with bus stop signs. Bus stop signs are currently installed and maintained by the City of Madison Traffic Engineering Department. All signs have a stop ID number which can be used with the on-line trip planner. In addition, the bus stop signs list the Metro Transit bus routes which serve the stop. A typical Metro bus stop sign is shown in the figure below.

Metro Transit Bus Stop Sign

The June 2008 Final Report issued by the Long-Range Metro Transit Planning Ad Hoc Committee noted that bus stop signs are installed at a 45 degree angle facing the street, since they are seen as an instrument to communicate to drivers that parking is prohibited in front of the stop. The ramification of this policy is that bus passengers cannot see the bus stop sign from the sidewalk. Another issue is that the Traffic Engineering Department must install these signs at the beginning of the parking prohibition zone, which is not always the same location as the actual bus stop. The Ad Hoc Committee made various recommendations to address this situation.

Advertising and Promotion

In 2007, Metro's budget for advertising and promotion was $180,000. With total operating costs for the fixed route mode of $36.2 million in that same year, the advertising and promotion budget represented 0.5 percent of operating costs. A typical industry target is for the amount expended on advertising and promotion to be equal to approximately 2.5 to 3.0 percent of total operating costs for the fixed route mode. Metro is far below that target rate.

In previous years, Metro has relied heavily on trade arrangements for advertising. This has continued through 2008, with an expended budget for advertising and promotion equaling $161,018, and is expected to continue into 2009. This will continue to pose a challenge to Metro since the parties in the advertising industry are more reluctant to enter into these types of arrangements. Currently, the only advertising being done by Metro is a billboard campaign, which is a result of a trade arrangement. The content of the current billboard campaign focuses on the environmental benefits of using transit, and Metro's efforts in that regard, promoting the new email and text messaging services, as well as promoting the discounted fares and travel training programs for seniors.

Metro does not currently have any TV, radio, or print advertising campaigns, and none are planned for 2009. This is a deficiency in Metro's marketing activities for several reasons. Advertising is important not only to promote and retain ridership but also to create a positive image of transit and raise awareness of the local transit system among non-users. Advertising and promotion is also particularly important in university communities since a significant portion of the system's ridership turns over on an annual basis.

Relationship Marketing and Partnerships

This section addresses strategies to build and retain ridership through relationship marketing and partnership practices.

Metro Transit has an extensive and successful specialty pass program. Metro currently has pass arrangements with the following employers and post secondary educational institutions in the service area:

- University of Wisconsin (ASM students, faculty, and staff)
- Edgewood College (students, faculty, and staff)
- Madison Area Technical College (students)
- University of Wisconsin Hospital (employees)
- St. Mary's Hospital (employees)
- Meriter Hospital (employees)
- City of Madison (employees)

Metro Transit is also preparing to implement a new pass program for small employers in the area. It is anticipated that this program will be implemented in 2009.

Metro Transit has also been innovative in building relationships with riders. As noted earlier, Metro Transit riders can subscribe to email and text message alerts through the Metro Transit web site. Metro Transit sends subscribers a weekly email with general Metro Transit information. Currently, there are approximately 2,200 subscribers to this newsletter. In addition, users can subscribe to six different categories of specific alerts. These include:

- Detours
- Weather
- Supplemental School Service
- Paratransit
- University of Wisconsin Service
- Media

These types of communications help to build loyal riders and promote a support network for Metro Transit in the community.

Public Participation and Public Relations

This section discusses practices related to public participation and public relations activities.

Public Participation – The Marketing and Customer Service Unit is responsible for publishing notifications of public meetings and public hearings. This includes notifications that Metro Transit is required to make, as well as additional efforts. For all meetings of the Transit and Parking Commission and the ADA Paratransit Oversight Committee, Metro Transit publishes the schedule for the meetings in the necessary publications, and posts the schedule, agenda, and subsequently, the minutes of the meetings on the web site. Public hearings are promoted in the same manner.

For the upcoming public hearing regarding the proposed fare increase, the Marketing and Customer Services Unit distributed flyers on buses informing riders of the issue and the schedule for the hearing. In addition, email and text alert messages were sent to subscribers, a notice was posted on the website, a press release was issued, and a notice was posted on the City of Madison's on-line press release site.

Outreach – Metro Transit also conducts an extensive ongoing outreach program. Staff members from the Marketing and Customer Services Unit conduct the following ongoing outreach efforts:

- visit senior centers to make "how to ride" presentations;
- train the trainer sessions for groups working with persons with disabilities;
- school visits to teach students how to use the supplemental school services; and
- display new hybrid buses at environmental events.

Public Relations – The Marketing and Customer Services Unit is also responsible for public relations activities. Metro's activities in this area have gone beyond just what is necessary. Metro Transit routinely issues press releases for issues such as annual ridership numbers, service changes, or to promote new services such as the email and text message subscription service.

Customer Feedback and Market Research

This section reviews the procedures followed by Metro Transit to collect and respond to customer feedback, as well as the market research activities currently conducted by the Marketing and Customer Services Unit. This includes the techniques utilized and the frequency of market research efforts.

Customer Feedback – Calls from passengers with complaints, compliments, or other comments regarding Metro Transit are handled by the Customer Service Center (CSC) Representatives. When calls are received, the information is recorded in a Microsoft Access database developed in-house to address the function. The CSC Representative will enter a code for the appropriate unit (i.e., Operations, Marketing, Maintenance, etc.). Comments received through email are processed in a similar manner. The Manager of the designated unit will then review the applicable records. The Manager must enter the resolution in the record and close out the file within 30 days. If the file remains open after 30 days, the system will automatically send the Manager an alert email notifying them of the open record. The Information Systems Unit monitors the system for files open more than 30 days. However, there are no adopted procedures for any follow up with the applicable Manager.

On a quarterly basis, the Marketing and Customer Service Unit assembles a report of all complaints received. The results are discussed by the Customer Service Group which includes the General Manager and several unit managers. This is a group that meets on a bi-weekly basis to discuss customer service issues. In this forum, strategies are developed to address any identified trends in the complaints data.

Market Research – Metro Transit's market research activities include several types of surveys. Metro Transit periodically performs geographic-specific surveys to identify transit related issues in specific areas. A recent example was a survey of Fitchburg residents. The survey was mailed to all households with the town's newsletter.

Metro also conducts system-wide on-board passenger surveys, which are administered on average every five years with the assistance of private firms. The purpose of these surveys is to obtain data regarding rider characteristics, trip making behavior and satisfaction with Metro Transit service. The most recent such survey was conducted in 2008. The previous such effort was conducted in 2000.

It is also a goal of the Marketing and Customer Service Unit to conduct focus groups on a more regular basis. It is anticipated that the City of Madison will conduct focus groups as part of the effort to redesign the website.

Status of Prior Audit Recommendations

The following recommendation was made for the Marketing and Customer Service function as part of the previous review:

- Metro Transit implemented a new Customer Service phone system in 2000, in response to shortcomings noted in the prior audit. However, call tracking statistics were wholly or partially unavailable for 86 days in 2002 and 25 days in the first eight months of 2003. Gaps in data reporting are experienced frequently due to technical problems with the system. In addition, the system is not configured to distinguish between different types of calls (e.g., general information, paratransit service requests, or fixed-route or paratransit customer complaints). Finally, even though lost calls were reportedly reduced to nearly zero in the last year, the incidence and duration of busy lines increased. Metro Transit should continue to explore strategies for updating its phone system to address all of these issues.

  Metro Transit implemented a new phone system for the CSC in 2008. This new system addresses the issues described above. Metro Transit still does not have the ability to track calls by type. This option was investigated. However, in response to an objection by the ADA Paratransit Oversight Committee, this feature was not incorporated into the new phone system. Volume by type is tracked through sample days collected by the Transit Marketing Specialist who is the supervisor of the CSC.

Conclusions and Recommendations

The overall conclusion of this review is that Metro Transit currently has a comprehensive and effective marketing and customer service function. Metro Transit has well designed and informative System Map and Ride Guide documents, along with an effective distribution program for these materials. Metro Transit has made investments in equipment to keep the telephone information function modern and effective.

In addition, Metro Transit has made several improvements to their internet web site, and has made use of technology to pursue new methods of providing information to their passengers. These additions include a trip planner with information as disaggregated as the bus stop level, a video library, audio capabilities on paratransit pages, and a program through which passengers can subscribe to email and text message alerts and newsletters. Metro Transit has also recognized deficiencies in the trip planner tool and has responded to them. It could be concluded that Metro Transit's web site is state of the art in the transit industry. While all of these elements are significant accomplishments, these new tools provide opportunity for continued innovation and improvement.

The one significant deficiency in Metro Transit's marketing and customer service function is the lack of a sufficient advertising and promotion program. A comprehensive advertising and promotion program is essential to attract and retain riders, and cultivate the image of the transit system with the public at large. Given the fact that Metro Transit operates in

the host community of a large university, a significant portion of Metro Transit's riders will turn over on an annual basis. This underscores the need for continuous exposure to the utility of the local transit system.

Historically, Metro Transit has relied on trade arrangements for access to TV, print, and radio advertising space. Over the past few years, the parties involved in the advertising industry have become more reluctant to enter into these types of relationships. As a result, Metro Transit's current advertising and promotion program includes billboard advertisements only, and no TV, radio, or print advertisement.

Based on these findings, the following recommendations are made for the marketing and customer service function:

- It is imperative that Metro Transit develop and implement a more robust advertising and promotion program which includes TV, radio, and print elements. The current practice of relying on trade arrangements is not sustainable over the long term. Metro Transit should pursue additional appropriations for this purpose, as well as investigate new and alternative revenue sources to fund such a program. One potential source of revenue, which has been employed in other communities with significant U-Pass and employer pass programs, would be to dedicate a portion of the revenue from these sources specifically for advertising and promotion. This could possibly be used as a justification for rate increases among these pass programs.

  The Long Range Metro Transit Planning Ad Hoc Committee made a similar observation and suggested increasing the annual marketing budget to $500,000. The committee did note that this should not be done at the expense of service levels.

The remaining recommendations are suggestions on how Metro Transit can make further improvements and innovations to already sound marketing and customer service practices:

- Bus stop signs are currently installed and maintained by the City of Madison Traffic Engineering Department. The June 2008 Final Report issued by the Long-Range Metro Transit Planning Ad Hoc Committee noted that bus stop signs are installed at a 45 degree angle facing the street, since they are seen as an instrument to communicate to drivers that parking is prohibited in front of the stop. The ramification of this policy is that bus passengers cannot see the bus stop sign from the sidewalk. Another issue is that the Traffic Engineering Department must install these signs at the beginning of the parking prohibition zone, which is not always the same location as the actual bus stop.

  The Ad Hoc Committee recommended a program which would place adhesive stickers on the back of all bus stop signs identifying the location as a bus stop, along with instructions to bus passengers (i.e., "Board bus at corner"). It is recommended that Metro Transit advocate for this program and assume responsibility for

implementation as part of the marketing and customer service function. It is also advisable that Metro Transit investigate the feasibility of assuming responsibility for signage designed to communicate to bus passengers, while leaving responsibility for signage which communicates to motorists with the Traffic Engineering Department.

- By spring 2009, Metro Transit will have the ability to record all calls received at the Customer Service Center (CSC). With the availability of this equipment, it is recommended that Metro Transit develop a program to review a random sample of calls for the purposes of ongoing training for the CSC staff as a whole. Also, Metro Transit should develop an individual annual review program for CSC Reps. As part of this program, a sample of calls fielded by that representative would be reviewed to assess the representative's customer service skills as well as the accuracy of the information being provided to callers.

- Metro Transit does not currently track call volume by call type on an automated basis. This information is collected manually through reviewing sample days of activity for the CSC. As a part of this data collection, it is also recommended that Metro Transit calculate the average length of calls by call type. This data would allow for more accurate calculations of impacts to CSC staffing as a result of changes to the fixed route system or paratransit program.

- Metro Transit currently relies primarily on customer feedback for market research purposes. One of Metro Transit's market research goals is to conduct a comprehensive on-board rider survey once every five years. The most recent comprehensive survey efforts were conducted at an interval of eight years. It is recommended that Metro Transit adhere to its goal of conducting a comprehensive system-wide survey every five years. This would suggest that the next such survey effort would be conducted in 2013. It would be advisable for Metro Transit to make more extensive use of focus groups to understand the effectiveness of its advertising materials and the utility of new on-line and mobile tools. The Long Range Metro Transit Planning Ad Hoc Committee made a similar recommendation, specifically identifying focus groups or targeted surveys designed to elicit information from:

  - current customers through on-board surveys;
  - core Madison service area riders and non-riders; and
  - new areas for potential growth.

- Metro Transit does not currently have a procedure for following up on customer complaint files that remain open beyond the 90 day period. It is recommended that this become an item which is routinely reviewed by the Customer Service Group.

- Metro Transit has a valuable service planning tool in the Trip Planner utility of the website. Important data is collected in that riders and potential riders enter information regarding desired trips (i.e., origin, destination, as well as time and day of

travel). Metro Transit should develop procedures to extract this data and assemble it into a database that can be queried or mapped for service planning purposes.

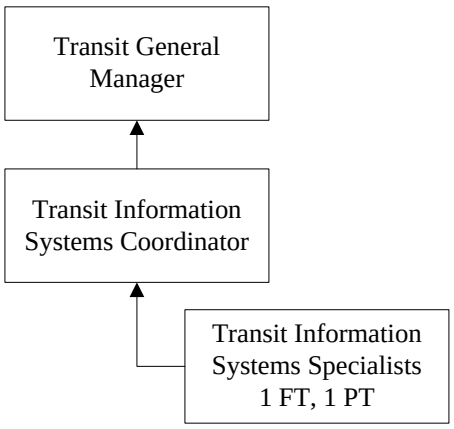
FUNCTIONAL AREA REVIEW
INFORMATION TECHNOLOGY

This section presents a review of the Information Technology function of Metro Transit. This review addresses the organizational structure, operations, oversight, performance, and customer service aspects of the Metro Transit Information Services/Technology.

Organizational Structure

At present, Metro Transit has a Transit Information Systems (TIS) Coordinator and now has two (one full time and one part time) Transit Information Systems Specialists. As a unit, they continue to provide leadership as well as support for transit-specific information technology, including both hardware and software applications. They also have provided input and support for the City of Madison as the city is in the process of implementing an Enterprise Resource Planning (ERP) system that would replace DST. The City of Madison is responsible for operational IT support via a $50,000 annual budget paid by Metro Transit. However, on a daily basis, the IT department also provides internal customer service by helping Metro employees with computer issues as they arise.

Organizational Structure - Information Technology Function



The TIS Coordinator is primarily responsible for the major transit-specific applications, he has maintained his presence on the ITEAM, which has representatives from various units including Finance, Planning and Administration, and continues to hold biweekly meetings to discuss the status of major IT projects. He also serves on the Senior Management Team, which allows Metro Transit to minimize duplication of IT efforts.

The full time TIS Specialist is responsible for managing the incidents database as well as unit-specific databases that are not supported by third party vendors. This includes the

development and implementation of an EZ Rider System for the front desk as well as following up on the Phase 1 implemented Docfinity system (see the Initiatives section for more detail on Docfinity).

The part time TIS Specialist is responsible for special projects (see the Initiatives section for more detail), with current emphasis on improving existing reporting features for transit database applications.

IT Implementation

The previous study identified multiple IT projects that were planned for implementation. This section will review the current status of these projects.

- **The Siemens ITS Project –** Since the previous management review, Metro Transit has implemented the Siemens ITS project, using the TransitMaster database application (purchased from Siemens, now owned by Continental), which includes an Automatic Vehicle Locator (AVL) system, a new radio system with data as well as voice communication, annunciators and related digital signage, automatic passenger counters (APCs) on forty buses (out of approximately 200), as well as tracking features to measure performance. As of the third quarter of 2008, the TransitMaster application has undergone a major upgrade. This application interfaces with Trapeze software, which is used for scheduling and operations for both paratransit and fixed route trips.

  The feedback on performance during the interview was that the time and location data was very accurate, and that system polls buses every 60 seconds. Although this is appropriate for management purposes, it is not fully sufficient for real-time public information. It was indicated that there is technology available via the use of a cell network, which would increase frequency of polling to every 30 seconds.

  The decision on how many buses should have APCs was in part driven by the National Transit Database (NTD) reporting requirements (which aim to achieve a certain level of confidence via a large enough sample size). Additionally, the use of APCs on only 40 out of 200 buses is addressed by rotating those buses with APCs to different routes to be able to have available data on the majority of routes.

  It had been indicated during the interview that Metro Transit has experienced certain levels of accuracy issues:

  - Configuration issue related to the interface between the Trapeze paratransit software and the Continental MDT's. It is viewed as a relatively minor problem but, when resolved, will give paratransit drivers better information about the passengers that they are servicing.

  - There are forty (40) APC units installed on Metro Transit's fixed route fleet. They are currently examining the viability of this program because of several

issues. Staff expressed concern that APC units count all people getting on and off of buses whether they ride or not such as drivers or people stepping onto a bus to ask the driver a question. Second, APC devices are difficult to calibrate and there is no clear indication of when a unit is out of calibration. Staff reports that this results in a need for significant post processing of data. Metro Transit's perception is that a lot of manual work is required to receive data from an automatic device.

Continued use of APC devices has not been ruled out, however Metro Transit is looking at this technology and giving consideration to the development of a ridership segment reporting program that may involve a combination of APC data, farebox data, and video data.

- **Maintenance Maximo Software –** The purchase of Maximo to upgrade Metro's existing rolling stock asset management software did not occur because Maximo was identified as an application that was suited for much larger fleet operations. Therefore, Metro Transit opted to upgrade FleetMate to TransitFleet, which was developed by the same software engineer that developed FleetMate. Because of this, they were able to convert historic data as part of the project, and the level of scale was deemed much more suitable for an organization the size of Metro Transit. The feedback was positive and it appears that no defects are affecting operations.

- **Operations (Ops) Software –** Metro Transit has developed applications intended to streamline processes and measure performance against standards.

  - In House OPS: Metro utilizes an in-house browser based database application to manage fixed route driver general pick (quarterly) and vacation pick processes.

  - Customer Feedback Database: This is an in-house developed database utilized to record and manage incidents that are reported from fixed route and paratransit customers. This is a MS SQL Server database with an MS Access front-end developed primarily with Visual Basic (VBA). Feedback is entered by Customer Service Agents and each unit has the responsibility of responding to the customer appropriately.

  - Payroll Functions: Metro Transit currently utilizes four different methods of producing payroll for the various employee groups. All four systems provide an output to the City DST application.

    - *Operations (fixed route bus drivers) payroll*: Weekly and daily assignment of work is managed by an in-house developed system comprising a series of spreadsheets managed by an Operations Supervisor. The product from this generates reports that a payroll clerk edits based on driver submitted "payroll by exception" time-cards. The spreadsheets for payroll editing are combined at the end of the period and output to the DST application.

- *Paratransit driver payroll*: In-house developed Excel spreadsheet contains a template of driver assignments. Paratransit Operations Supervisor modifies this on a daily basis and submits it to the payroll clerk for entry in to the DST program.

- *Shop/Mechanics payroll (including Building and Grounds employees)*: This is a payroll by exception process. There is a single Excel spreadsheet for each week. Time sheets are filled in by mechanics only when there is an exception to their normal working hours. A shop supervisor makes necessary modifications to the spreadsheet and submits it to the payroll clerk for submittal to the DST application.

- *Office employee payroll*: Each office employee has a biweekly Excel spreadsheet template that they fill out and submit to their supervisor for approval. The data from the spreadsheets are directly entered into the DST application by a payroll clerk.

  - Sick/Late Out/No Show Database: Metro utilizes an in-house developed database application to record and manage discipline correspondence related to coach operator and shop employee attendance.

- **Financial Planning Software –** The City of Madison was unsuccessful in agreeing on contract terms to purchase the Cognos Budget/Planning software. Existing methods for budgeting are mostly similar to the conditions during the previous management review, but it is anticipated that the new ERP system that the City of Madison is procuring to replace DST will have budget/planning functionality.

- **New Farebox System –** Due to a capital funding shortfall as well as an analysis that showed Metro Transit could still achieve positive results by upgrading instead of replacing the existing farebox system, Metro Transit upgraded the existing Genfare farebox system. This included adding a magnetic card reader to the top of the farebox, adding a Genfare TRIM unit (transfer issuing unit) to each bus, replacing the system board in each farebox, and upgrading the system software to Genfare's version 7. There have been no indications of upgrade problems and Metro Transit has since added several partners to its unlimited ride pass program. The Genfare System 7 software successfully reconciles cash received in the on board fareboxes and records rides through a combination of driver input and automated recording of fare media.

  However, because the farebox infrastructure was not replaced, it is now 20 years old (with the exception of the TRIM units). To address this, Metro Transit is in the early planning phases of a program that would replace the entire fare collection infrastructure as a capital project.

Additional Systems

In addition to the systems discussed above, Metro Transit's IT unit also identified the following systems:

- **Employee Database**: This is a Metro developed and maintained database application. This is the primary portal to employee information for Metro employees. The DST application is the system of record so periodic validation against the DST database is necessary.

- **ID card Database**: This database application is used to manage and produce ID/bus pass cards for Metro employees, retirees, and dependents. The source data is the employee database application described above.

- **Fixed Asset Database:** This is an in-house developed Access database application used to manage the procurement and use of capital assets. A related application has been developed to manage the preventative maintenance activities for large non rolling stock assets.

After review of our initial draft of this section, Metro Transit listed additional systems that the IT unit supports for other units:

- **Finance Unit**
  - Metro AP
  - G/L Reports
  - Ticket Inventory
  - Ticket Consignment
  - Workers' Comp
  - Uniforms Database
  - Drawdown Database

- **Marketing Unit (in addition to the EZ-Rider DB and Customer Feedback):**
  - Two Ecommerce Databases
  - Lost and Found Database

- **Shop Unit**
  - Sick-Lateout-No Show DB
  - Shop version of the Employee DB

- **Ops Unit**
  - Ops version of Employee DB
  - Training and Performance-Evaluation DB
  - Driver-Reported Incidents DB

- **Building and Grounds Unit**
  - Asset-Tracking and Preventive Maintenance DB

Initiatives

There are several planned projects over the next few years that are intended to correct problems with as well as expand upon and replace existing systems and in some cases implement new systems. They are the following:

- **Correct Data Problem on Paratransit MDT Devices (2008/2009) –** The TIS Coordinator is responsible for correcting the existing MDT related data problem. This has been identified as a short term item as per the provided employee evaluation, and should be followed up upon to confirm that it has been addressed.

- **Development of Better Data Reporting for Major Database Systems (2008/2009) –** The TIS Coordinator has been tasked with participating in an effort to improve reporting applications for better processing and absorption of data. An example of what will be included in this effort is the following:

  - Converting Farebox Data (2009): Metro Transit has indicated that due to the complexity of interlining routes, it has been difficult to assign ridership at a segment level. At present, this unit's part time Transit Specialist is developing a database that converts farebox data to a network database. This also includes providing a more robust system for the post processing of data and building a data portal for use by relevant transit staff. This is the first phase in a greater effort to give transit management an easier method to access useful data.

- **The Procurement and Implementation of an Employee Work Schedule and Software Program (2009) -** $200,000 has been budgeted to replace the four payroll modules that were discussed in the "IT Implementation" section.

- **Work with Metro Paratransit to Implement "Street Routing" as the Method of Scheduling (2009)** - Currently Metro paratransit has used Trapeze Pass in the Triangulation mode of scheduling. The software draws a straight line from origin to destination and then creates two lines to form a triangle and triangulate a distance for the trip. This has not been an accurate or efficient method as indicated by the Parantransit Program Manager. Year 2009 is the target to switch to another scheduling mode that uses specific street routing, which takes into consideration one-way streets and posted speed limits.

- **Surveillance Camera Systems (2010) -** At present, four cameras (audio and video) are installed in 40 buses. The plan is to equip 48 additional buses each year with the surveillance camera system, which would ensure cameras are installed on all buses by

2010. The TIS Coordinator is responsible for the release of the Request for Proposal (RFP). There is a budget of $140,000 that covers the period of 2008-2010 for the implementation of this initiative.

- **Docfinity System (Long Range Timeframe) -** This is a workflow and document management application which is used to move Metro Transit towards a paperless process. During the third quarter of 2008, the TIS Coordinator has coordinated with staff to deploy phase one of Docfinity (grievance documents).

- **Mission Critical Backup (Long Range Timeframe) –** The TIS Coordinator will be participating in the development and implementation of a plan for continuing operations when mission critical technology applications fail, including backup for in-house developed applications

Conclusions and Recommendations

Metro Transit currently has a multitude of systems and applications that provide operational data aimed at enhancing business processes, maintaining detailed levels of performance tracking, and managing existing staff. It appears that Metro Transit has maintained a central IT presence which has aided in the implementation of several robust technologies such as the Siemens ITS project, all of which are aimed at enhancing performance and accountability. The TIS Coordinator continues to be tasked with identifying emerging technologies that can benefit Metro Transit and the public.

There are several areas that require follow up during the next study:

Transit Specific Status Updates

- Data errors related to APCs and the MDT device
- Paratransit scheduling mode (triangulation vs. street routing)
- New reporting features related to several key database applications including Continental, Trapeze, TransitFleet and Genfare
- Installation of surveillance camera systems on entire bus fleet
- Replacement of existing fare collection infrastructure

IT Related Status Updates

- Replacement of existing payroll system
- ERP System implementation – budget/planning functionality
- Next phases of Docfinity and revisiting phase one efforts to measure reduction in paper processes
- Mission critical backup plan

In addition, there still appears to be lacking a formal IS implementation plan. This includes clear guidelines and approaches when planning for major IT projects. This was an area of question in the previous management review, and continues to be an open item with respect to the IT unit.

The previous management performance audit did not include any recommendations for the Information Technology function. Since that time, the implementation of the Siemens IT project as well the development of additional operational systems has profoundly impacted Metro Transit's operations. Based on the current review, there are four recommendations for this area:

- It appears the Metro staff is expecting an unnecessary level of accuracy from APC equipment. The level of expected accuracy provided by the manufacturer should be assumed when using the data. Data should be reviewed for anamolies and anomalies should be discarded, however, not at the expense of all data collected by the APC equipment. Metro should utilize its maintenance contract to determine a calibration schedule to ensure that all equipment is properly calibrated. Staff concerns with APC equipment seem overly exacting. APC equipment APC's are being used by several transit properties throughout the country It is recommended that Metro come to consensus on the role that APCs will play in Metro Transit's operations, and if it is not expanded upon, that a suitable alternative be implemented.

- From an asset management standpoint, the fare collection infrastructure is in need of replacement. It is recommended that a program be developed to replace this equipment.

- As Metro Transit continues to expand on its existing systems and the ITEAM continues its role in identifying and implementing significant IT projects, it is recommended that a formal implementation plan be developed for planned and future projects. The need to have documented operating procedures becomes increasingly important as Metro Transit's operations become more systematic.

- It was not indicated during interviews for this review that existing staffing levels and IT background were insufficient to meet the needs of new systems. However, given the ambitious program planned for this function, the large number of existing systems that the IT department supports, as well as the added data management needs resulting from initiatives such as the video cameras, it is recommended that Metro undertake a detailed staffing level review for this function.

  Metro Transit staff expressed the need for significant post-processing of data collected by the APC and GPS/AVL equipment. This is not unique to Metro Transit. Many systems that have implemented this technology have found that they do not have the staff resources for effective post processing. Various systems have created positions in their IT or Planning units specifically dedicated to post processing, manipulation, and reporting of this data. The APC and GPS/AVL systems are significant capital assets for Metro Transit which can have a significant benefit to

operations management and planning. However, without proper staffing resources, Metro Transit cannot realize the full benefit of the tools.

- Based on the above recommendation, as well as recommendations included in the Transit Operations, and Planning and Scheduling reviews, it is recommended that Metro Transit pursue the completion of an Information Management Study that addresses the following issues:

  - Information technology staffing needs;
  - Actions necessary to improve reliability of mobile information technology to desired levels; and
  - Business processes designed to incorporate data collected through mobile information technology into planning and management decision making.

FUNCTIONAL AREA REVIEW
PARTS

This section presents a review of the Parts function of Metro Transit. This review addresses the procurement and inventory control functions as well as overall financial performance of this aspect of transit operations.

Organization and Staffing

As seen in the overall Unit organization chart shown in Figure 1, the Parts Unit is a separate unit that reports to the Transit Maintenance Manager. The Unit is headed by a Supervisor and includes two Parts Specialists. The Unit performs all functions associated with having parts available for mechanics to repair the Metro Transit fleet. The Supervisor is responsible for the entire materials management function and directly handles the parts procurement and inventory control activities. The two Parts Specialists are responsible for the receipt, storage and disbursement of parts necessary to maintain Metro Transit's vehicles.

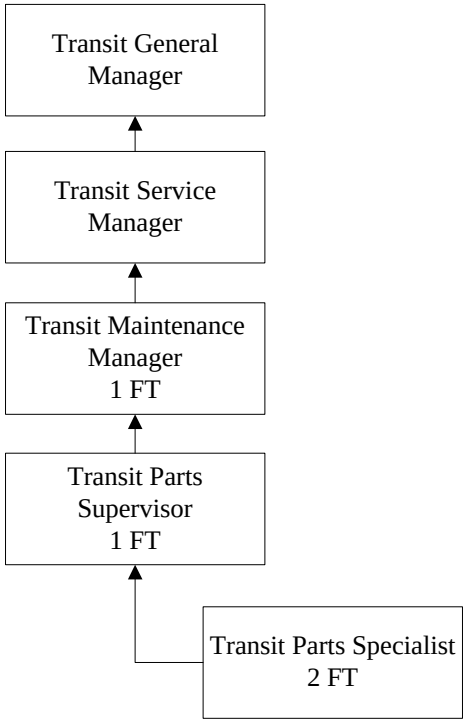
Procurement Function

The Supervisor is responsible for the procurement of all parts as well as some services for Metro Transit. In making these purchases, the Supervisor generally follows a set of procedures that he has developed to obtain the needed parts. He typically follows the City of Madison guidelines regarding the purchasing process. One of three purchasing procedures is generally followed. First, for high dollars items (generally $5,000 or more, but in some cases less), a formal bid process or request for proposal is followed. Second, the most common purchase method used for most items is a fax quote system where three or more vendors provide written quotes. A price quote for the same item that was given during the past six to nine month period by a vendor is sometimes used to make a selection. However, if the vendor does not hold the prior price quote, the item will be re-bid. In the fax quote process, each selected vendor is sent out a purchase order about once a week. The final purchasing method is a direct purchase from a known vendor that is used in emergency situations where a part is needed within an expedited timeframe.

The methods used to make purchases of vehicle parts are reasonable and consistent with those followed by other transit systems.

Metro Transit has a completely automated parts inventory system that includes about 6,000 stock parts. Minimum and maximum inventory levels are set for each part based on past usage experience. The computer inventory system also identifies the vendors that supply the particular part as well as their most recent bid prices. Further, the system identifies the past usage of each part for the prior 12-month period. Parts not utilized are periodically removed from the inventory.

Organizational Structure – Parts Function



Metro Transit will also order special parts that are not in the inventory system. These are referred to as non-stock items. If these parts are found to be needed more than three times, they will be paced into the formal inventory. This review of the so called non-stock items occurs about every three months. Data from a prior review indicated that the value of the non-stock items represented about 20 percent of the total inventory. At other systems, these non-stock items were found to make-up a larger portion of the inventory.

Each day the computerized inventory system identifies a list of parts that are at or below the stock reorder point. This report is printed out daily and is used to prepare bids, most of which are currently purchased through a fax quote system. The Supervisor has identified about one dozen vendors that supply most of the needed parts. Several times a week, depending on the need, these vendors are sent via Fax, a quote form that contains the description of the part and the quantities needed. These are the parts that the vendor has supplied in the past. Space is provided for the vendor to note the unit price as well as whether the item is in their stock and readily available for delivery. The vendors are required to return their quote via fax on the form within 48 hours of receipt. Typically, on the day after the receipt of the vendor quotes, a purchase order is prepared and sent to the vendors.

There are several ways to measure the performance of this group. One key measure is the number of buses that are out-of-service awaiting parts. Typically, about one to two percent of the buses in a fleet would be out-of-service awaiting parts. Data from Maintenance Bus Status Report, a daily status report prepared by the Maintenance Unit, indicates that about three

to four buses are typically out-of-service awaiting parts, which represents between 1.5 and 1.9 percent of the 204 fixed route vehicles in the Metro fleet. This is within the acceptable range.

The Materials Management function is supported by the Transit Fleet computer software system that was developed about four years ago for the Metro Transit. While the computer system has been successfully used, it has some shortcomings such as not yet being set up for bar coding and inability to perform certain analyses.

Inventory Control

The Parts Specialists are responsible for maintaining the inventory at the Metro Transit parts room. All parts are received, stored and dispersed to the mechanics at this location.

When parts are received, they are matched to the packing slip and then to the purchase order. Once matched, the parts are entered into the computer by item category, i.e., revenue vehicles, non-revenue vehicles, Buildings & Ground (B&G) materials, shop supplies, etc. Some exceptions are made for those parts that are noted as specials and are needed on the bus immediately. These parts are not entered into the computer but rather are entered into the work order for that particular job. The part is then dispersed to the mechanic.

Once parts are received, they are typically placed into the appropriate location within the storeroom. The storeroom is generally arranged by part type and bus type.

There is one Parts Specialist assigned to handle the mechanics requests for parts at the parts window. This person is responsible for the complete inventory disbursement system during the first work shift. Typically, a mechanic will complete a Parts & Materials Used sheet listing the bus number the part is needed for, the part description and number and the work order number where the part will be charged. For subsequent work shifts, the maintenance unit foremen are responsible for the parts function.

Another responsibility of the Parts Specialists is the monthly physical inventory. Each month, a complete inventory is taken on a different section of the stock. The computer generates the parts to be counted. An annual count for the entire inventory is made each December. The monthly and annual count both show different values compared with the computer inventory value. Often times this error rate is due to several factors including the fact that the parts room is not a secure area and that the room is only controlled by parts staff from about 6:30AM to 5:00PM. During 2nd and 3rd shifts and on weekends, the parts room is open to all those who need parts, even though the policy is for foreman only to enter the room and retrieve parts. It is up to the person taking the part to mark on the Parts Charge Out Sheet the part that was taken along with the bus and work order number.

It should be noted that the two Parts Specialists are union members. Since the staff in this unit must perform a number of different duties, certain union restrictions limit the full use of the work force.

Financial Performance

As shown in the accompanying chart, the cost for bus parts has increased in the five year period spanning 2003 to 2007 from about $503,215 to $705,392, a 40.1 percent increase or about 10 percent a year. During the same period, miles operated increased by about 3.0 percent resulting in the bus parts cost per mile increasing from $0.096 in 2003 to $0.131 in 2007, about a 37 percent increase, not adjusted for inflation. However, it appears that 2003 was an unusually low year for the purchase of bus parts. Bus parts costs in the years 2004 to 2007 varied in a tight range of $0.131 to $0.145 per mile. Parts costs at other comparable transit systems are typically much higher and are often above $0.20 per mile.

Bus Parts Cost Trend

Year	Cost of Bus Parts ($)	Miles Operated (000's)	Bus Parts Cost Per Mile ($)
2003	503,215	5,244.6	0.096
2004	783,419	5,410.6	0.145
2005	693,717	5,422.8	0.128
2006	680,996	5,428.1	0.125
2007	705,392	5,400.7	0.131

The value of the parts inventory at the end of 2007 was $353,983, excluding fuel. This represents $1,587 per vehicle for the 204 full size and the 19 paratransit type vehicles in the fleet and is below the range of parts inventory values of other transit systems that is typically about $3,000 per vehicle. This current inventory level is much less than the amount spent on bus parts at the time of the prior audit in 2002 that was $3,176 per vehicle.

The inventory turn ratio for 2007 is the inventory expended ($705,392) divided by the parts on hand ($353,983) at the year-end or a ratio of 1.99. Any value above 1.0 is an acceptable inventory turn ratio, since a value less than one indicates that inventory has not completely turned over throughout the year, suggesting that inventory is overstocked. It should be noted that the inventory turn rate in 2002 was 1.20.

Status of Prior Audit Recommendations

During the 2003 review, there were two recommendations made pertaining to the Parts Unit. Status of the actions taken by Metro Transit on each recommendation is summarized below.

- Implement the new Maximo computer system.

  This recommendation was not followed since Metro Transit determined that the system would not meet their needs. In its place, Metro Transit determined that upgrading its current computer system would be more appropriate. However, the upgrade has not yet addressed certain improvements such a establishing a formal cycle count program and bar coding.

- Complete the plan to remodel the entire facility.

  The facility remodeling has not been done and is awaiting the planned construction of a new maintenance complex at the current site.

Conclusions and Recommendations

From the review of the parts activities of Metro Transit, certain conclusions are reached. The following are the favorable aspects of the Parts Unit at Metro Transit.

- The Metro Transit Parts Unit staff appears to be properly trained and sized to meet the current demands and with the understanding that the parts room is staffed only during first shift hours on weekdays.

- The procurement procedures are aimed at obtaining the required parts in a timely manner and at the lowest possible price.

- The computer system for inventory control and record keeping provides staff with a tool to control the inventory size and yet to have sufficient parts on-hand so that buses are not out-of-service awaiting a repair part.

- The financial performance of the materials management function is favorable with a relatively low parts cost per mile, low parts on-hand per bus, and favorable parts turn ratio.

The peer group report prepared as part of this Management Performance Audit showed that Metro's maintenance costs, overall and on a per unit basis, were far lower than its peers. The peer report observed that this could be due to efficient operation or could indicate in insufficient level of resources dedicated to the vehicle maintenance function. Parts is an area that contributes to that cost performance. This report noted that Metro's parts cost per vehicle mile is much lower than the typically observed rate. This, again, may indicate efficient operation or an inadequate resource level being dedicated to the function.

Some observations that would suggest that an appropriate level of resources are being dedicated to the parts function include the fact that Metro has an acceptable inventory turn ratio, and a low level of buses out-of-service awaiting parts. Another potential indicator of the performance of Parts is the mean distance between failure (MDBF) rate of the Metro fleet. If

Metro is realizing cost savings in the parts function through the purchase of inferior parts, it would be expected that Metro's MDBF would be below 3,000 miles. Metro's MDBF performance in September and October 2008 was 6,923 and 8,594 miles respectively. This, again, would suggest that there is no issue with the Parts function. Each of these observations would indicate that Metro is realizing cost efficiencies while dedicating an appropriate level of resources to the function. Potential contributing factors to this performance include the fact that Metro has a fairly new revenue vehicle fleet and has a high degree of uniformity in its fleet.

There are only two recommendations that Metro Transit should make in the procurement and inventory control area. These recommendations are geared toward Metro Transit continuing to address those that were made in the prior audit and not yet fully implemented, including:

- Update the current computer system to addresses certain improvements such a establishing a formal cycle count program and bar coding.

- As part of the new facility construction project, emphasis should be placed on better security and access control to the parts room. Also, an effort should be made to centralize the bus parts now found in four or five different places into one or two.

The two recommendations noted above provide the unit with a continuing agenda of activities to improve the procurement and inventory control function at Metro Transit.

FUNCTIONAL AREA REVIEW
BUILDINGS & GROUNDS

This section presents a review of the B&G function of Metro Transit. This review addresses the organization, staff size, janitorial function, and utility function. The information presented is based on staff interviews conducted during November 2008 with the Building & Grounds (B&G) supervisor.

Description of Facilities

The current Metro Transit maintenance facility is located at 1101 East Washington Avenue and was designed to service a fleet of approximately 200 vehicles. The facility was opened in 1981 and consists of a renovated existing warehouse structure along with a new addition. The renovated warehouse space is used for indoor vehicle storage that is needed to protect the fleet from inclement winter weather. The repair and maintenance of the fleet, as well as the parts storage, are accommodated in the new part of the building.

Metro Transit has recently obtained and moved into office space at 1245 East Washington Street, which is adjacent to the maintenance and bus storage facility. This office space accommodates the administrative staff that was located in the 1101 East Washington building as well as those located across the street.

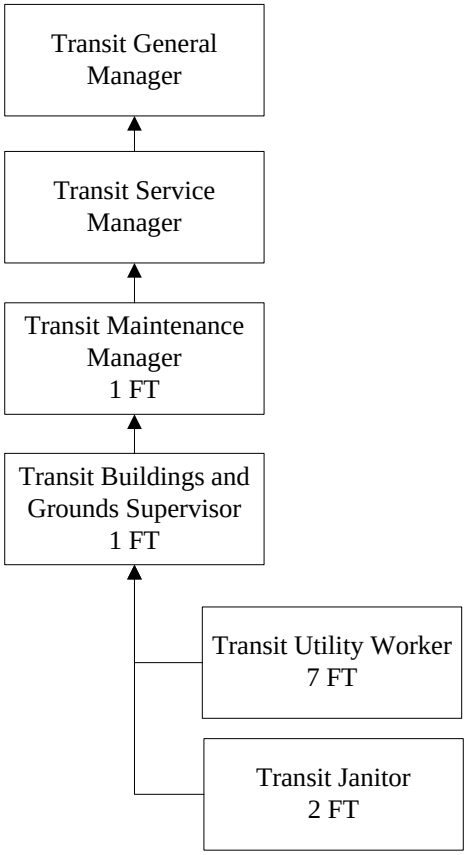
Metro Transit also utilizes 149 passenger waiting shelters throughout the service area, two park-n-ride facilities, and four transfer point terminals.

Organization and Staff

Metro Transit has its own in-house B&G unit. The unit is responsible for: cleaning office, maintenance and bus storage areas; upkeep of grounds including snow removal; and maintenance of building systems for the transit complex located at 1101 East Washington Street as well as the new office complex located at 1245 East Washington Street in Madison. The unit is also responsible for the upkeep of the 149 passenger waiting shelters, two park-n-ride facilities, and four transfer point terminals.

The unit is directed by the Building & Grounds Supervisor who reports to the Transit Maintenance Manager. The B&G unit consists of ten staff members that includes two Transit Janitors, seven Transit Utility Workers and the Supervisor. This staff size represents an increase of one utility employee compared with the 2004 audit. The janitors are responsible for cleaning the entire Metro Transit complex and the upkeep of the grounds, which includes lawn care and some yard snow removal. The utility workers are responsible for upkeep of the building systems, major facility equipment, bus shelters, park-n-ride facilities, and transfer point terminals.

Organizational Structure – Buildings & Grounds Function



Since Metro Transit has the capability of hiring skilled utility workers from outside sources, the skill level of this group is improving. The group has been able to undertake significant facilities projects, such as the current remodeling of the first floor office area at the 1101 East Washington Avenue.

A new feature of this unit is the requirement for all employees to complete a time sheet that describes the work that they accomplished each day. This has helped to monitor the effectiveness of the unit.

Janitorial Function

This group includes two Transit Janitors. The work of the group focuses on cleaning the office area, parts room, inside bus storage area and vehicle travel ways throughout the complex. The cleaning of the vehicle repair bays is the responsibility of the vehicle mechanics. The janitors will also do work on the grounds including mowing and trimming of plants and trees.

As part of an observational tour, the facility and grounds were observed to be in a generally clean condition. The cleanliness of the floor in the bus storage areas was impressive. This performance could be attributed to the fact that Metro Transit has purchased state-of-the-art equipment to assist in the facility cleaning process.

Utility Function

This group includes seven Transit Utility Workers. The group is primarily involved in three major functions -- maintenance and upkeep of 1) facilities, 2) equipment and 3) passenger waiting shelters, park-n-ride complexes and transfer center terminals. The role of utility workers in each of these areas is discussed below:

Facilities - The work of this group in terms of facilities is to perform basic preventive maintenance (PM) work on major building systems and facility repair work where needed. The previous audit noted that only an adequate but minimum amount of PM work was done on HVAC systems, air compressors, emergency generators, electrical switchgear, and building elevators (which was performed through an outside contractor). At that time, it was explained that there was too much time devoted to repair of building systems, and other activities such as passenger waiting shelter work, to devote more effort to the PM work. However, that process has now been changed. There is currently an adopted PM program for most building systems with PM work being tracked with computerized recordkeeping. Two utility workers are assigned the PM function.

Other facility related activities of this group include:

- Minor masonry repair work
- Minor roof repair work
- Computer and telephone system wiring
- Replacement of all light bulbs
- Facility painting
- Movement of office furniture
- Repair of fluid lines
- Removal of carpet
- Construction of some walls

Outside contractors are utilized for most of the major facility repair work as well as the work requiring a special skill, license, or the capability to certify a project. The staff does not include anyone certified in certain skilled areas such as plumbing or electrical work.

When Metro Transit staff members have a facility problem, they will e-mail the B&G office to explain the issue. All problems are addressed in a priority manner and will typically be completed with a few days of when the problem was identified.

Equipment - Utility workers are responsible for upkeep of most of the major pieces of equipment, all of which have a PM program. The PM program tracks 32 separate assets. The utility workers also will perform minor repair work on all shop and garage equipment including bus washers and bus vacuum systems. Outside contractors are used for more major equipment repair and for the removal of sludge from the bus washer and the oil/water separators.

Shelters and Terminals - The B&G staff is responsible for the upkeep of the 149 passenger waiting shelters, two park-n-ride facilities and four transfer point terminals. It should be noted that the City of Madison Street's Department staff remove trash from each shelter during the normal trash removal cycle in the areas of the shelters.

A recent project included the replacement of all glass panels in passenger shelters with a glass/graffiti film. This has resulted in a significant reduction in the work required to keep the passenger shelters in good condition. Before this program, there was an average of 70 broken panels annually. Since the replacement panels were installed, the broken panels have declined to only a few per year. Further, the panels can be treated with a non-toxic solution to remove graffiti.

Status of Prior Audit Recommendations

During the 2003 review, there were two recommendations made pertaining to the B&G Unit. As seen below, Metro Transit has taken action to implement both of the recommendations:

- B&G should develop a formal preventive maintenance inspection (PMI) program for all major building systems.

  The 2004 review recommended that the PMI program should identify each building and major equipment system (e.g., HVAC, bus lifts, bus washer, cyclone vacuum system, etc.), the inspection interval, and the inspection activities. Metro Transit has implemented such a program and has assigned two utility workers to the PM program.

- Implement the new Maximo computer system.

  This recommendation was not followed since Metro Transit determined that the system would not meet their needs. In its place, Metro Transit determined that upgrading its current computer system would be more appropriate. With this upgrade, the B&G unit has input its facility and equipment PM inspection requirements into the computer system. It has complete computer tracking of 32 assets that are under its responsibility.

Conclusions and Recommendations

Since the 2003 review, the B&G function at Metro Transit has greatly improved its effectiveness in maintaining the existing Metro Transit complex. Some of the evidence includes new quick opening garage doors, freshly painted walls in the maintenance and bus storage areas, clean floors in the bus storage areas, and separation of the bus storage area from the maintenance areas. However, the current Metro Transit facility is aging and has a crowded layout. This will present challenges to Metro Transit and will require a continuous and concerted effort on the part of Metro Transit in this area. In this regard, it is essential that Metro Transit act on a recently

completed facility needs study to expand its current complex to provide more efficient facilities. Along with upgrading the facility, the following recommendation is made for the B&G area:

- The computerized B&G recordkeeping system should be used to track and analyze expenditures on outside contractors. This information should then be used for costing analysis and decision making regarding in-house B&G staffing and the use of outside contractors. For example, after reviewing the amount spent annually on outside electrical contractors, Metro Transit may find it more economical to hire an electrician as part of the in-house staff to perform this type of work. During down-time, this person could also perform other functions that are not related to electrician work.

This recommendation provides the B&G unit with action items designed to further improve this function at Metro Transit.

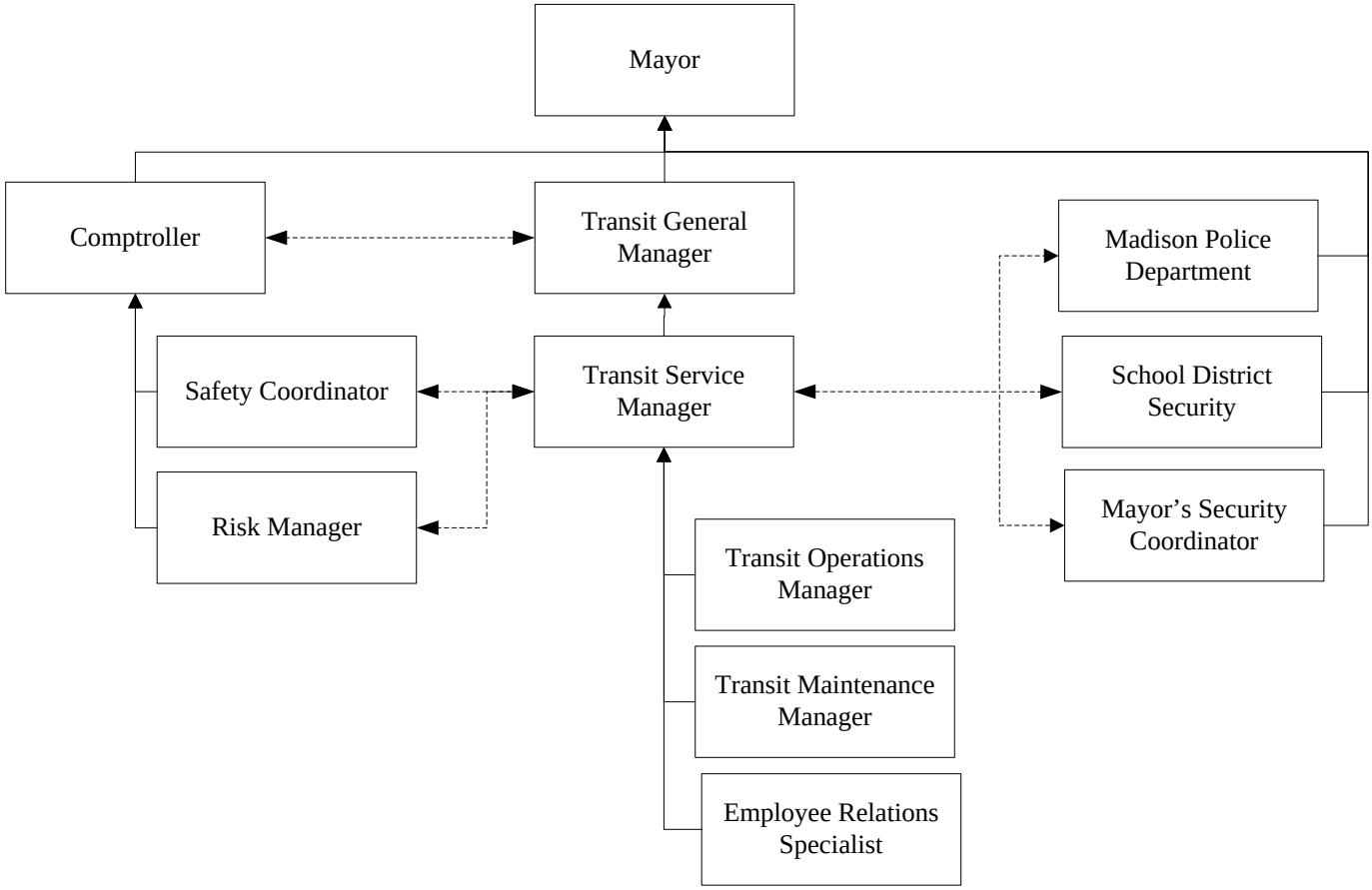
FUNCTIONAL AREA REVIEW
SAFETY MANAGEMENT AND SECURITY

This report documents and reviews Metro Transit's policies and procedures to address safety management and security.

Organizational Structure

Metro Transit's Transit Service Manager retains primary staff responsibility for the safety management and security functions. The Transit Operations Manager, Vehicle Maintenance Manager, and Employee Relations Specialist are also involved in this function. Metro Transit is supported in the safety management and security function by the city's Safety Coordinator and the Risk Manager, who are both part of the City Comptroller's Office. In addition, the Madison Police Department, the security office of the School District, and the Mayor's Security Coordinator, all provides support to Metro Transit concerning security issues. This structure is depicted in the figure below.

Organizational Structure – Safety Management and Security Function



Safety Management

Internally, Metro Transit has established the Customer Service and Safety Group (CUSS) which replaced the Security Team. The CUSS Group meets every two weeks and reviews safety issues and security incidents. The CUSS includes:

- Transit General Manager
- Transit Service Manager
- Transit Operations Manager
- Three (3) Transit Operations General Supervisors
- Two (2) Transit Operations Supervisors
- Transit Marketing and Customer Service Manager

The health and safety team is still headed by the Building and Grounds Supervisor, in the Maintenance section. It meets monthly. Other members include:

- Maintenance Shop Supervisor
- Operations Supervisor

- Senior Management Team Member
- Bus Operators (2)
- Shop Employee
- Office Employee

This team is primarily concerned with workplace safety issues, including Worker's Compensation incidents. Facility "walk arounds" are still conducted in advance of meetings, allowing concerns to be addressed before the meeting. Any seasonal issues are also addressed here.

Worker's Compensation (IOD) - Progress on Worker's Compensation is a genuine success story. While the city's Worker's Compensation expenses have increased three percent overall, Metro's Worker's Compensation expenses have been reduced by six percent. The city is self-insured for Worker's compensation and administers Worker's Compensation through a third-party administrator. The City distributes Worker's Compensation expenses across agencies. Metro experiences the cost of Worker's Compensation both in terms of medical expenses and lost time as well as overtime to cover required assignments.

Metro Transit takes part in city-wide efforts to ensure that employee's IOD leaves are not longer than necessary. Metro Transit have assigns a Metro Transit supervisor to each case. This supervisor maintains continuous contact with the employee while that employee is out on leave. In addition, the city has hired an outside medical consulting firm to provide case management services for city employees out on IOD leave. The case managers will continuously review and monitor each employee's situation to determine if anything can be done medically or otherwise to allow the employee to return to work. The case managers and the applicable supervisors attend a monthly meeting to review each case and develop action steps that need to be taken.

Metro Transit also has a light-duty program for employees who can perform certain duties. The Employee Relations Specialist at Metro Transit oversees this program.

Hazardous Materials - A deficiency noted during the audit is the lack of consistent written work rules for dealing with hazardous and safety-related issues particularly in the shop environment. In general, it was felt that current procedures were adequate but not their documentation. Written procedures for dealing with blood-borne pathogens were cited as a notable exception.

Accident/Incident Review - The process for reviewing accidents has changed somewhat. These are now reviewed by one of the Transit Operations General Supervisors who makes the determination as to chargeability. However, this is subsequently appealable to the Accident Review Board. Metro has bought a portable speed board to attempt to reduce the typical speed at which employees operate their transit vehicles, particularly within their own bus yard and has focused on reducing the number of non-revenue accidents. Metro recently won an award from their insurer for a reduced number of accidents.

Metro staff have received accident scene training from their insurance provider. In addition, Metro has incorporated the AVL equipment into its post-accident investigation and claims follow-up.

Security

The CUSS Group meets every two weeks to review safety issues and security incidents. A sub-group meets monthly with the Madison Police Department, the security chief of the School District and the Mayor's Security Coordinator. The CUSS Group also oversees issues concerning passenger awareness of security issues including posters in busses, on kiosks, etc.

Emergency Planning - Metro developed a Security and Emergency Response Plan in February 2007. A vulnerability assessment has been conducted but staff acknowledged that it had been some time since this was performed. Metro has participated in the County Terrorism Task Force as well as the City of Madison Emergency Response Team. Metro Transit has participated in recent tabletop exercises. Metro Transit has also assisted various agencies in emergency response roles, providing personnel and equipment to close off streets, evacuate victims and provide mobile, heated and lighted areas of temporary shelter as well as areas of respite and refuge.

Security Training - There has been a change in refresher training, which is conducted between May and September. Between one-third to one-half of the workforce will go through this training annually. This training now includes a security training component. In addition, this training will now revert back to a full-day of training.

Security Infrastructure Investments - Metro has also taken several recent steps with respect to day-to-day security. They recognize Madison to be "target rich" from a terrorist perspective. They used capital money to repair or replace security doors at their garage and have placed surveillance cameras throughout their facility and observing their yard. Chain-link open-air doors have been installed for the summer months to curtail the practice of propping solid doors open for ventilation. Visitors must identify themselves at the front door in order to gain admittance. They plan to add a security presence at one of their transfer points, a location where the police currently are able to monitor activity by means of surveillance cameras through laptop computers. They have initiated video recording at other transfer points. Automatic Vehicle Location Technology (AVL) is now present on all buses, staff cars and support vehicles. In addition, they have started a 20 bus pilot program of video recording activity onboard their buses.

Status of Prior Audit Recommendations

Progress appears to have been made in the area of passenger and service security. Metro staff indicated that security-related, public awareness materials have been produced and displayed. In addition, security is now a part of the refresher course of training.

In addition, the prior audit suggested that Metro Transit monitor and address the increasing trend in workers compensation costs, in order to determine if any cost-reduction measures were available. Metro Transit appears to have tackled the issue of rising Worker's Compensation costs and is in fact leading other city agencies in this area.

The status of the specific recommendations included in the previous audit is summarized below:

- Designate specific staff members to facilitate accomplishment of the safety management and training tasks identified by the two employee teams. Assignment of this role would likely be best for designated individual(s) on the supervisory level.

  This recommendation has been addressed with the formation of the CUSS Group and the fact that the primary responsibility of safety management and training, internally at Metro Transit, has been assigned to the Transit Service Manager.

- Ensure that all desired elements have been integrated into its training and retraining programs. It should also solicit feedback from the participants, and institute procedures to monitor and follow-up that the trainings have been appropriate and effective.

  Overall, the previous audit was quite favorable with respect to Metro's training activities but noted that Metro had not taken steps to judge the effectiveness of its training activities. Security is now a part of the refresher course of training, however, staff admitted that this remained a deficiency of the current training process.

- Prioritize the completion and adoption of a Safety & Security Program Plan that is consistent with the advisory guidelines issued by the FTA.

  While, as noted, progress has been made in the area of security, Metro Transit still has not developed a true System Safety & Security Program Plan that is consistent with the advisory guidelines issued by the Federal Transit Administration (FTA).

Conclusions and Recommendations

As noted above, Metro Transit has made good progress in the areas of safety management and security since the previous audit. The recommendations below are designed to assist in those continued efforts:

- Similar to the previous audit, a "feedback" and review process should be undertaken to ensure the effectiveness of training activities.

- A review should be conducted of shop safety procedures. These should be standardized, reviewed, committed to written form and properly communicated, disseminated, controlled and updated.

- While Metro deserves credit for creating the Security and Emergency Response Plan, as noted in the previous audit, Metro should take steps to develop a true Safety and Security Program Plan as advised by the FTA. It appears as if Metro is doing many things correctly in this area however the Plan will help tie together the numerous related efforts and activities currently underway or planned. The plan should contain the following elements:

  - Responsibility and authority for preparation, implementation and maintaining the plan
  - The primary goal of the program
  - An overview of the agency, its structure and the services it provides
  - An overview of the current security program
  - Summaries of current security conditions and report
  - An outline of employee safety and security responsibilities across the organization and succession structure.
  - Threat and vulnerability identification, assessment and resolution procedures
  - Emergency contingency service planning
  - Process for modifying the plan

- A true program of public security awareness should be ongoing. Metro should consider revamping, updating and reinstituting the program of rider security alerts.

- Consideration should be given for Metro Transit personnel to help plan and participate in Police and Fire Department live drills.

- It is useful for the City of Madison to track Metro's Worker's compensation expenses but consideration should be given to tracking the number and type of incidents. Metro operations staff have limited ability to affect the overall cost of Worker's Compensation incidents; that is more a matter for Worker's Compensation administration. However, they are likely to have a stronger ability to limit the number of incidents which occur and to look out for potential exposure and hazardous conditions.

FUNCTIONAL AREA REVIEW
PARATRANSIT SERVICE

This section presents a review of the Paratransit function of Metro Transit. This review addresses the organizational structure, operations, oversight, performance, and customer service aspects of the Metro Plus Paratransit service.

Description of Service

Metro provides its Metro Plus Paratransit service within the Americans with Disabilities Act guidelines for complementary transit services for the disabled. The service area is defined as the City of Madison, the City of Middleton, the Village of Shorewood Hills, the Town of Madison, and the urbanized area of the City of Fitchburg. Service is provided within three-quarter (¾) mile of the Metro fixed bus routes and is offered as a curb-to-curb service. Limited customer requests for door-to-door service are accommodated. Paratransit service is not provided to areas in which Metro is not authorized to operate fixed route bus service, even if those areas fall within the three-quarter mile service area.

Service hours for paratransit are the same as those of the fixed route buses, specific to individual routes (e.g., if a route starts serving a neighborhood at 8:00 AM, that is when paratransit begins in that same area). Overall service hours are from 5:30 AM to 11:30 PM on weekdays, 7:00 AM to 11:30 PM on Saturdays, and 7:00 AM to 10:30 PM on Sundays.

Reservations can be made during business hours: 8:00 AM to 4:30 PM Monday through Saturday, and from 12:30 PM to 4:30 PM on Sundays, and holidays.

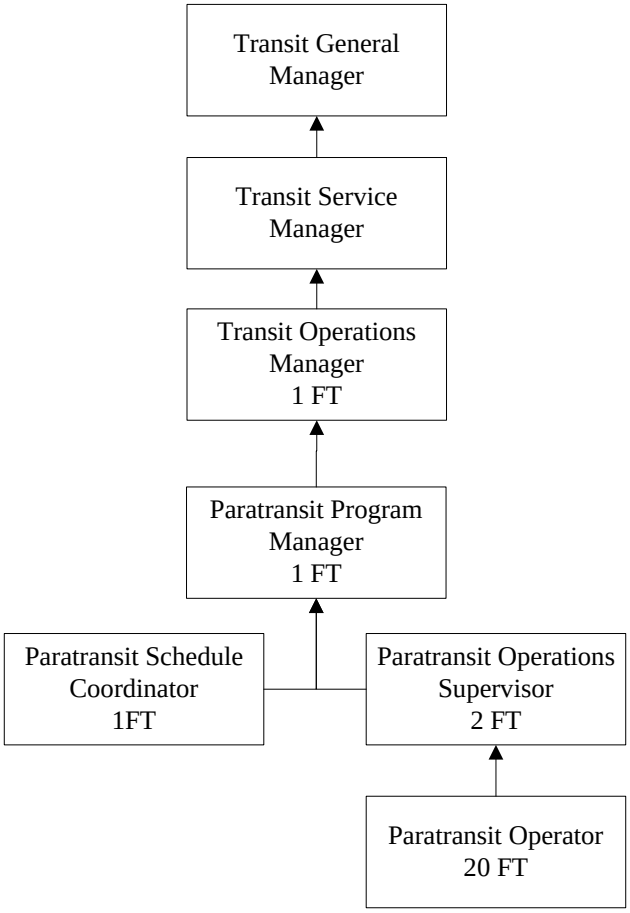
Fixed route bus fares on Metro are $1.50 per ride. While ADA regulations allow transit systems to charge double the fixed route fare for paratransit trips, Metro provides most trips for a $2.00 fare. The exception to this is during peak periods, when the fare is $3.00.

Metro's peak period fare increase is designed to encourage ridership during the off-peak periods when scheduling and accommodating trip requests is generally easier. The ability to respond to peak period trip requests has improved recently as Metro has served trips during specific hours with a dedicated contractor, Badger Bus Lines.

Organizational Structure

Metro's paratransit program is headed by the Paratransit Program Manager, who reports directly to the Transit Operations Manager (who in turn reports to the Transit Service Manager). The paratransit staff consists of the Paratransit Program Manager, the Paratransit Schedule Coordinator, two Paratransit Operations Supervisors, and twenty (20) paratransit operators. The Metro Plus Paratransit staff positions are described below, along with examples of responsibilities of the administrative staff.

Organizational Structure – Paratransit Service Function



Paratransit Program Manager

General Responsibilities:

The Program Manager is responsible for managerial work in planning, coordinating, directing and monitoring the paratransit program. This position supervises the Transit Operations Supervisors and subordinate drivers, as well as specialized clerical and administrative staff.

Examples of specific duties and responsibilities:

- Develops and administers supplemental service contracts with providers
- Determines and assures contract service parameters
- Monitors and enforces relevant contract provisions
- Plans, develops, implements and monitors services consistent with the ADA
- Develops, recommends and implements paratransit policies and procedures

- Hires, trains, monitors and evaluates subordinates both directly and through subordinate supervisors
- Oversees paratransit customer feedback process (direct and contract services)
- Receives and provides feedback to customers and providers consistent with program goals and objectives
- Administers the paratransit eligibility process (determination of eligibility, functional assessments, appeals, recertifications, etc.)
- Provides for related paratransit administration, scheduling and coordination with other units

Paratransit Scheduling Coordinator

General Responsibilities:

This position is responsible for technical work in scheduling paratransit routes and trips to maximize efficiency and productivity. The coordinator assists in customer eligibility determinations and in the maintenance and preparation of related statistical reporting. Day to day duties include the review of data entry, trip assignments, schedule availability, and productivity measures, responding where appropriate.

Examples of specific duties and responsibilities:

- Makes customer eligibility determinations and prepares information for data entry
- Prepares re-certification materials
- Prepares monthly performance statistics and performance reports
- Evaluates data for policy compliance checks
- Establishes route start and end times to accommodate seasonal demand
- Negotiates trip times with customers to maintain productivity, efficiency and policy goals
- Adjusts schedules for planned absences
- Develops and maintains a system for assigning standing trip requests to routes using trip-scheduling software
- Assigns trips to runs in advance of service day
- Prepares monthly customer notifications and correspondence
- Recommends changes in paratransit scheduling procedures and related program policies and procedures

Operations

This section provides a review of the overall operations of the Metro Plus service. This includes the contract operators used, supervision, and the performance standards used to monitor the service.

Contract Operators - Metro provides paratransit service through five operators, including its own directly-operated service. Four private operators contract with Metro to provide paratransit services: Badger Cab, Badger Bus Lines, Laidlaw Transit (now First Transit), and Transit Solutions. Contractors own and maintain their own vehicles and facilities. Their services may be tailored to specific trip types or times of day, but they are not separated geographically into different service areas. Metro's contracts with these operators provide flexibility to assign trips according to demand rather than location or trip type.

Metro does not operate its own vehicles in late evenings or on weekends when demand is typically lower. These times are better suited to operators that are paid by trip as opposed to by hour. Badger Cab, Badger Bus (which operates a long-term assignment focusing on peak period trips), and Transit Solutions each schedule their own trips directly and are reimbursed on a per trip basis by Metro. Badger Bus (regular operations) and Laidlaw Transit are paid on a per hour basis and are assigned trips that are scheduled by Metro.

As a policy consideration, the ADA Transit Subcommittee of the City of Madison's Transit and Parking Commission, which serves as the primary oversight body for Metro Plus Paratransit operations, prefers a mix of contracting operators rather than a single operator. For this reason, Metro only operates a small percentage of trips directly while contracting the majority of service to private operators.

Metro's Paratransit Program Manager has expressed satisfaction with the current contracting operators, noting that record-keeping is timely and accurate and the quality of service has improved in recent years. A valuable incentive to encourage good data recording for Metro Plus is Metro's decision to delay processing of contractor invoices upon receipt and review of monthly performance data. The contractors also have a strong track record of maintaining service even through severe winter weather largely due to the fact that paratransit customers overwhelmingly cancel trip requests at those times.

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Supervision - Metro provides road supervision for both fixed route and paratransit services with its own operations staff. Until 2005, regular ride checks were conducted for paratransit. However, since that time, staffing levels have not permitted comprehensive on-street supervision. The response of Metro Plus Paratransit has been to rely on reviews of performance data and comparing issues highlighted with customer complaint logs. This is particularly true of on-time performance data, which will be discussed in a subsequent section of this chapter.

Recent changes in the organization of Metro Operations should help with supervision and operations in general because drivers for Metro's directly operated paratransit services now report to the Paratransit Program Manager. This allows for more direct supervision from a management and staffing perspective, along with supervision of certain performance indicators.

Metro's paratransit vehicles are equipped with automatic vehicle location (AVL) systems and mobile data terminals (MDT), creating the potential for more accurate reporting of on-time performance, assisting with scheduling, and even with the resolution of customer complaints/disputes.

Conversely, MDT data is only as useful as its accuracy, and Metro has experienced some difficulty with drivers who do not enter information correctly. This is confirmed when MDT data is compared to AVL data. For this reason, Metro Plus Paratransit staff continue to compare MDT data to AVL data, as well as to driver manifests and customer complaints to consider all sources of information pertaining to on-time performance. Monthly reports are generated for each driver assessing his or her on-time performance.

Operations staff has taken additional steps to educate and encourage paratransit drivers to effectively use the MDT equipment. The Paratransit Program Manager also plans additional ride-alongs to observe drivers in action and provide recommendations where necessary. While the goal of the unit is to eventually do away with paper driver manifests, it is imperative that records be kept by drivers on paper for the foreseeable future as both a backup to MDT data as well as an important means of verifying AVL data accuracy (and vice versa).

Performance Standards for Contract Operations - Contract operators must comply with prescribed standards in the delivery of paratransit service. These pertain to on-time performance, maintenance and reliability, passenger comfort, and safety. The standards are described as follows and included in each operator's contract:

Activity	Performance Standard
Monthly total miles/Road calls	> 4,500
Level of service	0.5% Missed trips
Passenger comfort	100% on road operative heat/AC
Safety	25,000 miles/non-injury accident 60,000 miles/injury accident

Contractor reimbursement is subject to meeting target thresholds for on-time performance for the invoice period. Contractors are then paid a percent of the invoice amount based on their performance, as follows:

On-Time Performance	Reimbursement
94% On-time or better	100% of invoiced amount
90-93% On-time	98% of invoiced amount
Less than 90% On-time	90% of invoiced amount

Operating contracts also state that no passenger shall be scheduled to remain on board a vehicle longer than 1 hour and 15 minutes to complete his or her trip.

Policies and Procedures

This section provides a review of the policies and procedures followed to operate and administer the Metro Plus service. These include customer eligibility, cancellation/ no-show policy, and on-time performance.

Customer Eligibility - As defined by the Americans with Disabilities Act and adopted by the City of Madison, three classifications exist for paratransit-eligible customers:

1. Individuals who, because of their disability, cannot independently board, ride and/or disembark from an accessible vehicle.
2. Any person with a disability who can use an accessible vehicle, but for whom any desired trip cannot be made because the fixed route service is not functionally accessible. This includes any person with a disability for which winter weather conditions prevent him/her from accessing the fixed route system.
3. Individuals who have impairment-related conditions preventing them from getting to or from a boarding or disembarking location.

Some customers may be eligible for Metro Plus Paratransit on a trip-by-trip basis, whereby they may only ride paratransit on trips for which they cannot normally ride fixed route buses. Finally, temporary eligibility can be granted to customers who require paratransit services due to a disability but only for a limited period of time. Normal certification is valid for three years.

Metro conducts its own eligibility screening of customers, relying on self reporting, rather than in-person assessments. The current Paratransit Scheduling Coordinator has completed training courses on the subject through the National Transit Institute. Metro's paratransit program staff members also ask customers for professional references to verify functional capabilities to ensure additional accountability.

While in-person assessment of select clients is seen as an important goal, the Paratransit Program Manager has not yet determined the full staff impacts and feasibility of this endeavor. For a three-year period, third party functional testing of select clients was provided by a local medical center. However, staff turnover and lack of consistent experience at that medical center led to Metro's decision to consider bringing functional testing in-house as a means of better maintaining consistency and accountability. At the time of this review, the acquiring of a new third party functional tester has been delayed.

Metro accepts the certification of other transit agencies for visitor service, in addition to allowing visitors to self-certify that they are unable to use fixed route services. Visitors are eligible for 21 days of service within a 365-day period beginning on the first day the paratransit service is used by the visitor.

Metro provides applicants with a written determination of eligibility. If eligibility is denied, the applicant may file an appeal within one month of this determination. The Transit General Manager or his/her designee reviews the appeal and provides a response within 10 working days. In the event that the applicant disagrees with the appeals finding, he or she may

file a second appeal to the Paratransit Appeals Board, comprised of members of ADA Transit Subcommittee of the City of Madison's Transit and Parking Commission. This board's decision is final. Appeal instructions are included in every letter of conditional eligibility and every denial of eligibility letter.

Cancellations, No-Shows - Metro defines a no-show as occurring when a passenger schedules a ride but fails to show up when the vehicle arrives at the scheduled pick up point. An occurrence is not considered a no-show if the customer calls Metro at least 30 minutes prior to the scheduled trip time to report any cancellation or change in schedule. If customers exceed the proscribed rates of no-shows, they risk suspension of service. The acceptable level of no-shows is based on the riding frequency of the passenger, as shown below:

- 1-14 trips per month – a maximum of 2 no-shows per month
- 15-39 trips per month – a maximum of 4 no-shows per month
- 40-59 trips per month – a maximum of 6 no-shows per month
- 60-79 trips per month – a maximum of 8 no-shows per month
- 80-99 trips per month – a maximum of 10 no-shows per month
- 100 or more trips per month – a maximum of 12 no-shows per month

If the customer exceeds these limits on a monthly basis, they become subject to the following suspensions:

- 1st violation – letter or warning
- 2nd violation – 1-day suspension of service
- 3rd violation – 3-day suspension
- 4th violation – 7-day suspension
- 5th violation – 30-day suspension

All subsequent violations warrant a 30-day suspension of service regardless of the original date of the no-show.

Certain exceptions to these guidelines do apply, such as sudden emergencies or changes in health or situations in which customers made efforts to cancel their trip but faced unreasonable phone delays with Metro.

On-Time Performance - As is typical of paratransit programs, Metro Plus measures on-time performance according to a prescribed window of arrival times relative to the customer's scheduled pick-up time. The current policy is that an on-time arrival is one that occurs between zero minutes early and 20 minutes after the requested pick-up time.

Metro began reporting completed trip data electronically in January 2006. Data from contract operators are compared to passenger late trip reports (i.e., customer complaints) for accuracy. Systematic tracking of customer late reports and complaints began in 2001. For the year 2007, on-time performance by contractor was as follows:

Metro (directly-operated):	91%
Badger Bus:	95%
Badger Cab:	93%
Laidlaw:	93%
Transit Solutions:	94%

Program Oversight

The ADA Transit Subcommittee of the City of Madison's Transit and Parking Commission serves as the primary oversight body for Metro Plus Paratransit operations. This subcommittee meets monthly with the Paratransit Program Manager to discuss regular performance reporting, current issues that require attention, budget and financial reporting, and customer service items, as appropriate. In addition to paratransit issues, the subcommittee focuses on fixed route bus accessibility issues as well.

This subcommittee functions primarily as a clearing house to vet issues that may arise concerning paratransit service and make appropriate recommendations to the Transit and Parking Commission. Generally, if the subcommittee presents an issue to the larger commission, these recommendations are taken seriously and considered to be thoroughly prepared. Examples of topics for which the subcommittee's has provided guidance include:

- Service duplication issues
- Vehicle specifications
- Qualifications to include in RFPs
- Customer requests for service outside the defined service area
- Fare policies and fare change proposals (including input at public hearings)

The Paratransit Program Manager provides a detailed report to the subcommittee highlighting various performance measures and issues from the previous month. Examples of recent items in this report include:

- ADA Service standards
- Capacity constraints (on-time performance, phone system capacity)
- Eligibility issues
- General performance measures
- Community outreach

Program Performance

For most performance indicators Metro Plus Paratransit imports operating data from Trapeze, the scheduling software used in-house and by contractors, and generates its own reports in-house to track trends. Automatic vehicle location (AVL) technology is also used aboard vehicles to improve tracking of on-time performance and other operational issues.

Since the previous audit conducted in 2003, no major substantive changes have occurred affecting day-to-day operations of paratransit services. Ridership has increased overall in the period from 2003 to 2007. There was a decrease in 2006 after a spike in 2005 trips provided, but overall, ridership has been increasing.

Operational improvements can be seen in the comparison between revenue miles and hours, and deadhead miles and hours. Deadhead time and mileage has decreased faster than the totals, indicating that vehicles are being scheduled and deployed more efficiently. Deadhead hours decreased substantially (47.5%), indicating much more efficient scheduling of vehicle drive time. Contract agreements with private operators and the focus of specific operators on the peak periods have helped improve overall system efficiency while providing better service to customers in times of highest demand.

From a financial perspective, Metro Plus Paratransit's cost per trip increased 15.5% from 2003 to 2007. Given improvements in other aspects of the system operations, much of this cost increase can be attributed to expected increases in costs for such things as fuel, and drivers' wages and benefits. No abnormal increases in overall system expenses are seen over the five-year period.

Metro Plus Paratransit
Operating Trends 2003-2007

	2003	2004	2005	2006	2007	Percent Change
Total Trips	249,854	256,538	282,235	272,173	280,609	12.3%
Total Revenue Miles	1,686,974	1,610,503	1,703,468	1,690,846	1,821,304	8.0%
Total Deadhead Miles	519,198	269,861	291,711	373,377	466,460	-10.2%
Total Revenue Hours	104,570	99,835	113,992	110,671	113,451	8.5%
Total Deadhead Hours	38,455	13,531	14,790	14,855	20,188	-47.5%
Passengers per Hour	1.75	2.26	2.19	2.17	2.10	20.2%
Passengers per Mile	0.11	0.14	0.14	0.13	0.12	8.3%

Note: All values represent combination of directly operated and purchased transportation; includes Group Access Service mileage

Metro Plus Paratransit
Financial Performance 2003-2007

	2003	2004	2005	2006	2007	Percent Change
Total Trips	249,854	256,538	282,235	272,173	280,609	12.3%
Total Expense	$6,055,475	$6,957,743	$7,108,096	$7,725,081	$7,857,490	29.8%
Net Cost per Trip	$24.24	$27.12	$25.19	$28.38	$28.00	15.5%

Note: Values represent a combination of directly operated and purchased transportation; includes Group Access Service mileage

Metro Plus Paratransit
Operating Performance (All Service) 2003-2007

	2003	2004	2005	2006	2007	Percent Change
Total Trips	249,854	256,538	282,235	272,173	280,609	12.3%
Late Service Reports per 1,000 Trips	n/a	n/a	5.38	2.65	4.94	-8.2%
Cancellation Rate	12.9%	14.0%	15.0%	16.6%	17.3%	34.1%
No-Show	2.4%	2.4%	2.2%	2.1%	2.2%	-8.3%
Number of Clients Provided Service	n/a	1,604	1,601	1,722	1,774	10.6%
Average Trips/Client	n/a	148.1	163.0	146.7	147.3	-0.5%

* Combination of directly operated and purchased transportation; includes Group Access Service mileage

A look at key performance statistics for the 2003-2007 period reveals that Metro Plus Paratransit improved its on-time performance while also reducing the number of client no-shows by over 14%. There was a slight decrease in the percentage of scheduled trips actually operated, which serves as a measure of both scheduling efficiency and policy considerations (e.g., suspension or penalty policies for no-shows). This ratio was at its lowest in 2005 but improved again in 2006 and 2007. Metro has also seen an increase in the number of individual customers it serves. The number of annual rides per customer has remained roughly constant since 2004 with the exception of a one-year increase in 2006.

Of some concern is the growing rate of cancellations (an increase of 34% from 2003-2007). Excessive cancelled trips leads to system inefficiency, as the operator has generally committed that seat to the customer who now does not ride. Variability in late service reports from customers does not necessarily provide an accurate depiction of operator on-time performance. However, with the improved implementation of AVL technology, Metro's on-time performance tracking continues to improve both for directly-operated and contracted services.

Customer Service

The primary method of evaluating customer service and program performance is to monitor customer complaints. Complaints are typically seasonal, coming at times of peak demand which most occur often during the winter months when weather affects travel.

Customers have three primary avenues for registering complaints:

- Send a formal complaint to Metro customer service (mail or telephone)
- Enter a complaint on the Metro website
- Send complaints by fax

Customer service staff members enter all complaints in a database. These entries are summarized and sent to the relevant contract operators. Each contractor researches the complaints and follows up with the Paratransit Program Manager. If customers request a personal follow-up, the contractors also contact them directly to discuss the complaint and corrective actions.

Metro Plus tracks how quickly all responses are provided for customer complaints. However, there is currently no system in place to track the outcomes of these complaints, such as if the complaint required a specific corrective action or if the complaint was deemed not valid.

Metro Plus has been tracking complaints since 2001. For several years, the number of complaints remained static as ridership grew. While the number of complaints grew slightly from 2006 to 2007, the number of complaints per 1,000 trips taken shows a trend of improvement over a six-year period. These figures are also broken out by operator in Metro Plus' monthly performance indicator reports.

Paratransit Complaints per 1,000 Trips (2002-2007)

Year	2002	2003	2004	2005	2006	2007
Complaints per 1,000 trips	2.53	2.56	2.46	2.37	1.59	1.73

Paratransit customer service information has become more visible on the City of Madison website. Paratransit information could also be further highlighted on websites and in printed materials through the use of the standard handicap icon as an identifying feature.

Status of Prior Audit Recommendations

The previous Management Performance Review, conducted in 2003, recommended the following actions for the Metro Plus Paratransit program:

- Metro Plus Paratransit should formalize its monitoring of on-time performance beyond the practice of relying on customer reports (complaints).

  Since the previous audit, this process has evolved to include the use of MDT and AVL technology as a means of tracking and verifying on-time performance.

However, the accuracy of the data provided by directly operated service has been called into question on occasion. This is due largely in part to drivers improperly entering data in their vehicle MDT systems. Therefore, customer complaints remain a primary means of tracking on-time performance in conjunction with the AVL. Metro Plus has nonetheless increased its driver training to ensure better, more accurate use of MDT.

- Tighten up scheduling process to minimize early arrivals, including optimization of Trapeze scheduling software.

  During the five-year period of this review, Metro continued to rely on the triangulation mode of scheduling in Trapeze, which has not provided the most accurate or efficient scheduling of trips. Metro is currently in the process (and hopes to roll out in 2009) of switching to the Street Routing mode in Trapeze to provide better trip scheduling and minimize inefficiencies, including early arrivals. This method better accounts for one-way streets, posted speed limits, and other operating considerations.

  The optimization of the Trapeze software has also been achieved through filling the Paratransit Scheduler position with a capable scheduler with good computer skills. This position has helped Metro better utilize the capabilities of Trapeze.

- Additional focus on travel training could help some paratransit riders switch to fixed route services (as a cost-savings measure for Metro).

  To date, Metro Plus has improved its in-house eligibility certification process for paratransit customers (through staff training and other means) but has not engaged in a formal or thorough travel training program. This remains a recommendation.

- Metro Plus should ensure that a late evening staff person is able to handle incoming calls and evaluate customer requests to change evening pick-up times.

  Customers with service issues may call Metro and reach the evening road supervisor. This supervisor is equipped with trip information for each evening and is capable of making arrangements for missed trips. However, customers seeking changes in travel times for the following day must either leave a recorded message on the cancellation phone line or wait until the next day to speak to a customer service representative.

- Service standards should apply not only to contract operators but also to Metro's directly-operated services as well. Minimum performance thresholds should be established in critical areas (schedule adherence, road call rate) and performance should be monitored in relation to these standards on an on-going basis.

While the definition of on-timer performance and other measures are consistent between Metro's directly-operated paratransit and its contracted services, the thresholds established apply in effect only to the contractors. Nonetheless, these standards are explicitly defined in each contract and are monitored throughout the year. Payment to contractors is only made upon receipt and review of monthly operating data and penalties apply below a threshold of 94% on-time performance. That said, the contractors' performance has typically exceeded that of Metro's directly-operated service in recent years, indicating that continued review of the in-house operational efficiency is warranted.

- Metro should examine ways to reduce paratransit costs (relative to peers), including a mix of contract operators and in-house services and negotiating more favorable contract terms at times of renewal.

  The Paratransit Program Manager has expressed increased confidence in the performance of the contract operators, and the overall system productivity (for which contract operations account for nearly 80% of service) shows that in the past five-year period operations have improved steadily. Costs have not increased at an unwarranted rate, particularly in light of fuel cost increases of recent years.

  The presence of four different contract operators indicates that competition is healthy and Metro is not faced with limited, less cost-effective solutions. Maintaining some directly-operated service also permits Metro to remain in closer communication with its customer base and understand operating realities better, applying this knowledge to its oversight of contractors. Finally, contracts are designed to allow flexibility in trip assignments to assure proper vehicle availability and resources during peak hours, as well as avoid excess capacity in off-peak periods.

Conclusions and Recommendations

Overall, the Metro Plus Paratransit service is well managed with effective oversight by the Paratransit Program Manager. Service efficiency has improved in the past five years, as has overall ridership. The mixture of contract and in-house operations provides an effective mix of services and allows Metro to target specific service issues with designated providers or service types. As a result of this review, recommendations for Metro Plus Paratransit include:

- On-street supervision is critical to successful operations, customer satisfaction, and safety. Road supervisors do cover both fixed route and paratransit operations, yet Metro Plus currently relies more on the monitoring of performance data than on-street monitoring of its services in terms of ride checks and performance evaluation. Although budget limitations have been cited as the reason for reducing supervision since 2005, a greater emphasis should be placed on regular, on-street supervision of

both directly-operated and contracted paratransit operations to conduct ride checks and verify service issues highlighted through regular data reporting.

- Previous FTA recommendations have noted the need for greater documentation of customer service calls to customers that may also be used to verify eligibility for ADA paratransit services. To date, Metro Plus does not explicitly call customers for the purpose of eligibility verification. While customer service calls are placed to gather feedback, greater effort should be made to use these calls as additional verification of eligibility rolls and they should be documented accordingly.

- Sections of the City of Madison website (and other public information materials) should feature the universal handicap icon for better visibility and customer association.

- Metro Plus Paratransit is not currently tracking the outcomes of registered customer complaints. For both customer service (i.e., providing responses to customers and following through on corrective actions) and internal monitoring of the effectiveness of complaint responses, Metro Plus should track these outcomes in the same database used to track and assign incoming complaints.

- As identified in the previous audit, increased travel training can help Metro encourage more ADA paratransit riders to use the fixed route bus system. The current Paratransit Schedule Coordinator has received training from the National Transit Institute to assist with eligibility certification and conduct more in-person reviews. Additional consideration should be given to providing travel training or seeking a qualified organization in the Madison area that can perform this service.