STATE OF ILLINOIS

OFFICE OF THE AUDITOR GENERAL

PERFORMANCE AUDIT

MASS TRANSIT AGENCIES OF NORTHEASTERN ILLINOIS:

RTA,
CTA, METRA, AND PACE

MARCH 2007

VOLUME II

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AUDITOR GENERAL

Infrastructure Management Group, Inc.

The Office of the Auditor General contracted with Infrastructure Management Group, Inc. (IMG) of Bethesda, Maryland to provide assistance in conducting this performance audit. IMG is an international firm providing management and financial expertise to the transportation, aviation, and utility industries.

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To the Legislative Audit Commission, the Speaker and Minority Leader of the House of Representatives, the President and Minority Leader of the Senate, the members of the General Assembly, and the Governor:

This is our report of the Performance Audit of the Mass Transit Agencies of Northeastern Illinois: the Regional Transportation Authority (RTA), Chicago Transit Authority (CTA), Metra, and Pace.

The audit was conducted pursuant to House Resolution Numbers 479 and 650. The audit was conducted in accordance with generally accepted government auditing standards and the audit standards promulgated by the Office of the Auditor General at 74 Ill. Adm. Code 420.310.

The audit report is transmitted in conformance with Section 3-14 of the Illinois State Auditing Act.

WILLIAM G. HOLLAND
Auditor General

Springfield, Illinois
March 2007

REPORT DIGEST

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State of Illinois
Office of the Auditor General

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SYNOPSIS

This Report Digest is an abbreviated version of the Executive Summary. A complete Executive Summary is contained in Volume 1 of the report.

The RTA, CTA, Metra, and Pace are facing a serious financial shortfall. Revenues are not sufficient to pay for current operations, capital renewal programs, and new services.

1. The three Service Boards (CTA, Metra, and Pace) operate independently. Given the financial and operational challenges facing mass transit in northeastern Illinois, the role of the RTA needs to be clarified and strengthened.
2. The General Assembly may wish to consider several statutory changes to address mass transit in northeastern Illinois:
   - *Change the governance structure.* Such changes could range from enhancing the RTA (e.g., planning, reviewing budgets, finance, coordination of fares, performance measurement, and oversight of operations) to centralizing governance.
   - *Review the funding formula.* Service Boards are funded by sales taxes that are distributed by statutory formula, which has remained unchanged since its inception in 1983.
   - *Review the RTA Board membership.* The current allocation of RTA Board members is not consistent with the population distribution of the 2000 federal census. Also, only one of the three Service Boards is represented on the RTA Board.
3. The Service Boards operate a fleet of buses and rail cars that are aging and facing significant replacement costs.
4. Passenger trips on CTA, Metra, and Pace decreased from 743 million in 1985 to 543 million in 1997 (fewer passengers using CTA buses), but have since increased to 598 million in 2005.
5. The Service Boards' operating expenses have increased slightly in constant dollars since 1985 ($1.88 billion in 2005 vs. $1.76 billion in 1985), even though ridership fell by 20 percent.
6. In the past five years, the operating cost of Service Boards has increased 6.5 percent annually while the operating revenues have increased only 2.2 percent annually.
7. RTA sales tax collections have increased slowly from $623 million in 1985 to $700 million in 2005 (in 2005 dollars).
8. The percent of operating expenses covered by fare revenues fell from 43 percent in 1985 to 35 percent in 2005.
9. Some opportunities exist to improve efficiency and effectiveness through increased coordination, decreased redundancy, and improved operations.
10. CTA's retirement plan is severely underfunded and its condition is worsening: actuarial liabilities increased from $2.2 billion in 2000 to $3.5 billion in 2006, while assets declined $500 million.
    - The CTA Plan faces a shortfall for post-retirement healthcare benefits and funds may be depleted in 2007, per its actuary.
    - The General Assembly may wish to consider revising the governance structure for the CTA Retirement Plan by adding public members to the governing committee.

INTRODUCTION

The Illinois House of Representatives adopted Resolutions Number 479 and 650 in 2005 which directed the Office of the Auditor General (OAG) to conduct financial, compliance, and performance audits of the four mass transit agencies in northeastern Illinois (see Appendix A of the performance audit for the Resolutions): the Regional Transportation Authority (RTA), the Chicago Transit Authority (CTA), Metra, and Pace.

- The financial audits have already been released and separate compliance audits are being released with this audit. The compliance examinations do not contain any material findings.
- The OAG contracted with Infrastructure Management Group of Bethesda, Maryland to provide assistance with this performance audit.

REPORT CONCLUSIONS

The transit agencies of northeastern Illinois are facing a serious financial shortfall. Revenues for mass transit are not sufficient to pay the cost of current operations and capital renewal programs, nor provide new services. The Service Boards operate a fleet of buses and rail cars that are aging and facing significant replacement costs.

Revenues for mass transit are not sufficient to pay the cost of current operations and capital renewal programs, nor provide new services.

In 2005, CTA carried 492 million passengers and had expenses of $1.21 billion. Metra was the second largest of the Service Boards and carried 69 million passengers; its total expenses were $504 million. Pace was the smallest and served 37 million passengers with total expenses of $160 million.

This report presents the results of our audit of the RTA, CTA, Metra, and Pace, which are summarized below.

1. **PLANNING.** The RTA needs to take a stronger role in planning and reviewing the budgets of the Service Boards.
   - The three Service Boards undertake their own separate planning activities.
   - The RTA has responsibilities for regional transit planning and recently commenced the Strategic Regional Transportation Plan with input from the Service Boards. This Plan is an important first step but more centralized planning and control is needed given the financial crisis facing mass transit in northeastern Illinois.
   - The lack of strong, centralized planning, and the absence of a long-term plan that encompasses financial, programmatic, and

More centralized planning and control is needed given the financial crisis facing mass transit in northeastern Illinois.

operational aspects of the Service Boards and the RTA contributes to the problems that face mass transit in northeastern Illinois.

2. **STATUTORY CHANGES.** The General Assembly may wish to consider several statutory changes to address mass transit in northeastern Illinois:
   - ***Change the governance structure.*** Changes by the General Assembly could range from clarifying or increasing the RTA's operational and oversight role (e.g., in planning, finance, coordination of fares, technology, performance measurement, and oversight of operations) to restructuring and centralizing the governance system.
   - ***Review the funding formula.*** The RTA funding formula has not been adjusted since its inception in 1983.
   - ***Review the RTA Board membership.*** The current allocation of RTA Board members is not consistent with the population distribution, as reported in the 2000 federal census. Also, only one Service Board (CTA) is represented on the RTA Board while the other two Service Boards (Metra and Pace) are not.

The General Assembly may wish to review the governance structure over the Service Boards.

3. **PASSENGER TRIPS.** Passenger trips decreased from 743 million in 1985 to 543 million in 1997; since then they have increased to 598 million in 2005.
   - Total ridership for the three Service Boards has decreased because fewer passengers are using CTA buses. In 1985, CTA buses accounted for nearly two-thirds of the Service Boards' trips and carried 487 million passengers, while in 2005 CTA buses carried 303 million passengers (51% of Service Boards' trips).
   - As the population has grown in the suburbs, an increased number of residents are using commuter rail. Metra's commuter rail passengers have increased from 62 million in 1985 to 69 million in 2005.
   - Ridership on Pace buses has decreased slightly from 1985 to 2005.

4. **FINANCIAL MANAGEMENT.** RTA revenues are insufficient to pay the continuing cost of programs or funding new services.
   - Operating costs for the Service Boards have increased over the past five years at 6.5 percent annually while operating revenues have increased only 2.2 percent annually.
   - Other undesirable effects, such as inadequate investment in plant, fleet, and equipment, and the erosion of liquidity, have little public visibility because the budget approval process neglects re-investment in capital assets.

5. **REVENUES.** Service Boards have primary operating responsibility, including setting fares.

- Operating costs have grown faster than operating revenues over the past five years.
- CTA generated about 59 percent of the total operating revenues of Service Boards in 2005, followed by Metra (34%) and then Pace.

6. **FAREBOX RECOVERY RATIO.** The Service Boards' operating budget looks nearly the same in 2005 as it did in 1985, when measured in 2005 dollars. Combined expenses increased from $1.76 billion in 1985 to $1.88 billion in 2005. However, average farebox recovery ratio fell from 43 percent in 1985 to 35 percent in 2005 as costs per passenger climbed faster than fare revenues. This farebox recovery ratio is different than the one used by the RTA, which excludes certain expenses, such as some pension and security costs.

Definition **FAREBOX RECOVERY RATIO**
As used in this audit report, farebox recovery ratio equals the ratio of passenger revenues to operating costs, excluding depreciation. • This report used the Service Board's National Transit Database (NTD) submittals for farebox recovery ratios. • This definition differs from a similar ratio calculated by RTA, which is referred to as the "recovery ratio." • The RTA's recovery ratio includes all operating revenues and excludes certain costs (such as certain pension, security, etc.).

The farebox recovery ratio fell from 43% in 1985 to 35% in 2005.

7. **SALES TAXES.** Sales taxes provided to the RTA have increased slowly from $623 million in 1985 (measured in 2005 dollars) to $700 million in 2005.
   - RTA receives 1 percent of the sales tax revenue in Cook County and 0.25 percent in the collar counties.
   - Eighty-five percent of the sales tax proceeds are distributed by formula to the Service Boards, with CTA receiving the largest share (47%), followed by Metra (41%) and then Pace.
   - The RTA used the remaining 15 percent of sales tax revenues for RTA costs and for discretionary uses. Of the discretionary funds allocated to the Service Boards, CTA received 95 percent.

8. **STAFFING.** The audit benchmarked Service Boards' performance against peer transit agencies throughout the United States.
   - CTA pays its "top" bus operators and top vehicle maintenance employees the second-highest wage rates when compared to its peers. CTA has the highest employee benefits rate per salary/wage dollar of its peers, driven primarily by CTA's very high pension costs. Absenteeism at CTA costs approximately $46 million per year for bus and rail operators.
   - Metra's top wage rate is lower than its peers. Metra was near the peer average for total productivity. Its labor costs per unit of service are low. Metra's employee benefits ratio is well below

average. Metra was lower than peers on operator productivity because it is more of a peak-time operator than its peers.

- Pace's "top" hourly operator wage rate is about the same as the average of the peer group. Pace is above the peers in its "top" vehicle maintenance rate. It rates highly in its peer group for all aspects of cost-efficiency and productivity of its labor resources.

9. **COORDINATION AND REDUNDANCY.** Opportunities exist to improve the efficiency and effectiveness of transit operations through increased coordination and reduced redundancy.

CTA, Metra, and Pace function independently with little coordination of operations.

- CTA, Metra, and Pace function independently with little coordination of operations; they also do not coordinate their fares even though CTA and Pace compete for bus markets.
- The Service Boards are experiencing financial difficulties due to aging fleets, deferred maintenance, and service expansion.
- These Service Boards are planning for costly capital expansion (i.e., new federal projects called "New Starts") that may compete with each other for limited State funds.

10. **PENSIONS.** The CTA Retirement Plan (Plan) is in extremely poor financial condition and is deteriorating at a rapid rate. As of January 1, 2006, the Plan was 34 percent funded; it was 80 percent funded on January 1, 2000 (in 2003, the 2000 funded percentage was restated to 67 percent). The actuarial liabilities have grown from $2.2 billion on January 1, 2000 to $3.5 billion on January 1, 2006 and are projected to grow to $4.0 billion by January 1, 2009. At the same time, the actuarial value of assets has decreased from $1.7 billion to $1.2 billion and is projected to decline to $0.8 billion at the beginning of 2009 (when the Plan is expected to be 20% funded).

CTA's pension plan was funded at only 34% as of January 1, 2006.

- CTA took pension "holidays" in 1994, 1995, and 1997, raised pension benefits by 16 percent in 2000, and had negative investment returns in 2001-2002.
- Since at least 2003, reports from the Plan actuary have warned of danger to the funding status of the CTA Plan.
- CTA and its employees currently contribute 9 percent of payroll to the CTA Plan although the actuarially recommended contribution is over 50 percent for 2006.
- The process of setting contribution rates through the collective bargaining process is not common among transit agencies.
- In 2006, Public Act 94-0839 was enacted which requires the CTA to fund its pension Plan at the actuarially recommended amount in 2009; this will result in an increase in funding from $50 million in 2006 to approximately $240 million in 2009 ($150 million for pension and $90 million for healthcare).
- The CTA Plan actuary projected a 50 percent chance that the healthcare funds will be depleted by July of 2007.

RECOMMENDATIONS

The audit contains three matters for consideration by the General Assembly. In addition, the audit also identified deficiencies in 47 areas and recommended more than 130 specific actions by the RTA, CTA, Metra, and Pace.

The matters for consideration by the General Assembly were as follows:

- **PLANNING AND GOVERNANCE.** The General Assembly may wish to consider examining the current organization structure and governance of transit operations in northeastern Illinois. Specifically, the General Assembly may wish to consider strengthening the Regional Transportation Authority Act to provide the RTA with a greater role over financial and programmatic planning in the RTA service area. Such responsibilities could include revising the Regional Transportation Authority Act to incorporate a comprehensive strategic planning process as a statutory requirement.

  The RTA could be given the direct responsibility to review and approve major service expansion programs, including a comprehensive analysis of alternatives, before significant project development funds are expended on these projects.

  More detailed system performance measures could be added to the Regional Transportation Authority Act with the requirement that they be reported annually to the General Assembly and the public.

  The anticipated goal of such legislative action would be to bring about a more coordinated and efficient system of mass transit delivery in northeastern Illinois. Finally, an examination should include consideration of legislation to strengthen the RTA's role in the budget process, coordination of fares and technology, and oversight of operations.

- **COMPOSITION OF THE RTA BOARD OF DIRECTORS.** The General Assembly may wish to consider reviewing the current composition of the Regional Transportation Authority Board to determine whether a change is needed to comply with the representation provisions of the Regional Transportation Authority Act.

- **CTA RETIREMENT PLAN.** The General Assembly may wish to consider requiring the CTA to revise the governance structure for the CTA

Retirement Plan by adding one or more public members to the governing committee.

The audit recommendations were as follows:

1. The RTA should develop and oversee a process that ensures that adequate planning and coordination of service routes occurs.
   - Standards should be developed which set forth guidelines for establishing new routes, with an important factor being that adequate consideration will be given to assigning new routes to the least cost carrier when service routes overlap.
   - Sub-regional route studies should be organized as a part of a single regional transit planning activity, with the overall work program agreed to on a regional level, and the rules for participating in the studies set at the regional level.
   - Included should be an examination of the feasibility and cost savings that could be realized by transferring non-overlapping routes to the low-cost carrier.

2. The RTA should establish a fare system for all Service Boards that fosters intersystem transfers.
   - The fare system should charge customers the same amounts for the same types and travel distances of service among all modes.
   - Furthermore, RTA should work toward establishing more uniform fare media among all Service Boards.
   - Should the RTA require additional legislative authority to deal with regional fare issues, the RTA should seek such authority.

3. The RTA should work in conjunction with CTA, Metra, and Pace to:
   - Define the critical 15-25 measures that best measure the achievement of each agency's mission, including aspects of financial, customer service and productivity performance, and publicly report them on a regular basis;
   - Establish its own set of performance measures;
   - Develop key indicators that link performance for all of the agencies, such as on-time performance, ridership, mean distance between failures (mechanical reliability), safety metrics (employee, passenger and vehicle accidents), financial measures, customer service metrics, and fostering of intermodal and inter-Service Board trips;
   - Convene a working group, as part of the strategic plan, to share "best practices" in performance evaluations and performance measurement; and
   - Additionally, the RTA, CTA, Metra, and Pace should use these performance measures to evaluate the performance of all managers.

4. The RTA should conduct a long-term, comprehensive strategic planning process that sets a structure and broad guidelines encompassing financial, programmatic, and operational functions of the Service Boards and the RTA. The RTA should perform this strategic planning process on an ongoing basis.

   In addition, regarding major new Service Board initiatives, such as New Starts projects, the RTA should establish a set of criteria for funding and prioritizing such initiatives across all agencies. Such criteria could include:
   - How does the proposed project fit within the regional long-range strategic planning process;
   - What is its priority;
   - What is the desired schedule;
   - What resources are available; and
   - Which transportation mode is preferred.

5. The RTA should take the steps necessary to reduce the backlog in the processing of applicants for ADA certification.

6. RTA should revise the incentive system in the contract with the call center contractor to enable them to increase their call capture rate without violating RTA's current budgetary constraints.

7. Regarding maintenance operations, the CTA should:
   - Ensure that reporting of performance indicators is consistent across various performance reporting documents;
   - Review customer perceptions of cleanliness in upcoming customer satisfaction surveys; and
   - Complete the process of revising the data reported to FTA with respect to major and other failures.

8. Regarding bus maintenance and management operations, the CTA should undertake the following activities:
   - Conduct regular evaluation of the MMIS system rollout to ensure it is on schedule;
   - Develop MMIS measures and reports that will maximize productivity;
   - Develop a detailed recruiting and employee retention strategy;
   - Prioritize labor rule changes CTA will seek in the next round of collective bargaining; and
   - Continue with innovative efforts to develop human capital, including training current employees.

9. CTA should take the following actions to improve the safety of its operations:
    - Become a participant in the APTA Bus Audit Program and request an APTA Peer Review for the Bus System;
    - Integrate operating/represented personnel into the agency's safety programs;
    - Formalize procedures that delineate clear accountability for implementation of follow-up action for personnel related to specific safety concerns;
    - Improve communication of safety objectives to employees;
    - Review options for revising employee incentive programs. This may be an opportunity to involve unionized workforce to identify effective incentive programs;
    - Review the application of discipline as a disincentive for improving safety performance;
    - Finalize and implement the Bus System Safety Plan;
    - Clarify the leadership role of the Safety Department for facilitating the resolution of outstanding safety issues internally (completion of Bus System Safety Plan) and externally (response to APTA Safety Audit); and
    - Consider modifying the Injury-On-Duty rate calculation methodology to one that is not dependent on the period of time being reviewed.

10. Regarding customer service operations, the CTA should:
    - Continue to proactively evaluate and implement new technology options to enhance the customer experience;
    - Add detail to the monthly customer complaint/commendation report to understand and target priority areas for management attention to ensure better customer service; and
    - Research the high abandonment rate and ascertain whether it is based on the website referral or the long waiting time.

11. Regarding the AECOM recommendations, CTA should undertake the following actions:
    - Prioritize implementing recommended changes based on financial benefit and likelihood of implementation;
    - Work with labor representatives to find common ground where changes in labor rules can be beneficial to both CTA and its employees;
    - When the next round of collective bargaining takes place, seek key labor changes to enact the recommendations; and
    - If arbitration is required, be prepared to provide detailed analysis of the benefits of requested changes and the effect on bargained-for workers.

12. Metra should implement MMIS to better facilitate the tracking and monitoring of maintenance trend data.

13. Metra should implement programs to formalize the collection and review of safety trend data.

    In addition, Metra should continue its efforts to improve the safety of grade crossings.

14. Metra should continue to focus on NTSB recommendations from the 2003 derailments including re-establishing and broadening the simulator training program and continuing steps towards the installation of a positive train control system.

    Metra should implement a Violation Tracking System that will store and analyze information about rules violations that occur on the system.

15. Metra should begin compiling a customer complaint/recommendation report to target priority areas for management attention and to provide systematic tracking and service trends for reporting to the Board and general public.

16. In the absence of any other funding sources, Pace should consider increasing the cost of vanpool service to improve farebox recovery and decrease vanpool operating subsidies. A study of the elasticity of demand for vanpool service would help assess the effect of this decision.

17. Pace should roll out the new risk management, customer service, and ERP systems as timely as feasible.

    Pace should focus on more efficiently producing regular monthly and quarterly reports and altering business processes to reduce redundant data entry, even before the new systems come online.

18. Regarding safety, Pace should:
    - Consider rolling out an Onboard Video Safety System on all routes;
    - Implement performance goals and track success regarding the Zero Accident Program;
    - Update the system safety program plan to include a description of emergency procedures and how Pace would work with public safety and other agencies in an emergency; and
    - Conduct a formal study of implementing a transitional return to work program to reduce lost workdays.

19. Pace should adjust IBS on-time data to reflect reasonable (departing early or arriving at a time point less than five minutes) deviation from the schedule, identify reasons for deviation, and adjust routes or schedules as needed. Pace should also track routes that repeatedly appear on the action/review or watch list in the quarterly performance review.

20. The Service Boards should follow-up on areas where the staffing benchmarking data indicated that performance could be improved and determine whether changes can be made.

    The CTA Attendance Improvement Program, now underway, should be treated as one of the CTA's highest priorities, with implementation and accountability delegated to middle and first-line managers, with frequent reporting and monitoring of performance. Improving CTA's systems for tracking non-work time and providing accurate, timely, and relevant information to all levels of management on a daily basis is an important part of this effort.

    The CTA should explore ways to expedite the arbitration process to significantly reduce the time it takes to finalize labor agreements.

21. The CTA should:
    - Develop a plan to fund the CTA employee pension plan, as required by Public Act 94-0839;
    - Pursue alternatives to setting contribution rates through the collective bargaining process, given that such a process has resulted in drastic underfunding of the pension plan;
    - Examine the 9 percent investment return assumption;
    - Develop and implement a plan to fund the post-retirement healthcare plan;
    - Pursue all possible cost reduction strategies of the post-retirement healthcare plan that have not already been implemented;
    - Monitor the Plan's compliance with the retiree healthcare subordination test, under Internal Revenue Code Section 401(h) and develop plans to help assure continued compliance;
    - Examine the feasibility of the CTA making all contributions to employee pension plans (along with a commensurate decrease in employee compensation) and the potential costs savings that could accrue;
    - Review the feasibility of changing the defined benefit plan to a defined contribution plan, such as for new employees starting employment with the CTA; and
    - Identify any matters or changes in State law that require legislative action regarding pension and post employment healthcare benefits,

and present these matters to the General Assembly for its consideration.

22. The CTA should take the action necessary to ensure that its various supplemental pension plans are adequately funded and trusted to protect the interests of the beneficiaries of these plans.

23. RTA, Metra, and Pace should:
    - Continue to take the actions necessary to ensure the pension plan is adequately funded;
    - The parties should periodically review the 8.5 percent investment return assumption; and
    - The parties should consider phase-out of the lump sum option.

24. Pace should take the action necessary to ensure that pension plans are adequately funded. Such action could include ensuring that contribution rates included in collective bargaining agreements are actuarially sufficient; pursuing alternatives to setting contribution rates through the collective bargaining process; or setting up defined contribution plans to replace the defined benefit plans, as has been done for other Pace bargaining unit employees.

25. In the absence of any other funding sources, the CTA should consider adjusting its rail fares and its monthly pass rates to reduce its projected operating subsidy requirements and to improve its rate of cost recovery.

26. In the absence of any other funding sources, Metra should consider increasing its fares and exploiting under-utilized sources of non-fare revenues, such as from concessions and advertising, in order to reduce its operating subsidy requirements.

27. In the absence of any other funding sources, Pace should consider implementing a distance-based fare structure in order to offset growth in its operating subsidy requirements.

28. RTA should prepare and adopt annually a ten-year financial plan, reflecting:
    - The agency's current cash position and all then-known obligations;
    - The amounts of discretionary sales tax and PTF revenues, and planned distributions of these funds to RTA uses, debt service, and to Service Boards as a group;
    - Anticipated amounts of State and federal capital grants, and State appropriations for servicing existing and planned debt issued by RTA on behalf of the State;

- The Service Boards' capital replacement and rehabilitation plans, based on asset replacement standards and fleet plans; and
- Positive working capital (i.e., current assets less current liabilities).

In addition, the RTA should adopt a financial planning standard that requires a Service Board to demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.

29. The CTA should:
    - Modify the presentation of its budget to include all operating costs per GAAP, and require Board approval of any deferral of operating costs to subsequent years;
    - Prepare and adopt annually a ten-year financial plan, reflecting:
        - The agency's current cash position and all then-known obligations, including pension contributions;
        - A capital replacement and rehabilitation plan that reflects CTA asset replacement standards; and
        - Positive working capital (i.e., current assets less current liabilities); and
    - Demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.

30. Metra should:
    - Continue to present its budget to include all operating costs per GAAP, and require Board approval of any deferral of operating costs to subsequent years;
    - Prepare and adopt annually a ten-year financial plan, reflecting:
        - The agency's current cash position and all then-known obligations, including pension contributions;
        - A capital replacement and rehabilitation plan that reflects Metra asset replacement standards and fleet plans; and
        - Positive working capital (i.e., current assets less current liabilities); and
    - Demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.

31. Pace should:
    - Continue to present its budget to include all operating costs per GAAP, and require Board approval of any deferral of operating costs to subsequent years;

- Prepare and adopt annually a ten-year financial plan, reflecting:
  - The agency's current cash position and all then-known obligations, including pension contributions;
  - A capital replacement and rehabilitation plan that reflects Pace asset replacement standards and fleet plans; and
  - Positive working capital (i.e., current assets less current liabilities); and
- Demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.

32. RTA should investigate whether pay-as-you-go financing for a portion of the capital program would be a more efficient use of State funds than the current strategy that relies totally on bond financing.

    In addition, in the capital program it adopts, the RTA should include a provision for the disclosure of unfunded capital needs so that decision-makers and the public are aware of the cost of attaining a state of good repair, even if the funds do not exist to attain it.

33. Regarding its capital program, the CTA should:
    - Reexamine system expansion decisions given that the significant estimated five-year unfunded needs to reach a state of good repair are significantly higher than planned CIP expenditures;
    - Investigate why the "percent unobligated" balance for current years' CIP has been increasing in recent years and address the issue accordingly;
    - Investigate the problem of increasing "percent unexpended" balances in recent years and address the issue accordingly, possibly by expediting its capital procurement process;
    - Identify whether its proposed capital projects are primarily for: (i) safety; (ii) infrastructure renewal; (iii) capacity expansion for the existing system; (iv) extensions to the existing system; or (v) other supporting assets;
    - Increase the Brown Line project contingency to ensure its adequacy; and
    - Review its engineer's estimates during the course of major projects to ensure that the cost-to-complete estimate is current and reliable.

34. Metra should review its past grant awards and determine if projects that are contributing to the growth in the unobligated balances are still necessary, and, if so, why they are not being expended in a more timely manner.

35. Pace should review its past grant awards and determine if projects that are contributing to the growth in the unexpended balances are still necessary, and, if so, why they are not being expended in a more timely manner.

36. Regarding contracts and procurements:
    - The RTA should assist the Service Boards in identifying and facilitating opportunities for joint procurements that would result in cost savings and/or coordinated service delivery; and
    - The CTA and Pace should work together to bring about the joint bus farebox procurement.

37. The CTA should:
    - Review and update its Capital Improvement Program to ensure it accurately captures the total estimated cost of replacing bus and rail fleets;
    - Seek to even-out the fleet age profile to ensure more even maintenance needs; and
    - Continue to implement the non-revenue fleet recommendations contained in the AECOM report.

38. Metra should examine whether it is more cost-effective to maintain and rehabilitate its electric fleet, which is far beyond the FTA-eligible retirement age, or replace it with new electric cars.

39. Pace should review its Capital Improvement Program to determine if it needs to be updated given that it would need to replace about 29 percent of its bus fleet in the next five years, at an estimated cost of $65 million, or about 38 percent higher than presented in the current financially constrained CIP.

40. The CTA should continue its efforts to find a tenant for the top floor of its headquarters building.

41. Metra should continue its efforts to find tenants for the unoccupied space in its headquarters building.

42. Regarding surplus real property:
    - CTA and Metra should develop and implement a formal process to guide senior operational managers in a regular assessment of property utilization. In this process, property would be declared surplus unless a decision is made to retain the property for operational or administrative needs; and
    - CTA and Metra should actively dispose of real property that was determined to be surplus, which may include non-traditional

(i.e., non-sale) methods in the case of properties for which there is no competitive market.

43. Real estate management personnel within each Service Board should continue to pursue initiatives and opportunities to introduce or expand commercial services and annually update their goals for revenue generated from self-managed and third party commercial services.

44. Regarding private investment, CTA should:
    - Examine the potential to outsource development opportunities at major installations and identify the risk/reward profile of any identified options; and
    - Develop a methodology to systematically address opportunities to introduce or increase commercial services on its property in conjunction with the private sector on a routine basis, such as every two years.

45. The CTA should develop a codified list of building condition requirements for administrative, operational and transit facilities that represent minimum acceptable standards of cleanliness or repair, as appropriate to their real estate assets, staff and customer service requirements.

46. CTA and Metra should develop a formal process based on current practices that considers the opportunity cost of owning and managing their own real estate portfolio, which can be employed on a systematic basis when considering the manner in which property should be acquired, managed, and disposed.

47. The CTA should continue to implement the AECOM recommendations related to the management of real property.

The agencies generally accepted these recommendations (see full report and Appendix E for the agencies' responses).

WILLIAM G. HOLLAND
Auditor General

WGH:AD
March 2007

INFRASTRUCTURE MANAGEMENT GROUP

The Office of the Auditor General contracted with Infrastructure Management Group, Inc. (IMG) of Bethesda, Maryland to provide assistance in conducting this performance audit. IMG is an international firm providing management and financial expertise to the transportation, aviation and utility industries. IMG's work includes conducting performance audits, advising management, and conducting financial analyses for public and private organizations.

GLOSSARY	
Active Vehicles in Fleet	The vehicles in the year-end fleet that are available to operate in revenue service, including Spares and Vehicles temporarily out of service for routine maintenance and minor repairs.
Actual Passenger Car Hours	The vehicles in the year-end fleet that are available to operate in revenue service, including: • Spares • Vehicles temporarily out of service for routine maintenance and minor repairs.
Actual Passenger Car Miles	The hours that passenger cars travel while in revenue service (actual passenger car revenue hours) plus deadhead hours. Actual passenger car hours include: • Layover /recovery time But exclude: • Hours for charter services • Operator training, and • Vehicle maintenance testing.
Actual Passenger Car Revenue Hours	The hours that passenger cars travel while in revenue service. Passenger car revenue hours include: • Layover / recovery time But exclude: • Deadhead • Operator training • Vehicle maintenance tests, and • Charter services.
Actual Passenger Car Revenue Miles	The miles that passenger cars travel while in revenue service. Passenger car revenue miles exclude: • Deadhead • Operator training • Vehicle maintenance tests, and • Charter services
Actual Vehicle Hours	The hours that vehicles travel while in revenue service (actual vehicle revenue hours (VRH)) plus deadhead hours. Actual vehicle hours exclude: • Hours for charter service • School bus service • Operator training, and • Vehicle maintenance testing.
Actual Vehicle Miles	The miles that vehicles travel while in revenue service (actual vehicle revenue miles (VRM)) plus deadhead miles. Actual vehicle miles exclude: • Miles for charter services • School bus service • Operator training, and • Vehicle maintenance testing.
Actual Vehicle Revenue Hours (VRH)	The hours that vehicles travel while in revenue service. Vehicle revenue hours (VRH) include: • Layover /recovery time But exclude: • Deadhead • Operator training • Maintenance testing, as well as • School bus and charter services.

GLOSSARY	
Actual Vehicle Revenue Miles (VRM)	The miles that vehicles travel while in revenue service. Vehicle revenue miles (VRM) include: • Layover / recovery time But exclude: • Deadhead • Operator training and maintenance testing, as well as • School bus and charter services.
ADA	Americans with Disabilities Act of 1990
Annual Operating and Administrative Expenses	The recurring costs of providing public transportation service. They include: • All employees' wages and salaries; fringe benefits; operating supplies such as fuel, and oil; contractors' charges for services; taxes; repair and maintenance services, parts, and supplies; equipment leases and rentals; marketing; lease or rental costs; and insurance. • Operating expenses include administrative expenses. • Operating costs exclude fixed costs such as depreciation on plant and equipment, costs of providing transportation services not available to the general public, and interest paid on loans on capital equipment.
Annual Passenger Trips	The number of passengers who board operational revenue vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination. Trips should be counted regardless of whether an individual fare is collected for each leg of travel. It includes passenger trips on volunteer vehicles.
Annual Vehicle Hours	The total amount of time in hours for the reporting period that all vehicles travel from the time they pull out to go into revenue service to the time they pull in from revenue service. This includes the hours of personal vehicles used in service.
Annual Vehicle Miles	The total number of miles for the reporting period that all vehicles travel from the time they pull out to go into revenue service to the time they pull in from revenue service. This includes the miles of personal vehicles used in service.
Average Trip Length	The average distance ridden for an unlinked passenger trip (UPT) by time period (weekday, Saturday, Sunday) computed as passenger miles (PM) divided by unlinked passenger trips (UPT).
Capital	Projects related to the purchase of equipment. Equipment means an article of non-expendable tangible personal property having a useful life of more than one year and an acquisition cost which equals the lesser of: • The capitalization level established by the government unit for financial statement purposes, or • $5,000. Capital expenses do not include operating expenses (OE) that are eligible to use capital funds.
Capital Costs	The expenses incurred within the year related to the purchase of facilities, vehicles and equipment
Capital Expenses	The expenses related to the purchase of equipment. Equipment means an article of non-expendable tangible personal property having a useful life of more than one year and an acquisition cost which equals the lesser of: • The capitalization level established by the government unit for financial statement purposes, or • $5,000. Capital expenses do not include operating expenses (OE) that are eligible to use capital funds.
Commuter Rail (CR)	A transit mode that is an electric or diesel propelled railway for urban

	passenger train service consisting of local short distance travel operating between a central city and adjacent suburbs. Service must be operated on a regular basis by or under contract with a transit operator for the purpose of transporting passengers within urbanized areas (UZAs), or between urbanized areas and outlying areas. Such rail service, using either locomotive hauled or self-propelled railroad passenger cars, is generally characterized by: • Multi-trip tickets • Specific station to station fares • Railroad employment practices, and • Usually only one or two stations in the central business district. It does not include: • Heavy rail (HR) rapid transit, or • Light rail (LR)/streetcar transit service.
Customer Services	Component activities include: • Providing supervision and clerical support for public information and customer relations activities • Selling and arranging for the provision of charter services • Providing route information in passenger stations and at other points along the transit way • Providing telephone information service • Handling customer complaints • Administering a lost and found operation.
Deadhead (Miles and Hours)	The miles and hours that a vehicle travels when out of revenue service. Deadhead includes: • Leaving or returning to the garage or yard facility • Changing routes • When there is no expectation of carrying revenue passengers. However, deadhead does not include: • Charter service • School bus service • Operator training • Maintenance training.
Demand Response (DR)	A transit mode comprised of passenger cars, vans or small buses operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations. A demand response (DR) operation is characterized by the following: • The vehicles do not operate over a fixed route or on a fixed schedule except, perhaps, on a temporary basis to satisfy a special need, and • Typically, the vehicle may be dispatched to pick up several passengers at different pick-up points before taking them to their respective destinations and may even be interrupted en route to these destinations to pick up other passengers. The following types of operations fall under the above definitions provided they are not on a scheduled fixed route basis: • Many origins — many destinations • Many origins — one destination • One origin — many destinations, and • One origin — one destination.
Directional Route Miles (DRM)	The mileage in each direction over which public transportation vehicles travel while in revenue service. Directional route miles (DRM) are: • A measure of the route path over a facility or roadway, not the service

GLOSSARY	
	carried on the facility; e.g., number of routes, vehicles, or vehicle revenue miles. • Computed with regard to direction of service, but without regard to the number of traffic lanes or rail tracks existing in the right-of-way (ROW). • Directional route miles (DRM) do not include staging or storage areas at the beginning or end of a route.
Directly Operated (DO)	Transportation service provided directly by a transit agency, using their employees to supply the necessary labor to operate the revenue vehicles. This includes instances where an agency's employees provide purchased transportation (PT) services to the agency through a contractual agreement.
Employee	An individual who is compensated by the transit agency as follows: • For directly operated (DO) services, the labor expense for the individual is reported in object class (501) labor. • For purchased transportation (PT) service, the labor expense for the individual meets the same criteria as object class (501) labor.
Employee Work Hours	Employee labor hours, not including fringe benefit hours such as: • Sick leave • Holidays, and • Vacations. Work hours include: • Only labor hours for employees of the transit agency • Both full time and part time • Permanent and temporary.
Farebox Recovery Ratio	Farebox recovery ratio, as used in this report, is calculated as the ratio of passenger revenues to operating costs, excluding depreciation. Operating costs are those determined using generally-accepted accounting principles (GAAP). This report used a service board's National Transit Database submittals for system-wide and modal farebox recovery ratios. This definition of farebox recovery ratio differs from a similar ratio calculated by RTA, which is referred to as the "recovery ratio". The farebox recovery ratio, as used in this report, differs from the RTA recovery ratio in the following ways: (i) it includes certain operating costs that are reported in NTD and in the audited financial statements of a service board that are not considered in the RTA ratio (e.g., full annual pension costs, security cost); and (ii) only passenger revenues are used, as opposed to all operating revenues being included in the RTA recovery ratio.
Farebox Recovery Shortfall	Farebox recovery shortfall, as used in this report, is calculated as the difference between farebox revenues to operating costs, excluding depreciation. The terms used here are the same as the numerator and denominator in the farebox recovery ratio. Operating costs are those determined using generally-accepted accounting principles (GAAP). This report used a service board's National Transit Database submittals for system-wide and modal farebox revenues. This definition differs from operating subsidy in that it does not include non-fare revenues.
Fare Revenues	All income received directly from passengers, either paid in cash or through pre-paid tickets, passes, etc. It includes donations from those passengers who donate money on the vehicle. It includes the reduced fares paid by passengers in a user-side subsidy arrangement.
Federal Capital Assistance	Financial assistance from the Federal Transit Administration to assist in paying the capital costs of providing transit service.

GLOSSARY	
Federal Operating Assistance	Financial assistance from the Federal Transit Administration to assist in paying the operating and administrative costs of providing transit service.
Fixed Route Service	Transit service using rubber tired passenger vehicles operating on fixed routes and schedules, regardless of whether a passenger actively requests a vehicle.
Fringe Benefits	The payments or accruals to others (insurance companies, governments, etc.) on behalf of an employee and payments and accruals direct to an employee arising from something other than a piece of work. These payments are transit agency costs over and above labor costs, but still arising from the employment relationship.
Fuel and Lubricants	The costs of gasoline, diesel fuel, propane, lubricating oil, transmission fluid, grease, etc., for use in vehicles.
Full Time Employee	Employees of the transit agency meeting the local definition of full time hours. Normally, these persons are entitled to receive the full benefits package (e.g., sick leave, vacation and insurance benefits).
General Administration	All activities associated with the general administration of the transit agency, including: • Transit service development • Injuries and damages • Safety • Personnel administration • Legal services • Insurance • Data processing • Finance and accounting • Purchasing and stores • Engineering • Real estate management • Office management and services • Customer services • Promotion • Market research • Planning.
Heavy Rail (HR)	A transit mode that is an electric railway with the capacity for a heavy volume of traffic. It is characterized by: • High speed and rapid acceleration passenger rail cars operating singly or in multi-car trains on fixed rails • Separate rights-of-way (ROW) from which all other vehicular and foot traffic are excluded • Sophisticated signaling, and • High platform loading.
Local Capital Funds	Financial assistance from local entities to assist in paying capital. They include: • Tax levies – A specified amount from local tax levies that is dedicated to supporting the capital costs of the public transit system. • General funds – Transfers from the general fund of local governments to cover the Local Share portion of transit system capital costs. • Specified contributions – Contributions from the local government towards the Local Share portion of transit system capital costs. • Reserve funds – Transfers from a capital reserve fund of local governments expressly established to be used to cover the Local Share portion of transit system capital costs. • Donations – Donations from individuals or organizations to help

GLOSSARY	
	cover the transit system capital costs.
Local Operating Funds	Financial assistance from local entities that support the operation of the transit system. They include, but are not limited to: • Tax levies – A specified amount from local levies that is dedicated to supporting public transit system operating costs. • General funds – Transfers from the general fund of local governments to cover the Local Share portion of the transit system budget. • Specified contributions – Contributions from city, county or other municipal government towards the Local Share portion of the transit system budget. • Donations – Donations from individuals or organizations to help cover the costs of providing transit service but which are not related to specific passengers or trips. • Other – Other revenues such as advertising.
Major Incident	Existence of one or more of the following: • A fatality other than a suicide • Injuries requiring immediate medical attention away from the scene for two or more persons • Property damage equal to or exceeding $25,000 • An evacuation due to life safety reasons • A collision at a grade crossing • A mainline derailment • A collision with person(s) on a rail right-of-way (ROW) resulting in injuries that require immediate medical attention away from the scene for one or more persons • A collision between a rail transit vehicle and another rail transit vehicle or a transit non-revenue vehicle resulting in injuries that require immediate medical attention away from the scene for one or more persons.
Major Mechanical System Failure	A failure of some mechanical element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip because actual movement is limited or because of safety concerns.
Materials and Supplies	The tangible products obtained from outside suppliers or manufactured internally. Expenses include: • Freight-in • Purchase discounts • Cash discounts • Sales taxes and excise taxes (except on fuel and lubricants) are to be included in the cost of the material or supply. Charges to these expense accounts will be for the materials and supplies issued from inventory for use and for the materials and supplies purchased for immediate use; i.e., without going through inventory.
Non-Operating Paid Work Time	The time an operator spends on the job in a capacity other than operating, making preparations for or completing the immediate operation of a revenue vehicle. Non-operating time includes: • Instructor premium for operator training • Student training time • Accident reporting time • Witness time • Time spent on union functions • Run selection time • Other time spent in transportation administration

GLOSSARY	
	• Time spent in revenue vehicle movement control • Time spent in ticketing and fare collection • Time spent in customer service • Other.
Non-Scheduled Services	Services provided on demand, rather than with predetermined fixed time points, i.e., a schedule. Non-scheduled services are: • Demand response (DR) • Vanpool (VP) • Jitney (JT) • Publico (PB) services.
Non-Vehicle Maintenance	All activities associated with facility maintenance, including: • Administration • Repair of buildings, grounds and equipment as a result of accidents or vandalism • Operation of electric power facilities • Maintenance of: – Vehicle movement control systems – Fare collection and counting equipment – Structures, tunnels and subways – Roadway and track – Passenger stations, operating station buildings, grounds and equipment – Communication systems – General administration buildings, grounds and equipment, and – Electric power facilities.
Number of Active Vehicles in Fleet	The total number of operational revenue vehicles in the fleet available for general public transit service, including spare or back up revenue vehicles. The total should also include any operational revenue vehicles used by contractors in general public transit service. Non-revenue service vehicles and personal vehicles should not be included.
Operating Expenses	The expenses associated with the operation of the transit agency, and classified by function or activity, and the goods and services purchased. The basic functions and object classes are defined in Section 5.2 and 6.2 of the Uniform System of Accounts (USOA). These are consumable items with a useful life of less than one year or an acquisition cost which equals the lesser of: • The capitalization level established by the government unit for financial statement purposes or • $5,000.

GLOSSARY	
Operating Ratio	Operating ratio, as used in this report, is calculated as operating revenues divided by operating cost, excluding depreciation. Operating costs and operating revenues are those determined through the use of generally-accepted accounting principles (GAAP). This report used as source documents a service board's audited financial statements and the National Transit Database, the latter used in those cases where the service board operates multiple modes (e.g., bus, rail, demand-responsive service, vanpools), and this report has reason to cite the operating ratio by mode. In cases where the operating ratio is cited by mode, the operating revenue for that mode is calculated as follows: modal passenger revenue reported in NTD, plus an allocation of non-fare operating revenue reported in the audited financial statements. Non-fare operating revenues are allocated to individual modes, where required, in proportion to a mode's share of total passenger revenues for that service board. This definition of the operating ratio differs from a similar ratio calculated by RTA, which is referred to as the "recovery ratio". The operating ratio, as used in this report, differs from the RTA recovery ratio primarily in that it includes certain operating costs that are reported in NTD and in the audited financial statements of a service board that are not considered in the RTA recovery ratio (e.g., full annual pension costs, security cost).
Operating Subsidy	Operating subsidy, as used in this report, is calculated as operating cost, excluding depreciation, less operating revenues. Operating costs and operating revenues are those determined through the use of generally-accepted accounting principles (GAAP). This report used as source documents a service board's audited financial statements and the National Transit Database, the latter used in those cases where the service board operates multiple modes (e.g., bus, rail, demand-responsive service, vanpools), and this report has reason to cite operating subsidy by mode. In cases where the operating subsidy is cited by mode, the operating revenue for that mode is calculated as follows: modal passenger revenue reported in NTD, plus an allocation of non-fare operating revenue reported in the audited financial statements. Non-fare operating revenues are allocated to individual modes, where required, in proportion to a mode's share of total passenger revenues for that service board.
Operating Time	The time involved in: • Operating revenue service in accordance with published operating schedules by both regular and extra board operators • Operating line service that is added to the published operating schedule in order to meet abnormal demand (such work will always be an extra piece assigned to an available operator rather than covered in an operator sign-up) • Operating non-contract service to and from special events (e.g., sports events, shopper runs, etc.) • Operating service for which the pickup and discharge points and patrons of the service are specified by a charterer / contractor • Standby time.
Operators	The personnel (other than security agents) scheduled to be aboard vehicles in revenue operations, including: • Vehicle operators • Conductors • Ticket collectors. Operators may also include: Attendants who are transit agency employees that are aboard vehicles to assist riders in boarding and alighting, securing wheelchairs, etc., typically the elderly and persons with disabilities.

GLOSSARY	
Operators' Salaries and Wages	The labor of employees of the transit agency who are classified as revenue vehicle operators or crew.
Other Materials and Supplies	The costs of materials and supplies not specifically identified in object classes fuel and lubricants (504.01) and tires and tubes (504.02) issued from inventory or purchased for immediate consumption.
Other Mechanical System Failures	A failure of some other mechanical element of the revenue vehicle that, because of local agency policy, prevents the revenue vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip even though the vehicle is physically able to continue in revenue service.
Other Salaries and Wages	The labor of employees of the transit agency who are not classified as revenue vehicle operators or crew.
Part Time Employees	Employees of the transit agency who work less than the local definition of full time. Normally, these persons are not provided the full benefits package (e.g., sick leave, vacation and insurance benefits) associated with full time employment. Full time employees working part of their time in a function or mode are not part time employees.
Passenger	A person who is: • On-board • Boarding, or • Alighting from a transit vehicle for the purpose of: • Travel, without participating in its operation.
Passenger Car	A unit of rolling rail equipment that provides transportation and seating and standing room for the general public. It includes self-propelled cars.
Passenger Fare Assistance	The subsidy given to the transit agency, usually by state and local governments, on behalf of specific classes of passengers, such as students, the elderly, and persons with disabilities. The subsidy may also come from the private sector, such as employers giving assistance to offer employees programs to use public transit services at reduced rates or free. The fare assistance helps to offset the reduced or free services provided to these passengers. It is usually based on the amount of service provided; i.e., the subsidy is calculated based on the number of rides taken, but may be a lump sum payment.
Passenger Fares	The revenue earned from carrying passengers in regularly scheduled and demand response (DR) services. Passenger fares include: • Base fare • Zone or distance premiums • Express service premiums • Extra cost transfers • Quantity purchase discounts applicable to the passenger's ride • Special transit fares.
Passenger Miles (PM)	The cumulative sum of the distances ridden by each passenger.
Platform Time	The time during which an operator operates the revenue vehicle a) in line service or in deadheading (including layover periods in the vehicle at a rest point) or b) for charter, contract, and special non-contract service, or is deadheading or laying over as a result of such service.
Premium Time (Operating Time)	The time an operator works over and above straight time work. Premium time includes: • Overtime premium — scheduled • Overtime premium — unscheduled • Spread time premium • Shift premium • Other premium.

GLOSSARY	
Purchased Transportation (PT)	Transportation service provided to a public transit agency or governmental unit from a public or private transportation provider based on a written contract. The provider is obligated in advance to operate public transportation services for a public transit agency or governmental unit for a specific monetary consideration, using its own employees to operate revenue vehicles. Purchased transportation (PT) does not include: • Franchising • Licensing operations • Management services • Cooperative agreements, or • Private conventional bus service.
Rail Overhaul (fleet	The one-time rebuild or replacement of major subsystems on revenue producing rail cars and locomotives — commonly referred to as midlife overhaul.
Revenue Service (Miles, Hours, and Trips)	The time when a vehicle is available to the general public and there is an expectation of carrying passengers. These passengers either: • Directly pay fares • Are subsidized by public policy, or • Provide payment through some contractual arrangement. Vehicles operated in fare free service are considered in revenue service. Revenue service includes: • Layover / recovery time. Revenue service excludes: • Deadhead • Vehicle maintenance testing • School bus service, and • Charter service.
Revenue Vehicle	The floating and rolling stock used to provide revenue service for passengers.
Scheduled Passenger Car Revenue Miles	The passenger car revenue miles computed from the scheduled service. It includes only the scheduled passenger car revenue miles from the whole trip. It excludes: • Deadhead • Service interruptions, and • Special additional services.
Seating Capacity	The number of seats that are actually installed in the vehicle.
Service Area	A measure of access to transit service in terms of population served and area coverage (square miles). The reporting transit agency determines the service area boundaries and population for most transit services using the definitions contained in the Americans with Disabilities Act of 1990 (ADA). Transit agency reporters are required to submit service area information on the Identification form.
Service Consumed	The amount of service actually used by passengers and which is measured by unlinked passenger trips and passenger miles.
Service Supplied	The amount of service scheduled or actually operated. Service supplied is measured in vehicles, miles and/or hours that were operated.
Spare Ratio	The ratio of Vehicles Available for Maximum Service divided by the number of vehicles operated in maximum service.
Spare Vehicles	The revenue vehicles maintained by the transit agency to: • Meet routine and heavy maintenance requirements • Meet unexpected vehicle breakdowns or accidents • Thereby preserve scheduled service operations.
Standing Capacity	The number of standing passengers that can be accommodated aboard the

GLOSSARY	
	revenue vehicle during a normal full load (non-crush) in accordance with established loading policy or, in absence of a policy, the manufacturer's rated standing capacity figures.
Straight Time Allowances (Operating Time)	The time when an operator works at the base or regular rate of pay. Straight time allowances includes: • Report time • Turn-in time • Travel time • Intervening time • Paid breaks and meal allowances • Minimum guarantee for call out • Minimum guarantee-daily • Minimum guarantee-weekly • Standby time.
Unlinked Passenger Trips	The number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination.
Vanpool (VP)	A transit mode comprised of vans, small buses and other vehicles operating as a ride sharing arrangement, providing transportation to a group of individuals traveling directly between their homes and a regular destination within the same geographical area. The vehicles shall have a minimum seating capacity of seven persons, including the driver. For inclusion in the NTD, it is considered public transit service if it: • Is operated by a public entity, or • Is one in which a public entity owns, purchases, or leases the vehicle(s). Vanpool(s) (VP) must also be in compliance with public transit rules including Americans with Disabilities Act (ADA) provisions, and be open to the public and that availability must be made known. Other forms of public participation to encourage ridesharing arrangements, such as: • The provision of parking spaces • Use of high occupancy vehicle (HOV) lanes • Coordination or clearing house service, do not qualify as public vanpools.
Vehicle Maintenance	All activities associated with revenue and non-revenue (service) vehicle maintenance, including: • Administration • Inspection and maintenance • Servicing (cleaning, fueling, etc.) vehicles. In addition, vehicle maintenance includes repairs due to vandalism and accident repairs of revenue vehicles.
Vehicle Operations	All activities associated with vehicle operations, including: • Transportation administration and support • Revenue vehicle movement control • Scheduling of transportation operations • Revenue vehicle operation • Ticketing and fare collection • System security.
Vehicles Available for Annual Maximum Service	The number of revenue vehicles available to meet the annual maximum service requirement. Vehicles available for maximum service include: • Spares • Out of service vehicles, and

GLOSSARY	
	• Vehicles in or awaiting maintenance. But exclude: • Vehicles awaiting sale, and • Emergency contingency vehicles.
Vehicles Operated in Annual Maximum Service (VOMS)	The number of revenue vehicles operated to meet the annual maximum service requirement. This is the revenue vehicle count during the peak season of the year; on the week and day that maximum service is provided. Vehicles operated in maximum service (VOMS) exclude: • Atypical days, or • One-time special events.

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Chapter One

INTRODUCTION

The Illinois House of Representatives adopted Resolutions Number 479 and 650 in 2005 which directed the Office of the Auditor General (OAG) to conduct financial, compliance, and performance audits of the four transit agencies in the Chicago area: the Regional Transportation Authority (RTA), the Chicago Transit Authority (CTA), the Commuter Rail Division (Metra), and the Suburban Bus Division (Pace); see Appendix A for Resolutions. The financial audits have already been released and separate compliance audits are being issued with this audit.

The RTA was established in 1974 by the Illinois General Assembly and with the approval of a referendum in the six county northeastern Illinois region. A 1983 amendment to the RTA Act (Act) changed the responsibilities of the RTA, giving "Service Boards" operating responsibilities, and giving the RTA responsibilities for planning, funding, and oversight of regional transit. The responsibilities of the three Service Boards are as follows:

- **Chicago Transit Authority** operates bus and heavy rail services and also operated demand responsive services until they were transferred to Pace on July 1, 2006. CTA is the largest of the three Service Boards.
- **Metra** operates commuter rail services. A substantial portion of these services is operated by private railroads under contract to Metra, with Metra designating service levels, fares, and schedules.
- **Pace** operates bus, demand responsive, and vanpool services in the suburban areas of the RTA district.

REPORT CONCLUSIONS

The transit agencies of the Chicago metropolitan area are facing a serious financial shortfall. Revenues are not sufficient to pay the cost of capital programs and few funds are available to subsidize new services. The Service Boards operate a fleet of buses/rail cars that are aging and facing significant replacement costs. CTA's estimated cost of bringing the bus and rail fleet to a state of good repair exceeds projected expenditures in its five-year Capital Improvement Program (CIP). Metra and Pace are able to make only limited capital investments to maintain their existing fleets.

CTA's retirement plan is severely underfunded and its condition is worsening. Its actuarial liabilities have grown from $2.2 billion on January 1, 2000 to $3.5 billion on January 1, 2006. At the same time, assets have declined by $500 million to $1.2 billion. Pension arrangements of the RTA, Metra, and Pace are also underfunded, although by a much smaller amount.

Opportunities exist to improve the efficiency and effectiveness of transit operations in northeastern Illinois through increased coordination and reduced redundancy. Presently, the three Service Boards largely operate independently from each other with little coordination of operations. Only recently has the RTA undertaken a strategic planning initiative for the entire region. Service Boards are individually planning for significant, costly capital project expansion projects (such as New Starts projects) some of which may ultimately compete with each other.

In 2005, CTA carried 492 million passengers and had expenses of $1.21 billion. Metra was the second largest of the Service Boards and carried 69 million passengers; its total expenses were $504 million. Pace was the smallest and served 37 million passengers with total expenses of $160 million.

This report presents the results of our audit of the RTA, CTA, Metra, and Pace, which are summarized below:

1. FINANCIAL MANAGEMENT

Transit finance in the Chicago metropolitan area is in a serious situation. RTA revenues are insufficient to pay the continuing cost of programs or fund the operating subsidy of new services.

- Operating costs for the Service Boards (CTA, Metra, and Pace) have increased over the past five years at 6.5 percent annually and have substantially exceeded the growth in operating revenues (2.2% annually). This has produced a 10 percent annual increase in operating shortfalls, while the RTA sales tax has been growing at only 1.7 percent per year. The RTA Act allows for any costs that do not require cash expenditure to be excluded from its budget review process.
- Other undesirable effects, such as inadequate investment in plant, fleet, and equipment, and the erosion of liquidity, have little public visibility because the budget approval process neglects re-investment in capital assets.
- CTA's current level of service is not sustainable with current revenues. This situation occurred due to operating decisions, labor agreements, and arbitration decisions. CTA expended more funds between 2001 and 2005 than were available and employed stop-gap measures to avoid cash shortfalls.
- The Service Boards are semi-autonomous organizations that are responsible for their own capital program management.

2. PLANNING

- The lack of a strong, centralized planning function, and the absence of a long-term strategic plan that encompasses financial, programmatic, and operational aspects of the Service Boards and the RTA, has been a major contributing factor to the problems that face transit in northeastern Illinois.
- The RTA recently commenced the comprehensive Strategic Regional Transportation Plan in conjunction with the Service Boards. This Plan is an important step; however, the RTA needs to take a stronger role in planning and reviewing the budgets of the Service Boards. The General Assembly may wish to consider strengthening the Regional Transportation Authority Act to provide the

RTA with a greater role over financial and programmatic planning in the RTA service area. Two Service Boards are currently working on nine new projects (i.e., "New Starts" applications) which will likely result in these applications competing with each other for scarce State matching funds. The RTA should establish criteria for funding and prioritizing Service Board initiatives.

3. COORDINATION AND REDUNDANCY

This audit has identified several significant coordination conflicts and redundancies among the Service Boards. For example, the Service Boards lack consistent, coordinated fare policies, and the CTA and Pace compete for bus markets.

- The current silo approach of the Service Boards and the RTA has resulted in strong independent transit providers with some overlapping political constituents, agendas, and customers. While focus and independence are important characteristics of high performance organizations, each of the Service Boards, to varying degrees, are experiencing financial difficulties: aging fleets, deferred maintenance, and perceived needs to expand services to its customers.
- Given the challenges currently facing the region, it is prudent to consider whether the current organizational and governance structure is the best public and financial policy. The General Assembly may wish to consider more clearly defining and/or strengthening the RTA's role in finance, planning, coordination of fares and technology, performance measurement, and oversight of operations.

4. PERFORMANCE MEASURES

As the region's transit oversight organization, the RTA should set performance measures for itself and the Service Boards. The RTA lacks clear performance measures for itself and for the Service Boards.

- The CTA has made a recent commitment to provide monthly performance reporting. The current monthly performance measures (posted on its web-site) focus on customer service. Financial and construction measures are published on its web-site as separate Board presentations. Customer service measures are not coordinated with measures reported in the annual report or in other CTA publications.
- Metra does not focus on systematically reporting performance, such as by reporting measures on its web-site on an annual basis, although management regularly monitors operations, including on-time performance, ridership, and capacity utilization.
- Pace has developed a high level of balanced performance measures, although they are not published on Pace's web-site.

5. PENSIONS

The CTA Retirement Plan is in extremely poor financial condition and is deteriorating at a rapid rate.

- As of January 1, 2006, the CTA Retirement Plan (Plan) was 34 percent funded; it was 80 percent funded on January 1, 2000. The actuarial liabilities have grown from $2.2 billion on January 1, 2000 to $3.5 billion on January 1, 2006 and are projected to grow to $4.0 billion by January 1, 2009. At the same time, the

actuarial value of assets has decreased from $1.7 billion to $1.2 billion and is projected to decline to $0.8 billion at the beginning of 2009 (when the Plan is expected to be 20% funded).

- In addition to significantly underfunding the Plan, the Plan's pension benefits were raised by 16 percent in 2000, had negative returns in 2001-2002, and took pension "holidays" in 1994-1995 and 1997.
- Since at least 2003, reports from the Plan actuary have delineated danger to the funding status of the CTA Plan.
- CTA and its employees currently contribute 9 percent of payroll to the CTA Plan although the actuarially recommended contribution is over 50 percent for 2006.
- In 2006, Public Act 94-0839 was enacted which requires the CTA to fund its pension plan at the actuarially recommended amount in 2009; this will result in an increase in funding from the current $50 million funding level in 2006 to approximately $240 million in 2009.
- The 9 percent investment return assumption used by the CTA Plan has been questioned by the Plan's actuary as being too high; it is also higher than the rates used by other peer transit entities in the U.S.
- The CTA Plan also faces a shortfall for post-retirement healthcare benefits that could exhaust its funding well before 2009; the Plan actuary projects a 50 percent chance that the funds in the Retiree Healthcare Account will be depleted by July of 2007.

Metra and Pace management employees and all RTA employees are in the RTA pension plan, which is in fair financial condition (76% funded ratio as of January 1, 2006). Metra's bargaining unit employees are in multi-employer, "union" pension plans, which require Metra to make a specified per-hour contribution, with no further responsibilities for pension obligation. Over a period of many years, all but two of Pace's nine bargaining unit retirement programs have shifted to defined contribution plans. The two remaining defined benefit plans are in fair to good financial condition, with funding ratios of 76 percent and 86 percent.

6. REVENUES

Each of the three Service Boards has primary operating responsibility for certain transit services in the region and is fully responsible for setting fares and developing ancillary sources of operating revenues.

- The CTA accounted for about 59 percent of the total operating revenues generated by the Service Boards in 2005, with Metra and Pace generating 34 percent and 7 percent, respectively.
- Operating revenues (all fare and non-fare based revenues) grew at a much slower rate than operating costs over the past five years for all Service Boards, resulting in fairly rapid growth in operating subsidies (defined as operating expenses minus all fare and non-fare revenue). Given the need to find additional funding for the Service Boards, analysis of ridership trends and fare structures indicates that there may be an opportunity to generate more operating revenues. A modest increase in CTA (rail) and Metra fares is expected to have a minimal impact on ridership levels; Pace exhibits the least opportunity for revenue growth from higher fares.

7. CAPITAL PROGRAM

The Service Boards define and propose the capital projects to be considered by the RTA, implement the approved capital projects, and receive capital grants from the Federal Transit Administration and IDOT. The RTA issues bonds, the principal source of non-federal funds for capital projects, and disburses bond funds as requested by the Service Boards for approved projects.

- Capital replacement and rehabilitation projects are not given priority and capital replacement needs are not being met.
- Capital investments have been insufficient to keep pace with the aging of the CTA infrastructure and its vehicle fleet.
- Evidence suggests that bond funds are being expended at a slowing rate – the percentage of unexpended capital funds increased from 64 percent in 2003 to 71 percent in 2005. The cost of bond financing is substantial – annual interest costs paid by the RTA increased by $54 million (72 percent) between 2001 and 2005.

8. PASSENGER TRIPS AND PASSENGER MILES TRAVELED

Passenger trips decreased from 743 million in 1985 to 543 million in 1997; since then they have increased to 598 million in 2005.

- The amount of heavy rail service provided by CTA increased by 20 percent between 1985 and 2005, as measured by passenger trips. However, total ridership for the three Service Boards has decreased because fewer passengers are using CTA buses. In 1985, CTA buses accounted for nearly two-thirds of the Service Boards' trips and carried 487 million passengers while in 2005 CTA buses carried 303 million passengers (51% of Service Boards' trips).
- As the population has grown in the suburbs, an increased number of residents are using commuter rail. Metra's commuter rail passengers have increased from 62 million in 1985 to 69 million in 2005.
- Ridership on Pace buses has decreased slightly from 1985 to 2005.

Despite the decline in ridership, service provided as measured by passenger miles has increased slightly over the 20-year period from 3.62 billion in 1985 to over 3.7 billion in 2005. This is because average trips are lengthening.

- Passenger miles traveled on CTA bus decreased substantially from 1.16 billion in 1985 to just 722 million in 1997. Since then, miles traveled have rebounded by 1 percent per year to 782 million in 2005.
- Passengers traveled an estimated 1.14 billion miles on CTA rail in 2005. This was a 15 percent increase from 987 million miles in 1985.
- With rapid population growth in the suburbs, both Metra and Pace have seen an increase in passenger miles. In 2005, passengers using Metra traveled 1.55 billion miles, an increase of nearly 20 percent over 20 years. Pace has maintained an annual increase in miles traveled of approximately 2.3 percent per year. Pace carried passengers 173 million miles in 1985 and 273 million miles in 2005.

9. RECOVERY RATIO

The Service Boards' operating expenses look nearly the same in 2005 as it did in 1985, when measured in 2005 dollars. Combined expenses increased from $1.76 billion in 1985 to $1.88 billion in 2005 (0.32% increase per year). However, average farebox recovery ratio fell from 43 percent in 1985 to 35 percent in 2005 as costs per passenger climbed faster than fare revenues. This farebox recovery ratio is different than the one used by the RTA, which excludes certain costs, such as some pension and security costs.

10. POPULATION CHANGES

Since 1985, the population of the five collar counties (DuPage, Kane, Lake, McHenry, and Will) has grown from approximately 2 million residents to 3 million in 2005, meaning that more people now live in the collar counties than in the city of Chicago. Chicago's residents have decreased from 3 million residents in 1985 to about 2.84 million in 2005. Cook County's population has remained largely unchanged during this time period.

11. SALES TAXES

The RTA collects sales tax revenues in Cook and collar counties pursuant to the RTA Act: 1 percent in Cook County and 0.25 percent in the collar counties. Tax collections increased slowly from $623 million (inflation adjusted) in 1985 to $700 million in 2005.

- Eighty-five percent of the sales tax proceeds are distributed by formula to the Service Boards. Of the 85 percent, CTA received the largest share (47%) followed by Metra (41%), and Pace (13%).
- The RTA used the remaining 15 percent of sales tax revenues for RTA costs and for discretionary uses. Of the discretionary funds allocated to the Service Boards, CTA received 95 percent.
- The statutory sales tax allocation formula and discretionary sales tax allocation indicate the following:
  - The statutory revenue allocation understates the sales tax revenues actually received by the CTA, because the RTA's **discretionary** revenue allocations heavily favor the CTA.
  - Population change has not materially affected sales tax revenue allocations, even though population growth has been faster in the suburbs, because the tax rate in the collar counties (0.25%) is much lower than that in Cook County (1%).
  - No single operating statistic can accurately measure tax allocation equity; other metropolitan areas that grapple with this issue focus on costs incurred and revenues generated by jurisdiction, taking into account multiple variables.

  Regardless of the allocation formula utilized, changing the formula will not address the problem of lack of funding for all of the transit agencies.

12. STAFFING

To make an assessment of the staffing levels and costs of the three Service Boards, the Boards' staffing was compared to peer transit agencies throughout the United States.

- CTA pays its "top" bus operators and top vehicle maintenance employees the second-highest wage rates when compared to its peers. CTA has the highest employee benefits rate of its peers (see Pensions chapter for detailed discussions). Absenteeism at CTA costs approximately $46 million per year for bus and rail operators.
- Metra was near the peer average for total productivity. Its labor costs per unit of service are low. Metra's employee benefits ratio is well below average. Metra was lower than peers on operator productivity, primarily because it is more of a peak-time operator than its peers and the limited availability of tracks during non-peak periods. As a result, Metra operators are less utilized mid-day than at other agencies.
- Pace's "top" hourly operator wage rate is about the same as the average of the peer group. Pace is above the peers in its "top" vehicle maintenance rate. Its employee benefit costs are in the middle of the group. It rates highly in its peer group for all aspects of cost-efficiency and productivity of its labor resources.

13. FLEET

All three Service Boards operate fleets of buses and/or rail cars that are older than the average age of peer transit systems. Collectively, the Service Boards are facing significant fleet replacement costs, which are understated in the "financially constrained" capital improvement program (CIP) (2006-2010). Readily-identifiable fleet replacement needs exceed the CIP budget by $1.23 billion, in part because Service Boards must produce CIPs that can be funded within the CIP period. The RTA provides funding "marks" to the Service Boards, which are projections of funding available over a 5-year period. As a result, the Service Boards may have fleet replacements needs that exceed the funding marks, and thus are not included in the CIP.

- CTA compares favorably with its peers in terms of efficiency of fleet operations. CTA's vehicle utilization rate (i.e., annual hours of operation per vehicle) and spare ratio (i.e., the number of spare buses or rail cars divided by the peak fleet requirement) were better than its peers.
- Metra's spare ratio was better than its peers but its vehicle utilization rate was significantly lower than its peer average, primarily due to a stronger peak-oriented operation than its peers.
- Pace's vehicle utilization rate was below the peer average; Pace's spare ratio was better than its peers.

14. REAL ESTATE

Our audit concluded that opportunities for improvement exist at one or more of the Service Boards in the areas of surplus property management and the introduction of

commercial development in real property. Regarding the Service Boards' real estate administrative operations:

- The top floor of the CTA Headquarters building (approximately 34,000 square feet) is unoccupied. The CTA has been attempting to rent it, but has been unsuccessful. The CTA's financial plan for acquiring the new headquarters was based on the assumption that rental income would be generated by this space.
- Metra occupies approximately 63 percent of its headquarters building and an additional 18 percent is leased to tenants. The remaining 19 percent is vacant and Metra has engaged the services of a real estate broker to further increase the occupancy of the building.
- Pace conducted a Capital Needs Assessment over 10 years ago that concluded that the cost to substantially rebuild its existing headquarters facility to meet current needs exceeded the cost to construct a new headquarters facility. However, a new facility has not been constructed but is in the final stage of design with construction scheduled to begin in mid-2007.

15. PROCUREMENT

There is little coordination of contract and procurement functions among the RTA, CTA, Metra and Pace. While opportunities for joint procurement may be limited, given the differing modes of service offered by the Boards, some opportunities for improvement exist. For example, the CTA-Pace farebox procurement has been underway for over three years without reaching an award and, according to CTA and Pace officials, it is not clear that this procurement will produce a contract. The RTA should assist the Service Boards in identifying and facilitating opportunities for joint procurements.

16. OPERATIONS

The audit conducted an extensive review of the operations of the RTA, CTA, Metra, and Pace. The operations of the Service Boards were benchmarked against peer transit agencies. All three Service Boards had areas where they compared favorably with their peers and other areas where their performance could be improved. At CTA, the labor negotiation and arbitration process recently took over two-and-one-half years of the three-year labor agreement and needs to be reduced significantly.

17. COMPOSITION OF THE RTA BOARD

The current allocation of RTA Board members is not consistent with the population distribution among the three geographic areas delineated in the RTA Act, as reported in the 2000 federal census. Also, while the CTA Board chair is a member of the RTA Board, the chairs of Pace and Metra Boards are not. The General Assembly may wish to review the composition of the RTA Board.

GOVERNANCE

The RTA was established in 1974 by the Illinois General Assembly and with the approval of a referendum in the six county northeastern Illinois region. A 1983

amendment to the RTA Act (Act) changed the responsibilities of the RTA, giving "Service Boards" operating responsibilities, and giving the RTA certain responsibilities for planning, funding, and oversight of regional transit. The three Service Boards are the CTA, Metra, and Pace.

- **Regional Transportation Authority** is required to adopt an annual budget, two-year financial plan, and five-year capital program. The RTA must approve the budget and financial plan for each Service Board. Headquartered in Chicago, the RTA is governed by a 13-member board of directors. Four directors are appointed by the Mayor of the city of Chicago, four by the suburban members of the Cook County Board, two by the Chairman of the County Boards of Kane, Lake, McHenry, and Will Counties, and one by the Chairman of the DuPage County Board. In addition, the Chairman of the CTA is a board member, and a 13th member is elected by a vote of at least 9 of the 12 appointed members.

- **Chicago Transit Authority** was created in 1945 and is the second largest public transportation system in the United States. It provides bus and heavy rail service within Chicago and 40 adjacent suburbs (as of July 1, 2006, CTA paratransit service was moved to Pace). The CTA is governed by a Board consisting of seven members appointed by the Mayor of Chicago and Governor of Illinois.

- **The Northeast Illinois Regional Commuter Railroad Corporation** is the separate operating corporation (by statute) of the Commuter Rail Division. The **Commuter Rail Division (Metra)** is the agency empowered with jurisdiction over all commuter rail operations in the six-county region of Northeastern Illinois. Metra is headquartered in downtown Chicago. A 7-member Board governs Metra which is appointed by the appointing authorities, who are the Chairmen of the region's county boards for DuPage, Kane, Lake, Will and McHenry, the Suburban Commissioners of the Cook County Board, and for the member representing the city of Chicago, by its Mayor. Metra has approximately 495 miles of service on 11 lines. Four of those lines are owned and operated by Metra. Three are operated by Metra on trackage owned by private freight railroads under a trackage rights agreement. The other four are operated by private freight railroads under purchase of service agreements giving Metra the right to define service levels, schedules, and fares.

- **Suburban Bus Division (Pace)** was created in 1983 and is headquartered in Arlington Heights, Illinois. Pace combines what had been independent service providers and now provides bus, vanpool, and on-demand service throughout a six-county region (Cook, DuPage, Kane, Lake, McHenry, and Will Counties), as well as routes into the city of Chicago. The governing body of Pace consists of a Board with 12 directors, each of whom is required to be a current or former municipal mayor.

REGIONAL DEMOGRAPHICS

Over the past twenty years, the Chicago metropolitan area has grown. The population of the six-county region served by CTA, Metra, and Pace reached 8.36 million in 2005, with a compound annual growth rate of about 0.78 percent per year.

Since 1985, the city of Chicago's population has been slowly decreasing and DuPage, Kane, Lake, McHenry, and Will counties continued to grow. Chicago's population has fallen from approximately 3 million residents in 1985 to about 2.84 million in 2005, a decrease of about 0.27 percent per year or 5.3 percent overall. Suburban Cook County has grown slowly, at a pace of 0.56 percent per year. Cook County as a whole has seen its population remain largely unchanged, with 5.2 million residents in 1985 and 5.3 million in 2005 (see Exhibit 1-1).

Exhibit 1-1
RTA REGION POPULATION
(In thousands)

	1985 Population	2005 Population	% Change	Growth Rate
Chicago	3,001	2,843	-5.3%	-0.27%
Cook Suburbs	2,201	2,461	11.8%	0.56%
Total Cook County	***5,202***	***5,304***	***2.0%***	***0.10%***
DuPage	714	929	30.0%	1.32%
Kane	289	482	66.7%	2.59%
Lake	466	703	50.8%	2.08%
McHenry	158	304	92.8%	3.34%
Will	331	643	94.3%	3.38%
Total Collar Counties	***1,958***	***3,061***	***56.3%***	***2.26%***
Total	**7,160**	**8,364**	**16.8%**	**0.78%**

Notes: Totals may not add due to rounding.
1985 Chicago and Cook Suburbs population was estimated by averaging 1984 and 1986 census data.
Source: IMG analysis of United States Census Bureau data

Conversely, the total population of the five collar counties has grown by 56.3 percent, or 2.26 percent overall annually. In 1985, the collar counties had 1.96 million people and in 2005 had 3.06 million people, meaning that now there are more residents in the collar counties than in Chicago. The fastest growth has occurred in Will and McHenry Counties, where each has seen a near-doubling of its population over the 20-year span.

REVENUES

RTA sales tax revenues are collected in the city of Chicago, suburban Cook County, and the collar counties pursuant to the RTA Act. The sales tax is equivalent to 1 percent on sales in Cook County and 0.25 percent on sales in the collar counties. The sales tax in Cook County is comprised of 1 percent on food and drugs and 0.75 percent

from all other sales, with the State providing a "replacement" amount to the RTA equivalent to the 0.25 percent sales tax not imposed on sales other than food and drugs.

Eighty-five percent of the proceeds are distributed by formula (Exhibit 1-2) to the Service Boards while the RTA retains the remaining 15 percent of sales taxes.

Exhibit 1-2
RTA STATUTORY SALES TAX FORMULA

Sales Tax Collected from:	Sales Tax Distributed to:			
	RTA	CTA	Metra	Pace
Chicago	15.00%	85.00%	0.00%	0.00%
Cook Suburbs	15.00%	25.50%	46.75%	12.75%
Collar Counties	15.00%	0.00%	59.50%	25.50%

Source: IMG analysis of 70 ILCS 3615/4.01

Exhibit 1-3 summarizes the allocation of statutory sales tax revenues in 2005. CTA received the largest share of tax revenues, 39.6 percent of the total. Metra received just slightly less, 34.5 percent. Pace received 10.9 percent.

Exhibit 1-3
RTA STATUTORY SALES TAX DISTRIBUTION
2005 (In millions)

Sales Tax Collected from:	Sales Tax Distributed to:				
	RTA	CTA	Metra	Pace	Total
Chicago	$32.1	$182.0	$0.0	$0.0	$214.1
Cook Suburbs	$56.0	$95.2	$174.5	$47.6	$373.3
Collar Counties	$17.0	$0.0	$67.2	$28.8	$113.0
Six County Region	**$105.1**	**$277.2**	**$241.7**	**$76.4**	**$700.4**
Percentage of Total Sales Tax	**15.0%**	**39.6%**	**34.5%**	**10.9%**	**100.0%**

Note: Totals may not add due to rounding.
Source: IMG analysis of RTA sales tax data

Exhibit 1-4 outlines the uses of RTA's expenditures in 2005. In 2005, the RTA allocated $168.7 million to the Service Boards to fund their respective operating deficits. $27.6 million was distributed as transfer capital. The RTA retained $20.2 million for agency operations. After allocations to the Service Boards, debt service payments were the largest group of expenditures, totaling $177.7 million in 2005.

Exhibit 1-4
RTA EXPENDITURES IN 2005
(In millions)

Receipts Allocated by Formula	$623.2
Discretionary for Operating Deficit	$168.7
Transfer Capital	$27.6
Funds for Agency Operations	$20.2
Funds for Regional Initiatives	$17.3
Debt Service	$177.7
Total	**$1,034.7**

Source: 2005 RTA Budget

Exhibit 1-5
SALES TAXES IN THE SIX COUNTY REGION
(In millions)

	1985 Actual	1985 Inflation Adjusted[1]	2005 Actual
Chicago	$124.0	$225.6	$214.1
Cook Suburbs	$182.8	$332.6	$373.3
Total Cook	**$306.7**	**$558.2**	**$587.5**
DuPage	$17.0	$30.9	$44.5
Kane	$4.6	$8.4	$15.3
Lake	$7.9	$14.4	$27.3
McHenry	$2.1	$3.8	$8.6
Will	$4.1	$7.4	$17.1
Total Collar Counties	**$35.7**	**$65.0**	**$112.9**
Six County Region	**$342.4**	**$623.2**	**$700.4**

Note: [1] $1.00 in 1985 equal to $1.82 in 2005. Totals may not add due to rounding.
Source: IMG analysis of RTA sales tax data and Bureau of Labor Statistics data

Since the mid 1980s, tax revenues have grown slowly (in constant 2005 dollars). Adjusted for inflation, collections have increased from $623 million to $700 million in 2005 (see Exhibit 1-5). This represents an increase of 12.38 percent, or an annual growth rate of just 0.59 percent (see Exhibit 1-6). When coupled with a population increase of 16.8 percent over the time period, dollars of funding per capita have fallen by approximately 4 percent in real terms.

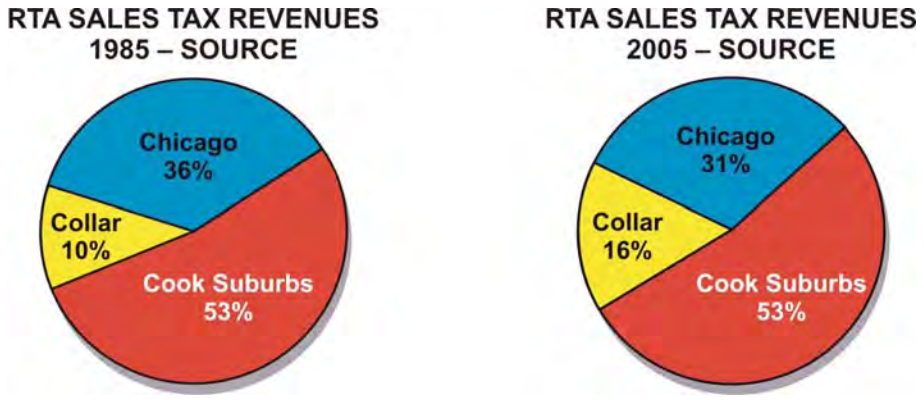
Exhibit 1-6
GROWTH OF SALES TAXES IN THE SIX COUNTY REGION

Growth of Sales Taxes 1985-2005	Annual Increase	Inflation Adjusted Annual Increase
Chicago	2.77%	-0.26%
Cook Suburbs	3.64%	0.58%
Total Cook	**3.30%**	**0.26%**
DuPage	4.93%	1.84%
Kane	6.19%	3.05%
Lake	6.38%	3.24%
McHenry	7.36 %	4.19%
Will	7.44%	4.27%
Total Collar Counties	**5.93%**	**2.80%**
Six County Region	**3.64%**	**0.59%**

Source: IMG analysis of RTA sales tax data and Bureau of Labor Statistics data

Tax revenues mirrored population growth in terms of their source of origin. As a percentage of all tax revenues, taxes collected in the collar counties increased from 10 percent in 1985 to 16 percent in 2005. The city of Chicago accounted for 36 percent of revenues in 1985, but just 31 percent in 2005. Suburban Cook County bore just over 53 percent of the tax burden in 2005, as was the case in 1985 (see Exhibit 1-7).

Exhibit 1-7
SOURCES OF SALES TAX REVENUES



Note: Totals may not add due to rounding.
Source: IMG analysis of RTA data

RIDERSHIP

Unlinked passenger trips for the three Service Boards decreased from 743 million in 1985 to 543 million in 1997, a compound annual decrease of 2.6 percent. Since 1997, ridership has been on the rebound, with all modes of service carrying 598 million passengers in 2005, an annual increase of 1.2 percent over 8 years. However, this is still almost 20 percent lower than 1985 (see Exhibit 1-8).

Exhibit 1-8
UNLINKED PASSENGER TRIPS 1985-2005
(Millions of Passengers)

	1985	1997	2005	% Change 1985-2005	Annualized 1985-1997	Annualized 1997-2005
CTA Total	642.2	439.2	492.3	-23.34%	-3.12%	1.44%
• *CTA Bus*	*486.5*	*287.6*	*303.2*	*-37.68%*	*-4.29%*	*0.66%*
• *CTA Rail*	*155.5*	*151.0*	*186.8*	*20.13%*	*-0.24%*	*2.70%*
• CTA *DR*[1]	.2	.6	2.3	1050.00%	9.59%	18.29%
Metra	62.1	66.2	68.6	10.47%	0.53%	0.45%
Pace	38.4	37.8	36.9	-3.91%	-0.13%	-0.30%
Service Boards	**742.7**	**543.2**	**597.8**	**-19.51%**	**-2.57%**	**1.20%**

Notes: [1] DR is demand-responsive. Totals may not add due to rounding.
Source: National Transit Database reports for CTA, Metra, and Pace

The decline in Service Board ridership has been largely the result of a decrease in passengers using CTA bus service. With about 487 million passenger trips in 1985, CTA buses accounted for nearly two-thirds of all trips in the region. In 2005, CTA buses carried about 303 million passengers, a decrease of 38 percent from 1985, and remained barely over one-half of all the RTA agencies' passenger trips (see Exhibit 1-9). Since 1997, ridership across all three Service Boards has been increasing by about 1.2 percent per year.

Exhibit 1-9
RIDERSHIP
Percent of Total Trips

	1985	1997	2005
CTA – Total	86.47%	80.85%	82.35%
• CTA Bus	65.50%	52.95%	50.72%
• CTA Rail	20.94%	27.80%	31.25%
• CTA DR[1]	0.03%	0.11%	0.38%
Metra	8.36%	12.19%	11.48%
Pace	5.17%	6.96%	6.17%
Service Boards	**100%**	**100%**	**100%**
PASSENGER TRIPS Percent of Total			
All Bus[1]	70.7%	60.0%	57.3%
All Rail	**29.3%**	**40.0%**	**42.7%**
Service Boards	**100%**	**100%**	**100%**

Notes: `[1] Includes demand-responsive (DR). Totals may not add due to rounding.
Source: National Transit Database reports for CTA, Metra, and Pace

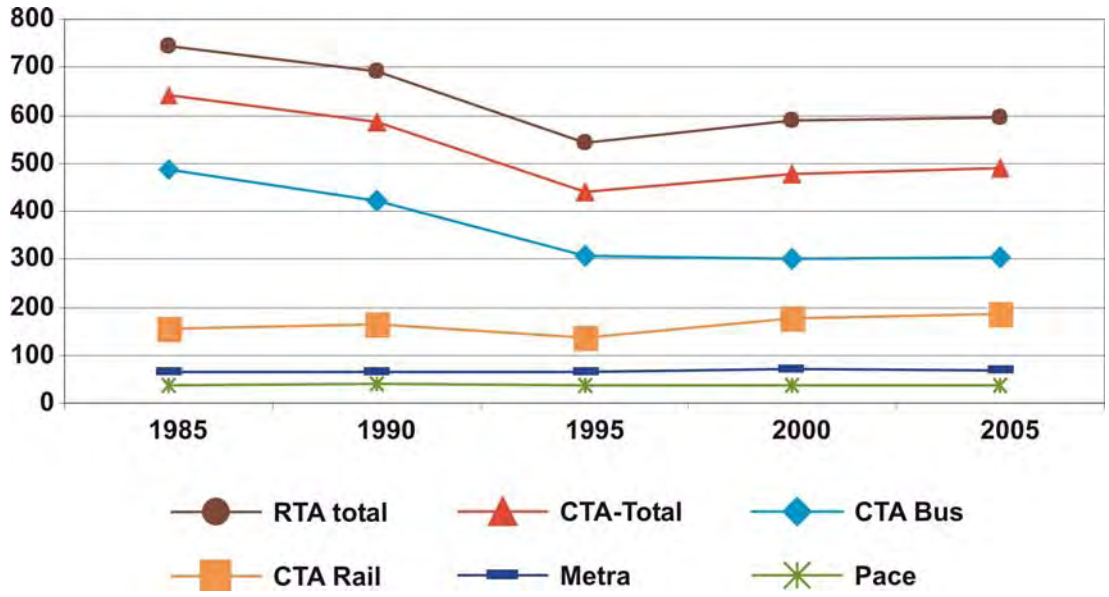
- CTA rail lost passengers at a rate of 0.24 percent per year from 1985 to 1997, but saw an increase of 2.7 percent per year from 1997 to 2005. In 2005, CTA rail carried 31.3 million more passengers than it did in 1985, an increase of just over 20 percent.

- Metra's commuter rail experienced an increase in passenger trips over the 20-year period. Metra served 62 million passengers in 1985, and 69 million in 2005, an increase of over 10 percent.

- Ridership on Pace buses has fallen slightly throughout the period, an absolute decrease of 3.9 percent.

In 1985, bus trips comprised 71 percent of total Service Board trips. In 2005, buses accounted for 57 percent and rail was 43 percent of all trips. This is partially due to the decline in CTA bus ridership, coupled with an increase in passengers using CTA rail and Metra.

Exhibit 1-10
RIDERSHIP TRENDS 1985-2005
Unlinked Passenger Trips
(In millions)



Note: Pace figures prior to 2000 are an aggregate of several agencies that now serve the present Pace service area.
Source: National Transit Database reports for CTA, Metra, and Pace

PASSENGER MILES TRAVELED

Although ridership as measured by passenger trips has decreased substantially between 1985 and 2005, passenger miles traveled were higher in 2005 than they were in 1985. In 1985, passengers traveled a total of 3.6 billion miles on CTA, Metra, and Pace combined (see Exhibit 1-11). In 1997, the three Service Boards provided a total of 3.3 billion miles, an annual decrease of 0.79 percent per year from 1985 to 1997. Between 1997 and 2005, passenger miles increased by 1.67 percent per year to over 3.7 billion in 2005. The increase in miles traveled despite a sharp decrease in ridership implies trips are lengthening.

Exhibit 1-11
PASSENGER MILES TRAVELED
(In millions)

	1985	1997	2005	% Change 1985-2005	Annualized 1985-1997	Annualized 1997-2005
CTA Total	2,152.2	1,629.6	1,936.2	-10.04%	-2.29%	2.18%
• *CTA Bus*	*1,163.4*	*722.0*	*782.0*	*-32.78%*	*-3.90%*	*1.00%*
• *CTA Rail*	*987.4*	*902.4*	*1,136.5*	*15.10%*	*-0.75%*	*2.93%*
• CTA DR[1]	1.4	5.2	17.7	1164.29%	11.56%	16.55%
Metra	1,297.6	1,434.4	1,548.3	19.32%	0.84%	0.96%
Pace	172.8	227.9	273.4	58.22%	2.33%	2.30%
Service Boards	**3,622.6**	**3,291.9**	**3,757.9**	**3.73%**	**-0.79%**	**1.67%**

Notes: [1] DR is demand-responsive. Totals may not add due to rounding.
Source: National Transit Database reports for CTA, Metra, and Pace

- CTA bus saw passenger miles decline sharply from 1.16 billion in 1985 to 722 million in 1997. Service rebounded at a rate of 1.00 percent per year to 782 million in 2005.
- CTA rail experienced a gradual decline in passenger miles from 987 million in 1985 to 902 million 1997, but a steady increase to 1.14 billion in 2005.
- Passenger miles on Metra rail increased at a moderate pace throughout the period, from 1.30 billion in 1985 to 1.55 billion in 2005.
- Miles traveled on Pace bus increased by over 58% from 173 million in 1985 to 273 million in 2005.

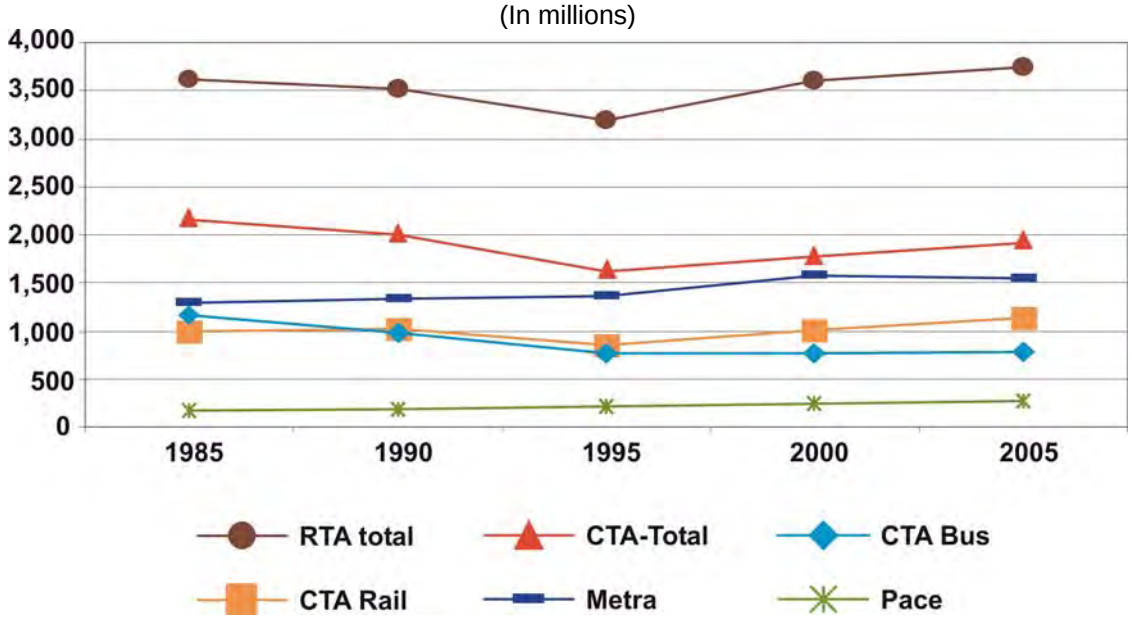
In 1985, about 59 percent of all passenger miles took place on CTA vehicles. In 2005, CTA vehicles carried more than 51 percent of all miles. Over the 20-year period, CTA rail surpassed CTA bus in "market share", with CTA rail accounting for 30 percent of all trips in 2005 versus 21 percent for CTA bus. Both Metra and Pace steadily gained "market share" over the period. When measured in terms of passenger miles as opposed to trips, Metra makes up a much larger portion of service in the region, accounting for 41 percent of all service in 2005. Pace's share of passenger traffic also was larger than on an unlinked trip basis, but still makes up a relatively small portion of the region's total service.

Exhibit 1-12
PASSENGER MILES
Percent of Total

	1985	1997	2005
CTA – Total	59.41%	49.50%	51.52%
• CTA Bus	32.12%	21.93%	20.81%
• CTA Rail	27.26%	27.41%	30.24%
• CTA DR	0.04%	0.16%	0.47%
Metra	35.82%	43.57%	41.20%
Pace	4.77%	6.92%	7.28%
MILES TRAVELED Percent of Total			
All Bus[1]	36.9%	29.0%	28.6%
All Rail	63.1%	71.0%	71.4%

Note: [1] Includes demand-responsive (DR). Totals may not add due to rounding.
Source: National Transit Database reports for CTA, Metra, and Pace

Exhibit 1-13
PASSENGER MILES TRAVELED 1985-2005
(In millions)



Note: Pace figures prior to 2000 are an aggregate provided by Pace of several agencies that now constitute the present Pace service area.
Source: National Transit Database reports for CTA, Metra, and Pace

FINANCIAL OVERVIEW

The Service Boards' operating expenses have changed little in constant dollars since 1985 ($1.88 billion in 2005 vs. $1.76 billion in 1985), even though ridership fell by 20 percent. Over the 20-year period, CTA's expenses have risen by about 0.44 percent per year. Metra expenses have fallen by 6 percent in real terms, or 0.32 percent per year. Pace's expenses have increased by 1.80 percent annually, when measured in 2005 dollars (see Exhibit 1-14).

CTA, Metra, and Pace combined had adjusted passenger revenues of $749 million in 1985, when measured in 2005 dollars), but just $663 million in 2005, a decrease of 11.5 percent or 0.61 percent per year.

Exhibit 1-14
TOTAL EXPENSES
2005 Dollars (In millions)

	1985 (adjusted)	**2005**	**% Change 1985-2005**	**Annualized 1985-2005**
CTA	$1,112	$1,215	9.2%	0.44%
Metra	$537	$504	-6.3%	-0.32%
Pace	$112	$160	42.9%	1.80%
Service Boards	**$1,762**	**$1,878**	**6.6%**	**0.32%**

Notes: Totals may not add due to rounding.
$1.00 in 1985 equals $1.82 in 2005.
Source: IMG analysis of National Transit Database and Bureau of Labor Statistics data

As would be expected with its declining ridership, passenger revenues at CTA have fallen by an annualized rate of 0.9 percent per year. At Metra, passenger revenues have fallen 0.48 percent per year. Although passenger trips remained nearly constant at Pace, passenger revenues are up 41.8 percent in 2005 from 1985 (see Exhibit 1-15).

Passenger revenues per trip have increased at CTA and Pace, but not at Metra. However, at CTA, passenger revenues per trip have not kept up with inflation.

Exhibit 1-15
PASSENGER REVENUES
2005 Dollars (In millions)

	1985 (adjusted)	**2005**	**% Change 1985-2005**	**Annualized 1985-2005**
CTA	$498	$419	-15.9%	-0.86%
Metra	$219	$199	-9.3%	-0.48%
Pace	$33	$46	41.8%	1.76%
Service Boards	**$749**	**$663**	**-11.5%**	**-0.61%**

Notes: Totals may not add due to rounding.
$1.00 in 1985 equals $1.82 in 2005.
Source: IMG analysis of National Transit Database and Bureau of Labor Statistics data

Overall, the Service Boards' passenger revenue per trip increased $0.10 from $1.01 to $1.11 (or 0.48% per year), while passenger cost per trip increased $0.77 from $2.37 to $3.14 (or 1.41% per year) from 1985 to 2005 (in constant dollars).

- At CTA, passenger revenues per trip increased $0.07 from $0.78 to $0.85 (or 0.46% per year), while passenger cost per trip increased $0.74 from $1.73 to $2.47 (or 1.78% per year) from 1985 to 2005.
- At Metra, passenger revenues per trip decreased $0.63 from $3.52 to $2.89 (or 0.8% per year), while passenger cost per trip decreased $1.31 from $8.65 to $7.34 (or 0.82% pear year) from 1985 to 2005.
- At Pace, passenger revenues per trip increased $0.40 from $0.85 to $1.25 (or 1.96% per year), while passenger cost per trip increased $1.42 from $2.91 to $4.33 (or 2.00% per year) from 1985 to 2005.

With costs per passenger climbing faster than fare revenues, the Service Boards' average farebox recovery ratio – the percentage of operating expenses covered by fare revenues – fell from 43 percent in 1985 to 35 percent in 2005. This farebox recovery calculation differs from the RTA farebox recovery ratio, which excludes certain costs, such as some pension and security costs.

SCOPE AND METHODOLOGY

This audit was conducted in accordance with generally accepted government auditing standards and the audit standards promulgated by the Office of the Auditor General at 74 Ill. Adm. Code 420.310.

In 2005, the House of Representatives adopted Resolutions Number 479 and 650 (Resolutions) which directed the Office of the Auditor General (OAG) to conduct

financial, compliance, and performance audits of the four transit agencies in the northeastern Illinois area: the Regional Transportation Authority (RTA), the Chicago Transit Authority (CTA), the Commuter Rail Division (Metra), and the Suburban Bus Division (Pace). See Appendix A for Resolutions.

The financial audits have already been completed and released and separate compliance audits are being issued with this audit. These audits did some testing for the performance audit, including testing controls over the computer system.

The Office of the Auditor General contracted with the firm of Infrastructure Management Group of Bethesda, Maryland to provide assistance with the performance audit. The Office of the Auditor General contracted with Infrastructure Management Group, Inc. (IMG) of Bethesda, Maryland to provide assistance in conducting this performance audit. IMG is an international firm providing management and financial expertise to the transportation, aviation and utility industries. IMG's work includes conducting performance audits, providing management advice, and conducting financial analyses for public and private organizations.

IMG performed much of this audit, including peer comparisons that used the National Transit Database and the data from the American Public Transportation Association. The audit period was generally calendar year 2005. However, events before and after this period were analyzed as deemed relevant for this audit. Much of the latest data for peer comparisons made in the audit report was from 2004, as this was the most current data available when the majority of the fieldwork was being conducted. The Resolutions asked us to review the agencies' operations, pensions, and capital programs, particularly the Brown Line expansion, and determine whether redundant operations exist among the four agencies.

The auditors reviewed applicable federal and State regulations; examined policies, procedures, and processes; examined operational reports and records; visited the agencies facilities; interviewed agency executives, managers, and line staff; tested internal controls; reviewed contracts and personnel on a sample basis; compared performance to peer agencies; and reviewed relevant findings in the prior financial audits.

In order to evaluate the performance of the three Service Boards, the auditors compared key performance measures of the Service Boards to peer agencies, which were selected as similar based on mission, size, structure, and professional judgment, including input from the Service Boards. The auditors also performed a time-series analysis where key metrics were tracked to understand trends and changes in recent performance. Both analyses were used to determine areas where the agencies were outside the expected range and where more analysis or corrective action would be required.

Comparing the performance of one organization to another is a useful tool to identify areas where an organization performs well, as well as areas where improvement may be needed. Peer comparisons are used in this audit to gain insight into operational areas where improvement may be possible. If a peer comparison indicates below-average

performance relative to its peers, the Service Board should further examine the factors that may be contributing to the differences.

However, since the operating environments of transit agencies differ, caution must be used in interpreting the results of peer comparisons. While the auditors took into consideration various attributes of peers (such as size and service characteristics), all organizations are different. For example, differences in length of trips, frequency of station stops, size and type of transit vehicles, population density, climate, level of contracted services, and other factors impact peer comparisons. As such, some differences between a Service Board and its peers may be attributable to differences in operating environments over which the Service Board may have little or no control. While the auditors caution against drawing conclusions by examining a single comparison measure or comparing any one transit agency to a single peer agency, peer comparisons are a standard method accepted in the industry for assessing performance.

To assess the performance of the Service Boards, comparisons were made with peer transit agencies across the United States using data from the National Transit Database (NTD). The NTD is a highly detailed questionnaire that all transit agencies submit to the Federal Transit Administration (FTA) each year. NTD data is self-reported data by the transit agencies to the FTA. Some of the data reported is reviewed by auditors in conjunction with the transit agencies' financial audits. In addition, the NTD performs validation checks on the reported data. Although NTD is considered to be the most complete source for benchmarking performance data, and is commonly utilized in analyzing transit agency performance, the database is not without its limitations. Since information is self-reported, there may be errors in the data reported. Also, interpretation of reporting guidelines may differ across agencies, causing inconsistencies on certain metrics. Furthermore, changes in level of service, such as reducing headways or adding capacity to existing service may, affect the peer comparisons. Where appropriate, we also utilized data from other sources, including the American Public Transportation Association and published annual financial statements for peer agencies.

Chapter Two

RTA OPERATIONS AND GOVERNANCE

CHAPTER CONCLUSIONS

This audit identified significant coordination conflicts and redundancies among the Service Boards. The current approach of the Service Boards and the Regional Transportation Authority (RTA) has resulted in strong independent transit providers and boards with overlapping political constituents, agendas, and customers. These overlaps require more coordination by the RTA.

- While independence is an important characteristic of high performance organizations, each of the Service Boards is experiencing financial difficulties: aging fleets, deferred maintenance, growing operating deficits, and perceived needs to expand services to its customers.
- Given these challenges, it is prudent to consider whether the current organizational and governance structure is the best public and financial policy.
- The General Assembly may wish to consider more clearly defining and strengthening the RTA's role in finance, planning, fare setting, technology, performance measurement, and oversight of operations.

The RTA has key administrative functions, including planning, budgeting, and allocating discretionary portions of the sales tax and grants related to public transit in northeastern Illinois. This chapter addresses both the RTA's operating and administrative functions and the corresponding administrative functions of the Service Boards, including fare coordination, planning, and performance measurement.

- There is no comprehensive policy or agency responsible for coordinating fares. The region lacks a fare system for all Service Boards that fosters uniform intersystem transfers.
- There are a number of CTA and Pace bus routes that overlap. Currently, there is no process in place for the RTA to ensure that adequate planning and coordination of service routes occurs, including developing guidelines for establishing new routes or giving consideration to assigning new routes to the least-cost carrier.
- Some of the performance measures for RTA and the Service Boards are unclear, not coordinated, and not uniformly publicized. The RTA should establish performance measures for itself and all of the Service Boards.
- The Service Boards carry out numerous planning initiatives without consulting each other, such as with "New Starts" projects in which nine projects are in planning that compete with each other for scarce local, State, and federal funds. The RTA should establish criteria for seeking funding and prioritizing the Service Boards' initiatives.

The current allocation of RTA Board members is not consistent with the population distribution among the three geographic areas delineated in the RTA Act, as reported in the 2000 federal census. The population in the collar counties increased significantly, and as such, may be entitled to an additional member on the RTA Board.

The RTA also has limited operational functions that include managing a call center and certifying paratransit users.

REGIONAL BUS COORDINATION

Pace and the CTA compete for markets, particularly in suburban Cook County. While some of these overlapping services are logical, and the net effect of the combined services is to provide a higher amount of total service to the neighborhoods in which they operate, some represent duplicative and competitive service. Exhibits 2-1 and 2-2, provided by Pace and CTA, respectively, illustrate areas where Pace and CTA bus service overlaps.

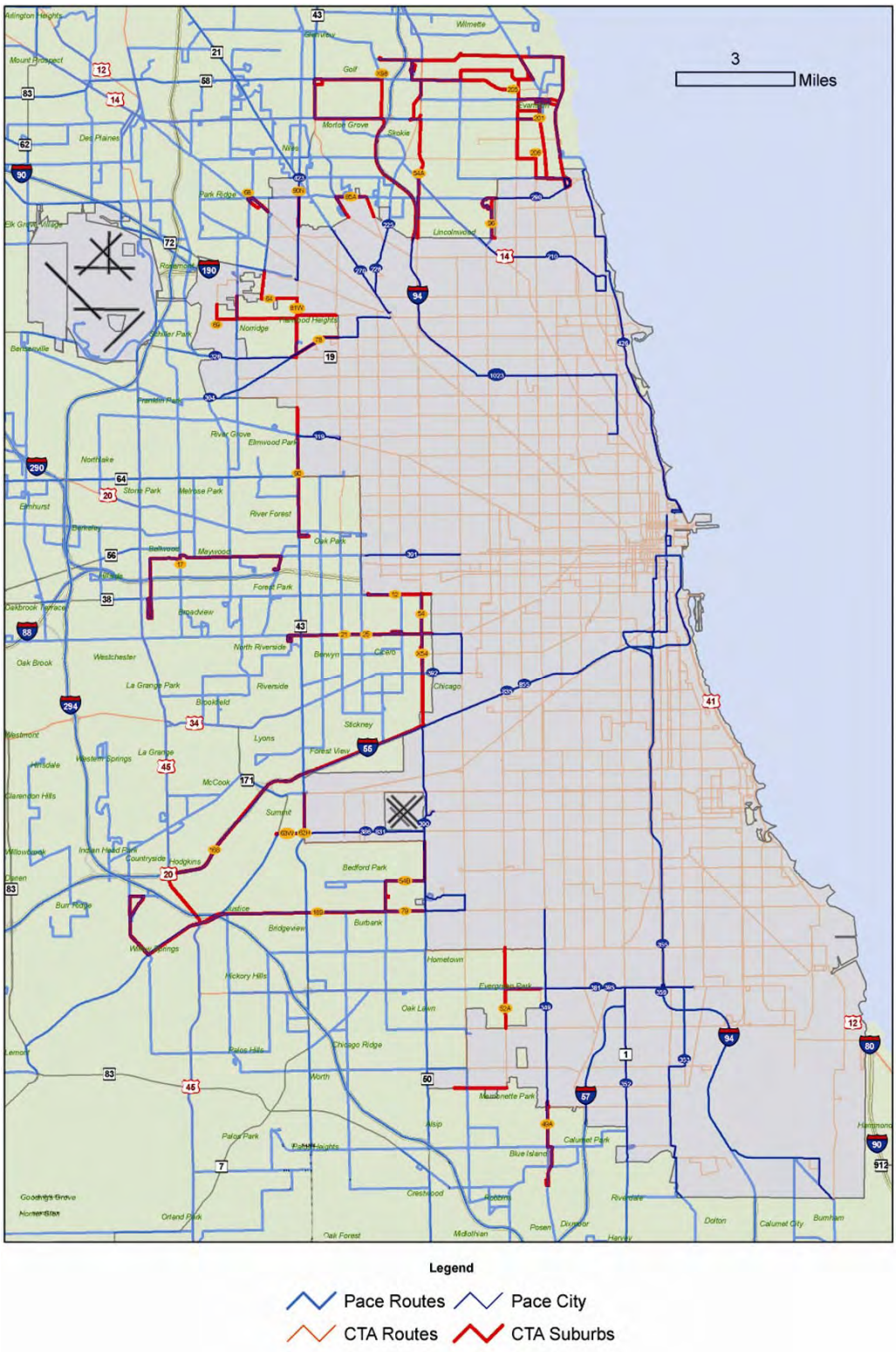
Some of the overlap occurs when one agency is attempting to connect the residents of their territory with destinations that are in the other's territory. The types of destinations that fall into this category are major employment centers or commercial centers, CTA rapid transit stations, Metra stations, the Chicago Central Business District, a suburban Central Business District, and similar large attractors of riders.

In addition, CTA officials noted that there are important differences which need to be taken into consideration when looking at overlapping services. These include: different origins and destinations, differences in times and frequency of service, and connecting service that eliminates forced transfers, thereby improving travel times and further encouraging the use of transit. However, the overlap in services may lead to inefficiencies. Pace officials cited the routes on Harlem Avenue and within Evanston where both the CTA and Pace provide services as resulting in inefficiencies.

A study prepared for Pace concluded that transfer of certain suburban routes from the CTA to Pace, which has lower operating costs, would save the region nearly $5 million in operating expenses. CTA stated that the study did not take into account several matters, including Pace's longer headways, lower density, and potential new capital costs to provide the additional service. Furthermore, CTA noted that the analysis used "fully loaded" costs for the CTA, when marginal costs would have been more appropriate.

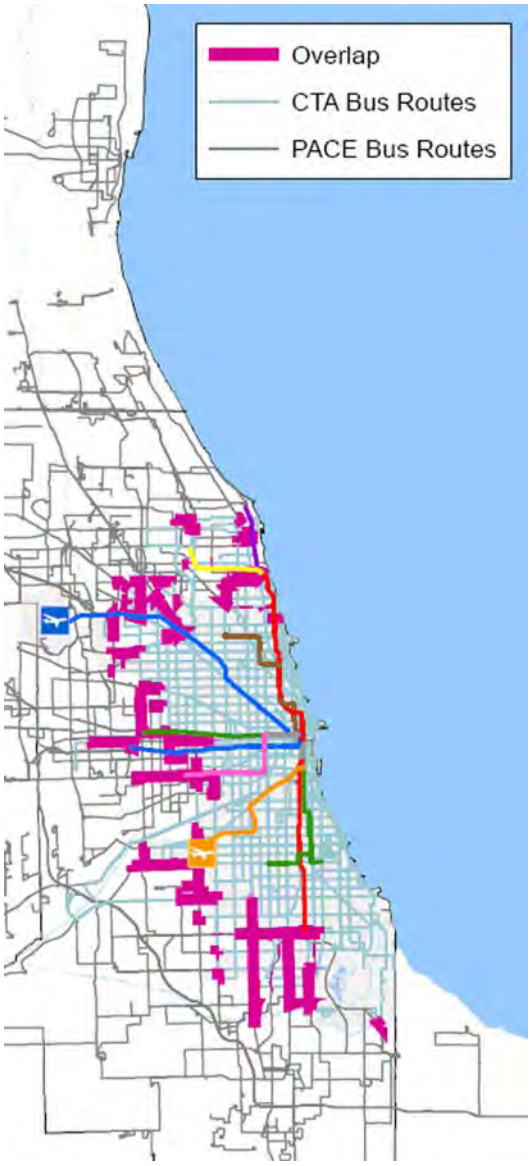
While these are not major savings, considering that operating costs of CTA exceed $1 billion for the 2006 budget year, if achievable, they would be savings nonetheless. More importantly, the overlap in service and lack of route coordination serves as an example where more effective coordination and oversight of the Service Boards is needed.

Exhibit 2-1
CTA – PACE ROUTE OVERLAP
Pace Map



Source: Pace

Exhibit 2-2
CTA–PACE ROUTE OVERLAP
CTA Map



Source: CTA

In addition, both CTA and Pace are currently conducting sub-regional bus route restructuring studies. Neither agency is participating to any considerable extent in the studies of the other agency, even though they cover areas that overlap or abut the service areas of the other.

The Regional Transportation Authority Act gives the RTA the authority and responsibility to *"mediate disputes concerning competing services between Service Boards. If mediation fails to resolve the dispute the Board shall name 3 of its members . . . to serve as a panel to arbitrate the dispute."* (70 ILCS 3615/2.12a) Recently, a service area dispute between the CTA and Pace was brought to the RTA. However, the RTA was unsuccessful in mediating the dispute and left it to the Service Boards to resolve.

There are numerous factors to consider before simply "transferring" routes to the lowest cost carrier. These include existing bargaining agreements, integration with current scheduling, and fares. More important is the precedent this sets for planning and coordinating future route development.

In conclusion, Pace and CTA have overlapping routes which compete for bus markets. A rationalized bus route policy would result in some savings for the Chicago area transit system. Resolving this issue also would help set an important precedent for establishing the geographic focus of these two Service Boards. Furthermore, a successful mediation and oversight role for the RTA will strengthen its ability to set crucial policies among the Service Boards.

RTA COORDINATION OF SERVICES	
RECOMMENDATION NUMBER **1**	***The RTA should develop and oversee a process that ensures that adequate planning and coordination of service routes occurs.*** • ***Standards should be developed which set forth guidelines for establishing new routes, with an important factor being that adequate consideration will be given to assigning new routes to the least-cost carrier when service routes overlap.*** • ***Sub-regional route studies should be organized as a part of a single regional transit planning activity, with the overall work program agreed to on a regional level, and the rules for participating in the studies set at the regional level.*** • ***Included should be an examination of the feasibility and cost savings that could be realized by transferring non-overlapping routes to the least-cost carrier.***
RTA RESPONSE	The RTA intends to build on the partnership and cooperation established with the Service Boards in our Moving Beyond Congestion strategic planning work. The RTA agrees that adequate planning and coordination of service routes is essential. In conjunction with the Service Boards the RTA will establish general performance measures and guidelines that would guide specific, detailed service planning. Performance measures should include a balance of objectives including feasibility, cost efficiency, evaluation of existing services for duplication, geographic/jurisdictional considerations, local needs and equity. A combined, cooperative and collaborative approach to service coordination should be utilized by the RTA and Service Boards.

REGIONAL FARE COORDINATION

Intersystem trips are those using the transit services of two or more Service Boards in the course of a single trip. The links between the legs of the trips are known as intersystem transfers. Because each of the Service Boards designs its own services and sets its own fares, intersystem transfers are relatively uncommon and seldom considered in each Service Board's ridership and revenue monitoring systems. However, as the Chicago area attempts to develop a more integrated transit system, such trips will become increasingly visible in service design and fare policy.

Extent and Distribution of Intersystem Transfers

The last comprehensive, published analysis of intersystem transfers was in a study performed for the RTA in 2001. The results presented in that study are still relevant today, given that the total number of passenger trips was very similar in 2005 as in 2000, and there have been no major modifications to the regional transit network since that

time. On the average weekday, intersystem transfers account for about 3.3 percent of boardings of CTA, Metra, and Pace, as shown in Exhibit 2-3.

Exhibit 2-3
INTERSYSTEM TRANSFERS AND DAILY BOARDINGS BY SERVICE BOARD
2000

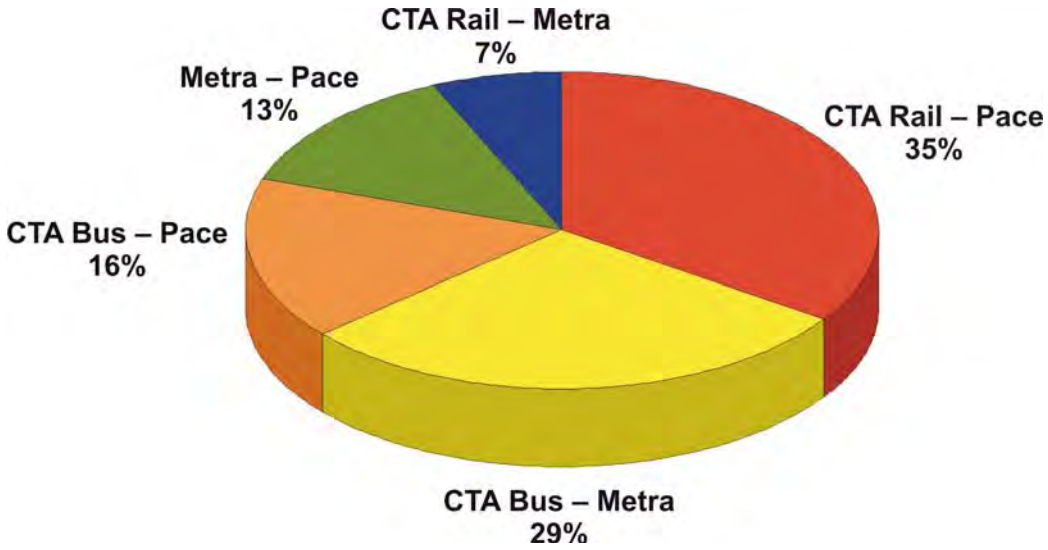
	Transfer Boardings[1]	Total Boardings[2]	Transfer Percent
CTA Bus	14,571	968,775	1.5%
CTA Rail	13,151	589,383	2.2%
Total, CTA	27,722	1,558,158	1.8%
Metra	15,646	268,381	5.8%
Pace	20,432	124,670	16.4%
Total	63,799	1,951,209	3.3%

Note: Totals may not add due to rounding.
Note 1: Computed as one-half the weekday transfers to and from a Service Board, as documented in Regional Transit Coordination Plan: Location Study.
Note 2: Average weekday boardings by mode reported to the National Transit Database, 2000.Source: Regional Transit Coordination Plan, National Transit Database, 2000

Intersystem transfers comprise a significant portion (16.4%) of boardings on Pace buses and Metra rail boardings (5.8%) but only 1.8 percent of total weekday boardings for CTA. Most intersystem trips (approximately 87%) have at least one leg on the CTA, as shown in Exhibit 2-4. The remaining approximately 13 percent are transfers between Pace and Metra. Transfers between CTA and Pace account for the largest percentage of transfers (51%), followed by transfers between CTA and Metra (36%), and transfers between Metra and Pace (13%).

As noted in Exhibit 2-3, the transfer percentages cited are for boardings only. Therefore, the percentage of trips that involve a transfer (boarding or alighting) from one Service Board to another is double that listed in Exhibit 2-3 (e.g., approximately 33% of Pace riders transfer to CTA or Metra). In addition, some transfers are not recorded in the data, such as if the rider used a Link-Up or other pass, or paid a cash fare for the transfer. CTA estimates that nearly 38 percent of Pace riders transfer to CTA.

Exhibit 2-4
INTERSYSTEM TRANSFERS



Note: Totals may not add due to rounding.
Source: Regional Transit Coordination Plan

This distribution of intersystem transfers has significant implications for fare policy. While CTA has fewer intersystem transfers as a proportion of total boardings (shown in Exhibit 2-3), decisions made by CTA that affect intersystem transfers can have a profound effect on the other Service Boards, particularly Pace.

Intersystem Fares

Intersystem transfers are governed by agreements between Service Boards. Exhibit 2-5 summarizes the current fare media that would be used on an intersystem trip between pairs of Service Boards. The cost per trip is calculated for each fare medium. These calculations assume using a pass every workday. One type of Metra pass, the Link-Up pass, can be used across all three Service Boards, although its use on CTA is restricted to peak hour travel. The pass is valid only when used on a Metra monthly pass. All other intersystem fare media are limited to travel between two Service Boards.

Exhibit 2-5
CURRENT INTERSYSTEM FARE MEDIA (FULL FARES)

CTA • Metra	CTA • Pace	Metra • Pace
Cash: $2.00 CTA + $3.90 Zone E = **$5.90** (no cash transfer)	**Cash:** $2.00 CTA + $1.50 Pace = **$3.50** (no cash transfer)	**Cash:** $1.50 Pace + $3.90 Zone E = **$5.40** (no cash transfer)
Link-Up Monthly Pass[1]: $36 + Zone E Pass $105.30, assuming 80 trips (2/day) <= **$1.77**	**Chicago Card with Transfer:** $1.75 + $0.25 = **$2.00**	**Link-Up Monthly Pass[1]:** $36 + Zone E Pass $105.30, assuming 80 trips (2/day) <= **$1.77**
	7-day full fare pass[2]: $20, assuming 10 trips <= **$2.00**	**PlusBus Monthly Pass:** $30 + Zone E Pass $105.30, assuming 80 trips (2/day) <= **$1.69**
	30-Day Pass: $75.00, assuming 80 trips <= **$0.94**	
	1-, 2-, 3- and 5-Day Visitor Passes[2]	

Note 1: This pass is valid on Pace buses at all hours, and CTA buses and rail between 6:00 a.m. and 9:30 a.m., and between 3:30 p.m. and 7:00 p.m.
Note 2: These passes, good for unlimited travel, are sold by CTA and accepted on Pace buses. RTA partially reimburses Pace for the lost revenue.
Source: CTA, Metra, and Pace Fare Information

Riders paying cash fare are required to pay the full fare for each Service Board when making an intersystem trip. CTA and Pace accepted cash transfers prior to January 2006, when CTA decided to discontinue that practice. At that time, a trip from CTA to Pace cost $2.00, and a trip from Pace to CTA cost $1.75. Now, these trips cost $3.50 each way.

Substantial discounts of 43 percent to 73 percent relative to the cash price are offered to riders who use pre-paid fares. The largest discounts are available with monthly passes.

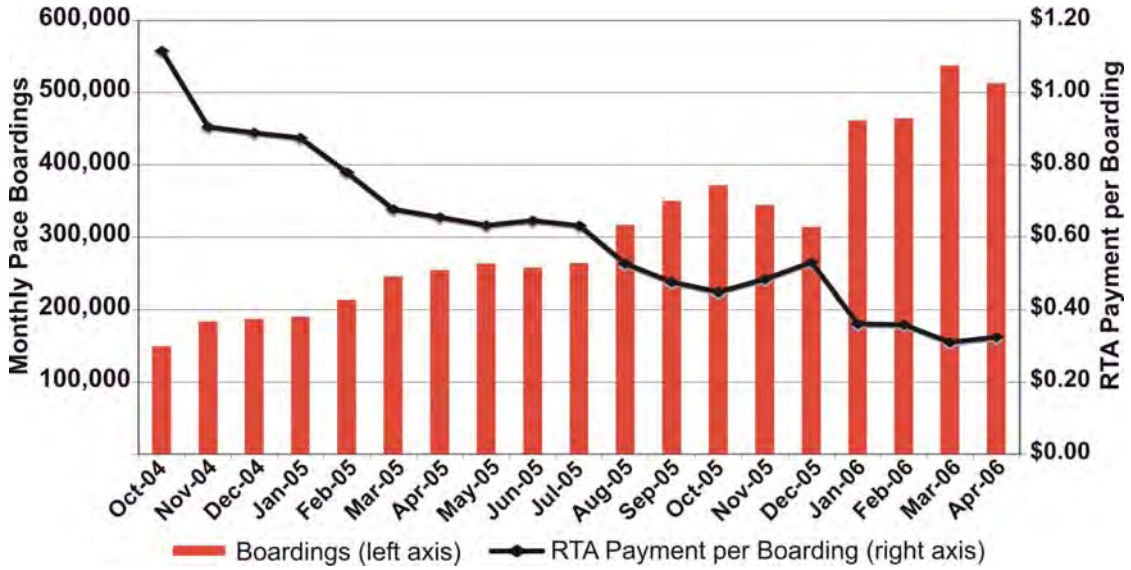
One class of intersystem fares bears special mention because of the reimbursement arrangement with RTA. By agreement between the RTA, CTA, and Pace, Pace accepts several varieties of passes that are sold by CTA, which also retains the revenues. These passes include the 7-day pass, the U-Pass, the Fun pass, and the various visitor passes. In 2004, the RTA voted to pay Pace $2 million per year to underwrite the revenue lost by Pace on these passes. From the program's inception in September 2004, the use of these passes on Pace routes has significantly increased, as shown in Exhibit 2-6. Although the recent jump followed the CTA cash fare increase in January 2006, the upward trend was already evident, indicating strong demand for intersystem travel. However, it is Pace that is bearing the fare discount, since the RTA contribution has effectively fallen to just $0.32 per boarding as of April 2006, well below Pace's $0.96 average fare. This equates to a cost of $0.64 per rider, or about $3.9 million annually.

CTA officials noted, however, that it provided Pace with $5.3 million in 2005 with no reimbursement from Pace, with $4.1 million consisting of direct reimbursement

to Pace for farecards, tokens, 7-day, and 30-day passes; and $1.2 million indirect reimbursement for monthly passes. Furthermore, CTA maintains that Pace does not contribute to the capital costs of constructing shared facilities nor the development costs of the automated fare collection (AFC) system.

Pace, on the other hand, stated that CTA provided approximately $1 million in passes for Pace to sell and retain the revenue. In addition, CTA provided Pace with $500,000 annually to accept the CTA's 30-day passes on Pace buses. Pace officials noted that the $1.5 million subsidy provided by the CTA was about equal to the loss Pace experienced from providing trips for CTA-sold 30-day pass riders. Regarding the other CTA reimbursements, Pace noted that these appear to be reimbursements from CTA for Pace accepting CTA's fare media sold by the CTA. Pace noted that CTA benefits from these transactions since it deducts $1.75 from the customer's transit card for the initial trip provided by Pace, and then only pays Pace $1.65, making a profit of $0.10 per trip for a full fare card.

Exhibit 2-6
TRENDS IN THE USE OF CTA PASSES* ON PACE BUSES



*7-Day Pass, U-Pass, Fun Pass, and Visitor Passes
Source: IMG from Pace information

In conclusion, the Service Boards have collaborated on a variety of fare media that serve intersystem trips. These fare media are popular at Pace and Metra, where they account for 31 percent and 8 percent of boardings, respectively. The higher percentage at Pace reflects not only a higher intersystem transfer rate, but also the acceptance of fare media that are sold by CTA and Metra. The fare agreements offer steep discounts for long trips that make these trips less costly than a short bus trip on CTA or Pace.

Effect of Fare Changes on Intersystem Revenues

CTA and Metra increased fares in early 2006. CTA increased its base cash fare to $2.00 from $1.75 (14%), eliminated cash transfers, and ceased to accept cash transfers, including those from Pace. Pass and ticket prices were left unchanged. Metra increased all full fares, including cash, tickets, and passes (excluding the Link-Up pass and PlusBus) by 5 percent. Pace has not changed its fares since 2001.

The fare increases had an impact on Pace, particularly Pace riders' use of pre-paid intersystem fare media. Exhibit 2-7 compares Pace boardings in March 2005 and 2006, including all fares relevant to intersystem trips.

Exhibit 2-7
PACE BOARDINGS FOR SELECTED TYPES OF FARE

Type of Fare	March 2005	March 2006	Change '05-'06	% Change
Chicago Card/Card Plus[1]	58,116	182,229	124,113	214%
7-Day Pass	188,383	395,178	206,795	110%
U-Pass, Fun Pass, Visitor Passes	56,787	155,763	98,976	174%
30-Day Pass (CTA-Pace)	188,514	223,642	35,128	19%
Metra PlusBus	6,717	14,644	7,927	118%
Metra Link-Up	19,659	24,230	4,571	23%
Subtotal, Intersystem Media	518,176	995,686	477,510	92%
Percent of Boardings	*20%*	*36%*		
Full Fare Cash	346,505	390,196	43,691	13%
Full Fare Transfer[2]	366,941	237,963	(128,978)	(35%)
Total Boardings[3]	2,554,971	2,753,758	198,787	8%

Note 1: Includes 1st & 2nd transfers.
Note 2: Prior to January 2006, this fare category included intersystem transfers with CTA.
Note 3: Total monthly Pace boardings, not the total of selected fare categories.
Source: Pace Ridership Report Summary, 2005 Fare Distribution Report Jan-Apr 2006

The percentage of boardings using intersystem fare media increased dramatically from 20 percent to 36 percent. There was a corresponding decline in cash transfers following CTA's decision to not accept cash transfers from Pace. This migration to prepaid media for CTA-Pace trips can be attributed to the fact that pass prices did not change, while cash fares did. With the cancellation of the cash transfer, it is more economical to purchase one pre-paid media than two full cash fares.

These shifts may have several effects on Pace, including: a decrease in revenue from riders switching to discounted media from full cash fares; a loss of revenue from the sale of cash transfers, formerly used to transfer to CTA routes; and, some reduced costs, such as through lower cash handling and farebox maintenance.

CTA does not reimburse Pace for the use of this fare media, but RTA has funded $2 million for reimbursement to Pace in 2006. However, Pace projects that the 7-Day

Pass will require a $5 million subsidy this year. In the RTA's 2007 budget, $4 million is budgeted for this reimbursement.

This dispute has a long history, as Pace stopped accepting the 7-Day Pass in 2000 and did not begin to accept it again until September 2004, when the RTA subsidy program began. According to the RTA Executive Director, there is no formal structure within the Act for RTA to resolve this matter as an issue between CTA and Pace. However, RTA stepped in and funded Pace from non-CTA funds in an attempt to resolve the dispute prior to the most recent change in the CTA fare structure. This allowed transit riders that used both CTA and Pace to again travel on both using this fare media. The CTA fare increase that went into effect on January 1, 2006, according to Pace, significantly increased the use of this fare media to the point where the previous level of RTA reimbursement was lower than Pace's fare losses, and RTA has no additional funds that it can allocate to Pace for this purpose.

Metra officials noted that the cost of fare integration was analyzed in a March 2005 Booz Allen Hamilton report to the House Committee on Mass Transit. That report found that various fare integration alternatives could cost between $67 million and $170 million for capital investments and $9 million to $24 million in additional annual operating costs for all Service Boards combined. While these are not insignificant amounts, given the Service Boards constrained budgets, the report discusses a number of likely customer service and public policy benefits, including increased convenience, ease of fare payment, facilitation of intermodal travel, and, potentially, increasing ridership. As such, further analysis of these and other alternatives should continue.

Conclusions – Regional Fare Issues

Although intersystem trips represent a small percentage of transit trips in the region, fare policies affecting intersystem trips are important to all three Service Boards. There is no comprehensive policy or agency responsible for overseeing all intersystem trips. A fare decision made by one Board can have significant fare revenue implications for another Board.

RTA AND REGIONAL FARE ISSUES	
RECOMMENDATION NUMBER **2**	***The RTA should establish a fare system for all Service Boards that fosters intersystem transfers.*** • ***The fare system should charge customers the same amounts for the same types and travel distances of service among all modes.*** • ***Furthermore, RTA should work toward establishing more uniform fare media among all Service Boards.*** • ***Should the RTA require additional legislative authority to deal with regional fare issues, the RTA should seek such authority.***
RTA RESPONSE	Fare coordination and integration are important for riders to

	seamlessly and easily use the entire regional transit system. As part of our Moving Beyond Congestion strategic planning work, the RTA is proposing to develop an integrated fare program. Our fare coordination plan will address two primary elements that include coordination of fare media (tickets and passes) and fare policy. Both elements are critical to the success of an integrated fare program. There are very few examples around the world of a fully integrated regional fare system that incorporates "closed" urban rail, city and suburban bus systems with "open" commuter rail systems. Ensuring efficient operations and a cost effective program must also factor into the program proposal.

PERFORMANCE MEASUREMENT

The Service Boards have a wide variety of performance measures for operations and maintenance. However, they lack one set of written "performance measures" which guide executive management and their Service Boards. It is critical that all stakeholders know and agree upon the performance measures of the whole organization and are given understandable and frequent updates on the agencies' performance. Furthermore, these measures need to link to and/or make up a set of performance measures for all transit in the RTA service area.

- The CTA has made a recent commitment to provide monthly performance reporting. However, the current monthly performance measures focus exclusively on customer service. Financial and construction measures are published on its web-site as separate Board presentations. Productivity and other measures are not published on its web-site nor are the customer service measures coordinated with measures reported in the annual report or in other CTA publications.

- Metra does not focus on systematic performance reporting, such as reporting its measures on the web-site on an annual basis, although management regularly monitors on-going operations and examines observations of trends, including on-time performance, ridership, and capacity utilization. In addition, Metra is proactive in its coordination with key stakeholders.

- Pace has developed a high level of balanced performance measures, although these are not published on Pace's web-site.

- The RTA lacks clear performance measures for its organization and for the Service Boards.

Also, the degree to which performance measures are incorporated into annual written performance evaluations vary among the four entities. Furthermore, some upper managers at the three Service Boards do not receive a formal annual evaluation.

Overview

Increasingly, public organizations are embracing various forms of performance management to guide the fulfillment of their missions. One of the leading public financial management organizations, the Government Finance Officers Association (GFOA), discusses performance measurement as follows:

> Government performance is characteristically difficult to assess, and as a result, precise resource allocation decisions are difficult to make. Performance measurement provides quantifiable indicators of government performance. Ideally, these indicators reflect the success or failure of an organization's progress toward its overall mission and align the incentives to enable sustainable success. Performance measures can also apply to tactical situations, providing government administrators with a "scorecard" of key performance metrics at an operational level.

While private organizations can point to a small number of well-understood performance measures to an extent, including profit, share price, and return on investment, public organizations are less able to do this. Public organization "returns," such as for transit agencies, may be in the form of affordable transportation, reduced congestion, reduced emissions, regional mobility, secure jobs, and economic development. These are areas that do not lend themselves to easy measurement. Therefore, performance measurement has become an important tool in explaining to customers, regulators, and stakeholders how they are meeting their respective "bottom lines."

Good performance measurement systems provide reliable, verifiable, and relatively objective information that improves the oversight of public organizations. The Transportation Research Board's Transit Cooperative Research Program, a partially federally-funded research organization that is part of the National Academy of Sciences, publishes articles and reports on transit performance measurement. Its "Guidebook for Developing a Transit Performance-Measurement System" is a compilation of over 140 performance measures in the following categories:

- Availability measures;
- Service delivery measures;
- Community measures;
- Travel time measures;
- Safety and security measures;
- Maintenance and construction measures;
- Economic measures; and
- Capacity measures.

Furthermore, there are numerous academic efforts that discuss the benefits of performance management in the public and private sectors. One of the best-known efforts is the Balanced Scorecard. The Balanced Scorecard was designed to help managers develop a systematic way to measure performance beyond the "unbalanced"

focus on financial measures. The classic balanced scorecard is arranged with "customer service" measures as "first among equals," at the top of the measurement pyramid. In any organization, including transit agencies, customer service is of critical importance.

Financial and internal process-related measures (the latter also known as productivity measures) underpin the customer service measures. If the organization cannot produce cost-effectively or efficiently, it will not have satisfied customers. Productivity also supports financial measures. Finally, at the "base" of the balanced scorecard set of measures are "learning and growth" measures that are less easy to measure, but are also important for the organization.

We evaluated the agencies' use of performance management and application of performance measures in the following areas:

- **Performance measures used externally and internally.** Types of measures published, provided to the Service Boards, and/or used to drive management decision-making internally. For instance, these may include on-time performance or operating cost per passenger.

- **How performance measures are incorporated in the annual written employee reviews.** Good practice at public and private organizations is to incorporate some performance measures in the evaluation process. For instance, a supervisor who has budget authority over a division could be evaluated on his/her ability to maintain costs at a targeted level; while a manager responsible for certain operations could be evaluated on meeting or exceeding certain safety targets.

RTA Performance Measurement

In the past, the RTA oversaw the preparation and presentation of performance measures for the region's transit agencies. However, as noted in a 2003 report issued by the Transit Cooperative Research Program, *"in the early 1990s the agency's mission changes to that of only coordinating regional transit funding allocation, and hence it terminated its detailed reporting system."* The RTA did publish *"an annual peer review report comparing the operations of the three transit Service Boards"* but not for the last two years.

All three Service Boards provide a large number of key industry indicators to the Federal Transit Administration for the National Transit Database, which enables peer systems to review their performance with other similar properties. In addition, the three Service Boards have produced different reports to identify performance metrics that they use internally to review their individual performance.

The RTA lacks clear performance measures for its organization and for the Service Boards. Also, there is no regional coordination of performance reporting. The establishment of common, consistent performance measures that link performance for all of the agencies, such as on-time performance, ridership, mean distance between failures (mechanical reliability), safety metrics (employee, passenger and vehicle accidents),

financial measures, and customer service metrics, may be a helpful tool in monitoring and reporting on the performance of the four transit agencies.

RTA Performance Evaluations

We received copies of written performance evaluations for the RTA's senior management with the exception of the following positions since they were hired in 2005 and did not receive performance evaluations: Executive Director and Senior Deputy Executive Director, Strategic Planning, and Regional Programs.

Not every evaluation included the key accountabilities for that position with the written performance review. Some performance evaluations also included descriptions of team goals and others included the "RTA Self-Appraisal Form."

While RTA's appraisal form is more quantitative than that of the other agencies, and RTA makes a strong attempt to prioritize what is important on a performance evaluation, few RTA performance reviews considered performance based on specific pre-established performance measures.

RTA Performance Measurement Conclusions

The RTA lacks clear performance measures for its organization and for the Service Boards. RTA does employ performance measures in some of its evaluations, so some senior staff are being evaluated on measurable goals. However, the use of performance measures throughout the organization is not consistent. To a certain extent, RTA has unique challenges in that it serves as an oversight function and cannot be measured with traditional metrics of the transit industry. Nevertheless, RTA has certain operational responsibilities (such as operating the call center and processing ADA certifications) and some senior staff are quantitatively evaluated.

CTA Performance Measurement

CTA initiated a monthly performance reporting framework at its February 2006 Board meeting and expects to present a performance indicators report monthly (Monthly Measures) during CTA Board meetings and make this report available on its website. These were intended, according to CTA, to match the existing finance and construction performance reports. This new reporting function is part of CTA's response to the AECOM recommendations, which indicated a need to improve performance measurement related to long-term trend data, goals, and key performance indicators. Furthermore, CTA is in the process of implementing its "MMIS" system, which will enable further performance monitoring.

Currently, CTA reviews a variety of indicators as part of its Monthly Measures. These include the following for both bus and rail modes (Exhibit 2-8):

Exhibit 2-8
CTA PERFORMANCE INDICATORS

Measurement Area	***Definition***
Ridership	• By day of week • Passenger miles
On-Time	• % Terminal Departure • Mean miles between failures
Clean	• % Cleaned and swept before AM service • Average days between exterior washes • # Of days between major cleans • # Cleanliness complaints • % Graffiti removed 24 hours from complaint
Safe	• Security complaints • NTD Security-related incident per 1 million miles • Accidents per 100,000 miles • NTD safety-related incident per 1 million miles-non-major • NTD safety-related incident per 1 million miles-major
Friendly	• Behavioral complaints • Commendations • Lift usage • Miles between lift failures
Affordable	• % Days lost

Source: CTA Performance Indicators

All of these measures are customer-service based. They appear to cover the major areas with which CTA transit riders are concerned and that appear to be important for transit riders:

- **Ridership** is a proxy for customer acceptance. Some customers have reasonable transportation alternatives, so increases in ridership can be interpreted as a vote of confidence. However, many factors influence ridership, including fares, demographics, cost of alternatives, regional development, etc. so that this is not a perfect form of customer feedback.
- **On-Time** is a fundamental customer measure. Without reliable service, key daily functions like going to work or school, getting to appointments, returning home to take care of children are disrupted. However, many transit systems, have found that posting arrival times in rail stations, and eventually on the internet for buses, can assist in managing passenger flows.
- **Clean, Safe, and Friendly** measures are usually considered secondary to the primary measures of availability and on-time, yet they have a major impact on ridership, including the perception of security.
- **Affordable** is measured here as *"the percentage of days lost"* is percentage of days that an employee is prevented from returning to work after an on-the-job-injury relative total work days. The measure is closer to a productivity measure than a customer service measure, as discussed below.

Missing from the Monthly Measures are measures of availability. CTA has established service standards in 2001 that cover the following areas:

- Service coverage;
- Span of service;
- Frequency of service;
- Passenger flow;
- Minimum productivity; and
- Distribution of revenue equipment (for stations).

The Monthly Measures do not assess how CTA meets service coverage. In addition, the Monthly Measures do not cover productivity measures. The 2001 CTA Service Standards sets some minimum productivity measures, such as *"30 boardings per bus hour when the service interval is 30 minutes,"* and other similar measures for rail. The purpose of this measure is very clear as stated in CTA's Service Standards: *"Services that do not meet the standard become candidates for elimination."*

CTA could publish statistics on how current service that is under or over attains this measure. Over attainment of these productivity measures translates into crowded buses and rail cars, a customer service "negative" for passengers. However, a statistic that indicates very few routes or lines have below targeted boarding levels sends a signal to key stakeholders, such as the oversight boards and the General Assembly, that CTA service is valued and is highly productive.

Monthly Measures also do not include the following:

- **Financial measures.** CTA published, however, financial reports almost every month in 2005, in the form of a board presentation and a detailed annual budget report, such as the *President's 2006 Budget Recommendations*, both of which are available on CTA's website. The former reports the RTA-mandated recovery ratio, fare/pass revenue, and other revenue, and contains a brief discussion of capital obligations and other budget and financial figures. The latter contains annual financials and some peer comparisons.
- **"Learning and growth" or "innovation" measures.** These measures could include skill levels of key types of employees, number of training sessions, attainment of affirmative action, and other employee-related goals. These might also include measures, such as workplace injuries, worker's compensation claims, or types of training obtained.
- **Tracking of major capital programs.** Such measures would show whether major capital projects are being completed on time and on budget. CTA published construction updates almost every month in 2005, in the form of a board presentation, available on CTA's website. These describe key projects, providing some budget, schedule and project information. However, they do not provide a clear overview for all projects whether they are on budget or on schedule.

- **Peer comparisons with other transit agencies.** Benchmarking and peer evaluations are critical ways to judge an organization's performance. The annual budget report, however, does benchmark CTA's operations with some peers.

Another challenge with the current data is that it shows performance for only two years, an issue that the AECOM report noted. An unusual circumstance, such as severe weather, a major economic downturn, a terrorist act, or simply the inauguration of a new line, can significantly alter system performance making a longer time period for comparisons more valuable.

In CTA's *President's 2006 Budget Recommendations*, CTA published a number of performance statistics, which are downloadable from CTA's website. The document provides data on peers and productivity, frequently in time series of five or more years. It also includes financial and capital investment performance measures. It is not clear, however, if these are the CTA's critical measures and whether they are more or less important than the Monthly Measures. Furthermore, some reporting inconsistencies do exist.

- For example, the Monthly Measures report presents metrics, which are different from those that senior management uses to analyze operations. Specifically, the report presents *"mean distance between trains removed from service"* which is the miles between major failures that are currently reported to FTA.
- However, the Vice President of Rail Operations uses *"miles between defects."*

Failures, as reported by CTA, have to this point only included major failures where a vehicle in service must be removed from service. Defects, which is the metric more frequently reviewed by rail operations, is anything that is reported by operating staff. These defects are not reported to National Transit Database (NTD). As much as possible, CTA's internal metrics should be aligned with the metrics it provides its Board and the general public.

CTA Performance Evaluations

We reviewed the most recent performance evaluations of 35 senior officials at CTA. Three executive vice presidents do not receive a written performance evaluation. They receive verbal reviews from the CTA's president and then the overall ratings are communicated to the human resources department by the president.

We were also told that the CTA president was evaluated by the CTA Board at the December 2005 Board meeting. The minutes from that session constitute the only written record of that evaluation. We reviewed these minutes, yet they did not contain any specific reference to the president's review.

Some evaluations included a discussion of individual performance goals appropriate for that individual and some evaluations included an additional section if the employee supervised other union or exempt employees. No part of the written evaluation

form included direct references to performance measures. However, in certain "CTA Individual Performance Goal Setting & Agreement Worksheets" references to specific objectives being met and references and performance measures were discussed. These worksheets were completed to supplement the formal evaluation.

CTA Performance Measurement Conclusions

Currently, it is not clear what the CTA's most important performance measures are that best measure the achievement of the organization's mission. These are the measures that are published on a regular basis, made available to the community, and delivered to oversight boards and legislative bodies. Some of these measures may be published monthly, some semi-annually, and others annually, based on their relevance and the cost of collecting. What is important in best practice organizational management is there is logic in how measures are chosen and reported and how the organization's overall performance is measured.

While the performance evaluations cover important areas of performance, the general forms fail to link to specific organization-wide objectives. Nevertheless, for certain individuals, primarily garage and maintenance supervisors, a number of measures are included in their individual evaluations. Finally, we were not provided documentation showing that the top four managers in the organization were evaluated.

Metra Performance Measurement

Metra does not prepare a performance measurement report nor does Metra provide performance measures on its website. Instead, the executive director reviews a staff ridership report and on-time performance trends at the monthly Metra Board meetings. Furthermore, Metra relies heavily on the experience of its senior leadership team, which is relatively small and hands-on, for monitoring performance. At the daily operational meetings, senior managers typically focus on delays from the day before and review month-to-date information. In addition, meeting data covers quarterly and monthly summaries with some trend information related to delays over six minutes. Safety information is also reported. Metra does publish a bi-monthly newsletter "Bi-Level" that has included budget information and is available on its website.

In addition, Metra holds regularly scheduled management meetings to ensure that top leadership is aware of emerging trends and issues, which includes an analysis of capital investment decisions, continuous efforts to improve customer service through increased communication as a result of their GPS system, and on-time performance as well as safety and rule violations. Metra prepares train-riding reports and also reports transport service based on random observations.

Metra Performance Evaluations

We received evaluations for all senior management except for the executive director for whom Metra does not provide a formal written performance appraisal. His

evaluation is conducted by the Board and any salary adjustment is approved by the Board. None of the written evaluations commented on any quantitative performance measures or their achievements, except for references to cost containment and managing freight-related delays, although no numbers were provided.

Metra Performance Measurement Conclusions

Metra does not focus on systematic performance reporting. While on-time performance, a focus on maintenance, and safety injury-on-duty rates are important metrics that serve to monitor the performance of a system as a whole, additional information, both current and trend, should be reviewed to paint a clearer picture of the agency's performance. Specifically, Metra should include metrics related to on-time performance, ridership, safety, mechanical and infrastructure reliability, and customer complaints in its quarterly reports. This information should be presented to the Metra Board and the general public.

Metra does not employ performance measures in any of its written evaluations for senior staff. Also, the executive director's performance is not evaluated in writing.

Pace Performance Measurement

Pace reviews performance in a variety of ways. Pace's "Quarterly Performance Overview" summarizes many of the important performance measures that are reported in the reports shown in Exhibit 2-9 and covers the following areas:

- Financial performance, including expenses, revenues, ridership, and recovery ratio;
- Operating performance, including bus operator vacancies, unscheduled overtime, and revenue hours;
- On-time performance;
- Maintenance performance, including road calls, lift/ramp road calls, and total preventative maintenance; and
- Safety performance, including total accidents, preventable accidents, and safety refresher training.

This report comes closest to following a "Balanced Scorecard" report with a balance of measures. What is not entirely clear, however, is if the measures in this quarterly review are Pace's primary performance measures. Furthermore, this report was not available on Pace's website. In addition, it is not clear how the other data that Pace collects "rolls up" to the measures in the quarterly review.

Exhibit 2-9
PACE PERFORMANCE REPORTS

Report	Description	Frequency of Review
Peak vehicle requirements	Daily peak vehicle needs by the operating division	Daily
Fleet roster	Current fleet	Periodically
Zero Accident Challenge	Number of preventable accidents by Operating Division	Monthly
Open Repair Order Report	All open maintenance repairs at an operating division	Weekly
NABI Warranty Credit Review	All credits received in regard to warranty work performed by the operating divisions	Periodically
Standard Cost Maintenance Report	Standard cost of bus parts by type	Monthly
Monthly Ridership Report	Ridership comparisons	Monthly
Payroll Summary Reports	Summary of labor costs by payroll period against budgeted figures	Bi-weekly
Open Workers' Compensation Claim Status Report	Status of workers compensation claims currently open	Monthly
Grievance Report	Number of union grievances by step for each Operating Division	Monthly
Daily Report of Operations	Daily operations activity	Daily
Attendance Record	Attendance Activity	Daily
Property Inspection	Physical condition of the operating division	Monthly
Employee performance appraisal	Summary of an employee's performance for a given period, typically a year	Usually annual basis
Quarterly performance review	Performance measures for revenue services	Quarterly
Inventory activity	Bus parts inventory	Monthly
Division overview	Statistical analysis by operating division	Monthly
On-time performance report	On-time performance by operating division	Monthly
Budget report	Budget performance	Monthly and to date
Manpower report	Bus operator training graduates, attrition and vacancy levels	Monthly
Accident report summary	Accidents incurred by operating divisions	Monthly
Customer Satisfaction Index Report	Customer satisfaction survey	Annual
Annual report	Financial information	Annual
Budget	Budget forecasts as well as performance comparisons with selected peers	Annual

Source: Pace Performance Reports

Pace Performance Evaluations

We received evaluations for all senior management except for the executive director for whom Pace does not provide a formal written performance appraisal. We were told that the executive director did not receive a formal written evaluation but his

evaluation is conducted by the Board and any salary adjustment is approved by the Board.

For the three deputy directors, the evaluations were written in a form of two-to-three page memos from the executive director. Each evaluation discussed management issues and responsibilities of the respective deputy directors that include both the achievement of certain goals or milestones, as well as achieving certain performance measures.

For some items, a section for written commentary for that item was included, if necessary. There were almost no quantitative performance measures. For the section on "annual performance goals," four evaluations referred to "attached goals for the region" or the department as part of the review, yet no evaluation was made in the review of whether those goals were achieved in the evaluation. However, a separate document "2005 Goal Assessment" did review how certain goals were achieved.

For four other evaluations, specific achievements or goals were discussed and in one of these, quantitative measures of certain goals were discussed. However, it was not clear against which of the achievements/goals or quantitative performance measures evaluations were being made without the 2005 Goal Assessment document. These reviews should make clear that that document is a part of the performance review.

Pace Performance Measurement Conclusions

Pace has a clear set of performance measures that guide its operations, although these are not clearly codified. Pace may lack, however, a way to link these high level performance measures to some of the organization's operational measures.

Pace does employ performance measures in some of its evaluations. However, few evaluations contained any quantifiable performance measures. The executive director does not receive a formal, written evaluation.

PERFORMANCE MEASUREMENT	
RECOMMENDATION NUMBER **3**	***The RTA should work in conjunction with CTA, Metra, and Pace to:*** • ***Define the critical 15-25 measures that best measure the achievement of each agency's mission, including aspects of financial, customer service and productivity performance, and publicly report them on a regular basis;*** • ***Establish its own set of performance measures;*** • ***Develop key indicators that link performance for all of the agencies, such as on-time performance, ridership, mean distance between failures (mechanical reliability), safety metrics (employee, passenger and vehicle accidents), financial measures, customer service metrics, and fostering of intermodal and inter-Service Board trips;***

	• ***Convene a working group, as part of the strategic plan, to share "best practices" in performance evaluations and performance measurement; and*** • ***Additionally, the RTA, CTA, Metra, and Pace should use these performance measures to evaluate the performance of all managers.***
RTA RESPONSE	Building upon the strategic planning work and initiatives, the RTA agrees that it should coordinate the development of performance measures for itself and its Service Boards. We will: • Develop key indicators that link performance for all agencies. Indices should include on-time performance, system reliability and safety, financial measures, customer service metrics. • An Interagency Best Practices working group shall be established. • These measures will be used to evaluate manager performance.
CTA RESPONSE	CTA agrees. Regional policy measures should be grounded in policy objectives, such as reducing traffic congestion, increasing ridership, and maintaining the quality of the transit system (70 ILCS 3615/1.02(c)). These measures should be tied to the Moving Beyond Congestion objective to "Maintain, Enhance, and Expand" the region's transit network. Regional performance can also be improved by linking governance and funding to measures such as ridership, fares, taxes, or traffic congestion. Ridership is one of the most important performance measures because it reflects the purpose of having a transit system. Other performance measures sometimes contradict the ridership goal. For example, mandating a high farebox recovery ratio can result in higher fares and service reductions that would reduce the public benefits of transit.
METRA RESPONSE	• Metra measures performance by many separate critical factors. Key to customer satisfaction is on-time performance and capacity utilization. On-time performance is broken down by causation and duration of delay. Capacity utilization measures service efficiency and seat availability. Safety is analyzed by types of incident; employee or customer injuries, grade crossing collisions, trespasser injuries or fatalities and violations of safety rules and procedures. Ticket sales by type and zone track customer utilization along with intermodal transfers from our PlusBus and Link-Up programs. • That being said, Metra would be a willing participant in any system wide performance measurement program that could add value, improve service delivery and customer satisfaction.

PACE RESPONSE	Pace agrees with the recommendation. As noted in this chapter, "Pace has developed a high level of balanced performance measures." Pace will make the performance indicators available on its website. With regard to management performance evaluations, all Pace management personnel are given a formal written evaluation on an annual basis. All management level reviews either contain references to goal attainment or refer to attachments where (due to their length) goal assessment reports are provided. The Pace Executive Director is evaluated annually by the Pace Board using a 10 point evaluation format. The Board utilizes the results of this evaluation to facilitate Board discussions concerning the Executive Director's performance and to set priorities for the coming year.

PLANNING

Planning for transit in northeastern Illinois is undertaken by numerous agencies and must meet federal and State requirements. The three Service Boards undertake their own separate planning activities. The Service Boards' planning budgets, which covered various planning activities, exceeded $10.5 million in 2006. In addition, the CTA and Metra had budgeted approximately $30 million over multiple years for planning and project development related to the nine New Starts projects they were pursuing.

The RTA also has responsibilities for transit planning in the region. The Regional Transportation Authority Act directs the RTA to establish a policy to provide adequate public transportation throughout the region, review capital and operating plans of the Service Boards, and prepare and adopt a five-year program to inform the public of the Authority's objectives and programs for operations and capital development during the upcoming five-year period.

The RTA recently commenced the comprehensive Strategic Regional Transportation Plan, a long-term planning study, jointly conducted with the Service Boards, other stakeholders, and members of the public. The purpose of this planning initiative is to assess conditions and needs, and to identify the costs of meeting those needs, with the intention of building a foundation for stable funding sources sufficient to allow needed projects to commence while properly funding the existing transit infrastructure and service delivery.

The Strategic Regional Transportation Plan is an important step in better coordinating planning in the region. However, given the financial crisis facing northeastern Illinois due to the splintered responsibility for long-range transit planning and related financial planning, more centralized planning and control needs to be

established. Two Service Boards are currently working on nine New Starts applications, which may well result in these applications competing with each other for federal approval. Although this region has been successful in simultaneously going after funding for multiple projects, this high number of projects and other factors, chiefly the financial condition of transit in the region, make it questionable if studying all nine, plus other new service initiatives, is sound financial and programmatic planning.

Overview of Planning Requirements and Structure

The responsibility for transit planning in northeastern Illinois is split between a large number of governmental agencies, requiring a great deal of coordination. The federal government mandates many requirements, directly funds many types of planning, reviews and approves the plans, and funds certain types of transportation projects.

Federal law establishes a Metropolitan Planning Organization (MPO) for each urbanized area with a population in excess of 50,000 to coordinate its transportation planning. State statute (the Regional Planning Act 70 ILCS 1707/60) designates the Chicago Area Transportation Study (CATS) Policy Committee as the MPO.

Under federal law, MPOs are given the responsibility to develop a long-range transportation plan (LRTP) that, among other things: identifies transportation facilities that should function as an integrated metropolitan transportation system; includes a financial plan that demonstrates how the long-range plan can be carried out; and identifies transportation strategies necessary to ensure preservation of the transportation system and use of existing transportation facilities to efficiently relieve congestion, serve the mobility needs of people and goods, and enhance access.

The MPO is also responsible for the preparation of the Transportation Improvement Program (TIP). The TIP is required to be financially constrained, which means that if there is no funding to implement a project, it cannot be included in the TIP. In order for a proposed transportation project to be eligible to apply for federal funding, the project must, by regulation, be in the Transportation Improvement Program and, as a matter of standard planning convention, Long-Range Transportation Plan. CATS, as the MPO, has the final responsibility for preparing and adopting the various transportation plans, while RTA prepares the public transportation elements.

The State of Illinois also sets requirements, provides funding, and has a direct role in the implementation of many specific programs, such as constructing highways. Under State statute, the Northeastern Illinois Planning Commission (NIPC) was designated as the agency that is responsible for land use planning.

The Regional Planning Act (P.A. 94-510), enacted into law in 2005, provided for the consolidation of CATS and NIPC into a single entity. The combined agency has adopted the name Chicago Metropolitan Agency for Planning (CMAP).

Finally, virtually every general and special purpose unit of government in the region has some degree of interest in transit and transportation, and coordination among these units of government is essential to the development of transportation plans and their implementation.

RTA and the Service Boards

The Regional Transportation Authority Act (70 ILCS 3615) gives the Regional Transportation Authority (RTA) transit planning responsibilities for the six-county area. Some of the RTA's planning related responsibilities under the Act include:

- Establish a policy to provide adequate public transportation throughout the metropolitan region;
- Subject the operating and capital plans and expenditures of the Service Boards … to continuing review so that the RTA may budget and expend its funds with maximum effectiveness and efficiency;
- In consultation with the Service Boards, each year prepare and, by ordinance, adopt … a Five-Year Program to inform the public and governmental officials of the RTA's objectives and program for operations and capital development during the forthcoming five-year period; and
- Approve budgets prepared by the Service Boards. The RTA shall approve such a budget provided that it determines by the affirmative vote of nine of its members that the amended budget meets the standards established under Section 4.11. Section 4.11 requires, among other items, that the budget's anticipated revenues are balanced with the costs of providing services, and that the budget was prepared in accordance with sound financial practices as determined by the Board.

RTA's current major planning initiative is its Strategic Regional Transportation Plan, a long-term planning study, jointly conducted with the Service Boards, other stakeholders, and members of the public.

Each Service Board is responsible for its own planning activities. This includes the annual budgeting process, in which the level and types of operations and the capital renewal and replacement requirements are considered against available funds, and submitting its proposed elements of the RTA's annual and other plans and budgets.

Planning Responsibilities and Products

There are a large variety of plans and studies produced by the various entities, including both those that are statutorily required and others that respond to specific agency and public needs. There is a high degree of interrelationship between the various planning documents and the agency budgets, which are themselves planning documents.

These plans, responsible adopting agencies, and major contributing parties, include:

- The Long-Range Transportation Plan, adopted by the MPO (CMAP/CATS), with the public transit elements largely the responsibility of RTA, with major input from the Service Boards;
- The Transportation Improvement Program (TIP), with the public transit elements largely the responsibility of RTA, with major input from the Service Boards;
- Agency internal plans, including five-year capital plans, which parallel the TIP;
- RTA's annual budget, a two-year financial plan, and a five-year capital plan, with significant inputs from the Service Boards;
- Federal "New Starts" applications, which are generally "corridor transit plans," which eventually include National Environmental Protection Act environmental clearance documents, which are adopted by the proponent Service Board with approvals by the MPO and RTA and acceptance by the federal government. Most New Starts projects for totally new transit guideway projects will require a "full" environmental impact statement. Projects with limited changes to existing transportation systems, such as commencing commuter rail passenger service on a pre-existing freight railroad, may require only a less extensive assessment;
- Various service restructuring studies, such as those studying improvements to bus routing and other service aspects in a specific geographic region, generally done by a specific Service Board;
- Transit-oriented development studies, generally performed by a Service Board in coordination with one or more units of local government, such as focusing on community development and urban form surrounding a commuter rail station;
- Customer surveys and other marketing/service change instruments and reports; and
- Participation in the preparation of the annual budget/financial submittals by the Service Boards to RTA and RTA's own internal processes.

CTA AND METRA NEW STARTS PROJECTS
Planning and Development Costs

CTA:
- Circle Line, $15.5 million
- Orange Line Extension (Midway to Ford City Mall), $1.7 million
- Red Line Extension (95th Street to 130th Street), $4.7 million
- Yellow Line Extension (Dempster Avenue to Old Orchard Mall), $1.6 million
- Ogden-Carroll-Navy Pier Transitway

Metra:
- Suburban Transit Access Route (STAR), Joliet to O'Hare, $1.7 million
- SouthEast Service (SES), South Suburban Cook and Will County, $1.3 million
- Union Pacific Northwest Line (UP-NW) – Expansion of McHenry County service and new express and reverse-commute service to Northwest Cook County, $0.8 million
- Union Pacific West Line (UP-W) – Capacity/Speed/Reliability Upgrade for Cook, DuPage, and Kane Counties, $0.9 million

Note: Additional planning and development costs will be incurred as these projects progress

Source: CTA and Metra

Cost of Planning Activities

The costs presented below were obtained from the published budgets for the current year and directly from each agency. Agencies may include different functions in their planning departments. The "planning department" budgets presented are for the current fiscal year; the New Starts and other major project budgets generally cross fiscal years.

RTA Planning

Planning is a large segment of what the RTA does. According to RTA officials, 20 of the RTA's 92 positions are dedicated to the planning function. The RTA's total planning budget is $14.5 million, of which $3 million is for staff and administration, while $11.5 million is for planning and programmatic expenses. In addition to performing key planning activities, the RTA is also a major funding agency for the planning processes of the Service Boards. It also provides extensive technical assistance to other agencies in the preparation of their plans.

CTA Planning

The 2006 budget for the CTA Planning Department is $6.15 million, 90 percent of which is for 65 staff positions. The CTA Planning Department budget includes all schedule-making, whereas in other transit agencies, schedule-making is often a stand-alone functional group or incorporated within the overall transit operations budget. Some other departments within CTA, such as Bus Operations and Rail Operations, also perform planning-style service analysis on a limited basis, but the staff resources devoted to these activities comprise a very small share of their departmental budgets.

CTA also plans at a regional level and recommends service improvements. In addition, the budgets related to the CTA's five New Starts projects total approximately $23.5 million, over a period of several years.

Metra Planning

Metra's estimated 2006 Planning Budget is $2.35 million, which includes all planning activities, other than New Starts projects. Metra has four current New Starts projects, which are being performed by consultants under the direction of planning staff. These are in early phases, and the preliminary estimates of the planning and general development budgets, including separate contracts for supporting work for multiple projects, total $6.5 million.

Pace Planning

Pace does not identify planning costs in its published annual budgets but provided the following information for 2006: $1,867,395 for planning services and $267,072 for long range/capital planning, for a total of $2,134,467. Pace also reported costs for service

analysis, service planning, and long-range planning/scheduling, with a combined budget of $1,213,380 which were excluded from the "planning" costs after discussions with Pace as not being activities that are normally included in "planning" costs. These three activities are roughly comparable to the scheduling, run-cutting, and service monitoring functions that were included in CTA's planning costs.

While Pace has no New Starts planning projects currently underway, Pace reported that it has $7.3 million budgeted for various multi-year planning programs (the longest extending through 2010) with external funding. Some of these costs are included in Pace's annual planning budget discussed earlier.

Conclusions – Planning

A major element of any planning process is reconciling service requirements with available resources to make rational, informed decisions about the use of limited funds. Given the dire financial situation facing the RTA and the Service Boards, the current planning process and structure is flawed. Funds are not keeping the system in a state of good repair, CTA pension costs are significantly underfunded, and other financial needs of the transit system are going unmet.

In addition to these current financial limitations of the system, CTA and Metra have undertaken planning and development activities, currently budgeted at approximately $30 million, for the nine major new initiatives (New Starts projects) without any financial plan in place to fund them. In terms of total cost of these projects, a recent CTA draft estimated a cost of $4.7 billion for the New Starts projects alone, as part of overall unfunded needs of $10.5 billion. Commencing planning as if funding were unconstrained is questionable. At a minimum, as recommended in Chapter 9, no design or construction of these projects should begin until the agencies have demonstrated the financial capability to bring the current infrastructure and equipment up to a state of good repair, as well as to sustain existing services.

Given the condition of the region's transit finances, it may be difficult for the nine proposed New Starts projects to obtain federal grants without significant changes in local and/or State funding. In addition to the nine New Starts projects, the Service Boards have other projects in the planning process that could significantly change services to the public and may increase costs.

The lack of a strong, centralized planning function, and the absence of a long-term strategic plan that sets a structure and broad guidelines encompassing financial, programmatic, and operational aspects of the Service Boards and the RTA, has been a major contributing factor to the present state of transit in northeastern Illinois. According to RTA officials, the last strategic plan undertaken by the RTA was in the late 1980s, with a minor update in the 1990s.

The RTA's Strategic Regional Transportation Plan is a good step in assessing the needs of the region and devising a plan to address those needs. A critical component of this effort will be the financial plan, which is expected to include strategies for new funding for continuing operations, capital renewal, and replacement of the existing regional transit system elements. Of course, in order to produce the financial element of the Plan, it will first be necessary to determine the transportation needs and the methodologies and options to satisfy them.

PLANNING	
RECOMMENDATION NUMBER **4**	***The RTA should conduct a long-term, comprehensive strategic planning process that sets a structure and broad guidelines encompassing financial, programmatic, and operational functions of the Service Boards and the RTA. The RTA should perform this strategic planning process on an ongoing basis.*** ***In addition, regarding major new Service Board initiatives, such as New Starts projects, the RTA should establish a set of criteria for funding and prioritizing such initiatives across all agencies. Such criteria could include:*** • ***How does the proposed project fit within the regional long-range strategic planning process;*** • ***What is its priority;*** • ***What is the desired schedule;*** • ***What resources are available; and*** • ***Which transportation mode is preferred.***
RTA RESPONSE	The RTA agrees that long-term, comprehensive strategic planning is vital to the success of transit in the region. The RTA has recently developed such as strategic plan, in conjunction with the CTA, Metra and Pace. The RTA agrees that it should continue to perform this function on an ongoing basis. The RTA will build upon its strategic planning work and lead an effort to develop and establish a regional project evaluation process. Presently we have developed a draft framework for project evaluation. We will continue to work to refine and implement this process.

OVERALL GOVERNANCE

The current silo approach of the Service Boards and the RTA has resulted in strong independent transit providers with their own boards, political constituents, agendas, and customers that overlap. While focus and independence are important characteristics of high performance organizations, each of the Service Boards, to varying degrees are experiencing financial difficulties: aging fleets, deferred maintenance, operating deficits, and perceived needs to expand services to its customers. There have

been external factors that have exacerbated the problems (such as the recent reductions in State transit bond program funding and the substitution of toll credits for actual cash as a source of State matching funds). However, the independence and lack of coordination raises the question of whether there are operating and overhead cost savings that can be realized if the Service Boards and RTA were to work closer with each other and give greater responsibility for financial management to one entity, without losing the benefits of focused organizations. Many of these have been documented in this and other chapters of this audit.

Overall, this audit indicates a need to better coordinate services and operations, reduce areas of redundancy, and improve the organization of specific functions of the Service Boards. RTA officials noted that the Regional Transportation Authority Act gives them strong financial oversight authority (such as setting statutory ratio requirements and providing public funding of Service Boards) but that the RTA's enforcement tools are limited (essentially to withholding discretionary funding it provides to the Service Boards). They noted that while the Act directs them to coordinate planning in the region, it gives them limited authority to carry out or enforce planning activities. RTA officials also noted that the Act gives them limited authority regarding coordination of service and fares.

The RTA needs to take more of a leadership role in all aspects of transit, much as it has done in the area of strategic planning. Whether the RTA lacks statutory authority to effectively manage and/or oversee transit in the region, or whether it is a matter of such powers not being clearly delineated, additional specific statutory powers and responsibilities could be given to the RTA to require it to more effectively manage and oversee transit operations in northeastern Illinois.

There is a range of alternatives to reach the end goal of efficient, effective transit operations, from maintaining the current structure of the three independent Service Boards with increased RTA oversight and coordination (see Schematic), to complete centralization of all operations under one entity.

Schematic
OPTIONS FOR AN ENHANCED RTA GOVERNANCE STRUCTURE

CURRENT	ENHANCED RTA
RTA Functions ❑ Budget – Fare Recovery Ratio ❑ Planning – Coordinate ❑ Independent Boards ❑ Legally Independent Agencies	**RTA Functions** ❑ Budget – Review, Revise, and Approve all Budgets ❑ Planning – Establish and Coordinate ❑ Regional Fares – Coordinate Fare Rates ❑ Technology – Oversee Development of Regional Technology, such as Fare Collections ❑ Develop, Review, and Publish Performance Measures for all Service Boards ❑ Update Board Structure – Based on Current Census ❑ Legally Independent Agencies

In deciding what changes to make, the end goal should be to achieve financially sound, efficient, effective, and well coordinated transit service for passengers in the northeastern Illinois region.

Matter for Consideration by the General Assembly
PLANNING AND GOVERNANCE

The General Assembly may wish to consider examining the current organization structure and governance of transit operations in northeastern Illinois. Specifically, the General Assembly may wish to consider strengthening the Regional Transportation Authority Act to provide the RTA with a greater role over financial and programmatic planning in the RTA service area. Such responsibilities could include revising the Regional Transportation Authority Act to incorporate a comprehensive strategic planning process as a statutory requirement.

The RTA could be given the direct responsibility to review and approve major service expansion programs, including a comprehensive analysis of alternatives, before significant project development funds are expended on these projects.

More detailed system performance measures could be added to the Regional Transportation Authority Act with the requirement that they be reported annually to the General Assembly and the public.

The anticipated goal of such legislative action would be to bring about a more coordinated and efficient system of mass transit delivery in northeastern Illinois. Finally, an examination should include consideration of legislation to strengthen the RTA's role in the budget process, coordination of fares and technology, and oversight of operations.

ALLOCATION OF RTA BOARD MEMBERSHIP

A 13-member board of directors governs RTA. The Regional Transportation Authority Act (70 ILCS 3615/3.01) establishes the following membership:

- Four directors are appointed by the Mayor of the City of Chicago;
- Four directors are appointed by the suburban members of the Cook County Board;
- Two directors are appointed by the Chairmen of the County Boards of Kane, Lake, McHenry, and Will County;
- One director is appointed by the Chairman of the DuPage County Board;
- One director is the Chairman of the CTA; and
- One director is elected by a vote of at least nine appointed members.

The Regional Transportation Authority Act also states that, *"The (RTA) Board of Directors shall be so appointed as to represent the City of Chicago, that part of Cook County outside the City of Chicago, and that part of the metropolitan region outside Cook County on the one man one vote basis. After each federal decennial census the General Assembly shall review the composition of the Board and, if a change is needed to comply with this requirement, shall provide for the necessary revision by July 1 of the third year after such census."*

The current allocation of RTA Board members is not consistent with the population distribution among the three geographic areas delineated in the RTA Act, as reported in the 2000 federal census. Exhibit 2-10 shows the current allocation of RTA Board seats and the 2000 Census population for the three areas stipulated in the Act.

Exhibit 2-10
REGIONAL TRANSPORTATION AUTHORITY BOARD OF DIRECTORS
Allocation of Seats to Political Jurisdictions

Statutory Major Division	**Current Distribution of Board Seats**		**2000 Census**		**Revised Distribution Based on 2000 Census[1]**
Census Jurisdiction	***Members***	***Percent***	***Count***	***Percent***	
City of Chicago [2]	5	41.7%	2,896,016	35.8%	4.3
Suburban Cook County	4	33.3%	2,480,725	30.7%	3.7
Outside Cook County	3	25.0%	2,714,979	33.6%	4.0
SUBTOTALS	**12**	**100.0%**	**8,091,720**	**100.0%**	**12**
Chair	1				1
TOTAL	**13**				**13**

Notes: [1] The 12 non-chair seats would each account for 1/12 of the population, or 8.33%.
[2] City of Chicago is comprised of 4 appointments by the Mayor/City Council, and the CTA Board Chair.
Source: 2000 Census

The data above indicates that the current allocation of the twelve non-chair seats, five to the City of Chicago, four to Suburban Cook County, and three to the collar counties, is not in accordance with the above statutory provision. Based on the 2000

census, the population in the collar counties increased significantly, and as such, may be entitled to an additional member on the RTA Board.

The Act also provides for the CTA Board Chair to automatically be a member of the RTA Board, but members (and employees) of the Metra and Pace Boards are specifically prohibited from being members of the RTA Board. Pace officials stated that they believed there should be equal representation for all three Service Boards on the RTA Board. Metra officials similarly noted that there should be a level playing field on Service Board representation for the RTA. CTA officials feel that RTA's disproportionate control over CTA's operating budget offsets any perceived benefit to CTA in dealing with the RTA. The CTA officials noted that a minority of five RTA Board members can prevent CTA from receiving half of its operating budget with little or no impact on the other Service Boards.

Matter for Consideration by the General Assembly
COMPOSITION OF THE RTA BOARD OF DIRECTORS

The General Assembly may wish to consider reviewing the current composition of the Regional Transportation Authority Board to determine whether a change is needed to comply with the representation provisions of the Regional Transportation Authority Act.

RTA PARATRANSIT OPERATIONS

The Federal Transit Administration (FTA) 2005 Triennial Review identified that *"deficiencies were found with the FTA requirement for ADA ... For the past three years, RTA has had difficulty completing the eligibility process within the mandated 21-day time frame for approving 11% of it applicants. It currently has a backlog of approximately 1200 applicants."* These candidates, whose applications have not been approved, are deemed "presumptively eligible" and receive full paratransit service. Completing applications in a more timely matter would have little effect on the number of paratransit trips provided, as only two percent of "presumptively eligible" candidates are ultimately determined to be ineligible; however, some customers have indicated discomfort due to the unresolved status of their applications.

RTA has provided quarterly reports to the FTA demonstrating a reduction in the backlog by a third. However, it appears that after initial improvements little progress has been made due to staffing concerns. These staffing concerns were related to the need for additional Americans with Disabilities Act (ADA) certifiers. Though RTA added two additional positions, they were unable to fill these due to high turnover. At the end of June 2006, the backlog had been reduced to 797, which RTA believes will be reduced through the filling of their vacant positions as well as through lower applications for the program this year. In addition, RTA is unable, without the aid of the Service Boards, which provide the paratransit service, to determine the cost implications of carrying those applicants that are ultimately not eligible.

RTA was one of the first agencies in the United States to introduce a systematic, objective review approach to conducting assessments for determining eligibility for ADA certification. RTA uses functional assessments that are conducted at five assessment centers that include an interview and cognitive and physical reviews to determine eligibility. RTA has been cited for using an effective approach for supporting the assessment rather than using the applicants' personal doctors and or physical therapists.

In addition, RTA has taken steps to educate potential candidates for ADA certification to clarify expectations about the certification process and assessments in advance of the process, which ensures more realistic applicants. Efforts to brief potential candidates may contribute to a smaller percentage of applicants being denied, a two percent rate.

The RTA is still not compliant with federal requirements that prescribe a timeframe for processing applicants for ADA certification. While improvements have been made, increased staffing levels are needed to address the backlog.

RTA PARATRANSIT OPERATIONS	
RECOMMENDATION NUMBER **5**	***The RTA should take the steps necessary to reduce the backlog in the processing of applicants for ADA certification.***
RTA RESPONSE	The RTA agrees with this recommendation. The RTA determined in mid-2006 that an additional Certifier was needed to address the level of applications being received and to respond to the need to eliminate the number of individuals on interim eligibility status. This has been accomplished. The RTA now has 5 full-time Certifiers. The most recent hire has been employed for 4 months. The RTA anticipates the number of individuals on interim service for extended time periods will decrease rapidly in 2007. With 5 full-time Certifiers the RTA anticipates eliminating the backlog by May 1, 2007. The RTA is currently certifying over 80% of applications received within 21 days and is anticipating that by May 1, an additional 15% of applicants will be certified within 60 days; resulting in 95% of applicants being certified within 60 days of the completed applications being received. Applications not given certifications within this time frame would be outstanding due to additional information being needed to finalize a decision.

CALL CENTER

In 2002, the RTA began handling all regional trip scheduling related calls. Previously, many trip planning needs in the Chicago area resulted in a customer placing calls to multiple agencies, as single agency-operated call centers were not able to provide information about the other agencies. Consolidating trip scheduling into one call center enabled customers to receive complete information about all available transit options, regardless of the specific transit agency contacted. Whenever customers select a trip scheduling option from a Service Board's individual phone system, they are passed to RTA's call center. In the event that the customer chooses to file a complaint, they are transferred to the Service Boards' individual call centers.

Currently, RTA contracts with a private company to provide call center operations. The terms of the contract provide incentives depending on the call capture rate. The incentives in this contract are based on previous service levels and, due to the high call capture rate that the call center operator is able to attain, RTA was unable to pay the incentives earned by contractor due to budgetary constraints. Under the current contract, RTA pays $64,000 per month, plus $0.85 per call, plus an incentive payment. RTA and the contractors were able to reach a verbal agreement that limits the call capture rate to 94 percent to reduce the incentive payments that were required under the current contract.

RTA has contracted out the operation of its call center to provide a higher level of service. Given the improvements in service that have been made, RTA should revise future contracts to ensure its ability to take advantage of opportunities for continued improvement.

RTA CALL CENTER	
RECOMMENDATION NUMBER 6	***RTA should revise the incentive system in the contract with the call center contractor to enable them to increase their call capture rate without violating RTA's current budgetary constraints.***
RTA RESPONSE	The RTA and Archway Marketing have negotiated an amendment to the contract which went into effect January 1, 2007. The amendment eliminates incentive pay and raises the cost paid per call to $0.89 in 2007 and $0.90 in 2008. The fixed monthly fee is raised to $75,000. The contractor is expected to have a monthly average call capture rate under this agreement. A monthly 96% call capture rate is about the maximum that can be achieved under even the best circumstances by a Call Center. The contractor will pay a penalty if in any month the call capture rate is below 94%. This should reduce customer wait time. This new agreement will cost the RTA less than raising the call capture rate and continuing to pay the incentive that had been established.

Chapter Three

CTA OPERATIONS

CHAPTER CONCLUSIONS

The amount of heavy rail **service provided** by CTA increased between 1999 and 2004 at a rate faster than its peers, as measured by vehicle hours and miles. CTA experienced a slight increase in passengers.

- CTA heavy rail scores high on measures of **service efficiency**. It does so by needing fewer work hours to produce an hour of service than its peer group.
- CTA heavy rail does not perform as well on measures of **service effectiveness**. CTA is not able to transport as many passengers per hour of service as its peers due to slower trains.
- CTA heavy rail **cost effectiveness** was also weaker than its peers, largely due to low service effectiveness. CTA's costs are higher than average per passenger trip and per passenger mile.
- CTA exhibited lower **passenger revenue effectiveness** than its peers. Its farebox recovery ratio is significantly lower than its peers, meaning its farebox recovery shortfall per passenger is higher.

CTA bus service experienced a slight loss of passengers during the period 1999 to 2004; its peer group passenger average was unchanged during this period.

- With respect to passenger **service efficiency** as measured by total operating expense per vehicle hour, CTA bus performed near the average of large bus system peers, although from 1999 to 2004, CTA's cost per vehicle hour increased at more than twice the average rate for the peer group.
- CTA's bus **service effectiveness** declined both in absolute terms and relative to the peer group average from 1999 to 2004, as measured by passengers per vehicle hour.
- CTA's bus **cost effectiveness**, measured by cost per passenger, declined both in absolute terms and relative to the peer group from 1999 to 2004. In 2004, CTA's cost effectiveness was slightly worse than that of its peers.
- CTA's bus passenger **revenue effectiveness** in 2004 as measured by passenger revenue recovery was favorable as compared to its peers, although when measured by farebox recovery shortfall per passenger, it is equal to peers.

CTA's safety statistics indicate that while there are positive trends in some areas, there is a need for improvement in employee and public safety incidents. To its credit, CTA has recognized that safety is an area where improvement is needed and has contracted with an outside company to support such an improvement.

CTA's monthly customer complaint report tracks the volume, but not the category, of complaints. CTA has initiated a number of customer service-related initiatives to enhance its delivery of services by integrating the monitoring of customer related amenities and technology programs to monitor bus and train operations. However, the CTA has experienced long hold times and high abandonment rates at its call center.

In 2005, the CTA retained AECOM Consult to assess a number of CTA operational areas and recommend cost-reduction activities. AECOM estimated that the CTA could save approximately $250 million to $300 million if CTA successfully implemented all the recommendations. However, many of the recommendations would require changes in the CTA's collective bargaining agreement and/or legislation.

CHICAGO TRANSIT AUTHORITY HEAVY RAIL

The performance of the Chicago Transit Authority (CTA) heavy rail service was assessed using data reported annually to the National Transit Database for fiscal years 1999 through 2004. This period was chosen because 2004 was the most recent year for which the Federal Transit Administration has publicly released the reported data.

CTA's performance trends were compared to those of the five transit systems that are its peers (see inset). The five peer transit systems are similar to the CTA in many respects, including that they all serve major metropolitan areas and all operate heavy rail service in a major city.

CTA RAIL PEERS

- Massachusetts Bay Transportation Authority (Boston) – MBTA
- MTA New York City Transit (New York City) – NYCT
- Southeastern Pennsylvania Transportation Authority (Philadelphia) – SEPTA
- Metropolitan Atlanta Rapid Transit Authority (Atlanta) – MARTA
- San Francisco Bay Area Rapid Transit District (San Francisco & Oakland, CA) – BART

Comparing the performance of one organization to another is a useful tool to identify areas where an organization performs well, as well as areas where improvement may be needed. In this chapter, peer comparisons are used to gain insight into operational areas where improvement may be possible. If a peer comparison indicates below-average performance relative to its peers, the Service Board should further examine the factors that may be contributing to the differences.

However, since the operating environments of transit agencies differ, caution must be used in interpreting the results of peer comparisons. While the auditors took into consideration various attributes of peers (such as size and service characteristics), all organizations are different. For example, differences in length of trips, frequency of station stops, size and type of transit vehicles, population density, climate, level of contracted services, and other factors impact peer comparisons. As such, some differences between a Service Board and its peers may be attributable to differences in operating environments over which the Service Board may have little or no control.

While the auditors caution against drawing conclusions by examining a single comparison measure or comparing any one transit agency to a single peer agency, peer comparisons are a standard method accepted in the industry for assessing performance.

The CTA operates the second largest system of the peer group in terms of vehicle miles and hours; MTA New York City Transit is larger than the other peer entities combined (see Exhibit 3-1). In addition, using BART as a heavy rail peer is useful on most measures, however, it operates a different system than the remainder of the peer group, with stations further apart and passengers taking longer trips. This makes BART an outlier in some measures in this analysis.

Due to the original design of the "L", particularly its tight turns, the CTA heavy rail fleet is considerably smaller – in number of seats, length, and width – than the heavy rail vehicles of other U.S. heavy rail operators. For example, CTA's heavy rail cars average 44.2 seats, compared to 66.7 for MARTA, and the CTA cars average 448 gross square feet (a rough measure of capacity for standees), compared to 787 for MARTA.

Exhibit 3-1
CTA HEAVY RAIL SNAPSHOT
2004

City	System	Vehicle Hours	Vehicle Miles	Peak Vehicles	Passengers	Passenger Miles	Total Modal Operating Expense
Boston	MBTA	975,532	21,461,708	320	157,502,520	581,114,546	$214,246,802
New York	NYCT	19,592,927	350,399,218	5,191	1,760,778,918	8,344,226,520	$2,537,639,748
Philadelphia	SEPTA	850,824	16,642,934	276	88,083,120	392,631,690	$125,380,076
Atlanta	MARTA	867,072	22,791,083	184	69,088,598	455,358,663	$123,208,332
SF Bay Area	BART	2,109,021	64,010,720	522	97,545,611	1,228,433,167	$375,024,594
	Average	**4,879,075**	**95,061,133**	**1,299**	**434,599,753**	**2,200,352,917**	**$675,099,910**
Chicago	CTA	3,799,521	65,053,214	1,008	178,716,456	1,074,812,545	$399,863,818
CTA % of Average		**78%**	**68%**	**78%**	**41%**	**49%**	**59%**

Source: National Transit Database

Due to these major differences in size, in order for the Vehicle Total Hour/Vehicle Total Mile metrics to have meaning, we applied adjustment factors to the vehicles for each of the heavy rail peers, based on the seat and length/width data for their active fleet, as per the 2004 American Public Transportation Association (APTA) Vehicle Survey. Using this data, we calculated average vehicle capacity indices for each operator. We prepared two separate indices, one using average seats per car, the other using the average gross square feet per car, and then did a simple average of these indices. This average was then applied to the unadjusted values for each metric to produce "adjusted" values for each agency. Without the adjustment process, the use of vehicle mile and vehicle hour indicators would produce results that would not be comparable or useful. Also, this produces indices that are within the range of other such methodologies and are valid for this usage.

CTA officials also noted other factors that impact CTA's metrics in comparison to its peers. These factors include relatively short distances between stations, number of stations, 24-hour service, and level of express service.

Exhibits in this section that use vehicle miles or vehicle hours metrics contain two peer averages. The first is the "actual" average of the peer systems and the second is the "adjusted" average.

The performance of CTA's heavy rail service is analyzed from several perspectives in the following sections:

- **Service Provided and Consumed –** changes in key service statistics.
- **Service Efficiency –** cost of providing CTA commuter rail service.
- **Service Effectiveness –** use of the CTA commuter rail service.
- **Cost Effectiveness –** consumption of public transportation services in relation to resources expended.
- **Passenger Revenue Effectiveness –** share of total operating expense borne by the users.

The amount of heavy rail **service provided** by CTA increased between 1999 and 2004 at a rate faster than its peers, as measured by vehicle hours and miles. CTA experienced a slight increase in passengers. Passenger miles increased faster than passenger trips, suggesting that average trips on CTA rail are lengthening.

- CTA heavy rail scores high on measures of **service efficiency**. It does so by needing fewer work hours to produce an hour of service than its peer group.
- CTA heavy rail does not perform as well on measures of **service effectiveness**. CTA is not able to transport as many passengers per hour of service as its peers due to slower trains.
- CTA heavy rail **cost effectiveness** was also weaker than its peers, largely due to low service effectiveness. CTA's costs are higher than the average peer per passenger and per passenger mile.
- CTA exhibited lower **passenger revenue effectiveness** than its peers. Its farebox recovery ratio is significantly lower than its peers, meaning its farebox recovery shortfall per passenger is higher.

Below is a summary of the results of the metrics we reviewed.

CTA PEER COMPARISON – SUMMARY (RAIL) 2004		
SERVICE EFFICIENCY	**EXHIBIT #**	**RELATIVE TO PEERS**
Operating cost per vehicle hour	3-3	**Better than peers**
Employee work hours per vehicle hour	3-5	**Better than peers**
Vehicle operations work hours per vehicle hour	3-6	**Better than peers**
Vehicle maintenance work hours per 100 vehicle miles	3-8	**Better than peers**
Vehicle maintenance expense per vehicle mile	3-7	**Equal to peers**
Fringe benefit cost to labor cost	3-4	**Worse than peers**
SERVICE EFFECTIVENESS		
Average passenger load	3-10	**Equal to peers**
Passengers per vehicle hour	3-9	**Worse than peers**
Average speed	3-11	**Worse than peers**
COST EFFECTIVENESS		
Operating cost per passenger trip	3-12	**Worse than peers**
Operating cost per passenger mile	3-14	**Worse than peers**
PASSENGER REVENUE EFFECTIVENESS		
Farebox recovery	3-15	**Worse than peers**
Farebox recovery shortfall per passenger	3-16	**Worse than peers**

CTA RAIL SERVICE PROVIDED AND CONSUMED

The amount of rail service provided by CTA increased moderately between 1999 and 2004. Service provided increased by 2.6 percent per year when measured by vehicle hours and 3.1 percent when measured by vehicle miles. This was between two and three times faster than the average peer. Ridership did not increase as fast as service provided, with a growth rate of just 1.4 percent per year, significantly slower than the peer average increase of 2.5 percent. However, an increase of 3.0 percent per year in passenger miles traveled, two and a half times the peer growth rate, suggests that those who do use CTA rail are, on average, taking longer trips.

Exhibit 3-2
CTA HEAVY RAIL OVERVIEW
1999-2004

	1999	2004	Annual Rate of Change	Peer Rate	CTA % of Average
Vehicle Hours	3,342,862	3,799,521	2.6%	1.0%	265%
Vehicle Miles	55,821,169	65,053,214	3.1%	1.1%	278%
Peak Vehicles	928	1,008	1.7%	0.2%	1023%
Passengers	166,477,141	178,716,456	1.4%	2.5%	58%
Passenger Miles	925,035,309	1,074,812,545	3.0%	1.2%	251%
Total Operating Expense	**$306,795,782**	**$399,863,818**	**5.4%**	**3.4%**	**162%**

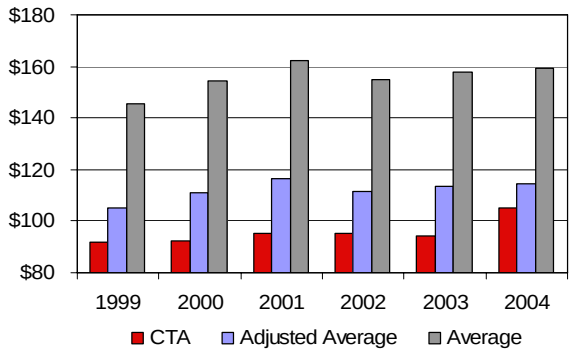
Source: National Transit Database

CTA Rail Service Efficiency

Service efficiency examines the amount of public transportation service produced for the community in relation to the resources expended. Service efficiency asks the question *"How much does it cost to produce a unit of public transportation service?"* The measure **total operating expense per revenue vehicle hour** is the starting point for assessing this performance. The lower the expense, the greater the service efficiency.

CTA's rail service compares favorably to its peers on operating cost per vehicle hour, which was lower throughout 1999-2004. In 2004, CTA's cost per hour was $105.24, about 8 percent lower than the adjusted peer average of $114.42. Although CTA maintained its cost advantage, the gap narrowed considerably, as CTA costs rose at a rate of 2.8 percent annually, about one and a half times as fast as the peer group average of 1.8 percent.

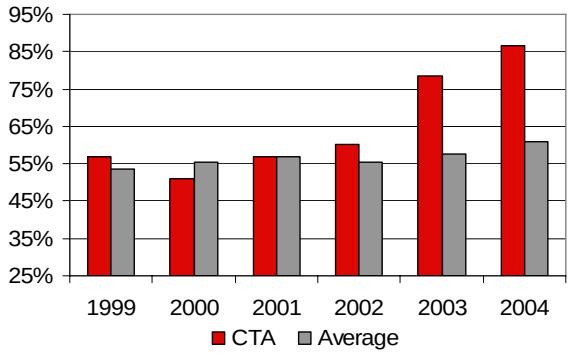
Exhibit 3-3
CTA RAIL OPERATING COST PER VEHICLE HOUR



Source: National Transit Database

The most likely reason that CTA's cost advantage over its peer agencies has been eroding is its rapidly increasing fringe benefit costs. In 1999, CTA spent just $26.26 per vehicle hour on fringe benefits, which was 15 percent lower than the adjusted peer average. In 2004, fringe benefit cost per vehicle hour was $40.21, slightly higher than the adjusted peer average of $39.58. This represents an annual growth rate of 8.9 percent, over one and a half times as fast as the average peer rate of 5.6 percent. The rising benefit costs have been fueled by CTA's actuarially recommended pension contributions, which have increased sharply over the past three years.

Exhibit 3-4
CTA RAIL FRINGE BENEFIT COST TO LABOR COST



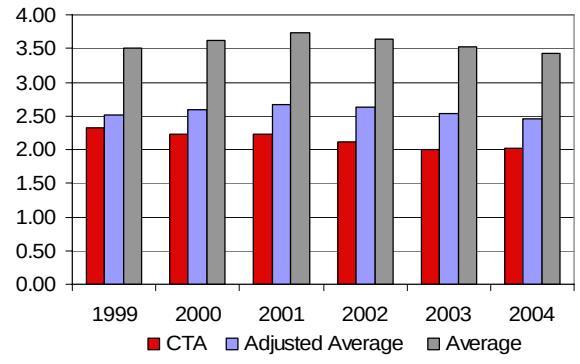
Source: National Transit Database

Fringe benefit costs can also be analyzed as a percentage of total labor costs. In 1999, the ratio of CTA's fringe benefit cost to labor cost was 57 percent (Exhibit 3-4). For example, for every $1.00 in labor costs incurred, $0.57 was added in fringe benefit costs to produce a total compensation of $1.57. This was similar to the peer group average of 53 percent in 1999. By 2004, CTA's fringe benefits increased to 86 percent of labor costs. This average annual increase of 8.7 percent was *over three times* the peer group's average annual increase of 2.8 percent over the same time period. The percentage for the peer group in 2004 was 61 percent. Much of the increase in CTA's

fringe benefit costs is attributable to pension obligations, not cash payments for fringe benefits (see Chapter 7 for more discussion of CTA's pension issues).

Despite rising benefit costs, CTA has been able to maintain an advantage in cost efficiency. Over the past five years, CTA has been able to reduce employee work hours per vehicle hour by about 2.7 percent per year. In 2004, CTA needed 2.03 work hours to produce 1 vehicle hour, nearly 20 percent lower than the adjusted peer average of 2.46 work hours per vehicle hour (Exhibit 3-5).

Exhibit 3-5
CTA RAIL WORK HOURS PER VEHICLE HOUR

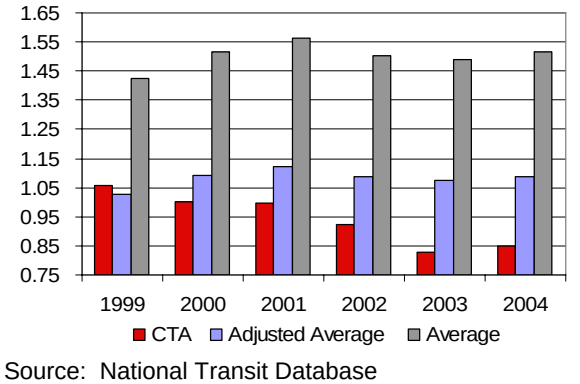


Source: National Transit Database

CTA has also reduced the number of work hours spent on vehicle operations. In 1999, CTA spent 1.06 vehicle operations work hours per vehicle hour, nearly identical to the 1.03 spent by the average peer. By reducing work hours by 4.3 percent per year, CTA spent just 0.85 vehicle operations work hours per vehicle hour in 2004. This was 78 percent of the adjusted peer average (Exhibit 3-6).

Maintenance expenses are among the largest group of functional expenses. CTA has done well at keeping its expenses in this area manageable. In 2004, vehicle maintenance expenses represented 14 percent of CTA's total operating expenses and 17 percent of total operating expenses of the average of the peer group. Although the peer group average remained virtually unchanged from 1999-2004, CTA's maintenance expenses as a percentage of total expenses fell steadily.

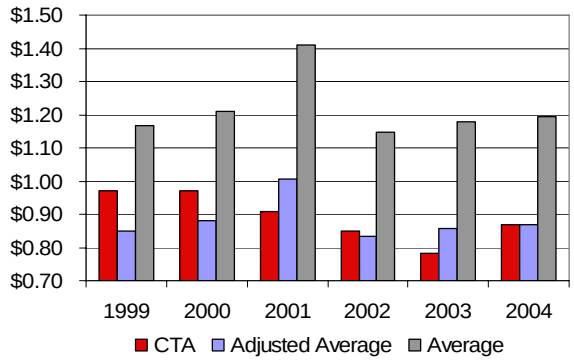
Exhibit 3-6
CTA RAIL VEHICLE OPERATIONS WORK HOURS PER VEHICLE HOUR



Source: National Transit Database

In 2004, CTA's vehicle maintenance expenses per vehicle mile were $0.87 for both CTA and the average peer. This represents an improvement from CTA's position in 1999, when its costs per mile were about 13 percent higher than the peer average (Exhibit 3-7).

Exhibit 3-7
CTA RAIL VEHICLE MAINTENANCE EXPENSE PER VEHICLE MILE

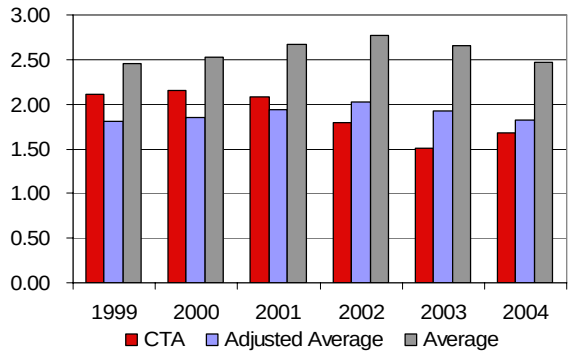


Source: National Transit Database

Over the period from 1999 to 2004, CTA's expenditures on parts per vehicle mile for vehicle maintenance were significantly higher than its peer average. In 1999, CTA spent $0.45 per vehicle mile on parts, more than two and a half times the adjusted peer average. Since then, however, CTA has been able to significantly reduce spending on parts, by just over 15.8 percent per year on an annualized basis. In 2004, CTA spent about 34 percent more on parts than the peer average.

CTA has been able to reduce the number of maintenance work hours per vehicle mile. In 1999, CTA spent 2.11 work hours on vehicle maintenance per every 100 vehicle miles. In 2004, this number was reduced to 1.68, a reduction of 4.5 percent per year. This was about 8 percent less than the adjusted peer average of 1.82 in 2004, which remained virtually unchanged from 1999 (Exhibit 3-8). While reduced hours of vehicle maintenance is an improvement from the standpoint of controlling costs, it is important that CTA's rail cars are still being properly maintained or it will suffer problems in operations in the long term.

Exhibit 3-8
CTA RAIL VEHICLE MAINTENANCE WORK HOURS PER 100 VEHICLE MILES



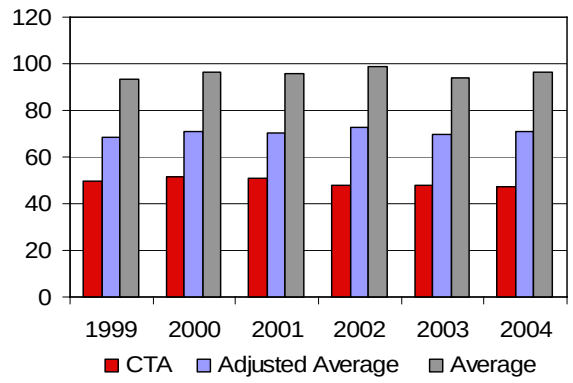
Source: National Transit Database

CTA Rail Service Effectiveness

Service effectiveness is a measure of the consumption of public transportation service in relation to the amount of service available. Service effectiveness indicators address the question *"How much public transportation is used in relation to the amount of service available?"* The measure **passenger per vehicle hour** is used to assess service effectiveness performance. The more passengers carried in relation to the amount of service provided, the higher the level of service effectiveness.

Although CTA's heavy rail service is largely an efficient system, it does not compare as favorably on service effectiveness. CTA moves significantly fewer passengers per vehicle hour than its peers. In 2004, CTA averaged 47 passengers per hour, which was only about two-thirds of the adjusted peer average of 71 passengers per hour. This was a decline of about 1 percent per year from CTA's position in 1999, when it served about 50 passengers per hour. The peer group improved by about 1 percent per year from an adjusted average of 68 passengers per hour in 1999 (Exhibit 3-9).

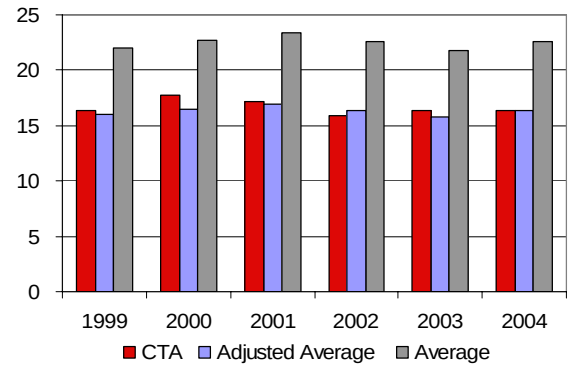
Exhibit 3-9
CTA RAIL PASSENGERS PER VEHICLE HOUR



Source: National Transit Database

We examined two potential reasons of CTA heavy rail's low service effectiveness. The first is whether CTA service has passenger loads similar to its peers. Running a moderately used service is not the main reason for CTA's lower service effectiveness. Adjusted for CTA's shorter car length, CTA and its peers carried nearly identical average loads of between 16 and 17 passengers from 1999-2004.

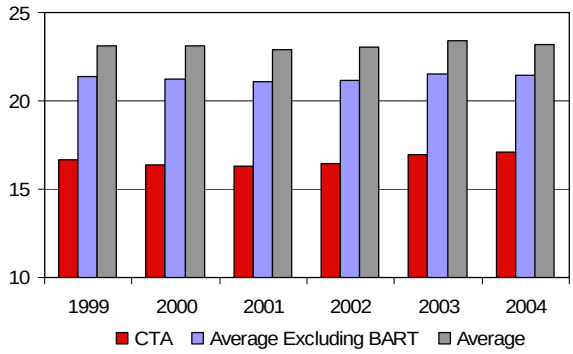
Exhibit 3-10
CTA RAIL AVERAGE PASSENGER LOAD



Source: National Transit Database

A second possible reason for CTA's low service effectiveness could be that its trains are slower than peers, hindering it from serving as many passengers (see Exhibits 3-10 and 3-11). CTA's train speed is restricted by tight turns in the Loop. CTA officials noted that slower speed is also a function of station distance, number of stations, 24-hour service, and the level of express service provided. Because its trains move slower, CTA is unable to serve as many passengers per hour as its peers. CTA's trains averaged only 16 to 17 miles per hour, nearly 30 percent slower than its peer average of about 23 miles per hour. If BART, which operates the group's fastest system, is removed, CTA is still more than 20 percent slower than the peer average of 21 miles per hour. It

Exhibit 3-11
CTA RAIL AVERAGE SPEED IN MILES PER HOUR



Source: National Transit Database

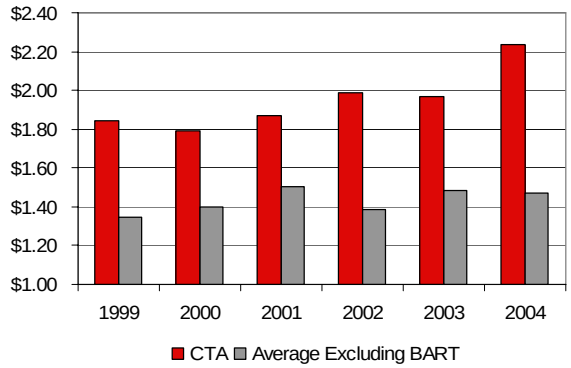
is likely that the quality of CTA's track and signaling technology also play a part in reducing service effectiveness.

CTA Rail Cost Effectiveness

Cost effectiveness addresses the consumption of public transportation services in relation to resources expended. The question addressed in this area is *"How much does it cost to transport a public transportation user?"* The measure **total operating expense per passenger** is used to assess cost effectiveness performance. The lower the expense per passenger served, the more cost-effective the service. Cost effectiveness is a function of cost efficiency and service effectiveness.

Compared to its peers, CTA's heavy rail service is not a cost effective system, largely due to low service effectiveness as discussed in the previous section. CTA's cost effectiveness has declined in both absolute and relative terms since 1999. In 1999, it cost CTA $1.84 to move one passenger, about 36 percent higher than the average peer. In 2004, CTA's cost per passenger trip reached $2.24, over 50 percent higher than the peer average of $1.47 (Exhibit 3-12). Between 1999 and 2004, cost per passenger trip increased by 4.0 percent per year at CTA, about 2 times as fast as the average peer. BART was excluded from the average calculation and viewed as an outlier on this metric, because its passenger trips are more than twice as long as the remainder of the peer group, as seen in Exhibit 3-13.

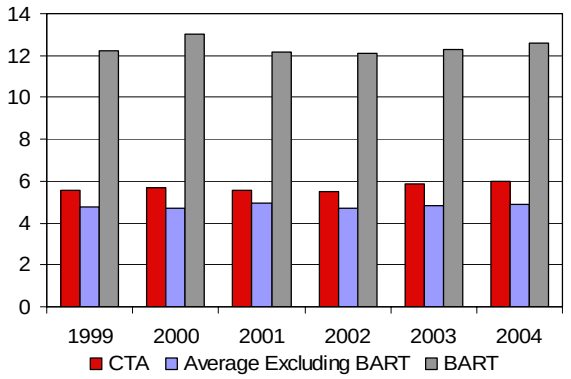
Exhibit 3-12
CTA RAIL OPERATING COST PER PASSENGER TRIP



Source: National Transit Database

At least a portion of the reason for CTA's comparatively high cost per passenger is due to longer passenger trips on CTA rail. When compared to the peer group, excluding BART, CTA's trips were 16 percent longer, or about 5.6 miles in 1999. Average trip length increased to 6.0 miles in 2004, which was almost 24 percent longer than average. From Exhibit 3-13, it is apparent that BART's average trip length is much longer than average and its cost per trip is, therefore, not comparable for CTA or the rest of the group.

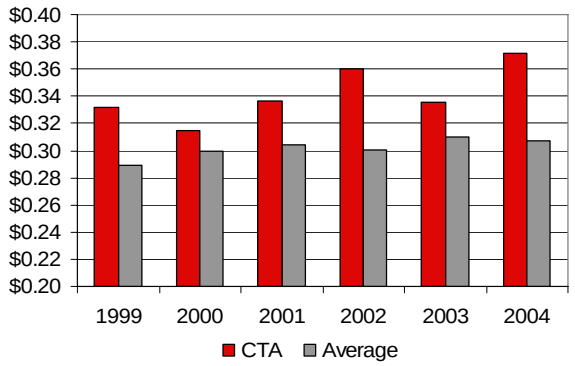
Exhibit 3-13
CTA RAIL MILES PER PASSENGER TRIP



Source: National Transit Database

Average trip length explains some of the reason for CTA's relatively low cost effectiveness. An alternative to looking at cost per passenger trip (how much it costs to move one person one trip of any length) is to examine costs per passenger mile – how much it costs to move one transit user one mile. Exhibit 3-14 shows that CTA rail's cost effectiveness is low on a per mile basis as well. In 1999, CTA's operating cost per passenger mile was $0.33, about 15 percent higher than the average peer. In 2004, CTA's costs were $0.37 per mile, just over 20 percent higher than average. This represented about a 2.3 percent annual increase for CTA, approximately 1.5 times as fast as its peers.

Exhibit 3-14
CTA RAIL OPERATING COST PER PASSENGER MILE

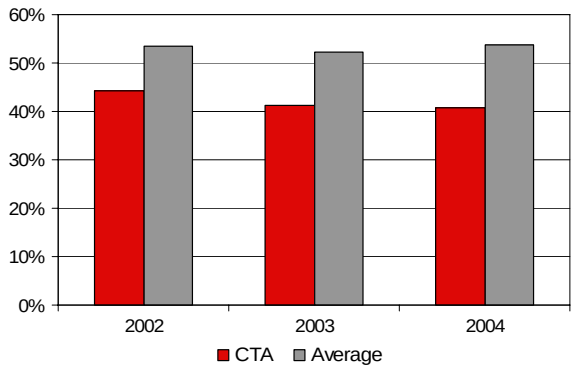


Source: National Transit Database

CTA Rail Passenger Revenue Effectiveness

Passenger revenue effectiveness is concerned with the share of the operating expense which is borne by the consumers or passengers of the public transportation service. Two measures—**farebox recovery** (passenger fares/operating expense) and **farebox recovery shortfall per passenger** ([operating expense - passenger fares]/passenger boardings) — are used to assess passenger revenue performance.

Exhibit 3-15
CTA RAIL FAREBOX RECOVERY RATIO



Source: IMG from National Transit Database

The higher the percentage of passenger revenue recovery, the more passenger revenue is paying for total operating expense. The higher the farebox recovery shortfall per passenger, the greater funding beyond fares is required to cover operating expense. This includes funds from non-fare revenue such as advertising, and from federal, State, and local assistance. Monetary obligations of the agencies are considered in calculating farebox recovery shortfall regardless of whether funds were available in the analysis year.

This analysis is limited to the period 2002 to 2004 due to changes in NTD reporting requirements. Prior to 2002, NTD did not require the reporting of fare revenues by mode (e.g., bus, rail).

The cost recovery of CTA's rail service is not favorable in comparison to its peers. Farebox recovery considering only passenger fare revenue (not the RTA definition), declined slightly from 44 percent in 2002 to 41 percent in both 2003 and 2004. The average peer ratio was 54 percent in 2004.

As a result of relatively low farebox recovery, CTA farebox recovery shortfall per passenger was higher than that of its peers. In 2004, CTA's farebox recovery shortfall per passenger was $1.32; about 1.5 times the peer average of $0.90 (Exhibit 3-16). This means that CTA rail riders receive an implicit discount of $1.32 per ride compared to the fully-loaded cost of operating the CTA rail system (including the cost of deferred pension contributions). Farebox recovery shortfall per passenger also increased about 2.5 times faster than the peer

FAREBOX RECOVERY RATIO

As used in this report, farebox recovery ratio equals the ratio of passenger revenues to operating costs, excluding depreciation.

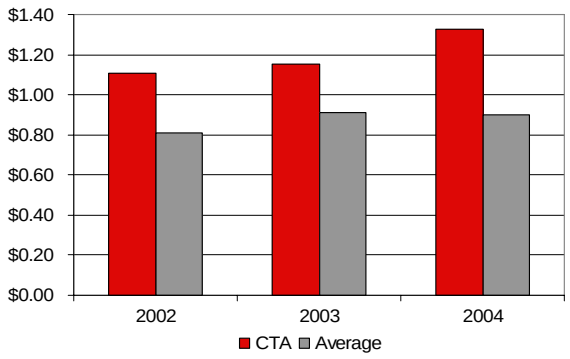
- Operating costs are determined using generally-accepted accounting principles (GAAP).
- This definition differs from a similar ratio calculated by RTA, which is referred to as the "recovery ratio".
- The RTA's recovery ratio includes **all operating revenues** and excludes certain costs (such as certain pension, security, etc.)

This report used the Service Board's National Transit Database (NTD) submittals for farebox recovery ratios.

FAREBOX RECOVERY SHORTFALL

As used in this report, farebox recovery shortfall is calculated as the difference between farebox revenues to operating costs, excluding depreciation. The terms used here are the same as the numerator and denominator in the farebox recovery ratio. Operating costs are those determined using generally-accepted accounting principles (GAAP). This report used a Service Board's National Transit Database submittals for system-wide and modal farebox revenues. This definition differs from operating subsidy in that it does not include non-fare revenues.

Exhibit 3-16
CTA RAIL FAREBOX RECOVERY SHORTFALL PER PASSENGER



Source: IMG from National Transit Database

average between 2002 and 2004, in large measure due to the rapidly rising unfunded pension obligations (see Chapter 7 for details).

CHICAGO TRANSIT AUTHORITY BUS OPERATIONS

The performance of the CTA bus service is assessed in this chapter using data reported annually to the National Transit Database for fiscal years 1999 through 2004. This period was chosen since 2004 is the most recent year for which the Federal Transit Administration has publicly released the reported data.

CTA performance trends are compared to those of the following five transit systems shown in the text box. The five peer transit systems are similar to the CTA in many respects. The key similarities are:

- All serve major cities;
- All operate rapid rail service to the central downtown area in addition to bus service; and
- All operate from multiple garages.

CTA BUS PEERS

1. Metropolitan Atlanta Rapid Transit Authority (Atlanta) – MARTA
2. Massachusetts Bay Transportation Authority (Boston) – MBTA
3. Los Angeles County Metropolitan Transportation Authority (Los Angeles) – LACMTA
4. MTA New York City Transit Authority (New York) – NYCT
5. Southeastern Pennsylvania Transportation Authority (Philadelphia) – SEPTA

The performance of CTA's bus service is analyzed from several perspectives in the following sections:

- **Service Provided and Consumed –** changes in key service statistics.
- **Service Efficiency –** cost of providing CTA bus service.
- **Service Effectiveness –** use of the CTA bus service.
- **Cost Effectiveness –** consumption of public transportation services in relation to resources expended.
- **Passenger Revenue Effectiveness –** share of total operating expense borne by the users.

CTA bus service experienced a slight loss of passengers during the period 1999 to 2004; its peer group passenger average was unchanged during this period.

- With respect to passenger **service efficiency** as measured by total operating expense per vehicle hour, CTA bus performed near the average of large bus system peers, although from 1999 to 2004, CTA's cost per vehicle hour increased at more than twice the average rate for the peer group.
- CTA's bus **service effectiveness** declined both in absolute terms and relative to the peer group average from 1999 to 2004, as measured by passengers per vehicle hour.

- CTA's bus **cost effectiveness**, measured by cost per passenger, declined both in absolute terms and relative to the peer group from 1999 to 2004. In 2004, CTA's cost effectiveness was slightly worse than that of its peers.
- CTA's bus passenger **revenue effectiveness** in 2004 as measured by passenger revenue recovery was favorable as compared to its peers. When measured by farebox recovery shortfall per passenger, it is equal to peers.

Below is a summary of the results of the metrics we reviewed.

CTA PEER COMPARISON – SUMMARY (BUS)
2004

SERVICE EFFICIENCY	EXHIBIT #	RELATIVE TO PEERS
Revenue miles	3-19	Better than peers
Operators wages per vehicle hour	3-24	Better than peers
Platform time to total operating time	3-25	Better than peers
Platform time to total compensated time	3-26	Better than peers
Maintenance expense as a % of total operating cost	3-27	Better than peers
Vehicle maintenance expense per vehicle mile	3-28	Better than peers
Vehicle maintenance work hours per 1,000 miles	3-30	Better than peers
Miles between major service interruptions	3-31	Better than peers
Operating cost per vehicle hour	3-20	Equal to peers
Fringe benefit cost per vehicle hour	3-21	Worse than peers
Fringe benefits as a percent of salaries	3-22	Worse than peers
Fuel and lubricants per vehicle hour	3-23	Worse than peers
Parts per vehicle mile	3-29	Worse than peers
General administration work hours per 100 miles	3-32	Worse than peers
SERVICE EFFECTIVENESS		
Passengers per vehicle hour	3-33	Worse than peers
COST EFFECTIVENESS		
Operating cost per passenger	3-34	Worse than peers
Operating cost per passenger mile	3-35	Worse than peers
PASSENGER REVENUE EFFECTIVENESS		
Farebox recovery ratio	3-36	Better than peers
Farebox recovery shortfall per passenger	3-37	Equal to peers

CTA's performance is comparable to key service statistics for the average transit system in this peer group (Exhibit 3-17). CTA operates within ± 10 percent of average peer values for operating expenses, service provided (vehicle hours, vehicle miles, peak vehicles), and service consumed (passengers).

Exhibit 3-17
CTA MOTOR BUS SNAPSHOT
2004

City	System	Vehicle Hours	Vehicle Miles	Peak Vehicles	Passengers	Total Modal Operating Expense
Boston	MBTA	2,387,948	25,073,452	774	113,768,262	242,582,169
New York	NYCT	15,286,335	121,838,656	3,849	893,390,100	1,678,850,900
Philadelphia	SEPTA	4,275,026	46,158,168	1165	187,510,538	400,367,435
Atlanta	MARTA	2,255,031	29,990,751	590	66,761,993	165,459,043
Los Angeles	LACMTA	6,707,094	89,777,243	2022	318,512,775	684,166,563
	Average	**6,182,287**	**62,567,654**	**1,680**	**315,988,734**	**634,285,222**
Chicago	CTA	6,887,887	67,782,999	1,710	294,030,775	669,763,133
CTA % of Average		**111%**	**108%**	**102%**	**93%**	**106%**

Source: National Transit Database

CTA BUS SERVICE PROVIDED AND CONSUMED

The amount of bus service provided by CTA increased moderately between 1999 and 2004. Measured in terms of vehicle hours, vehicle miles, or peak vehicles, the average annual rate of increase was about two percent (Exhibit 3-18). This rate of increase was greater than the average system in the peer group (1%).

Exhibit 3-18
CTA MOTOR BUS OVERVIEW
1999-2004

	1999	2004	Annual Rate Of Change	Peer Rate	CTA % of average
Vehicle Hours	6,299,998	6,887,887	1.8%	0.8%	240%
Vehicle Miles	62,312,991	67,782,999	1.7%	0.8%	219%
Peak Vehicles	1,545	1,710	2.1%	0.9%	232%
Passengers	299,058,490	294,030,775	-0.3%	0.0%	-950%
Total Operating Expense	**$465,084,809**	**$669,763,133**	**7.6%**	**3.2%**	**237%**

Source: National Transit Database

CTA bus service had a very slight loss of passengers during the period. CTA bus service carried 294 million passengers in 2004, a loss of 5 million passengers compared to those served in 1999, or an average annual loss of 0.3 percent. A review of the annual statistics suggests that the effects of the downturn of the economy in 2002 and 2003 and aftermath of the 9/11 attacks may have contributed to this loss since passenger usage was rising through 2002. CTA's passenger loss is consistent with the average experience in the peer group.

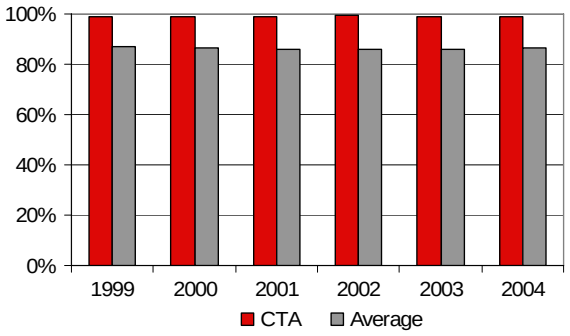
CTA Bus Service Efficiency

Service efficiency examines the amount of public transportation service produced in relation to the resources expended. Service efficiency asks the question *"How much*

does it cost to produce a unit of public transportation service?" The measure **total operating expense per revenue vehicle hour** is the starting point for assessing this performance. The lower the expense of a revenue vehicle hour of public transportation service, the greater the service efficiency of the service.

Our review raised questions about the accuracy of CTA's reporting of revenue vehicle hours and miles. CTA may be incorrectly reporting some deadhead hours/miles as revenue hours/miles (i.e., miles and hours a vehicle travels when out of revenue service). This clearly is suggested by differences in reported hourly values for CTA and the peer group (Exhibit 3-19). The average vehicle revenue hours as a percent of vehicle hours is 87 percent for the peer group and 99 percent for CTA.

Exhibit 3-19
CTA BUS REVENUE MILES

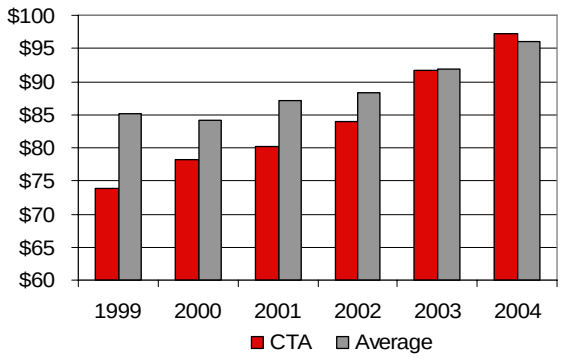


Source: National Transit Database

This is not a significant problem for examining trends in CTA performance since it appears that CTA used a consistent definition when recording mileages. However, it is a potential problem when comparing CTA's performance to the peer group performance since the peer systems probably did not use the same definition of revenue hours/miles. Therefore, total vehicle hours and vehicle miles are used in the assessment of service efficiency.

The total operating expense per vehicle hour of $97.24 for CTA bus service was slightly greater than the peer group average $96.09 in 2004. This suggests that CTA is performing near the average of large bus systems (Exhibit 3-20).

Exhibit 3-20
CTA BUS OPERATING COST PER VEHICLE HOUR

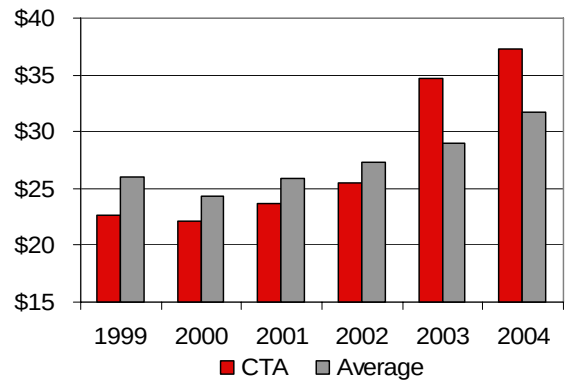


Source: National Transit Database

However, CTA's position relative to the peer group average declined between 1999 and 2004. In 1999, CTA's total operating expense per vehicle hour ($73.82) was 13.3 percent lower than the peer average ($85.16). CTA's cost per hour increased at an average annual rate of 5.7 percent during the period, more than twice the average rate (2.4 percent) for the peer group.

Increased fringe benefit costs were the major factor in the decline of CTA's position relative to the peer group average. The total fringe benefit cost per vehicle hour increased $14.61 per vehicle hour from $22.69 per vehicle hour in 1999 to $37.30 per vehicle hour in 2004 (Exhibit 3-21). The $14.61 increase was 62 percent of the total increase of $23.41 per vehicle hour from 1999 to 2004. The average annual rate of 10.4 percent increase was more than double the value for the peer group (4.1 percent). The fringe benefit cost of $37.30 per vehicle hour is now 18 percent higher than the peer group average.

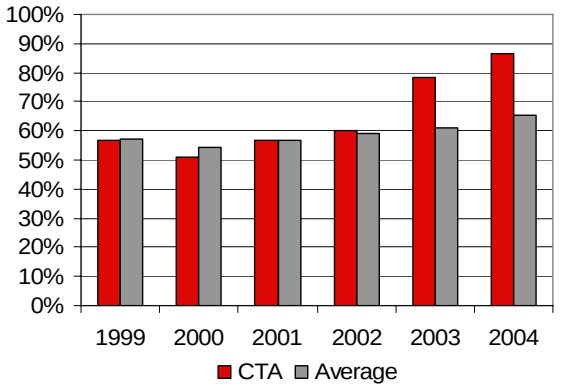
Exhibit 3-21
CTA BUS FRINGE BENEFIT COST PER VEHICLE HOUR



Source: National Transit Database

Another way to look at fringe benefit costs is as a percentage (or multiplier) of total labor costs. In 1999, the ratio of fringe benefit cost to labor costs was 57 percent (Exhibit 3-22). For example, for every $1.00 in labor costs incurred, $0.57 was added in fringe benefit costs, which produced a total compensation of $1.57. By 2004, the fringe benefits had jumped to 86 percent of labor costs producing total compensation of $1.86. While fringe benefit costs for the peer group increased from 57 percent to 65 percent, the CTA increase to 86 percent was very significant.

Exhibit 3-22
CTA BUS FRINGE BENEFITS AS A PERCENTAGE OF SALARIES

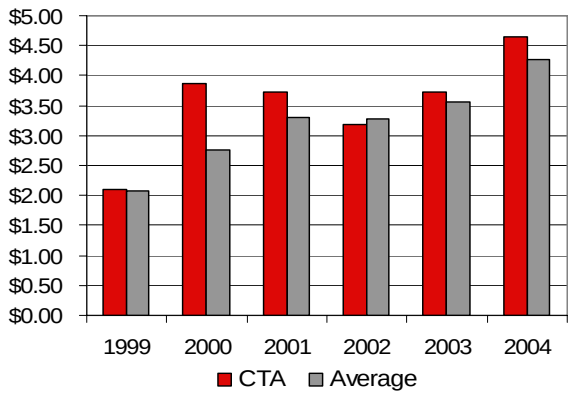


Source: National Transit Database

The major increase in CTA fringe benefit costs occurred in 2003 and 2004. Fringe benefits cover a variety of expenses including medical, absenteeism, and pension costs.

As might be expected, fuel costs also increased significantly, particularly between 1999 and 2000 and also between 2003 and 2004. The fuel and lubricants cost per vehicle hour increased from $2.10 in 1999 to $4.64 in 2004, an average increase of 17.2 percent (Exhibit 3-23). This is consistent with the average annual increase for the peer group of 15.3 percent.

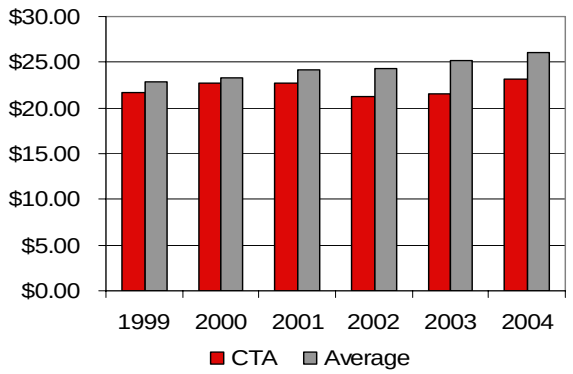
Exhibit 3-23
CTA BUS FUEL AND LUBRICANTS PER VEHICLE HOUR



Source: National Transit Database

The high fringe benefit and fuel costs are compensated by CTA's good performance in other cost areas. Most important, operators' wages per vehicle hour only increased from $21.73 in 1999 to $23.19 in 2004 – an average annual increase of only 1.3 percent (Exhibit 3-24). In contrast, the average annual increase for the peer group was 2.6 percent. CTA's cost now is 11 percent better than the peer group.

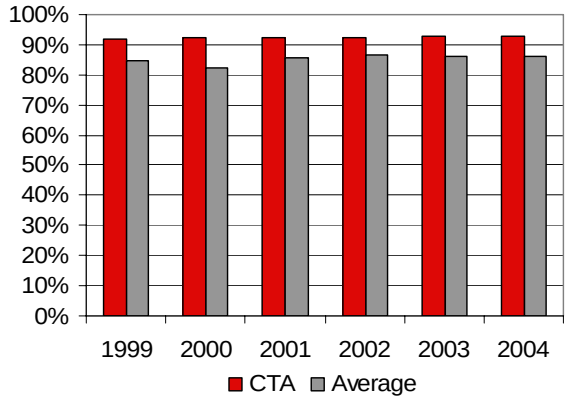
Exhibit 3-24
CTA BUS OPERATORS WAGES PER VEHICLE HOUR



Source: National Transit Database

There can be several reasons for CTA's good performance regarding the measure "operators' wages per vehicle hour." The reported NTD data suggest that CTA obtains better use of its bus operators than does the average system in its peer group. Platform pay represents 92.8 percent of total operating time pay for bus operators (Exhibit 3-25). This means that only 7.2 percent of the pay goes to time paid for pay premiums, such as guarantee time (e.g., pay to provide 8 hours of daily pay) and overtime. In contrast, the platform pay represents 86.3 percent of total operating time pay for bus operators at the average

Exhibit 3-25
CTA BUS PLATFORM TIME TO TOTAL OPERATING TIME

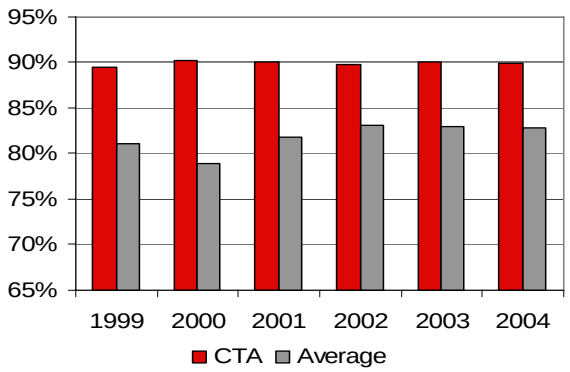


Source: National Transit Database

system in the peer group. The difference of 6.5 percent between CTA and the peer average represents a savings of $10 million annually.

CTA also obtains a higher utilization of its bus operators when all compensated work time is analyzed. Platform pay represents 90 percent of total compensated pay for bus operators (Exhibit 3-26). This means than only 10 percent of the pay goes to time paid for pay premiums and non-operating time such as training and jury duty. In contrast, the platform pay represents 82.8 percent of total operating time pay for bus operators at the average system in the peer group.

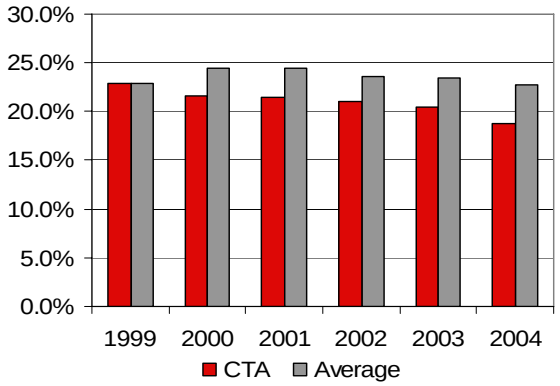
Exhibit 3-26
CTA BUS PLATFORM TIME TO TOTAL COMPENSATED TIME



Source: National Transit Database

Maintenance expenses are the second largest group of functional expenses after vehicle operations. In 2004, vehicle maintenance expenses represented 18.7 percent of CTA's total bus operating expenses and 22.8 percent of those at the average peer system (Exhibit 3-27).

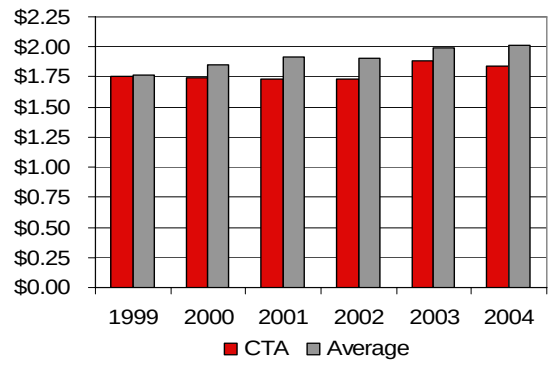
Exhibit 3-27
CTA BUS VEHICLE MAINTENANCE EXPENSE AS PERCENTAGE OF TOTAL OPERATING COST



Source: National Transit Database

Vehicle maintenance expenses per vehicle mile only increased from $1.76 in 1999 to $1.85 in 2004 – an average annual increase of only 1.0 percent (Exhibit 3-28). In contrast, the average annual increase for the peer group was 2.1 percent. CTA's cost now is 8 percent better than the peer group.

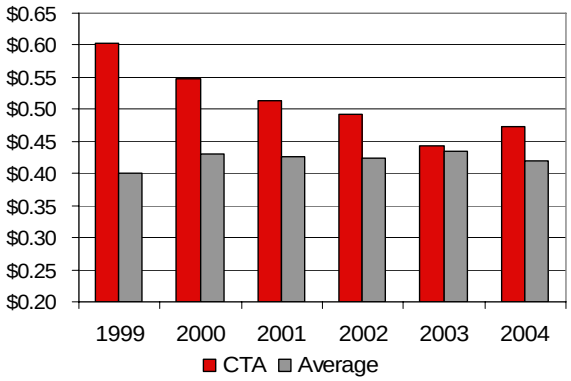
Exhibit 3-28
CTA BUS VEHICLE MAINTENANCE EXPENSE PER VEHICLE MILE



Source: National Transit Database

In terms of spending on maintenance parts, CTA is moderately higher than the peer group average (Exhibit 3-29). CTA's cost per vehicle mile for other materials and supplies (predominately parts) was $0.47 in 2004 — 12.7 percent more than the peer average. However, this unit expense has declined from a high of $0.60 in 1999.

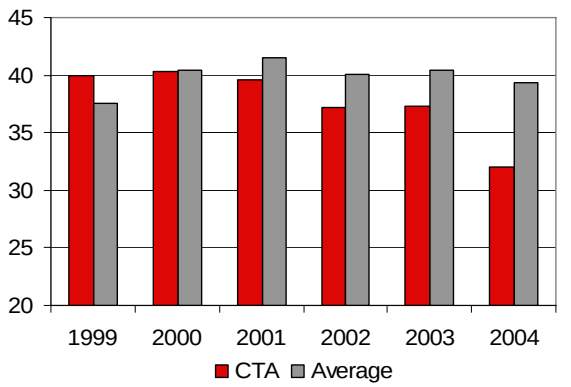
Exhibit 3-29
CTA BUS PARTS PER VEHICLE MILE



Source: National Transit Database

CTA appears a little lean in vehicle maintenance hours per 1,000 vehicle miles. In 2004, CTA spent 32 vehicle maintenance work hours per 1,000 vehicle miles — about 18.6 percent fewer hours than the peer average and about 20 percent fewer hours than it spent in 1999 (Exhibit 3-30).

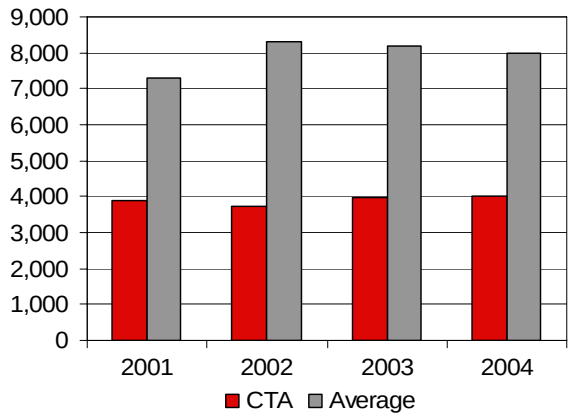
Exhibit 3-30
CTA BUS VEHICLE MAINTENANCE WORK HOURS PER 1,000 MILES



Source: National Transit Database

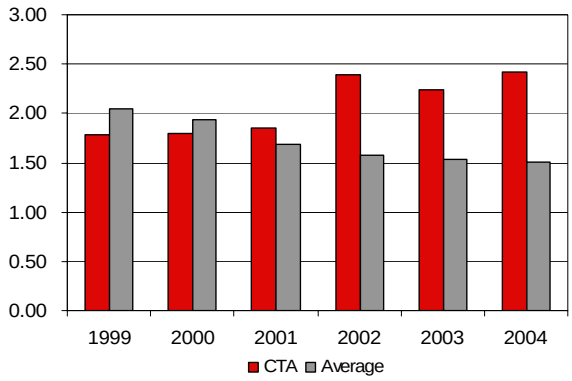
This apparent good cost performance may have unintended performance consequences. Data is shown only from 2001 to 2004 due to a change in NTD reporting. The NTD reported data indicates that the average miles between major revenue service interruptions for CTA bus service was 3,993 in 2004 — about half of the average of 7,995 miles for the average peer system (Exhibit 3-31). Caution is needed when evaluating this data since some transit systems do not fully embrace the NTD definition. However, the CTA performance judged by other industry norms generally would be considered needing improvement.

Exhibit 3-31
CTA BUS MILES BETWEEN MAJOR SERVICE INTERRUPTIONS



Source: National Transit Database

Exhibit 3-32
CTA BUS GENERAL ADMINISTRATION WORK HOURS PER 100 VEHICLE HOURS



Source: National Transit Database

The general administration activities are more challenging to assess because they are not linked to direct service operations. Using the measure general administration work hours per 100 vehicle service hours, the CTA expended more hours (2.42) than did the average peer system (1.50) in 2004 (Exhibit 3-32). However, the peer average has declined from a high of 2.05 work hours in 1999 – coincidentally CTA's low point when it expended 1.78 work hours per 100 vehicle hours. This limited analysis suggests that there is wide latitude in experiences within and between transit systems. Some of this may be related to each agency's operations. For example, CTA officials noted that CTA customer service agents are included in general administrative activities in the NTD data, while ticket takers at other agencies who serve a similar function would be included in operating expenses. According to the CTA, customer assistance expense equaled $18 million for 2004. However, the data indicates that CTA should carefully examine its general and administration costs, since they have significantly increased and diverged from the peer average after 2001.

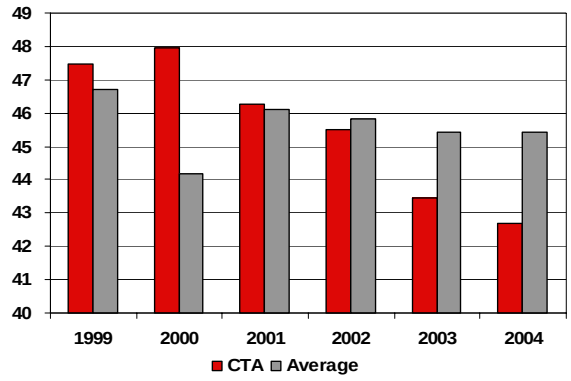
CTA Bus Passenger Service Effectiveness

Service effectiveness is a measure of the consumption of public transportation service in relation to the amount of service available. Service effectiveness indicators address the question "*How much public transportation is used in relation to the amount of service available?*" In order to account for the difference in average trip lengths across systems, it is also useful to ask "*How much does it cost to move one passenger a distance of one mile?*" The measures **total operating expense per passenger** and **total operating expense per passenger mile** are used to assess service effectiveness performance. The more passengers carried in relation to the amount of service provided, the higher the level of service effectiveness.

As discussed in the section on service efficiency, our review raised questions about the accuracy of CTA's reporting of revenue vehicle hours and miles. Therefore, total vehicle hours and miles are used in the assessment of service effectiveness.

CTA's service effectiveness has declined since 1999 in absolute terms and relative to the peer group average. In 1999, CTA served 47.5 passengers per vehicle hour, which was 1.6 percent higher than the peer group average of 46.7 passengers per vehicle hour (Exhibit 3-33). By 2004, CTA was serving only 42.7 passengers per vehicle hour, which was 6.0 percent lower than the peer group average of 45.4 passengers.

Exhibit 3-33
CTA BUS PASSENGERS PER VEHICLE HOUR



Source: National Transit Database

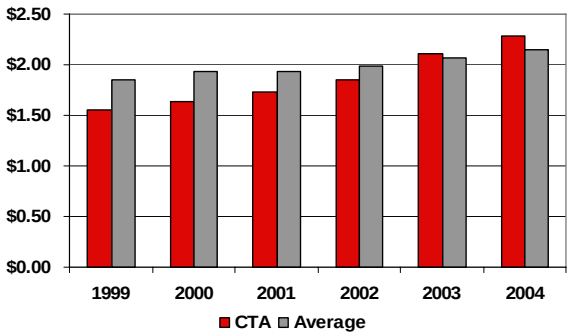
Most of the decline has occurred in 2001 and later, which may reflect the effects of the downturn of the economy in 2002 and 2003 and aftermath of the 9/11 attacks. The performance of the CTA and the average peer system both declined between 1999 and 2004 except that CTA's decline was at a slightly higher average annual rate of decline – 2.1 percent versus 0.7 percent.

CTA Bus Passenger Cost Effectiveness

Cost effectiveness addresses the consumption of public transportation services in relation to resources expended. The question addressed in this area is, *"How much does it cost to transport a public transportation user?"* The measure **total operating expense per passenger** is used to assess cost effectiveness performance. The lower the expense per passenger served, the more cost-effective the service.

Cost effectiveness is a function of cost efficiency and service effectiveness. The cost effectiveness of CTA service has declined since 1999. The total expense per passenger increased at an average annual rate of 7.9 percent from $1.56 in 1999 to $2.28 in 2004 (Exhibit 3-34). This performance trend resulted because total operating expense increased at an average annual rate of 7.6 percent between 1999 and 2004 while total passenger declined slightly at an average annual rate of 0.3 percent.

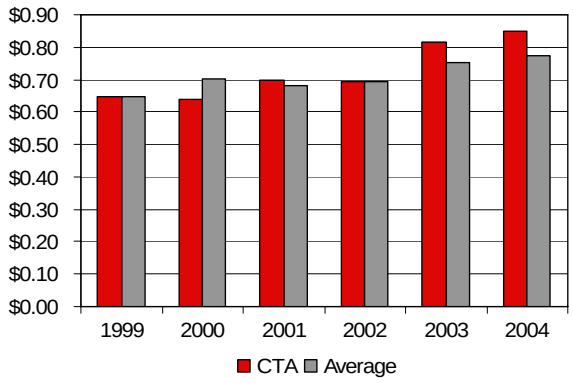
Exhibit 3-34
CTA BUS OPERATING COST PER PASSENGER



Source: National Transit Database

CTA's cost effectiveness also declined relative to the average peer system. In 1999, CTA's cost per passenger ($1.56) was 16 percent lower than the peer average of $1.85. By 2004, CTA's cost per passenger had increased to $2.28 and was 5.7 percent higher than the peer average of $2.15.

Exhibit 3-35
CTA BUS OPERATING COST PER PASSENGER MILE



Source: National Transit Database

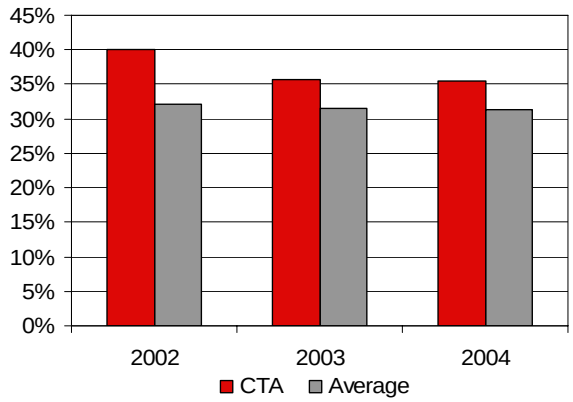
CTA's cost effectiveness has declined on a per mile basis as well. In 1999, CTA's cost of $0.65 per passenger mile was identical to that of the peer average. In 2004, CTA cost per passenger mile increased to $0.85, 10 percent higher than the peer average of $0.77.

CTA Bus Passenger Revenue Effectiveness

Passenger revenue effectiveness is concerned with the share of the operating expense which is borne by the consumers or passengers of the public transportation service. Two measures – **passenger revenue recovery** (passenger fares/operating expense) and **farebox recovery shortfall per passenger** ([operating expense - passenger fares]/passenger boardings) – are used to assess passenger revenue performance. The higher the percentage of passenger revenue recovery, the more passenger revenue is paying for total operating expense. The higher the farebox recovery shortfall per passenger, the greater funding beyond fares is required to cover operating expense. This includes funds from non-fare revenue such as advertising, and from federal, State, and local assistance. Monetary obligations of the agencies are considered in calculating farebox recovery shortfall regardless of whether funds were available in the analysis year.

This analysis is limited to the period 2002 to 2004 due to changes in NTD reporting requirements. Prior to 2002, NTD did not require the reporting of fare revenues by mode (e.g., bus, rail). The cost recovery of CTA bus services is favorable when compared to the average peer system. CTA's farebox recovery of 35.5 percent in 2004 is 13.4 percent higher than the peer system average of 31.3 percent (Exhibit 3-36).

Exhibit 3-36
CTA BUS FAREBOX RECOVERY RATIO



Source: IMG from National Transit Database

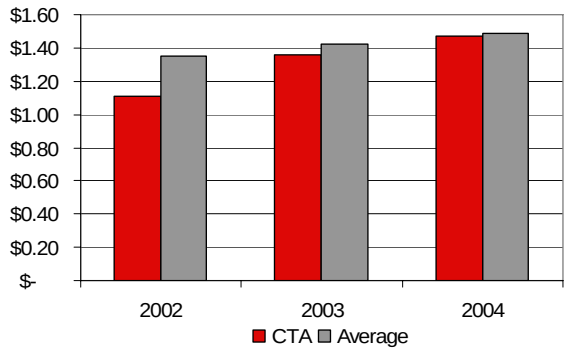
This farebox recovery ratio differs from the formula used by RTA and is used here in order to make valid

peer comparisons. The RTA formula allows exclusion of some pension and security costs, which differs from the GAAP-based standard used in NTD reporting.

CTA's farebox recovery declined from 40.1 percent in 2002 to 35.5 percent in 2004. As in other measures that involve cost, the increase in CTA operating costs was the primary factor in this decline. Public policy at some systems requires that fares be increased to meet a minimum farebox recovery standard.

Farebox recovery shortfall per passenger for the CTA bus services increased at an average annual rate of 15 percent from $1.11 in 2002 to $1.47 in 2004 (Exhibit 3-37). This moved CTA's farebox recovery shortfall from well below the peer average in 1999 to about equal to the average of $1.49 in 2004. Again, the increase in CTA operating costs, including deferred pension obligations, was the primary factor in this increase in subsidy costs.

Exhibit 3-37
CTA BUS FAREBOX RECOVERY SHORTFALL PER PASSENGER



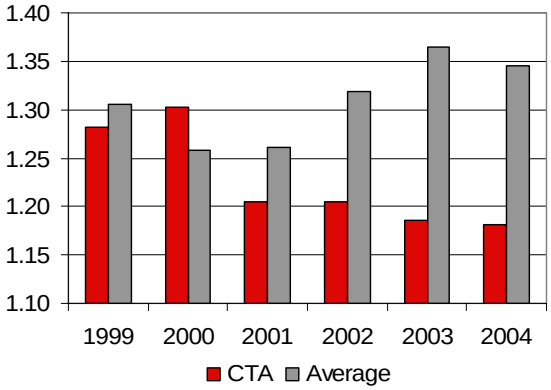
Source: IMG from National Transit Database

CTA RAIL MAINTENANCE

CTA operates a fleet that is older than the average of its peers with an average age in 2005 of 21.7 years. The average fleet age in 2004 for CTA's peer group was approximately 11 years. In addition, CTA has a low spare ratio compared to its peers, 1.18 in 2004 compared to its peers' average of 1.35 (Exhibit 3-38).

Consistent NTD data was not available to assess CTA's maintenance performance, in terms of miles between service interruptions, compared to its peers. The NTD changed its reporting criteria for this metric in 2001, at which point CTA began reporting only major service interruptions, which are those interruptions that result in the vehicle not being able to complete its scheduled revenue trip or to begin its next scheduled revenue trip. All other agencies in CTA's peer group reported both major and other service interruptions during the reporting criteria change. Neither the CTA nor the Federal Transit Administration (FTA) noted the discrepancy in reporting. However, CTA has

Exhibit 3-38
CTA RAIL SPARE RATIO

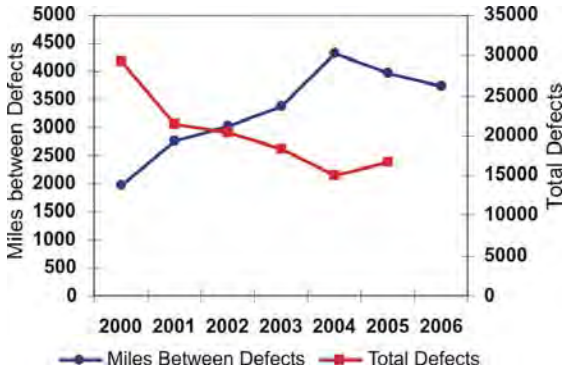


Source: National Transit Database

indicated its intention to report all defects in the 'other' service interruption category beginning in 2006. A defect, as recorded by CTA, is anything that is reported by the operator, whether or not any trouble is found upon further inspection.

In addition, there is also a reporting discrepancy between CTA and the rest of its peer group with respect to miles between major service interruptions. In 2001, CTA began reporting substantially more miles between major service interruptions while the service interruptions its peers were reporting remained relatively constant. Given these differences, and the concern with the quality of the data reported to the NTD in this category, reliable conclusions about CTA's performance with respect to its peers cannot be drawn.

Exhibit 3-39
CTA RAIL MECHANICAL RELIABILITY



Source: CTA Report Miles Between Reported Defects

Based on its data on internal miles defects, CTA has demonstrated a steady improvement in mechanical reliability for rail equipment from 2000 to 2004, with a slight decline in reliability from 2004 onwards. While the number of miles between defects remains low, at roughly 3,700 during one 2006 monthly average, it has improved substantially from its 1994 to 1999 average of 1,525 miles between defects (see Exhibit 3-39). This same improvement is also reflected in the declining number of total defects from 2000 to 2004 in the same chart. Many of these performance improvements, however, may be related to a heavy capital overhaul program, which CTA started in 1999. This program involved CTA's 2600 and 3200 series cars, which comprise more than half of its fleet.

CTA recognized the need for a fully integrated Maintenance Management Information System (MMIS) which can provide *"data such as warranty management, sub-component history, automatic car locating, payroll, parts usage and man-hours expended by individual car and many other data elements that management requires to make sound decisions"* as early as 2003. CTA expected to have MMIS fully implemented by 2004. Currently, MMIS is still not fully implemented; CTA is completing its beta testing and some initial installations in 2006 and expects to complete installation in 2007.

In 2005, CTA retained AECOM Consult to assess a number of CTA operational areas and recommend cost-reduction activities. Numerous recommendations included in the AECOM's report require full implementation of the MMIS to proceed, further stressing the impact that the lack of such a system has on CTA's daily operations. The AECOM report states that additional organizational commitment on CTA's part is necessary to complete implementation. In CTA's response to AECOM's recommendations, full implementation was scheduled for September 2006, a date which has since slipped to 2007.

The CTA rail equipment level of cleanliness could be improved. Throughout rides of equipment, the audit team observed cars that do not appear to have had heavy cleaning. CTA does include metrics pertaining to regularly scheduled cleaning in its monthly performance indicators report, such as the percentage of cars cleaned and swept before morning service, the average days between exterior washes and the number of days between major cleans. A major clean is defined as detailed interior and exterior cleaning, including seats, floors, ceilings and stanchion poles. Rail management has acknowledged that, due to manpower shortages *"Vehicle Cleanliness inspections were cancelled in 2005."* While the days between major cleanings have increased from 2004 to 2005, customer complaints regarding cleanliness of equipment have actually decreased.

CTA does not use consistent metrics when reporting on performance. Three different CTA reports (Rail Operations Quarterly Executive Summaries, Rail Operations Year-end Performance Indicators, and Performance Indicators Report) covering the same time period report on similar topics but use different metrics, which do not allow for easy comparison. While different users of these reports might require varying levels of detail, metrics that are easily comparable should be used in all reports, thus allowing users of multiple reports to understand the data they are using and ensuring that all users are seeing CTA's performance from a similar perspective.

To gauge the performance of maintenance personnel, the CTA rail operations group uses a "Periodic Maintenance Inspection Program." Under this program, the Quality Improvement Section inspects cars at each of the nine shops and assigns points based on the nature of any oversights that are found, with more severe oversights earning higher points. Each shop is ranked according to its overall score, encouraging competition between shops to improve performance. Management sees the rankings as a method for focusing attention on the quality of the inspections and uses the performance as one of several metrics for the line managers' performance reviews. In addition, the shops' scores are averaged to create a performance measure for the system as a whole. CTA improved considerably from 2003 to 2004, achieving a score of 9 points, which is below the 10-point internal system goal (lower is better). Performance in 2005 worsened slightly, but still remained below, thus achieving, the system goal.

CTA RAIL MAINTENANCE OPERATIONS	
RECOMMENDATION NUMBER 7	***Regarding maintenance operations, the CTA should:*** • ***Ensure that reporting of performance indicators is consistent across various performance reporting documents;*** • ***Review customer perceptions of cleanliness in upcoming customer satisfaction surveys; and*** • ***Complete the process of revising the data reported to FTA with respect to major and other failures.***
CTA RESPONSE	CTA agrees that customer perception of service cleanliness is extremely important to capture in these surveys. CTA conducts a

	Customer Satisfaction Survey approximately every two years. Customer perception of rail car appearance is one of many attributes measured. CTA uses this information to ensure on-time, clean, safe and friendly service. With respect to the major and other failures reported to FTA, CTA will comply with this recommendation in future reports to FTA.

CTA BUS MAINTENANCE AND MANAGEMENT

CTA has a somewhat unique managerial structure; each of the eight bus garages is overseen by a single general manager (GM) with responsibility for transportation, light maintenance, and administration at the garage. The GMs treat their garages as their own "cost centers," with responsibility for vehicles, staff, and customer relations.

CTA is operating a largely aging bus fleet, with buses having an average age of 10.7 years (see Fleet Chapter for more detail). Approximately 46 percent of CTA buses date from 1991, well beyond the standard 12-year useful life for a 40-foot transit bus. The reduced reliability of older buses can decrease on-time performance and lessen customer satisfaction, as demonstrated by mean miles between bus failures falling by 10 percent between 2004 and 2005. Moreover, some bus overhauls have not been completed on schedule due to lack of funds. For example, the Nova 6400-series bus midlife overhaul is three years behind schedule, and will not be complete until some Nova buses are nine years old. While CTA has a signed contract for 1,000 new buses, it is not fully funded, and CTA does not have approval to exercise its purchase options. When buses are purchased in large batches rather than steadily replaced, overhauls and repairs tend to bunch as well, increasing the cost of completing the work.

CTA's vehicle maintenance system (VMS) dates from the 1970s, and provides only limited information, making it difficult to track performance and improve productivity. As discussed above, the MMIS that will replace the VMS is in pilot now, with an expected rollout in 2007, and will enable cost accountability tracking by vehicle, person, and part. Beyond improving day-to-day performance, detailed tracking could also help CTA make more informed decisions about new bus purchases, for example by selecting more reliable vehicles rather than the lowest cost. In addition, new buses will have computers that provide maintenance and fault information electronically. MMIS will also assist CTA in ensuring that warranty-eligible repairs are paid by the manufacturer, further reducing costs.

CTA is in the process of implementing new technologies to improve the efficiency of its bus operations. In September 2004, CTA completed installation of GPS units on all vehicles. This allows CTA to track trips based upon terminal departure and begin a pilot program to track headway consistency. This is important, as bus bunching is difficult to correct without real-time data. However, only 27 percent of buses have automatic passenger counters, making planning more difficult. The Bus Tracker

Program, begun in 2004, and formally introduced to the public in August 2006, is a pilot program which, when fully operational, will provide the location and estimated arrival time of buses in real-time to the public via the Internet.

Hiring and retaining experienced employees has been a challenge, according to bus general managers. Since retirement incentives were first offered in 1992, CTA has consistently lost large numbers of experienced personnel, often leaving gaps when new manager or instructor positions open. This problem is exacerbated by labor rules requiring CTA to hire part-time drivers who shift to full-time after two years based on seniority and regardless of their work record. The effect of these rules is that about 60 percent of CTA operators have fewer than five years of experience.

In order to reduce operator costs, CTA has contracted with a consultant to implement a program to reduce extraboards (i.e., operators on standby to cover an absence), potentially saving $4 million per year. Problems with staffing are also seen in cleaning and repair, where up to 30 positions are now vacant, and in engineering, where CTA struggles to offer compensation competitive with private companies. Time between major bus cleanings increased to 31 days from 24 days between 2004 and 2005, due to the freeze on overtime labor. Despite the reduced cleaning, cleanliness complaints were steady in 2005 at 28 complaints for the year. Labor rules limit CTA's ability to use current personnel more efficiently. For example, CTA wanted to start night shifts at 10 p.m. Sunday, but was unwilling to pay double-time to bargained-for employees for Sunday work.

CTA reviews its route structure regularly. Bus and rail service standards are defined in a 2001 document, as well as detailed service delivery guidelines, the process for changing service, monitoring, and public participation. In addition, CTA is completing the installation of the HASTUS scheduling system, which CTA estimates will reduce costs by $3 million to $6.4 million.

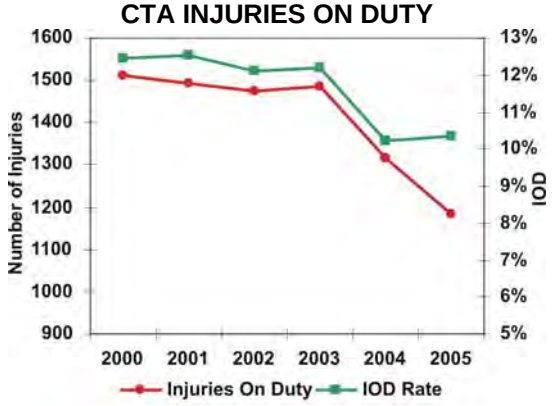
CTA BUS MAINTENANCE AND MANAGEMENT	
RECOMMENDATION NUMBER **8**	***Regarding bus maintenance and management operations, the CTA should undertake the following activities:*** • ***Conduct regular evaluation of the MMIS system rollout to ensure it is on schedule;*** • ***Develop MMIS measures and reports that will maximize productivity;*** • ***Develop a detailed recruiting and employee retention strategy;*** • ***Prioritize labor rule changes CTA will seek in the next round of collective bargaining; and*** • ***Continue with innovative efforts to develop human capital, including training current employees.***
CTA RESPONSE	CTA agrees. The entire MMIS system has been installed at all bus garages and rail terminals, and training and implementation are expected to be complete at all of these locations by the end of

	March 2007. Reports that will measure productivity are under development. CTA has identified numerous labor rule changes to reduce operating costs and several initiatives to improve employee recruiting and retention.

CTA SAFETY

CTA's safety statistics indicate that while there are positive trends in some areas, there is a need for improvement in employee and public safety incidents. The key figure examined for employee safety incidents is the Injury-On-Duty (IOD) rate (Exhibit 3-40). This rate tracks the number of employee injuries per total employees. According to the American Public Transportation Association, (APTA), a trade association, there are no established industry benchmarks, but industry practice is that each agency establishes its own targets.

Exhibit 3-40
CTA INJURIES ON DUTY



Source: CTA Injury-On-Duty Reports

In 2005, CTA's system-wide IOD rate was 10.34 percent. This has improved since 2003, when the rate was 12.9 percent. Improvement has been uneven, however. The bus system IOD rate fell 15 percent in 2005 compared to 2004, but the rail system saw an 11 percent increase.

The CTA injury rate change depends on the period of time over which it is evaluated. If this number is calculated for three months, the IOD rate will be roughly a quarter of the yearly IOD rate. This makes it difficult to compare this rate against a goal at different periods in time. CTA should consider modifying the calculation methodology for the IOD rate to one that is not dependent on the period of time being reviewed, such as injuries per man-hours worked.

CTA's IOD rate for total public incidents for 2005 was 4,913, with rail at 216 and buses at 4,697. According to APTA, there are no benchmarks for public incidents so the typical practice has been to compare an agency's performance with its own historical data.

In 2005, the bus system traffic and passenger accident rate was 5.88 accidents per 100,000 miles, and the rail system accident rate was 0.09 per 100,000 miles. There has been a marked improvement in rail system public incidents from 2004 to 2005 as

passenger injuries decreased by nearly 23 percent. Bus system incidents remained largely unchanged from 2004 to 2005.

CTA does prepare monthly statistical reports on safety incidents. In one document, CTA indicated that "others" were responsible for 89 percent of all bus collisions. As a result of this information, CTA has implemented the Smith Program, a defensive driving program, but has seen little change. While CTA's implementation of this program is evidence of a forward-looking safety program, CTA's acceptance and lack of consistent up-to-date safety reports at employee locations do not reinforce its focus on safety.

CTA has had two employee incentive programs since 1961, the Public Safety Award (PSA) and the Zero Accident Program (ZAP). These were updated in 1999 with the objective of:

- Promoting the CTA safety philosophy;
- Reducing the number of traffic and passenger accidents;
- Reducing the number of IOD incidents; and,
- Improving the cleanliness and safety of field locations.

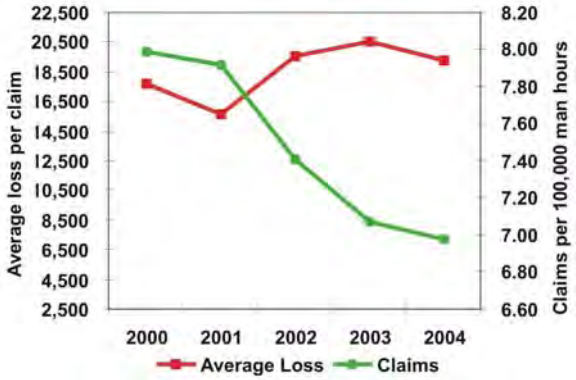
While these programs provide incentives to increase safety performance, given that they only reward group performance, there is little, if any, incentive for individual employee performance. In addition, the incentive program is rather complex, taking into account six different factors, which may make it difficult to communicate the link to individual employee performance.

Disciplinary action related to safety incidents is also a concern at CTA. Specifically, CTA's safety department has indicated that employees are not subject to disciplinary action when reporting safety incidents in an attempt to encourage the reporting of all incidents. While this practice should increase the reporting of incidents, it does not enable CTA to effectively react to specific safety concerns where disciplinary action would otherwise be a useful tool.

CTA initiated an "assault committee" three years ago to identify opportunities to reduce assaults to bus operators and seek to increase punitive actions through the legal system. Previously, an action like spitting or hitting would result in a misdemeanor. Recently the law changed to include such actions as a felony if the perpetrator was found guilty. The committee includes management and labor representations as well as bus operators. To date injuries and damage have improved.

There has been a growing recognition of the costs associated with injuries and worker's compensation costs to the agency, with over $50 million spent annually. On July 18, 2002, CTA hired DuPont Safety Resources to review safety practices and assist management in improving performance for a five-year period. The performance-based contract with DuPont links payment to concrete gains in key areas and provides substantial incentive for improvement in these areas as indicated in the contract.

Exhibit 3-41
CTA WORKER'S COMPENSATION CLAIMS



Source: CTA Workers Compensation Reserve Analysis, 2005

The DuPont program has raised the level of attention and recognition for the role of management and supervision in facilitating a culture more supportive of safe working environment. Changes recently implemented are:

1. Safety performance is now a metric for management's rating. It is part of the performance review.
2. Managers now conduct regular audits of the worksite and equipment to identify safety hazards with monthly targets. Department level committees review the quality of audits.
3. An incident investigation program that focuses on "probable cause" identification. All rail management has been trained and 50 percent of bus managers are trained as of July 10, 2006.
4. The design and initiation of a transitional return to work (TRTW) program to enable employees to return to work earlier. The pilot program, in operation over three months, resulted in a 50 percent reduction in average number of lost work days.

The DuPont contract is paid on a success-fee basis whereby DuPont receives 22 percent of the cost savings generated by reduced injuries and accidents. Since the program's inception in 2002, CTA estimates savings of over $31 million, resulting in payments totaling $6.8 million to DuPont.

In addition to DuPont's work, APTA also conducts periodic peer reviews for systems that participate in its audit programs. CTA Rail participates in the APTA audit program and has been subject to audit in 2001 and 2004. CTA's 2001 audit found very few points on which CTA needed improvement. While the 2004 Preliminary APTA Safety Audit, issued May 24, 2004, commended CTA for its *"commitment and openness to further improving upon its safety program,"* there were numerous program enhancements, which recommended formalization of standard operating procedures as well as better communication of these procedures to employees. We were advised that the APTA team had completed its review of CTA's corrective action plan, which was submitted in June of 2005.

While the CTA has a rail system safety plan, which is a regulatory requirement, it is not required to have a bus system safety plan. CTA has, however, developed a bus system safety plan, but this plan has been in draft form since 2004 when the safety department prepared the plan and presented the draft to bus operations. In addition, CTA has chosen not to participate in APTA's bus audit program, which would provide an industry review to support a focus on benchmarks and feedback for implementing safety practices.

Conclusions

CTA puts forth considerable effort to gather safety data, but there is not a cohesive plan to translate this information into changes that can improve the "safety mindset" among employees. To its credit, CTA has recognized that safety is an area where improvement is needed and has contracted with an outside company to support such an improvement.

CTA has not yet integrated participation of classified (unionized) workforce in audits and safety committees on a system-wide basis. CTA would benefit by including the bargaining units into the local facility safety focus to ensure employee buy-in and efficiently reduce the IOD rate. CTA's experience with its assault committee demonstrates the value of including its represented employees.

CTA SAFETY OPERATIONS	
RECOMMENDATION NUMBER **9**	***CTA should take the following actions to improve the safety of its operations:*** • ***Become a participant in the APTA Bus Audit Program and request an APTA Peer Review for the Bus System;*** • ***Integrate operating/represented personnel into the agency's safety programs;*** • ***Formalize procedures that delineate clear accountability for implementation of follow-up action for personnel related to specific safety concerns;*** • ***Improve communication of safety objectives to employees ;*** • ***Review options for revising employee incentive programs. This may be an opportunity to involve unionized workforce to identify effective incentive programs;*** • ***Review the application of discipline as a disincentive for improving safety performance;*** • ***Finalize and implement the Bus System Safety Plan;*** • ***Clarify the leadership role of the Safety Department for facilitating the resolution of outstanding safety issues internally (completion of Bus System Safety Plan) and externally (response to APTA Safety Audit); and*** • ***Consider modifying the Injury-On-Duty rate calculation methodology to one that is not dependent on the period of time being reviewed.***

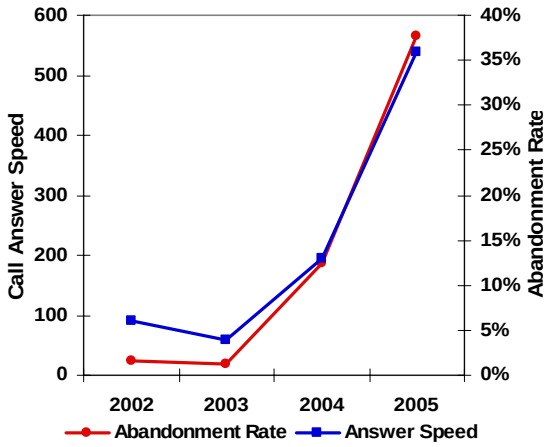
CTA RESPONSE	CTA agrees with the recommendations regarding safety, and has contacted APTA to register for the APTA Bus Audit Program. CTA reports its Injury-On-Duty rate consistent with National Transit Database guidelines, but will consider modifying the calculation to one that is not dependent on the period of time being reviewed.

CTA CUSTOMER SERVICE

The AECOM report identified several areas for improvement in CTA's customer service department. Specifically it highlighted the need for improved phone system capabilities for tracking and customer interface, better use of phone and Internet during service disruptions, closer coordination with other CTA departments, and streamlined management staffing. Since the issuance of this report, CTA is pursuing changes to this area, including considering options to improve its phone system with its current vendor pursuant to AECOM recommendations. In addition, the General Manager of Customer Service is evaluating other call centers and technology options to determine what additional steps can be taken. Outside of the area of equipment and technology improvements, changes to CTA's training and daily customer service operations have also been made. CTA now cross-trains its staff and has instituted daily sessions to facilitate coordination between customer service and other departments. Customer service employees also have contact with operations staff, as they forward any complaints to the appropriate operations manager for action, as well as general customers, as they are responsible for community outreach programs.

Currently CTA's call center handles an average of 19,000 calls per month, with an average hold time of 6.2 minutes and a 55 percent abandonment rate. Abandonment rates and hold times had been between 4 to 36 percent and 23 seconds to 9 minutes and 25 seconds, respectively, from 2002 through 2005. The customer service department attributes the jump in the abandonment rate to the implementation of a referral to the web site in the recorded voice message, which began in January of 2005, coinciding with the increased rates.

Exhibit 3-42
CTA CALL CENTER RESPONSE TRENDS



Source: CTA Report Customer Service Call Trends

CTA reviews the number of comments by topic, but presents little analysis of the issues and no indication of any action items. CTA has indicated the need for more advanced call center technology so that it can better track the types of comments that it receives. In addition, CTA hired a research group to conduct thorough customer service surveys and to track its performance in these surveys over time. These studies were conducted in 1995, 1997, 1999, 2001 and 2002 and they examine key trends related to satisfaction and customer loyalty. Specifically, the report identifies several target improvement areas, including: comfort, reliability and scheduling, and communications.

CTA has initiated a number of customer service-related initiatives to enhance its delivery of services by integrating the monitoring of customer related amenities and technology programs to monitor bus and train operations. For example, CTA has initiated an automated data collection system on a test basis, which allows the control center to monitor schedule adherence. This system also allows the control center to provide appropriate on board and station announcements. In general, providing passengers with greater information, regardless if it simply consists of describing the length of delays, is perceived throughout the transit industry as an important innovation and improvement in customer service. In addition, CTA has implemented other service enhancements, such as a change in seating layout for the rail cars as for the pending car program, upgrades to the HVAC systems, an equipment rehabilitation program, and scheduling changes.

Conclusions

CTA has made what appears to be a positive leadership change to oversee the customer service/ call center department and address the AECOM report recommendations. However, CTA customers still experience long hold times and high abandonment rates at the CTA call center.

CTA CUSTOMER SERVICE OPERATIONS	
RECOMMENDATION NUMBER **10**	***Regarding customer service operations, the CTA should:*** • ***Continue to proactively evaluate and implement new technology options to enhance the customer experience;*** • ***Add detail to the monthly customer complaint/commendation report to understand and target priority areas for management attention to ensure better customer service; and*** • ***Research the high abandonment rate and ascertain whether it is based on the website referral or the long waiting time.***
CTA RESPONSE	CTA agrees. CTA continues to improve its customer service. In recent months, CTA's call abandonment rate has dropped substantially, from over 40% in August 2006 to less than 20% in January 2007. CTA's enhanced phone system contains a recorded message that informs

	customers of other ways to communicate with CTA, including through its website and email. Many customers take advantage of these communication channels; CTA receives an average of more than 2,000 emails per month. Average call response times have also dropped from 9 minutes, 26 seconds in August 2006 to 3 minutes, 2 seconds in January 2007.

CTA MANAGEMENT AND OPERATIONS STUDY

In 2005, CTA retained AECOM Consult to assess a number of CTA operational areas and recommend cost reduction activities. The audit team reviewed the report and verified some sections of the report.

AECOM had a number of other recommendations for which savings were not calculated. In total, AECOM estimated that CTA could save approximately $250 million to $300 million if it successfully implemented all of the recommendations. However, CTA estimated that $111 million of these savings require changes in the CTA's collective bargaining agreement or legislation. As of September 2006, CTA estimated that 93 recommendations had been implemented or closed, reducing annual costs by $10 million while increasing revenue by $37 million. Two changes – increased ability to outsource work and work rule changes to allow weekly rostering, rather than cafeteria-style work picks – were rejected in the July 2006 labor arbitration decision. Key recommendations include the following (potential annual savings in parentheses):

- Reduce total bargaining unit compensation package to market levels ($191,800,000). The AECOM report notes that this would be system wide savings but full implementation through attrition could require several decades.
- Issue pension obligation bonds to overcome pension liabilities ($15,000,000).
- Extend rostering to all garages ($8,000,000).
- Form pilot to conduct service operations with more optimal extraboards ($8,000,000).
- Restructure leave policies, especially FMLA ($4,600,000).

As the AECOM report states, many of these changes will require acceptance by the bargaining unit.

CTA PERFORMANCE IMPROVEMENT	
RECOMMENDATION NUMBER **11**	***Regarding the AECOM recommendations, CTA should undertake the following actions:*** • ***Prioritize implementing recommended changes based on financial benefit and likelihood of implementation;*** • ***Work with labor representatives to find common ground where changes in labor rules can be beneficial to both CTA and its employees;***

	• ***When the next round of collective bargaining takes place, seek key labor changes to enact the recommendations; and*** • ***If arbitration is required, be prepared to provide detailed analysis of the benefits of requested changes and the effect on bargained-for workers.***
CTA RESPONSE	CTA agrees and has included many of these recommendations in its collective bargaining proposals. As CTA experienced in 2006, such changes can be blocked by opposition from CTA's unions and an arbitrator appointed under state labor law. Absent legislative changes to this statutory process, such changes may not be possible to implement.

Chapter Four

METRA OPERATIONS

CHAPTER CONCLUSIONS

Metra exceeds peer averages in nearly all efficiency and effectiveness metrics analyzed. However, Metra has experienced some downward trends over the past five years in ridership and the passenger farebox recovery ratio. Despite this, Metra managed to overtake the peer group average on key measures such as administrative costs and maintenance expenses. Wage rates at Metra are slightly lower than its peers.

- The amount of commuter rail **service provided** by Metra increased between 1999 and 2004, but at a slower rate than its peers, as measured by vehicle hours. As measured by vehicle miles, the increase was slightly faster than the peer average. Over the same period, Metra experienced a slight loss of passengers.
- Metra also exhibited stronger **service efficiency** than its peers as measured by 2004 total operating expense per vehicle hour.
- Metra's **cost effectiveness** was stronger than the average of its peer group in 2004 as measured by the total operating cost per passenger.
- Finally, Metra exhibited lower **passenger revenue effectiveness** in 2004 as compared to its peers when measured by passenger fare recovery ratio. However, its decline from 2002 to 2004 was slower than that of the peer group average.

Metra generally provides safe service. Metra has a long tradition of good labor-management relations and delivers a high standard of service with a strong safety record. However, service information is frequently recorded manually and little trend information is examined on a regular basis. Metra needs to institute additional electronic data management and establish procedures to review trend data on a periodic basis, along with using technology to better manage and analyze its customer service and maintenance data.

METRA

The performance of the Metra commuter rail service is assessed using data reported annually to the National Transit Database (NTD) for fiscal years 1999 through 2004. This period was chosen because during the audit, 2004 was the most recent year for which the Federal Transit Administration had released the reported data.

Metra's performance trends are compared to those of five transit systems (see inset). They are similar in many respects, including that they all serve major metropolitan areas and operate commuter rail service to a central urban area. As with all peer comparisons, there are differences in operations, including whether peers use electric and diesel cars and whether they also operate light rail transit service.

Comparing the performance of one organization to another is a useful tool to identify areas where an organization performs well, as well as areas where improvement may be needed. In this chapter, peer comparisons are used to gain insight into operational areas where improvement may be possible. If a peer comparison indicates below-average performance relative to its peers, the Service Board should further examine the factors that may be contributing to the differences.

METRA PEERS

1. Massachusetts Bay Transportation Authority (Boston metropolitan area) – MBTA
2. MTA Metro-North Railroad Company (New York City metropolitan area/Connecticut) – Metro North
3. New Jersey Transit Corporation (New York City metropolitan area/New Jersey) – NJ Transit
4. MTA-Long Island Rail Road (New York City metropolitan area/Long Island) – LIRR
5. Southeastern Pennsylvania Transportation Authority (Greater Philadelphia) – SEPTA

However, since the operating environments of transit agencies differ, caution must be used in interpreting the results of peer comparisons. While the auditors took into consideration various attributes of peers (such as size and service characteristics), all organizations are different. For example, differences in length of trips, frequency of station stops, size and type of transit vehicles, population density, climate, level of contracted services, and other factors impact peer comparisons. As such, some differences between a Service Board and its peers may be attributable to differences in operating environments over which the Service Board may have little or no control. While the auditors caution against drawing conclusions by examining a single comparison measure or comparing any one transit agency to a single peer agency, peer comparisons are a standard method accepted in the industry for assessing performance.

The performance of Metra is generally comparable to key service statistics in this peer group (Exhibit 4-1). Metra commuter rail operations metrics are within 15 percent of average peer values for operating expenses, service provided in two of the three categories (vehicle hours and vehicle miles), and service consumed (passengers). The only exception is service provided as measured by peak vehicles – in this case, Metra's peak vehicles are 151 percent of the peer group average.

Exhibit 4-1
METRA COMMUTER RAIL SNAPSHOT
2004

City/Region	System	Vehicle Hours	Vehicle Miles	Peak Vehicles	Passengers	Total Modal Operating Expense
Boston Metro	MBTA	720,190	22,543,742	393	39,965,738	$217,279,023
NYC Metro/ New Jersey*	NJ Transit	1,891,371	59,024,609	740	67,016,769	$605,545,161
NYC Metro- NY, CT	Metro North	1,572,341	57,086,955	930	72,255,844	$674,706,945
NYC Metro/ Long Island	LIRR	2,217,030	65,248,951	969	96,202,000	$897,919,758
Greater Philadelphia	SEPTA	621,186	16,773,604	297	30,284,624	$186,242,753
	Average	**1,404,424**	**44,135,572**	**666**	**61,144,995**	**$516,338,728**
Greater Chicago	Metra	1,291,015	40,623,522	1,003	67,677,915	$439,438,126
Metra % of Average		**92%**	**92%**	**151%**	**111%**	**85%**

*Directly Operated Service
Source: National Transit Database

The performance of Metra's commuter rail service is analyzed from several perspectives in the following sections:

- **Service Provided and Consumed –** changes in key service statistics.
- **Service Efficiency –** cost of providing Metra commuter rail service.
- **Service Effectiveness –** use of the Metra commuter rail service.
- **Cost Effectiveness –** consumption of public transportation services in relation to resources expended.
- **Passenger Revenue Effectiveness –** share of total operating expense borne by the users.

Below is a summary of the results of the metrics we reviewed.

METRA PEER COMPARISON – SUMMARY
2004

EFFICIENCY	EXHIBIT #	RELATIVE TO PEERS
Operating cost per vehicle hour	4-3	Better than peers
Fringe costs as a percent of salaries	4-4	Better than peers
Operators wages per vehicle hour	4-5	Better than peers
Vehicle maintenance expenses per vehicle mile	4-6	Better than peers
General and administrative hours per train hour	4-7	Better than peers
EFFECTIVENESS		
Passengers per vehicle hour	4-8	Better than peers
Cost per passenger	4-9	Better than peers
Operating cost per passenger mile	4-10	Better than peers
Farebox recovery shortfall per passenger	4-12	Better than peers
Farebox recovery	4-11	Worse than peers

Metra Service Provided

The amount of commuter rail service (measured in terms of vehicle hours, vehicle miles, or peak vehicles) provided by Metra increased moderately between 1999 and 2004.

The average annual rate of increase was about 1.4 percent (Exhibit 4-2, average increase for the three metrics). This rate of increase was slightly less than that of the average system in the peer group (1.9 percent).

Exhibit 4-2
METRA COMMUTER RAIL OVERVIEW
1999-2004

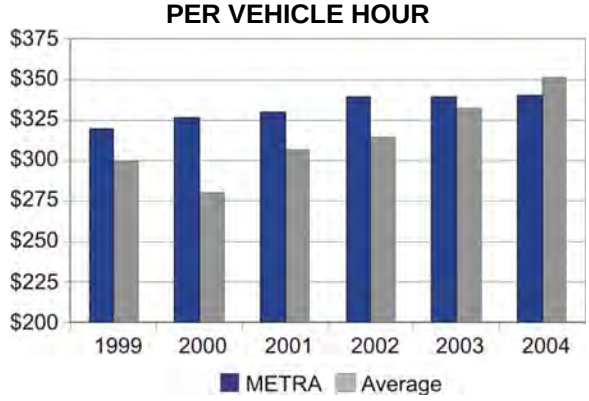
	1999	2004	Annual Rate Of Change	Peer Rate
Vehicle Hours	1,176,446	1,291,015	1.9%	2.6%
Vehicle Miles	36,791,967	40,623,522	2.0%	1.8%
Peak Vehicles	982	1,003	0.4%	1.3%
Passengers	70,427,812	67,677,915	-0.8%	1.1%
Total Operating Expense	**$375,556,626**	**$439,438,126**	**3.2%**	**5.9%**

Source: National Transit Database

Metra Service Efficiency

Service efficiency examines the amount of public transportation service produced for the community in relation to the resources expended. Service efficiency asks the question *"How much does it cost to produce a unit of public transportation service?"* The measure **total operating cost per vehicle hour** is the starting point for assessing this performance. The lower the cost, the higher the service efficiency.

Exhibit 4-3
METRA OPERATING COST PER VEHICLE HOUR



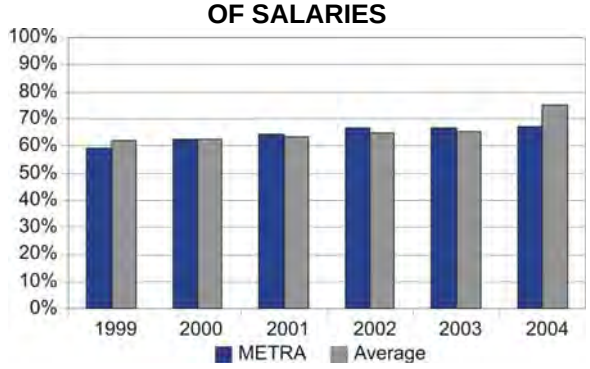
Source: National Transit Database

Metra had a total operating cost per vehicle hour of $340, which was slightly lower than the peer group average of $351 in 2004 (Exhibit 4-3). This suggests that Metra is performing better than the average of comparable systems. Additionally, Metra's position relative to its peer group improved between 1999 and 2004. In 1999, Metra's total operating cost per vehicle hour ($319) was 6.4 percent higher than the peer average ($300). Metra's cost per hour increased at an average annual rate of only 1.3 percent during the period, about half of the average rate (3.2 percent) for the peer group.

One possible reason Metra has been able to improve its position relative to Metra's peers is through Metra's ability to control fringe benefit costs. The National Transit Database defines fringe costs as payments by the transit agency that are over and above labor costs, but still arising from the employment relationship. This includes pension costs, vacation time, and other employee benefits. In 2004, Metra's fringe benefits cost per vehicle hour was $96, or 82 percent of the peer group average of $117. This is an increase of 3.6 percent per year versus 6.2 percent for the peer group.

In 1999, the ratio of Metra's fringe benefit cost to labor cost was 59 percent. For example, for every $1.00 in labor costs incurred, $0.59 was added in fringe benefit costs to produce a total compensation of $1.59 (Exhibit 4-4). In contrast, the peer group average was 62 percent of labor costs in 1999. By 2004, Metra's fringe benefits increased to 67 percent of labor costs (2.6% per year) while the peer groups increased to 75 percent (4.2% per year).

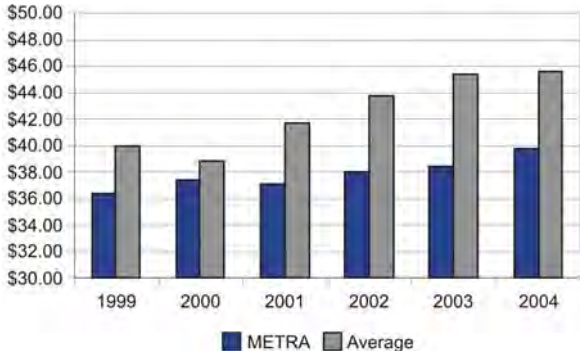
Exhibit 4-4
METRA FRINGE COSTS AS A PERCENT OF SALARIES



Source: National Transit Database

Metra exhibits good performance in other cost areas as well. For example, Metra's operator wages per vehicle hour (Exhibit 4-5) increased from $36 in 1999 to $40 in 2004 (1.8% per year). This is a slower growth than the peer group, which increased to $46 (2.7% per year). Wage rates at Metra are slightly lower than peers.

Exhibit 4-5
METRA OPERATOR WAGES PER VEHICLE HOUR

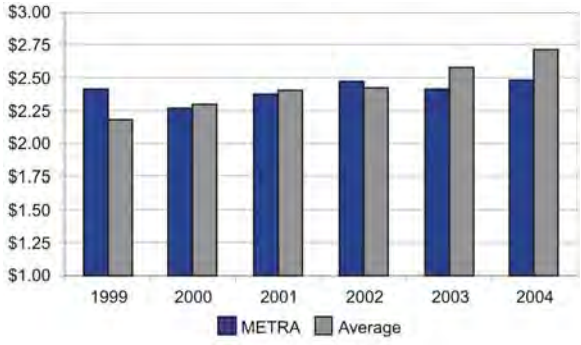


Source: National Transit Database

Maintenance expenses are among the largest group of functional expenses. In 2004, they were 23 percent of Metra's total operating expenses and 24 percent of the peer groups' total operating expenses. There was little change from 1999 to 2004 for both Metra and the peer group.

Metra's maintenance expenses per vehicle mile only increased from $2.41 in 1999 to $2.48 in 2004, an average annual increase of 0.6 percent (Exhibit 4-6). In contrast, the average annual increase for the peer group was 4.3 percent. Whereas in 1999 Metra's cost was 10 percent higher than that of the peer group, it is now 9 percent lower than the peer group.

Exhibit 4-6
METRA VEHICLE MAINTENANCE EXPENSE PER VEHICLE MILE



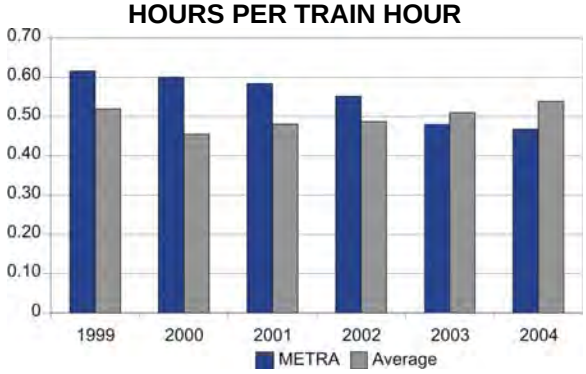
Source: National Transit Database

With respect to materials, supplies, and other vehicle maintenance expenditures, Metra's expense per vehicle mile is less than its peers and has improved (declined from $0.40 in 1999 to $0.27 in 2004), while the average has increased for the peer group (from $0.46 in 1999 to $0.55 in 2004).

While Metra reported better than average performance with respect to major service interruptions (more miles between major service interruption than the peer group average) from 1999 to 2000, it is difficult to compare Metra with its peers in years 2002 to 2004 due to a change in NTD reporting. Given the significant difference between Metra's data and the peer group data in these years, there appears to be a difference in interpretation of the NTD reporting criteria. Metra has provided the information that it collects and what has been reported to the NTD; however, there is no way to determine if all peer groups are reporting comparable statistics. As a result, Metra's mechanical reliability will be assessed based on its on-time performance record as well as other data sets that can be relied on over time. These data measures are presented in the Maintenance section of this chapter.

As shown in Exhibit 4-7, Metra expended fewer general and administration (G&A) hours per train hour (0.47) in 2004 than the peer group average (0.54). These costs are not linked to direct service operations. In contrast to its peers, this is an improvement from Metra's G&A hours per train hour in 1999 (0.62) – an average annual reduction of 5.4 percent, where the peer group experienced an average annual increase of 2.3 percent over the same time period.

Exhibit 4-7
METRA GENERAL AND ADMINISTRATIVE HOURS PER TRAIN HOUR



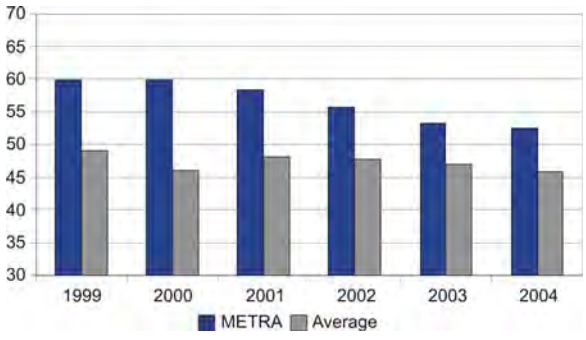
Source: National Transit Database

Metra Service Effectiveness

Service effectiveness is a measure of the consumption of public transportation service in relation to the amount of service available. Service effectiveness indicators address the question *"How much public transportation is used in relation to the amount of service available?"* The measure **passengers per vehicle hour** is used to assess service effectiveness performance. The more passengers carried in relation to the amount of service provided, the higher the level of service effectiveness.

While Metra reflected stronger service effectiveness than the average of the peer group in 2004, its service effectiveness has been declining relative to its peers. In 1999, Metra served 60 passengers per vehicle hour, which was 22 percent higher than the peer group average of 49 passengers (Exhibit 4-8). By 2004, Metra was serving 52.4 passengers per vehicle hour, which was only 14 percent higher than the peer group average of 46 passengers.

Exhibit 4-8
METRA PASSENGERS PER VEHICLE HOUR



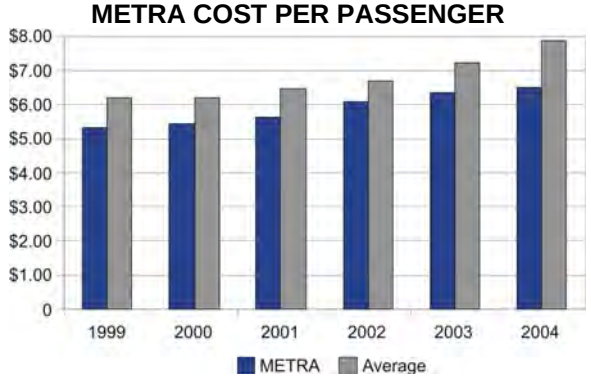
Source: National Transit Database

Metra Cost Effectiveness

Cost effectiveness addresses the consumption of public transportation services in relation to resources expended. The questions addressed in this area are *"How much does it cost to transport a public transportation user?"* and *"How much does it cost to transport one passenger a distance of one mile?"* The measures **total operating expense per passenger** and **total operating expense per passenger mile** are used to assess cost effectiveness performance. The lower the expense per passenger served, the more cost-effective the service. Cost effectiveness is a function of cost efficiency and service effectiveness.

As shown in Exhibit 4-9, the cost effectiveness of Metra rail service was better than the peer group average in 2004, although it has slightly declined since 1999 relative to its peers. Metra's total operating expense per passenger increased at an average annual rate of 4.0 percent from $5.33 in 1999 to $6.49 in 2004. This increase is slightly lower than its peer group: $6.20 in 1999 to $7.86 in 2004 (4.7%).

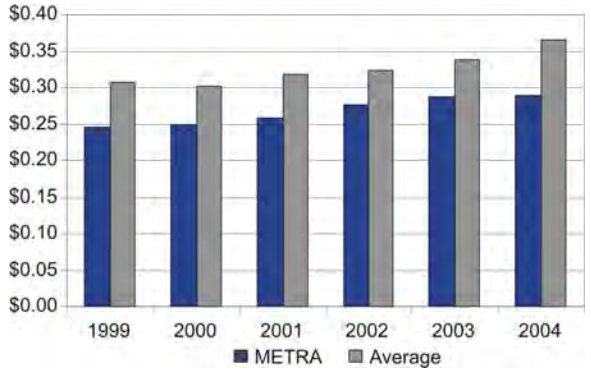
Exhibit 4-9
METRA COST PER PASSENGER



Source: National Transit Database

Metra's operating cost per passenger mile compared favorably with the peer group as shown on Exhibit 4-10. In 1999, it cost Metra $0.25 to move one passenger one mile, compared to $0.31 for the peer group. Over the five-year period between 1999 and 2004, Metra maintained its advantage as both the agency and its peers saw cost per passenger mile increase by 3.4 percent per year. In 2004, Metra's cost of $0.29 per passenger mile was about four-fifths of the average peer's cost of $0.37.

Exhibit 4-10
METRA OPERATING COST PER PASSENGER MILE



Source: National Transit Database

Metra Passenger Revenue Effectiveness

Passenger revenue effectiveness is concerned with the share of the operating expense which is borne by the consumers or passengers of the public transportation service. Two measures – **passenger revenue recovery ratio** (passenger fares/operating expense) and **farebox recovery shortfall per passenger** ((operating expense - passenger fares)/passenger boardings) – are used to assess passenger revenue performance. The higher the percentage of passenger revenue recovery, the more passenger revenue is paying for total operating expense. The greater the farebox recovery shortfall per passenger, the greater funding beyond fares is required to cover operating expense. This includes funds from non-fare revenue such as advertising, and from federal, State, and local assistance. Monetary obligations of the agencies are considered in calculating farebox recovery shortfall regardless of whether funds were available in the analysis year. It should be noted that a portion of Metra's passenger fares are designated for capital expenditures, not to cover operating costs. The analysis below of revenue effectiveness considers the revenue from both of these categories in order to maintain consistency with the NTD.

FAREBOX RECOVERY RATIO

As used in this report, farebox recovery ratio is calculated as the ratio of passenger revenues to operating costs, excluding depreciation.

- Operating costs are determined using generally-accepted accounting principles (GAAP).
- This definition differs from a similar ratio calculated by RTA, which is referred to as the "recovery ratio" and includes **all operating revenues**.

This report used the Service Board's National Transit Database (NTD) submittals for farebox recovery ratios that include full annual pension costs and security costs, and **only passenger** revenues.

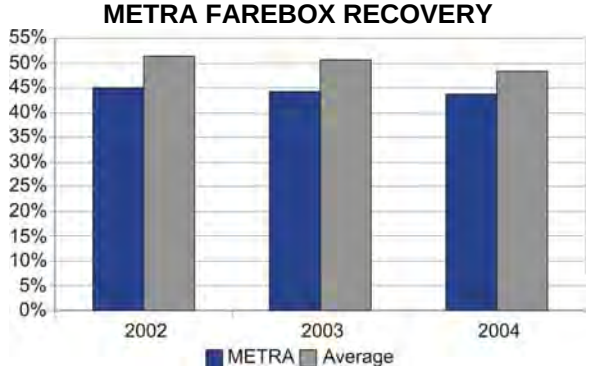
This analysis is limited to the period 2002 to 2004 because prior to 2002, NTD did not require the reporting of fare revenues by mode (e.g., bus, commuter rail).

FAREBOX RECOVERY SHORTFALL

As used in this report, farebox recovery shortfall is calculated as the difference between farebox revenues to operating costs, excluding depreciation. The terms used here are the same as the numerator and denominator in the farebox recovery ratio. Operating costs are those determined using generally-accepted accounting principles (GAAP). This report used a Service Board's National Transit Database submittals for system-wide and modal farebox revenues. This definition differs from operating subsidy in that it does not include non-fare revenues.

Metra's passenger revenue recovery is not favorable to its peers: 44 percent versus 48 percent in 2004 (Exhibit 4-11). However, Metra's fare recovery ratio declined at an average annual rate of 1.5 percent from 2002, a lower decline rate than the 3.2 percent experienced by the peer group average. This farebox recovery calculation using NTD data differs from the RTA farebox recovery method, which excludes certain costs.

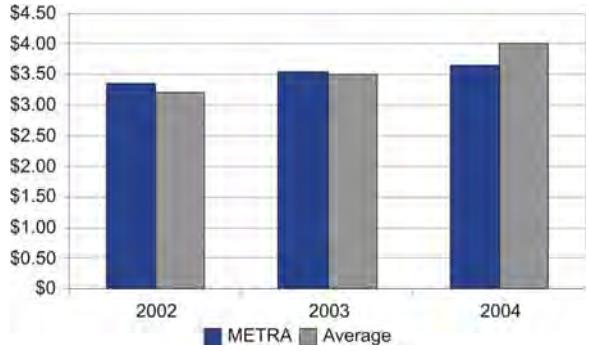
Exhibit 4-11
METRA FAREBOX RECOVERY



Source: IMG from National Transit Database

Farebox recovery shortfall per passenger for Metra was $3.66 in 2004, about 91 percent of the peer group average of $4.00 (Exhibit 4-12). While Metra's farebox recovery shortfall increased at an average annual rate of 4.5 percent from $3.35 in 2002, this was a smaller increase than the average of the peer group, which increased at an average annual rate of 12.0 percent from $3.21 in 2002 to $4.00 in 2004.

Exhibit 4-12
METRA FAREBOX RECOVERY SHORTFALL PER PASSENGER

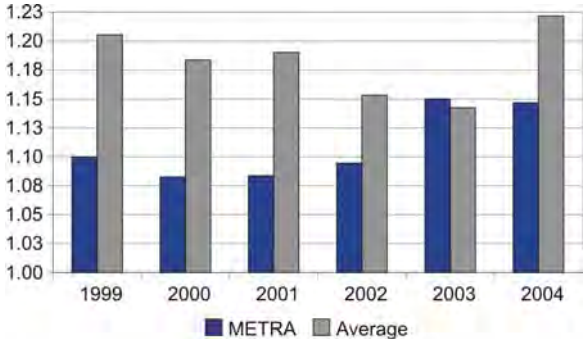


Source: IMG from National Transit Database

METRA MAINTENANCE

Metra has the second oldest fleet among its peer agencies with 59 percent of its fleet over 25 years old. Metra also operates with a spare ratio that has historically been lower than that of its peers (Exhibit 4-13). Spare ratio is the number of vehicles a transit agency has available divided by the number of vehicles actually operated in maximum service. The combination of these two factors puts pressure on Metra's maintenance department to help ensure high levels of on-time performance.

Exhibit 4-13
METRA SPARE RATIO



Source: National Transit Database

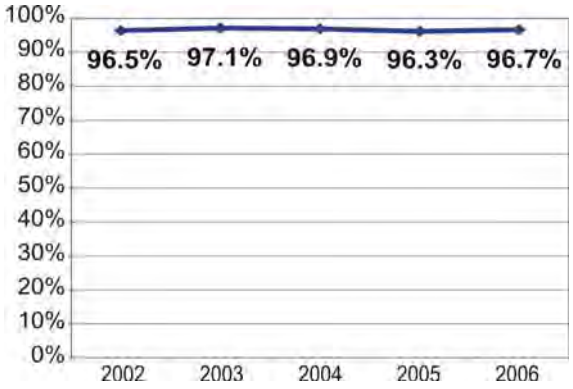
There has recently been a trend of increasing primary mechanical delays from 2002 through early 2006. According to Metra officials, this trend is a result of an increase of the total equipment as the agency accepted new equipment procurements, including 27 new motive power locomotives and

26 new electric multiple units, as well as the "learning curve" associated with introducing new technologies. Metra purchased an advanced brake system to reduce costs through reduced maintenance and less frequent testing requirements.

Metra examines its on-time performance daily, monthly, and quarterly. This data is organized by district and by cause. This information is recorded mostly by hand and entered into the system by staff at headquarters later that day. The implementation of a Maintenance Management Information System (MMIS) would collect data that would more directly monitor maintenance performance and reduce redundancy of first recording data manually and then entering it into a spreadsheet. Overall, Metra's on-time performance has been strong, surpassing 96 percent in each of the past five years (Exhibit 4-14).

Metra continues to balance capital and other resource needs by analyzing options for its fleet. Its decision to invest in an advance brake system to reduce future costs despite the initial operational difficulties is one example of its cost-effective decision-making. In addition, Metra decided to rehabilitate and upgrade its locomotives that are 30 years old. Metra determined that the up-front cost savings associated with the rehabilitation option was structurally sound and economically feasible from a long-term perspective.

Exhibit 4-14
METRA ON-TIME PERFORMANCE



Note: 2006 Data includes only January and February.
Source: IMG Analysis of Metra On-Time Performance Documentation

Conclusions

Metra conducts a cost-effective revenue equipment maintenance program. Metra has demonstrated consistent decision-making in reviewing tradeoffs between maintenance practices and capital expenditures on rehabilitations, overhauls, and new equipment on a case-by-case basis. Metra needs to use technology to better manage and analyze its customer service and maintenance data.

METRA OPERATIONS	
RECOMMENDATION NUMBER 12	***Metra should implement MMIS to better facilitate the tracking and monitoring of maintenance trend data.***
METRA RESPONSE	Metra agrees with this recommendation. Within our ability to prioritize funding for an MMIS system, Metra will program this project in a future capital program.

METRA LABOR MANAGEMENT AND ORGANIZATION

Metra established a labor-management committee over 22 years ago that meets regularly to review key operations and safety issues – including facilities design, employee education, employee assistance, interactive management, and safety. Metra's labor contracts cover approximately 2,200 employees and are separate from the agreements that Metra's contracted service providers have with their employees. Metra has achieved negotiated settlements without any service interruptions or the need for outside mediation, according to Metra officials.

METRA SAFETY

Metra has consistently ranked near the top of its peer group in terms of safety and has received an EH Harriman Award in Group B (line haul railroads with four to fifteen million employee hours) each year from 2003-2005. The Harriman Award is granted to railroads on the basis of the lowest casualty rates per 200,000 employee-hours worked, with a formula that takes into account the volume of work performed, as well as the number of fatalities, injuries and occupational illnesses, all documented and confirmed by the Federal Railroad Administration.

Metra regularly communicates with staff about safety performance, which helps to underscore its commitment to safety. Metra has its daily injury frequency ratio posted at all 96 locations and injury information is shown by pod and sent to all union management. Metra also distributes up-to-date safety records to each employee facility and union office whenever additional injuries have occurred that affect the records.

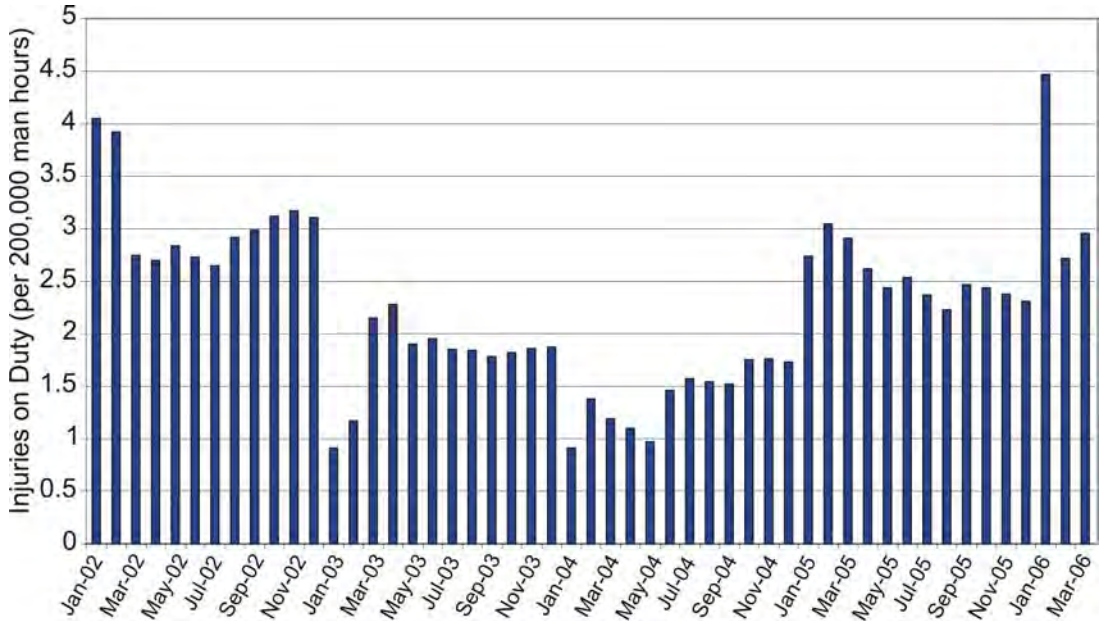
Metra's policies related to both positive and negative reinforcement also serve to promote its safety-oriented culture. Employees involved with reported injuries may be disciplined if an investigation yields evidence of safety violations or other misconduct.

Metra positively reinforces employee performance through its safety incentive program. Employees receive one paid day off if they are injury free for 12 months as well as $25 per injury-free month deposited into a 401(k) fund in their name. These individual awards provide a strong incentive for employees to improve their own safety performance, which affects the system as a whole.

Metra's management of safety issues is also proactive. Management reviews injuries as the opening order of business at the daily operations meeting and management discusses more in-depth safety issues on a monthly basis to keep abreast of such issues. In 2006, the January injury rate rose to 4.47 injuries per 200,000 man-hours worked, which Metra deemed unacceptable (Exhibit 4-15). As a result, management made presentations to highlight problem areas and identify a course of action for immediate improvement. It was noted that 43 percent of injuries occur to employees having 2 or

more previous injuries. The solutions presented involved providing good job briefings, assisting injury prone employees, and reviewing general safety tips and incentives.

Exhibit 4-15
METRA INJURIES ON DUTY



Source: Metra Injuries on Duty Report

Metra records information related to all injuries and tracks the disciplinary investigations associated with each injury. While Metra's commitment to tracking and communicating the injury rate is noteworthy, most other safety information, while collected, is examined on an ad-hoc basis, and not in regularly scheduled intervals. With routine observation of comparisons between historical and current data, negative trends could potentially be seen and addressed earlier.

In addition to system safety for employees and passengers, Metra also has a major focus on grade crossing safety given that the Chicago region is characterized by numerous grade crossings. This focus is largely visible through a public education program primarily targeting schools, as well as participating in a school bus driver-training program. Over time, fatalities have dramatically decreased at grade crossings on the system.

An additional challenge to Metra is the 512 grade crossings in the Metra system. Whistle bans are in place at many of these crossings, intended to protect the "peace and quiet" of sensitive noise receptors, such as schools and hospitals. Furthermore, 40 percent of all grade crossing accidents in the region are the result of a motorist driving around the protective crossing gates. Given how extensive grade crossings are throughout Metra's operation, the agency should continue to advocate for additional State and federal funding to eliminate the most hazardous crossings. Metra is currently taking action to help reduce the number of grade crossings through its participation in the Chicago Region Environmental and Transportation Efficiency (CREATE) Program.

METRA SAFETY OPERATIONS	
RECOMMENDATION NUMBER 13	***Metra should implement programs to formalize the collection and review of safety trend data.*** ***In addition, Metra should continue its efforts to improve the safety of grade crossings.***
METRA RESPONSE	Metra agrees that programs could be implemented to more formally collect safety trend data, however, we believe our current reporting and analysis of safety trends is adequate. As pointed out, Metra captures all injuries to both passengers and employees. Injuries are reviewed each morning by the Chief Operations Officer and staff , with further reviews on a monthly and quarterly basis by senior staff for cause, prevention, process improvement, personal responsibility and infrastructure modification. Injuries and incidents are tracked by trends and discussed in depth during Metra's Labor/Management Committee' Safety Task Force that meets on a monthly basis. Based on statements from our union leadership, no other railroad, commuter or freight, in the country, has such an open and proactive process to address these issues. Metra will continue to look at opportunities to improve its safety program. Metra will continue to strongly advocate for funding to eliminate grade crossings. Additionally, we will continue our aggressive grade crossing and trespasser education, engineering and enforcement program with Operation Lifesaver.
AUDITOR COMMENTS	**While Metra's current reporting of safety trends may be adequate, it could be improved. This would include collecting and analyzing information electronically and publishing this information on its web-site.**

Metra Employee Safety

As a result of an October 12, 2003 derailment, Metra was investigated by the National Transit Safety Board (NTSB) for inadequacy of engineer performance, training, and qualifications and lack of a safety redundant system to address train crew performance deficiencies. As a result of this citation, Metra has made or is making a number of operational adjustments, in order to respond to the NTSB's concerns. Specifically, the NTSB recommended that Metra:

(1) Use locomotive engineer simulator training … to teach strategies for effectively managing multiple concurrent tasks and atypical situations.
(2) Require train crews to call out all signal indications over the radio, … at all locations not equipped with automatic cab signals with enforcement or a

positive train control system. [According to Metra officials, the Federal Railroad Administration later changed this recommendation to cover only signals less than clear.]

(3) Install a positive train control system on commuter train routes.

In the past, Metra conducted simulator training at the Illinois Institute of Technology (IIT). However, this simulator training was largely done to teach proper handling of the equipment and did not focus on multi-tasking or emergency situations. IIT no longer offers this training and Metra stated in 2003 that it was *"investigating alternative methods of providing simulator training."* Metra has contracted with CORYS T.E.S.S., Inc. to provide simulators for the training and continued education of both candidate engineers and current licensed engineers. The project is expected to be completed by Spring 2007.

Metra has revised its "Operational Efficiency Testing Manual." This new manual became effective as of July 1, 2006. Currently, the manual has an updated "Observing and Calling Signals" test, which provides a more detailed description of the test to be performed. The modifications to this test were in response to the NTSB's finding in the accident investigation from an October 2003 derailment that train crews should be required to call out all signal indications over the radio, as initially indicated by the FRA's Emergency Order Number 20. Operations staff also conduct riding reviews to assess on-going performance.

Metra acknowledges that it has older system equipment that is jointly owned with other railroads and cannot be upgraded without their contribution. Metra is able to install upgrades to the track if Metra assumes the costs of these upgrades. Furthermore, Metra has begun to take specific steps to address the NTSB's recommendations through the planned implementation of an Electronic Train Monitoring System (ETMS) on the Rock Island line. This system is planned to be installed on other lines owned by Metra, and potentially the Union Pacific and Burlington Northern Santa Fe railways as well, as they are already familiar with this type of system.

Metra also reviews all employee infractions on a weekly basis during a Rules Violation Committee meeting. This committee, which is chaired by the Chief Operating Officer, is comprised of the operating department heads (their designees attend when they are unavailable), the Director of Human Resources, and others needed for the discussion. Any employee guilty of an infraction is reviewed at this meeting where disciplinary actions are determined. Metra holds these meetings to ensure consistency in the way that infractions are handled, and to keep executive staff aware of repeat offenders.

Currently the main record of an employee's past violations is kept on the employee's hard card. This hard card includes all mandated tests that have been performed, certifications, and rule violations over the employee's tenure with Metra. In addition, this information is maintained in a database. This information is reviewed on an individual basis only when an issue arises pertaining to a recent violation of testing requirements. No system is in place to review rule violations on a system-wide basis, either based on the types that are occurring or to monitor changes in the level of total

rules violations. Metra should consider implementing a system that will allow it to review system-wide information on a periodic basis to ensure the monitoring of trends.

Metra Coordination

Metra coordinates with key stakeholders to ensure a high level of on-time performance with limited freight and Amtrak interference. Metra is a member of a number of groups which contribute to regional management of rail resources. For instance, Metra is a member of the CREATE Program that began in 2003 and is focused on investment in improvements that will *"increase the efficiency of the region's rail infrastructure and the quality of life of Chicago-area residents."* One key objective of this program is to install 25 new grade separations that will eliminate grade crossings in the Chicago area. The total cost of the CREATE Program is estimated to be $1.5 billion. Metra and its railroad partners have pledged to contribute an amount commensurate with their potential economic benefits from the program, which is expected to be $212 million for the overall project. Metra has pledged at least $20 million. The remaining funds will come from the federal, State, and local governments, with a target of $900 million from the federal government and $300 million from State and local sources.

Conclusions

Metra has strengthened its program for monitoring operating personnel performance and strives to ensure a consistent personnel discipline, yet formal recording of performance violations should be implemented.

METRA EMPLOYEE SAFETY OPERATIONS	
RECOMMENDATION NUMBER 14	***Metra should continue to focus on NTSB recommendations from the 2003 derailments including re-establishing and broadening the simulator training program and continuing steps towards the installation of a positive train control system.*** ***Metra should implement a Violation Tracking System that will store and analyze information about rules violations that occur on the system.***
METRA RESPONSE	Metra is fully invested in recommendations made by the National Transportation Safety Board. Installation of a simulator training center and a safety overlay known as the Electronic Train Management System ("ETMS") are contracted and underway. Corys Tess, a highly regarded simulator development company, has been awarded a contract to install five half-cab locomotive/cab car simulators at Metra's headquarters facility. All student engineers will train at the facility. Additionally, currently certified engineers will be able to retrain and refresh their skills on the simulators. The simulators will precisely mimic Metra's equipment and allow students and engineers to encounter various scenarios they might not otherwise encounter while operating in a live environment. By

	being confronted with programmed emergencies, they will be able to hone their reaction skills without any consequences. The simulator should be in service by late summer. The ETMS is currently being engineered by Wabtec, a recognized leader in railroad technology. The system is already functional on the Burlington Northern Santa Fe Railroad ("BNSF") and just recently received Federal Railroad Administration ("FRA") approval for operation on their central Illinois freight line. Phase One of the system on Metra is programmed to be operational during the latter half of 2008 on Metra's Rock Island District. The system will be programmed using wayside signals and GPS locating technology to alert engineers to signal aspects which require a reduction in train speed. In the event the engineer fails to react within a calculated time frame, the ETMS computer will apply the train's brakes. ETMS will assure compliance with all signals on the line. Metra has very few operating rules violations during a calendar year. While the data is recorded in each department, no single document exists. Metra agrees with the recommendation to develop a violation tracking system, and will develop a program for immediate implementation

METRA CUSTOMER SERVICE

Metra's Customer Service department is focused on complaints primarily received from its customer complaint line. It is a small department with four full-time staff. Most of the complaints are received through the call center with very short wait times. Communication through other media, such as letters, internal call transfers or elevator call boxes, is also logged when received, and reviewed by senior management. Metra also publishes a monthly commuter newsletter that provides Metra-related news as well as answers questions raised by Metra commuters.

A compilation of complaint-related information is not carried out on a periodic basis, nor is it part of any systematic review process. A log of calls received is kept manually, and complaints are sometimes recorded manually or electronically. Complaints on specific issues may be tracked and discussed at Metra's daily 8:15 a.m. operations meeting.

Metra has conducted customer satisfactions surveys since 1991, with subsequent surveys in 1996, 1999, and 2005. Metra has an estimated 49 percent return rate with over 39,000 respondents. This has enabled the agency to prepare very detailed views of their system. Metra shares survey results at their board meetings, staff meetings, and the labor-management committee meetings. Furthermore, the planning department shares the demographic information with communities.

The key findings from the 2005 survey show that customers are most concerned about on-time service, the value for money of the service, and the frequency of service during rush hour. This did not differ dramatically from the results found in 1999. Most Metra districts received fairly high customer satisfaction ratings (in the 70 to 90 percent range). However, the Heritage Corridor (HC) and the Southwest Service (SWS) districts received ratings of 51 and 54 percent, respectively. In response to these surveys, Metra has conducted a major passenger communications program that included customer service training for onboard personnel, the installation of a GPS system on the rail cars to track service and provide automated announcements, an expanded parking program, and a rental car program with a vendor.

METRA CUSTOMER SERVICE OPERATIONS	
RECOMMENDATION NUMBER 15	***Metra should begin compiling a customer complaint/ recommendation report to target priority areas for management attention and to provide systematic tracking and service trends for reporting to the Board and general public.***
METRA RESPONSE	Metra agrees with this recommendation, and will begin compiling a consolidated report on customer complaints. The report will be used to categorize complaints by line and type to more closely review possible areas of concern and ultimate attention.

Chapter Five

PACE OPERATIONS

CHAPTER CONCLUSIONS

Pace's fixed route bus operations are cost efficient taking into consideration the distances traveled and the relatively sparse population density. One reason for this is Pace's operating structure with nine separate garages and operating contracts.

- Pace's demand-responsive service is able to recover a higher proportion of its costs than its peers through the farebox because it serves the general population, in addition to meeting needs of those passengers certified to receive paratransit services under the Americans with Disabilities Act.

- Pace's vanpool program exhibits similar operating characteristics as its peer counterparts, although Pace may want to review whether fare increases to increase the farebox recovery relative to its peers is feasible.

- Pace's business systems are overdue for replacement which should assist in yielding more effective reporting of performance, safety, and liability data.

INTRODUCTION

The performance of the Pace service was assessed using data reported annually to the National Transit Database for fiscal years 1999 through 2004. This period was chosen because 2004 is the most recent year for which the Federal Transit Administration has publicly released the reported data.

Comparing the performance of one organization to another is a useful tool to identify areas where an organization performs well, as well as areas where improvement may be needed. In this chapter, peer comparisons are used to gain insight into operational areas where improvement may be possible. If a peer comparison indicates below-average performance relative to its peers, the Service Board should further examine the factors that may be contributing to the differences.

However, since the operating environments of transit agencies differ, caution must be used in interpreting the results of peer comparisons. While the auditors took into consideration various attributes of peers (such as size and service characteristics), all organizations are different. For example, differences in length of trips, frequency of station stops, size and type of transit vehicles, population density, climate, level of contracted services, and other factors impact peer comparisons. As such, some differences between a Service Board and its peers may be attributable to differences in operating environments over which the Service Board may have little or no control.

While the auditors caution against drawing conclusions by examining a single comparison measure or comparing any one transit agency to a single peer agency, peer comparisons are a standard method accepted in the industry for assessing performance.

The Pace performance trends are analyzed by mode: bus, demand-responsive, and vanpool, and compared to those of peer transit systems. Different peer groups were assembled for the three modes of service. This was done because Pace is unique among transit systems in the composition of users that it serves and the combination of services that it offers.

The performance of each mode of transportation is analyzed from several perspectives:

- **Service Provided and Consumed –** changes in key service statistics.
- **Service Efficiency –** cost of providing Pace services.
- **Service Effectiveness –** use of the Pace services.
- **Cost Effectiveness –** consumption of public transportation services in relation to resources expended.
- **Passenger Revenue Effectiveness –** share of total operating expense borne by the users.

Pace's service area is defined as *"any public transportation by bus within the metropolitan region, other than…commuter rail or public transportation provided by the Chicago Transit Authority . . . pursuant to agreements in effect on the effective date [of the statute]."* Pace has interpreted this to mean that its service area consists of suburban Cook County, DuPage County, Will County, McHenry County, Lake County and Kane County. It also provides service into the city of Chicago for residents of the counties that are in its service area. Pace operates fixed route bus service throughout the metropolitan area, including local community routes, intra-county and inter-county routes, as well as radial express and connector services that connect with both Metra's commuter rail system and CTA's rail transit stations.

Pace provides its services in several modes:

- Directly operated fixed route services;
- Fixed route services provided by contractors;
- Directly operated demand-responsive services;
- Contractor operated demand-responsive services; and
- Vanpools.

The data in Exhibit 5-1 illustrates the level of service for each mode. The fixed route system (both directly operated and contractor operated) accounts for just over one-half of the vehicle miles of operation. This is a relatively low percentage and illustrates how diverse the operating pattern at Pace is compared to other bus transit systems.

Exhibit 5-1
PACE MAJOR OPERATING STATISTICS
2004

Mode	Vehicle Miles	Vehicle Hours	Riders	Passenger Miles	Operating Expenses
Directly Operated Fixed Route Bus Service	21,849,111	1,443,519	28,450,051	187,901,719	$100,191,163
Contractor Operated Fixed Route Bus Service	2,901,857	195,430	2,990,926	17,254,153	$14,614,847
Directly Operated Demand-Responsive Service	116,609	7,493	34,987	239,066	$251,806
Contractor Operated Demand-Responsive Service	9,259,042	633,836	1,478,536	10,677,444	$26,936,965
Vanpool Service	7,784,650	292,744	1,416,265	31,913,733	$5,207,231
Total	**41,911,269**	**2,573,022**	**34,370,765**	**247,986,115**	**$147,202,012**

Source: National Transit Database

PACE FIXED-ROUTE BUS SERVICE

The Pace bus performance trends are compared to those of five peer systems in the country, listed in the text box.

PACE PEERS – BUS

1. Southwest Ohio Regional Transit Authority (Cincinnati and immediate suburban areas), SORTA
2. Milwaukee County Transit System (Milwaukee and immediate suburban areas), MCTS
3. MTA Long Island Bus (suburban New York), MTA LI Bus
4. VIA Metropolitan Transit (San Antonio and immediate suburban areas), VIA
5. San Mateo County Transit District (suburban San Francisco) SamTrans

The five peer transit systems are similar to Pace in two key respects: all provide substantial bus service in suburban areas of major cities and all operate from multiple garages. Pace officials noted that there are important differences in service characteristics of the peer group. They noted that three of the five peers have service areas that include a major city and that Pace has the lowest service area population density. Pace noted that these differences have more influence on the performance results, especially in the service effectiveness measures, than those operational aspects that Pace controls. Given its larger service area and lower population density, Pace officials noted the net effect is vehicle occupancy is reduced, resulting in increased operating costs per passenger, as well as increased subsidy requirements.

Below is a summary of the results of the metrics we used in our comparison of Pace's bus services with its peers:

PACE PEER COMPARISON – SUMMARY (BUS SERVICE) 2004		
EFFICIENCY	**EXHIBIT #**	**RELATIVE TO PEERS**
Operating cost per vehicle hour	5-4	**Better than peers**
Operating cost per vehicle mile	5-5	**Better than peers**
Vehicle operations cost per vehicle hour	5-7	**Better than peers**
Operators' wages per vehicle hour	5-9	**Better than peers**
Fringe benefits per vehicle hour	5-10	**Better than peers**
Vehicle maintenance cost per vehicle hour	5-12	**Better than peers**
Vehicle maintenance work hours per vehicle mile	5-13	**Better than peers**
Parts per vehicle mile	5-15	**Better than peers**
Miles between major service interruptions	5-16	**Better than peers**
Fringe benefits as a percent of salaries	5-11	**Equal to peers**
Fuel and lubricants per vehicle hour	5-14	**Equal to peers**
Platform time to total compensated time	Text	**Equal to peers**
Platform time to total operating time	Text	**Equal to peers**
General administration work hours per 100 vehicle hours	5-17	**Equal to peers**
EFFECTIVENESS		
Operating cost per passenger mile	5-20	**Better than peers**
Farebox recovery	5-21	**Equal to peers**
Passengers per vehicle hour	5-18	**Worse than peers**
Operating cost per passenger	5-19	**Worse than peers**
Farebox recovery shortfall per passenger	5-22	**Worse than peers**

The key service statistics for Pace are different than those for the average transit system in the peer group (Exhibit 5- 2). Pace operates more service but carries about the same number of users. The differences in service levels do not detract from this peer comparison since all of the peer systems operate from multiple garages and had similar economies of scale.

Exhibit 5-2
PACE BUS SERVICE SNAPSHOT
(Includes Directly Operated and Purchased Transport)
2004

System	Total Vehicle Hours	Total Vehicle Miles	Peak Vehicles	Unlinked Passenger Trips
MTA Long Island Bus	905,032	11,394,862	273	30,241,444
Milwaukee County (MCTS)	1,432,164	19,341,341	411	53,742,766
San Mateo (SamTrans)	793,183	10,411,479	262	15,145,667
Southwest Ohio (SORTA)	938,438	13,326,524	344	23,052,379
San Antonio VIA (VIA)	1,373,169	19,165,148	357	42,213,098
Average	**1,088,397**	**14,727,871**	**329**	**32,879,071**
Pace	1,638,949	24,750,968	603	31,440,977
Pace % of Average	**150.6%**	**168.1%**	**183.1%**	**95.6%**

Source: National Transit Database

Pace also is different than its peers in the use of other systems to operate bus service. In 2004, Pace contracted with local municipalities and private operators to provide 11.9 percent of its vehicle hours. In contrast, four of the five peer systems do not

use other systems and operate all service with their employees. SamTrans is the only peer system that uses private contractors – 26.8 percent in 2004.

Pace Bus Service Provided and Consumed

The amount of bus service provided by Pace remained about the same between 1999 and 2004. Measured in terms of vehicle hours or vehicle miles, the average annual rate of increase was less than 1 percent (Exhibit 5-3). At the same time, the number of peak vehicles declined at an average annual rate of over 2 percent. These changes are similar to those of the average system in the peer group.

Exhibit 5-3
PACE BUS SERVICE OVERVIEW
1999-2004

Pace Bus Service	Vehicle Hours	Vehicle Miles	Peak Vehicles	Passengers
1999	1,584,978	24,494,644	681	37,448,664
2000	1,599,289	24,437,244	622	36,049,708
2001	1,661,813	25,405,129	610	34,321,558
2002	1,661,025	25,310,501	606	32,268,476
2003	1,650,205	25,198,399	605	30,979,385
2004	1,638,949	24,750,968	603	31,440,977
Average Annual Rate of Change	**0.7%**	**0.2%**	**-2.4%**	**-3.4%**
Peer Rate	**0.1%**	**-0.7%**	**-2.3%**	**-2.1%**

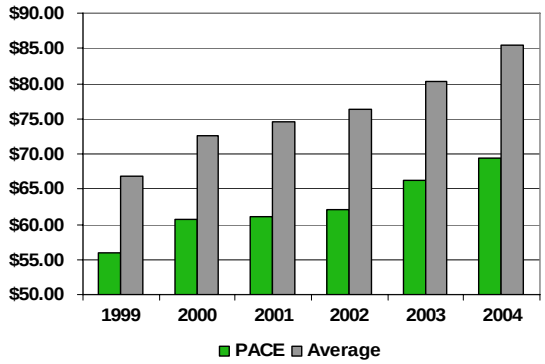
Source: National Transit Database

The Pace bus annual passenger level declined 16 percent during the period. Pace's passenger loss is consistent with the average experience by the peer group, although Pace lost passengers at a faster average annual rate (3.4% versus 2.1%). Pace bus service carried 31.4 million passengers in 2004, a loss of 6 million passengers compared to 1999.

Pace Bus Service Efficiency

Service efficiency examines the amount of public transportation produced in relation to the resources expended. Service efficiency asks the question "*How much does it cost to produce a unit of public transportation service?*" The measure **total operating expense per vehicle hour** is the starting point for assessing this performance. The lower the expense, the greater the service efficiency.

Exhibit 5-4
PACE OPERATING COST PER VEHICLE HOUR

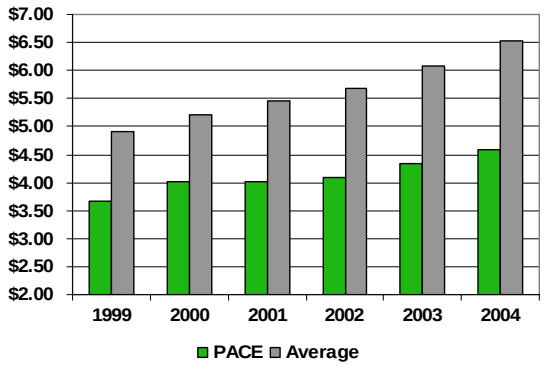


Source: National Transit Database

The total operating expense per vehicle hour of $69 for Pace bus was 19 percent **less** than the peer group average of $85 in 2004 (Exhibit 5-4). Pace maintained this position throughout the period as its unit costs increased at an average annual rate of 4.4 percent, comparable to the peer group average and the general inflation rate. This suggests that Pace is doing an effective job controlling costs.

Pace achieves strong operating cost performance on a per mile basis as well (Exhibit 5-5). In 1999, Pace's total operating expense per vehicle mile was $3.67, just 75 percent of the peer average. By 2004, Pace had increased its cost advantage, with total expenses per vehicle mile of $4.59, substantially lower than the peer average, which spent $6.54.

Exhibit 5-5
PACE OPERATING COST PER VEHICLE MILE



Source: National Transit Database

Pace's favorable cost position does not appear to be due to its use of municipal systems and private contractors to operate service. The total operating cost per vehicle hour for directly operated (DO – Pace employees) and purchased transportation (PT – municipalities and private contractors) were generally comparable over the period (Exhibit 5-6).

About $8 of Pace's $16 cost advantage is for vehicle operations. In 2004, Pace's vehicle operations cost per hour of $41.68 was about $8 lower than the average cost of $49.81 for the peer systems. Pace maintained this cost advantage over the six-year period (Exhibit 5-7).

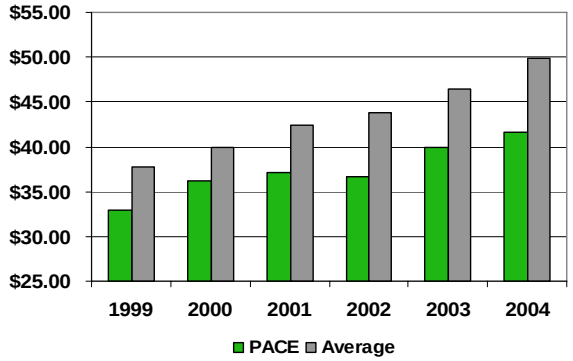
Exhibit 5-6
PACE BUS OPERATING COST PURCHASED TRANSPORTATION (PT) AND DIRECTLY-OPERATED (DO)

Year	Service Type	Cost per Hour	Total Cost per Hour	PT Premium over DO
1999	DO	$55.89	$57.37	121%
	PT	$67.62		
2000	DO	$60.62	$61.62	114%
	PT	$69.08		
2001	DO	$61.02	$61.53	107%
	PT	$65.09		
2002	DO	$62.18	$62.38	103%
	PT	$63.80		
2003	DO	$66.19	$66.27	101%
	PT	$66.80		
2004	DO	$69.41	$70.05	108%
	PT	$74.78		

Source: National Transit Database

Instead, Pace's favorable cost position is largely due to lower compensation rates in vehicle operations, which includes transportation administration and security as well as revenue vehicle operation, and lower work hours for vehicle maintenance (see Exhibits 5-8 and 5-9).

Exhibit 5-7
PACE VEHICLE OPERATIONS COST PER VEHICLE HOUR



Source: National Transit Database

Lower average compensation rates for operations employees were one reason for this cost advantage in 2004. The average hourly rate was about $19, approximately 12 percent lower than the peer average of nearly $22 (Exhibit 5-8).

The other reason was the average hourly rate for fringe benefits in 2004: $10.56 for Pace, versus $12.91 for the peer average. Fringe benefits cover a variety of expenses including medical, absenteeism, and pension costs. The fringe benefit rate may be lower, in part, because some benefits are incurred as a percentage of the wage rate, which is lower than the peer group average. The low fringe rate also might reflect good Pace management of: 1) employee labor agreements; 2) employee absenteeism; and 3) contracts with fringe benefit, such as medical insurance companies.

Exhibit 5-8
PEER BUS AVERAGE HOURLY RATES 2004

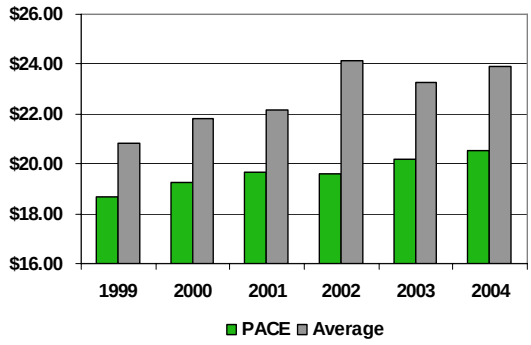
Transit System	Average Hourly Rate	Average Fringe Rate
MTA LI Bus	$25.10	$13.68
MCTS	$20.26	$18.06
SORTA	$19.35	$8.97
VIA	$15.84	$7.87
SamTrans	$28.30	$15.97
Average	**$21.77**	**$12.91**
PACE	$19.12	$10.56
PACE % of Average	87.8%	81.8%

Source: National Transit Database

Wages and fringe benefits have also been kept at a reasonable level compared to peers when looked at as a function of vehicle hours. It is important to examine expenditures in this manner because it illustrates how much output (hours of service) the agency is able to generate per unit of input (labor/fringe expense).

In 1999, Pace spent $18.69 per vehicle hour on operators' wages, less than the peer average of $20.82 (Exhibit 5-9). Since then, Pace's cost for operators' wages increased at a rate of just 1.9 percent per annum to $20.52 in 2004. This increase was slower than that of the peer group, which increased by 2.8 percent per year to $23.89 in 2004.

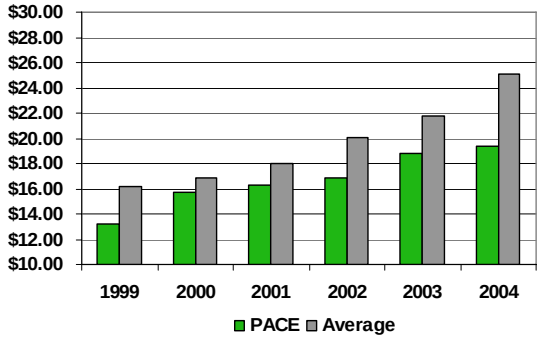
Exhibit 5-9
PACE OPERATORS' WAGES PER VEHICLE HOUR



Source: National Transit Database

Although Pace's fringe benefit cost per vehicle hour increased by 8.1 percent per year from $13.14 in 1999 to $19.40 in 2004, its fringe costs have remained significantly lower than its average peer (Exhibit 5-10). In 1999, the average peer spent $16.13 in 1999, which increased by 9.0 percent per year to $25.04 in 2004.

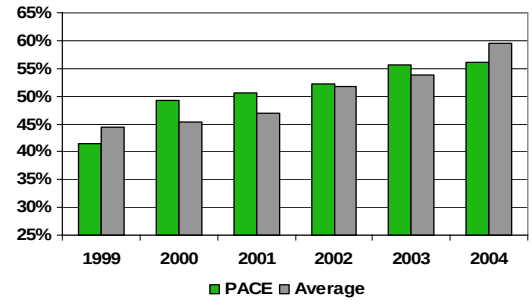
Exhibit 5-10
PACE FRINGE BENEFITS PER VEHICLE HOUR



Source: National Transit Database

Pace has kept fringe benefits as a percentage of salaries in line with the peer group average (Exhibit 5-11). In 1999, Pace's fringe costs were 42 percent of what it paid out in salaries, compared to 44 percent for the peer group average. In 2004, Pace's fringe benefits increased to 56 percent of salaries and the average peer's fringe cost increased to 59 percent.

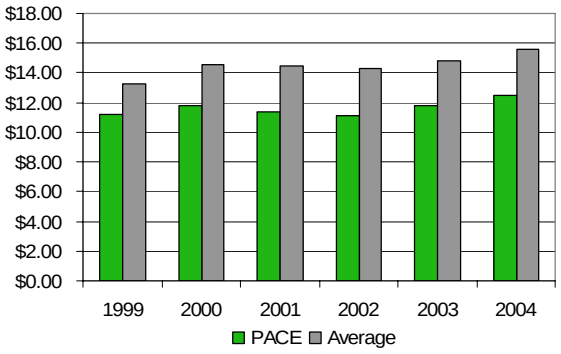
Exhibit 5-11
PACE FRINGE BENEFITS AS A PERCENT OF SALARIES



Source: National Transit Database

In 2004, Pace's vehicle maintenance cost was $12.52 per vehicle hour, which was about $3 lower than the average cost of $15.62 for its peers (Exhibit 5-12). Pace maintained a cost advantage over the six-year period.

Exhibit 5-12
PACE VEHICLE MAINTENANCE COST PER VEHICLE HOUR

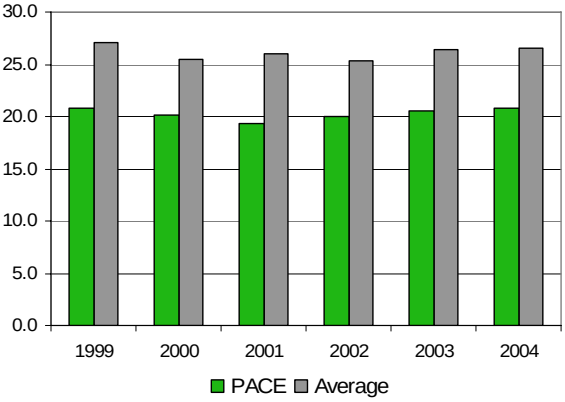


Source: National Transit Database

Efficient use of work hours was the major reason for this cost advantage. Pace appears lean in vehicle maintenance hours per 1,000 vehicle miles (which are used because of high correlation with maintenance needs). In 2004, Pace spent almost 21 hours per 1,000 vehicle miles, 21 percent less than the peer average (Exhibit 5-13).

In addition to keeping work hours low, Pace has been relatively efficient in scheduling its vehicle operations employees. In 2004, vehicle operations employees spent 88 percent of total operating time and 86 percent of total compensated time as "platform time," or time spent actually operating a vehicle. In both cases, these figures are slightly better than the peer group average (84 percent of total operating time and 81 percent of total compensated time in 2004). This was the case throughout the period from 1999 to 2004.

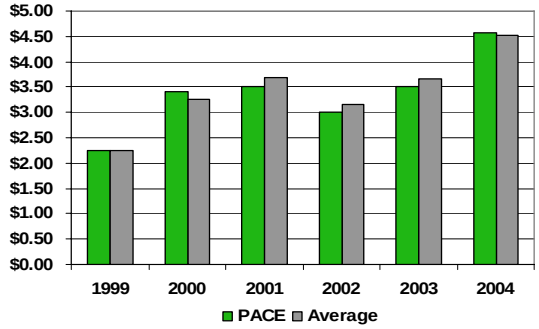
Exhibit 5-13
PACE VEHICLE MAINTENANCE WORK HOURS PER VEHICLE MILE



Source: National Transit Database

Pace has matched its low work hours expended by also doing a reasonably good job of controlling costs. Although the price of fuel has been rising in recent years, Pace has kept its increase in costs in line with industry norms. In 1999, Pace spent $2.25 on fuel and lubricants per vehicle hour, exactly the same as the average peer (Exhibit 5-14). In 2004, that number rose to $4.58 for Pace, an increase of 15.3 percent per year. However, the peer average rose at a rate of 14.7 percent per annum to $4.53 in 2004.

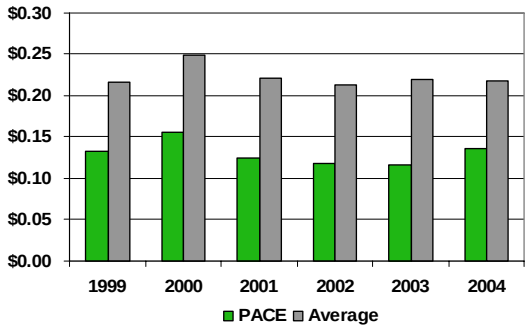
Exhibit 5-14
PACE FUEL AND LUBRICANTS PER VEHICLE HOUR



Source: National Transit Database

In terms of spending on maintenance parts, Pace is lower than the peer group average. Pace's cost per mile for other materials and supplies (predominately parts) was $0.14 in 2004, 37 percent less than the peer average (Exhibit 5-15).

Exhibit 5-15
PACE PARTS PER VEHICLE MILE

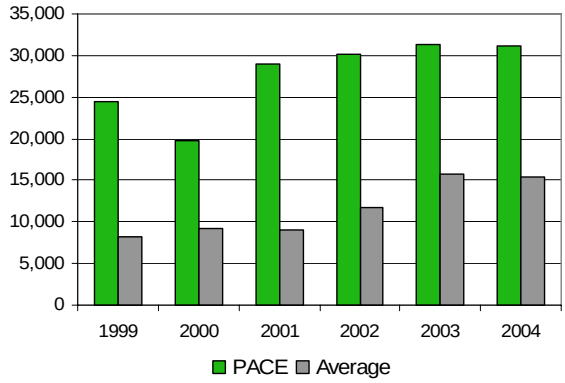


Source: National Transit Database

The NTD reported data indicates that the average vehicle miles between major revenue service interruptions for Pace bus service was over 31,000 miles in 2004 (Exhibit 5-16). This is similar to that reported for peer systems operating in Cincinnati and San Mateo County.

However, the other three peer systems reported values ranging between 2,000 and 7,000 vehicle miles between major revenue service interruptions. Caution is needed when evaluating this data since some transit systems may not utilize the NTD definition. The low work hours and parts costs suggest that Pace has an effective maintenance program.

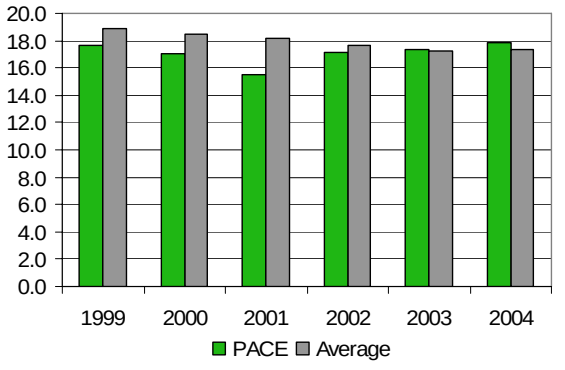
Exhibit 5-16
PACE MILES BETWEEN MAJOR SERVICE INTERRUPTIONS



Source: National Transit Database

The general administration activities are more challenging to assess because they are not linked to direct service operations. Using the measure general administration work hours per 100 vehicle hours, Pace used about the same number of hours (17.9) as the average peer system (17.3) in 2004 (Exhibit 5-17). The values for San Mateo County were not included in the peer group average because they were five times the peer average and were probably reported incorrectly. This limited analysis suggests that there is wide latitude in experiences and that Pace is in the normal range of experience.

Exhibit 5-17
PACE GENERAL ADMINISTRATION WORK HOURS PER 100 VEHICLE HOURS



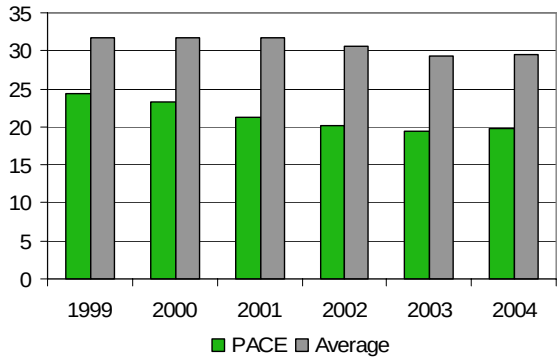
Source: National Transit Database

Pace Bus Service Effectiveness

Service effectiveness measures the consumption of public transportation service in relation to the amount of service available. Service effectiveness indicators address the question "*How much public transportation is used in relation to the amount of service available?"* The measure **passengers per vehicle hour** is used to assess service effectiveness performance. The more passengers carried, the higher the service effectiveness.

Pace's service effectiveness has declined since 1999 in absolute terms and relative to the peer group average (Exhibit 5-18). In 1999, Pace served over 24 passengers per vehicle hour, which was about 23 percent lower than the peer group average of 32 passengers per vehicle hour. By 2004, Pace was serving only 20 passengers per vehicle hour, which was one-third lower than the peer group average of just over 29 passengers. Pace's performance declined at a faster average annual rate of 4.2 percent versus the peer system average decline of 1.5 percent.

Exhibit 5-18
PACE PASSENGERS PER VEHICLE HOUR



Source: National Transit Database

Pace officials noted that there are important differences in service characteristics of the peer group which impact service effectiveness measures. They noted that three of the five peers have service areas that include a major city and that Pace has the lowest service area population density. Given its larger service area and lower population density, Pace officials noted the net effect is vehicle occupancy is reduced, resulting in increased operating costs per passenger, as well as increased subsidy requirements.

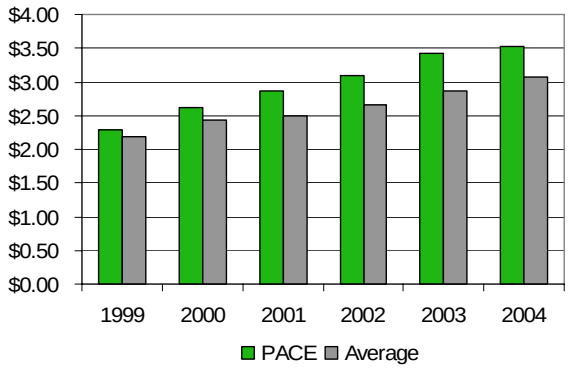
Pace Bus Cost Effectiveness

Cost effectiveness addresses the consumption of public transportation services in relation to the resources expended. The questions addressed in this area are "*How much does it cost to transport a public transportation user?"* and *"How much does it cost to transport a passenger one mile?"* The measures **total operating cost per passenger** and **total operating cost per passenger mile** are used to assess cost effectiveness. The lower the expense per passenger, the more cost-effective the service.

Cost effectiveness is a function of cost efficiency and service effectiveness. Pace's cost effectiveness has declined since 1999. The total expense per passenger boarding increased at an average annual rate of 9.0 percent from $2.29 in 1999 to $3.52 in 2004 (Exhibit 5-19). This was due to operating expenses increasing at an average annual rate of 5.3 percent between 1999 and 2004 while total passenger boardings were declining at an average annual rate of 3.4 percent.

Pace's cost effectiveness also declined relative to the average peer system. In 1999, Pace's cost per passenger ($2.29) was 4 percent higher than the peer average of $2.19. However, by 2004, Pace's cost per passenger had increased to $3.52 and was 15 percent higher than the peer average of $3.07.

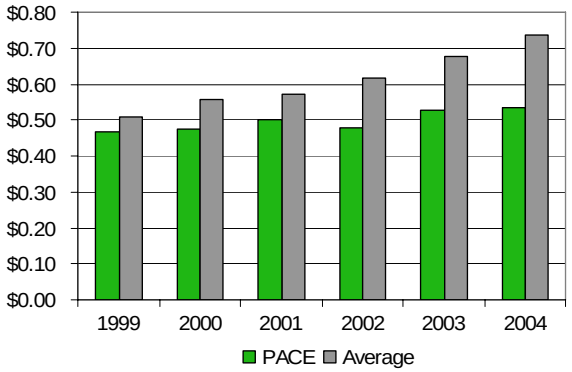
Exhibit 5-19
PACE OPERATING COST PER PASSENGER



Source: National Transit Database

As measured by a per passenger mile basis, Pace's cost position compares more favorably with its peers, as shown in Exhibit 5-20. In 1999, Pace's total operating cost per passenger mile was $0.47, compared to a peer average of $0.51. Since then, costs per mile have increased slowly for Pace, at a rate of just 2.6 percent per year compared to 6.9 percent for the peer group. In 2005, Pace's cost of $0.53 per passenger mile was less than three-fourths of the peer average of $0.73.

Exhibit 5-20
PACE OPERATING COST PER PASSENGER MILE



Source: National Transit Database

Pace Bus Passenger Revenue Effectiveness

Passenger revenue effectiveness is concerned with the share of the operating expense which is borne by the consumers or passengers of the public transportation service. Two measures, **farebox recovery ratio** (passenger fares/operating expense) and **farebox recovery shortfall per passenger** [(operating expense - passenger fares)/passenger boardings], are used to assess passenger revenue performance.

FAREBOX RECOVERY RATIO

As used in this report, farebox recovery ratio is calculated as the ratio of passenger revenues to operating costs, excluding depreciation.

- Operating costs are determined using generally-accepted accounting principles (GAAP).
- This definition differs from a similar ratio calculated by RTA, which is referred to as the "recovery ratio" and includes **all operating revenues**.

This report used the Service Board's National Transit Database (NTD) submittals for farebox recovery ratios that include full annual pension costs and security costs, and **only passenger** revenues.

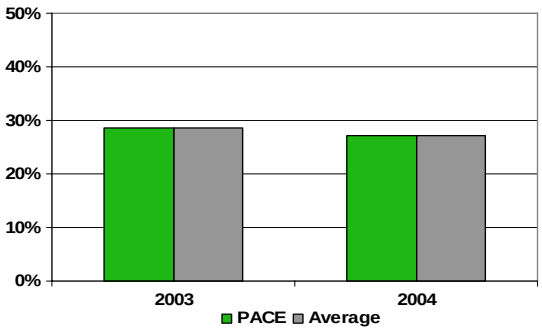
The higher the percentage of passenger revenue recovery, the more passenger revenue is paying for total operating expense. The higher the rider subsidy per passenger, the greater funding beyond passenger fares is required to cover operating expense. This includes funds from non-fare revenue such as advertising, and from federal, State, and local assistance. Monetary obligations of the agencies are considered in calculating farebox recovery shortfall regardless of whether funds were available in the analysis year.

FAREBOX RECOVERY SHORTFALL

As used in this report, farebox recovery shortfall is calculated as the difference between farebox revenues to operating costs, excluding depreciation. The terms used here are the same as the numerator and denominator in the farebox recovery ratio. Operating costs are those determined using generally-accepted accounting principles (GAAP). This report used a Service Board's National Transit Database submittals for system-wide and modal farebox revenues. This definition differs from operating subsidy in that it does not include non-fare revenues.

This analysis is limited to the period 2003 to 2004 because of changes to NTD reporting requirements. Prior to 2002, NTD did not require the reporting of fare revenues by mode (e.g., bus, rail). However, some transit systems had problems reporting in 2002, including one system in the peer group.

Exhibit 5-21
PACE FAREBOX RECOVERY



Source: National Transit Database

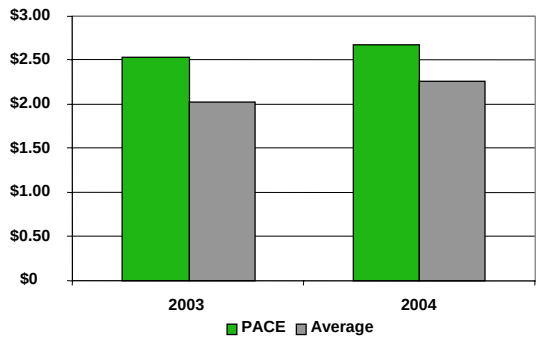
The cost recovery of Pace bus services is comparable to the average peer system. Pace's farebox recovery of 27 percent in 2004 is the same as the

peer system average (Exhibit 5-21). This farebox recovery calculation using NTD data differs from the RTA farebox recovery method, which excludes certain costs.

Pace's farebox recovery declined from 31 percent in 2002 to 27 percent in 2004. Both the loss of passengers and the increase in operating costs contributed to this decline. Public policy at some systems requires that fares be increased to meet a minimum farebox recovery standard.

The farebox recovery shortfall per passenger is higher for Pace than the average peer system. Pace's farebox recovery shortfall of $2.66 is 18 percent higher than the peer average of $2.25 (Exhibit 5-22). This means that Pace fixed-route bus riders receive an implicit discount of $2.66 per ride compared to the fully-loaded cost of operating the Pace fixed-route bus system.

Exhibit 5-22
PACE FAREBOX RECOVERY SHORTFALL PER PASSENGER



Source: National Transit Database

Pace Bus Conclusions

Pace operates an efficient fixed-route bus service. However, Pace's effectiveness, measured in passengers carried per unit of service, tends to run below the average of its peers, although it has longer distances to travel and relatively sparse population density. Pace's maintenance program combines contracting for much of the major maintenance while inspections, routine maintenance, and servicing is provided by Pace employees. This produces a lower than average unit cost and a better than average maintenance failure. Pace's farebox recovery ratio is similar to its peers, although its farebox recovery shortfall per passenger is higher than peers.

PACE DEMAND-RESPONSIVE SERVICE

Pace performance trends for its demand-responsive service are compared to the same five transit systems that comprised the bus peer group, in addition to the Phoenix Transit System.

Below is a summary of the results of the metrics we used in our comparison of Pace's demand-responsive services with its peers:

PACE PEERS – DEMAND RESPONSIVE
1. Southwest Ohio Regional Transit Authority (Cincinnati and immediate suburban areas)
2. Milwaukee County Transit System (Milwaukee and immediate suburban areas)
3. MTA Long Island Bus (suburban New York)
4. VIA Metropolitan Transit (San Antonio and immediate suburban areas)
5. San Mateo County Transit District (suburban San Francisco)
6. Phoenix Transit System

PACE PEER COMPARISON – SUMMARY (DEMAND-RESPONSIVE) 2004		
EFFICIENCY	**EXHIBIT #**	**RELATIVE TO PEERS**
Operating cost per vehicle hour	5-25	**Equal to peers**
EFFECTIVENESS		
Passengers per vehicle hour	5-26	**Better than peers**
Cost per passenger	5-27	**Better than peers**
Farebox recovery	5-28	**Better than peers**
Farebox recovery shortfall per passenger	5-29	**Better than peers**

Many of the municipalities in the Pace service area contract with Pace to provide demand-responsive service to general-population riders who do not meet the requirements outlined for supplemental service in the Americans with Disabilities Act (ADA). The Phoenix Transit System, which also serves the general population, was added to the peer group because of these operating differences.

The key service statistics for Pace are different than those for the average transit system in the peer group (Exhibit 5-23).

Exhibit 5-23
DEMAND-RESPONSIVE SNAPSHOT 2004

City/Area	System	Vehicle Hours	Vehicle Miles	Peak Vehicles	Passengers	Total Modal Operating Expense	Percent ADA Trips
Long Island	LI Bus	240,776	3,364,784	79	318,377	$9,837,419	100.0%
Milwaukee	MCTS	414,074	5,736,764	215	1,003,944	$18,518,310	64.9%
Greater Cincinnati	SORTA	164,052	2,678,869	43	267,271	$7,298,388	100.0%
San Antonio	VIA	496,205	9,948,507	181	996,473	$19,405,479	92.1%
San Francisco Silicon Valley	San Mateo County	243,034	3,251,712	84	304,972	$10,536,168	99.1%
Phoenix	Valley Metro	372,688	5,224,372	162	523,522	$14,847,428	45.3%
Average		**321,805**	**5,034,168**	**127**	**569,093**	**$13,407,199**	**83.6%**
Greater Chicago	Pace	641,329	9,375,651	384	1,513,523	$27,188,771	27.8%
Pace % of Average		**199.3%**	**186.2%**	**302.4%**	**266.0%**	**202.8%**	**33.3%**

Source: National Transit Database

Pace operates about twice as much service (vehicle hours, vehicle miles) and carries more users than its peers. The differences in service levels are not considered detrimental to the analysis since the peer systems operate in suburban environments and exhibit similar economies of scale.

Over 90 percent of users in most of the peer systems are ADA users. The transit systems serving Milwaukee and Phoenix have high use from the general population and, therefore, the percentage of trips made by an ADA user is smaller, 65 and 45 percent, respectively. Only 28 percent of Pace's trips are made by ADA riders (see Exhibit 5-23).

The transit systems in the peer group operate a mix of directly operated and purchased service. This means that the analysis of NTD data is more limited because less data are reported for purchased services.

Pace and the transit systems serving Phoenix and San Mateo County are also different than other peer systems in their use of other municipal systems to operate bus service. The data for the municipal services are reported as purchased transportation.

Pace Demand-Responsive Service Provided and Consumed

The amount of demand-responsive service provided by Pace increased significantly between 2000 and 2004. The trend period starts in 2000 because data were not available for the transit system in Milwaukee for 1999. Measured in terms of vehicle hours, vehicle miles, or peak vehicles, the average annual rate of increase was between 15 and 17 percent (Exhibit 5-24). Pace increased service about four to five times faster than the average transit system in the peer group.

Exhibit 5-24
PACE DEMAND-RESPONSIVE SERVICE PROVIDED AND CONSUMED

	2000	2004	Annual Rate of Change	Peer Rate
Vehicle Hours	362,051	641,329	15.4%	3.9%
Vehicle Miles	5,163,383	9,375,651	16.1%	3.0%
Peak Vehicles	207	384	16.7%	2.4%
Passengers	1,003,589	1,513,523	10.8%	3.1%

Source: National Transit Database

The big jump in service occurred between 2001 and 2002. Similar large increases occurred in the transit systems serving Long Island and San Mateo County, areas where the demand-responsive service could be an alternative to rail service.

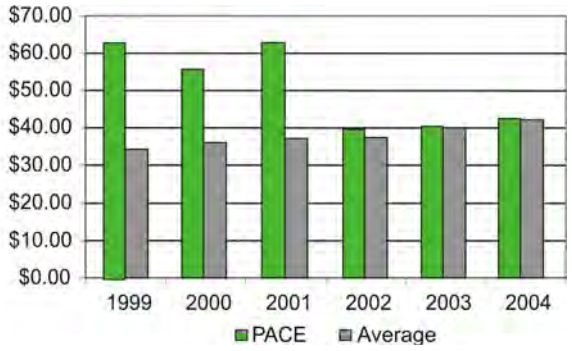
Pace demand-responsive service increased annual passengers at an average annual rate of 10.8 percent, or more than three times the rate of the average transit system in the peer group.

Pace Demand-Responsive Service Efficiency

Service efficiency examines the amount of public transportation service produced for the community in relation to the resources expended. The total operating expense per vehicle hour of $42 for Pace demand-responsive service was nearly the same as the peer group in 2004 (Exhibit 5-25).

Pace improved its performance significantly between 2001 and 2002 when it had its large service expansion. Its performance since 2002 suggests that Pace is doing an effective job controlling costs, similar to the transit systems in the peer group.

Exhibit 5-25
PACE DEMAND-RESPONSIVE OPERATING COST PER VEHICLE HOUR

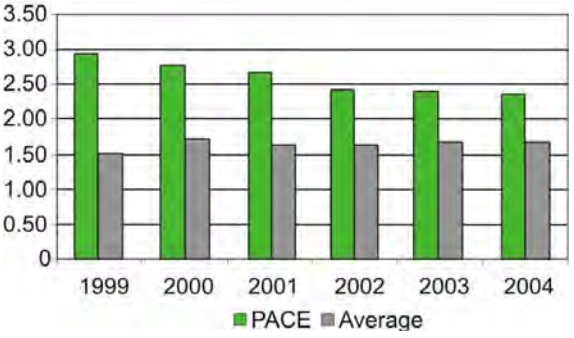


Source: National Transit Database

Pace Demand-Responsive Service Effectiveness

Service effectiveness is a measure of the consumption of public transportation service in relation to the amount of service available. While Pace's service effectiveness has declined since 2000, it still remains higher than its peers. Pace served 2.8 passengers per vehicle hour in 2000, which was over 60 percent higher than the peer group average of 1.7 passengers per vehicle hour (Exhibit 5-26). By 2004, Pace was serving 2.4 passengers per vehicle hour, which was 41 percent higher than the peer group average of 1.7 passengers. Much of the decline has occurred between 2001 and 2002 when Pace expanded service.

Exhibit 5-26
PACE DEMAND–RESPONSIVE PASSENGERS PER VEHICLE HOUR



Source: National Transit Database

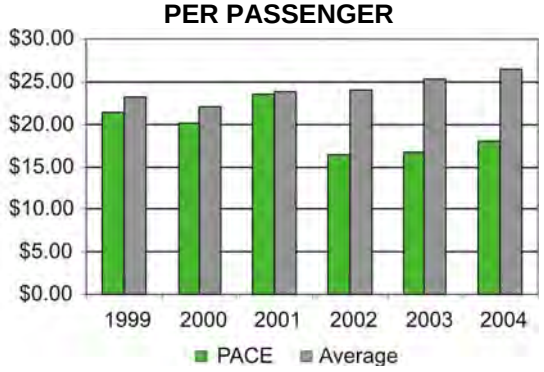
Pace's higher level of service effectiveness than the peer group reflects, in part, the high percentage of users who are from the general population, which speeds passenger boarding and improves operating efficiency.

Pace Demand-Responsive Cost Effectiveness

Cost effectiveness is a measure of the consumption of public transportation services in relation to resources expended. The cost effectiveness of Pace service is better than the average system in the peer group. In 2004, the total expense per passenger boarding for Pace ($17.96) was about two-thirds of the peer group average (Exhibit 5-27).

The cost effectiveness of Pace has improved after peaking in 2001. The total expense per passenger boarding declined from $20 in 2000 to $18 in 2004. The major decline occurred between 2001 and 2002 during Pace's service expansion when total expense per passenger dropped from $23.48 to $16.36. Since 2002, Pace's total expense per passenger boarding has increased at 4.8 percent per year.

Exhibit 5-27
PACE DEMAND-RESPONSIVE COST PER PASSENGER



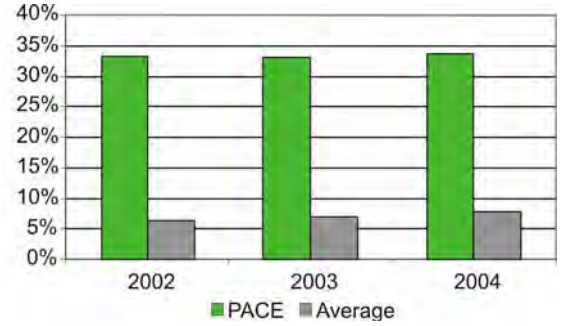
Source: National Transit Database

Pace Demand-Responsive Passenger Revenue Effectiveness

Passenger revenue effectiveness is concerned with the share of the operating expense which is borne by the consumers or passengers of the public transportation service.

The cost recovery of Pace demand-responsive services is much better than the average peer system. Pace's farebox recovery of 34 percent in 2004 is over four times higher than the peer system average of 8 percent (Exhibit 5-28).

Exhibit 5-28
PACE DEMAND-RESPONSIVE FAREBOX RECOVERY

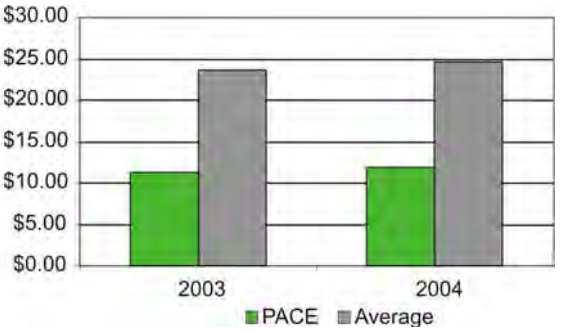


Source: National Transit Database

Pace's good performance relative to the peer group is largely attributable to contract revenues provided by municipalities to Pace to provide non-ADA service. Pace has a demand-responsive farebox recovery ratio which is above the peer average (see Chapter 8 for further detail).

The farebox recovery shortfall per passenger also is lower for Pace than the average peer system. Pace's farebox recovery shortfall of about $12 is half of the peer average of about $24 (Exhibit 5-29). Pace's good performance relative to the peer group is again attributable to its high farebox recovery from contract services.

Exhibit 5-29
PACE DEMAND-RESPONSIVE FAREBOX RECOVERY SHORTFALL PER PASSENGER



Source: National Transit Database

Pace Demand-Responsive Conclusions

Pace's demand-responsive service has grown significantly in the last five years. Pace service efficiency (cost per vehicle hour) has also improved in the same time period. Because Pace's demand-responsive services are also contracted for use by non-ADA riders, Pace's service effectiveness is higher than its peers (passengers per hour). Pace's cost effectiveness (cost per passenger) is below its peers, again reflecting the high percentage of users who are from the general population, which speeds passenger boarding and improves operating efficiency. Pace's passenger revenue effectiveness (farebox recovery) is significantly higher than peers since Pace is able to recoup more of its costs from municipal contracts. In turn, Pace's farebox recovery shortfall per passenger is lower than peers.

PACE VANPOOL SERVICE

The Pace performance trends for its vanpool service are compared to four transit systems that are shown in the text box.

PACE PEERS – VANPOOL
1. Regional Public Transportation Authority (Phoenix and suburban areas)
2. San Diego Association of Governments (San Diego and suburban areas)
3. Snohomish County Transportation Authority (suburban Seattle)
4. King County Metro Transit (Seattle and suburban areas)

The audit team found that NTD data for vanpool services is generally less reliable than for fixed-route service due to the very different business models, operating environments, and NTD reporting methodologies used by transit agencies offering vanpool service. For example, there is variation in the amount of responsibility for ridership and revenue collection provided by the transit agencies to their vanpool operators. In addition, NTD cost allocation may not be consistent across agencies. For example, Pace allocates overhead to the three transit modes (fixed-route bus, paratransit, and vanpool) based on passenger miles. This methodology overestimates the reasonable overhead costs incurred by the vanpool service, while understating the costs for fixed-route bus service. In spite of these limitations, peer comparison for vanpool is a useful tool to determine the general performance of Pace vanpool service.

Below is a summary of the results of the metrics we used in our comparison of Pace's vanpool services with its peers:

PACE PEER COMPARISON – SUMMARY (VANPOOL)
2004

EFFICIENCY	EXHIBIT #	RELATIVE TO PEERS
Operating cost per vehicle mile	5-32	**Equal to peers**
EFFECTIVENESS		
Cost per passenger	5-34	**Better than peers**
Passengers per vehicle mile	5-33	**Better than peers**
Farebox recovery	5-35	**Worse than peers**
Farebox recovery shortfall per passenger	5-36	**Worse than peers**

Vanpool service is a transit mode comprised of vans, small buses and other vehicles operating as a ride sharing arrangement, providing transportation to a group of individuals traveling directly between their homes and a regular destination within the same geographical area. A different peer group is used for the vanpool services because many transit systems do not offer this service. Pace is the second largest vanpool program in the country. The peer group consists of the other four largest programs.

The key service statistics for Pace show that it operates about 30 percent more service than the average transit system in the peer group when measured by miles and peak vehicles (Exhibit 5-30). Pace operates about twice as many vehicle hours because Pace vanpools travel at slower speeds, probably because of more congested traffic.

Exhibit 5-30
VANPOOL SNAPSHOT
2004

City/Area	System	Vehicle Hours	Vehicle Miles	Peak Vehicles	Passengers
Seattle	King County Metro Transit	251,286	8,944,023	746	1,688,996
San Diego	San Diego Association of Governments	182,626	8,093,202	338	1,207,262
Phoenix	Phoenix, VPSI	88,614	3,621,883	213	623,418
Seattle	Snohomish County Transportation Authority	57,337	3,159,849	229	581,470
	Average	**144,966**	**5,954,739**	**382**	**1,025,287**
Greater Chicago	Pace	292,744	7,784,650	490	1,416,265
	Pace % of Average	**202%**	**131%**	**128%**	**138%**

Source: National Transit Database

Pace Vanpool Service Provided and Consumed

The amount of vanpool service provided by Pace increased significantly between 1999 and 2004. Measured in terms of peak vehicles, the average annual rate of increase was 8.7 percent (Exhibit 5-31). Pace increased service about 40 percent faster than the average transit system in the peer group.

Vehicle hours increased at a faster rate (8.9 percent) than vehicle miles (5.5 percent). This suggests that the growth in Pace vanpool service was in vanpools that travel in slower, probably more congested areas. This is different than the trends for the peer group where growth appeared to be in vanpools that travel in faster, probably in less congested areas.

Pace vanpool service increased annual passengers at an average annual rate of 3.9 percent (Exhibit 5-31). This rate is somewhat faster than the average transit system in the peer group.

Exhibit 5-31
PACE VANPOOL SERVICE PROVIDED AND CONSUMED
2004

Pace Vanpool	1999	2004	Annual Rate of Change	Peer Rate
Vehicle Hours	191,262	292,744	8.9%	4.5%
Vehicle Miles	5,956,500	7,784,650	5.5%	6.4%
Peak Vehicles	323	490	8.7%	6.2%
Passengers	1,168,487	1,416,265	3.9%	3.3%

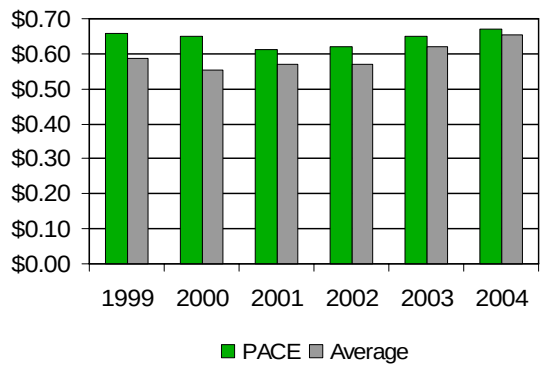
Source: National Transit Database

Pace Vanpool Service Efficiency

Vehicle miles are used to assess vanpool service performance because most operating costs are mileage-related. This differs from the bus and demand-responsive assessments because most of the operating costs for these services are hourly related.

The total operating expense per vehicle mile of $0.67 for Pace vanpool service is nearly equal to the peer group average of $0.65 in 2004 (Exhibit 5-32).

Exhibit 5-32
PACE VANPOOL OPERATING COST PER VEHICLE MILE



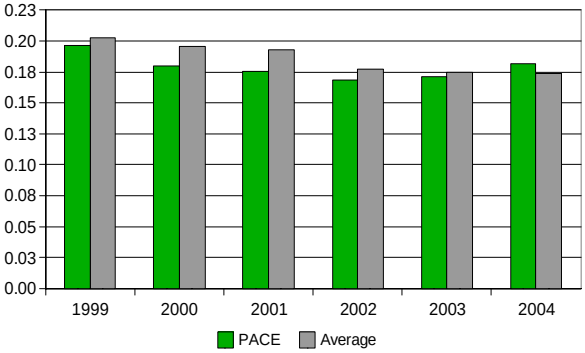
Source: National Transit Database

Pace improved its performance relative to the peer group since 1999 when its unit cost was 12 percent higher than the peer group average. It is possible that Pace has realized some economies of scale as service expanded.

Pace Vanpool Service Effectiveness

Pace's service effectiveness has declined slightly, but improved relative to the peer group since 1999. In 1999, Pace served 0.196 passengers per vehicle mile, which was 3 percent lower than the peer average of 0.202 passengers per vehicle mile (Exhibit 5-33). By 2004, Pace was serving 0.182 passengers per vehicle mile, 5 percent higher than the peer group average of 0.174 passengers, which was better than its peers.

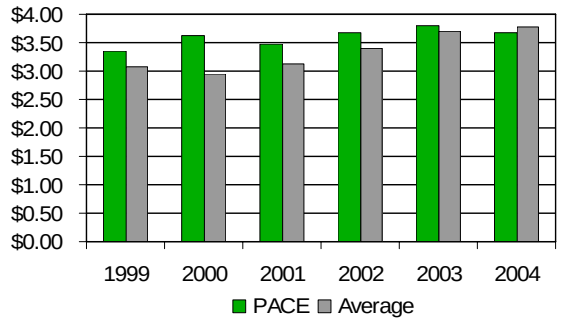
Exhibit 5-33
PACE VANPOOL PASSENGERS PER VEHICLE MILE



Source: National Transit Database

In 2004, the cost effectiveness of Pace service was slightly better than the average system in the peer group. The total expense per passenger boarding for Pace ($3.68) was 2.6 percent better (lower) than the peer group average. The cost effectiveness of Pace service has improved since 2000 relative to the peers, and its costs have increased at a rate lower than peers. The total expense per passenger boarding increased from $3.35 in 1999 to $3.68 in 2004 (Exhibit 5-34).

Exhibit 5-34
PACE VANPOOL COST PER PASSENGER



Source: National Transit Database

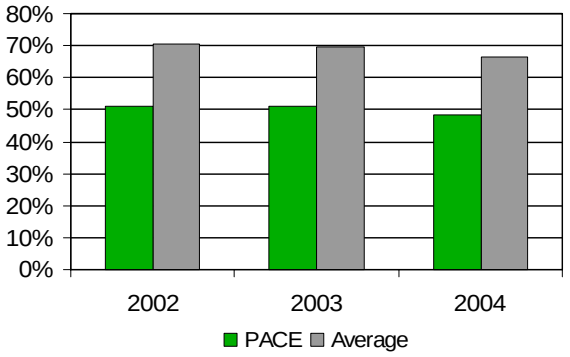
Pace Vanpool Passenger Revenue Effectiveness

The cost recovery of Pace vanpool services is lower than the average peer system. Pace's farebox recovery of 48 percent in 2004 is about three-quarters of the peer system average of 67 percent (Exhibit 5-35).

The farebox recovery shortfall per passenger is higher for Pace than the average peer system. Pace's farebox recovery shortfall of $1.90 is 48 percent more than the peer average of $1.28 (Exhibit 5-36). Pace's relative position to the peer average, however, has improved from 75 percent in 2002 to 48 percent in 2004.

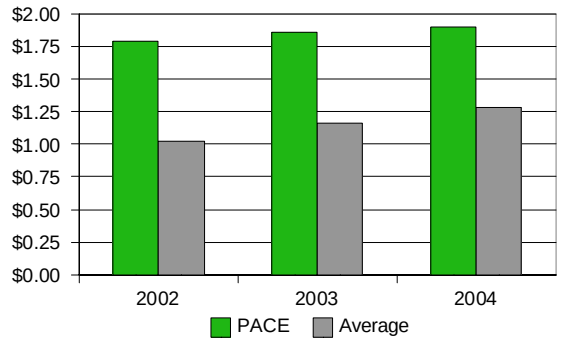
Both of these statistics suggest that Pace may want to review whether it can charge more for this service to come closer to peers and help reduce the relative subsidy. Pace's vanpool service is far more revenue efficient than fixed-route bus service, so any potential increase would need to consider the degree to which riders might move to the more expensive mode.

Exhibit 5-35
PACE VANPOOL FAREBOX RECOVERY



Source: National Transit Database

Exhibit 5-36
PACE VANPOOL FAREBOX RECOVERY SHORTFALL PER PASSENGER



Source: National Transit Database

Pace Vanpool Conclusions

Pace's vanpool service has grown in the last five years as most peer systems have, yet substantially more so. Service efficiency (operating expense per vehicle mile) has improved in the same time period relative to its peers. Service effectiveness (passengers per mile) tracks closely to its peers and appears to be improving. Pace's cost effectiveness (cost per passenger) is very close to its peers. Pace's passenger revenue effectiveness (farebox recovery) is lower than peers and its farebox recovery shortfall per passenger is higher than peers. All of these statistics suggest a relatively well-run program, although Pace may want to review whether fares can be increased in order to reduce subsidies without adversely impacting ridership.

PACE VANPOOL	
RECOMMENDATION NUMBER 16	***In the absence of any other funding sources, Pace should consider increasing the cost of vanpool service to improve farebox recovery and decrease vanpool operating subsidies. A study of the elasticity of demand for vanpool service would help assess the effect of this decision.***
PACE RESPONSE	Pace agrees with the recommendation to increase vanpool charges and has already implemented it. Pace increased vanpool fares and fees in both January, 2006 and January, 2007, which was just beyond the time period of the study. Pace has raised vanpool fares six times over the past ten years, including a 3% to 6% increase for each (2006, 2007) of the last two years. Pace intends to continue to increase vanpool fares annually in line with inflation and fuel costs unless it starts to negatively affect demand. Pace also agrees that a study of elasticity of demand for vanpool services would be beneficial and we will pursue funding for this purpose.

GOVERNANCE OF PACE OPERATIONS

Pace's directly operated fixed route services operate from nine garages located considerable distances apart, near the centers of the areas of service of the former private or municipal transit systems that were in place before Pace was created in the early 1980's. Generally, they are modern successors to the local municipal operations that were in place prior to Pace's existence, and continue to operate with special attention to the municipalities they serve. Each division has its own workforce, generally with its own union local, and the transportation and maintenance employees are in the same union.

Pace has continued to work with the unions that were in place at these divisions, or their successors, and over the years has bargained successor agreements to the contracts that they inherited. In some cases, the membership has opted to change unions over the years.

The practical effect of continuing to work from the preexisting agreements is that Pace is able to maintain the cost differentials represented by the differences in the economic terms and conditions among the agreements. According to Pace officials, there are differences in the service areas that each Pace division serves, including ridership demand, traffic congestion, population employment density, and economic conditions. Consequently, Pace is able to maintain cost differentials among the agreements.

If Pace reduced the number of divisions to consolidated operations into a smaller number of locations, there would be an increase in "deadhead" (non-revenue) miles as buses drove to the service areas. One disadvantage of maintaining separate units is Pace does not have the ability to shift bargaining unit personnel between garages due to different wages, benefits, and loss of seniority.

Pace operates in a very large service area, and even with the nine operating divisions it has a relatively high percentage of deadhead miles. Approximately 18 percent of the miles that Pace buses drive are to and from the point at which they are in revenue service. One strategy that Pace uses to mitigate against the high rate of deadhead miles is the seasonal use of satellite facilities during the non-winter months, whereby buses are parked away from their garage overnight.

CONTRACTED FIXED ROUTE BUS SERVICE

Pace contracts for about 12 percent of its total bus miles through six private contactors in different and scattered parts of the service area. These services carry about 10 percent of the total fixed route boardings.

Contract operators have provided approximately 12 percent of the total fixed route miles of service over the past five years. The unit costs of the contract services are very similar to those of the directly operated bus service, with 2005 being the only year in the past five when the cost per mile for contracted service ($4.94) was lower than that of the directly operated service ($5.06). Because of fewer passengers per trip, the cost per passenger of the contract operated service was almost $1.50 higher than the directly operated services.

One of the main advantages of contracting for these operations is that it prevents even further decentralization and higher non-revenue miles for the Pace fixed route system, since most of these operations are located in outlying areas of the suburbs.

PACE INFORMATION TECHNOLOGY

Many of the computer systems Pace relies upon for daily operations and for performance tracking are obsolete and inefficient. For example, Pace business systems are currently using Hewlett-Packard's (HP) e3000 system from the 1980s, which will no longer be supported by HP after 2006. Customer relations and risk management systems are also dated. While management is aware of these issues, funding has prevented the timely upgrade of IT systems.

In response, Pace is currently in the early stages of an Enterprise Resource Planning (ERP) process, begun in 2005 and scheduled to run through 2011. A needs assessment was completed in January 2006, and Oracle was selected via RFP in July 2006. Award for the implementation contract, which will be done in five separate steps, was expected in November 2006, with the first systems (accounting, budgeting, grants management, and procurement) coming online in 2½ years. Customer Relation Management (CRM), Enterprise Asset Management (EAM), and Human Resources will follow. Approximately $6 million of the $23 million needed for the project has been identified. Furthermore, some of the funds are coming out of capital funds at a time when most capital funds are being shifted to cover operating expenses.

The current customer assistance system requires reports to be printed, sent via hardcopy, marked up by hand, and re-entered. Pace estimates that approximately one-half of the labor needed every month for data entry and report generating will be eliminated with a modern system. In addition, the system generates substantial materials costs by printing hundreds of unnecessary pages.

Pace estimates the new customer assistance system will pay for itself in less than one year, as well as cut response times to as little as seven days.

PACE INFORMATION TECHNOLOGY	
RECOMMENDATION NUMBER **17**	***Pace should roll out the new risk management, customer service, and ERP systems as timely as feasible.*** ***Pace should focus on more efficiently producing regular monthly and quarterly reports and altering business processes to reduce redundant data entry, even before the new systems come online.***
PACE RESPONSE	Pace concurs. The Customer Assistance System is in the final stages of implementation and is scheduled to go live in February, 2007. The new system reduces or eliminates redundant data entry required by the current system. Pace is approximately four months away from rolling out the Risk Management System. All software and hardware have been purchased and installed. Remaining tasks include development and testing of interfaces to existing systems, including Human Resources, Safety, and Accounts Payable and

	loading data from these systems into the RiskMaster system. The ERP system is on schedule to be completed by May, 2009. Funding for the ERP project is constrained and has required a phased implementation approach.

PACE SAFETY

Pace safety is tracked by total accidents and by preventable accidents, reported in monthly reports, and summarized in the quarterly performance overview. The accident rate fell from 6.5 per 100,000 miles in 2000 to 5.2 in 2003 before the trend reversed to 5.8 in 2004. Preventable accidents since 2000 have been steady, ranging from 1.4 to 1.5 per 100,000 miles.

The audit team found inconsistencies in the 2005 data between the quarterly performance overview and the period accident reports. The accident rate per million miles appears to be incorrect on the Safety Information System report, which reported an *increase* of 11 percent in the accident rate and an increase of 10 percent in the preventable accident rate, while the Quarterly Performance Review noted a 16.7 percent *decrease* in the accident rate and a 23.6 percent decrease in the preventable accident rate. While the May 2006 performance review appears to contain the correct figures (i.e., accident rates did indeed drop in 2005), the incorrect data in the accident report highlights the need for better data systems at Pace.

Pace encourages safety through programs such as the Zero Accident Challenge, implemented in January 2004, in which all Pace garages are involved in a friendly competition to see which garage can have the fewest preventable accidents per operating mile each quarter. Prizes such as food and T-shirts are awarded to the winning garage. The number of employees completing safety refresher training is tracked in the quarterly performance overview, but there are neither goals nor comparisons to other time periods.

Pace has a System Safety Program Plan (SSPP). The plan objectives are to implement and maintain a safety and training program that will reduce injuries, accidents, and improve emergency responsiveness. The SSPP includes requirements and responsibilities of management and operating personnel; a methodology to identify, assess, and resolve safety hazards; and an implementation and maintenance program, including audit and review procedures. However, the SSPP is undated, making it unclear to users if it is current. In addition, while it calls for testing of emergency procedures, the SSPP does not describe those procedures nor how Pace would work with public safety and other agencies in an emergency.

Pace has considered a transitional return to work program (TRTW), but does not want employees to have the perception that they can get lighter duty if injured. This is balanced by statistics that show employees are very unlikely to return to work if they are out more than six weeks. A full benefit-cost analysis of TRTW has not been conducted.

Onboard Video Safety System

Pace launched an onboard video safety system in 2004 as a pilot program in six buses. The system has a small video recorder that records events inside and in front of the bus when gravitational forces exceed minimum levels. Pace is then able to observe the conditions at the time, including operator behavior. Operators then receive training to eliminate risky behavior and reduce accidents. The system has since been rolled out to all 44 buses in the North Division. The program has produced immediate results, with North Division accidents falling 60 percent for the second quarter of 2006 compared to 2005, and erratic driving dropping from about 250 incidents in February and March 2006 to less than 10 in April. Based on estimates from other agencies where accidents dropped 30 percent to 90 percent, Pace can expect to save $1.3 to $4.0 million per year by avoiding accidents using the system.

Liability and Workers' Compensation

As seen in Exhibit 5-37, automobile liability claims at Pace have been dropping steadily since 2001 while the number of workers' compensation claims has fluctuated. The average cost of claims during this period was $4,128 for auto claims and $6,764 for workers' compensation. All figures include Pace-paid claims and excess insurance paid claims. General liability claims totaled only 28 during this period. Pace has limited liability claims by selling claims to Hartford Insurance since 1999.

Exhibit 5-37
PACE LIABILITY CLAIMS

Policy Year	Auto Liability		Workers' Comp	
	Claims	*% Change*	*Claims*	*% Change*
2001	745	N/A	174	N/A
2002	729	-2%	125	-28%
2003	646	-11%	143	14%
2004	578	-11%	172	20%
2005	508	-12%	147	-15%

Source: IMG analysis of Pace Liability Loss Information

Beginning in 2005, Pace began a monthly report of the number of new incidents and claims. However, the data is not entirely accurate because Pace private contractors may have their own insurance, and different parameters were entered by the contractors for each report when the system was set up.

The total number of lost days was fairly stable from 2003 to 2005, and the average injured employee was out approximately three months (Exhibit 5-38). However, the median amount of lost time was under two months, indicating Pace is being impacted by a number of long-term injuries. Pace has taken steps to identify employees who are repeatedly injured, and negotiate with their attorneys to have the employee resign.

Exhibit 5-38
PACE LOST WORKDAYS

	2003	**2004**	**2005**
Total Days Lost	3,045	2,708	3,010
Average Loss	85	87	91
Median Loss	52	39	41
Maximum Days Lost	412	382	440

Source: Pace

New Computer System

Pace is implementing a new claims system. Its current system cannot communicate with other Pace systems, such as databases tracking lost workdays. Currently, each division reports claims in the safety system, with data pulled into the claims system daily. However, this process takes 5 to 10 minutes per liability incident.

A new system is expected to go live in May 2007 to replace the existing claims system. The new system will improve data accuracy and efficiency by accessing data directly from the third party administrator and from scanned operator reports. It will enable Pace to analyze trends and costs by division, keep diaries of incidents, and implement control measures. Pace will keep the current claims system active for old claims; only open claims will be transitioned to the new system.

Summary and Conclusions

Pace data collection and analysis tools have limited management's ability to identify trends in safety and liability data. New systems coming online will improve this situation. Despite this situation, accidents and liability appear to be stable or decreasing. The new onboard video safety system has demonstrated impressive results in its limited trial at North Division. Pace could also consider implementing a TRTW program for its injured employees.

PACE SAFETY	
RECOMMENDATION NUMBER **18**	***Regarding safety, Pace should:*** • ***Consider rolling out an onboard video safety system on all routes;*** • ***Implement performance goals and track success regarding the Zero Accident Program;*** • ***Update the System Safety Program Plan to include a description of emergency procedures and how Pace would work with public safety and other agencies in an emergency; and*** • ***Conduct a formal study of implementing a transitional return to work program to reduce lost workdays.***
PACE RESPONSE	Pace agrees with the recommendation to consider rolling out a video safety system on buses. Due to severe funding constraints, we do not have the resources to implement the system at this time. Management is exploring financing options including RTA loss prevention and safety funding. Pace agrees to implement performance goals and track success regarding the Zero Accident Program. Pace agrees to update the system safety program plan to include a description of emergency procedures and how Pace would work

	with public safety and other agencies in an emergency. Pace has and will continue to utilize a light duty return to work program analyzed on a case by case basis between risk management and operating units.

CUSTOMER SATISFACTION

Pace has surveyed its customers to determine their level of satisfaction. Quarterly surveys were conducted prior to 2000, then annually until 2004. No survey has been conducted in the past two years. Non-customers were last surveyed in 2000. The most recent survey, conducted in 2004, found 80 percent of Pace customers were satisfied overall with the service, up from 74 percent in 2003. The only two areas that did not exceed 60% satisfaction were when and where customers would like service (40% dissatisfied) and availability of bus shelters (50%).

On-Time Performance

Pace has an "Action Plan" to monitor on-time performance monthly, identify poorly performing routes, and adjust schedules or take other corrective actions. Quarterly service reviews include an "action/review" list, which identifies routes underperforming minimum standards on at least two of four primary metrics: recovery ratio, farebox recovery shortfall per rider, productivity (riders per hour of service), and cost per vehicle mile. Underperforming routes are put on a "watch list."

In addition, Pace is in the midst of a restructuring program that aims to improve overall performance. The Action Plan sets an on-time performance goal of 95 percent with a minimum of 90 percent. Since January 2005, all on-time performance is monitored by Pace's Intelligent Bus System (IBS), which enables on-time performance to be evaluated at all time points. IBS captures over 750,000 trips per month, a much larger sampling than the 1,523 that were sampled manually the month before IBS went online. On-time performance at the division ranged from 55 percent at North to over 78 percent at Northwest in the second half of 2005. Total Pace on-time performance was approximately 75 percent for the first four months of 2006. In 2005, 10 percent of trips that were not on time were early. The lower on-time performance found by IBS corroborates with customer perception from the 2004 survey, in which 65 percent of Pace customers said they were satisfied that buses were running on time.

PACE CUSTOMER SATISFACTION	
RECOMMENDATION NUMBER 19	***Pace should adjust IBS on-time data to reflect reasonable (departing early or arriving at a time point less than five minutes) deviation from the schedule, identify reasons for deviation, and adjust routes or schedules as needed. Pace should also track routes that repeatedly appear on the action/review or watch list in the quarterly performance review.***
PACE RESPONSE	For schedule adherence reporting purposes, the IBS system reports buses off schedule only if they have departed a time-point more than five minutes late or more than one minute early. This is a configurable threshold, but is standard throughout most of the industry. Due to the volume, our dispatch application is configured to display trips operating ten minutes or more late so that the dispatcher has a better opportunity to resolve the scheduling issue. Pace is currently involved with the FTA in a program to increase the prioritization of messages provided by the IBS system. The Transit Operations Dispatch Support System (TODSS) is expected to enhance the capabilities of the IBS system so that a dispatcher can respond more quickly to service interruptions and delays. As part of our recent dispatcher training, we instructed dispatchers to apply waivers to runs in the IBS system. Along with the waiver, a comment would be attached that gives the reason for the delay or missed trip. When someone calls regarding a trip, Passenger Services has the information for the delay from their IBS access. Pace is also looking at ways for drivers to apply reasons for delays using canned messages on their Mobile Display Terminal. This will provide documentation for planning purposes. Pace planning and scheduling staff are working with the data from the IBS system to develop schedules that represent the real world conditions. Using a newly acquired software add-in to our scheduling software, we are developing schedules that achieve the 75th percentile for running time by end of the trip and achieve the 90th percentile for layover/recovery at the end of the route. Schedules developed using this method will be more reliable for the customers. Tracking schedule adherence for routes on the watch list will be a task assigned to the IBS Reports Committee scheduled to convene in January.

TRANSITION OF ADA PARATRANSIT SERVICE FROM CHICAGO TRANSIT AUTHORITY TO PACE

Effective July 1, 2006 the provision of all Americans with Disabilities Act (ADA) demand-responsive service for the RTA service area is the responsibility of Pace. The transfer of CTA ADA Paratransit service to Pace poses significant challenges, including substantial differences in service levels and operating policies between CTA and Pace. Since the transfer occurred during the period this audit was written, this section serves primarily as a review of these challenges and does not serve as an audit of CTA or Pace's performance in these areas.

The following table summarizes some of the significant differences in how CTA and Pace organized their demand-responsive services.

Exhibit 5-39
MAJOR DIFFERENCES BETWEEN ADA AND DEMAND-RESPONSIVE SERVICES PROVIDED BY CTA AND PACE
(Prior to July 1, 2006)

	CTA	**PACE**
Service Area:		
City of Chicago	Yes	No
Suburban Cook County	CTA service area only	All areas within ¾ mile of fixed route
Collar Counties	No	All areas within ¾ mile of fixed route
ADA Fares:		
Base Cash Fare	$1.75	$3.00
Demand-Responsive Users:	ADA Only	ADA + (non-ADA in selected areas under a separate budget)
Contractors and Service Areas:	Three contractors, each serves entire CTA service area	One contractor for each service area, generally a county
Reservation Policy:	Each client selects which contractor they wish to utilize	One contractor for each service area
Reservation/ Scheduling/ Dispatch System:	Reservations by CTA-supplied system, other systems left to each contractor, post-review by CTA	Integrated systems supplied by PACE to each contractor, closely monitored by Pace in real time
User Boarding Assistance:	Door-to-Door	Curb-to-Curb
Complaints/ Commendations:	Originally filed with contractor, CTA as second level	Directly filed with PACE
Vehicles and Communications System:	Supplied by contractor; included in contractors' costs	Supplied by PACE
ADA Eligibility Certification:	Performed centrally by RTA	Performed centrally by RTA

Source: Interviews with CTA and Pace Paratransit Staff and Contractors

There are a number of issues regarding the changeover and the provision of demand-responsive service over the next several years, including:

1. **Funding:** The level of funding needed for paratransit services is being reviewed by the RTA.

2. **Potential implementation of an integrated fare and service structure to harmonize the policies and services for all ADA service in this area:** This could mean a major change in how service is provided to many existing customers and could involve higher fares for many.

3. **Possible change in ownership of paratransit vehicles:** CTA paratransit vehicles were owned by operators, while Pace vehicles are owned by Pace. Pace must make a decision whether to shift to one model or continue to use both. This decision has equity implications as well as the costs of providing the vehicles and the annual budget for Pace.

4. **Procurement of new contractors for the "CTA" service areas:** The contracts for the three former CTA demand-responsive service operators are near their end. The timing of this procurement will make it necessary to balance the opportunity to restructure service delivery, including potential major changes to contract provisions in the middle of the contract period, with the absolute requirement to complete the procurement quickly.

The RTA Act was amended in July 2005. Some of the key revisions related to ADA paratransit services included the following:

1. The RTA is responsible for the "funding, financial review and oversight" of all ADA paratransit services provided in the region.
2. By no later than January 1, 2006, the RTA, in collaboration with Pace and the CTA, was to develop a plan for transitioning the provision of ADA paratransit services in the CTA service area from CTA to Pace.
3. Beginning on July 1, 2006, all ADA paratransit services were to be provided by Pace.
4. By no later than April 1, 2007, the RTA was to develop a plan for ADA paratransit services.
5. Effective for calendar year 2007, there was a farebox recovery ratio requirement of 10 percent specifically for ADA paratransit services. That requirement rises to 12 percent in 2008.

In December 2005, the RTA submitted to the Federal Transit Administration a transition plan for ADA paratransit service in the region. The Plan includes an inventory of all ADA and non-ADA service operated in the region, demand estimates, and documentation of the extensive public participation process that was undertaken.

The transition of all ADA paratransit service from CTA to Pace took place on July 1, 2006. Pace continues to monitor the delivery of service in the region and make short-term improvements as needed. Pace is evaluating possible service design and policy improvements, in cooperation with the RTA, CTA, and representatives of the disability community through a series of focus groups and community meetings. Pace intends to solicit proposals for new service contracts in the CTA service area in 2007.

The RTA is preparing the ADA paratransit plan for submission to the Illinois General Assembly and Governor's office by the statutory due date of April 1, 2007. The plan will analyze existing costs, project long term costs, and identify and recommend cost efficiencies and funding sources. The plan will draw information from a September 2006 audit conducted by the Illinois Department of Transportation of ADA paratransit with respect to existing and long term costs.

Chapter Six

STAFFING

CHAPTER CONCLUSIONS

To make an assessment of the staffing levels and costs of the three Service Boards, we benchmarked their performance against peer transit agencies throughout the United States. Peer comparisons were made of bus/rail operator and vehicle maintenance salaries and benefit costs, as well as various labor efficiency, cost-effectiveness, and productivity measures.

- The hourly pay rates of CTA's "top" bus operators and bus vehicle maintenance employees are the second highest of the six agencies in the peer group. Its bus operators and maintenance employees are better than average in productivity, but its high non-operator/maintenance staffing brings the average below the peers in labor productivity and drives CTA's employment cost (wages, salaries, and employee benefits) per unit of service supplied (vehicle miles and hours) above the peer averages. CTA is also above the peer average in employment costs per unit of service consumed (boardings and passenger miles). For motor bus service and heavy rail, CTA is slightly above the peer group average in employment cost as a percentage of total operating costs.

- Both CTA's "top" heavy rail operators and vehicle maintenance employees' hourly pay rates are slightly below the peer average. In cost per unit of service supplied and consumed, CTA is slightly on the high side of its peers.

- CTA has the highest employee benefits rate per salary/wage dollar of its peers, driven primarily by CTA's very high pension costs (see Chapter 7, Pensions, for detailed discussion).

- Metra shows the lowest commuter rail operator "top" hourly rate in the peer group (but there are some concerns about the accuracy of the rate that we have not been able to resolve). Metra's "top" vehicle maintenance hourly rate is the second lowest of the peer group. Metra was lower than peers on operator productivity, primarily because it is more of a peak-time operator than its peers and because of the limited availability of tracks during non-peak periods. As a result, Metra operators are less utilized mid-day than at other agencies. Metra was in the middle of the group in vehicle maintenance productivity and near the average for total productivity. Metra is second lowest (best) in employment cost per unit of service consumed and third lowest in cost per unit of service supplied. Metra is slightly lower than average in employment costs as a percentage of total operating costs and is well below average in its employee benefits ratio.

- Pace's "top" hourly operator wage rate is about the same as the average of the peer group. Pace is above the peers in its "top" vehicle maintenance rate. Pace's employees rate very high in productivity, rating second in operator and maintenance employee productivity and highest in overall productivity by a significant margin. Pace does very well compared to its peers in cost per unit of service provided and cost per unit of service consumed. Pace's total employment costs are close to the average as a percentage of total operating costs and its employee benefits rate is approximately in the middle of the group.

- Metra and Pace both use contractor transit service operators for the non-Americans with Disability Act services; CTA does not. Many transit operators have shown significant savings in operating costs through the use of such contract service providers and so might CTA. CTA may have significant labor bargaining and labor contract issues with contracting transit services.

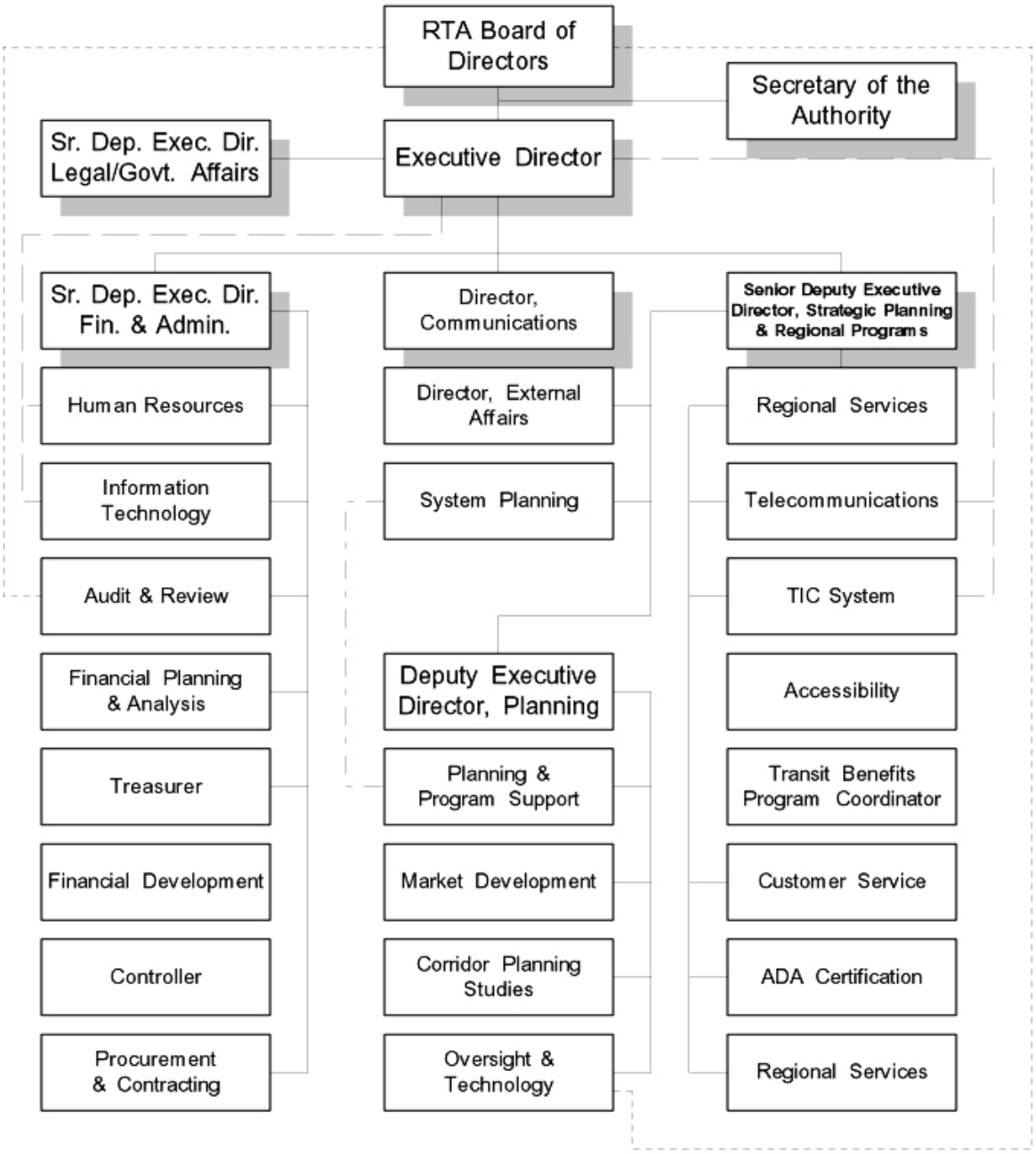
- Absenteeism at CTA costs approximately $46 million per year for bus and rail operators. The Attendance Improvement Program, now underway, should be treated as one of the CTA's highest priorities.

- The labor negotiation and arbitration process at CTA recently took over two-and-one-half years of the three-year labor agreement to determine important wage, pension contribution, and work rule matters.

BACKGROUND

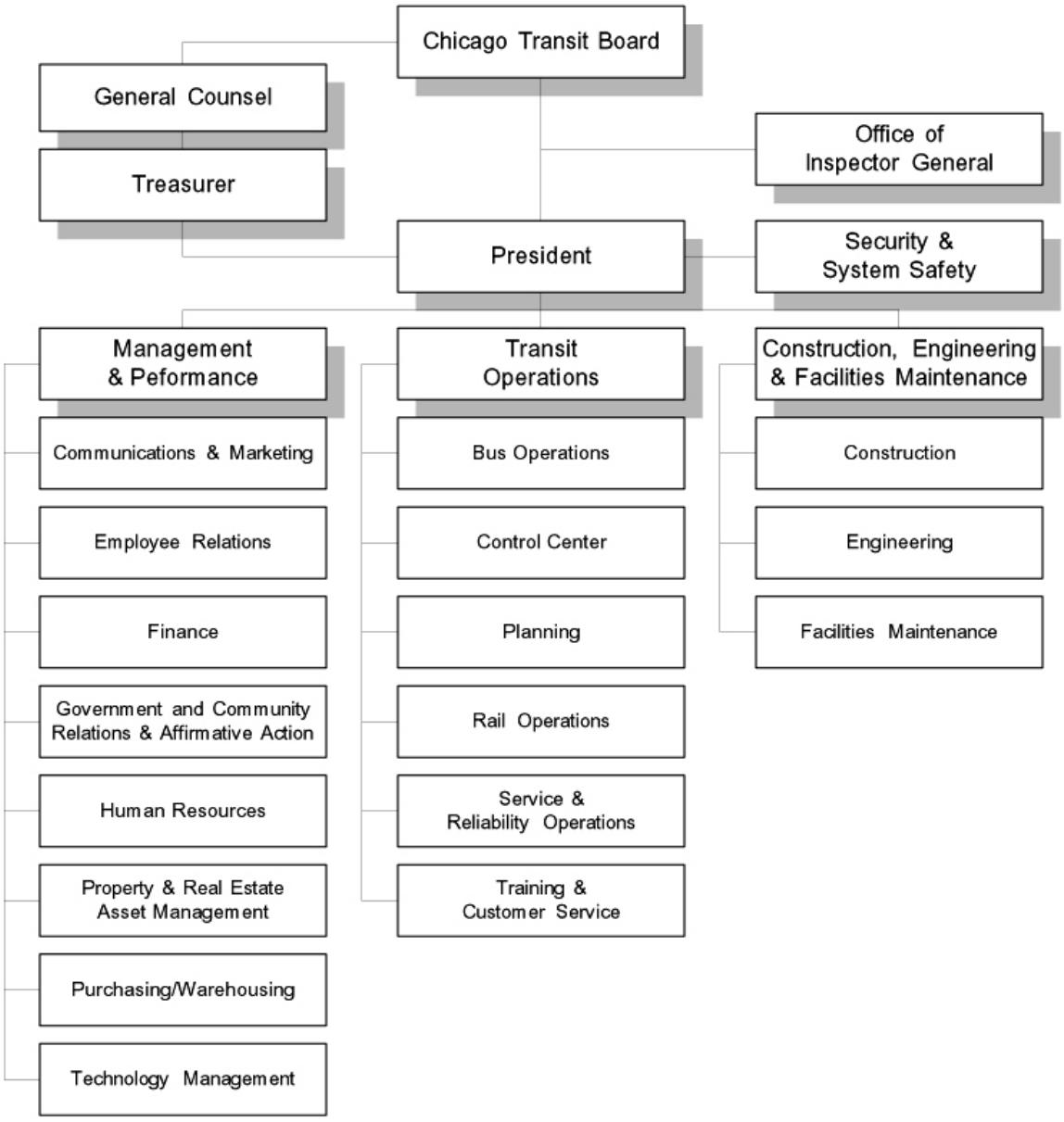
The provision of public transit service is a highly labor-intensive enterprise and the costs of employment are the largest component of transit operating costs. The following exhibits present the organization charts for the RTA and the three Service Boards.

Exhibit 6-1
REGIONAL TRANSPORTATION AUTHORITY ORGANIZATION CHART



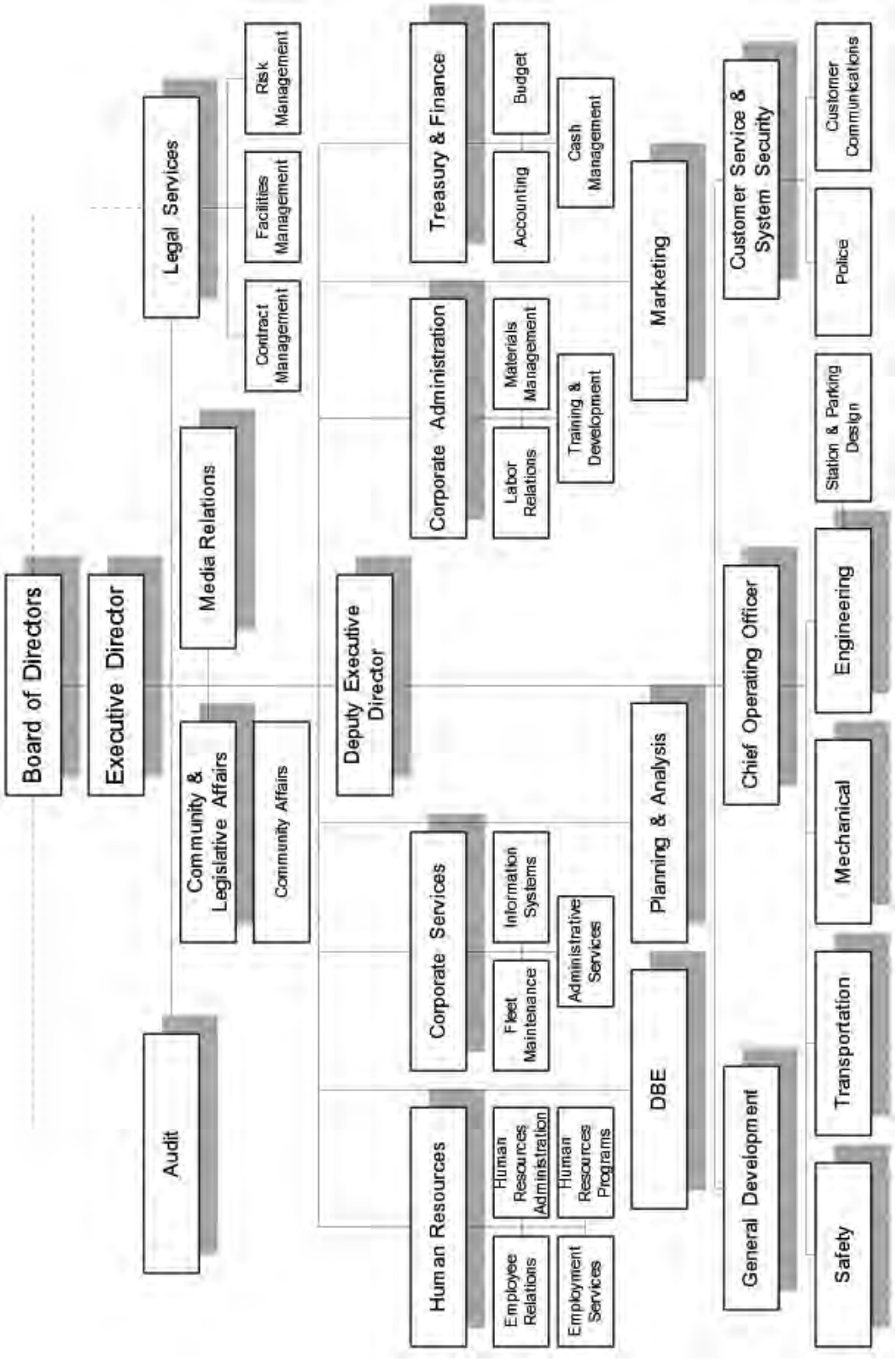
Source: RTA

Exhibit 6-2
CHICAGO TRANSIT AUTHORITY ORGANIZATION CHART



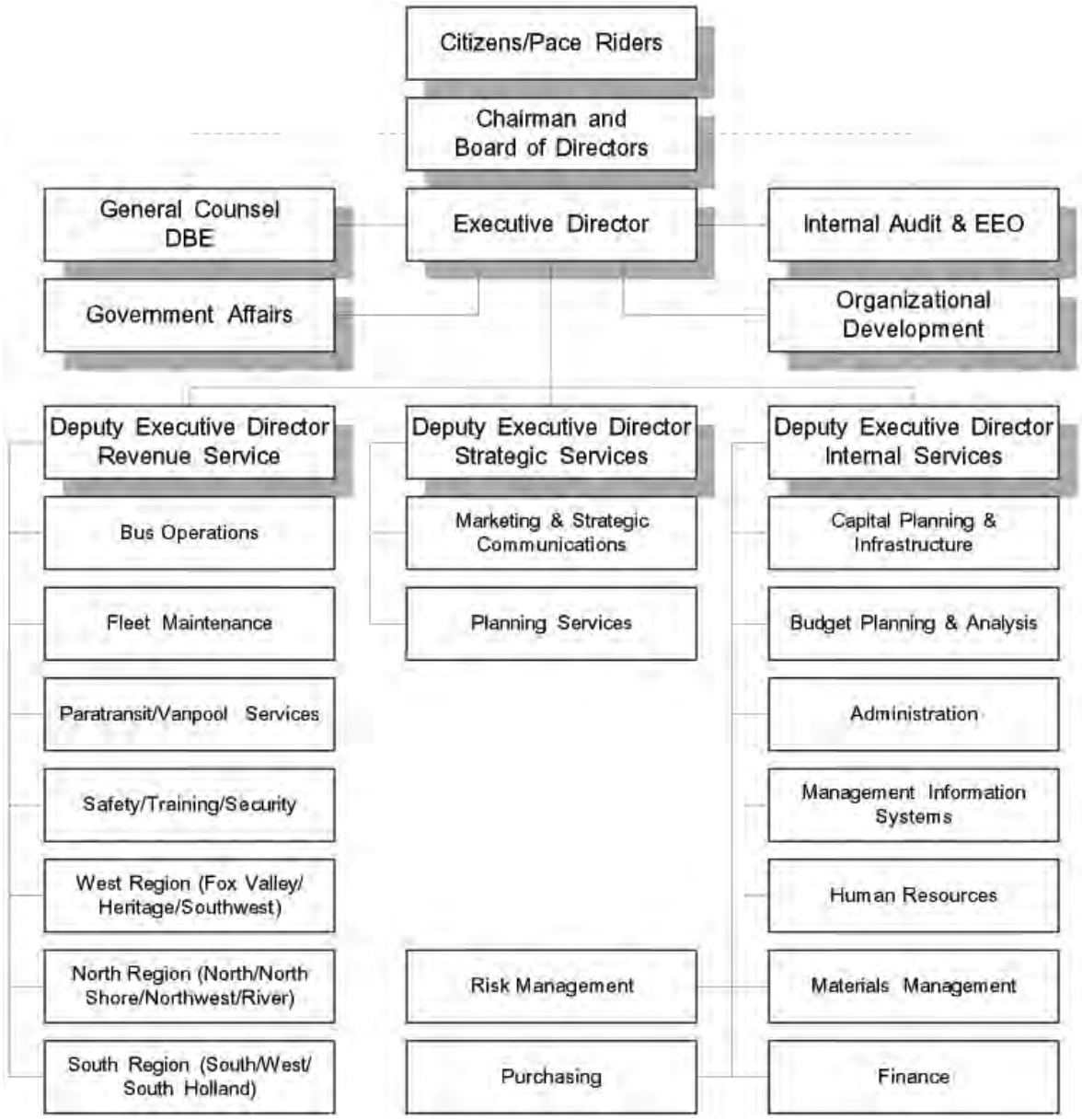
Source: CTA

Exhibit 6-3
METRA ORGANIZATION CHART



Source: Metra

Exhibit 6-4
PACE ORGANIZATION CHART



Source: Pace

Exhibit 6-5
CTA, METRA AND PACE EMPLOYEE COUNTS BY MODE AND FUNCTION, 2004
(Full-Time Equivalents, Full-Time and Part-Time)

Agency	CTA			Metra	Pace			
Mode	Motor Bus	Heavy Rail	Total	Comm. Rail	Motor Bus	Demand-Response	Van Pool	Total
Vehicle Operations	4,986.9	1,842.7	6,829.6	1,396	1,003	6.0		1,009
Vehicle Maintenance	1,117.4	635.4	1,752.8	984	250	0.4		250
Non-Vehicle Maintenance	310.4	907.3	1,217.7	737	24	0.1		24
General Administration	643.2	365.4	1,008.6	392	167	1.5	24.2	193
Total Operations	7,057.9	3,750.8	10,808.7	3,509	1,444	8.0	24.2	1,476
Capital	357.5	393.8	751.3	524	4			4
Grand Total	7,415.4	4,144.6	11,560.0	4,033	1,448	8.0	24.2	1,480

Source: 2004 National Transit Database

Exhibit 6-5 data is for 2004, taken from the National Transit Database. It is for directly operated service only, not including any contracted transit service, and does not include contractor personnel, except for Metra. CTA contracted out all of its demand-responsive service during this period, and transferred demand-responsive service to Pace effective July 1, 2006. Metra currently contracts out approximately 44% of its commuter rail services, by cost. Pace contracted out 99%, by cost, of its demand-responsive service and 13% of its bus service.

In response to budgetary pressures, the number of budgeted positions at CTA has decreased in recent years, as shown on Exhibit 6-6.

Exhibit 6-6
CHICAGO TRANSIT AUTHORITY
Budgeted Positions By Year

Budget Year	Budgeted Positions
2002	11,741
2003	11,716
2004	11,315
2005	10,873
2006	10,873
2007	10,907

Source: CTA Budget Documents

Pace staffing has been more stable, constant at 1,412 for Pace-owned carrier operations for 2005, 2006, and 2007. To handle the transfer of the demand-responsive service formerly managed by CTA, Pace has increased its Regional ADA (Americans with Disabilities Act) paratransit program staff from 6 to 37 for 2007 (not included in the previous statistics). Metra staffing has also been relatively stable over this period.

Exhibit 6-7
CTA, METRA, AND PACE
EMPLOYMENT COST AS A PERCENTAGE OF TOTAL OPERATING COSTS, 2004
(Dollar Values in Millions)

Agency	CTA				Metra	Pace			
Mode	Motor Bus	Heavy Rail	D-R [1]	Total	Comm. Rail	Motor Bus	D-R [1]	Van Pool	Total
Operators' Wages	$159.8	$17.6		$177.3	$51.3	$29.6	$0.1		$29.7
Other Salaries and Wages	$137.6	$159.2	$.7	$297.5	$133.8	$21.0	$1.4	$.9	$23.3
Employee Benefits	$256.9	$152.8	$.6	$410.3	$124.3	$28.5	$.8	$.6	$29.9
Total Costs of Employment	$554.3	$329.6	$1.4	$885.1	$309.4	$79.1	$2.3	$1.5	$82.9
Total Operating Costs	$669.8	$399.9	$50.4	$1,120.0	$439.4	$114.8	$27.2	$5.2	$147.2
Employment Costs as % of Operating Costs	82.8%	82.4%	2.8%	79.0%	70.4%	68.9%	8.5%	28.8%	56.3%

Notes: [1] DR is Demand-Responsive.
Totals may not add due to rounding.
Source: 2004 National Transit Database

PEER COMPARISONS

This audit examined the staffing at each of the three Service Boards by using peer comparisons to identify areas where improvements may be warranted. Staffing costs were compared as well as various performance metrics that provide perspective on overall staffing levels at an agency. Salaries for operator and vehicle maintenance personnel were also compared. Given its broad scope, the audit focused on overall staffing metrics, rather than conducting a detailed staffing analysis, either of administrative or operational personnel, at the Service Boards. In 2005, the largest of the Service Boards, the CTA, had a detailed operational review by AECOM which identified various staffing issues and proposed staffing-related recommendations which the CTA is currently in the process of reviewing and implementing.

For the three service boards and their major labor-intensive modes of operation, we present graphs of peer group statistics, as follows:

- Wage rates: Highest hourly wage rates for vehicle operators and maintenance employees. The "top rate," both for operators and mechanics, is a very common metric used to compare hourly employee wages in transit agencies since once an operator completes approximately five years of service, there is a high probability that the employee will work for the agency until retirement. As a result, it is common that a majority of bus operators are paid at the "top" rate at many agencies. For decades, the American Public Transportation Association (APTA) has published its quarterly *Top Hourly Wage Rate Summary*. This document,

specifically the "2nd Quarter 2006" version (covering April-June 2006) was the prime source for the operator and vehicle maintenance wage data following. In those cases where other sources were used, the data is for the same period, the second calendar quarter of 2006.

- Employee benefits rate: Total employee benefits costs as a percentage of total employee compensation, for the modes of each agency included in this analysis. Under the National Transit Database cost reporting methodology, "paid time off" – vacation, holiday, sick leave, worker's compensation wage, etc. – are subtracted from salary and wage and added to benefits. This methodology, while not at all uncommon, produces employee benefit rates that appear significantly higher than the other common calculation methodology, where most or all of such paid time off elements are included in the denominator (salary and wages) not the numerator (benefits).
- Pay and benefit expenses as a percentage of total operating expenses: important in understanding how contracting services can impact labor productivity and cost-effectiveness/efficiency. For this calculation, the costs of purchased transportation services were eliminated from total operating costs. Also, "expense transfer" was added back for the agencies that reported it. Expense transfer is an accounting procedure where capital costs are reported as operating costs by object class (wage, salary, services, materials, etc.) and then the capital costs incurred each year are transferred out of operating expenses to capital accounts in total only.

Part-Time Operators

The ability to effectively utilize part-time operators is an extremely important cost reduction and productivity tool for urban transit agencies, particularly large urban bus agencies. The use of part-time operators is not common in commuter rail agencies. Almost all transit agencies have peak demand periods during the morning and evening rush hours on working weekdays, where they require far more vehicles in service and, therefore, operators on duty than at any other time. For example, in its 2003 National Transit Database report to the Federal Transit Administration (FTA), CTA reported 1,615 buses in service during the morning peak and 1,668 in service during the afternoon peak, but only 929 in service during the mid-day period on an average weekday.

The required work assignments for transit vehicle operators frequently require substantial overtime because, in the transit industry, it is often difficult to effectively reduce overtime by hiring more full-time vehicle operators and using them effectively (for example, it is not possible to schedule 40 hours of work between the hours of 3 p.m. and 7 p.m. Monday through Friday).

Replacing this full-time operator with a part-timer who would only be paid for the actual time driving a bus is a major cost savings. A transit agency could use two part-time operators instead of one full-time operator to cover one morning and one afternoon peak hour assignment. In many cases, this means two three-hour pay assignments rather than one eight-hour one. Some part-time operators are compensated at significantly

lower hourly rates and have lower benefit costs. In a situation where two part-timers are used instead of one full-timer on a split shift, it is not unusual for the agency to have a cost savings of approximately 50% of the cost of the full-timer's wage and benefits.

Unions representing transit operators have generally resisted the use of part-time operators. In some cases, including some of the CTA peer agencies, there are no part-time operators permitted. In most others, there are restrictions as to the number of part-time operators allowed, days of the week and types of service they may operate, etc.

The ability to utilize part-time operators is a very significant cost-efficiency and productivity factor. The part-time operator wage rate, relative to the full-time operator wage rate, is also important. Agencies that have the ability to utilize part-time operators, including CTA and Pace, have a significant advantage over those that do not. Agencies that have part-time operator wage rates that are lower than their full-time operator wage rates, such as Pace, have another significant advantage over those – such as CTA – that do not.

CHICAGO TRANSIT AUTHORITY

We used the following peers with which to compare CTA's staffing:

- **BART** – San Francisco Bay Area Rapid Transit District (heavy rail only)
- **LACMTA –** Los Angeles County Metropolitan Transportation Authority (bus only)
- **MARTA –** Metropolitan Atlanta Rapid Transit District
- **MBTA –** Massachusetts Bay Transportation Authority (Boston)
- **NYCT –** MTA New York City Transit
- **PATH** – Port Authority of New York and New Jersey – Port Authority Trans-Hudson Corporation
- **SEPTA –** Southeastern Pennsylvania Transportation Authority (Philadelphia)
- **WMATA –** Washington Metropolitan Area Transportation Authority (DC)

For our bus and rail operator and vehicle maintenance peer group wage comparisons, we utilized the American Public Transportation Authority's (APTA) quarterly "Top Hourly Wage Rate Summary" for the second quarter of calendar year 2006. During the draft review process, CTA provided the auditors with wage comparisons based on a data survey from a nationally recognized transit agency labor relations consulting firm. The CTA wage survey produced different results from the APTA wage rate summary.

An important difference between the information presented in the audit and the CTA's wage survey is that the audit uses CTA's hourly wage rates that were established by the arbitration award in July 2006. These wage rates were retroactive for the second quarter of 2006.

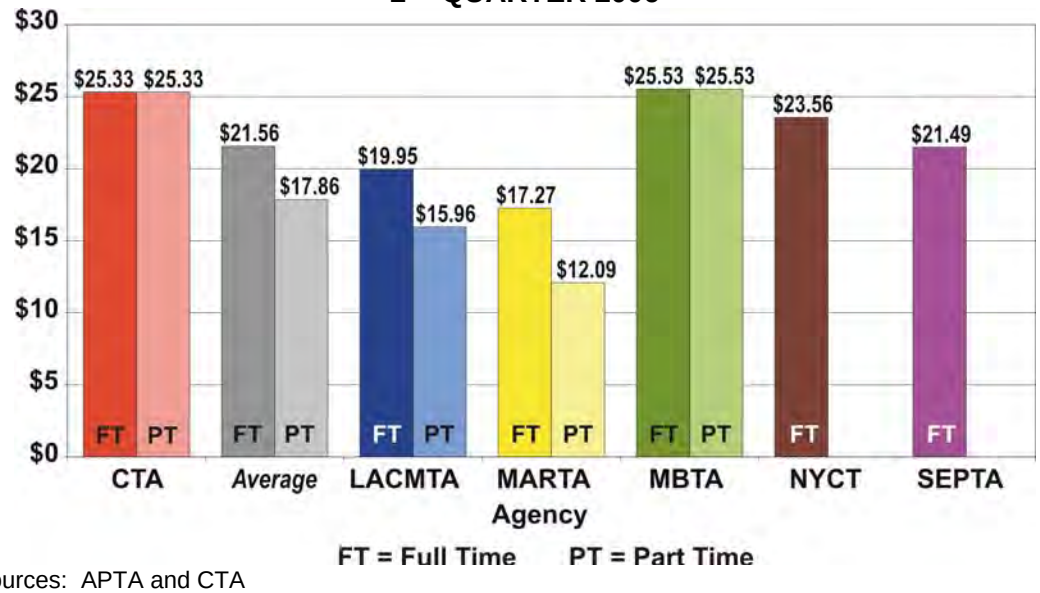
Based on APTA data, the CTA's top wage rate of $25.33 for full-time bus operators was 17.5% higher than the peer group average of $21.56 for the five peers we selected. Using CTA's wage survey, CTA's top wage rate $25.33 for full-time bus operators was 4.5% higher than the $24.25 average reported for 13 other transit operators. For CTA rail operators, the APTA data showed CTA's top wage of $25.33 to be .3% lower than the $25.41 peer average, while the CTA's wage survey showed the CTA wage of $25.33 to be 3.7% lower than the $26.30 average for 9 peers.

There were differences between the peers used in the audit report and those used in the CTA wage survey. For example, there were only 3 matches between the 5 peers in the APTA bus operator data and the 13 peers in the CTA wage survey, and the data for these 3 did not match. The largest difference was for Los Angeles County MTA, where the APTA survey showed a $19.95 top operator rate, while the CTA wage survey showed a $23.59 rate. The difference here appears to be driven by MTA's tiered wage structure, where operators who have been hired under the terms of the last several bargaining agreements have lower wages than the operators that were hired earlier. It appears that, for the CTA wage survey, the hourly wage shown is for the earliest, highest wage rate, employees, while the APTA survey shows the top of the wage progression for the employees that MTA was hiring at the time of the survey.

Differences also existed in methodologies. As an example, the audit report's peer comparisons for rail were limited to heavy rail operators and vehicle maintenance employees, while the CTA wage survey included light rail operators.

As stated earlier, the following analysis is based on the APTA wage rate survey. CTA pays its "top" bus operators the second highest hourly wage rate at $25.33, which is $0.20 lower than the highest pay of its peers, Boston's MBTA (Exhibit 6-8). CTA has part-time bus operators, which NYCT and SEPTA do not, but pays them the same rate as full-time operators, which LACMTA and MARTA do not. Overall, CTA has a somewhat higher operator pay rate than its peers.

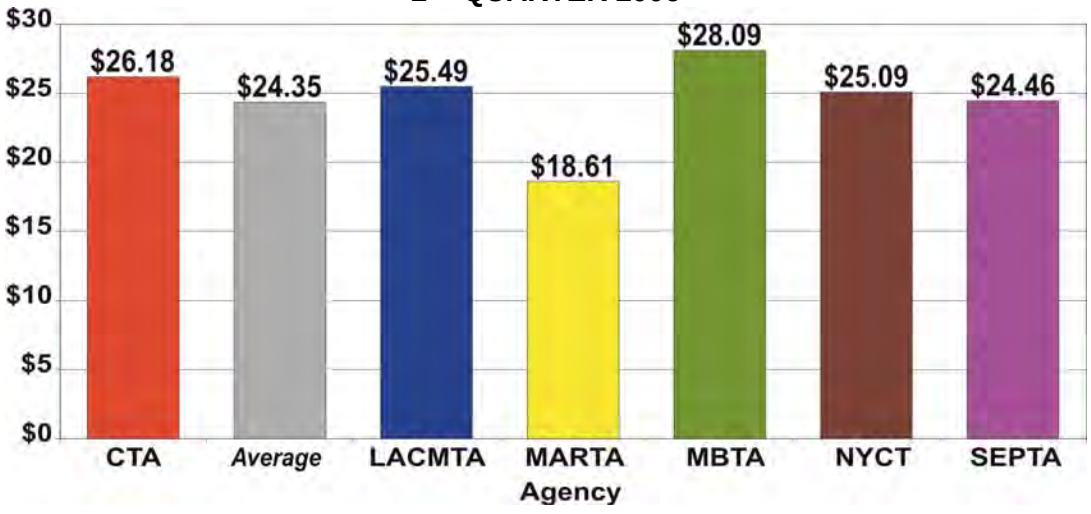
Exhibit 6–8
CTA MOTOR BUS PEERS
TOP OPERATOR FULL-TIME AND PART-TIME WAGE RATES
2ND QUARTER 2006



Sources: APTA and CTA

The CTA's top vehicle maintenance wage rate is the second highest of the peers at $26.18 and is higher than the average of the peers' top maintenance pay rates (Exhibit 6-9).

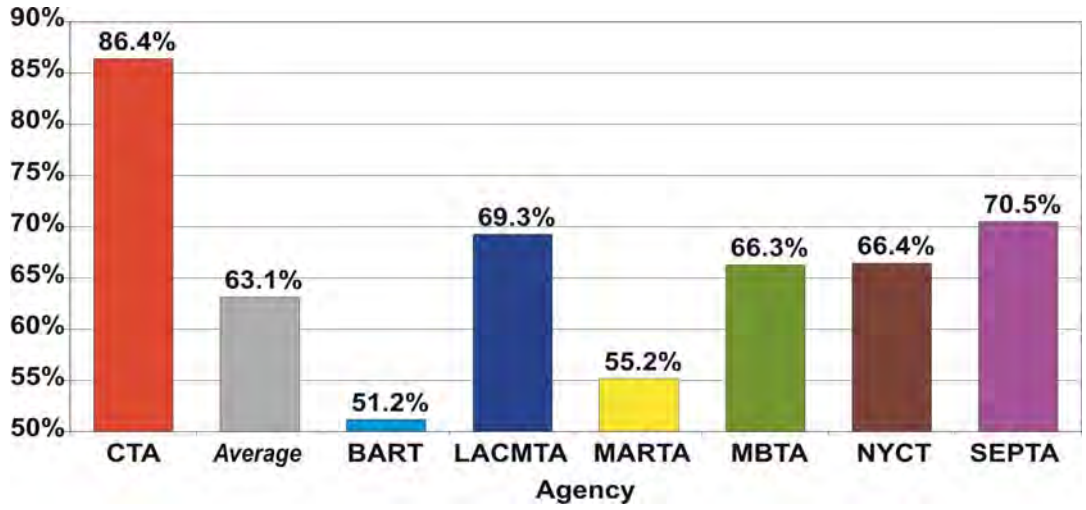
Exhibit 6–9
CTA MOTOR BUS PEERS
TOP VEHICLE MAINTENANCE WAGE RATES
2ND QUARTER 2006



Source: APTA and CTA

Exhibit 6-10 presents CTA's employee benefits percentage rate for both motor bus and heavy rail, combined, and compares it with the peers. The BART percentage is only for heavy rail, and the LACMTA is only for bus. CTA has the highest employee benefit rate of the peers. This is primarily a reflection of the CTA's pension situation.

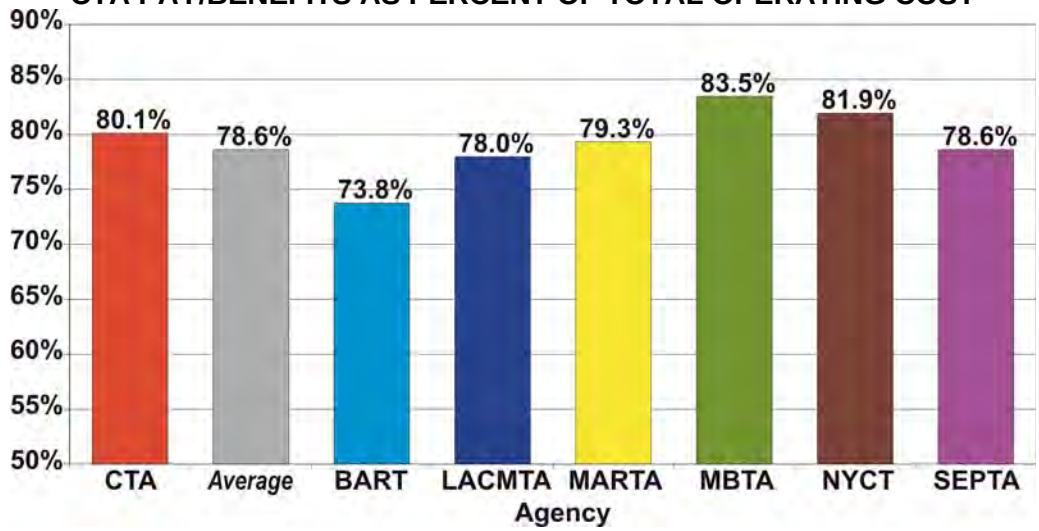
Exhibit 6–10
CTA EMPLOYEE BENEFITS RATIO



Source: 2004 National Transit Database

Exhibit 6-11 is also for both CTA bus and heavy rail combined. CTA is the third highest of the peers in terms of pay/benefits as a percent of total operating costs. CTA's position relative to its peers on employee benefit costs will deteriorate over time as pension costs continue to increase.

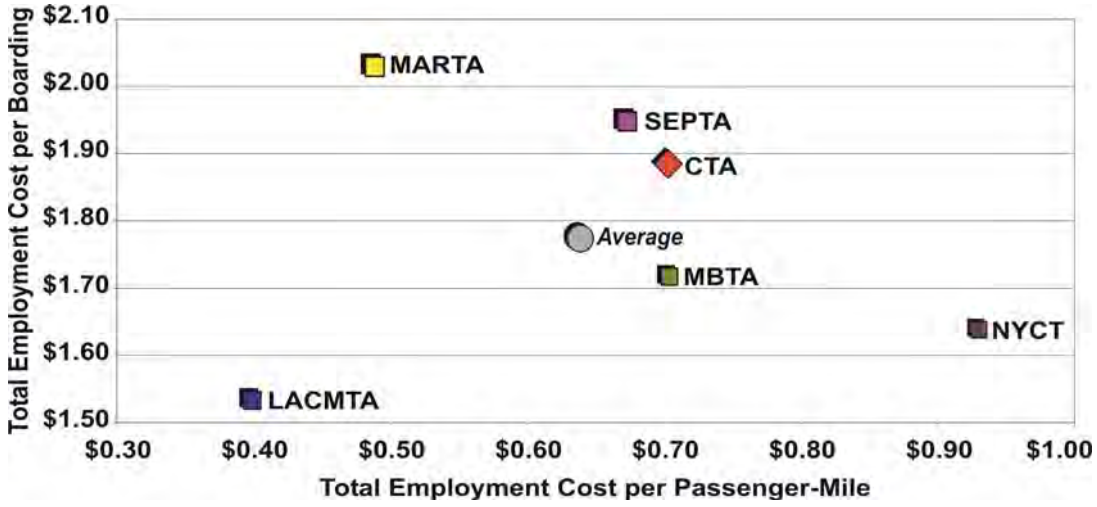
Exhibit 6–11
CTA PAY/BENEFITS AS PERCENT OF TOTAL OPERATING COST



Source: 2004 National Transit Database

In the cost-effectiveness criteria of employment cost per boarding and per passenger mile, CTA is above the peer average, as shown on Exhibit 6-12.

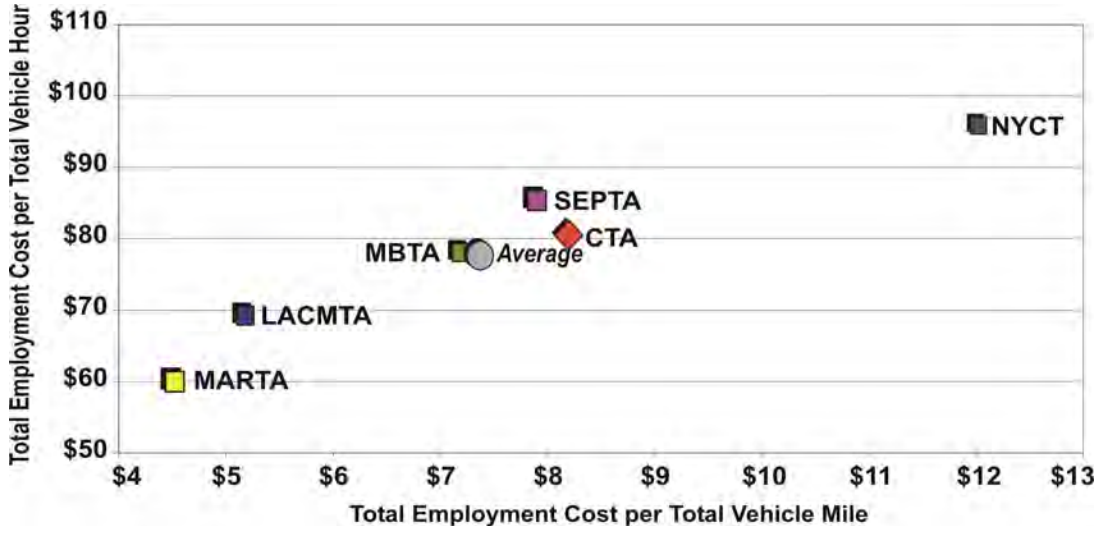
Exhibit 6-12
CTA MOTOR BUS EMPLOYMENT COST PER UNIT OF SERVICE CONSUMED



Source: 2004 National Transit Database

In the cost-efficiency criteria of employment cost per total vehicle mile and per total vehicle hour – costs per unit of service supplied, CTA is also above the peer average, as shown on Exhibit 6-13.

Exhibit 6-13
CTA MOTOR BUS EMPLOYMENT COST PER UNIT OF SERVICE SUPPLIED

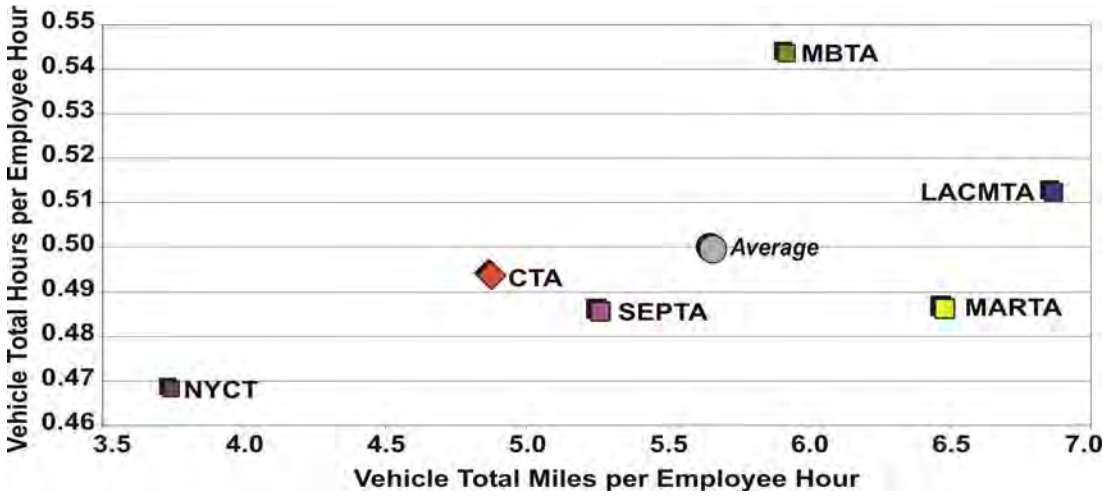


Source: 2004 National Transit Database

In the productivity metrics of Vehicle Total Hours and Vehicle Total Miles per Employee Hour, CTA is below the peer average, as shown in Exhibit 6-14. CTA is

above the peer average in both the separate operator and maintenance metrics, but has significantly more general and administrative hours than its peers.

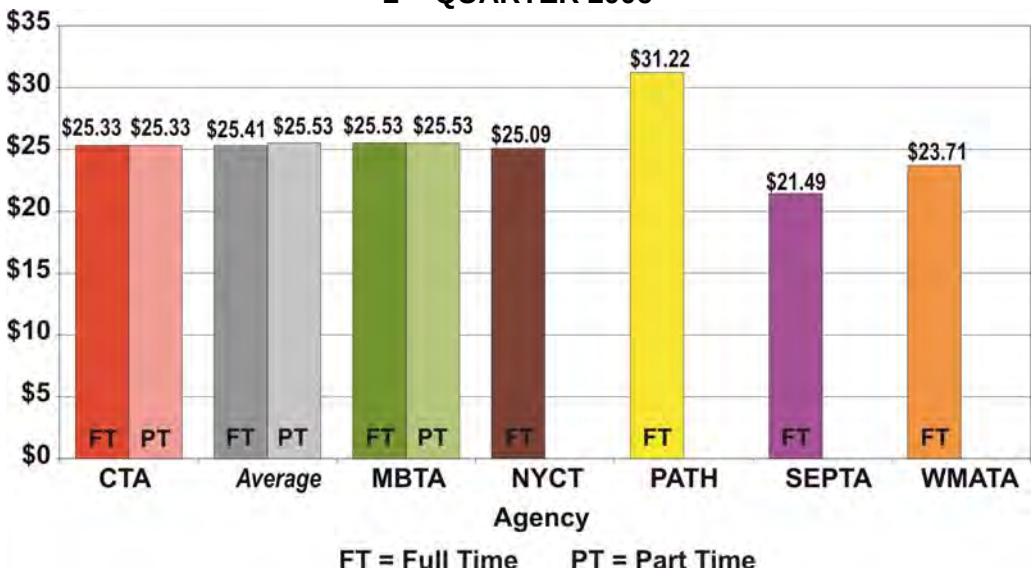
Exhibit 6–14
CTA MOTOR BUS UNITS OF SERVICE SUPPLIED PER TOTAL EMPLOYEE HOUR



Source: 2004 National Transit Database

CTA has the third highest rail operator top hourly wage of the six peers, as shown on Exhibit 6-15.

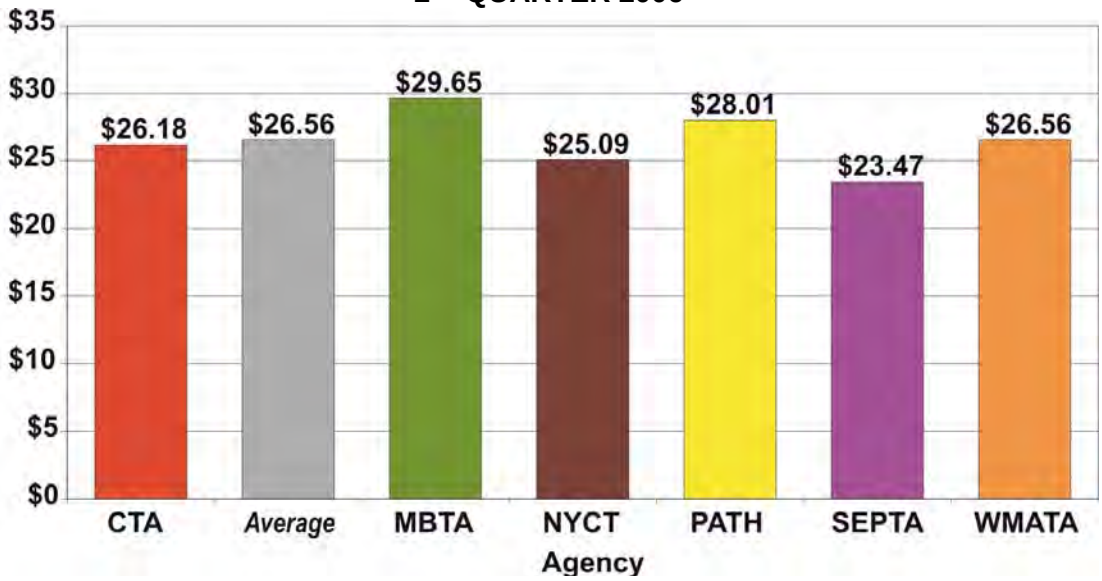
Exhibit 6-15
CTA HEAVY RAIL PEERS — TOP OPERATOR WAGE RATES 2ND QUARTER 2006



Source: APTA and CTA

CTA is the third lowest and slightly below the peer average on the wage rates paid to its heavy rail top vehicle maintenance employees (Exhibit 6-16).

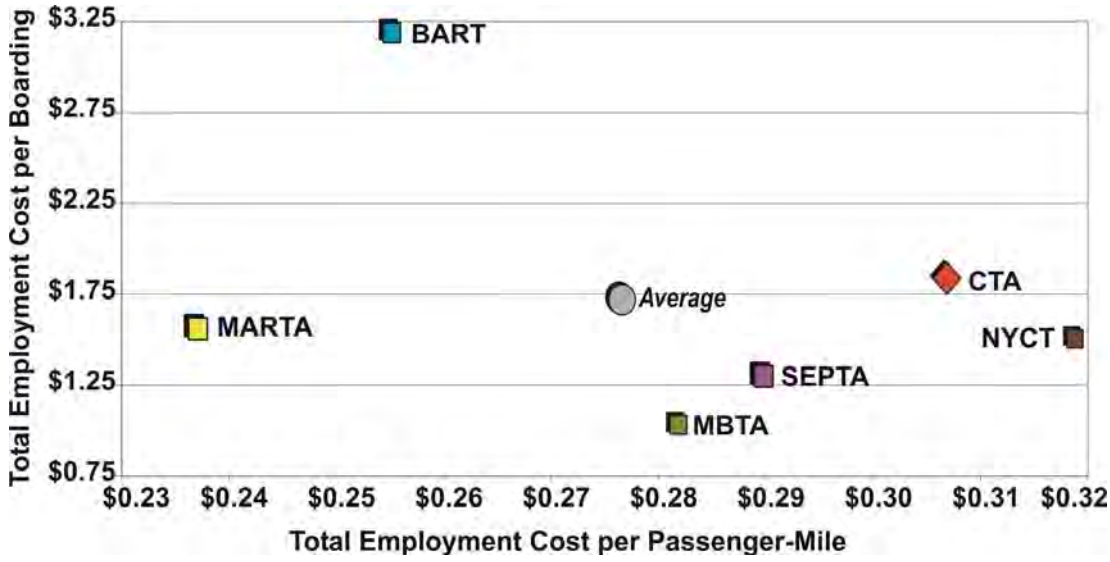
Exhibit 6-16
CTA HEAVY RAIL TOP VEHICLE MAINTENANCE WAGE RATES
2ND QUARTER 2006



Sources: APTA and CTA

CTA was less cost-effective than the average of its peers in employment costs per unit of service supplied and consumed. (See Exhibit 6-17 for service consumed).

Exhibit 6-17
CTA HEAVY RAIL EMPLOYMENT COST PER UNIT OF SERVICE CONSUMED



Source: 2004 National Transit Database

CTA's heavy rail service is operated with cars that are significantly smaller than those of its peers. Therefore, we conducted two analyses for this mode. First, we examined the "raw," unadjusted data. For certain indicators, we also examined "adjusted" data that normalize the VTM and VTH data by carrying capacity. For example, by our methodology, which considers the weighted average number of seats and square footage (a surrogate for standing room) per vehicle for each of the peers' heavy rail fleets, CTA's heavy rail cars have 80.8% of the carrying capacity of the average for all vehicles operated by the peer group. At the other extreme, the BART and MARTA fleets are both approximately 130% of the peer group averages.

Using the "raw" values analysis, CTA had superior cost-effective metrics than most of its peers. On an adjusted basis, however, CTA was less cost-efficient than most of its peers. On the "raw" productivity measures, CTA was superior to most of its peers in output per total hour, as well as per operator and mechanic hour. Using the "adjusted" values, CTA ranked lower than most of its peers.

METRA

For these comparisons, we used the following peers to compare Metra:

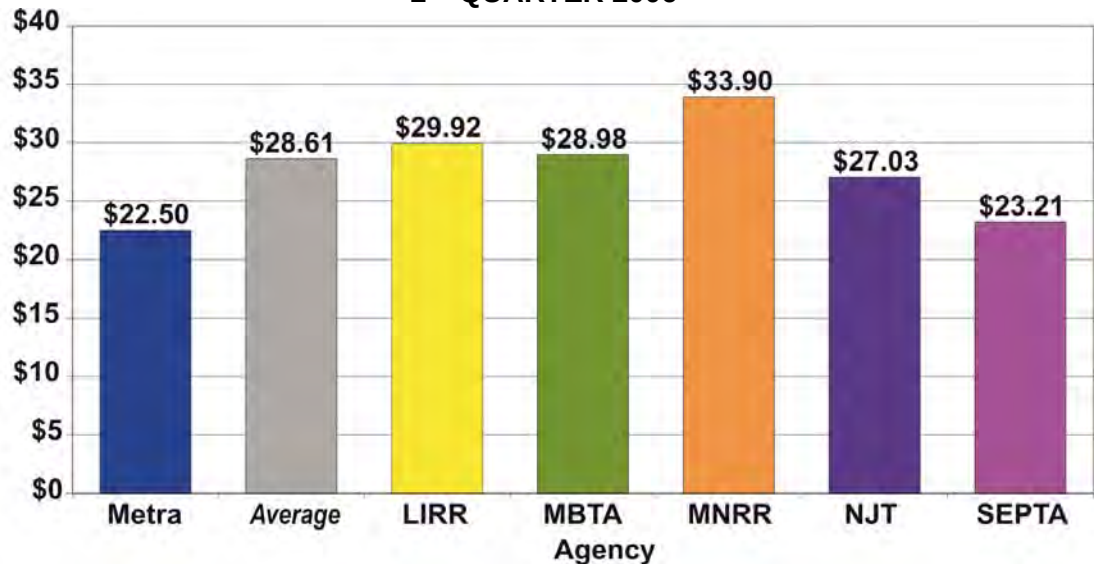
- **LIRR –** MTA Long Island Rail Road
- **MBTA –** Massachusetts Bay Transportation Authority (Boston)
- **MNRR –** MTA Metro-North Railroad
- **NJT –** New Jersey Transit Corporation
- **SEPTA –** Southeastern Pennsylvania Transportation Authority (Philadelphia).

The Southern California Regional Rail Authority (Metrolink), used as a peer for other purposes, does not participate in the APTA wage survey and, therefore, was not included in certain areas of the following analyses.

Some commuter rail operators, including Metra, do not have work hour-based compensation for their train operators. Instead, they use the "traditional" railroad operator pay scheme based on miles traveled and other factors. As a result, to produce an "hourly" wage rate, it is necessary to perform a conversion.

The conversion performed by Metra produced a wage rate lower than that reported by any of its peers and we could not determine whether Metra's methodology is totally consistent with those utilized by the peers. Using the wage rates provided by Metra, Metra pays its top operators the lowest wage rates of the peers at $22.50 (Exhibit 6-18).

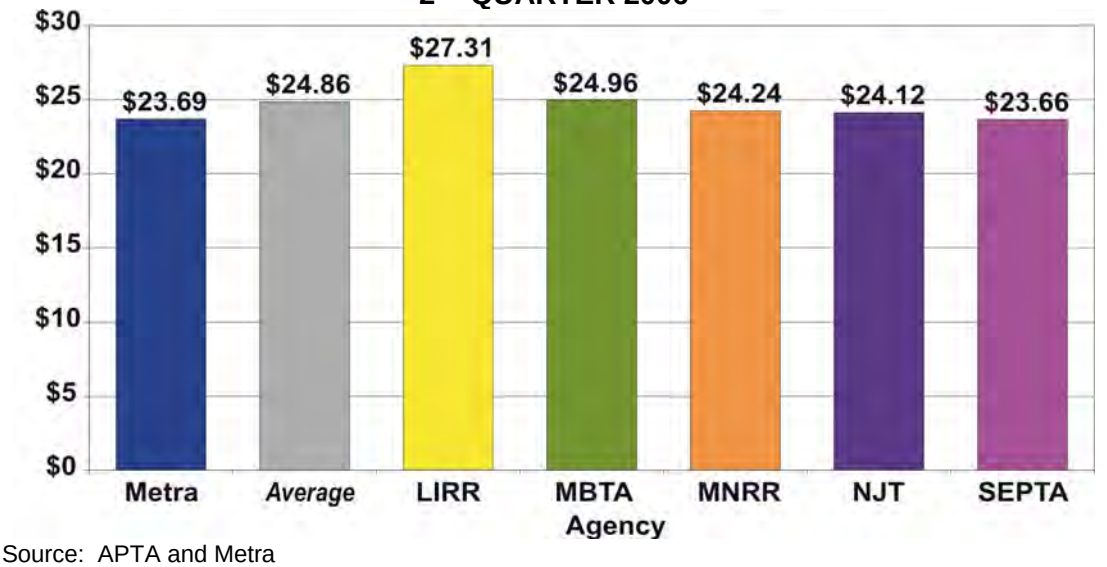
Exhibit 6-18
METRA TOP OPERATORS' WAGE RATES
2ND QUARTER 2006



Source: APTA and Metra

Metra's top vehicle maintenance wage is the second lowest, only $0.03 higher than the lowest, SEPTA (Exhibit 6-19).

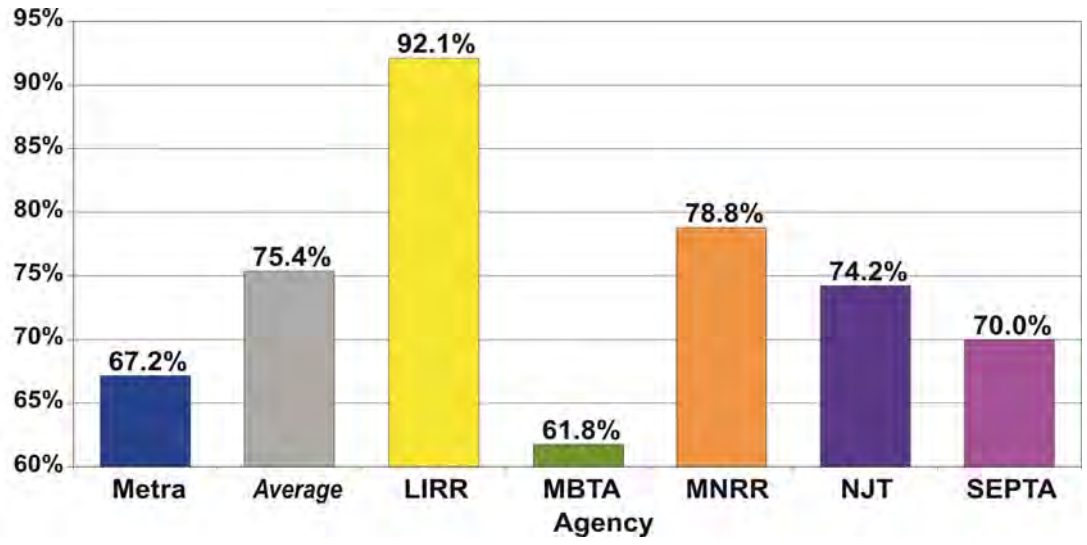
Exhibit 6-19
METRA TOP VEHICLE MAINTENANCE WAGE RATES
2ND QUARTER 2006



Source: APTA and Metra

Metra has the second lowest benefits rate of the peer group (Exhibit 6-20).

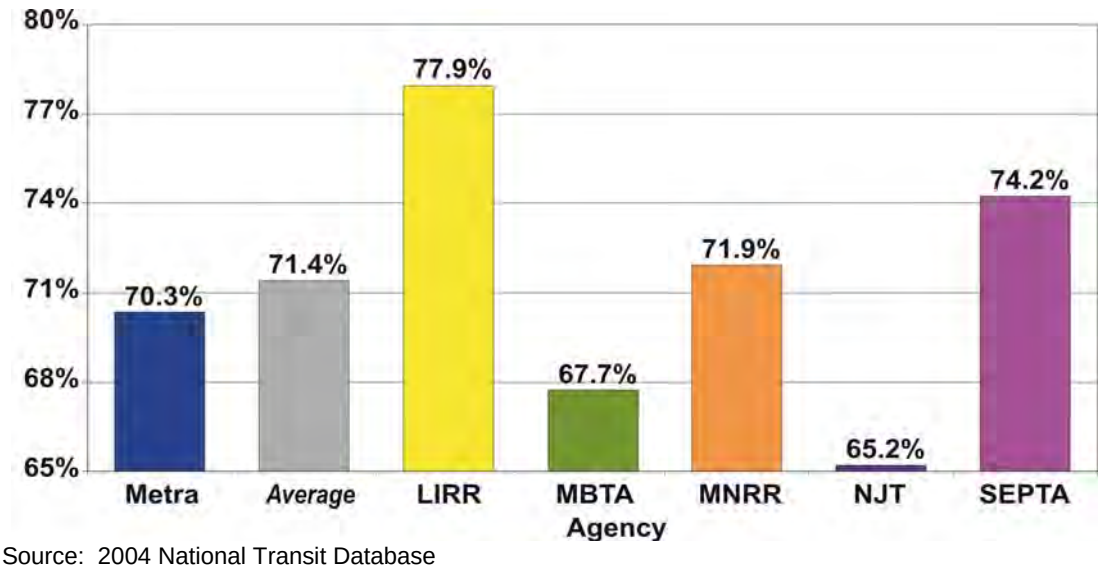
Exhibit 6-20
METRA EMPLOYEE BENEFITS RATIO



Source: 2004 National Transit Database

Metra is on the low side of the peer group in terms of payroll and employee benefits as a percentage of total operating costs (Exhibit 6-21).

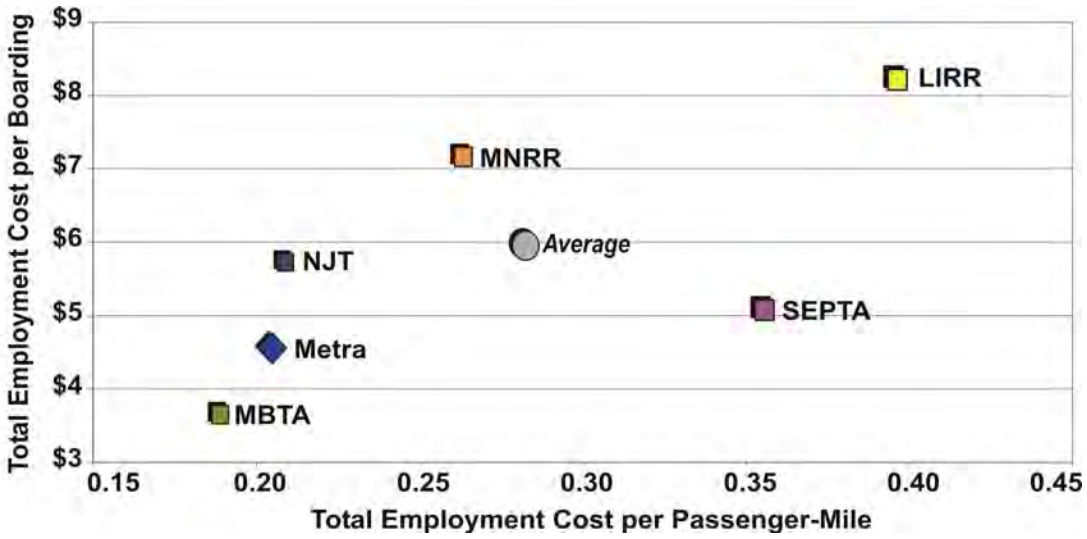
Exhibit 6-21
METRA PAY/BENEFITS AS A PERCENT OF TOTAL OPERATING COST



Source: 2004 National Transit Database

Metra was the second lowest of its peers in total employment cost per unit of service consumed (Exhibit 6-22).

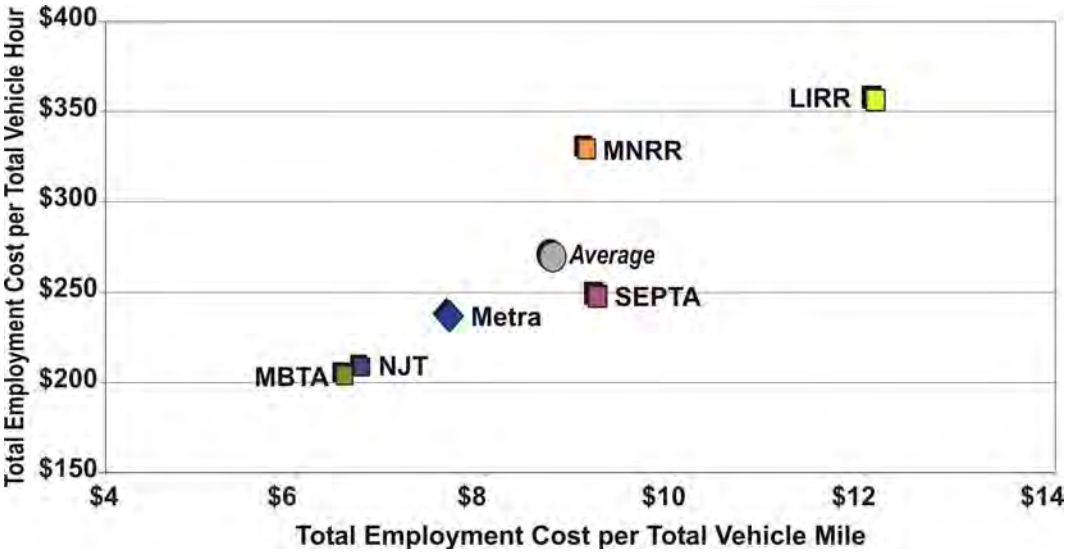
Exhibit 6-22
METRA EMPLOYMENT COST PER UNIT OF SERVICE CONSUMED



Source: 2004 National Transit Database

Metra was third lowest in terms of cost per unit of service supplied (Exhibit 6-23).

Exhibit 6-23
METRA EMPLOYMENT COST PER UNIT OF SERVICE SUPPLIED

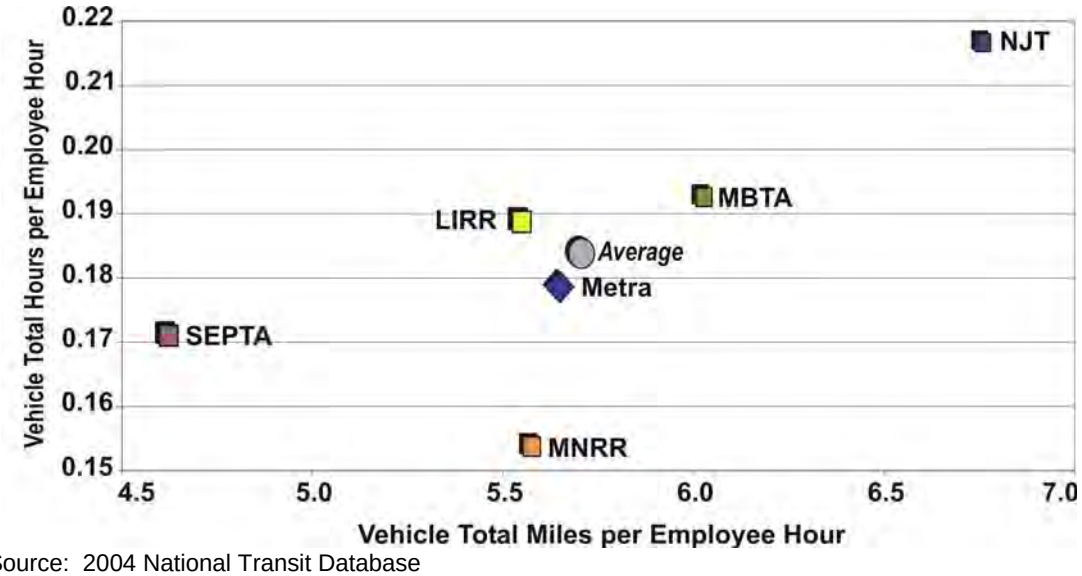


Source: 2004 National Transit Database

Metra was somewhat lower than its peers in operator productivity, primarily because it is more of a peak-time operator than its peers and because of the limited availability of tracks during non-peak periods. Metra is limited in the amount of mid-day and other off-peak service it can provide because of the high level of freight activity

on the rail lines it uses, as opposed to many of its peers that either have dedicated rail lines without freight traffic or where freight traffic on them is less than in northeastern Illinois. Metra is about in the middle of the range for vehicle maintenance productivity (graphs not shown) and near the average for overall labor productivity (Exhibit 6-24).

Exhibit 6-24
METRA UNITS OF SERVICE SUPPLIED PER TOTAL EMPLOYEE HOUR



Source: 2004 National Transit Database

PACE

The peers used for Pace are shown below along with their acronyms:

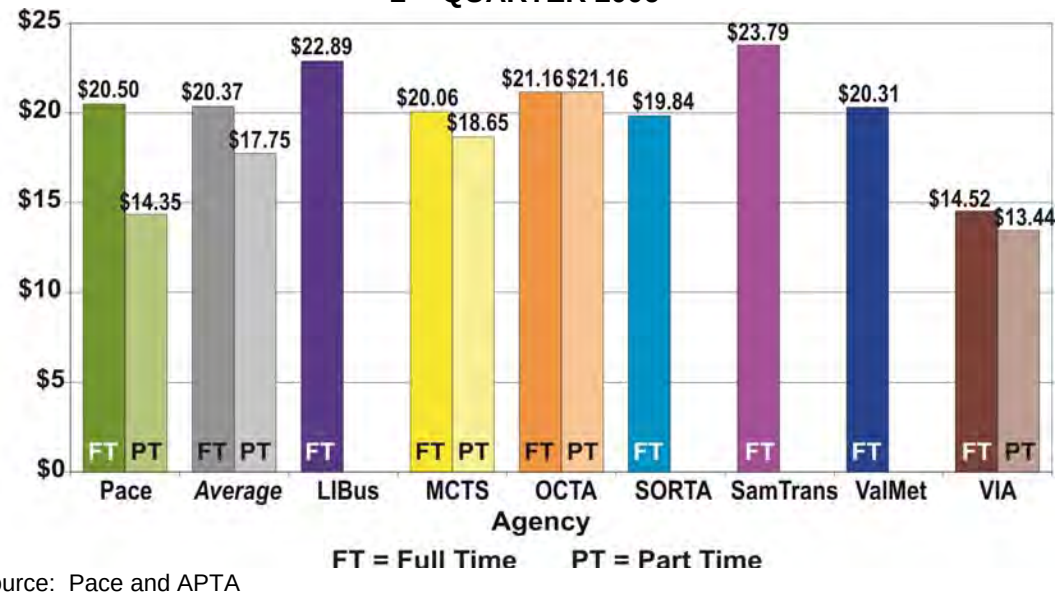
LIBus – MTA Long Island Bus (Metropolitan Suburban Bus Authority)
MCTS – Milwaukee County Transit System
OCTA – Orange County Transportation Authority (California)
SamTrans – San Mateo County Transit District (California)
SORTA – Southwest Ohio Regional Transit Authority (Cincinnati)
ValMet – Valley Metro
VIA – VIA Metropolitan Transit (San Antonio, Texas)

There are two separate governmental transit agencies in the Greater Phoenix area that share the use of the service mark, "Valley Metro." The data shown is for the larger city of Phoenix Public Transit Department system. Since the bus services provided by both operators are all purchased transportation, the National Transit Database does not have the details of work hours that are required for many of the analyses included below.

Pace's full-time hourly rate for the top operators of buses is fourth highest of the eight members of the peer group and slightly above the group average (Exhibit 6-25).

Pace's part-time hourly rate is lower than its peers, excluding VIA (San Antonio). Overall, Pace's operators are paid about the same as the average of the peer group.

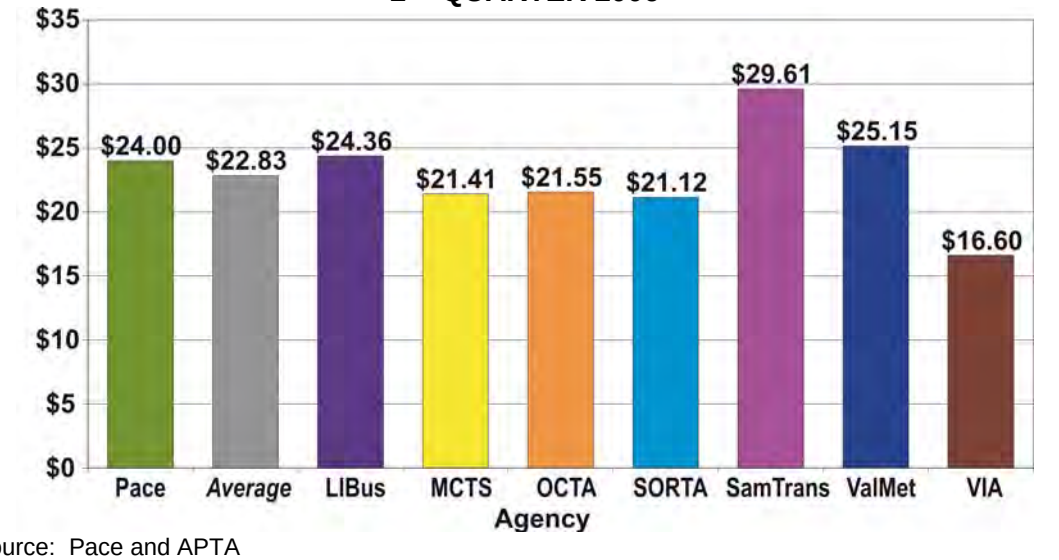
Exhibit 6-25
PACE BUS PEERS
TOP OPERATORS' WAGE RATES
2ND QUARTER 2006



Source: Pace and APTA

Pace pays its bus maintenance employees wages that are slightly above the mid-point in maintenance wage rates (Exhibit 6-26).

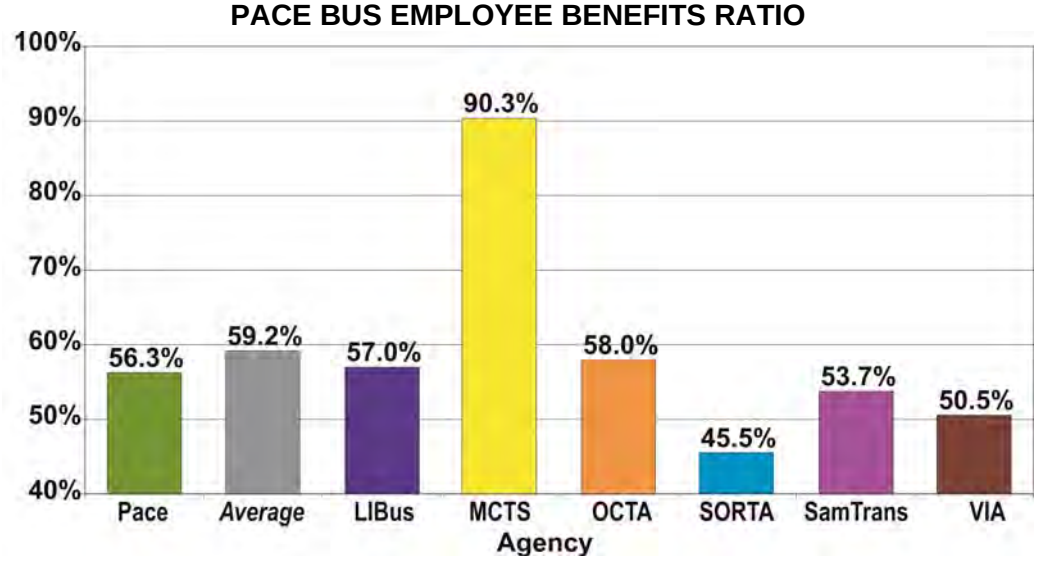
Exhibit 6-26
PACE BUS PEERS
TOP VEHICLE MAINTENANCE WAGE RATES
2ND QUARTER 2006



Source: Pace and APTA

Pace is approximately in the middle of the peer group for its employee benefits rate (Exhibit 6-27).

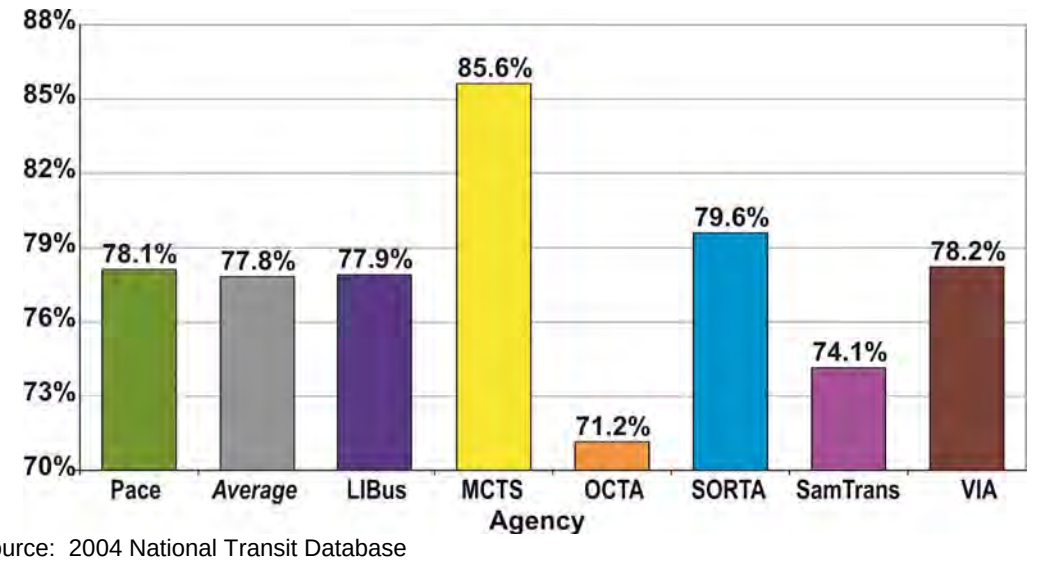
Exhibit 6-27
PACE BUS EMPLOYEE BENEFITS RATIO



Source: 2004 National Transit Database

Pace is in the middle of the peer group in pay and benefits as percentage of total (directly operated) operating expenses (Exhibit 6-28).

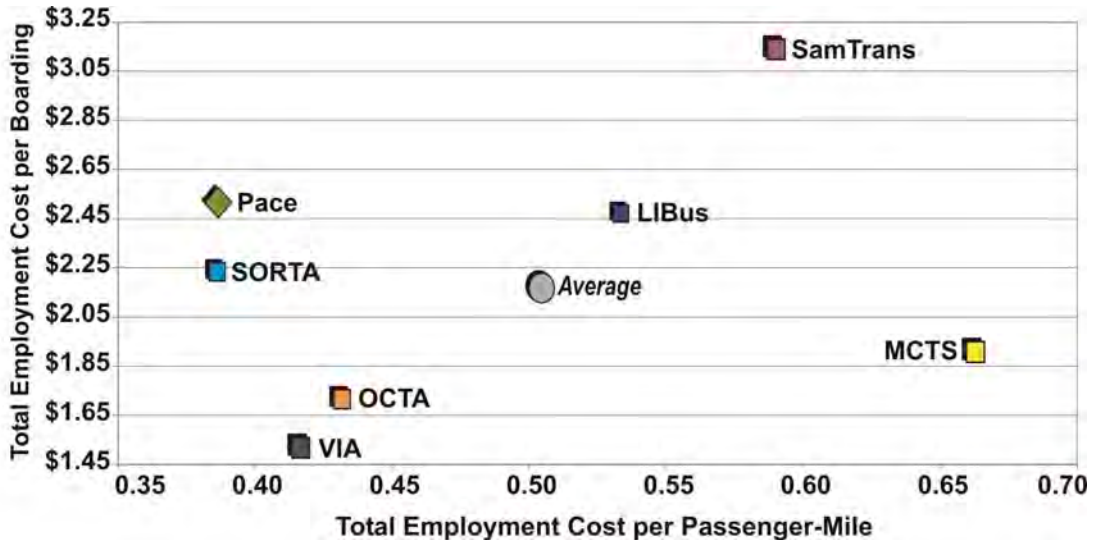
Exhibit 6-28
PACE BUS PAY/BENEFITS AS A PERCENT OF TOTAL OPERATING COSTS



Source: 2004 National Transit Database

Pace was the most cost-effective of the peers in terms of employment cost per passenger-mile because of the relatively long trip lengths of its suburban service, but the relatively low riders per hour hurt its performance in costs per boarding (Exhibit 6-29).

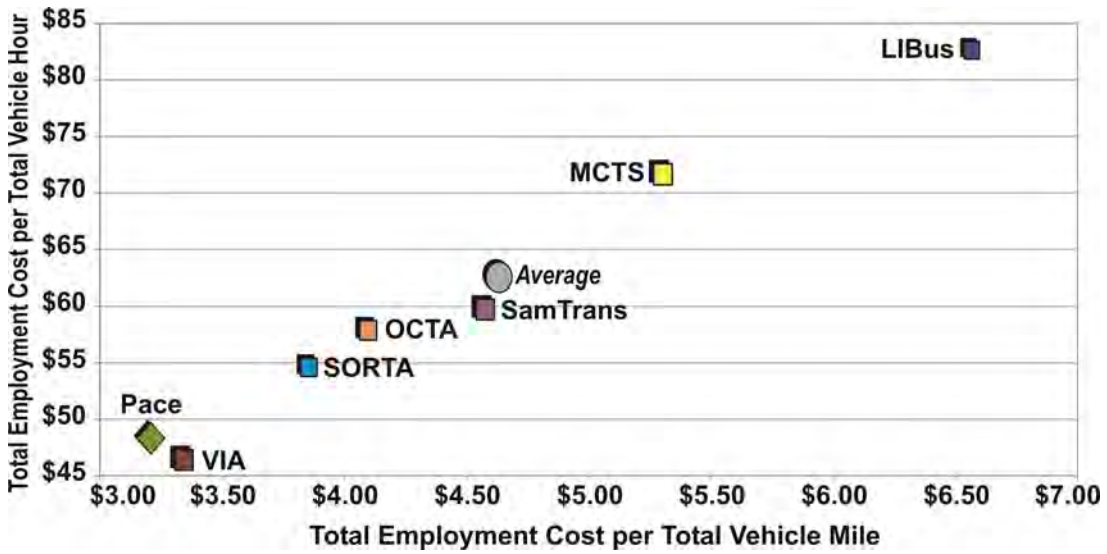
Exhibit 6-29
PACE EMPLOYMENT COST PER UNIT OF SERVICE CONSUMED



Source: 2004 National Transit Database

Pace and VIA were essentially "tied" for the best performance in cost-efficiency, a considerable accomplishment for Pace given the significantly lower employment costs in San Antonio (Exhibit 6-30).

Exhibit 6-30
PACE EMPLOYMENT COST PER UNIT OF SERVICE SUPPLIED

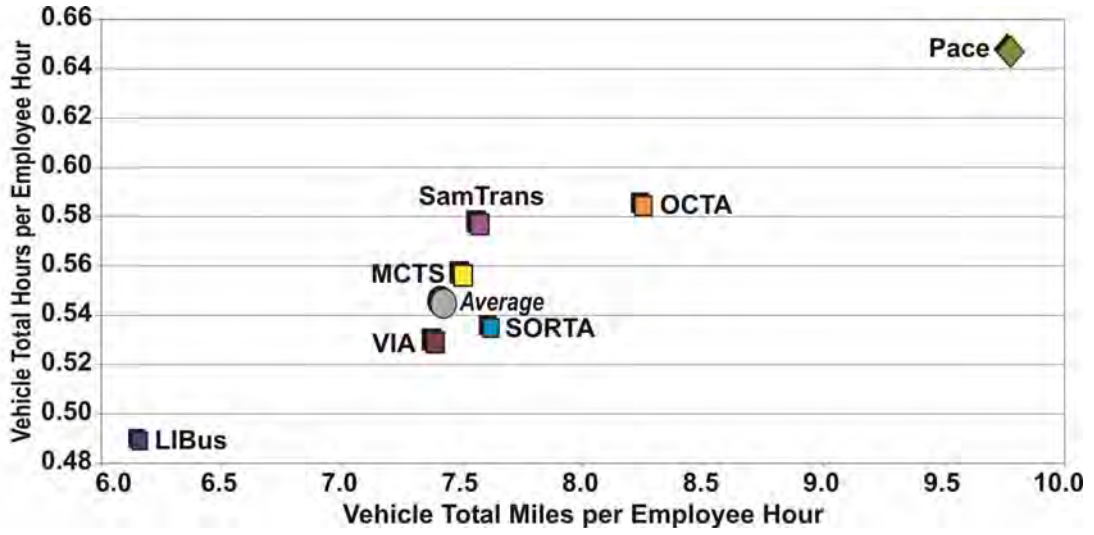


Source: 2004 National Transit Database

Pace also performed well in its overall labor productivity, placing second in both operator and vehicle maintenance productivity, but its lean support structure gave it the overall advantage (Exhibit 6-31).

Exhibit 6-31

PACE UNITS OF SERVICE SUPPLIED PER TOTAL EMPLOYMENT HOUR



Source: 2004 National Transit Database

CTA ARBITRATION

The time required to complete the CTA labor negotiation/arbitration process is excessive and should be significantly reduced. While the current bargaining agreements run from January 1, 2004 to December 31, 2006, the arbitration award was not issued until July 10, 2006. As a result, the parties did not know many of the important particulars of the terms of these agreements, including wages, pension contributions, and many work rules, until over 80 percent of the time period that the agreements covered was passed.

The detailed schedule of events in the arbitration award document showed that negotiations did not begin until July 6, 2004, six months into the contract, and the initial organization meeting of the arbitrators was held on November 22, 2005, almost two years into the contract.

The previous arbitration award, comprehending the bargaining unit agreements for the period January 1, 2001 to December 31, 2003, was not entered until November 12, 2003, over 34 months into a 36-month duration agreement.

ABSENTEEISM

Employee absenteeism is a problem in the transit industry that has many elements that include the following: abuse of sick leave and workers' compensation, "no shows", short- and long-term disability abuse, the requirement to staff and pay for an operator "extra board" in order to be relatively confident that there will be sufficient staff available to operate all the scheduled transit service, and abuse of the Family and Medical Leave Act (FMLA).

There are a variety of positive incentive programs that are useful in such endeavors, ranging from granting "perfect attendance" awards and recognition (reserved parking at the best locations), merchandise (hats, windbreakers), event tickets, to monetary bonuses.

In reviewing the data below regarding the agencies' cost of absenteeism, there are a variety of unusual time and payroll provisions for transit operators. For example, it is not uncommon for transit contracts to have a large number of "half holidays," such as Veteran's Day, Columbus Day, and Martin Luther King, Jr. Memorial Day, listed as holidays for transit workers, even though the transit agency operates a full schedule of transit services to serve the vast majority of the regional work force that does not have these as days off. If there is also a "work on holiday" provision that pays double-time or double-time-and-one-half on such days, there will generally be one of two outcomes for each employee's payroll/time accounting: (1) the employee will not work the day and the "holiday" account will be charged for eight hours' (or whatever a normal work day is) pay at straight time and there will be eight hours of holiday time recorded, or (2) the employee will work the day, there will be eight hours (or whatever number of hours worked) of "work" pay at straight time and eight hours of work time recorded, *and* there will be (for a double-time-and-one-half contract situation) twelve hours equivalent of pay time (eight hours x 2.5 = 20 hours pay time – eight hours "work" time = 12 hours of pay counted as "holiday" time) shown as a "holiday" pay cost and *no* hours of holiday time.

Workers' Compensation costs include payments to workers in lieu of wage/salary, medical expenses, legal expenses, and many other types of costs.

CTA

One measure of the importance of absenteeism to transit agencies may be found in the AECOM Consult Team final report, *Chicago Transit Authority – Management and Operations Transformation*, November 3, 2005, where the "Attendance Improvement Program" is the first of the 63 recommendations, with an estimated cost to CTA of $45.9 million a year for bus and rail operators alone. This $45.9 million is 5.2 percent of CTA's $885.1 million of employment expenses for 2004 and 4.1 percent of $1.12 billion in CTA's total operating expenses. Using data obtained from CTA for 2005 sick leave + workers' compensation costs (Exhibit 6-32, computed using a different methodology), $29.6 million in absenteeism costs was 3.2 percent of CTA's total employment expense of $931.2 million and 2.4 percent of CTA's total operating expenses of $1.21 billion.

We requested of CTA the lost hours and costs data and calculations related to this AECOM finding and recommendation. The response we received was the hours and costs of paid time off for 2005.

Exhibit 6-32
CTA – PAID TIME OFF DOLLARS AND HOURS
2005

Paid Time Off Category	Dollars	Hours
Vacation	$35,383,057	1,424,752.30
Holiday	21,713,103	915,298.40
Sick	4,118,504	198,193.60
Other	675,346	29,272.90
Total	$61,890,010	2,567,517.20
Workers' Comp Claims	$25,435,885	n/a
Sick + Workers' Comp	$29,554,389	198,193.60 + W.C.

Source: IMG from CTA data

In the above exhibit, we calculated a total for Sick + Workers Compensation, eliminating the Vacation, Holiday, and "Other" dollars and hours, as these are legal/contractual paid time off and not part of "absenteeism" costs, as these are generally defined. ("Other" includes jury duty, military duty, etc., that are legal/contractual obligations and can be scheduled in advance, but also include such categories as "bereavement" pay that generally cannot be). The CTA response specifically noted that data for other FMLA and non-paid time off was not available.

The collection of FMLA data often requires some special adjustments to payroll and employee information systems. Depending upon the specifics of each specific FMLA event, it may be tracked, for employee payroll and time off tracking, as vacation, sick, unpaid time off, or otherwise. Collecting data for FMLA absences as a separate line item requires specific identification of all such events as FMLA and information systems that can cull out the detail and calculate "memo" totals. While, obviously, there is no

payment to employees for non-paid time off, there is a cost to the employer of having additional employees on staff to perform the work, including "extra board" operators available to take the bus and train operations work assignments for "no show" employees.

While it would appear that above Exhibit shows that CTA's absenteeism costs have been significantly reduced since the $45.9 million reported for 2004 by AECOM, it appears that the two values were computed using different methodologies. AECOM only included bus and rail operators, who are the largest segment of CTA employees and, historically, the employees with the largest absenteeism. However, the AECOM costs included compensation to the employees for paid leave, and the additional cost of providing replacement employees (i.e., either overtime premiums or additional health insurance and other capitated benefits made necessary when expanding the work force to cover the absences). Exhibit 6-32 does not include the costs of replacements. We were unable to completely reconcile the Exhibit 6-32 total absenteeism to the AECOM's reported value.

We understand that CTA is implementing improved systems to track absenteeism (the AECOM report recommended a $100,000 program for the "first step" of an attendance improvement program, and potential additional expenditures, such as "an attendance management features of the schedule-to-pay information system" [page vi]). We believe that such expenditures for properly designed and implemented information systems, supporting an entity-wide absenteeism reduction program, would be very well advised. It is extremely important to have accurate, comprehensive, real-time data on attendance available to all levels of management, particularly first-line supervisors.

Metra

Metra provided us with extensive information on leave categories, broken down by type of leave, contract vs. management, and by function, for both dollars and hours, except that FMLA and non-paid time off information was not available.

Exhibit 6–33
METRA – PAID TIME OFF DOLLARS AND HOURS
2005

Paid Time Off Category	Dollars	Hours
Vacation	$9,916,508	362,806
Holiday	4,015,633	163,772
Sick	1,864,844	79,478
Other	3,916,501	164,853
Total	$19,713,486	770,909
FELA	$2,284,125	n/a
Sick + FELA	$4,148,969	79,478 + FELA*

Note: *As an operating railroad, Metra is subject to the Federal Employers' Liability Act (FELA) of 1908, instead of state workers' compensation laws. They have the same overall objective and are conceptually similar in design, but they are not identical in operation and in assignment of responsibility for costs in all situations.
Source: Metra

Metra's $4.1 million of Sick + FELA (Federal Employers' Liability Act) was 1.3 percent of Metra's total employment costs of $321.2 million and less than 1 percent of Metra's total operating costs of $477.9 million.

Pace

Pace was able to provide us with extensive detail on absenteeism, summarized in Exhibit 6-34.

Exhibit 6–34
PACE – PAID TIME OFF DOLLARS AND HOURS
2005

Paid Time Off Category	Dollars	Hours
Vacation	$3,510,228	160,747
Holiday	1,439,808	69,430
Sick	374,098	18,629
Other	1,524,288	55,787
Total	$6,848,422	304,593
Workers' Comp Claims	$1,249,219	n/a
Sick + Workers' Comp	$1,623,317	18,629 + W.C.

Source: Pace

Pace's $1.6 million of Sick + Workers' Compensation was 1.8 percent of Pace's total employment costs of $87.2 million and 1.0 percent of Pace's total operating costs of $159.8 million.

RTA

RTA, unlike the three service boards, has a relatively small workforce comprised entirely of professionals, clerical, customer information, and support personnel, with no bargaining unit employees, and each employee is well-known to his or her managers.

Our discussions of absenteeism with human resources and line management personnel showed that absenteeism was not a major concern.

STAFFING	
RECOMMENDATION NUMBER 20	***The Service Boards should follow-up on areas where the staffing benchmarking data indicated that performance could be improved and determine whether changes can be made.*** ***The CTA Attendance Improvement Program, now underway, should be treated as one of the CTA's highest priorities, with implementation and accountability delegated to middle and first-line managers, with frequent reporting and monitoring of performance. Improving CTA's systems for tracking non-work time and providing accurate, timely, and relevant information to all levels of management on a daily basis is an important part of this effort.*** ***The CTA should explore ways to expedite the arbitration process to significantly reduce the time it takes to finalize labor agreements.***
CTA RESPONSE	CTA agrees. While benchmarking shows that CTA performs well against its peers based on current contract constraints and system geometry, benchmarks can provide new ways to seek continuous improvement. Most changes would require changes in law or labor contracts. CTA has undertaken two major programs to improve attendance and workforce planning: • The Transitional Return to Work (TRTW) program enables employees who are injured on duty to assume other assignments until they are ready to return to their regular job. TRTW improves employee productivity, helping CTA to reduce workers' compensation costs and retain skilled workers. • The Maintenance Management Information System (MMIS) is an integrated system that helps managers track staffing levels and requirements in addition to materials, thus enabling CTA to improve its workforce planning. AECOM noted that attendance is an industry-wide challenge in public transit, and that – while CTA's attendance rates compare favorably to other large systems – several smaller systems have had

	recent success at improving those rates. CTA agrees that an expedited arbitration process could be beneficial for the agency.
METRA RESPONSE	No response submitted.
PACE RESPONSE	Staffing measures at Pace were equal to or better than peers in virtually all staffing-related performance measures. Pace will continue to look for ways to improve our efficiency and effectiveness in the provision of our service.

Chapter Seven

PENSIONS

CHAPTER CONCLUSIONS

The Retirement Plan for Chicago Transit Authority Employees (CTA Plan) is in extremely poor financial condition and is deteriorating at a rapid rate. Not only are the contributions to the Plan far below the actuarial recommendations to meet its long-term commitments, they fall substantially short of annual cash outflows, resulting in a rapid decline in pension assets over the past several years.

As of January 1, 2006, the CTA Plan was 34 percent funded. According to the Plan's 2000 actuarial report, the Plan was 80 percent funded on January 1, 2000 (in 2003, the 2000 funded percentage was restated to 67 percent). The actuarial liabilities have grown from $2.2 billion on January 1, 2000 to $3.5 billion on January 1, 2006 and are projected to grow to $4.0 billion by January 1, 2009. At the same time, the actuarial value of assets has decreased from $1.7 billion to $1.2 billion and is projected to decline to $0.8 billion at the beginning of 2009 (when the Plan is expected to be 20% funded).

- Over the past 6 years, the collectively bargained 9 percent payroll contribution rate (3% employees and 6% CTA) has been significantly below the actuarially recommended contribution rate, which was 16.5 percent in 2000 and increased to 50.3 percent by 2006. According to Plan officials, the last time the actuarially recommended contribution was made to the Plan was in 1982.
- In addition to significantly underfunding the Plan, the Plan's pension benefits were raised by 16 percent in 2000, had negative returns in 2001-2002, and took pension "holidays" in 1994, 1995, and 1997.
- The 9 percent investment return assumption used by the Plan has been questioned by the Plan's actuary as being too high; it is also higher than the rates used by other peer transit entities in the U.S.
- The process of setting contribution rates through the collective bargaining process is not common among transit agencies.
- In 2006, Public Act 94-0839 was enacted which requires the CTA to fund its pension Plan at the actuarially recommended amount in 2009; this will result in an increase in funding from the current $50 million funding level in 2006 to approximately $240 million ($150 million for pension and $90 million for healthcare) in 2009.

The CTA Plan also faces a shortfall for post-retirement healthcare benefits that could exhaust its funding for healthcare benefits well before 2009; the Plan actuary projects a 50 percent chance that the funds in the Retiree Healthcare Account would be depleted by July of 2007.

The CTA has four other, far smaller, retirement plans for its management and Board members. In 2005, in conjunction with creating a new Supplemental-Qualified Plan, the CTA transferred $13 million in funds set aside for Supplemental Plan pension costs to fund the general operations of the CTA.

Metra and Pace management employees and all RTA employees are in the RTA pension plan, which is in fair financial condition (76% funded ratio as of January 1, 2006) and managed under policies that provide a high level of protection against systematic underfunding.

Metra's bargaining unit employees are in multi-employer, "union" pension plans, which require Metra to make a specified per-hour contribution, with no further responsibilities for pension obligation. Over a period of many years, all but two of Pace's nine bargaining unit retirement programs have shifted to defined contribution plans. The two remaining defined benefit plans are in fair to good financial condition, with funding ratios of 76 percent and 86 percent.

OVERVIEW

The four transit agencies have several different pension plans with very different levels of benefits that vary widely in financial status. The primary CTA pension plan, the Retirement Plan for Chicago Transit Authority Employees (CTA Plan), is by far the largest plan, and is in extremely poor and rapidly declining financial condition. If not for recent statutory action by the General Assembly, the CTA Plan was on track to run out of funds in approximately six years. While Public Act 94-0839 mandates that the CTA begin to fund this Plan at an adequate level, as of this time, there has been no source of funding identified for this new requirement.

CTA also has four separate plans for its board members and top managers that are collectively referred to as the "Supplemental" pension plans. These provide benefits that are in addition to those of the CTA main Plan. Three of these are essentially non-funded, or "pay-as-you-go," with CTA making only sufficient annual contributions to pay each year's annual cash outflow. Only one of these plans, the "Supplemental-Qualified" Plan for CTA top management, which was recently restructured as a "qualified" plan in accordance with the requirements of the Internal Revenue Code, currently has any long-term assets attached to it.

In general, Metra, Pace, and RTA offer pension programs to their employees that are within the usual competitive range for public sector employers and, with the exception of a relatively small number of Pace employees, post-retirement medical benefits are limited to the opportunity for retirees to retain their "employee" coverage by paying the full cost of premiums. Some of the defined benefit plans that are administered by these agencies, while not currently in weak financial condition, have been suffering declines in the funded percentages. While we do not believe that these are major problems at this time, we do recommend corrective actions.

All four entities sponsor tax-deferred, employee-paid, post-retirement income plans such as Section 401(k) and 457 Plans. These plans do not provide for any employer contributions and there is only a minimal employer cost to administer such plans. As our review found nothing of concern with these plans, these will not be discussed further in this chapter.

Exhibits 7-1 and 7-2 summarize key demographic, financial, and benefits data for each defined benefits plan for the four entities.

The key metric for defined benefit pension plans and other non-defined contribution post-retirement benefits, specifically healthcare, is the "funded percentage." In simplified terms, this expresses plan assets as a percentage of plan liabilities. A plan that is "100% funded" has an actuarial value of assets equal to actuarial accrued liabilities and, if the plan were to be terminated today, there would be sufficient assets to pay the full benefits owed to plan members, assuming that future events were consistent with the plan's assumptions. A plan that is funded at a significantly lower percentage cannot offer this degree of security to its members and, as a result, will normally be required to make up the shortfall by making larger annual contributions over a period of years until the plan is "fully funded."

The CTA Plan is, by far, the largest of the various plans and is in very serious financial condition. As of January 1, 2006, the CTA Plan was 34.4 percent funded, and has been trending steadily downward from the peak of 79.9 percent funded as of the January 1, 2000 valuation. As discussed below, the Plan's funded percentages were restated in 2003. The restated funded ratio for the January 1, 2000 valuation was 66.82%.

While the actuarial liabilities have grown from $2.2 billion at the beginning of 2000 to $3.5 billion at the beginning of 2006 and are projected to grow to $4.0 billion by January 1, 2009 (this value includes post-retirement healthcare liabilities), the actuarial value of assets has decreased from $1.7 billion to $1.2 billion over the same period, and are projected to decline to $0.8 billion at the beginning of 2009, when the funded percentage is expected to be 20 percent. The 20 percent funded ratio includes post-retirement healthcare liabilities. Excluding these liabilities, projected at approximately $1.5 billion by January 1, 2009, in accordance with the requirements of Public Act 94-0839, produces a funded percentage for the pension benefits alone of 32.2 percent, but the post-retirement healthcare liabilities will still exist, virtually totally unfunded, very likely with no assets available to fund expenditures, unless corrective actions are made prior to January 1, 2009.

Exhibit 7-1

PENSION PLAN SUMMARY

CTA, Metra, Pace, and RTA

January 1, 2006[1]

Entity/Plan	# of Active Members	Beneficiaries	Employer Contributions	Employee Contributions	Value of Year of Service[2]	Retirement Age	Post Retirement Health Care?
CTA							
CTA Employee Plan	10,644	8,998	6.0%	3.0%	2.15%	65[8]	If hired prior to 9/6/01
Supplemental Qualified	141	5	See note[3]	N/A	.167%[6]	65[8]	Yes[4]
Supplemental Non-Qualified	0	262	See note[5]	N/A	.167%[6]	65[8]	Yes[4]
Early Retirement Incentive Plan	0	220	See note[5]	N/A	See note[7]	65	Yes[4]
Board Plan	6	22	135.0%	N/A	2.15%	65	Yes[4]
Metra, Pace, RTA							
RTA Pension Plan	978	715	11.55%	N/A	1.75%	65/Rule of 85	No
Pace[1]							
ATU Local 241/ Pace West Division	222	170	3.5%	5.4%	1.85%	65	Only employees as of original contract
ATU Local 900/ Pace North Div.	68	37	4.0%	4.0%	$52.00/ month	65	Age 62-65 retirees only

Notes:
[1] Pace information is as of January 1, 2005.
[2] As of the normal retirement age.
[3] Not applicable since this Plan was created in 2005 and funds were transferred from the predecessor Plan.
[4] Long-term CTA employees will receive post-retirement healthcare benefits through Retirement Plan for CTA employees; those who do not vest in that Plan will receive benefits through the other pension plan.
[5] These are closed plans; the CTA does not make a set percentage contribution.
[6] Value for year of service for employees vested in the "main" CTA Plan is at least .167% and 1% for those who do not vest.
[7] Employees who elected early retirement in 1992 received an additional five years of service credit in the "main" and Supplemental Plans, no reduction in benefits, and $200/month for two years.
[8] If a member who was first employed prior to September 2001 has 25 years of covered service, there is no diminishment of benefits for retirement prior to age; after this date, there is no diminishment in service if the employee has 25 years of covered service and has reached the age of 55.
Source: Agency retirement plan reports

Exhibit 7-2
PENSION PLAN FINANCIAL SUMMARY
CTA, Metra, Pace, and RTA
January 1, 2006

Entity/ Plan	Actuarial Value of Assets	Unfunded/ (Overfunded) Actuarial Accrued Liability	Percent Funded	Actuarial Rate of Return Assumption
CTA				
CTA Employee Plan	$1,199,055,000	$2,284,348,000	34.42%	9.00%
Supplemental-Qualified	$17,000,991	$(6,937,220)	168.9%	8.00%
Supplemental-Non-Qualified	$0	$20,263,527	0.0%	6.00%
Early Retirement Incentive Plan	$0	$14,571,262	0.0%	6.00%
Board Plan	$47,382	$3,223,114	1.4%	6.00%
Metra, Pace, and RTA				
RTA Pension Plan	$94,697,937	$29,823,192	76.05%	8.50%
Pace[1]				
ATU Local 241/Pace West Division	$15,720,950	$2,649,582	85.58%	8.00%
ATU Local 900/Pace North Division	$1,547,060	$499,206	75.60%	7.50%

Note: [1] Pace information is as of January 1, 2005.
Source: Agency retirement plan reports

The CTA Plan includes both pension and post-retirement healthcare benefits, unlike the plans of RTA, Metra, and Pace and the plans of the CTA peer agencies, which have separate pension and post-retirement healthcare plans, if post-retirement healthcare coverage is provided. In order to provide comparable metrics, various adjustments have been necessary, as are described in detail below. The 34.4 percent funded ratio and comparable past values include post-retirement healthcare liabilities. Under the terms of Public Act 94-0839, the post-retirement healthcare benefit must be separated from the pension benefits by January 1, 2009.

In general, the various pension plans for Metra, Pace, and RTA employees, while not currently 100 percent funded, are in fair to strong financial condition. For the RTA plan, there is a long-standing financial commitment to bring it to fully-funded condition by adjusting the contribution rate as may be necessary each year.

The two Pace plans, like the Retirement Plan for Chicago Transit Authority Employees, have both their employee and employer contribution rates set through the labor bargaining/interest arbitration process. Metra and Pace have eliminated much of

their potential exposure to defined benefit pension plan and post-retirement healthcare plan liabilities by avoiding such plans and substituting defined contribution plans and contracts with labor bargaining units that require only an annual contribution to the plan.

CTA PLAN

The Illinois Pension Code (40 ILCS 5/22-101) requires the CTA to establish and maintain *"a financially sound pension and retirement system adequate to provide for all payments when due under such established system or as modified from time to time by ordinance of the Chicago Transit Board. For this purpose, the Board must make contributions to the established system as required under this Section and may make any additional contributions provided for by Board ordinance or collective bargaining agreement."* While the funding of the Retirement Plan for Chicago Transit Authority Employees (CTA Plan) has been adequate to make payments when due to date, it is not financially sound.

The CTA Plan is in extremely poor financial condition, and is deteriorating at a rapid rate. Not only are the contributions to the Plan far below the actuarial recommendations to meet its long-term commitments, they have fallen substantially short of annual cash outflows, resulting in a rapid decline in pension assets over the past several years.

While the condition of the Plan, as evidenced by the low funded ratios, has significantly deteriorated in recent years, since 1982 the actual contributions have not met the actuarially recommended contributions, according to information provided by the Plan. Appendix E provides a historical overview of both actual and actuarially recommended contributions, as well as pension benefit and healthcare benefit payments. The Appendix illustrates the rapid increase in Plan pension and healthcare benefit payments.

As of January 1, 2006, the CTA Plan was 34 percent funded; it was 80 percent funded on January 1, 2000. The actuarial liabilities have grown from $2.2 billion on January 1, 2000 to $3.5 billion on January 1, 2006 and are projected to grow to $4.0 billion by January 1, 2009. At the same time, the actuarial value of assets has decreased from $1.7 billion to $1.2 billion and is projected to decline to $0.8 billion at the beginning of 2009. Exhibits 7-3, 7-4, and 7-5 provide an overview

CTA PENSION PLAN FUNDED PERCENTAGES

Year	Funded Percentage Reported in Actuarial Report	Funded Percentage as Restated in 2003
1981	56.58%	55.73%
1982	65.58%	64.70%
1983	73.29%	69.92%
1984	73.89%	65.42%
1985	73.71%	67.56%
1986	72.76%	63.34%
1987	82.77%	73.26%
1988	80.52%	73.00%
1989	79.94%	73.14%
1990	84.39%	77.97%
1991	81.84%	74.63%
1992	82.00%	73.98%
1993	83.73%	74.69%
1994	86.68%	76.92%
1995	77.73%	70.35%
1996	76.96%	69.54%
1997	78.58%	70.42%
1998	73.73%	64.56%
1999	76.74%	65.66%
2000	79.88%	66.82%
2001	77.50%	61.63%
2002	66.31%	65.20%
2003	57.06%	55.67%

Source: CTA

of some of the key performance data of the CTA Plan since 2000.

The CTA Plan's funded percentage data presented in this chapter are the percentages that were reported in the Plan's Actuarial Reports each year; for the most part these were the best and most current data available at the time. At the January 23, 2003 meeting of the Retirement Allowance Committee, new healthcare costing assumptions were adopted which had the impact of recognizing increased future healthcare costs and, therefore, lowering the Plan's funded percentage. At that time, the funded percentages of the CTA Plan were restated, dating back to 1981, immediately after the CTA Plan began providing post-retirement healthcare benefits to its retirees. The inset shows both the Plan's funded percentage as reported in its annual actuarial reports and the restated percentages. After 2003, there are no differences between the funded percentages. Appendix E contains a graph showing the reported and restated funded percentages.

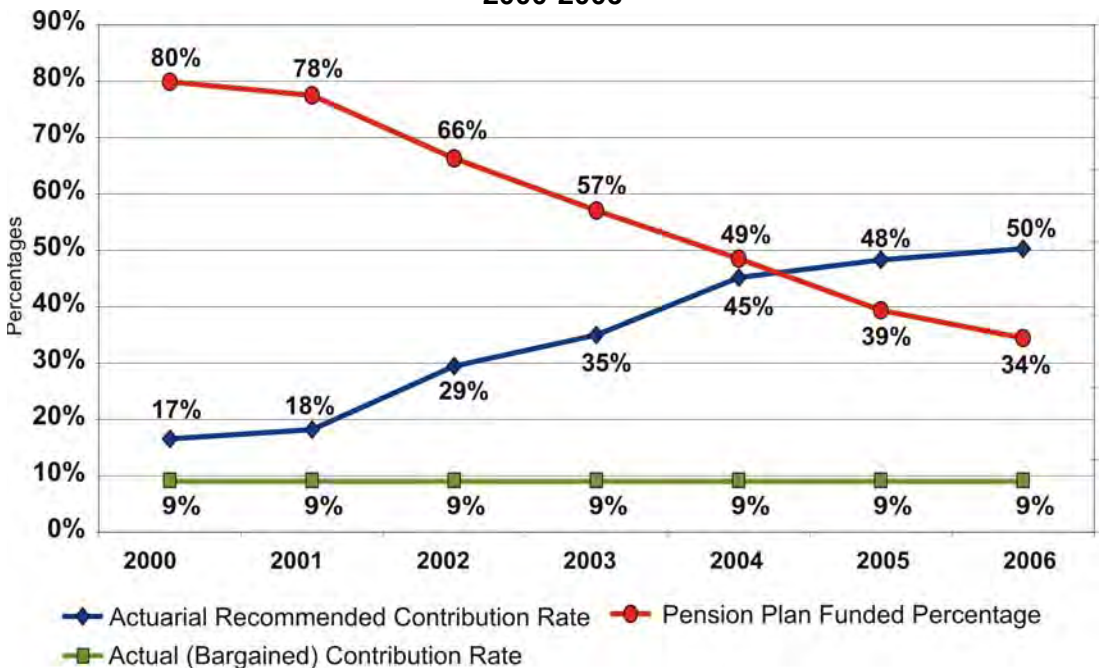
Exhibit 7-3
KEY STATISTICS FOR THE RETIREMENT PLAN FOR CHICAGO TRANSIT AUTHORITY EMPLOYEES
2000-2006
($ in Millions)

	2000	2001	2002	2003	2004	2005	2006
Actuarial Recommended Contribution Rate	16.54%	18.19%	29.46%	34.98%	45.16%	48.32%	50.30%
Actual (Bargained) Contribution Rate	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Funded Percentage	79.88%	77.50%	66.31%	57.06%	48.52%	39.37%	34.42%
Unfunded Actuarial Liability	$434.1	$530.8	$947.5	$1,299.7	$1,677.6	$2,128.4	$2,284.3

Note: Funded percentages used in this Exhibit are from the actuarial reports for each year.
Source: January 1, 2000 through January 1, 2006 Annual Actuarial Reports for Retirement Plan for Chicago Transit Authority Employees

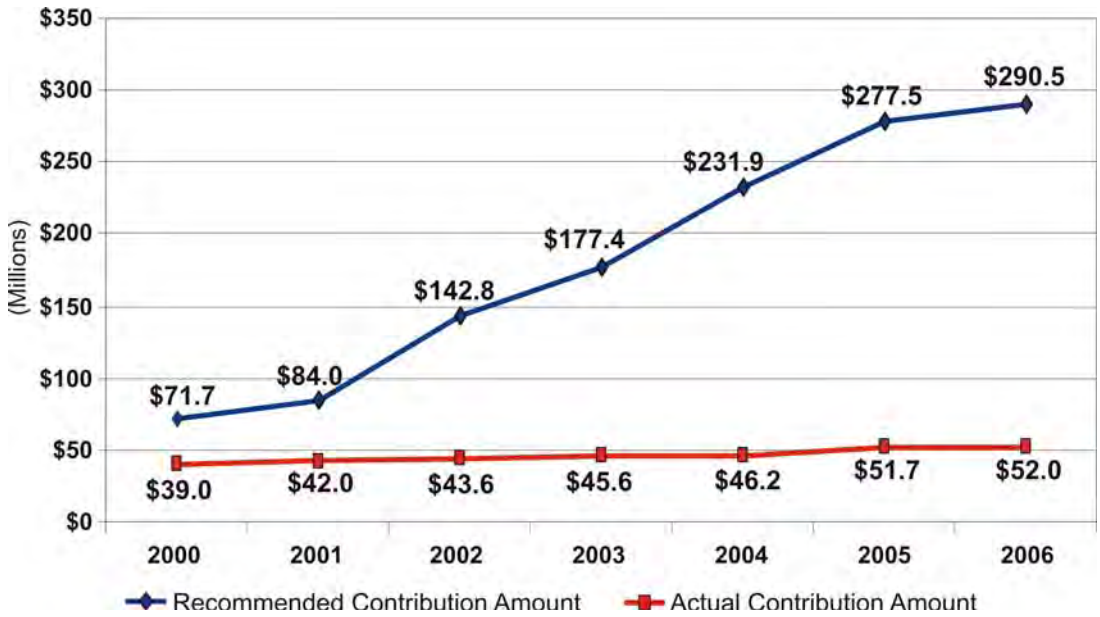
Exhibit 7-4

CONTRIBUTION AMOUNTS AND FUNDED PERCENTAGE FOR THE RETIREMENT PLAN FOR CHICAGO TRANSIT AUTHORITY EMPLOYEES 2000-2006



Note: Funded percentages used in this Exhibit are from the actuarial reports for each year.
Source: January 1, 2000 through January 1, 2006 Annual Actuarial Reports for Retirement Plan for CTA Employees

Exhibit 7-5
RECOMMENDED AND ACTUAL CONTRIBUTION AMOUNTS
RETIREMENT PLAN FOR CHICAGO TRANSIT AUTHORITY EMPLOYEES
2000-2006



Source: January 1, 2000 through January 1, 2006 Annual Actuarial Reports for Retirement Plan for CTA Employees

Public Act 94-0839 will force CTA to begin contributing to the Plan in accordance with the actuarial recommendation beginning in 2009, which should begin to bring the Plan back into a condition of financial viability, over a period of several decades. Our projection is that the annual contributions to the CTA pension and healthcare benefits will increase by approximately $180 million, beginning in 2009, and rising each year thereafter. At the present time, there is no source of funding for these pension contributions.

CTA Pension Plan Retirement Allowance Committee

The Retirement Plan for Chicago Transit Authority Employees, originally negotiated for members of Divisions 241 and 308 of the Amalgamated Association of Street, Electric Railway, and Motor Coach Employees of America, was extended to all other eligible employees by action of the Chicago Transit Board on December 28, 1949. On October 1, 1952, the Chicago Motor Coach Company was purchased by the Chicago Transit Authority and the employees of the Chicago Motor Coach Company were added to the Plan on January 1, 1953.

The Retirement Allowance Committee administers the Retirement Plan for CTA Employees after it's terms have been negotiated by the two parties to the Plan – the CTA and the "Association" (Locals 241 and 308 of the Amalgamated Transit Union). Changes to the Plan are supposed to be negotiated between the CTA and the Association, but are sometimes handed down by an arbitrator in cases where the two parties to the Plan cannot reach agreement.

The Committee has ten members. Five of the members are appointed by the CTA Board. The five members currently appointed by the Board include the Chairman's Chief of Staff, Senior Vice President for Budget and Capital Finance, Vice President of Finance/Comptroller, Executive Vice President of Transit Operations, and Deputy Inspector General, Management and Audits.

The remaining five members of the Committee are composed of the following: three are appointed by the Amalgamated Transit Union (ATU) Local 241, one by ATU Local 308, and one to represent the CTA craft union and non-represented employees and retirees.

The "management" and "labor" members of the Committee vote as blocks. This means that, as a practical matter, if the vote is 1-1, the item is not adopted.

The Committee is also responsible for the investment policy for the Plan, including the selection of investment managers. Arbitration awards are periodically handed down and negotiated changes occur. These changes can revise certain provisions of the Plan.

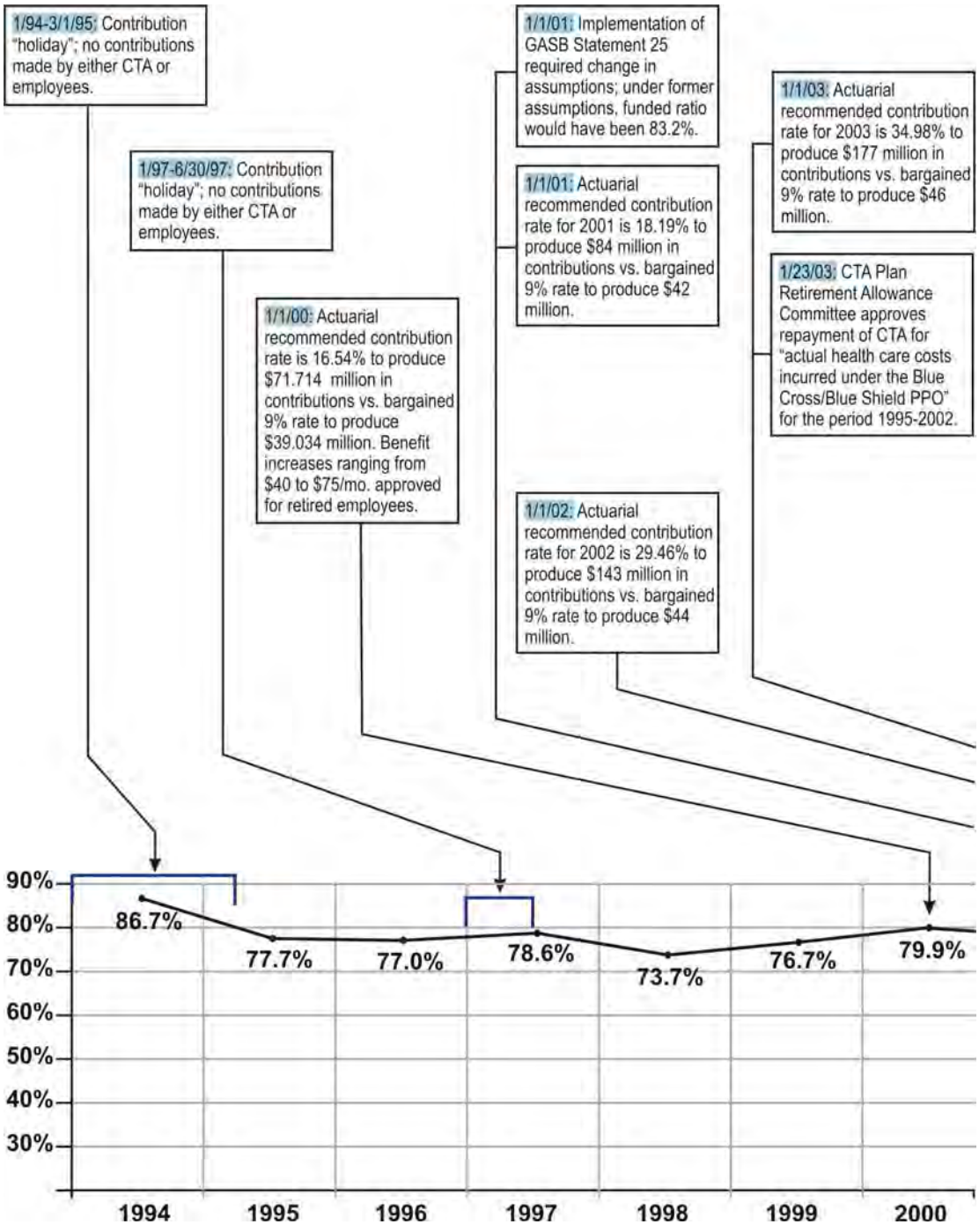
FACTORS CONTRIBUTING TO THE CURRENT CONDITION OF THE CTA PLAN

The poor financial condition of the CTA Retirement Plan can be traced to a variety of contributing causes. Exhibit 7-6 contains a timeline that shows the decline in the funded percentage over the past 13 years, plus a description of some of the key events that have contributed to this decline.

The setting of pension contribution rates through the labor bargaining process with neither the employer or employees making the level of contributions required to ensure the Plan is adequately funded was the most significant contributing factor in the current condition of the CTA Plan. These rates have been 6 percent of covered compensation by the employer and 3 percent by the employee since December 1, 1995 (with the exception of the two contribution "holiday" periods discussed below). As outlined in the January 1, 2006 Preliminary Actuarial Valuation, the 9 percent total employee/employer contribution rate is expected to produce **$52.0 million** in total contributions in calendar year 2006, while the actuarially recommended contribution rate of 50.3 percent of compensation would produce **$290.5 million** in total contributions (see Exhibit 7-7).

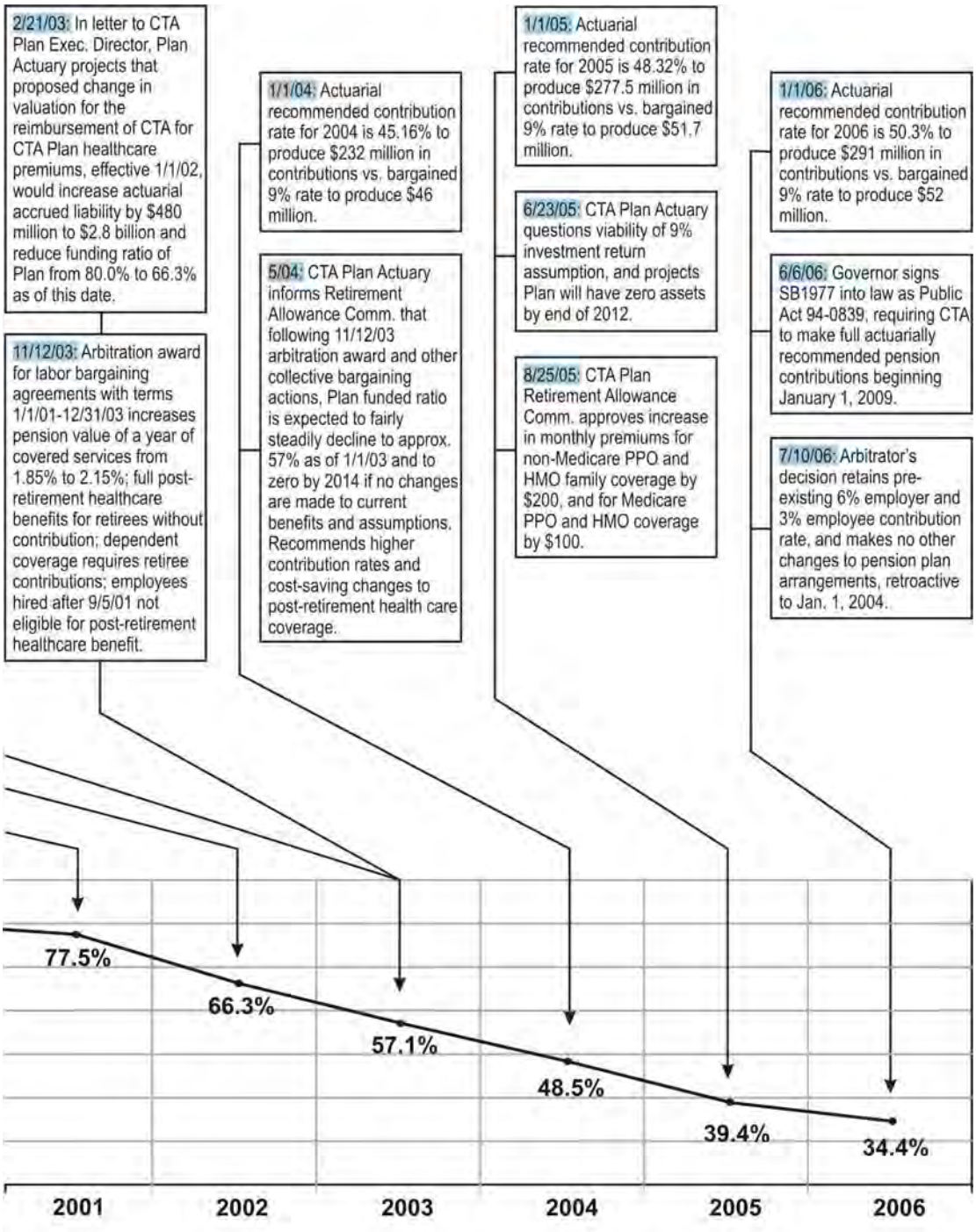
For the 2005 year, the 9 percent rate, and the $51.6 million it was projected to contribute, did not even cover the $84.1 million "normal" annual cost of the CTA Plan, which is the cost of the benefits earned by existing employees during the year, without consideration of differences in experience from assumptions and without amortization of unfunded prior service liabilities and other adjustments. The 9 percent total contribution rate is even far short of reaching "pay-as-you-go" funding status, which has resulted in the steady decrease in pension assets. Over the ten-year period, 1996-2005, the actual contribution as a percentage of the recommended total contribution has been a simple average of 35.8 percent and has never exceeded 59.1 percent (for 1996), with the 2006 projection of 17.9 percent being the lowest of any year during this period.

Exhibit 7-6
RETIREMENT PLAN FOR CHICAGO TRANSIT AUTHORITY EMPLOYEES
FUNDED PERCENTAGE TIME SERIES WITH KEY DECISIONS
1994-2006



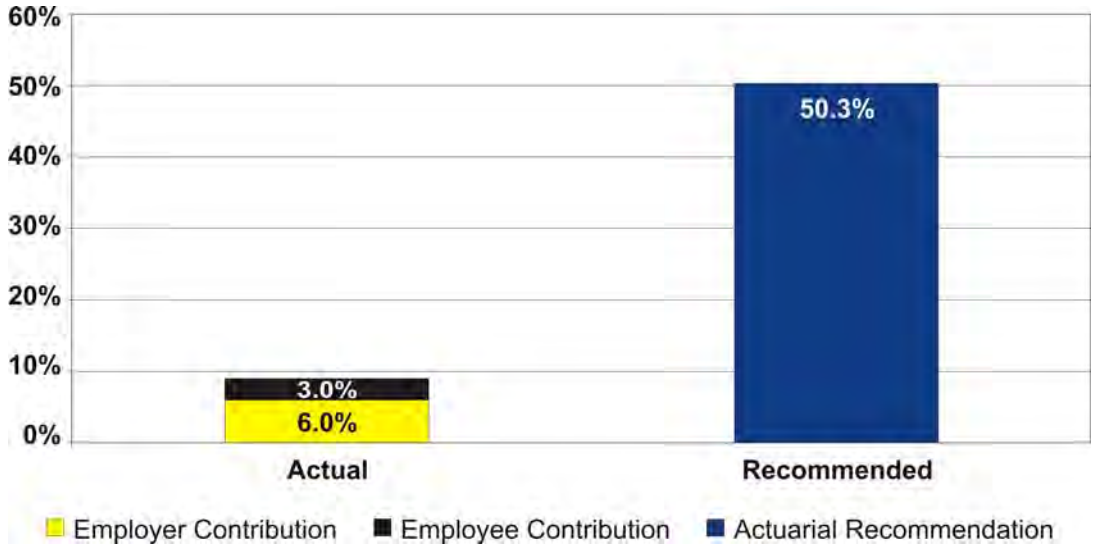
Note: Funded percentages used in this Exhibit are from the actuarial reports for each year. See Appendix E for graph showing funded ratios for the period 1977 to 2006 from actuarial reports and restated ratios.

Exhibit 7-6
RETIREMENT PLAN FOR CHICAGO TRANSIT AUTHORITY EMPLOYEES
FUNDED PERCENTAGE TIME SERIES WITH KEY DECISIONS
1994-2006



Source: Retirement Plan for CTA Employees Actuarial Reports, Retirement Plan documents and other sources

Exhibit 7-7
COMPARISON OF ACTUAL CTA PENSION CONTRIBUTIONS AND ACTUARIAL RECOMMENDED CONTRIBUTION FOR 2006
(As Percentage of Payroll)



Source: January 1, 2006 Actuarial Report for Retirement Plan for CTA Employees

Other factors contributing to the deterioration of the CTA Plan included:

- The decision in 1980, that the Plan would cover the post-retirement healthcare expenses of retirees. By January 1, 2006, post retirement healthcare actuarially accrued liabilities were 32.4% of total Plan liabilities.

- Increasing the pension benefits by approximately 16 percent, with the value of a year of covered service increasing from 1.85 percent to 2.15 percent of eligible compensation, as a result of the labor negotiations and arbitration award six years ago, effective in two stages on January 1, 2000 and January 1, 2001.

- A change in the valuation methodology for the projected reimbursement from the Plan to the CTA for actual healthcare costs incurred by the retirees and dependents. The current procedure is that the Plan reimburses CTA for, essentially, the actual retirees' and dependents' health care costs. Effective January 1, 2002, the change in valuation methodology resulted in an increase in the actuarial liability of the CTA Plan of $456,844,877. At the same time, an additional liability of $42,755,000 was added due to payments to be made from the CTA Plan resulting from health care claims in excess of premiums paid during the Plan years 1995-2002.

- Contribution "holidays," during which no contributions were made to the CTA Plan from January 1994 to early March of 1995 and for January through June of 1997.

- Two CTA Plan years with negative investment returns of (5.9%) and (12.7%) in 2001 and 2002, respectively, against the CTA Plan investment return assumption of 9 percent. While some lower than expected investment return years are inevitable, the timing of these poor investment return years, at the same time that the CTA Plan contributions were far lower than recommended, combined to create a larger problem than either separately would have caused.

Since at least 2003, the reports from the Plan actuary have delineated the clear and present danger to the funding status of the CTA Plan. For example, a report presented June 9, 2004 includes a graph showing the CTA Plan funded ratio declining to 0 percent by 2014 (i.e., no assets remaining at that point).

Having management negotiators for bargaining unit matters to be members of the same pension plan for which they are negotiating terms with the CTA labor unions raises conflict questions. CTA officials note that the Pension Code requires that "Provisions shall be made by the Board for all Board members, officers and employees of the Authority appointed pursuant to the "Metropolitan Transit Authority Act" to become, subject to reasonable rules and regulations, members or beneficiaries of the pension or retirement system … ." (40 ILCS 5/22-101(a)). As such, management negotiators are members of the Plan. However, it is not good public policy to have senior employees, who are part of the Plan and may be retiring within a relatively short period following the completion of the negotiation process to be tasked with keeping pension costs low by negotiating against CTA Plan benefit increases. Options may exist, such as engaging non-employee negotiators for the portion of the labor bargaining process that relate to pension matters, which the CTA could explore.

The statutory responsibilities of the Retirement Allowance Committee detailed in Article 1 of the Illinois Pensions Code are:

> Sec. 1-109. Duties of Fiduciaries. A fiduciary with respect to a retirement system or pension fund established under this Code shall discharge his or her duties with respect to the retirement system or pension fund solely in the interest of the participants and beneficiaries and:
> (a) For the exclusive purpose of:
> (1) Providing benefits to participants and their beneficiaries; and
> (2) Defraying reasonable expenses of administering the retirement system or pension fund;
> (b) With the care, skill, prudence and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character with like aims;
> (c) By diversifying the investments of the retirement system or pension fund so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so; and

> (d) In accordance with the provisions of the Article of the Pension Code governing the retirement system or pension fund.

The members of the Retirement Allowance Committee have, in their non-Committee member roles, other responsibilities that can appear to conflict with their Committee member fiduciary obligations. The most important of these include labor agreement negotiation on the part of all members and producing a balanced CTA budget on the part of the CTA appointees. While the Committee is limited in important ways by decisions that the Committee and its members may not be party to, particularly labor negotiations and the arbitration process, the parties that *are* responsible for the CTA labor negotiations process are either the Committee members themselves (in the case of the five bargaining unit representatives) or senior CTA management.

Responsibility for Adequately Funding Pension Plan

We inquired of the CTA whether the CTA believed there was any legal constraint why it could not make payments over and above the 6 percent employer rate collectively bargained. In correspondence responding to our request, the CTA stated:

> Unilateral changes by an employer during the course of a collective bargaining relationship concerning matters that are mandatory subjects of bargaining are regarded as per se refusals to bargain. …
>
> Based on this case law, an employer that unilaterally changes conditions of employment risks being charged with refusal to bargain and an unfair labor practice, as well as potential violation of public policy.

We note, however, that Public Act 94-0839 will require the CTA to substantially increase contributions to the Retirement Plan for Chicago Transit Authority Employees. The Act was not part of any collective bargaining process. This Act states, in part:

> Beginning January 1, 2009, the [Chicago Transit] Authority shall make contributions to the retirement system in an amount which, together with the contributions of participants, interest earned on investments, and other income, will meet the cost of maintaining and administering the retirement plan in accordance with applicable actuarial recommendations and assumptions and the requirements of this Section.

Furthermore, the Illinois Pension Code, as amended by Public Act 94-0839, states that the CTA Board "must make contributions to the established system as required under this Section and ***may*** make any additional contributions provided for by Board ordinance or collective bargaining agreement." (40 ILCS 5/22-101) (emphasis added). The Code also states that "The participating employees shall make such periodic payments to the established system as may be determined by Board ordinance or collective bargaining agreement." The Pension Code, as amended by Public Act 94-0839, appears to place the responsibility for ensuring that the pension Plan is adequately funded directly on the CTA Board.

ARTICLE XIII OF THE ILLINOIS CONSTITUTION

The Illinois Constitution, Article XIII, General Provisions, Section 5, Pension and Retirement Rights, contains specific provisions which protect the retirement benefits of certain public employees:

> Membership in any pension or retirement system of the State, any unit of local government or school district, or any agency or instrumentality thereof, shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired.

We asked the CTA for its interpretation whether or not CTA employees are covered by the provisions in Article XIII. CTA legal counsel provided the following response:

> Regarding the questions relating to the Retirement Plan for Chicago Transit Authority Employees, I am unable to provide answers at this time. The interpretation of Article XIII, Section 5 of the Constitution of the State of Illinois is at issue in current litigation, may potentially be at issue in the current contract negotiations, and may be the subject of future litigation. Furthermore, the subject matter of this provision may be impacted by the applicability of other state and federal laws, including but not limited to the Illinois Pension Code, the Older Workers Benefit Protection Act and the Metropolitan Transit Authority Act. As such, it would be imprudent for the Chicago Transit Authority to commit to a legal position on the precise meaning of this provision at this time.

IMPACT OF PENSION ON ANNUAL OPERATING EXPENSE

Because the CTA and its employees have failed to make annual pension contributions for the Retirement Plan for Chicago Transit Authority Employees equal to the actuarial recommendations, the CTA must annually book, as an expense, the difference between the actuarially recommended contribution and the actual contribution made. These non-cash expenditures are ***not*** included in the annual determination if CTA's operating ratio (the ratio of operating revenues, chiefly fares, to operating expenses) is in compliance with its established recovery ratio. The RTA Act defines "costs" for purposes of calculating the system-generated revenues recovery ratio, and specifically excludes any costs for which "it is reasonably expected that a cash expenditure will not be made." (70 ILCS 3615/4.01(b)) Pursuant to this provision, the RTA does not require actuarially required pension costs to be included in the calculation of recovery ratios.

Actuarially required pension contributions are also not included in the CTA's budget submitted to the RTA. The Metropolitan Transit Authority Act contains provisions regarding the CTA's requirement to annually prepare budgets and submit them to the RTA, including "It shall not be necessary [for the CTA] to include in the

annual budget any statement of necessary expenditures for pensions or retirement annuities, or for interest or principal payments on bonds or certificates, or for capital outlays, but it shall be the duty of the [CTA] Board to make provision for payment of same from appropriate funds." (70 ILCS 3605/34) The Act goes on to state that the CTA's budget shall conform in all respects to the requirements established by the Regional Transportation Authority.

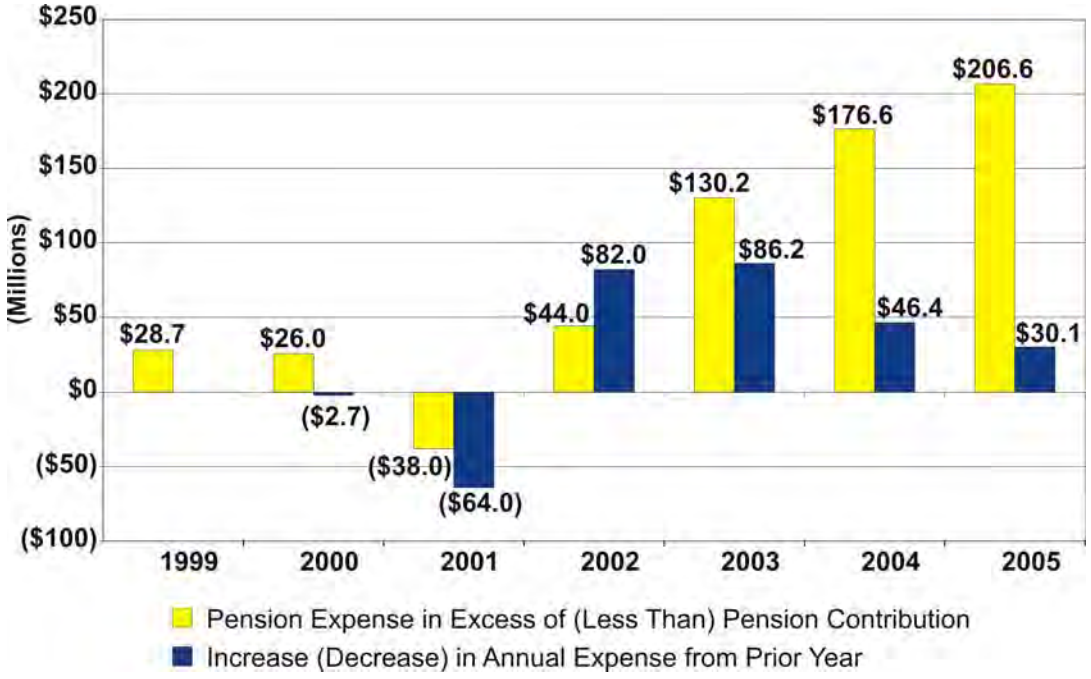
The Regional Transportation Authority Act (70 ILCS 3615/4.11), subsection (b)(2)(i), refers to the "proposed budget and cash flow plan," and (b)(2)(iii), requires, "such budget and plan show cash balances including the proceeds of any anticipated cash flow borrowing sufficient to pay with reasonable promptness all costs and expenses as incurred."

However, the RTA Act is not totally clear in this regard, in that there are other provisions of the RTA Act that could be interpreted to require inclusion of actuarially required pension costs in the Service Board's budgets. For example, subsection (b)(2)(ii), states, "such budget and plan show a balance between (A) anticipated revenues from all sources including operating subsidies and (B) the costs of providing the services specified and of funding any operating deficits or encumbrances incurred in prior periods, including provision for payment when due of principal and interest on outstanding indebtedness" which would have included non-cash expenditures within the meaning of (B).

Also, 70 ILCS 3615/4.11(d) states that "All budgets and financial plans, financial statements, audits and other information presented to the Authority pursuant to this Section or which may be required by the Board to permit it to monitor compliance with the provisions of this Section shall be prepared and presented in such manner and frequency and in such detail as shall have been prescribed by the Board, shall be prepared on both an **accrual** and cash flow basis as specified by the Board … ." (emphasis added).

Prior to 2000, when the actual contributions were less than the actuarial recommendations, the shortfall was fairly constant from year to year. Therefore, the CTA's total operating expense from year to year did not change significantly. However, since 2002, there have been very large annual increases in the shortfall, resulting in rapid increases in the CTA's total annual expenses for pension, employee benefits, total employee compensation, and overall operating expense. Exhibit 7-8 demonstrates the impact of this on CTA's schedule of expenses and revenues in recent years.

Exhibit 7-8
CHICAGO TRANSIT AUTHORITY
IMPACT OF PENSION EXPENSES IN EXCESS OF (LESS THAN) PENSION CONTRIBUTIONS
1999-2005



Source: CTA Financial Statements, 1999-2005

The decrease in CTA's expenses in 2000 and 2001 shown in Exhibit 7-8 was due to the impact of a decision that the Plan should reimburse the CTA the actual cost of retiree healthcare expenses under the medical plans that were, and are, utilized jointly for both current CTA employees and retirees.

This had the impact of significantly decreasing CTA's annual operating expenses for healthcare, as shown on the CTA financial statements; however, the long-term cost for post-retirement healthcare expenses for the CTA Plan increased and are reported as liabilities on CTA's published financial statements.

The change had the additional impact of recognizing the long-term cost of retiree healthcare obligation at nine percent (the CTA Plan investment earnings assumption rate), on which the payments are not being kept current, building up larger and larger back interest charges to be paid. In effect, the Plan had taken a significant portion of what had been booked each year as medical benefit costs by the CTA and recognized them as Plan obligations, to be paid at some future, unspecified date.

The CTA also collected from the Plan $42 million (for the years 1995-2002) for past medical expenses of this type. The resulting reduction in current year medical costs meant, under the mostly cash budget methodology utilized by RTA, significant operating funds were freed for other purposes. For CTA's 2001 financial statements, the implementation of this decision, and the repayment by the Plan for back expenses under the decision, had the impact of *reducing* CTA's reported annual operating expense by $38.0 million that year.

In 2002, however, the impact of the funding shortfall began to have major impacts on CTA's "bottom line." The combination of the increase in the value of benefits from 1.85 percent to 2.15 percent per year of covered service, the higher medical expenses now borne directly by the Plan instead of by CTA (except for Plan HMO costs, which are a minor portion of total Plan healthcare costs), a poor investment return year, and other factors led to a huge increase in the actuarial recommended contribution, which was not made. Rather than the $64.0 million "reduction" in expenses from this difference in the prior year, the annual expense increased $82.0 million, a one-year change of $146.0 million, which was added to CTA's annual costs.

The next three years saw other very large annual increases. In total, from 2001 to 2005, CTA's annual pension, employee benefits, total employee compensation, and total operating expenses have increased by $244.6 million due to this factor alone. This is 78 percent of the increase in total CTA operating expenses of $313.1 million over this period.

Moreover, it appears that pension expenses will continue to increase in this manner until at least 2009, when the new State statutory requirement for CTA to begin to make its pension contribution at the actuarial recommendation comes into play. Public Act 94-0839 only requires CTA to make the actuarial recommended contribution to the "pension" element of the existing Plan, which, under the terms of the same bill that established the requirement for CTA to make the actuarially recommended contribution, will then be separated from the post-retirement healthcare benefits plan. This expense line item in CTA's budget will then return to annual increases each year, beginning in 2010.

RETIREE HEALTHCARE

The CTA Plan faces another issue related to the retiree healthcare subordination test under Internal Revenue Code §401(h). The following is taken directly from the most recent actuarial report for the Retirement Plan for Chicago Transit Authority Employees:

> Retirement plans providing retiree healthcare benefits through a qualified pension trust must satisfy the requirements of Internal Revenue Code § 401(h) which include:
>
> - The plan sponsor should establish and maintain a 401(h) account for retiree healthcare benefits.
> - The plan sponsor must allocate total contributions in a reasonable and well-defined manner. Currently, total contributions are allocated ratably based on the relationship of the GASB 25 annual required contribution for pension and healthcare benefits.
> - Retiree healthcare benefits must be subordinate to pension benefits. This requirement is satisfied if the cumulative value of contributions made to the 401(h) account for retiree healthcare benefits does not exceed 25 percent of the total contributions made to the trust.
>
> Based on current Plan provisions and funding policies, the subordination percentage for plan year end 2005 is 23.75 percent, which is less than the statutory limit of 25.00% and the Plan satisfies the subordination test in 2005. However there is a high likelihood that the Plan will fail the subordination test within the next 36 months. Based on our stochastic modeling, there is a 75 percent likelihood that the retiree healthcare will be depleted by May of 2008 due to the limitations of IRC 401(h).

In its "Management Letter" accompanying the audit report for the year ended December 31, 2005, the Plan's Independent Auditor states:

> Income tax may be imposed by the Internal Revenue Service on the health care benefits as well as loss of tax exempt status by the Plan if the Plan fails to qualify under Section 401(h) of the Internal Revenue Code.

There are various options the CTA could explore to address this issue, including splitting the healthcare elements from the pension fund, prior to the 2009 split required by Public Act 94-0839, increasing contributions, and/or reducing benefits. However, all of these have significant financial and policy implications.

Time is of the essence in structuring a solution to this problem. While the Plan actuary's report of its modeling states that there is a 75 percent chance that the funds in the Retiree Healthcare Account would be depleted by May of 2008, the same modeling process projected a 50 percent chance that the funds would be depleted by July of 2007.

CTA AND PEERS: PENSION/RETIREE HEALTHCARE COMPARISON

We compared the Retirement Plan for Chicago Transit Authority Employees provisions and financial status to those of seven peer agencies. The CTA "pension" peers were generally the same as those utilized for CTA motor bus and heavy rail operations, with two exceptions. We were unable to obtain the financial statements of the Southeastern Pennsylvania Transportation Authority. For the pension peer group, we substituted the Washington Metropolitan Area Transportation Authority, a large motor bus and heavy rail operator. Also, the Port Authority Transit Corporation (PATCO) is a component unit of the Delaware River Port Authority (DRPA). DRPA employees, including those of PATCO, are covered by three multi-employer cost sharing pension plans, which make comparisons difficult. We decided that a substitute peer for PATCO was not necessary as the peer group of seven other agencies was sufficiently large. The peers used in the comparison include the following:

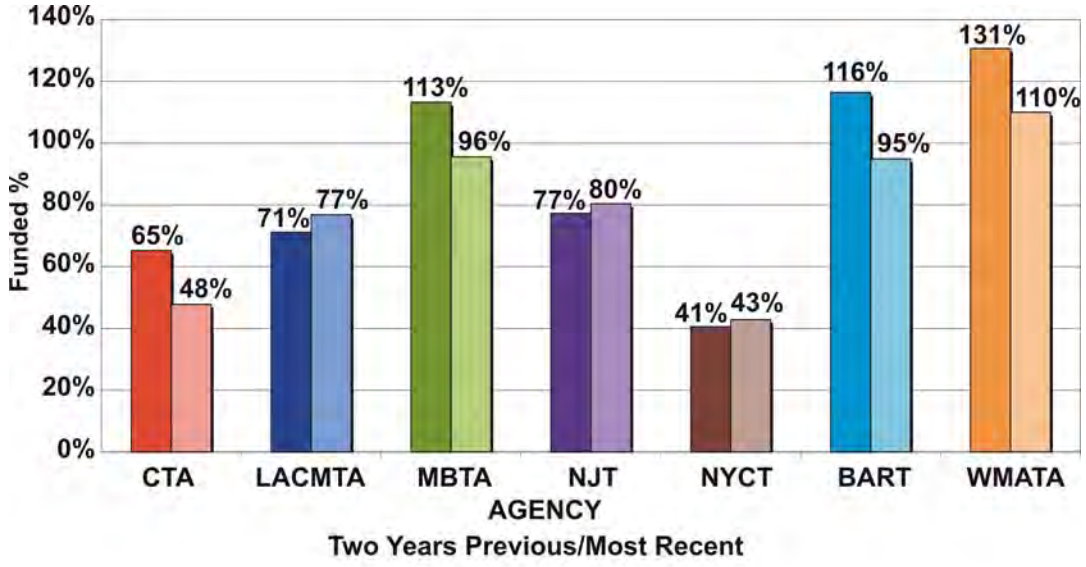
- Los Angeles County Metropolitan Transportation Authority (LACMTA)
- Massachusetts Bay Transportation Authority (MBTA) (Boston)
- Metropolitan Atlanta Rapid Transit Authority (MARTA)
- New Jersey Transit Corporation (NJTC)
- MTA – New York City Transit (NYCT)
- San Francisco Bay Area Rapid Transit District (BART)
- Washington Metropolitan Area Transit Authority (WMATA).

Each agency had from two to eight separate defined benefit pension plans. We selected the plan that had the largest membership, except for NYCT, where the largest plan was the New York City pension plan and the majority of the members in that plan are non-transit employees, and instead utilized the second largest plan, an exclusive NYCT transit employee pension plan. We attempted to put all the agencies on as close to a comparative basis as possible. To do this, we adjusted certain CTA data to produce comparable, "pension plan only" data, by segregating out the post-retirement healthcare costs and plan assets and liabilities. The non-CTA operators predominantly excluded healthcare from their pension plans.

This exclusion does not impact the funded percentage calculations for the CTA Plan, as the data in the CTA financial statements shows the same funded percentage for both the pension and the healthcare elements of the combined CTA Plan. However, because the total CTA contributions for both pension and healthcare were less than the annual costs of the healthcare alone, backing out the healthcare costs produced a "negative" pension contribution rate (see Exhibit 7-11). In other words, even if one assumes that the entire employer and employee contributions were used for post-retirement healthcare purposes, the costs were higher still and it was necessary to use other CTA Plan assets to cover them.

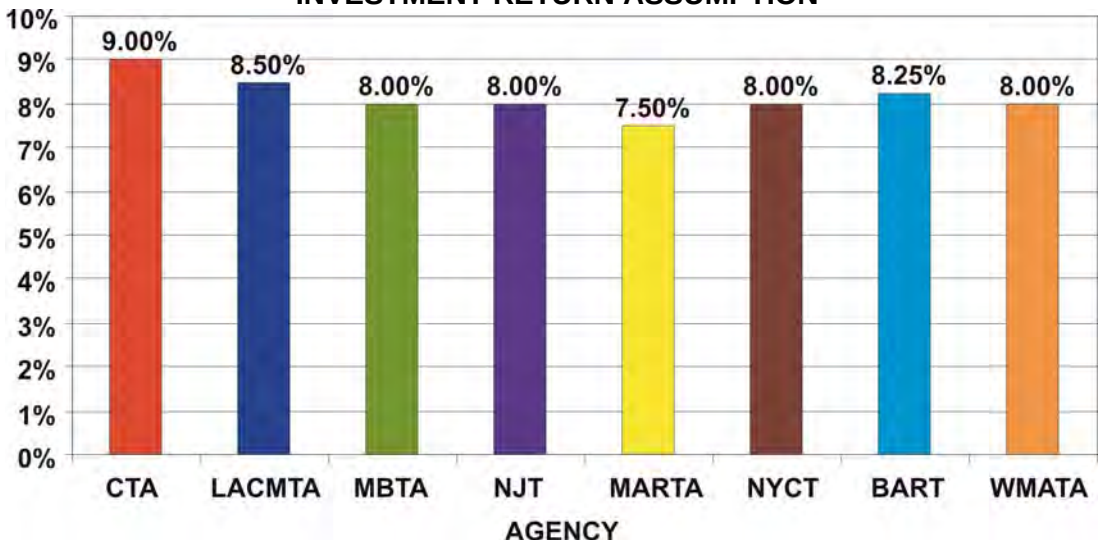
The CTA Plan is compared with peer plans as follows: Exhibit 7-9: funded ratios; Exhibit 7-10: investment return assumption; Exhibit 7-11: actual pension contributions as a percentage of payroll (excluding healthcare); and Exhibit 7-12: actual pension contributions as a percentage of payroll (including healthcare). The pension contribution rates are the sum of the employer plus employee contribution rates except where otherwise designated, for *all* pension plans.

Exhibit 7-9
FUNDED RATIOS, PENSION PLANS ONLY
2002-2003 and 2004-2005



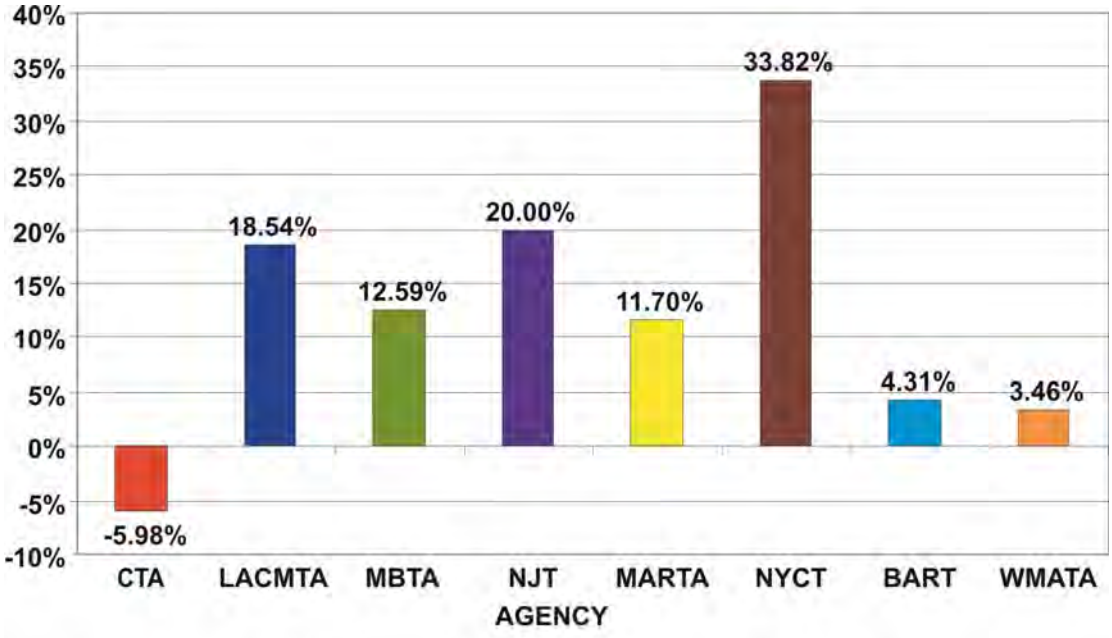
Source: Transit agencies' annual reports and comprehensive annual financial reports

Exhibit 7-10
INVESTMENT RETURN ASSUMPTION



Source: Transit agencies' annual reports and comprehensive annual financial reports

Exhibit 7-11
ACTUAL PENSION CONTRIBUTIONS AS PERCENTAGE OF PAYROLL EXCLUDING HEALTHCARE



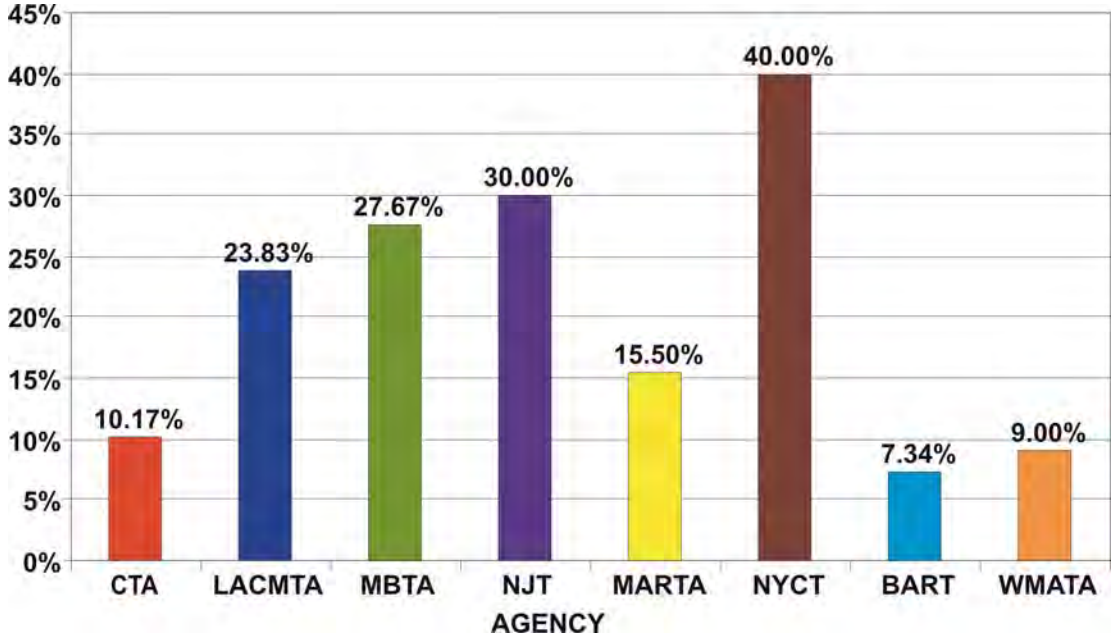
Note: Because the total CTA contribution for both pension and healthcare were less than the annual costs of the healthcare alone, backing out the healthcare costs produced a "negative" pension contribution rate.

Source: Transit agencies' annual reports and comprehensive annual financial reports

Using a methodology to produce comparability between the eight entities above, CTA shows a "negative" contribution in Exhibit 7-11 because the total annual contribution for the year analyzed was less than the Plan paid out for healthcare costs.

Of the six peers shown in Exhibit 7-9, five have plans with funding percentages that are higher than CTA's 48 percent, in a range from 77 percent to 110 percent in the most recent available year. The exception is the New York City Transit plan, at 43 percent. However, even in this case, NYCT has made a commitment to fully fund its plan and the funding percentage has been increasing, although this has required a pension-plan only funding percentage of 34 percent of payroll, by far the highest of any plan in this survey (other than the CTA Plan's actuarially recommended rate of 50.3 percent for 2006, which is not being fulfilled).

Exhibit 7-12
ACTUAL PENSION CONTRIBUTIONS AS PERCENTAGE OF PAYROLL INCLUDING HEALTHCARE



Source: Transit agencies' annual reports and comprehensive annual financial reports

All of the seven plans have far higher current contribution percentages, as a percentage of payroll, than the CTA Plan, except that, when the plans are reviewed on a pension plus post-retirement healthcare plan basis, BART and WMATA have lower contributions.

Also, the CTA's investment return assumption, at 9 percent is higher than those of the other plans. The next highest is LACMTA at 8.5 percent, then BART at 8.25 percent, four at 8.00 percent, and MARTA at 7.50 percent.

Finally, for every agency other than CTA, even those where there is an employee contribution rate set through the collective bargaining process, the employer contribution rate is set at the actuarial recommended rate and is not subject, in any way, to the collective bargaining process.

PUBLIC ACT 94-0839 PROVISIONS AND THEIR IMPACT

The provisions of the recently enacted Public Act 94-0839 require that the CTA Plan contributions be increased to the actuarial recommendation no later than January 1, 2009. Assuming that from the present time until that date, no significant changes in either the CTA Plan or the contribution pattern will occur, the actuarial projection is that pension-only contributions of $150.4 million to the CTA Plan will be required in 2009, compared to approximately $60 million that would be generated by the existing 9 percent contribution rate for 2007. This is an increase of $90 million, or a projected contribution rate of 22.5 percent of employee salary, compared to the current 9 percent rate. This projected 22.5 percent is the best available current projection, but is subject to change due to multiple factors.

However, Public Act 94-0839 also requires that the CTA Plan post-retirement healthcare benefits be split off from the "pension-only" CTA Plan prior to the CTA Plan pension contribution increase requirement going into effect. The **9 percent** 2006 contribution rate is for **pension and healthcare combined**, while the **22.5 percent** 2009 contributions projection is for **pension alone**. Public Act 94-0839 does not require post-retirement healthcare costs to be funded at a specific level, but, at a minimum, the contributions must be sufficient to cover the cash outflow on a pay-as-you-go basis because, after the separation of the pension and post-retirement healthcare plans, there will be no other source for the funds to pay the healthcare insurance premiums and other costs, other than required retiree contributions for spouse/family coverage, which are sufficient to fund only a relatively minor portion of the annual costs. Based on the 2005 post-retirement healthcare costs and escalation factors in the Actuarial Report 2005, we calculate that an additional approximate $90 million in annual contributions will be required in 2009 (see Exhibit 7-13). Therefore, with the required CTA Plan increase, approximately $180 million more needs to be generated than the approximately $60 million generated by the current 9 percent contribution rate.

Exhibit 7-13
CHICAGO TRANSIT AUTHORITY
PENSION AND POST-RETIREMENT HEALTHCARE CONTRIBUTIONS
2005 ACTUAL AND 2009 PROJECTED
($ in Millions)

	2005	2009
Employee Contribution	$15.066	
Employer Contribution	$30.568	
Pension Contribution		$150
Healthcare Contribution		$90
Total Contribution	$45.634	$240
Less: Employee Contribution @ 3%		$(20)
Less: Employer Contribution @ 6%		$(40)
Required Increase in Contributions		$180

Source: IMG analysis and estimates from CTA pension documents

At the present time, the source of the additional $180 million contribution has not been identified. The following analysis is not a recommended course of action to take to address the pension funding shortfall, but rather is included only as an example to show the magnitude of the shortfall. If the $180 million were to be raised solely through an increase of the existing 1 percent transit sales tax in Cook County, with no other change in the current funding allocation, we project that the tax rate would have to increase from 1.00 percent to at least approximately 1.43 percent. This increase would provide no additional funding to offset CTA's shortage of operating subsidies, nor for its shortfall in renewal and replacement funding, nor fund any portion of its several major capital expansion proposals. However, there would be additional funds generated for direct allocation to the other two service boards and RTA, and some or all of the additional RTA revenues could go to CTA for non-pension/post-retirement healthcare plan purposes.

There are many variations on the sales tax increase to fund CTA pension requirements, and many other overall financial plans; this calculation is intended only to be illustrative. If there is no new major source of funding for CTA between now and January 1, 2009 and no major deviations from current expectations, CTA would appear to need to pursue other alternatives to meet the Public Act 94-0839 requirements, including significant fare increases, reductions in service, headcount and other expenses, attempts to reduce employee compensation and benefits, elimination of all service expansion projects, and reduction in capital renewal and replacement for existing facilities.

CTA provided auditors with projections based on alternative scenarios to meet the contributions required by Public Act 94-0839 through various combinations of certain of the change factors listed above. All show major reductions in employment, transit service operated, and ridership.

The above calculation is based on "best-case" assumptions, including:

1. It assumes that well over 90 percent of all of the assets now in the CTA Plan will be assigned to the pension portion of the current CTA Plan benefits, leaving the healthcare portion of the current CTA Plan benefit to be funded on a pay-as-you-go basis. It also assumes that there will be no attempt to increase contributions for post-retirement healthcare to reach an actuarially sound, fully-funded condition, or any degree of funding at all sufficient to do more than cover current cash outflows.

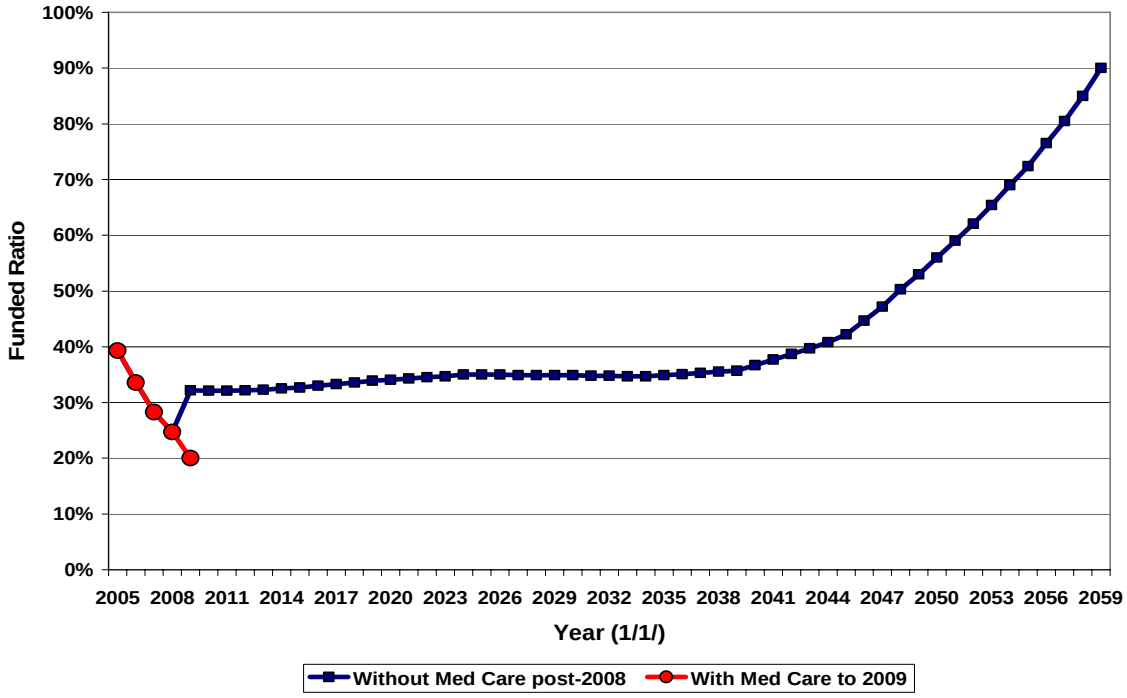
2. The CTA Plan's investment return assumption is 9 percent. The range of pension plan investment return assumptions for seven other major U.S. transit operators was from 7.50 percent to 8.50 percent. A survey of 123 state and state-sponsored pension plans in the U.S. showed that that the average actuarial investment return assumption was 8.05 percent. Only the three New Hampshire plans, with 0.2 percent of total actuarial liabilities, had a 9.00 percent investment return assumption, and only seven additional plans, from Colorado, Connecticut, and New Jersey, representing 6.0 percent of the actuarial liabilities, had assumptions over 8.50 percent. To achieve a higher investment return target, it is necessary to change the asset allocation model to higher return investments, which tend to be more volatile, which, in turn, leads to greater variation in returns.

   On page 1 of its Actuarial Report 2006, the Plan's actuary states:

> Actuarial assumptions … include an investment return assumption of nine percent. An investment return assumption of nine percent may be difficult to support given current economic conditions. Based on the Plan's current asset allocation policy, capital market assumptions provided by the Plan's investment consultant, and without considering any liquidity constraints, the Fund only has a 27 percent likelihood of attaining a return of nine percent over the next ten years. Such a low likelihood, combined with liquidity concerns in the near future, implies that a nine percent investment return assumption is an extremely aggressive assumption according to actuarial standards of practice. … The investment return of nine percent may no longer be defensible if the likelihood of reaching nine percent drops below 25 percent.

In order to minimize the extremely high increase in cash requirements in the early years of the 50-year amortization period, there is a high degree of backloading of funding. Under the projected actuarial results, the CTA Plan increases from a funded ratio of 32.2 percent (after elimination of the post-retirement healthcare liabilities, but retaining substantially all of the CTA Plan assets) on January 1, 2009 to 38.2 percent at January 1, 2042. The funded ratio increases only 6.0 percent over the first 33 years (see Exhibit 7-14). As a result, any negative CTA Plan experience in the early years, no matter how temporary, could have a major negative impact on the funding of the recovery of the CTA Plan.

Exhibit 7–14
RETIREMENT PLAN FOR CHICAGO TRANSIT AUTHORITY EMPLOYEES
PROJECTED FUNDED PERCENTAGE
January 1, 2005 – January 1, 2059



Source: IMG from *"Retirement Plan for Chicago Transit Authority Employees – funding Projections – Impact of Funding Policy Change – SB 1977"*

The projection in Exhibit 7-14 is based on several assumptions, perhaps the most important of which is that post-retirement healthcare benefits and funding will be split off from pension funding on January 1, 2009 and that the contributions to the Plan, for pension only, will be at 22.5 percent of payroll over this period until the stipulated 90 percent funded ratio is reached on January 1, 2059. The separation of healthcare costs alone will allow the funded percentage to increase from 24.7 percent on January 1, 2008 to 32.2 percent on January 1, 2009.

The results projected in Exhibit 7-14 are based on other assumptions, which include: (1) CTA employment will remain relatively constant and consistent with recent history, as will compensation trends; (2) this means, in essence, that there will be new and significant sources of funding to allow CTA and/or its bargaining unit and unrepresented employees to make the necessary contributions; (3) contributions will be made, each year, at the actuarially determined minimum rate to reach the statutory requirement of 90% funding in 2059, which means very slow increases in the funded percentage for many years after 2009, followed by increasingly larger increases as 2059 draws nearer; (4) plan experience will include no departures from current requirements and plan assumptions over the period from the present day to 2059, and (5) there will be no change in the statutory requirement for Plan funding. Undoubtedly, some of these

assumptions will not be met and there is a large variety of alternative scenarios that can be constructed.

An analysis conducted by the Commission on Government Forecasting and Accountability in December 2006 of the CTA Plan came up with differing funded percentages than the analysis conducted by the Plan actuary shown in Exhibit 7-14. The largest differences in funded percentage projections occurred in the latter years covered by the projections.

Eliminating Employee Contributions to Pension Plans

Under the current system, the employee pays 3 percent of his or her salary into the pension plan, and the CTA pays 6 percent. An alternative that could be considered is to reduce the employee's compensation by the amount an employee contributes for his or her pension, and have the CTA pay the employee's entire pension contribution into the plan. As an example, if the CTA would pay the employee's 3 percent, the employee's compensation would be reduced by 3 percent. There would be tradeoffs for both employees and the CTA with this change, but there are costs that are incurred by both the employee and the CTA that could be reduced by changing to this pension contribution method as follows:

a. Employee contributions increase employee compensation for pension plan benefit purposes, which increases pension costs. Since the current three percent employee contribution is first, on paper, "paid" to the employee before being contributed to the plan, employee compensation, and therefore pension benefits, are both also approximately 3 percent higher than if the same contribution was made directly to the plan as an employer contribution. If there were no employee contributions, the employee compensation subject to retirement and other benefits would be lower, as would the costs of the CTA Plan. This provision is also applicable to the two Pace defined contribution plans with employee contributions. It does not apply to "group" 401(k) plans, such as Pace has at several other operating divisions, because the benefits of such plans are not tied to employee compensation, only to the amount of contributions made.

b. Wage and salary compensation paid to employees for their pension contributions increases the costs of other employee benefits. Most notably, in the CTA 3 percent employee contribution to the CTA Plan case, for each $10.00 employee contribution to the pension plan, the employee and employer each pay $0.765, for a total of $1.53, for Social Security Old Age Survivors and Disability Insurance (OASDI) and Medicare. By structuring the pension contributions through individual employee compensation first, the actual cost to produce a dollar of contribution to the plan is higher than if the contribution was an employer contribution. The higher compensation required to make employee contributions may also trigger other higher employee benefit costs for everything from employee life insurance to unemployment insurance to disability insurance to workers' compensation to payoffs for unused vacation and holidays. This

provision is also applicable to the two Pace defined benefit plans, as well as to the six Pace 401(k) and defined contribution plans with employee contributions

c. For members that do not vest, or vest and terminate employment and elect to not receive benefits, there is a refund of their "employee" (but not employer) pension contributions.

d. In the CTA Plan case, with the 3 percent employee contribution, and assuming a 5 percent refund rate and an employee who does not reach the OASDI contribution limit, to wind up with a net $10.00 contribution causes CTA to pay an extra $1.48 ($0.53 for the "refund" and $0.95 for OASDI/Medicare) and the employee an extra $0.95 (OASDI/Medicare), so the total cost to get $10.00 into the CTA Plan is $12.43. That does not include the cost of higher pension benefits and any other employee benefit cost increases. In other words, there is a premium of well over 25 percent paid to non-pension plan purposes for every employee pension plan contribution.

e. For the 2005 CTA Plan year, the anticipated employee contributions were approximately $15.1 million, so there was a cost to CTA and the employees of more than an additional $3.7 million that went to non-pension plan activities instead. Furthermore, if the employee contribution percentage were to be increased in the future to meet the large requirements that will begin no later than January 1, 2009, the dollar loss would increase proportionately as well.

Because under this scenario the employees would no longer be paying the OASDI/Medicare contribution, the earnings to make the employee contribution and other employee-paid payroll taxes would go to the employee instead, so employees will actually have an increase in take-home pay. It would also be possible to redirect this employee savings back to the CTA Plan by reducing the employee compensation by the OASDI/Medicare contribution tax on the employee CTA Plan contribution and other employee benefit cost savings. We estimate that the reduction in CTA Plan compensation from this transfer would reduce the annual normal cost of the CTA Plan by an additional $1.5 million. (The projected 2005 CTA Plan year normal costs for age/service pensions and disability allowance was $48.487 million and $4.628 million, respectively, for a total of $53.115 million; a 3 percent reduction of this amount due to lower CTA Plan compensation and, therefore, future benefit payments, would be approximately $1.5 million.) If there is a decision to have the existing CTA employees bear a greater share of future pension contributions, this should be done by a direct reduction in the otherwise applicable rate of compensation, or lower raises, through statutory action and/or the contract negotiation process, *not* by increasing the employee pension contribution.

Exhibit 7-15 demonstrates the total costs to place $10.00 of net contribution to the CTA Plan in the Plan after consideration of the various transactions costs discussed above.

Exhibit 7-15
TOTAL CASH REQUIRED FOR $10 CTA PENSION PLAN CONTRIBUTION: EMPLOYER- vs. EMPLOYEE-CONTRIBUTION

Source: IMG analysis

Legislation may be needed to help eliminate some of the more serious conditions that have caused this problem to come into being and to continue without corrective action. Many of these solutions will involve provisions of collective bargaining agreements. Legal counsel would be required to ensure that such provisions will pass judicial review, but the Legislature does, evidently, have the ability to compel at least some types of changes in such agreements. For example, while the CTA Plan is a creature of collective bargaining, and this process has resulted in a provision that the amortization period for past service liabilities will be 40 years, Public Act 94-0839 has changed this to 50 years by the authority of the Legislature. More significantly, while the current 9 percent total contribution rate was established by the collective bargaining agreement, Public Act 94-0839 requires this to be changed to the actuarial recommendation, which is almost certainly going to be over three times that amount (including the post-retirement healthcare contribution).

Public and private U.S. organizations have been converting their employee retirement plans from defined benefit plans, such as the Retirement Plan for Chicago Transit Authority Employees, to defined contribution plans, such as those that Pace has implemented at seven of its nine operating divisions. Conversion of the remaining

defined benefit plans to defined contribution plans has many advantages for all parties, among them that there is no possibility of unfunded actuarial liabilities because, assuming that the stipulated contributions are made when required, all outstanding liabilities are fully satisfied.

CTA PENSION PLAN	
RECOMMENDATION NUMBER 21	***The CTA should:*** • ***Develop a plan to fund the CTA employee pension plan, as required by Public Act 94-0839;*** • ***Pursue alternatives to setting contribution rates through the collective bargaining process, given that such a process has resulted in drastic underfunding of the pension plan;*** • ***Examine the 9 percent investment return assumption;*** • ***Develop and implement a plan to fund the post-retirement healthcare plan;*** • ***Pursue all possible cost reduction strategies of the post-retirement healthcare plan that have not already been implemented;*** • ***Monitor the Plan's compliance with the retiree healthcare subordination test, under Internal Revenue Code Section 401(h) and develop plans to help assure continued compliance;*** • ***Examine the feasibility of the CTA making all contributions to employee pension plans (along with a commensurate decrease in employee compensation) and the potential costs savings that could accrue;*** • ***Review the feasibility of changing the defined benefit plan to a defined contribution plan, such as for new employees starting employment with the CTA; and*** • ***Identify any matters or changes in State law that require legislative action regarding pension and post employment healthcare benefits, and present these matters to the General Assembly for its consideration.***
CTA RESPONSE	CTA agrees. Currently, approval of specific changes is subject to the collective bargaining process or binding arbitration. Historically, collective bargaining or binding arbitration has not resulted in substantive changes to improve the financial health of the pension plan. To meet the requirements of Public Act 94-0839: • CTA has developed funding as well as cost-reduction plans, and will continue to discuss them with various stakeholders. • CTA and the Plan have both examined the 9 percent return assumption. In 2006, the Plan implemented an asset allocation strategy designed to reduce the risk profile of the Plan. The Plan's investment advisor estimates that these changes will

	cause the portfolio to perform with the predictability and stability of portfolios with closer to an 8.0% targeted return assumption. • CTA does not control the Plan's compliance with Section 401(h); however, it will ensure that it does not inadvertently facilitate 401(h) violation by permitting the Plan to incur CTA health care liabilities after the 401(h) balance reaches zero. • CTA has examined the potential tax savings of a shift in employer/employee contribution levels. • Alternative methods of setting contribution rates and a change to a defined contribution benefit structure would require changes in law and/or collective bargaining agreements.

Composition of the CTA Retirement Allowance Committee

The current composition of the CTA Retirement Allowance Committee – five employee representatives and five CTA representatives – should be reviewed. Currently, there are no public members on the Retirement Allowance Committee. Many other pension boards have public members who provide a perspective which may be different than those held by the labor and management representatives. Furthermore, under the current composition of the CTA Retirement Allowance Committee, all Committee members are beneficiaries of the Pension Plan – the employee representatives represent CTA employees, and the CTA representatives are also members of the CTA Plan. While the powers of the CTA Pension Committee to address many of the issues facing the Plan may be limited (since contribution rates are set through the collective bargaining process), adding a public member(s) would add an additional perspective on the Committee to examine and discuss issues presently facing the Plan.

Matter for Consideration by the General Assembly **CTA RETIREMENT PLAN**
The General Assembly may wish to consider requiring the CTA to revise the governance structure for the CTA Retirement Plan by adding one or more public members to the governing committee.

CTA SUPPLEMENTAL PLANS

Besides the Retirement Plan for Chicago Transit Authority Employees, CTA currently has four other, far smaller plans for its management and Board members, collectively known as the "Supplemental Plan." For CTA Board members, top management, and those management employees who chose early retirement 14 years ago, these plans provide additional pension benefits to supplement those provided by the "main" CTA Retirement Plan.

The "Supplemental Plan" has four (formerly three) component plans:

(a) The "Board" Plan, a non-qualified plan for members of the CTA Board of Directors.
(b) The Early Retirement Incentive Plan, a non-qualified plan established to encourage non-union members of the "main" CTA Retirement Plan to take early retirement in 1992.
(c) The Supplemental Plan "proper," which provides supplemental retirement benefits in addition to those of the "main" CTA Retirement Plan for designated senior management employees. In March 2005, the "old" Supplemental Plan was divided into two parts:

(1) The Supplemental-Qualified Plan, which covers active employees as of the conversion date of March 2005.
(2) The Supplemental-Non-Qualified Plan, for the members of the "old" Supplemental Plan that had retired or had vested and left CTA employment without retiring prior to the conversion date.

Qualified vs. Non-Qualified Plans

A "**qualified**" retirement plan and trust is one that meets the requirements of the Internal Revenue Code and implementing regulations for the benefits of pension plan status. A "**non-qualified**" plan is one that does not.

Qualified plans and trusts exist as separate entities for accounting purposes, with their own financial statements, rather than as part of the "home" entity, in this case, the CTA. Assets of properly organized qualified plans are protected against claims of trade creditors; assets assigned to non-qualified plans, even if "trusted," are not.

According to the CTA supplemental plan legal counsel, there were at least two reasons for creating the new, Supplemental-Qualified Plan, and separating it from the "old" Supplemental Plan:

- To provide a higher level of protection for the members. The "old" Supplemental Plan, as a non-qualified plan, did not provide any protection of the Plan's assets against creditors in the event of a CTA bankruptcy or, more importantly, any other potential demands of the CTA Board and management to use, for non-pension purposes, the assets that had been designated for the Supplemental Plan.
- By creating the new, Supplemental-Qualified Plan and giving it a legal identity separate from the CTA, the new Plan was freed from the statutory prohibitions on investment of assets in higher-yield investments, such as equities. As a result of the change, the Supplemental-Qualified Plan assets can be invested in equity and other common pension fund vehicles and the investment return assumption for the Supplemental-Qualified Plan was set at 8 percent versus the 6 percent for the "old" Supplemental Plan.

In creating the "new," Supplemental-Qualified Plan and its dedicated Trust (hereinafter referred to as the "second trust"), CTA has disestablished the contents of the pre-existing Trust (hereinafter referred to as the "first trust") that contained the funds that had been contributed to, and the earnings thereupon, the "old," Supplemental Plan. Of the $30,266,907 shown as the actuarial value of assets for the combined "old" Supplemental Plan and the Board Plan as of January 1, 2005, approximately $17 million were applicable to the Supplemental-Qualified Plan. As of January 1, 2006, the Supplemental-Qualified Plan was shown with $17,000,991 actuarial value of assets and the Supplemental-Non-Qualified Plan was shown with zero assets.

This difference between the actuarial value of assets in the "combined" Supplemental Plan of approximately $30 million as of January 1, 2005, and the approximately $17 million in the "new," Supplemental-Qualified Plan as of January 1, 2006 is approximately $13 million. Since the assets for the "new," Supplemental-Non-Qualified Plan were zero as of January 1, 2006, this $13 million was not in either Plan as of January 2006. In response to our question as to what happened to the $13 million, a CTA official provided a document which stated, *"In 2005, CTA used the untrusted assets that were designated for the plan to fund operations."*

After examination of the previous Trust Agreement, prior actuarial reports, and financial statements, we requested an opinion from CTA legal counsel on the legality of this transfer. CTA supplemental plan legal counsel responded:

> The Authority's contributions for employees then retired and receiving retirement benefits were transferred to the Authority. Said transfer was not barred by the Agreement.

We also inquired about the authorization of the CTA Board to undertake the transfer of funds from the "old" Supplemental Plan funds to operations. CTA pension plan legal counsel noted, *"… the actions to effectuate the provisions of the Supplemental Plan are delegated to the Employee Retirement Review Committee,"* which is comprised of the Board's Chief of Staff, the CTA Senior Vice Present/Treasurer, and CTA Vice President Finance/Comptroller.

While the CTA has concluded the transfer of the $13 million set aside for pension costs to fund operations is legal, we question why CTA elected to utilize for operations in 2005 approximately $13 million of assets that had been designated over the prior five decades for use to pay pension benefits to CTA employees that had retired. Also, it appears that CTA determined to maximize the portion of the $30 million from the January 1, 2005 "first Trust" that could be shifted to the Supplemental-Qualified Plan and its "second Trust," producing a funded ratio of 168.9 percent for that Plan as of January 1, 2006, while that of the Supplemental-Non-Qualified Plan had a zero funded ratio as of that date. As of January 1, 2005, the former, "combined" Supplemental Plan had a funded ratio of approximately 98.8 percent.

Therefore, by this action, the retirees receiving and/or eligible for benefits from what is now the Supplemental-Non-Qualified Plan saw the dedicated backing for their

benefits decrease from almost 100 percent to effectively nothing, while the CTA top management employees still actively employed following the creation of the Supplemental-Qualified Plan had a pension plan with an extraordinary high level of funding.

The remaining two Plans, the Board Plan and the Early Retirement Incentive Plan also are almost entirely unfunded (1.4%, and 0.0%, respectively). CTA now makes contributions to these Plans on a "pay-as-you-go" basis. While this is a legal methodology for CTA to meet its obligations to pay these contributions, given CTA's current financial state, this funding arrangement is far inferior to the previous arrangements for the retired CTA employees covered under the "old" Supplemental Plan and now under the Supplemental-Non-Qualified Plan.

CTA SUPPLEMENTAL PENSION PLANS	
RECOMMENDATION NUMBER 22	***The CTA should take the action necessary to ensure that its various Supplemental pension plans are adequately funded and trusted to protect the interests of the beneficiaries of these plans.***
CTA RESPONSE	CTA agrees and would work to fully fund these supplemental plans subject to the availability of new operating resources.

REGIONAL TRANSIT AUTHORITY PENSION PLAN

(RTA Employees and Metra and Pace Non-Represented Employees)

Substantially all RTA employees and non-contract employees of Metra and Pace are members of the Regional Transportation Authority Pension Plan (the "RTA Plan"), a multiple employer, non-contributory plan. Under a non-contributory plan, the employees make no contribution to the plan; all contributions are made by the employer. The RTA Plan provides a level of post-retirement income benefits significantly lower than that of the CTA Retirement Plan and there is no post-retirement healthcare coverage, although eligible retirees are offered the option to continue coverage in the RTA health care plan by paying their own premiums. The costs of the RTA Plan are significantly lower than those of the CTA Retirement Plan and contributions are being made at the actuarially recommended rate.

The administrative board of the RTA Plan is "The Committee" appointed by the Chairman and Chief Executive Officer of the Authority. There are six member of The Committee, two each from Metra, Pace, and the RTA.

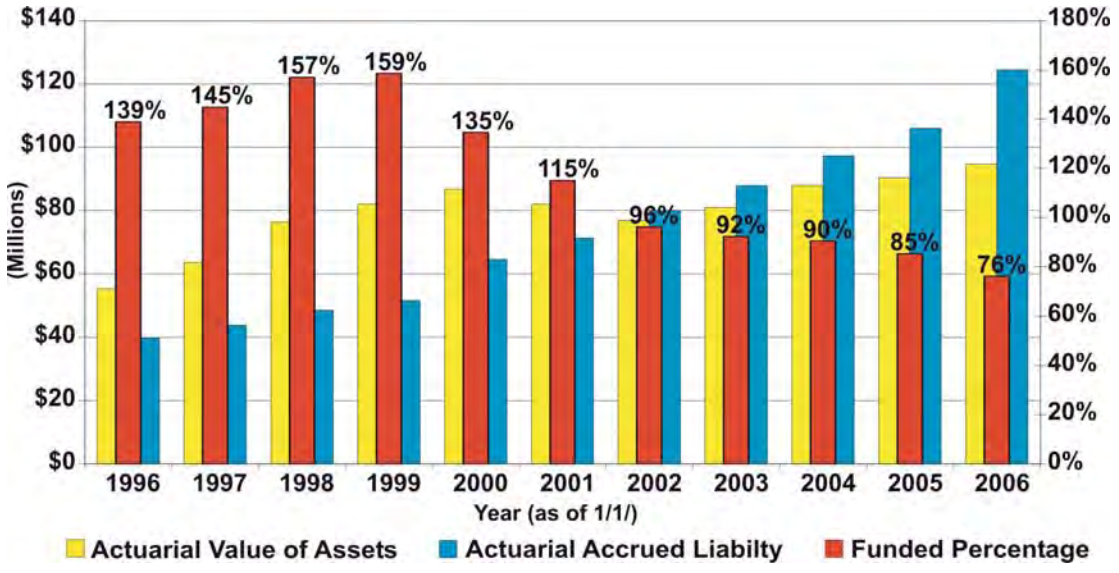
The change in key statistics and ratios over the last year and over the last ten years is shown in Exhibits 7-16 and 7-17.

Exhibit 7–16
REGIONAL TRANSPORTATION AUTHORITY PENSION PLAN
KEY STATISTICS AND RATIOS – JANUARY 1, 2006 AND 2005

	January 1, 2006	January 1, 2005	Change
Actuarial Value of Assets	$ 94,697,937	$ 90,334,371	$ 4,363,566
Actuarial Accrued Liability	124,521,129	105,976,209	18,544,920
Unfunded Actuarial Accrued Liability	$(29,823,192)	$(15,641,838)	$(14,181,354)
Actuarial Accrued Liability Funded Ratio	76.05%	85.24%	(9.19%)

Source: RTA Pension Plan actuarial valuation report as of January 1, 2006

Exhibit 7–17
REGIONAL TRANSPORTATION AUTHORITY PENSION PLAN
KEY STATISTICS AND RATIOS
1996-2006



Source: RTA pension plan actuarial reports

The RTA Plan had been well over 100 percent funded for several years (159% as of January 1, 1999), which led to a three-year contribution "holiday" through the end of 2001. The end of the funding holiday coincided with two very poor investment return

years, 2001 and 2002, which produced the underfunded condition that is now being amortized.

The $14.2 million increase in unfunded actuarial accrued liability from 2005 to 2006 is primarily due to three events:

- The investment return on assets was 4.91 percent, versus the actuarial assumption of 8.50 percent, causing a $2.9 million actuarial loss.
- The experience of the Plan was negative during the year, chiefly due to increases in the numbers of employees, retirees, and vested terminated participants, causing a $2.2 million actuarial loss.
- There were two changes in actuarial assumptions during the year. The first was a change of the Plan mortality table, which caused a $5.1 million actuarial loss. The second was a change in the lump sum interest rate assumption from 7 percent to 5 percent, which caused a $3.3 million actuarial loss. Evidently, the change produced a change in assumption that some or all beneficiaries will live longer, thus extending the length of time benefits will be paid to them.

While these actuarial assumption changes had negative impacts, the positive side is that, by changing these assumptions to better reflect current reality, the Plan is making a timely correction to increase the Plan's funded ratio in the future. These assumption changes, combined with experience impacts, have led to an increase in the contributions for the 2006 Plan year to $8,777,000 from the $6,800,000 contribution level for the 2005 Plan year and, prospectively, depending on market performance and actuary recommendations, may require higher contributions in the future until the Plan is essentially 100 percent funded.

The existence of the "lump sum" benefit that was related to the assumption changes discussed above, will be a source of on-going losses for the foreseeable future. The lump-sum benefit is only available to vested participants who have reached the age of 65. The problem is that the basic Plan valuation process starts with the assumption that beneficiaries will receive their benefits in the form of annuity payments over an extended period of time, generally, on average, several decades. During this extended annuity payout period, the assumption is that the Plan assets will be earning at the Plan investment return assumption rate of 8.5 percent. However, when employees retire, and they are given the opportunity to take a lump sum cash payout instead of the annuity, the size of this payment, often running well into six-figures, can be very tempting. When the discount rate established for doing the conversion of the future annuity payments (which is not controlled by the Plan) is low, the amount of cash in the lump sum option goes up, which makes the lump sum option still more attractive to retirees.

When the investment return assumption is 8.5 percent, and the lump sum discount rate is 5.00 percent, every lump sum payout means a loss of large future investment income that would have been received if the annuity benefit had been selected instead. Rather than a significant sum of assets earning an 8.5 percent rate for decades, instead, the return is immediately reduced to 5 percent. The discount rate varies over time, but we

used the new assumption rate for this example. The RTA Plan's payouts are calculated using the General Agreement on Tariffs and Trade rate, commonly known as the "GATT Rate," which is currently the most common rate used for this purpose. The Plan should consider reviewing its options to phase-out the lump-sum benefit.

Based on the citations and criteria referenced above in relation to the CTA Plan investment return assumption, the RTA Plan 8.5 percent investment return assumption is near the high end of the reasonable range. The RTA should examine, and revise this return assumption periodically, as appropriate.

While the RTA Plan is currently 76 percent funded, significantly less than the target 100 percent, there are sufficient assets on hand to enable it to withstand even a period of significantly negative performance, and there is a long-standing commitment to return the fund to a fully-funded condition.

RTA PENSION PLAN *(RTA, Metra, and Pace)*	
RECOMMENDATION NUMBER 23	***RTA, Metra, and Pace should:*** • ***Continue to take the actions necessary to ensure the pension plan is adequately funded;*** • ***The parties should periodically review the 8.5 percent investment return assumption; and*** • ***The parties should consider phase-out of the lump sum option.***
RTA RESPONSE	The RTA agrees with the recommendation. The trustees of the RTA pension plan have adopted a formal written policy of making pension contributions at the actuarially recommended amounts to fund the plan at 100%. Further, the trustees will continue to periodically review all of the actuarial assumptions, including the 8.5% investment return assumption; and will consider the phase-out of the lump sum option.
METRA RESPONSE	Metra agrees with the above recommendations. Metra is committed to bringing the Plan to a fully funded condition. Metra has made all of required pension contributions as directed by the RTA Pension Plan Trustees. The pension contributions are determined annually by the Trustees based upon a range of contributions calculated and advised by the Plan Actuary to maintain the Pension Plan on a sound actuarial basis. The investment return assumption is monitored and reviewed annually by the Trustees and Plan Actuary. The current 8.5% assumption is supportable based upon historic returns. Metra will consider and discuss with the RTA and Pace, the possible phase out of the lump sum option.
PACE RESPONSE	We agree with the above recommendations. In regards to point one,

	Pace is committed to bringing the Plan to a fully-funded condition. Pace has made all required pension contributions as directed by the RTA Pension Plan Trustees. The pension contributions are determined annually by the Trustees based on a range of contributions calculated and advised by the Plan Actuary to maintain the Pension Plan on a sound actuarial basis. In regards to point 2, the investment return assumption is monitored and reviewed annually by the Trustees and the Plan Actuary. The current 8.5% assumption is supportable taking into account both historical and expected future returns based on the portfolio allocation of the plan. In regards to point 3, Pace will consider and discuss with the RTA and Metra the possible phase-out of the lump sum option.

METRA POST-RETIREMENT INCOME PLANS

Metra's non-represented employees are participants in the Regional Transit Authority Pension Plan. Metra itself maintains no defined benefit pension plans for its represented employees or others. Metra's represented employees are members of the various defined contribution plans established by their bargaining units. Per the various bargaining unit agreements, Metra makes a fixed dollar amount contribution (currently $0.50, up from $0.45 for the fiscal year ended June 30, 2006) per eligible hour of compensation to the specific plans and has no further liability for the payment of pension benefits, except as to the per-hour rates that may later be negotiated.

This arrangement appears to work well for both the employees and Metra. The employees receive what are considered "industry standard" pension benefits, while Metra receives the industry standard pension costs and is relieved of any responsibility for having to maintain a pension plan and has no direct exposure to future liabilities of the plans.

PACE RETIREMENT PLANS

Pace has nine separate bargaining unit agreements for its nine operating facilities. For seven of these, there is no defined benefit pension plan; the employees under these agreements are covered by 401(k) and 401(a) defined contribution plans. For these, Pace is required to make contractual contributions to the account of each covered employee each year and, therefore, there is no actuarial liability, or the possibility of there ever being one, for Pace. For three of the seven, there is no employee contribution, nor is there post-retirement healthcare coverage for the members of these seven bargaining units.

Pace has two defined benefit pension plans, one for ATU Local 241/Pace West Division employees, the other ATU Local 900/Pace North Division employees. For both of these plans, the plan governing boards are made up of representation from the specific bargaining units and appointments made by the Pace Board. The changes in key statistics and ratios over the last year and over the last several years are shown in the quantitative and graphic exhibits following.

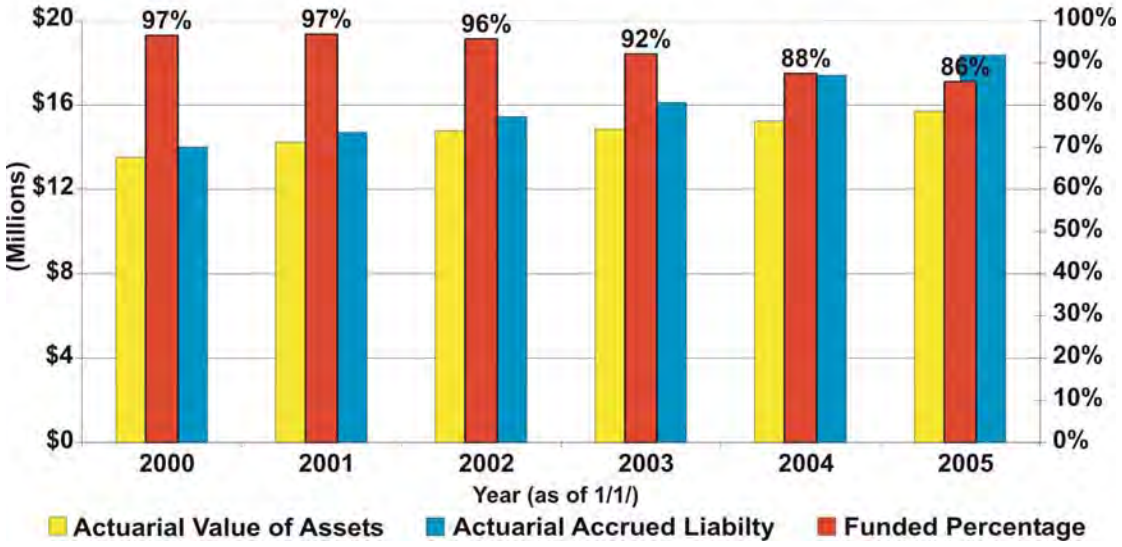
Exhibit 7-18
ATU LOCAL 241/RETIREMENT PLAN FOR PACE WEST DIVISION EMPLOYEES: KEY STATISTICS AND RATIOS
January 1, 2005 and 2004

	January 1, 2005	January 1, 2004	Change
Actuarial Value of Assets	$15,720,950	$15,253,660	$ 467,290
Actuarial Accrued Liability	18,370,532	17,422,949	947,583
Unfunded Actuarial Accrued Liability	$(2,649,582)	$(2,169,289)	$(480,293)
Actuarial Accrued Liability Funded Ratio	85.58%	87.55%	(1.97%)

Source: Pace pension documents

Exhibit 7–19

ATU LOCAL 241 RETIREMENT PLAN FOR PACE WEST DIVISION EMPLOYEES
KEY STATISTICS AND RATIOS
2000 - 2005



Source: Pace pension documents

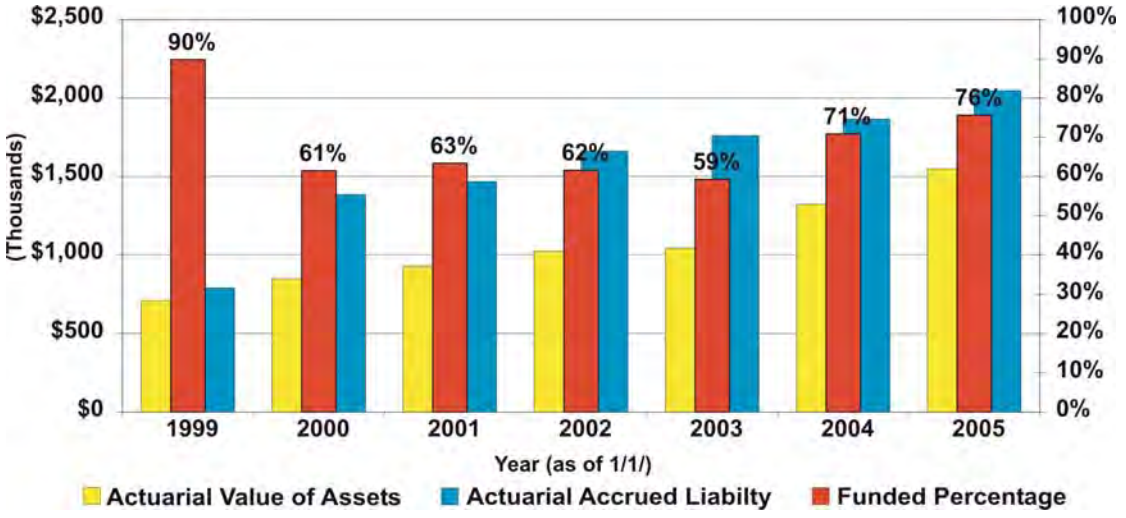
Exhibit 7– 20

ATU LOCAL 900 RETIREMENT PLAN FOR PACE NORTH DIVISION EMPLOYEES – KEY STATISTICS AND RATIOS
January 1, 2005 and 2004

	January 1, 2005	January 1, 2004	Change
Actuarial Value of Assets	$1,547,060	$1,321,387	$ 225,673
Actuarial Accrued Liability	2,046,266	1,865,612	180,654
Unfunded Actuarial Accrued Liability	$ (499,206)	$ (544,225)	$ 45,019
Actuarial Accrued Liability Funded Ratio	75.60%	70.83%	4.78%

Source: Pace pension documents

Exhibit 7–21
ATU LOCAL 900 RETIREMENT PLAN FOR PACE NORTH DIVISION EMPLOYEES KEY STATISTICS AND RATIOS 1999 - 2005



Source: Pace pension documents

For those Pace employees under the ATU Local 241/West and ATU Local 900/North Plans only, there is bargaining unit contractual post-retirement healthcare coverage. For the ATU Local 241/West Plan, Pace contributed 2.5 percent of active member earnings, plus an additional $90,000 in both 2004 and 2005. Retirees eligible for healthcare coverage may elect spousal/family coverage, until the retiree reaches age 65, by paying 50 percent of the difference in cost between single and spousal/family plans. The eligibility for future retirees to receive healthcare coverage is closed. For the ATU Local 900/North Plan, certain retired members between the ages of 62 and 65 receive healthcare coverage. The costs are paid 50 percent by the Plan and 50 percent by Pace directly. The overall costs of post-retirement healthcare benefits to Pace are not significant in relation to its total annual operating budget.

In these two plans, the employer contribution rate is set through the labor bargaining process, which is the same process used at the Retirement Plan for Chicago Transit Authority Employees. This process may not provide for increases in contributions that may be needed to respond to negative experience and cause plans to remain underfunded for long periods of time.

The ATU 900/North Plan Actuarial Report has a special section, "Adequacy of Contributions to Support Benefits," on this subject. It analyzed the experience for the most recent year due to various causes, and determined that the bargaining-process mandated contribution rate was almost exactly what would have been required by a more conventional process, and concluded: "In our opinion, the contributions are adequate to support the employee benefit level as long as the average annual rate of return is at least 7.5 percent in future years." The 7.5 percent rate is the investment return assumption.

Although setting the contribution rate through the labor bargaining process, instead of by actuarial calculation, had no negative impact in the year analyzed, the weakness of this type of stipulated contribution rate is that it does not automatically respond to negative experience, such as the annual rate of return being below the 7.5 percent assumption.

The comparable report for the ATU 241/West Division Plan does not have an "Adequacy" section, and shows a shortfall of approximately $334,000 short of the "Funding Policy" amount, following a $273,000 shortfall from the previous year.

While the amounts at issue are not major and the overall liability increase is relatively small for an institution the size of Pace, given the recent experience of the CTA, Pace may want to examine alternatives to this contribution rate-setting process. Pace officials noted that actuarial reports are closely examined on an annual basis and that the actuaries are consulted prior to any benefit or contribution rate change being considered.

PACE PENSION PLANS	
RECOMMENDATION NUMBER **24**	***Pace should take the action necessary to ensure that pension plans are adequately funded. Such action could include ensuring that contribution rates included in collective bargaining agreements are actuarially sufficient; pursuing alternatives to setting contribution rates through the collective bargaining process; or setting up defined contribution plans to replace the defined benefit plans, as has been done for other Pace bargaining unit employees.***
PACE RESPONSE	Pace is concerned with the adequacy of funding for all of our pension plans and will continue to ensure that the pension plans are well funded. Actuarial reports are scrutinized on an annual basis and the actuaries are consulted prior to any benefit or contribution rate change being considered. Conservative actuarial assumptions and methodologies are utilized. Pace pension plans are in a strong financial position. We will continue to be vigilant to keep them well funded. Pace's two defined benefit plans (West Division and North Division) have been considered on more than one occasion to be moved to a defined contribution (401k) plan. This has not occurred due to union resistance to such change. Prior to any such change, an actuarial evaluation would be necessary to identify all the costs associated with the change.

ASSET ALLOCATION (ALL PLANS)

The allocation of pension plan funds to various types of income-producing assets to maximize investment returns and yet preserve capital and provide for liquidity requirements is one of the most important aspects of pension plan management. Exhibit 7-22 shows the asset allocations of the relevant pension plans of the four entities and compares them to national averages.

Several of the plans discussed above are not included in this exhibit, for the following reasons:

- The CTA Supplemental-Non-Qualified, Board, and Early Retirement Incentive Plans are not included because they were essentially zero funded and there were no assets, other than those for payment of current period obligations, to invest.
- The Pace Amalgamated Transit Union Local 900/Pace North Division Pension Plan was not included because all of the Plan assets were placed in collective investment funds, a reasonable action for a small balance plan ($1,544,507 as of 1/1/05).

For our standard of comparison, we utilized two reports on (1) state retirement, and (2) city and county retirement system asset allocation, and the simple average of the two. The asset allocations are as of December 31, 2004, in order to most closely conform to the timing of the surveys. Because the CTA Supplemental-Qualified Plan did not adopt its *Chicago Transit Authority Supplemental Retirement Plan – Statement of Investment Policy* until April of this year, we decided to examine the "Plan" percentage allocations, rather than actual data.

The terms utilized for the "Investment Categories" names in Exhibit 7-22 – "Equities," "Fixed Income," etc. – are those of the Wilshire Research studies. The various pension plans may utilize different terms than the "Wilshire" terms, requiring conversions to the "Wilshire" terms for the Exhibit; for example, the CTA Plan's "Private Equity" investments are listed under "Venture Capital."

Exhibit 7–22
CTA, PACE, AND RTA PENSION PLANS – ASSET ALLOCATIONS AND COMPARISONS TO NATIONAL AVERAGES

Investment Categories/ Survey and Pension Fund		Equities	Fixed Income	Real Estate	Venture Capital	Cash and Other
Wilshire Research Studies	State Retirement Systems	58.9%	30.4%	3.8%	4.3%	2.5%
	City & County Retirement Systems	59.9%	31.7%	4.4%	1.4%	2.7%
	Simple Average	59.4%	31.1%	4.1%	2.9%	2.6%
Retirement Plan for CTA Employees	Dollars (Millions)	$718.747	$357.580	$142.072	$49.669	$132.386
	Percentages	51.3%	25.5%	10.1%	3.5%	9.5%
CTA Supplemental-Qualified Plan	Percentages	65.0%	35.0%			
RTA Pension Plan	Dollars (Millions)	$53.647	$27.703			$4.853
	Percentages	62.2%	32.1%			5.6%
Pace ATU 241/West Pension Plan	Dollars (Millions)	$10.558	$2.217			$1.689
	Percentages	73.0%	15.3%			11.7%

Source: Wilshire Research Studies and Agency pension documents

The comparison reveals the following:

- **Retirement Plan for Chicago Transit Authority Employees** – The largest difference between the CTA pool and the Wilshire allocation is in the "Cash and Other" category. This is due to the CTA Plan's practice of investment of cash collateral from loaned securities, which serves to increase the "Cash and Other" category from what would have been 1.7 percent without it, and also reduces the Equities and Fixed Income percentages. With the exception of its larger than average Real Estate allocation, CTA's other asset allocations are relatively close to the survey norms.
- **CTA Supplemental-Qualified Plan** – The adopted asset mix allocations appear reasonably close to the survey averages, after adjustment for the two types of investments – Real Estate and Venture Capital – that this Plan will not invest in.
- **RTA Pension Plan** – The asset allocation is very similar to the CTA Supplemental-Qualified Plan, after consideration of the need to hold some cash for payments of obligations and other reasons.
- **Pace ATU 241/West Division** – The allocation to Equities and to Cash and Other are higher than the survey averages and the allocation to Fixed Income is lower.

Chapter Eight

REVENUES

CHAPTER CONCLUSIONS

The CTA accounted for about 59 percent of the total operating revenues generated by the Service Boards in 2005, with Metra and Pace generating 34 percent and 7 percent, respectively.

Non-fare revenues generated by the CTA and Pace are small in relation to passenger revenues, but their experience is similar to that of peer systems, indicating that any change in non-fare revenues is unlikely to make a material contribution to reducing the need for operating subsidies. Metra generates considerably more non-fare revenues than its peers, including trackage fees charged to freight rail operators, but Metra could further enhance traditional sources of non-fare revenues, such as advertising, concessions, and parking fees.

Operating revenues (all fare and none-fare revenues) grew at a much slower pace than operating costs over the past five years for all Service Boards, resulting in fairly rapid growth in operating subsidies (defined as operating expenses minus fare and non-fare revenues). Given the need to find additional funding for the Service Boards, analysis of ridership trends and fare structures indicates that there may be an opportunity to generate more operating revenues from passenger fares for both CTA (rail) and Metra. A modest increase in CTA (rail) and Metra fares is expected to have a minimal impact on ridership; Pace exhibits the least opportunity for revenue growth from higher fares.

The statutory revenue allocation understates the sales tax revenues actually received by the CTA, because RTA's discretionary revenue allocations heavily favor the CTA. Population change has not materially affected sales tax revenue allocations over the past ten years, even though population growth has been faster in the suburbs, because the tax rate in the collar counties (0.25%) is much lower than that in Cook County (1%). No single operating statistic can accurately measure tax allocation equity. Other metropolitan areas that grapple with this issue focus on costs incurred and revenues generated by jurisdiction, taking into account multiple variables. Regardless of the allocation formula utilized, changing the formula will not address the problem of lack of funding for all of the transit agencies.

OVERVIEW

This chapter analyzes fares and other operating revenues of the three Service Boards, with a particular emphasis on whether opportunities exist to achieve higher levels of operating income, and therefore less operating subsidy. This chapter also analyzes the allocation of sales tax revenues to the Service Boards, with respect to both the statutory

allocation formula and the practices followed by the Regional Transportation Authority (RTA) in its discretionary allocation of sales tax revenues.

Each of the Service Boards, Chicago Transit Authority (CTA), Metra, and Pace, have primary operating responsibility for the region's transit services, and are fully responsible for setting fares and developing ancillary sources of operating revenues. Fares are not coordinated or rationalized regionally, and Pace incurs a disproportionate revenue loss for the intersystem transfers that it accepts. Regional fare coordination issues are addressed further in Chapter 2.

The review presented in this chapter evaluates each Service Board's revenues from several perspectives: (i) sources of revenue and cost recovery performance is compared to peer transit systems, using 2004 data from the National Transit Database (NTD); (ii) historical fare increases are compared to changes in the consumer price index for all urban consumers (CPI-U); and (iii) ridership response to fare changes, or price elasticities, is reviewed to ascertain the prospect for generating more revenue from higher fares. These sections are followed by the analysis of the sales tax revenue allocation, which affects all three Service Boards.

OPERATING SUBSIDY

As used in this report, operating subsidy is calculated as operating cost (excluding depreciation), minus operating revenues.

- Operating costs and operating revenues are those determined by using generally-accepted accounting principles (GAAP).
- The National Transit Database (NTD) was used in those cases where the Service Board operates multiple modes (e.g., bus, rail, demand-responsive service, vanpools).

Where the operating subsidy is cited by mode, the operating revenue for that mode is calculated as follows:

- Modal passenger revenue reported in NTD, plus an allocation of non-fare operating revenue reported in the audited financial statements.
- Non-fare operating revenues are allocated to individual modes in proportion to a mode's share of total passenger revenues for that Service Board.

CHICAGO TRANSIT AUTHORITY

In 2005, the Chicago Transit Authority (CTA) generated about $455 million in operating revenues, comprised of passenger fare revenue (92%) and various sources of non-fare revenue (8%), including advertising, concessions, and parking fees. The CTA accounts for about 59 percent of the total operating revenues generated by the three Service Boards.

Operating revenues have been growing at a slower rate (2.9% annually) than operating

2005 CTA STATISTICS (millions)

Operating Revenues	
• Fares	$418.6
• Advertising	$21.1
• Concessions	$1.6
• Parking	$1.6
• Others	$12.0
Total	**$454.9**
Number of Passengers	
• Bus	303.2
• Rail	186.8
• Demand Responsive	2.3

Source: CTA 2005 draft NTD submission

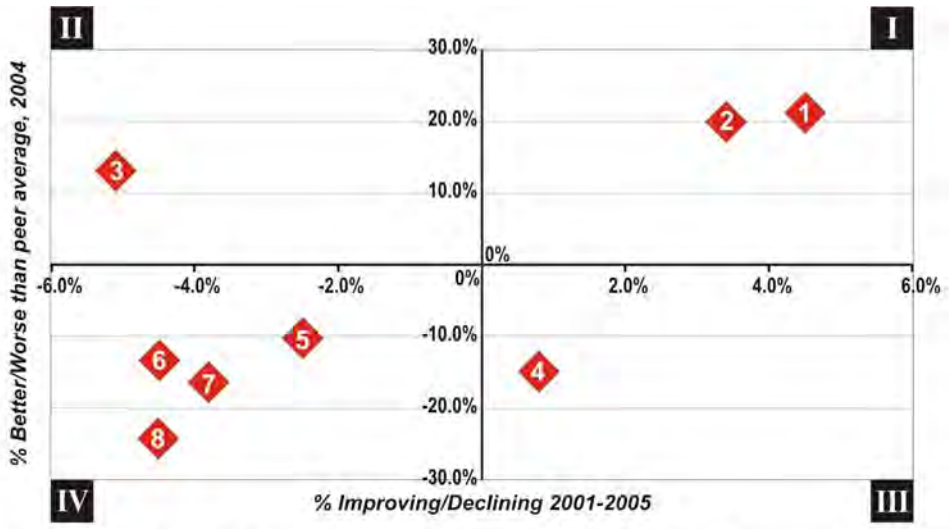
expenses (7.7% annually), thereby contributing to more rapid growth in the operating subsidy (11.2% annually). An analysis of fare and expense metrics indicates that cost recovery should be improved, and higher rail fares would be one way to reduce some of the operating subsidy:

- System-wide cost recovery is below the peer average, and declining.
- Rail cost recovery is below the peer average, and declining.
- Rail revenue per passenger mile is below the peer average and is half that paid by CTA bus riders.
- Rail ridership is less affected by price increases than bus ridership.

CTA PEER AND TREND COMPARISONS

CTA's performance was evaluated for the period 2001-2005 and can be categorized according to the quadrant of the graph in which each metric falls (see Exhibit 8-1):

Exhibit 8-1
OPERATING REVENUES AND COST RECOVERY, CTA vs. PEERS



I: Better than Peer Average and Improving
1. Bus fare revenue per passenger mile
2. Bus fare revenue per boarding

II: Better than Peer Average but Declining
3. Bus farebox recovery ratio

III: Worse than Peer Average but Improving
4. Rail fare revenue per boarding

IV: Worse than Peer Average and Declining
5. Rail fare revenue per passenger mile
6. System-wide operating ratio
7. System-wide non-fare revenue per boarding
8. Rail farebox recovery ratio

Source: Infrastructure Management Group (IMG) from National Transit Database

- ***Better than peer average, and improving (quadrant I).*** Bus fare revenue per passenger mile is 21 percent higher than the peer average and growing and bus fare revenue per boarding is 20 percent higher than the peer average and growing.
- ***Better than peer average, but declining (quadrant II).*** Bus farebox recovery ratio is 13 percent higher than the peer average but is declining at a 5 percent annual rate.
- ***Worse than peer average, but improving (quadrant III).*** The rail fare revenue per boarding is 15 percent lower (worse) than the peer average, but has been improving slightly (0.8% annually) since 2002. At this rate of growth it would take 20 years to reach the peer group average.

CTA PEERS
1. LACMTA – Los Angeles County Metropolitan Transportation Authority 2. MBTA – Massachusetts Bay Transportation Authority 3. MARTA – Metropolitan Atlanta Rapid Transit Authority 4. NYCTA – New York City Transit Authority 5. BART – Bay Area Rapid Transit 6. SEPTA – Southeastern Pennsylvania Transportation Authority
Note: Performance was evaluated separately for bus and rail services and for the systems as a whole, with two exceptions: BART was included only in the rail peer group (BART operates rail service only) and LACMTA was included only in the bus peer group (LACMTA rail network is not comparable). Both were included in the system-wide comparisons.

- ***Worse than peer average, and declining (quadrant IV).*** Three CTA metrics exhibit poor performance:
  - Rail fare revenue per passenger mile, 10 percent below average and declining at 2.5 percent annually;
  - System-wide operating ratio, 13 percent below average and declining at 4.5 percent annually; and
  - Rail farebox recovery ratio, 24 percent below average and declining at 4.5 percent annually.

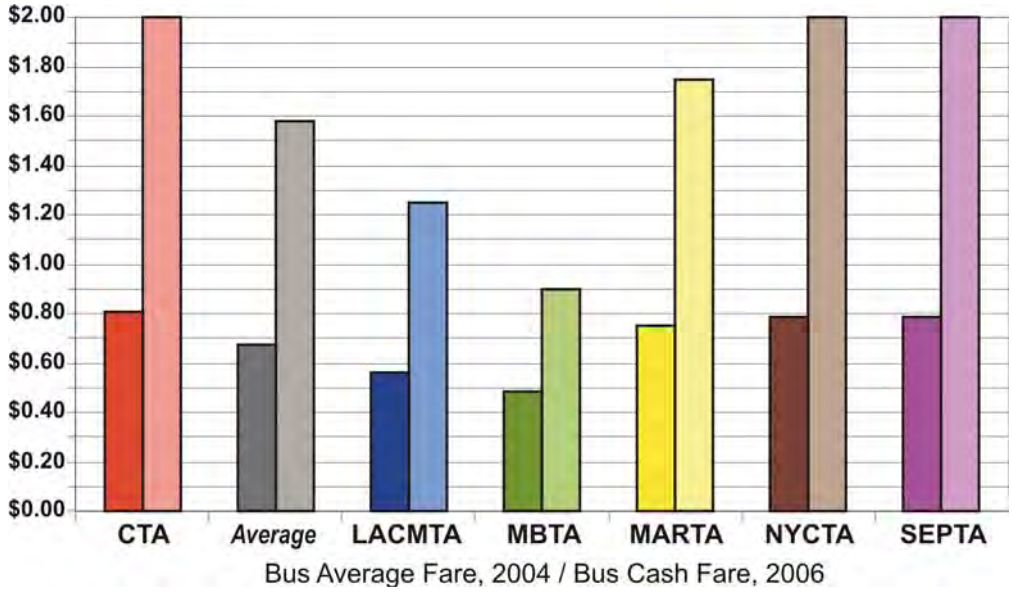
Another metric that falls into the fourth quadrant, non-fare revenue per boarding, is an anomaly. As explained in the discussion below on non-fare revenues, three of the peers derive significant income from parking revenues that skews the average non-fare revenue per boarding. CTA has limited potential for parking revenues, but performs very well on other sources of non-fare revenue.

CTA Fare Revenue per Boarding

The 2004 data used to compare CTA to its peers showed that bus fare revenue per boarding was 20 percent higher than average. Rail fare revenue per boarding was 15 percent lower than average. CTA's current cash fares, effective January 2006, are higher than the peer average.

Exhibit 8-2 shows the 2004 average bus fare revenue per boarding and the 2006 bus cash fare for each operator.

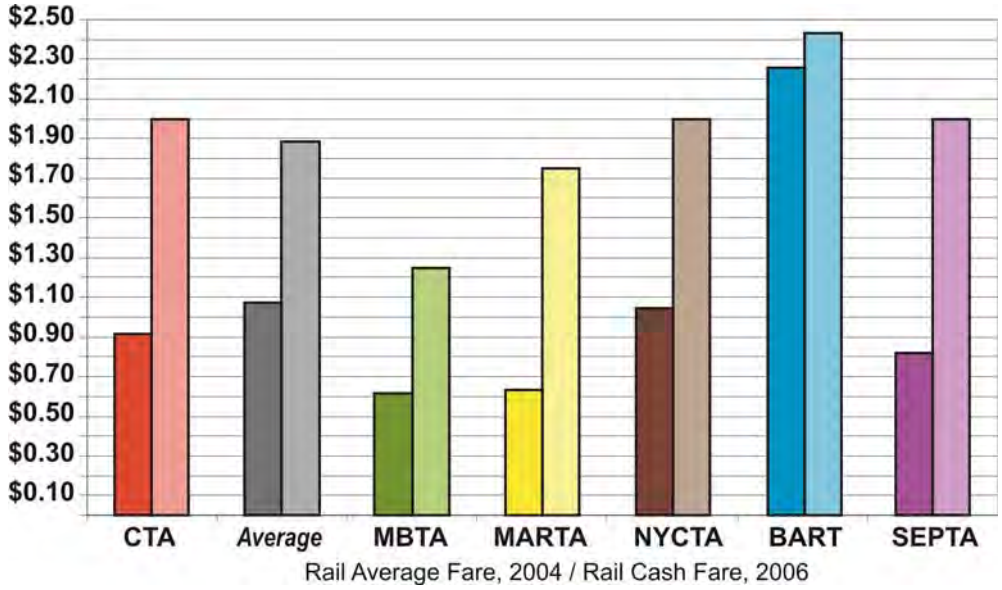
Exhibit 8-2
FARE REVENUE PER BOARDING AND CURRENT CASH FARES
CTA BUS vs. PEERS



Source: 2004 National Transit Database and peers' current fare information

Exhibit 8-3 shows the 2004 average rail fare revenue per boarding and the 2006 rail cash fare for each operator. The average fare per boarding is computed as the total fare revenue divided by the number of times that passengers board a vehicle. The average fare per boarding is always lower than the cash fare because it includes discounted fares, pass usage, and transfers.

Exhibit 8-3
FARE REVENUE PER BOARDING AND CURRENT CASH FARES
CTA RAIL vs. PEERS



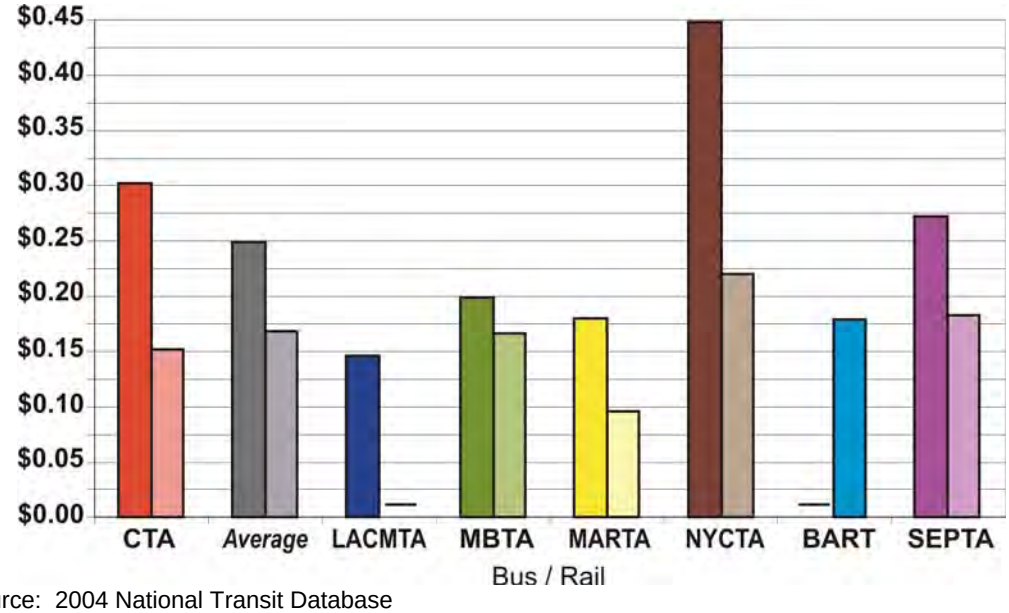
Source: 2004 National Transit Database and peers' current fare information

CTA Fare Revenue per Passenger Mile

CTA bus fare revenue per mile ($0.30) is 20 percent higher than the peer average ($0.25) and is the second highest in the peer group. Only New York, which has shorter average passenger trips (1.8 miles, vs. 2.7 miles for CTA), is higher.

As shown in Exhibit 8-4, CTA rail fare revenue per mile ($0.15), on the other hand, is lower than the peer average ($0.17). This is because the average passenger trip on CTA rail (6 miles) is longer than MBTA (3.7 miles), SEPTA (4.5 miles), and NYCTA (4.7 miles). BART has a much longer average trip length, but compensates for this with a distance-based fare structure; its fare revenue per passenger mile is above the peer average.

Exhibit 8-4
FARE REVENUE PER PASSENGER MILE
CTA vs. PEERS



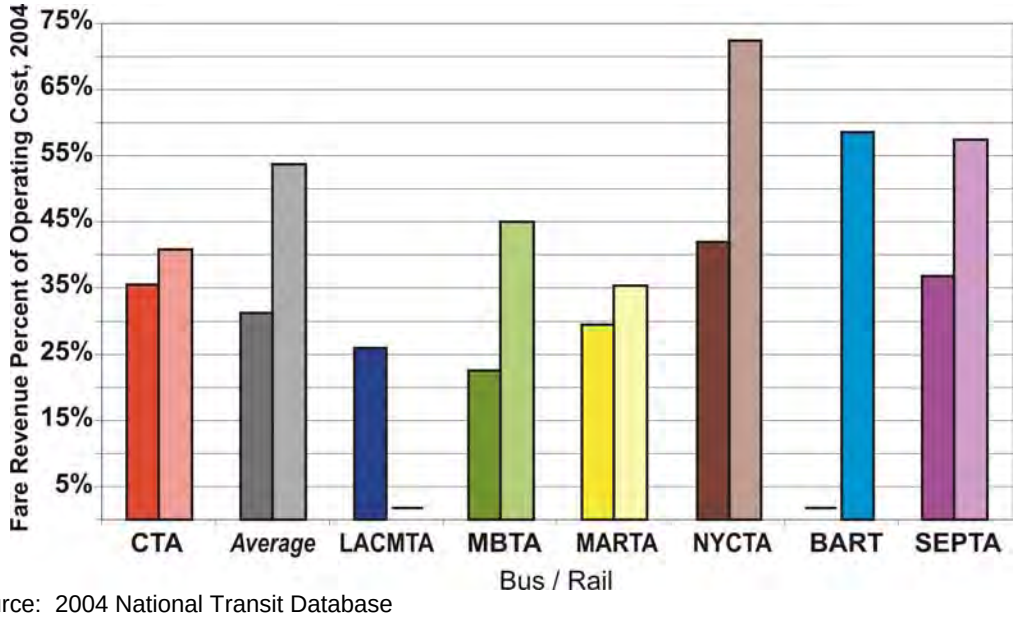
Source: 2004 National Transit Database

The difference between bus and rail fare revenue is notable within CTA itself: bus fare revenue per passenger mile ($0.30) is twice that of rail ($0.15). This difference results because the average length of rail trips is 6 miles versus 2.7 miles for the average bus trip. Fare revenue per passenger mile is computed as total passenger revenue per mode divided by passenger miles per mode.

CTA Farebox Recovery Ratio

CTA bus had a farebox recovery ratio of 35.5 percent, about 13 percent higher than the peer average of 31.4 percent. CTA bus ranked third, below NYCTA and SEPTA. Please refer to the glossary for the definition of farebox recovery ratio that is used in this report, as it varies from the revenue recovery ratio reviewed annually by the RTA. Exhibit 8-5 shows bus and rail farebox recovery ratios for CTA and its peers. The farebox recovery ratio is computed as total passenger revenue per mode divided by operating cost per mode.

Exhibit 8-5
BUS & RAIL FAREBOX RECOVERY RATIO
CTA vs. PEERS



Source: 2004 National Transit Database

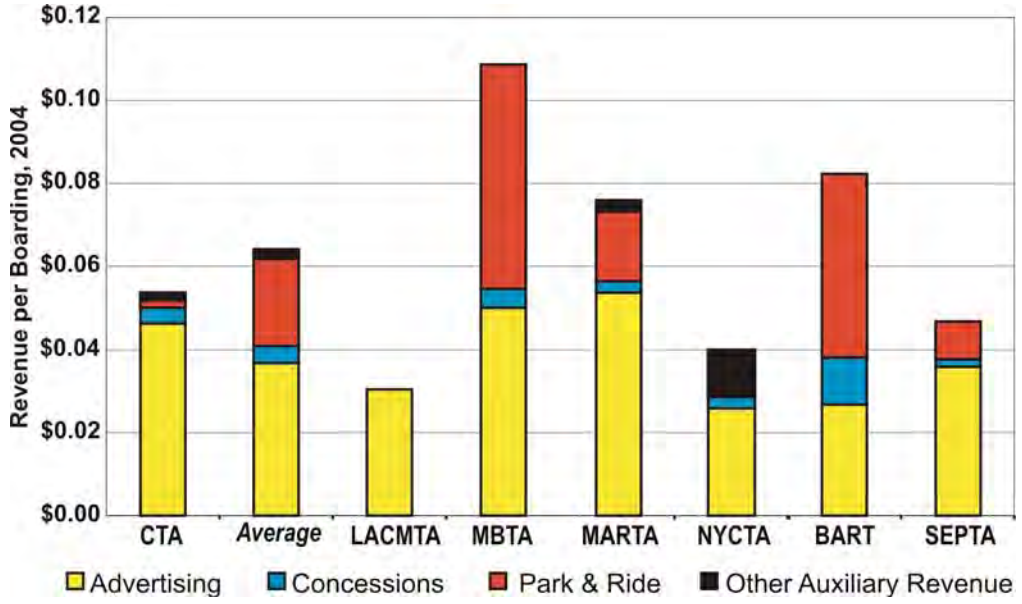
CTA rail had a farebox recovery ratio of 40.8 percent, or about 24 percent below the peer average of 53.8 percent. Only MARTA had a lower farebox recovery ratio.

This farebox recovery ratio differs from the formula used by RTA and is used here in order to make valid peer comparisons. The RTA formula allows exclusion of some pension and security costs, which differs from the GAAP-based standard used in NTD reporting.

CTA Non-Fare Revenue per Boarding

Non-fare revenue per boarding is computed as system-wide non-fare revenue divided by total boardings (all modes). Non-fare revenues include advertising, concessions, parking fees, etc. CTA's average non-revenue fare per boarding is lower than the peer group average ($0.054 vs. $0.064 average), as shown in Exhibit 8-6. However, most of the difference between CTA and the peer average is attributed to parking fees (e.g., MARTA and BART serve long-haul suburban trips for which parking is essential). For all other major sources of non-fare revenue, CTA performs well: $0.052 per boarding versus a peer average of $0.043.

Exhibit 8-6
SOURCES OF NON-FARE REVENUE
CTA vs. PEERS



Source: 2004 National Transit Database

CTA System-Wide Operating Ratio

The operating ratio is calculated as passenger fare revenues plus non-fare revenues, divided by operating cost, across all modes of operation (see Exhibit 8-7). This differs from the formula used by RTA and is used here in order to make valid peer comparisons. The RTA formula allows exclusion of some pension and security costs, which differs from the GAAP-based standard used in NTD reporting. Non-fare revenues account for approximately 2.7 percent of operating cost. CTA's operating ratio (38%) is 13 percent below the peer average of 44 percent. As noted previously, CTA's operating ratio has been declining by about 4.5 percent annually and warrants management attention.

OPERATING RATIO

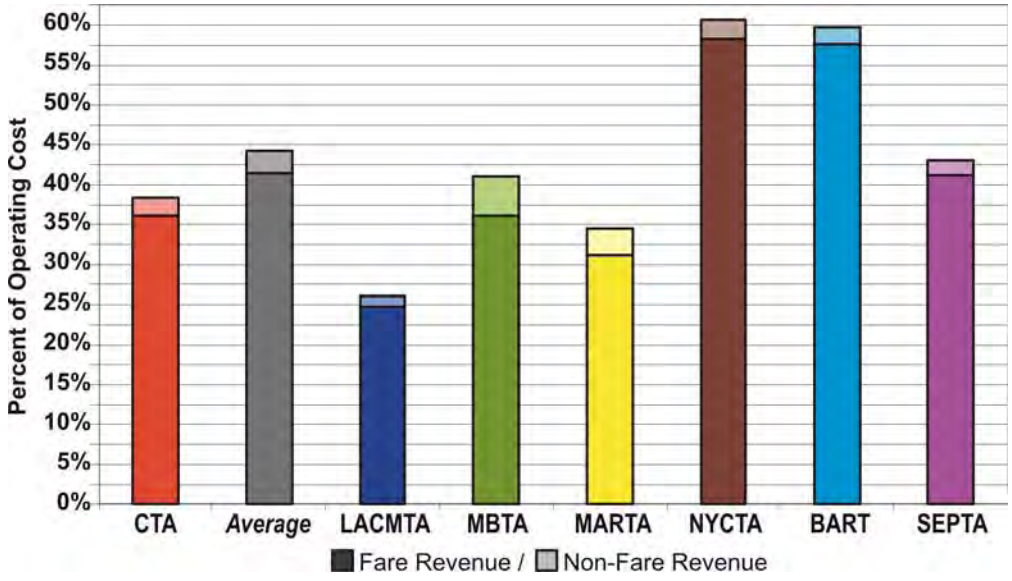
As used in this report, operating revenues (passenger fare and non-fare revenues) divided by operating cost, excluding depreciation, equals the operating ratio.

- Operating revenues and costs are determined by using generally-accepted accounting principles (GAAP).
- This definition differs from a similar ratio calculated by RTA, which is referred to as the "**recovery ratio**".
- This definition includes certain operating costs that are reported in the National Transit Database (NTD) and in the audited financial statements of a Service Board that are not in the RTA recovery ratio (e.g., full annual pension costs, security costs).

This report used the NTD cases where the Service Board operates multiple modes (e.g., bus, rail, demand-responsive service, vanpools). Where the operating ratio is cited by mode, the operating revenue for that mode is calculated as follows:

- Modal passenger revenue reported in NTD, plus an allocation of non-fare operating revenue reported in the audited financial statements.
- Non-fare operating revenues are allocated to individual modes in proportion to a mode's share of total passenger revenues for that Service Board.

Exhibit 8-7
FAREBOX RECOVERY & OPERATING RATIOS (ALL MODES)
CTA vs. PEERS

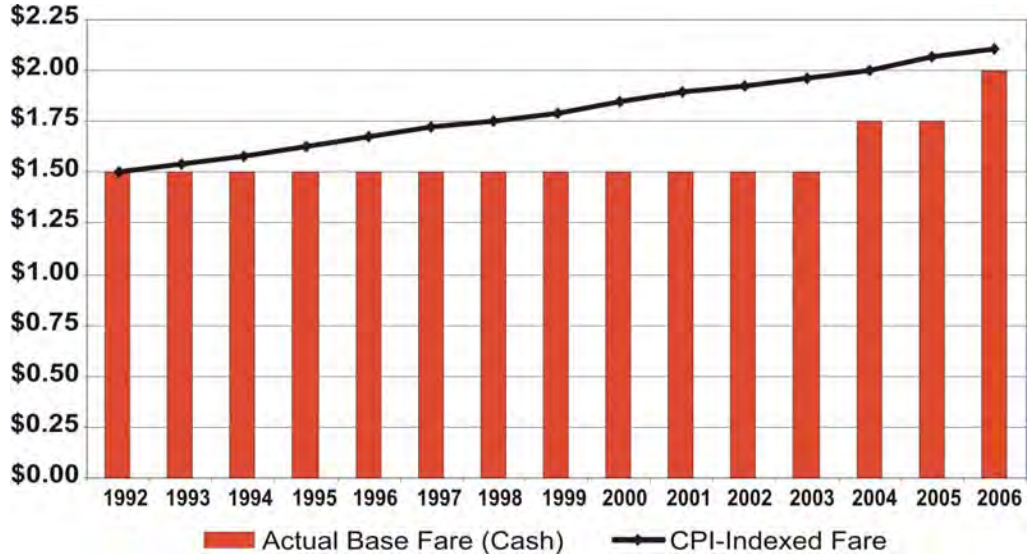


Source: 2004 National Transit Database

CTA FARE TRENDS

CTA offers many fare options that derive from the base cash fare and the monthly (or 30-day) pass. Therefore, an analysis of CTA fare trends can focus on these two fare options alone. CTA increased its base cash fare in January of 2004 and 2006 by 25¢ each time but left the monthly pass price unchanged since 1998. Exhibit 8-8 shows the base fare today, $2.00, is 5 percent lower than the inflation-indexed fare ($2.10). Base cash fare increases in 2004 and 2006 have very little impact on ridership, mainly because the monthly pass price was not increased, thereby encouraging many riders to buy monthly passes instead of paying cash fares.

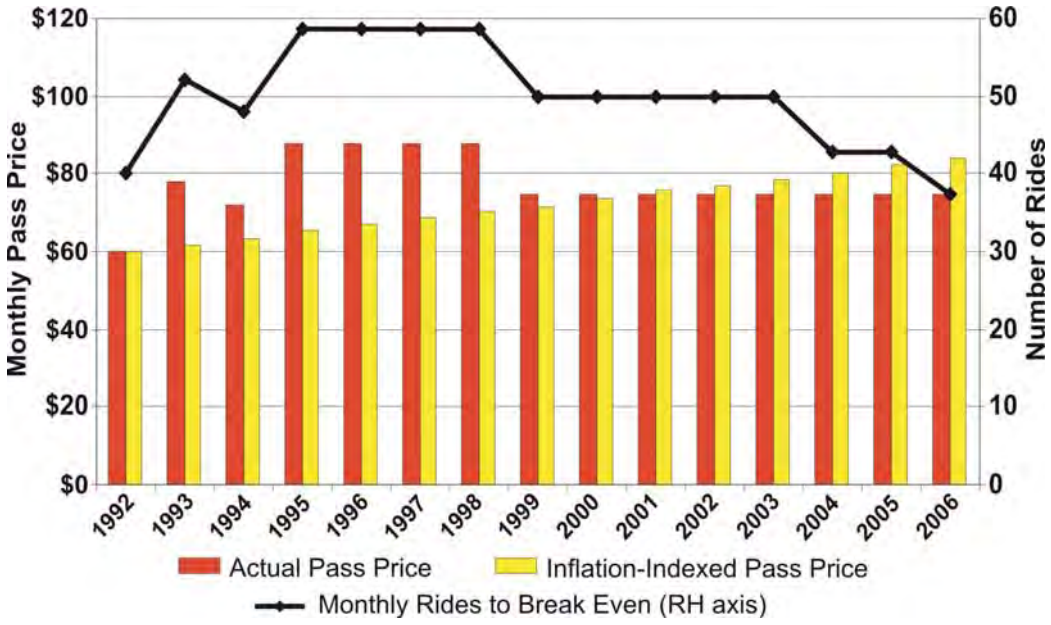
Exhibit 8-8
CTA BASE FARE COMPARED TO INFLATION-INDEXED FARE



Source: IMG from CTA fare information and CPI-U for the Chicago metropolitan area

Exhibit 8-9 shows the price of a monthly pass today is $75.00, about 12 percent below the inflation-adjusted price of $84.15, and also shows the number of rides per month that equate to the monthly pass price, using the base cash fare. This "break-even" point is a consideration in setting fare policy because it influences the migration of riders from cash to pass.

Exhibit 8-9
CTA MONTHLY PASS PRICE COMPARED TO INFLATION-INDEXED PRICE



Note: The "Monthly Rides to Break Even" line is shown to illustrate the number of rides needed, at the cash fare, to reach the monthly pass amount. An increase in the break-even point implies a greater discount in the pass price relative to the cash fare, while a decrease implies a lesser discount.
Source: IMG from CTA fare information and CPI-U for the Chicago metropolitan area

The decision to not increase the monthly pass price when the cash fare was increased in 2004 and 2006 served to lessen the impact on ridership, but also reduced the revenue effect of the fare increase.

In 2004, although the cash fare was increased by 16.7 percent (from $1.50 to $1.75), the average fare per boarding increased by only 9 percent ($0.78 to $0.85). The difference between the cash fare increase and the average fare increase primarily reflects the migration of transit riders to pass and other discounted fare media. Interestingly, annual ridership has not changed; CTA reported total system-wide boardings of 474.7 million for both 2003 and 2004. There was a slight increase in vehicle revenue miles of service (1.3%) in 2004 compared to 2003. In very general terms, one could say that CTA realized a 1.3 percent decrease in boardings, after adjusting for the service increase. The implied mid-point aggregate price elasticity, given these changes in average fare and boardings, is -0.15.

Similar results may occur in 2006, in connection with the January fare increase. The cash fare increased by 25¢ to $2.00 (+14.3%). Weekday ridership for January 2006 was actually higher than the same period a year ago: 1.39 million in 2006, versus 1.38 million in 2005, for bus and rail combined. As of May 2006, bus ridership was slightly lower (-0.7%) than 2005, but rail ridership was 6 percent higher. Of course, higher fuel prices and regional employment have contributed to higher ridership. It is difficult to say without considerably more analysis the degree to which these factors influence changes in year-over-year ridership.

The fact that rail ridership is up following the January fare increase, while bus ridership is slightly down, points out interesting differences in those ridership markets. Rail riders make a longer average trip (6 miles versus 3 miles) at a higher average speed (19 mph versus 10 mph) than do bus riders. People making longer and faster trips tend to value their time more highly than those making shorter and slower trips, and thus are less likely to change their mode of travel when prices are increased.

CTA REVENUES	
RECOMMENDATION NUMBER 25	***In the absence of any other funding sources, the CTA should consider adjusting its rail fares and its monthly pass rates to reduce its projected operating subsidy requirements and to improve its rate of cost recovery.***
CTA RESPONSE	CTA's base fare has increased 122% since 1985, compared to 30% for Metra, 67% for Pace, and CPI growth of around 85%. Because CTA's inflation-adjusted public funding has shrunk for bus and rail operations by nearly 1% each year, CTA customers and employees have made up the difference in disproportional fare increases, service cuts, and deferred pension obligations. Between 1990 and 1995, monthly pass prices increased by nearly 50%, while ridership dropped by more than 140 million rides – twice Metra's total ridership. Currently priced at $75, CTA's monthly

	pass is priced high compared to its peers. The "break even" rate – the cost of a monthly pass divided by the base fare – for CTA (43) exceeds that for Pace (33) and Metra (27). As CTA discussed with Auditor General staff, Exhibit 8-34 shows that CTA's operating subsidy in 2005 was $714.3 million. On a cash basis, CTA actually received $495.9 million in sales tax revenues, discretionary funds and a one-time state grant. In Exhibit 8-34, "subsidy" per boarding (excluding paratransit) is $1.46 for CTA, $3.54 for Metra and $2.51 for Pace. Using actual public funding received, the "subsidy" per boarding for CTA, Metra and Pace in 2005 was $0.90, $3.52 and $1.99, respectively. Continued growth in these disparities could subject the region to scrutiny under Title VI of the federal Civil Rights Act. Increasing fares faster than inflation is not a long-term solution to a structural deficit, nor will it do anything but increase traffic congestion.
AUDITOR COMMENTS	**Since 1992, CTA fares have not kept up with inflation, although CTA closed the gap with its January 2006 fare increase.**

METRA

In 2005, Metra reported about $261 million in operating revenues, comprised of passenger fare revenue (76%) and non-fare revenue (24%). Slightly more than half the non-fare operating revenues reported by Metra are reimbursements from capital grants for administrative and support costs – known as grant project credits – charged to the operating budget, that are associated with capital projects. Most of the remaining non-fare operating revenues derive from leases of rail facilities to rail freight operators. Metra accounts for about 34 percent of the total operating revenues reported by the three Service Boards.

Metra operating revenues have been growing at a slower rate (1.2% annually) than operating expenses (4.0% annually), thereby contributing to a more rapid growth in the operating subsidy (7.5% annually). Metra could improve its system-wide cost recovery through higher passenger fares and increasing non-fare revenues:

2005 METRA STATISTICS (millions)	
Operating Revenues	
• Fares	$198.5
• Advertising	$1.6
• Concessions	$0.2
• Parking	$1.0
• Grant project credits	$34.0
• Lease revenues	$13.3
• Others	$12.5
Total	$261.1
Number of Passengers	
• Commuter rail	68.6

Source: Metra 2005 audited financial statements and other reports and NTD submission

- Although Metra has a higher-than-average operating ratio, its farebox recovery ratio is below average and has declined steadily over the past five years.
- Passenger revenues are low relative to peer commuter rail systems; fare revenue per passenger mile is 24 percent below the actual peer average.
- Non-fare passenger revenues generated, excluding grant project credits, are higher the peer average (40¢ per passenger versus 12¢ per passenger). Nonetheless, some potential exists to generate additional revenue from sources such as advertising and concessions.
- Metra fare increases have lagged inflation by 16 percent over the past 15 years.
- Metra's ridership market is fairly insensitive to price increases. After adjusting for various environmental factors affecting ridership, the fare increases in June 2002 (5%) and February 2006 (5%) had little discernable impact on ridership.

METRA PEER AND TREND COMPARISONS

Metra's performance was evaluated for the period 2001-2005 (see Exhibit 8-10) and can be categorized according to the quadrant of the graph in which each metric falls:

- ***Better than peer average, and improving (quadrant I).*** Metra generates almost seven times more non-fare revenue than its peers, expressed on a per-passenger basis. These revenues have been increasing at 2.5 percent annually over the past five years. Grant project credits (i.e., capital grant funds used to reimburse capital project-related expenses recorded as operating costs by Metra) account for 54 percent of non-fare revenues. Excluding these, Metra still out-performs its peers, due principally to trackage rights leased to private freight operators which account for about 21 percent of these revenues. Metra's performance on other categories of non-fare revenues (e.g., advertising, concessions, parking fees) is below the peer average.

Exhibit 8-10
OPERATING REVENUES AND COST RECOVERY
METRA vs. PEERS

I: Better than Peer Average and Improving
1. Non-fare revenue per passenger
(Altered for display – Actual value is 578% better than peer average.)

II: Better than Peer Average but Declining
2. Operating ratio

III: Worse than Peer Average but Improving
3. Fare revenue per passenger mile
4. Fare revenue per passenger mile should peers have used Metra fare structure

IV: Worse than Peer Average and Declining
5. Farebox recovery ratio

Source: IMG from National Transit Database

- ***Better than peer average, but declining (quadrant II).*** Metra's operating ratio (i.e., operating revenues ÷ operating expense) is 21 percent higher than the peer average, but has been declining at a 2.7 percent annual rate. Please refer to the glossary for the definition of operating ratio used in this report, as it differs from the revenue recovery ratio reviewed by RTA.
- ***Worse than peer average, but improving (quadrant III).*** Metra's fare revenues are significantly below the peer average. Fare revenue per passenger mile is 24 percent below average, and adjusted revenues per passenger mile are 30.6 percent below the peer average, as explained in more detail below. Fare revenue per passenger mile has been growing at 1.6 percent annually, largely due to progressively longer trips (Metra's fares are distance-based). At this rate of growth, however, it would take over 15 years to reach the peer group average. Metra officials noted that Metra keeps its fare prices low by generating as much non-passenger fare revenue as it can, the net result being that Metra consistently achieves high revenue recovery ratios.

- ***Worse than peer average, and declining (quadrant IV).*** Metra's farebox recovery ratio is 8 percent below the peer average, and has been declining at 2.7 percent annually. Please refer to the glossary for the definition of farebox recovery ratio used in this report, as it differs from the revenue recovery ratio reviewed by RTA.

METRA'S PEERS
1. MBTA – Massachusetts Bay Transportation Authority
2. MTA-LIRR – Long Island Rail Road
3. NJT – New Jersey Transit
4. MTA-MNCR – Metro North Commuter Railroad
5. SEPTA – Southeastern Pennsylvania Transportation Authority
6. Metrolink – Los Angeles
Note: Metrolink, MNCR, and LIRR operate only commuter rail service; the others operate multiple transit modes. MNCR and LIRR are subsidiaries of the New York Metropolitan Transportation Authority, but report separately to the National Transit Database, which is the source for the peer data presented in this section.

Each of the metrics used in the peer group analysis is discussed in more detail below. Note that one metric, fare revenue per passenger, included in the peer analysis for the other Service Boards, is not analyzed for Metra. This is due to the complexity of commuter rail fare structures, all of which are distance-based. The analysis presented below instead relies on fare revenue per passenger mile, which helps to normalize the results for differences in trip length, but the analysis goes one step further in evaluating the difference between what each peer actually earned on this metric, versus what they would have earned were Metra's fare structure applied at the peer system.

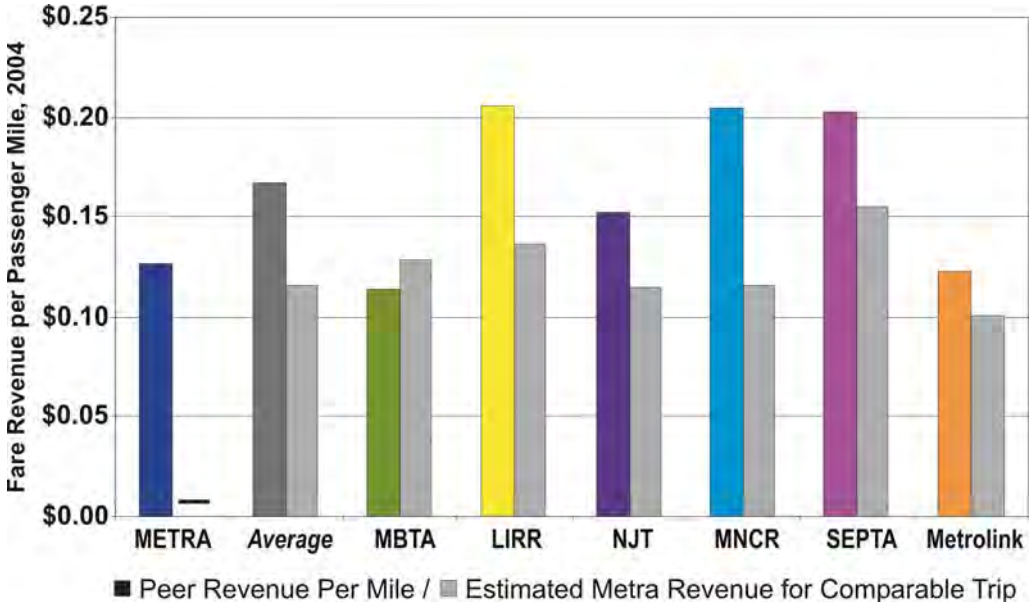
Metra Fare Revenue per Passenger Mile

Exhibit 8-11 presents fare revenue per passenger mile for Metra and the peer group. The exhibit also presents what the peers' fare revenue per passenger mile *would have been* if Metra's fare policy were applied to the average passenger trip served by each peer operator. These calculations reflect all fare discounts incorporated in each operator's fare policy.

Fare revenue per passenger mile is computed as total passenger revenue for commuter rail operations divided by passenger miles for commuter rail operations.

Metra's fare revenue per mile traveled (12.6¢) is 25 percent lower than the peer average (16.7¢). Perhaps more importantly, if Metra's fare policy were applied to the trips served by the peer operators, the peers' resulting revenue would be 11.6¢ per passenger mile, or about 30.6 percent below the revenue actually earned by the peers. Except for MBTA, which had the lowest prices, the fare revenue that peers would have earned using Metra's fare structure is 18 percent to 44 percent lower.

Exhibit 8-11
FARE REVENUE PER PASSENGER MILE
METRA vs. PEERS



Source: 2004 National Transit Database and Metra fare information

All the commuter rail operators in the peer group charge a distance-based fare. Technically, Metra's fare includes a fixed charge and a per-mile charge. The net result, however, is that the fare paid per mile traveled declines with trip length, which is typical for the peer commuter rail operators as well. The fare per mile traveled decreases with distance. For example, Metra's full one-way fare for zone A in 2004 was $1.85, for trips up to 5 miles. Assuming an average trip in this zone is half that interval (2.5 miles), the price per mile would be 74¢. At the other end of the scale, zone M, for trips of 60 to 65 miles, had a one-way fare of $6.95, or just 11.1¢ per mile for the mid-point of that trip interval (62.5 miles), or about 15 percent of the fare per mile charged for zone A. Similar distance-discounting methods appear to be used by the peer operators, although the fare per mile could be precisely verified for only one of the operators: Metrolink. An 8-mile trip on Metrolink (Union Station to Montebello) costs 59.4¢ per mile, while a 28-mile trip (Union Station to Anaheim) costs 25¢ per mile, and a 60-mile trip (Union Station to San Clemente) costs 18¢ per mile. These Metrolink prices are the current one-way fare, without discounts.

Because each peer operator serves trips that vary in distance from those served by Metra, it is more meaningful to compare the peer's actual fare revenue per mile to what would have been earned by the peer system if Metra's fare policy were in effect. This was accomplished by finding the Metra one-way fare that would have been paid for the average trip on a peer system, and applying the aggregate discount that Metra realizes on its fare revenues.

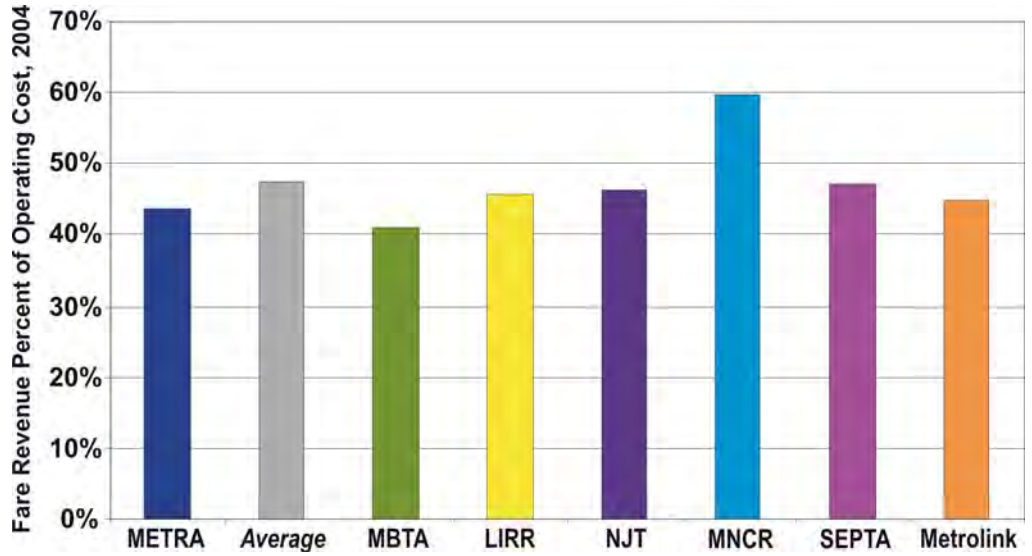
The Metra one-way fare that most closely approximates the average trip on Metra (22.4 miles in 2004) is the zone E fare, which is for trips of 20 to 25 miles. In 2004, the zone E one-way fare was $3.70. For the average trip, this equals approximately 16.5¢ per mile. Given that Metra realized 12.6¢ fare revenue per mile, the actual fare revenue earned is 77 percent of the base fare for that trip. This discount reflects the pricing policy for pre-paid media such as passes and tickets, which offer discounts and are used by about 84 percent of Metra riders.

The revenue per mile that peers would have earned in 2004 using Metra's fare structure was, on average, 30.6 percent lower than the revenue actually earned by the peer operators. It should be noted that Metra's current fares, effective February 2006, entailed an approximate 5 percent increase in cash fares, monthly passes, and ten-ride tickets. Thus, Metra's current performance relative to its peers may be slightly more favorable now than reported above.

Metra Farebox Recovery Ratio

Exhibit 8-12 presents farebox recovery ratios for Metra and the peer group. The farebox recovery ratio is computed as passenger revenue for commuter rail operations divided by operating cost for commuter rail operations. Metra had a farebox recovery ratio of 43.6 percent in 2004, about 8 percent below the peer average of 47.5 percent. Please refer to the glossary for the definition of farebox recovery ratio that is used in this report, as it varies from the revenue recovery ratio reviewed annually by the RTA.

Exhibit 8-12
FAREBOX RECOVERY RATIO
METRA vs. PEERS



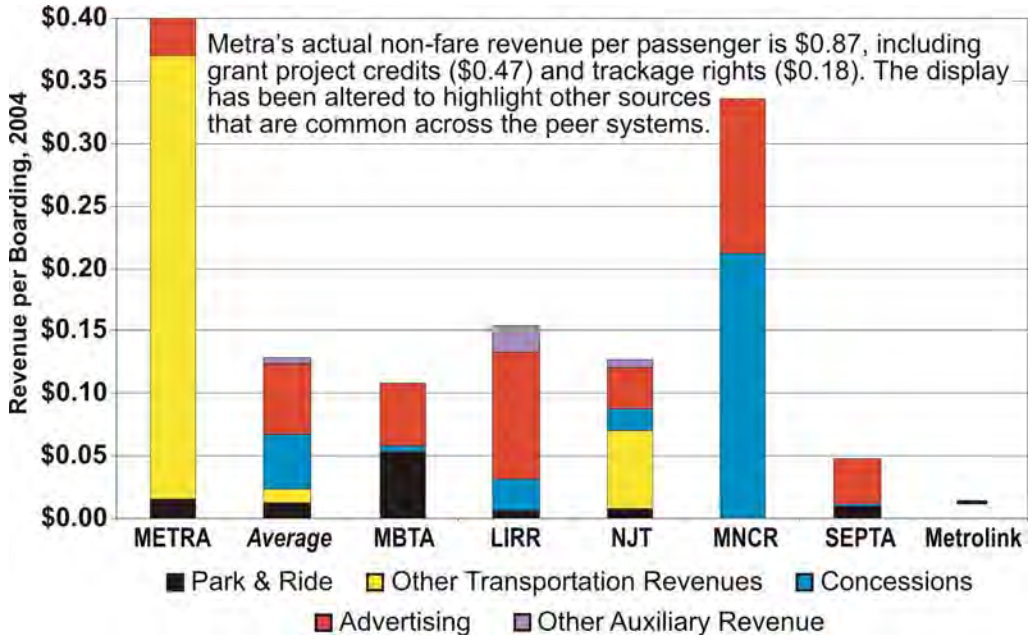
Source: 2004 National Transit Database

Metra Non-Fare Revenue per Boarding

Non-fare revenues are typically interpreted to include those generated from operations other than the farebox (e.g., advertising, concessions, parking fees, other auxiliary revenues). Metra also includes grant project credits – capital grant funds used to reimburse capital project-related expenses recorded as operating costs. This practice is inconsistent with National Transit Database reporting guidelines and somewhat skews the results presented in this section. However, even with these capital grant funds excluded, Metra still out-performs its peers.

The non-fare revenues generated by transit system were normalized by ridership in order to facilitate the peer comparison. This comparison was performed based on system-wide non-fare revenues and ridership, since non-fare revenues are not attributed to each mode in the NTD reporting process. See Exhibit 8-13 for a chart of the results.

Exhibit 8-13
SOURCES OF NON-FARE REVENUE
METRA vs. PEERS



Source: 2004 National Transit Database

Metra's non-fare revenue per boarding is substantially higher than the peer group average ($0.87 Metra versus $0.13 average). This includes grant project credits, which account for 54 percent of non-fare revenue, and the lease of trackage rights to freight operators, which account for 21 percent of Metra's non-fare revenue. For other sources of non-fare revenue that are commonly earned across the peer operators – parking, concessions, and other transportation revenues – Metra performs below the peer average. Metra earns about 3¢ per passenger, versus the peer average of 11.8¢ per passenger.

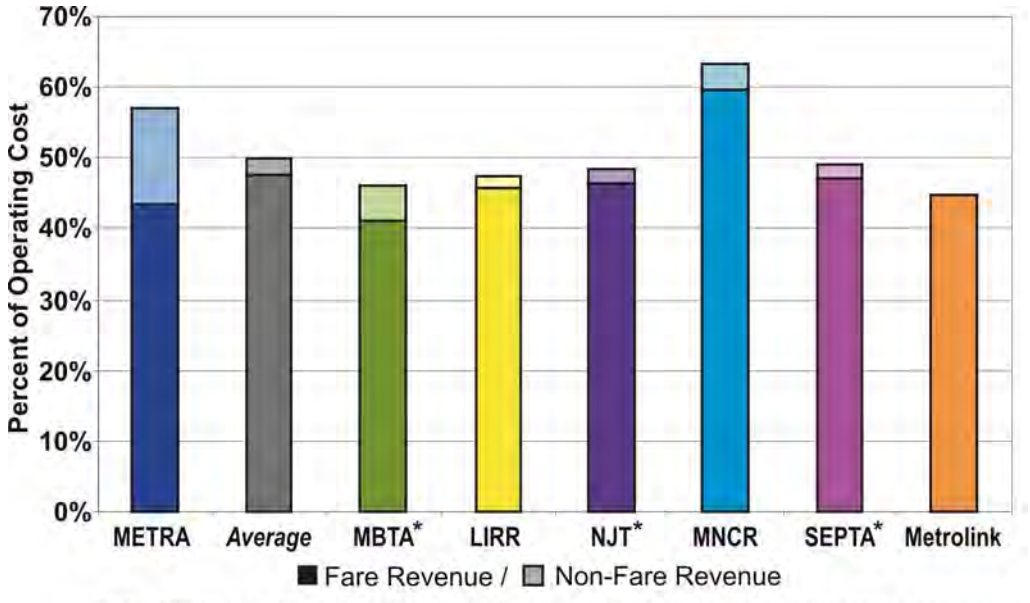
Metra reports little parking or concession revenue, and only about half the advertising revenue earned by the peer systems, which indicate some unrealized income potential.

Metra officials noted that there are several important factors which influence its ability to earn additional non-fare revenue. For example, Metra has agreements with local municipalities to operate and maintain certain parking lots. According to Metra, the municipalities, and not Metra, realize the revenue from those lots. Officials also noted that they do not own, and consequently, do not receive any advertising or concession income from their largest downtown terminal, Chicago Union Station. Finally, Metra has executed new advertising and parking contracts that were in the Request for Proposals stage during the audit. These contracts are expected to generate additional non-fare revenue.

Metra Operating Ratio

The operating ratio is calculated as fare plus non-fare revenues, divided by operating cost. Exhibit 8-14 presents the operating ratios for Metra and its peer systems, showing both the fare revenue and non-fare revenue components. Metra's operating ratio (57%) is 14 percent higher than the peer average of 50 percent.

Exhibit 8-14
FAREBOX RECOVERY AND OPERATING RATIOS
METRA vs. PEERS



Note: *These systems operate multiple modes. The fare revenue percentage shown here is for the commuter rail mode; the non-fare revenue percentage is for all modes operated by that system.

Source: 2004 National Transit Database

However, Metra's positive performance is boosted by the capital grant funds that it reports as operating revenue in the form of capital project credits. Were these funds to be excluded from both operating revenues and operating expenses, Metra's operating ratio would still be higher than its peers, at 50.9 percent. Metra could, however, increase its operating income through higher fares and improving under-performing sources of non-fare income.

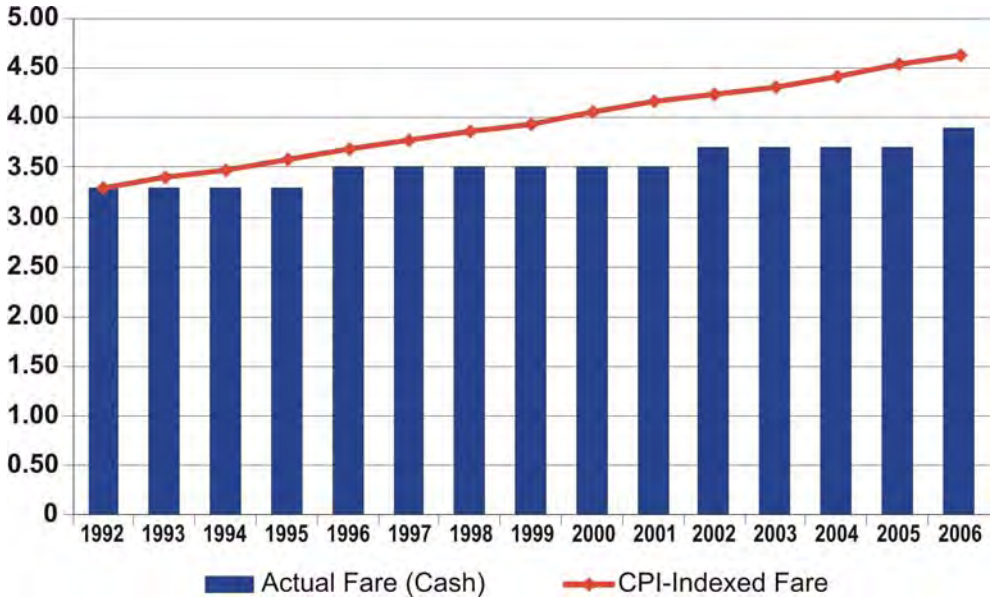
Although Metra has reported grant project credits as operating income for years, this practice is inconsistent with National Transit Database reporting guidelines, which provide that: (i) all costs originally recorded as operating costs that are to be charged to capital projects, including administration and support costs, be captured in an expense transfers account and not counted as an operating cost; and (ii) auxiliary transportation revenues – the revenue account in which Metra reports these revenues – include only those revenues received from property owned, leased, or operated by the transit system.

METRA FARE TRENDS

Metra has a zone fare structure consisting of 12 zones of five miles each wherein the fares are graduated by distance, at a declining price per mile, a practice similar to other commuter rail operators. Metra offers three types of fare media (one-way tickets, ten-ride tickets, and monthly passes). To simplify the presentation, this section will focus on the full fare one-way ticket for zone E that approximates the average trip distance on Metra of 22.4 miles. Metra discounts its 10-trip tickets by 15 percent (off one-way ticket); full-fare passes are set to break-even at 27 one-way rides per month.

Metra increased its fares in June 2002 and February 2006. The 2002 fare increase took the zone E fare to $3.70 from $3.50 (5.7%). The 2006 fare increase took the zone E fare to $3.90 (5.4%). Pass and ticket prices rose by the same percentage. Prior fare increases occurred in 1996 (20¢) and 1989 (15¢). As shown in Exhibit 8-15, the one-way fare today, $3.90, is 16 percent lower than the inflation-indexed fare ($4.63).

Exhibit 8-15
METRA 1-WAY ZONE E CASH FARE COMPARED TO INFLATION-INDEXED FARE



Source: IMG from Metra fare information and CPI-U for the Chicago metropolitan area

Two observations can be made about Metra fare trends:

- Today's zone E one-way ticket, and by extension all other fares, is priced 16 percent below what the price would be if adjusted for inflation since 1992. The 1992 base is used in the review of fares for CTA, Metra, and Pace.
- Fare increases in 2002 and 2006 had little impact on ridership, reflecting the theory that long transit work trips have a low price elasticity.

Exhibit 8-16 presents average weekday ridership and downtown Chicago employment data for 2000, 2001, and 2002. Because Metra ridership is heavily oriented toward commuter trips, and the preponderance of boardings and alightings are in downtown Chicago, downtown Chicago employment has considerable leverage on Metra ridership trends, and accordingly must be taken into account in assessing the price elasticity of Metra's ridership market. Although the data are for slightly different time periods (ridership is for the fourth calendar quarter, employment for the third calendar quarter), the consistency of the trends is readily apparent.

Exhibit 8-16
RIDERSHIP AND EMPLOYMENT
SURROUNDING METRA'S JUNE 2002 FARE INCREASE

	2000	2001	2002
Average weekday ridership, Oct-Dec [1]	288,655	285,863	274,352
Percent change		*-1.0%*	*-4.0%*
Downtown Chicago workers, Jul-Sep [2]	152,869	146,963	120,253
Percent change		*-3.9%*	*-18.2%*
Ridership elasticity with respect to employment, 2000-2001		0.25	
Expected 2002 ridership based on change in employment alone			272,857
Percent change			*-4.6%*

Source: Data and calculations based on the following:
1. Metra, Commuter Rail Ridership Trends, December 2002, Table 7, page 21
2. Metra, Commuter Rail Ridership Trends, October 2002, page 5

Given that Metra fares were unchanged between 2000 and 2001, and that no other important environmental factors other than employment existed to influence ridership, the relationship between employment change and ridership change between 2000 and 2001 can be reasonably isolated. The elasticity of ridership with respect to employment was 0.25. This is the ratio of the percent change in ridership (-1.0%) to the change in employment (-3.9%).

Given this elasticity, the 18 percent decline in employment in 2002 would translate to a 4.6 percent loss in ridership. The actual ridership loss, following the June 2002 fare increase, was 4.0 percent, 0.6 percent less than what would have been expected from the decline in employment alone. This indicates that the increase in fare had little discernible impact on the ridership loss.

The February 2006 fare increase was accompanied by a change in several other factors but the fare increase seems to have had little discernible impact. This analysis rests on a comparison of year-over-year changes to monthly ridership, which is routinely reported by Metra, whereas average daily ridership (used above to analyze the 2002 fare increase) is rarely reported.

March 2006 ridership was 4.5 percent higher than a year earlier. This is illogical at first glance, since fares were increased in February 2006 and transit price theory holds that ridership declines when fares increase. Several factors contribute to higher ridership: (i) a 2 percent increase in regional employment; (ii) a 15 percent increase in gasoline prices; (iii) a slight increase in the downtown office occupancy rate; (iv) reconstruction of the Dan Ryan Expressway; and (v) a doubling of trains operating on the Southwest and North Central lines, as well as the opening of several new stations.

While it can be assumed that higher fares do have some impact on Metra ridership, the results from 2002 and 2006 infer that Metra riders are fairly insensitive to price increases.

METRA FARES	
RECOMMENDATION NUMBER 26	***In the absence of any other funding sources, Metra should consider increasing its fares and exploiting under-utilized sources of non-fare revenues, such as from concessions and advertising, in order to reduce its operating subsidy requirements.***
METRA RESPONSE	It has long been the policy of the Metra Board to institute small, periodic increases in price, generally every 3 to 4 years, in order to address rising costs and to avoid ridership loss. To compliment this philosophy, Metra has taken every available opportunity to hold its expenses in line. Metra has long held the view that its investment in its capital programs has been a core component of this effort. We have long stated that "the more we capitalize, the less we have to subsidize." By replacing antiquated equipment and facilities, we have gained productivity and reduced costs. We strongly believe that our method of fare increases has been wise and prudent and consistent with our statutory mission. Metra strongly disagrees with any notion that its riders will only be slightly impacted by higher fare increases. First, the demographics of Metra's ridership have significantly changed since 1985. Its customer base covers a wider range of lower and middle income households. As seen by the effects on Metra ridership after the significant fare increases instituted by the RTA in the early 1980's (pre- Metra), the rail system lost a huge percentage of its customers due to this price increase. Given the diversity of our ridership, and the likely greater effect such increases have on our lower income, transit dependent customers, Metra submits that the effect of such increases will likely be disproportion ally [sic] absorbed by our minority ridership who have traditionally suffered from lower income levels. As for non-fare revenues, Metra believes that the figures in the audit report demonstrate that it has done well in developing non-fare revenue sources, and will continue to do so. Regarding advertising, Metra has entered into a new agreement that will boost revenues, [sic] As for non-fare revenues, Metra believes that the figures in the audit report demonstrate that it has done well in developing non-fare revenue sources, and will continue to do so. Regarding advertising, Metra has entered into a new agreement that will boost revenues, including enhanced minimum guarantees and new initiatives. But as noted by the auditors, unlike the New York and other commuter railroad properties, Metra does not own its major downtown terminal, Chicago Union Station, which restricts opportunities in the more lucrative downtown market. Opportunities for concessions earnings are similarly limited, although Metra has recently entered into agreements with private third party organizations to generate

	income from development of facilities at Millennium Station and at the Olgilvie Transportation Center.
AUDITOR COMMENTS	**Metra's disagreement appears to be based on the loss of ridership due to fare increases that occurred in the 1980s. The auditors did not attempt to ascertain what factors resulted in a loss of ridership over 20 years ago. The auditors *did* examine the two most recent fare increases in 2002 and 2006 and concluded that ridership levels were not adversely impacted by these fare increases. Why Metra would choose to focus its own analysis on fare increases that occurred in the early 1980s, rather than on the two most recent fare increases, is inexplicable. Further, while Metra postulates in its response about the possible impact of a fare increase on ridership, the auditors were not provided with any study or documentation to support Metra's speculation. Finally, the auditors' recommendation is that Metra *consider* increasing its fares. Implicit in such a recommendation would be a detailed, documented study by Metra supporting any decision it may make about whether or not to raise its fares.** **As noted in this report, Metra's fares are priced approximately 16 percent below what the fare price would be if adjusted for inflation since 1992. Furthermore, auditors concluded that Metra's fares are much lower than peers for trips of similar distances.**

PACE

In 2005, Pace generated about $52 million in operating revenues, comprised of passenger fare revenue (88%) and non-fare revenue (12%), primarily advertising. Pace accounts for 7 percent of the total operating revenues generated by the three Service Boards. Pace's operating revenues have been growing at a much slower rate (1.7% annually) than operating expenses (5.8% annually), thereby contributing to higher growth in the operating subsidy (8.4% annually). Financially, Pace is managed well in a weak suburban market that is price-sensitive:

- Pace out-performs its peers for all revenue metrics except bus fare revenue per passenger mile.
- Pace's management of revenues and cost recovery for its demand-responsive services is particularly noteworthy; Pace outperforms its peers and its performance is improving.
- Bus revenue is the weakest aspect of Pace services. Though better than peers in most respects, Pace's performance is declining.
- Pace's fare increases have closely tracked inflation since 1992.
- Pace's bus riders are sensitive to price increases, with a price elasticity varying between -0.3 and -0.4.

2005 PACE STATISTICS (millions)	
Operating Revenues	
• Fares	$46.2
• Advertising	$4.1
• Concessions	$0
• Parking	$0
• Others	$2.1
Total	**$52.4**
Number of Passengers	
• Bus	33.8
• Demand Responsive	1.6
• Vanpool	1.5

Source: Pace NTD report 2005

Collectively, these findings infer that Pace is performing near the top of revenue generation and cost recovery. Pace could potentially realize greater income from a distance-based fare structure, since Pace serves relatively long trips.

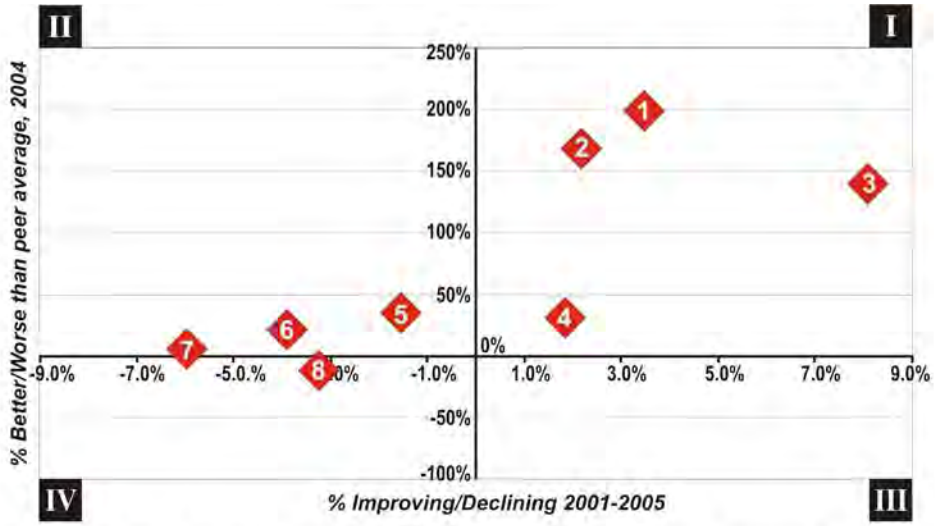
PACE PEER AND TREND COMPARISONS

Pace's revenue performance was evaluated separately for bus and demand-responsive services, although the same peer group was used for each. Demand-responsive services are diverse among peers, comprised of varying amounts of curb-to-curb transport of disabled persons and dial-a-ride services for ambulatory persons.

PACE'S PEERS
1. Long Island Bus
2. MCTS – Milwaukee County Transit System
3. OCTA – Orange County (CA) Transportation Authority
4. SORTA – Southwest Ohio Regional Transit Authority (Cincinnati)
5. SamTrans – San Mateo County (CA)
6. Valley Metro – Phoenix
7. VIA – San Antonio

Pace performance was evaluated against the peer system average, and against Pace trends for the period 2001-2005. These results indicate that Pace outperforms its peers but is facing some challenges in its bus ridership market (see Exhibit 8-17).

Exhibit 8-17
OPERATING REVENUES AND COST RECOVERY
PACE vs. PEERS



I: Better than Peer Average and Improving
1. Demand-response farebox recovery ratio
2. Demand-response fare revenue per passenger mile
3. Demand-response fare revenue per boarding
4. System-wide non-fare revenue per boarding

II: Better than Peer Average but Declining
5. Bus fare revenue per boarding
6. System-wide operating ratio
7. Bus farebox recovery ratio

III: Worse than Peer Average but Improving
(No metrics fall into this quadrant)

IV: Worse than Peer Average and Declining
8. Bus fare revenue per passenger mile

Source: IMG from National Transit Database

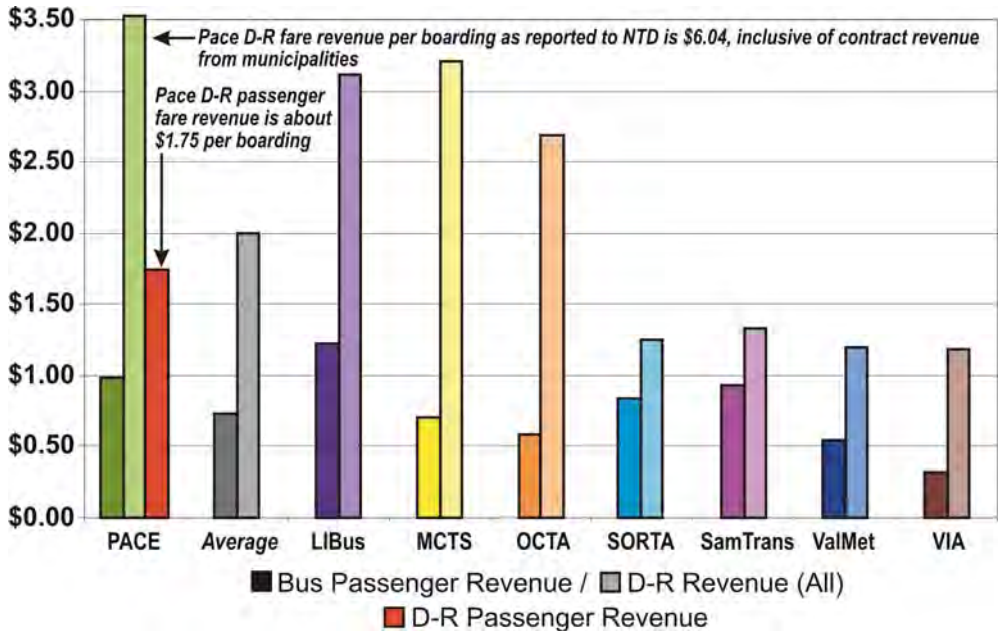
Pace's performance can be categorized according to the quadrant of the graph in which each metric falls:

- ***Better than peer average, and improving (quadrant I).*** All the Pace metrics for its demand-responsive services fall into this quadrant, denoting excellent performance. Also, Pace's non-fare revenues fall into this quadrant, indicating that Pace is doing a good job of exploiting the commercial possibilities from its bus and demand-responsive operations.
- ***Better than average, but declining (quadrant II).*** *M*ost of the Pace bus metrics, and the system-wide operating ratio (i.e., operating revenues ÷ operating cost) fall into this quadrant. The latter metric is a growing concern though it is still better than most of its peers.
- ***Worse than average, but improving (quadrant III).*** No metrics fall into this quadrant.
- ***Worse than average, and declining (quadrant IV).*** Bus fare revenue per passenger mile is a significant concern. Although Pace has a relatively high fare revenue per boarding (99¢, versus 74¢ peer average), Pace serves a longer average trip than any of its peers, and its trip length has been increasing.

Pace Fare Revenue per Boarding

The average fare revenue per boarding is computed as the total fare revenue divided by the number of times that passengers board a vehicle. However, it should be noted that Pace demand-responsive fare revenue includes revenue earned from contracts with municipalities that help underwrite the cost of dial-a-ride services. The passenger revenue component of Pace demand-responsive service is shown separately. It is not known if the peer transit systems have similar arrangements for demand-responsive services. Exhibit 8-18 includes the 2004 average fare revenue per boarding for bus and demand-responsive services. Pace also provides vanpools. These services were excluded from the peer and trends analysis because they account for a small portion of Pace's passenger revenues (6%). Also, vanpool pricing policies among transit systems are highly variable.

Exhibit 8-18
FARE REVENUE PER BOARDING
PACE vs. PEERS



Note: "D-R" refers to demand-responsive services. Pace D-R passenger revenue excludes contract revenues from municipalities.
Source: 2004 National Transit Database

Pace bus fare revenue per boarding (99¢) is 34 percent higher than the peer average (74¢), and ranks second only to Long Island Bus ($1.23). The difference between Pace and Long Island Bus is that Pace's cash fare ($1.50) is 50¢ less. While Pace has the second-highest fare revenue per boarding, its cash fare is matched by SamTrans, and is exceeded by both Long Island Bus ($2.00) and MCTS ($1.75).

Pace has higher demand-responsive revenue per boarding ($6.04) than any member of the peer group. However, Pace's fare revenue includes revenue earned from

contracts with municipalities. The passenger revenue component is about $1.75 per boarding, or about 29 percent of the total passenger revenue. This places Pace above four of the seven peers and below three (OCTA, MCTS, and Long Island Bus). It is not known if the systems include contract revenue as part of the fare revenues reported to NTD.

Pace Fare Revenue per Passenger Mile

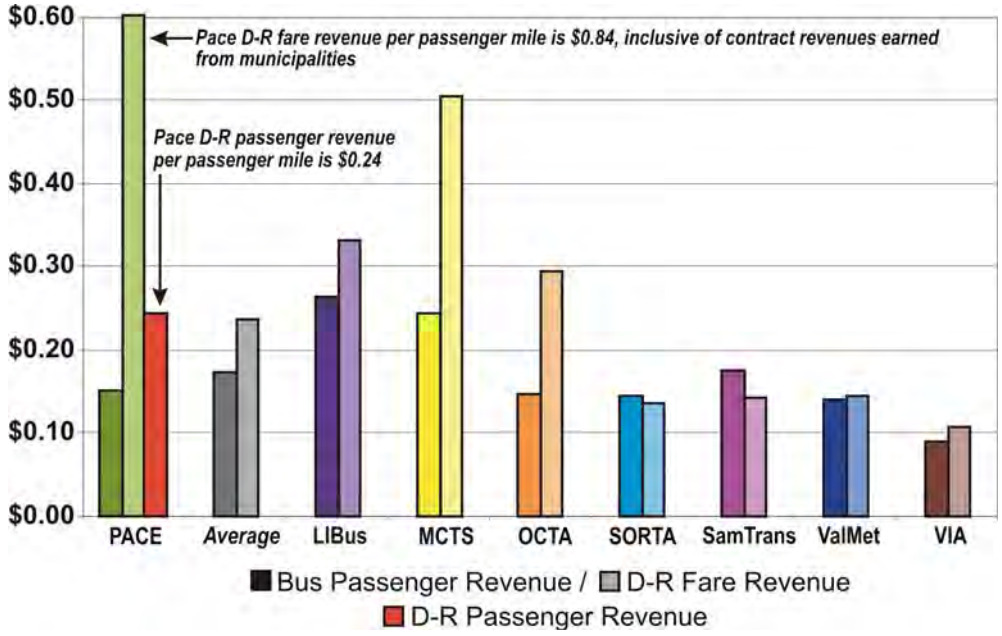
Pace's fare revenue per passenger mile indicates that bus fares are relatively low and that demand-responsive fares are relatively high when adjusted for distance traveled.

Fare revenue per passenger mile is computed as total passenger revenue (per mode) divided by passenger miles (per mode). However, it should be noted that Pace demand-responsive fare revenue includes revenue earned from contracts with municipalities that help underwrite the cost of dial-a-ride services that are managed by Pace. The passenger revenue component of Pace demand-responsive service is shown separately. It is not known if the peer transit systems have similar arrangements for demand-responsive services. Exhibit 8-19 presents bus and demand-responsive services per passenger mile for Pace and the peer group.

Pace bus fare revenue per passenger mile traveled ($0.15) is 12 percent lower than the peer average ($0.17). Although Pace's average passenger revenue per boarding is relatively high compared to its peers, Pace has the longest average trip length of the group, at 6.5 miles versus the peer average of 4.3 miles.

Pace's demand-responsive fare revenue per mile traveled ($0.84), on the other hand, is higher than any of its peers. This is primarily due to contract revenues earned by Pace from municipalities having non-ADA dial-a-ride service. Pace demand-responsive *passenger* revenue per passenger mile is about $0.24. This is still higher than four of the seven peer operators, indicating that Pace has relatively higher fares per passenger mile. Three of the peers, OCTA, MCTS, and Long Island Bus, have higher fare revenues than Pace if one simply includes Pace passenger fares in the analysis. It is not known whether these three peers earn non-passenger revenues that are included in the fare revenues reported to NTD.

Exhibit 8-19
FARE REVENUE PER PASSENGER MILE
PACE vs. PEERS

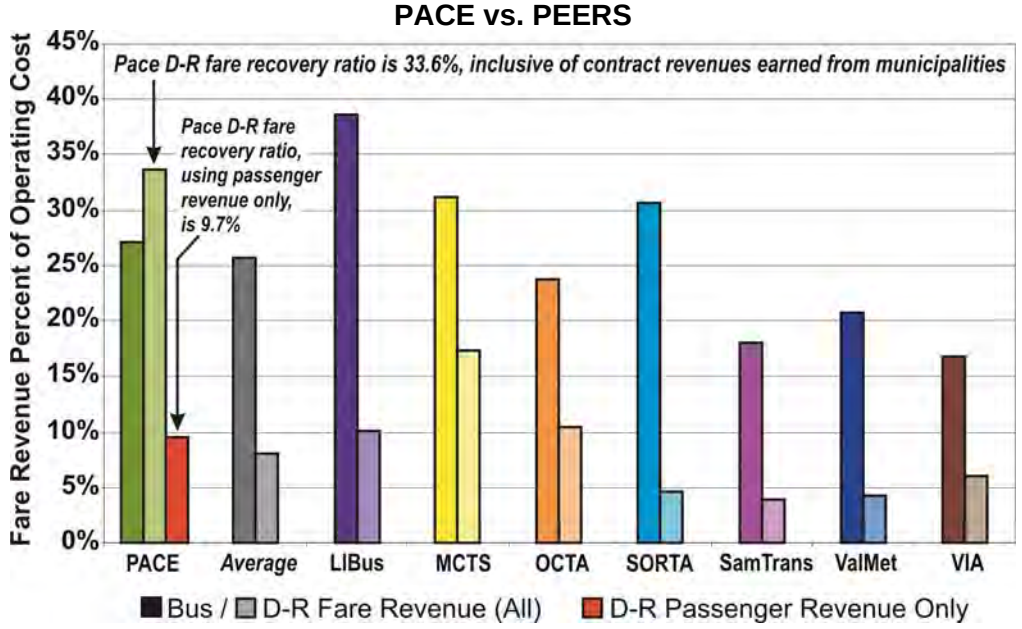


Note: "D-R" refers to demand-responsive services. Pace D-R passenger revenue excludes contract revenues from municipalities.
Source: 2004 National Transit Database

Pace Farebox Recovery Ratio – Bus and Demand-Responsive

The farebox recovery ratio is computed as total fare revenue per mode divided by operating cost per mode. Please refer to the glossary for the definition of farebox recovery ratio used in this report, since it differs from the revenue recovery ratio reviewed by the RTA. For demand-responsive operations, fare revenue includes contract revenues earned from municipalities. Exhibit 8-20 presents bus farebox recovery ratios for Pace and the peer group and also presents the Pace demand-responsive farebox recovery ratio using passenger revenues only.

Exhibit 8-20
FAREBOX RECOVERY RATIO
PACE vs. PEERS



Note: "D-R" refers to demand-responsive services.
Source: 2004 National Transit Database

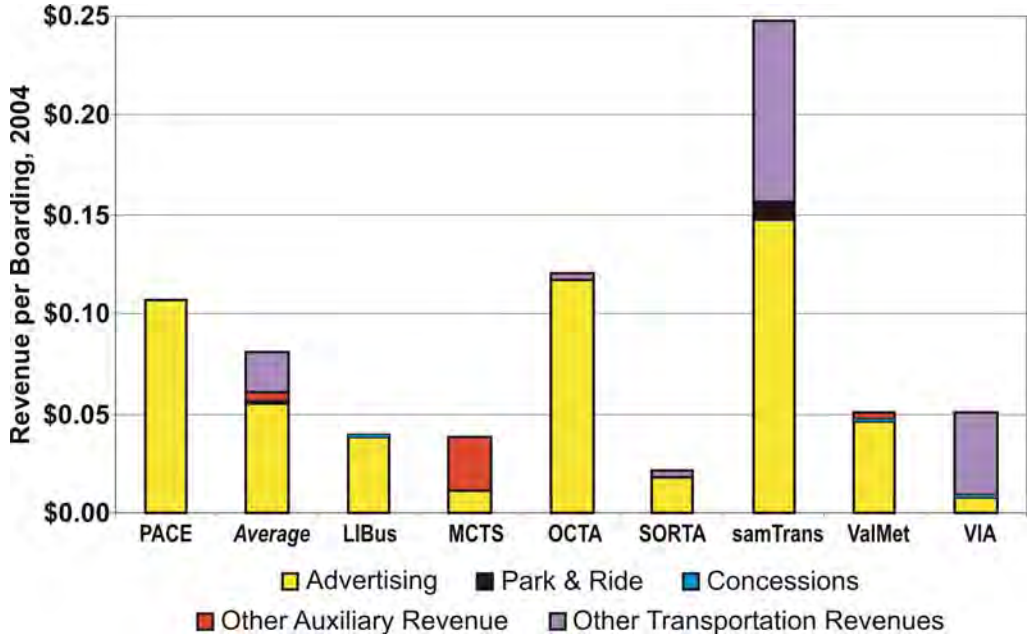
Pace bus had a farebox recovery ratio of 27.1 percent, about 5 percent higher than the peer average of 25.7 percent. Pace ranked fourth among the eight transit operators included in the comparison which indicates that Pace bus cost recovery is in the middle.

Pace demand-responsive services had a farebox recovery ratio of 33.6 percent when all fare revenues are counted, including contract revenues. This ratio is well above the peer average of 8.1 percent, and is higher than any other operator in the peer group. When the farebox recovery ratio is computed for Pace using passenger fare revenue alone, not including revenues from municipalities, it falls to 9.7 percent. Thus, Pace's practice of recouping some demand-responsive cost from the municipalities it serves has a dramatic, positive effect on the farebox recovery ratio.

Pace Non-Fare Revenue per Boarding

Non-fare revenues are those generated from transactions other than the farebox. These revenues include advertising, concessions, parking fees, and other auxiliary revenues. Although these sources are distinct from farebox revenue, they are affected to some extent by a transit system's ridership. Accordingly, the non-fare revenues generated by transit system were normalized by ridership to aid in comparing their revenue-generating capability. This comparison was performed based on system-wide non-fare revenues and ridership, since non-fare revenues are not attributed to each mode in the NTD reporting process (see Exhibit 8-21).

Exhibit 8-21
SOURCES OF NON-FARE REVENUE
PACE vs. PEERS



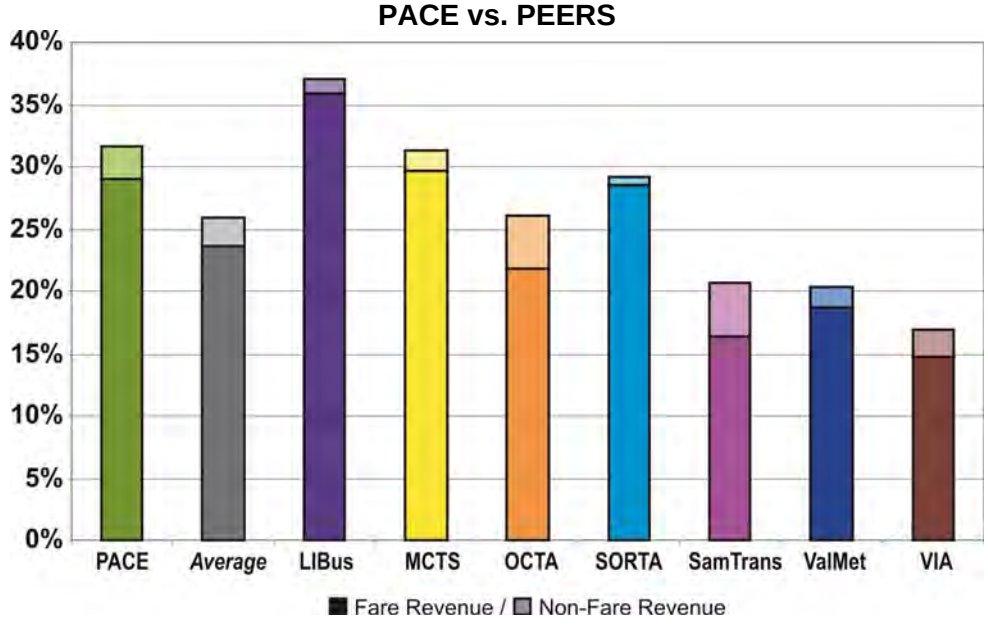
Source: 2004 National Transit Database

Pace's average non-fare revenue per boarding is 32 percent higher than the peer average (10.7¢ Pace versus 8.1¢ average). Practically all of it derives from advertising. This is a common attribute of bus systems, which have limited ability to generate non-fare revenue from other sources. Pace has the third-highest relative advertising revenues in the peer group.

Pace System-Wide Operating Ratio

The operating ratio is calculated as fare plus non-fare revenues, divided by operating cost, across all modes of operation. Non-fare revenues account for 2.2 percent and have substantially less influence on the operating ratio than do fare revenues. Exhibit 8-22 presents the operating ratios for Pace and its peer systems, showing both the fare revenue and non-fare revenue components.

Exhibit 8-22
FARE RECOVERY AND OPERATING RATIOS (ALL MODES)
PACE vs. PEERS



Source: 2004 National Transit Database

Pace's operating ratio (31.6%) is 22 percent higher than the peer average of 25.9 percent. Pace's operating ratio is higher than all peer transit systems, with the exception of Long Island Bus, which has a higher cash fare ($2.00) than Pace ($1.50).

PACE FARE TRENDS

Although Pace offers many fare options to its riders, all fares typically derive from the base cash fare and the monthly (or 30-day) pass. Therefore, an analysis of Pace fare trends can focus on these two fare options alone. Debate about fare changes often focuses on the cash fare, since it is paid by those lacking the funds to purchase a monthly pass or occasional riders. The monthly pass price is also an important consideration because it offers unlimited rides.

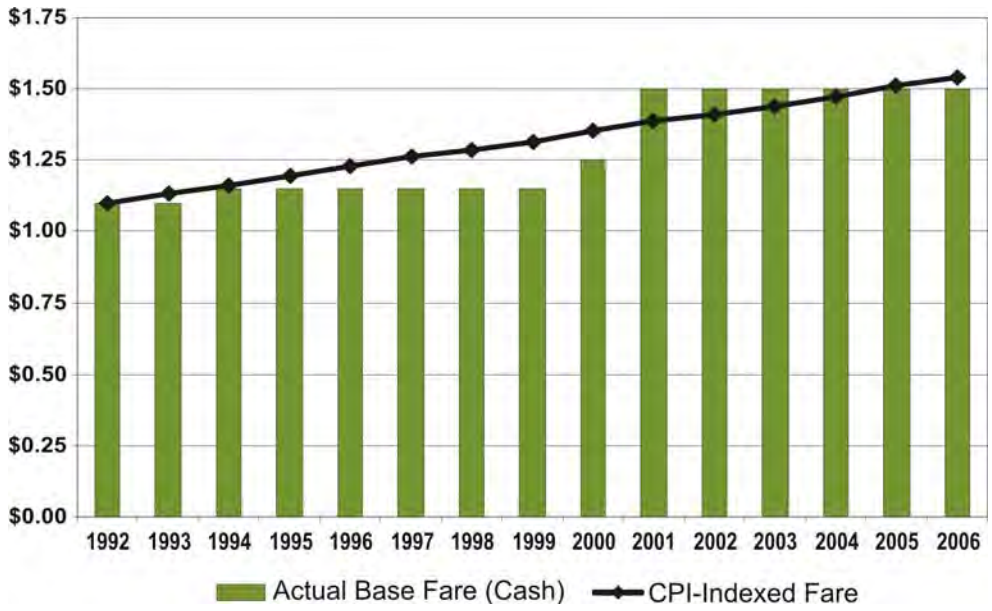
Two observations can be made about Pace fare trends:

- Today's base cash fare and monthly pass (i.e., the Commuter Club Card) are close to what the prices would be if adjusted for inflation since 1992 (1995 for the pass).
- Fare increases in 2000 and 2001 had negative impacts on ridership, indicating that Pace serves a price-sensitive market.

Exhibit 8-23 presents the cash fare history for 1992-2006, adjusted for inflation. Pace last increased its base cash fare in April 2001 from $1.25 to $1.50. This followed a

fare increase in January 2000, when the fare was increased from $1.15 to $1.25. That fare had been in effect since January 1994.

Exhibit 8-23
PACE BASE FARE COMPARED TO INFLATION-INDEXED FARE



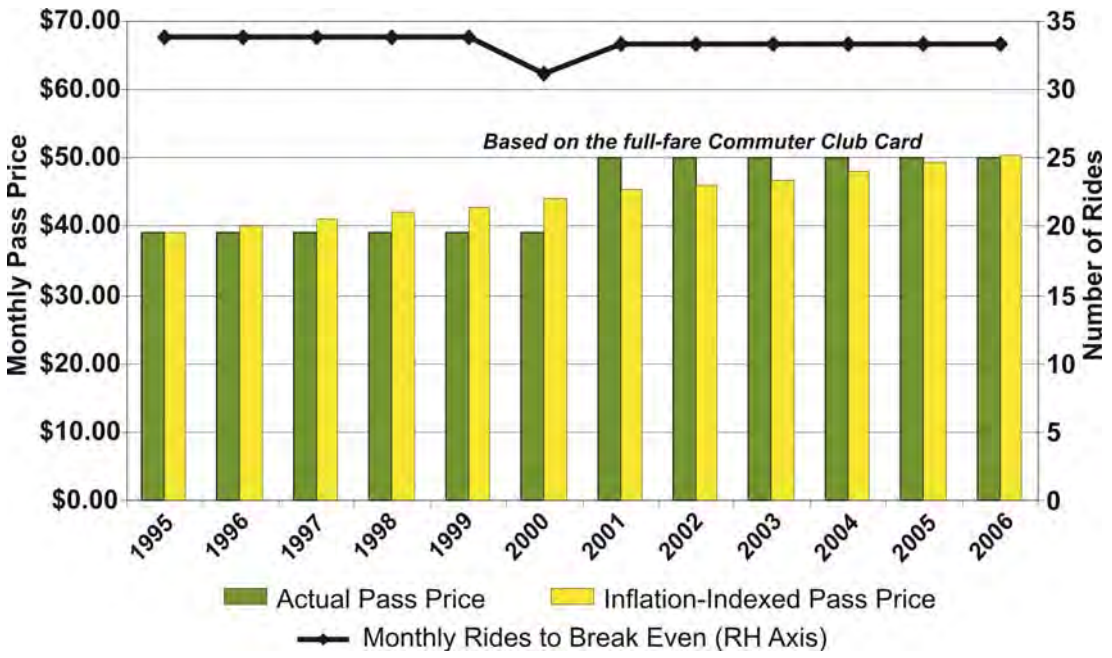
Source: IMG from Pace fare information and CPI-U for the Chicago metropolitan area

Exhibit 8-24 presents the monthly pass price history 1995-2006. Prior to 1995, Pace sold only a joint Pace-CTA monthly pass. Pace started selling its Commuter Club Card in January 1995 (used in this analysis). The price today, $50.00, is practically the same as the inflation-adjusted price of $50.35.

Exhibit 8-24 also presents the number of rides per month to which the pass price equates, using the base cash fare. This "break-even" point is a major consideration in setting fare policy, because it influences the migration of riders from cash to pass, and can dampen revenue growth if monthly passes are shared among more than one user.

The break-even point on the Pace monthly pass has held steady at 33 to 34 rides per month, with the exception of the year 2000, when the cash fare was increased but the pass price was not. Pace's break-even point is lower than CTA (38), higher than Metra (27), and within the range of its peers: VIA (25); Valley Metro (27); SamTrans (32); OCTA (36); Long Island Bus (38); and SORTA (40).

Exhibit 8-24
PACE MONTHLY PASS PRICE COMPARED TO INFLATION-INDEXED PRICE



Note: The "Monthly Rides to Break Even" line is shown to illustrate the number of rides needed, at the cash fare, to reach the monthly pass amount. An increase in the break-even point implies a greater discount in the pass price relative to the cash fare, while a decrease implies a lesser discount.
Source: IMG from Pace fare information and CPI-U for the Chicago metropolitan area

Pace ridership response to fare increases suggests that the price elasticity is in the range of -0.3 to -0.4. This elasticity is interpreted as the percent change in riders for each 1 percent change in fare. Thus, for Pace, a 10 percent price increase would result in a 3 percent to 4 percent loss in riders, and a 5.6 percent to 6.7 percent increase in revenue. The Pace elasticity range is fairly high for a transit system serving relatively long trips, indicating that Pace riders are price sensitive.

Exhibit 8-25 presents the change in fare, change in riders, and price elasticity for three Pace fare increases: 1986, 2000, and 2001. No data was readily available for fare increases occurring between 1986 and 2000. The 1986 percentage calculations were provided by Pace staff, based on the change in the average fare and monthly ridership for March-April 1985 versus 1986. The 2000 and 2001 changes were calculated from calendar year-over-year Pace bus ridership and change in the cash fare. Ridership was normalized for changes in service levels.

Exhibit 8-25
PACE PRICE ELASTICITIES

Fare Increase Date	%Δ riders	%Δfare	% of total riders	elasticity[1]
February 1986 ($0.90 to $1.00)	-4.4%	13.0%	100.0%	-0.337
January 2000 ($1.15 to $1.25)	-2.7%	8.7%		-0.305
April 2001 ($1.25 to $1.50)	-7.8%	20.0%		-0.390

Note: [1] Calculated as shrinkage ratio: %Δriders ÷ %Δfare.
Source: IMG from Pace ridership and fare information

Conclusions – Pace

Pace fares have closely tracked with inflation for over ten years, and compare reasonably well to peer transit systems, with one exception – fare revenue per passenger mile is relatively low. Because Pace generally serves a price-sensitive market, however, it would need to carefully consider the impact on different market segments should it elect to raise fares as a component of its financial strategy to fund the growing need for operating subsidies. Since transit riders who make long trips are generally less price-sensitive than transit riders who make short trips, a transition to a distance-based fare structure may allow Pace to increase its operating revenues with minimal ridership loss. The potential revenue gain would have to be weighed against the costs of implementing distance-based fares, which would introduce changes to Pace operating procedures and fare media.

PACE FARES	
RECOMMENDATION NUMBER 27	***In the absence of any other funding sources, Pace should consider implementing a distance-based fare structure in order to offset growth in its operating subsidy requirements.***
PACE RESPONSE	Pace agrees with the recommendation aspect of implementing a distance-based fare structure. However, this should not be tied as a means of offsetting the growth in operating subsidy requirements. The two aspects are independent of each other and should not be linked. The report highlights the fact that Pace has a relatively high revenue per passenger, but a low revenue per passenger mile. This occurs because Pace passenger trips are longer than typical and its peers. Pace would like to consider a distance-based fare structure, but not tied to subsidy requirements. Pace ridership has a high fare elasticity which means that Pace riders are sensitive to fare increases and find alternative travel when fares are increased. There is also a technology requirement for distance-based fares that is an important component of its solution. The best way to accomplish this is through the related report recommendation to develop a regional coordinated fare structure.

	A distance-based fare structure for Pace can become part of a regional fare administration plan. This regional plan could better reflect the technology, coordination, rate structure and funding need aspects that are inherent to most of these fare recommendations. The higher elasticity of its riders and the recent revenue loss along combined service corridors demonstrate the risk to Pace from a lack of a regional fare administration plan. Pace therefore believes that a distance-based fare should be part of a regional plan that includes the technology requirements, the centralized fare rate and structure policy framework, the data warehousing and back office functions, and the funding to move this forward to implementation. The experience of urban areas such as San Francisco, Montreal, Los Angeles and Washington D.C. demonstrate that these are viable expectations and the public-private partnerships organized in Seoul and Hong Kong illustrate how this can be accomplished in a constrained funding situation.

REGIONAL SALES TAX ALLOCATION

The allocation of sales tax revenues to the Service Boards has been a point of contention. Notably, the CTA believes the current allocation is inequitable. At the heart of CTA's argument is the fact that a predominance of transit riders in the region are served by CTA. In 2005, for example, CTA carried approximately 82 percent of all transit boardings in the region.

However, an examination of the statutory sales tax allocation formula and discretionary sales tax allocation practices indicates a significant imbalance between revenues generated by and returned to the jurisdiction of origin, which in fact is very favorable to the CTA and, to a lesser extent, the collar counties:

- The statutory revenue allocation understates the sales tax revenues actually received by the CTA, because RTA's **discretionary** revenue allocations heavily favors CTA.
- Population change has not materially affected sales tax revenue allocations, even though population growth has been faster in the suburbs, since the tax rate in the collar counties (0.25%) is much lower than in Cook County (1%).
- No single operating statistic can accurately measure tax allocation equity. Other metropolitan areas that grapple with this issue focus on costs incurred and revenues generated by jurisdiction, taking into account multiple variables.
- Transit journey-to-work data illustrate significant differences between revenue allocations and transit use by jurisdiction of residence, generally to the benefit of CTA and Pace.

- Operating subsidies estimated to be incurred by the overall travel patterns of residents of each jurisdiction indicate significant benefit to Chicago, and specifically the CTA, with lesser benefit to the collar counties, in comparison to sales tax revenues generated.

The sales tax allocation formula should be revisited by the Legislature, in concert with related recommendations identified in the Financial Management chapter of this audit. However, it should be acknowledged that changes to the sales tax allocation formula that may be considered by the Legislature will not – alone – solve the current financial issues faced by the Service Boards and the RTA. Additional funding is required to meet current and future agreed commitments.

Statutory Revenue Allocation

RTA sales tax revenues are collected in and attributed to the city of Chicago, the balance of Cook County (known as "suburban Cook"), and DuPage, Kane, Lake, McHenry, and Will counties (known as the "collar counties"). The sales tax is the equivalent of 1 percent on sales in Cook County and 0.25 percent on sales in the collar counties. The 1 percent sales tax in Cook County is comprised of 1 percent on food and drugs and 0.75 percent from all other sales, with the state then providing a "replacement" amount to the RTA equivalent to 0.25 percent of all other sales.

In addition to the so-called RTA revenues, the State of Illinois provides 25 percent matching revenues from the State Public Transportation Fund (PTF). These revenues derive from the State sales tax, and thus are generated from the same geography and in the same proportion as RTA revenues.

The RTA revenues are divided into two segments: statutory allocation, which comprises 85 percent of RTA revenues, and the discretionary allocation, which comprises the remaining 15 percent of the RTA revenues as well as the PTF revenues. In 2005, the statutory allocation accounted for 77 percent of the sales tax revenues received by the Service Boards, and the discretionary allocation accounted for the remaining 23 percent.

As detailed in the discussion that follows, the funds allocated at the RTA's discretion go overwhelmingly to the CTA. Consequently, the final distribution is significantly different than the distribution implied in the statutory allocation formula. Thus, it is important to consider the allocation of *all* sales tax revenues, 85 percent statutory, 15 percent discretionary, and PTF, to ascertain the degree of equity in how the regional sales tax revenues are allocated.

Statutory Sales Tax Allocation

Eighty-five percent of RTA sales tax revenues are allocated to the Service Boards via a statutory formula, shown in Exhibit 8-26. In 2005, this pool of revenues totaled $595.3 million.

Exhibit 8-26
STATUTORY ALLOCATION

Statutory Allocation	CTA	Metra	Pace	Total
Chicago	100%	—	—	100%
Suburban Cook	30%	55%	15%	100%
Collar Counties	—	70%	30%	100%

Source: 70 ILCS 3615/4.01(d)

These allocations generally reflect the geography served by each Service Board: taxes collected in the city of Chicago are devoted entirely to CTA, the taxes collected in the collar counties are devoted to Metra and Pace, and the taxes collected in suburban Cook (all areas outside Chicago) are allocated across all three Service Boards.

Discretionary Sales Tax Allocation

Fifteen percent of RTA sales tax revenues, plus 25 percent matching revenues from the State Public Transportation Fund (PTF), are allocated at RTA's discretion. In 2005, this pool of revenues totaled $280.7 million.

Between 1995 and 2005, RTA retained about one-third of the funds for debt service, administrative costs, and capital projects, and allocated the remaining two thirds of these funds to the Service Boards. As noted in the Financial Management chapter of the audit, about 86 percent of this pool of funds (i.e., RTA discretionary sales tax plus PTF funds) is used to support operations; the remainder is comprised of capital grants. In 2005, the RTA allocated $173.3 million of these funds to the Service Boards.

The discretionary sales tax allocation overwhelmingly favors CTA. Between 1995 and 2005, CTA received 95 percent of these funds and Pace received 5 percent. No discretionary RTA funds were allocated to Metra. This allocation practice has been very consistent year to year, having a standard deviation of just 1.8 percent.

Combined Effect of the Sales Tax Allocations

The combined effect of statutory and discretionary sales tax allocations, and different tax rates levied in Cook and the collar counties, produces a sales tax revenue distribution that is quite different from the statutory allocation. Exhibit 8-27 presents the allocation to the Service Boards of revenues collected in the city of Chicago, suburban Cook County, and the collar counties, for the statutory allocation, the discretionary allocation, and the combined allocation.

Exhibit 8-27
SALES TAX REVENUE ALLOCATIONS TO SERVICE BOARDS, 2005
($ in millions)

	CTA	METRA	PACE	TOTAL
Statutory Distribution (85%)				
Chicago	182.0	-	-	182.0
Suburban Cook	95.2	174.5	47.6	317.3
Collar Counties	-	67.2	28.8	96.0
Total	277.2	241.7	76.4	595.3
Percent of Total	*47%*	*41%*	*13%*	*100%*
Discretionary Sales Tax + PTF Distribution, Pro-rated to Source				
Chicago	50.5	-	2.4	53.0
Suburban Cook	88.1	-	4.3	92.4
Collar Counties	26.7	-	1.3	27.9
Total	165.3	-	8.0	173.3
Percent of Total	*95%*	*0%*	*5%*	*100%*
Total Distribution (85% + discretionary)				
Chicago	232.6	-	2.4	235.0
Suburban Cook	183.3	174.5	51.9	409.7
Collar Counties	26.7	67.2	30.1	123.9
Total	442.5	241.7	84.4	768.6
Percent of Total	*58%*	*31%*	*11%*	*100%*

Note: Totals may not add due to rounding.
Source: IMG from RTA documents

CTA received 58 percent of total sales tax revenues allocated to the Service Boards in 2005. Had all the revenues been allocated according to the statutory formula, CTA would have received just 47 percent of total sales tax revenues. Clearly, the discretionary allocations have a significant, positive effect on CTA's share of the overall sales tax funding. Furthermore, CTA receives 95 percent of discretionary revenues generated by the City, suburban Cook and the collar counties, indicating that CTA does receive direct financial support from outlying suburban areas.

In contrast to CTA, both Metra and Pace experience a reduction in the share of regional sales tax revenues when the discretionary allocations are taken into account. Under the statutory formula, Metra would receive 41 percent of revenues. In the total allocation, however, Metra receives 31 percent of the revenues. This reflects the fact that Metra typically receives none of the discretionary revenues. Pace is also affected by the allocation of the discretionary revenues, but by a lesser margin. Under the statutory formula, Pace receives 13 percent of the revenues, but after the discretionary allocation Pace receives 11 percent of the revenues.

In summary, due to the overwhelming allocation to CTA of the discretionary revenues, it is important to consider the allocation of *all* sales tax revenues, 85 percent

statutory, 15 percent discretionary, and PTF, to ascertain the degree of equity in how the regional sales tax revenues are allocated.

Population Change Has Not Materially Affected Sales Tax Revenue Allocations

Although population growth has been much stronger in the collar counties than in Cook County, the distribution of sales tax revenues among the RTA jurisdictions has changed very little over the past ten years, as shown in the Exhibits 8-28 and 8-29. This is due to the higher sales tax rate levied in Cook County – effectively 1 percent – as compared to the 0.25 percent sales tax rate levied in the collar counties. Consequently, population change is not a factor in ascertaining the equity of the current allocation of sales tax revenues.

Exhibit 8-28
POPULATION GROWTH AND DISTRIBUTION

	Avg. Annual % Change 1995-2005	1995 Distribution	2005 Distribution	Change in Distribution
Chicago	0.1%	36.3%	34.0%	-2.3%
Suburban Cook	-0.1%	32.1%	29.4%	-2.7%
Total Cook	0.0%	68.4%	63.4%	-5.0%
DuPage	0.8%	11.1%	11.1%	0.0%
Kane	3.1%	4.6%	5.8%	1.1%
Lake	1.9%	7.5%	8.4%	0.9%
McHenry	2.9%	3.0%	3.6%	0.7%
Will	4.4%	5.4%	7.7%	2.3%
Total Collar	2.3%	31.6%	36.6%	5.0%
Total	0.8%	100.0%	100.0%	0.0%

Note: Totals may not add due to rounding.
Source: Bureau of the Census

Exhibit 8-29
SALES TAX GENERATED BY JURISDICTION

	Avg. Annual % Change 1995-2005	1995 Distribution	2005 Distribution	Change in Distribution
Chicago	2.9%	31.2%	30.6%	-0.7%
Suburban Cook	2.8%	55.1%	53.3%	-1.8%
Total Cook	2.9%	86.3%	83.9%	-2.5%
DuPage	3.3%	6.3%	6.4%	0.1%
Kane	6.0%	1.7%	2.2%	0.5%
Lake	5.0%	3.3%	3.9%	0.6%
McHenry	6.2%	0.9%	1.2%	0.3%
Will	8.2%	1.5%	2.4%	0.9%
Total Collar	4.9%	13.7%	16.1%	2.5%
Total	3.2%	100.0%	100.0%	0.0%

Note: Totals may not add due to rounding.
Source: RTA "Sales Tax by County"

Due to the statutory allocation formula and the RTA's discretionary sales tax allocation practices, the allocations of sales tax revenues to the Service Boards changed little between 1995 and 2005 (see Exhibit 8-30). With the exception of the discretionary allocations, all changes in the sales tax distribution were relatively small. The changes in the RTA discretionary allocation yielded a gain to CTA, and a corresponding loss to Pace. The allocation formula and practices also had the effect of equalizing the average annual rate of growth in sales tax revenues allocated to the Service Boards, thus off-setting the differential growth rates demonstrated in the sales tax table above. Thus, none of the Service Boards has been advantaged or penalized by the patterns of sales tax growth or population growth.

Exhibit 8-30
SALES TAX ALLOCATIONS TO SERVICE BOARDS

	Avg. Annual % Change 1995-2005	1995 Distribution	2005 Distribution	Change in Distribution
CTA				
85% statutory	3.2%	47.8%	47.3%	-0.4%
RTA discretionary	3.1%	93.6%	95.4%	1.8%
Total Allocated to CTA	3.1%	58.3%	58.1%	-0.2%
Metra				
85% statutory	3.3%	39.9%	40.1%	0.2%
RTA discretionary		0.0%	0.0%	0.0%
Total Allocated to Metra	3.3%	30.7%	31.1%	0.4%
Pace				
85% statutory	3.4%	12.4%	12.6%	0.2%
RTA discretionary	-0.4%	6.4%	4.6%	-1.8%
Total Allocated to Pace	3.0%	11.0%	10.8%	-0.2%

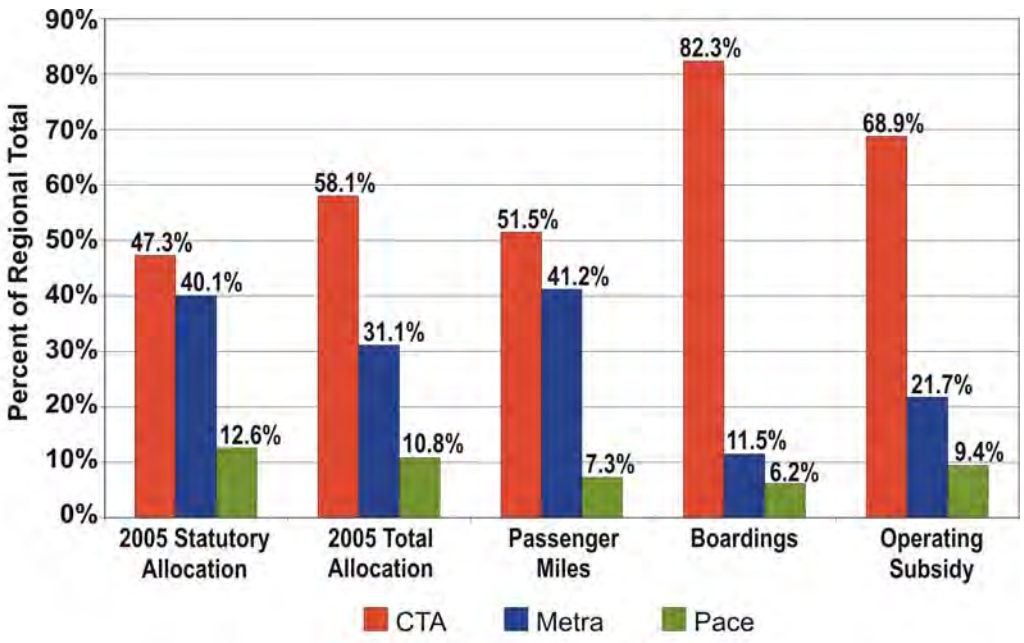
Source: RTA "Sales Tax by County"

No Single Operating Statistic Accurately Measures Tax Allocation Equity

Discussions about the equity of sales tax allocations to the Service Boards have focused on the relationship of the allocations to various operating metrics, such as ridership, passenger miles, and the match rate for operating subsidies incurred by each Service Board.

As shown in Exhibit 8-31, there is no consistent relationship between operating metrics and the allocated revenues. Depending on the metric chosen, and the category of allocated revenues (i.e., statutory or total), differing arguments may be made about the equity or fairness of the existing revenue distribution. On the basis of ridership (measured by passenger boardings), CTA clearly receives a lower portion of total revenues (58.1%) than its share of regional boardings (82.3%). On the other hand, the distribution would seem fairer if CTA's share of passenger miles (51.5%) were the basis of comparison. If consideration were limited to CTA's share of regional operating subsidies (68.9%), the allocation would seem very far out of balance.

Exhibit 8-31
COMPARISON OF SALES TAX ALLOCATIONS TO OPERATING METRICS



Source: National Transit Database, Service Board Financial Statements, RTA Document: Service Board Funding & Revenue Tables

An assessment of the fairness or equity of revenues is an issue in every major metropolitan area, and is particularly acute when the revenues are tracked by the jurisdiction of origin.

Two metropolitan areas, Washington, DC and Seattle, have explicit policies regarding the relationship between revenues and expenses for the various geographies that each transit system serves. In both cases, although very different methods are used, the central feature is to balance the cost of service in a given area to the revenues generated by that area.

The interstate pact creating the Washington Metropolitan Area Transportation Authority (WMATA) obligates each participating jurisdiction to pay its share of the operating subsidy. The operating subsidy incurred by each jurisdiction is calculated for both bus and rail services. For bus service, the formula reflects the operating cost allocated to a jurisdiction based on the amount of service operated in that jurisdiction, while passenger revenues are credited back to the jurisdiction based on a bi-annual survey. The calculation of rail operating subsidy by jurisdiction follows a similar approach, except that some elements of operating cost and all passenger revenues are allocated based on the passenger miles traveled by jurisdiction of residence. Since WMATA operates essentially on the basis of an intergovernmental agreement, and does not have a dedicated regional funding source, it is essential that costs are explicitly allocated to each of its member jurisdictions.

In the Seattle metropolitan area, Sound Transit follows an explicit policy of "sub area equity," whereby the cost of service and capital programs that are to be paid by local dollars cannot exceed the local revenues (tax revenues and passenger revenues) credited to each of five geographic sub areas. All recording of the sources and uses of funds reflect this policy. Though acknowledged by some to be an onerous procedure, the sub area equity policy was essential in reaching consensus on the scope and timing of regional transit improvements and services.

Given the different interpretations of equity that can be drawn by focusing on a single operating metric, and given the experience of two other metropolitan areas in grappling with similar issues on sharing the cost of public transit, it is clear that the notions of who uses transit service, how much that service costs, and where and how revenues are generated, are all major considerations in determining the equity of a revenue allocation formula. The use of operating metrics alone, which has been the basis on which regional tax allocation equity has been argued before the Legislature, presents an inconsistent and incomplete picture of the problem.

Transit Journey-to-Work Data

For the express purposes of this audit report, the Chicago Area Transportation Study (CATS) prepared a special tabulation of passenger miles and boardings by jurisdiction of origin by Service Board, summarized in Exhibit 8-32. This matrix was created by: (i) using journey-to-work data from the 2000 Census to define origins, destinations, and mode choice by respondent; and (ii) given the respondents' mode choice, assigning a path through the existing (computer-simulated) transit network that satisfied the origin-destination information. CATS accumulated the passenger miles and boardings for each leg of a linked trip, according to the Service Board the traveler was using for each leg of the trip. CATS documented the procedure in a technical memorandum. Note, however, that the auditors made one modification to the CATS product: CATS did not distinguish between CTA and Pace bus trips. The auditor assumed that 100 percent of bus trips in Chicago and 15 percent of bus trips in suburban Cook were taken on CTA routes; the rest were assigned to Pace.

The left-hand side of Exhibit 8-32 portrays each cell of the regional trip distribution (i.e., across Service Boards), while the right-hand side of the exhibit portrays the distribution of trips made by residents of a jurisdiction. The right-hand side distribution can be compared to the statutory and total sales tax distributions to get a rough idea of the match between sales tax allocations and transit usage.

Exhibit 8-32
DISTRIBUTION OF JOURNEY TO WORK TRIPS

Jurisdiction of Trip Origin	% Distribution of Passenger Miles[1]				% Distribution of Passenger Miles, by Residents of Each Jurisdiction			
	CTA	METRA	PACE	TOTAL	CTA	METRA	PACE	TOTAL
Chicago	36.6%	5.0%	0.0%	41.6%	88.1%	11.9%	0.0%	100.0%
Suburban Cook	5.2%	19.5%	3.2%	27.9%	18.6%	70.0%	11.5%	100.0%
Subtotal: Cook	41.8%	24.5%	3.2%	69.5%	60.1%	35.2%	4.6%	100.0%
DuPage	0.6%	12.0%	0.5%	13.1%	4.8%	91.8%	3.4%	100.0%
Kane	0.0%	2.2%	0.3%	2.5%	1.5%	87.5%	11.0%	100.0%
Lake	0.3%	6.1%	0.4%	6.8%	4.5%	89.8%	5.7%	100.0%
McHenry	0.1%	2.5%	0.1%	2.8%	2.8%	92.4%	4.8%	100.0%
Will	0.3%	4.6%	0.4%	5.3%	5.8%	87.0%	7.2%	100.0%
Subtotal: Collar	1.4%	27.5%	1.6%	30.5%	4.5%	90.2%	5.4%	100.0%
Total	43.1%	52.0%	4.8%	100.0%				

	% Distribution of Boardings[1]				% Distribution of Boardings, by Residents of Each Jurisdiction			
	CTA	METRA	PACE	TOTAL	CTA	METRA	PACE	TOTAL
Chicago	62.1%	4.3%	0.0%	66.5%	93.5%	6.5%	0.0%	100.0%
Suburban Cook	4.5%	11.7%	3.5%	19.7%	22.7%	59.5%	17.8%	100.0%
Subtotal: Cook	66.6%	16.0%	3.5%	86.1%	77.3%	18.6%	4.1%	100.0%
DuPage	0.3%	6.1%	0.3%	6.7%	4.9%	89.9%	5.1%	100.0%
Kane	0.0%	0.7%	0.3%	1.1%	2.0%	68.9%	29.0%	100.0%
Lake	0.1%	2.5%	0.4%	3.0%	4.5%	80.9%	14.6%	100.0%
McHenry	0.0%	0.8%	0.1%	0.9%	3.2%	85.9%	10.9%	100.0%
Will	0.1%	1.7%	0.2%	2.1%	5.5%	83.0%	11.5%	100.0%
Subtotal: Collar	0.6%	11.8%	1.4%	13.9%	4.6%	85.0%	10.4%	100.0%
Total	67.2%	27.8%	4.9%	100.0%				

Note: [1] The boardings or passenger miles for each leg of a linked trip are attributed to the relevant Service Board. Also, totals may not add due to rounding.
Source: CATS Document: Daily Trips by Mode

The percentage distribution of passenger miles and boardings by residents of each jurisdiction indicates some significant differences from the statutory and total sales tax revenue allocations. These are highlighted in Exhibit 8-33. The following general conclusions may be drawn from these data:

- Revenues allocated from Chicago tend to benefit CTA at the expense of Metra, since Metra receives no Chicago revenues while serving 12 percent of passenger miles traveled by city residents.
- Revenues allocated from suburban Cook County tend to benefit CTA at the expense of Metra, since CTA serves fewer relative passenger miles and boardings than it receives in revenues; impacts on Pace are close to neutral.
- Revenues allocated from the collar counties tend to benefit Pace, and to a lesser degree CTA, at the expense of Metra.

Exhibit 8-33
COMPARISON OF REVENUE ALLOCATIONS TO TRANSIT USE BY JURISDICTION OF RESIDENCE[1]

Jurisdiction	Indicator	Distribution to: CTA	METRA	PACE
Chicago	Statutory Sales Tax Allocation	100%	0%	0%
	Total Sales Tax Allocation	99%	0%	1%
	Passenger Miles (by residents)	88%	12%	0%
	Boardings (by residents)	93%	7%	0%
	Differences between:[2]			
	Statutory Allocation and Passenger Miles	12%	-12%	0%
	Statutory Allocation and Boardings	7%	-7%	0%
	Total Allocation and Passenger Miles	11%	-12%	1%
	Total Allocation and Boardings	6%	-7%	1%
Suburban Cook	Statutory Sales Tax Allocation	30%	55%	15%
	Total Sales Tax Allocation	45%	43%	13%
	Passenger Miles (by residents)	19%	70%	11%
	Boardings (by residents)	23%	60%	18%
	Differences between:[2]			
	Statutory Allocation and Passenger Miles	11%	-15%	4%
	Statutory Allocation and Boardings	7%	-5%	-3%
	Total Allocation and Passenger Miles	26%	-27%	2%
	Total Allocation and Boardings	22%	-17%	-5%
Collar Counties	Statutory Sales Tax Allocation	0%	70%	30%
	Total Sales Tax Allocation	22%	54%	24%
	Passenger Miles (by residents)	4%	90%	5%
	Boardings (by residents)	5%	85%	10%
	Differences between:[2]			
	Statutory Allocation and Passenger Miles	-4%	-20%	25%
	Statutory Allocation and Boardings	-5%	-15%	20%
	Total Allocation and Passenger Miles	18%	-36%	19%
	Total Allocation and Boardings	17%	-31%	14%

Notes: [1] Please refer to Exhibit 8-35 for operating subsidies incurred by jurisdiction for travel by its residents, which is a better measure to compare the dollar value of operating subsidies to the sales tax allocation.
[2] Positive values indicate net benefit; negative values indicate net deficiency. Also, totals may not add due to rounding.
Source: RTA Act (statutory allocations); CATS document (passenger miles and boardings distributions)

These disconnects between the statutory allocation formula and total revenue allocation practices are more pronounced when one considers the operating subsidy per passenger mile and per boarding, which vary considerably by Service Board. The comparison of operating subsidies to sales tax revenues generated is a more robust means to evaluate the sales tax revenue allocation, since the operating subsidies reflect several important factors simultaneously: travel by residents across multiple service boards and modes; service effectiveness; fare policies; and operating costs.

Operating Subsidies Returned to the Jurisdiction of Origin

A significant question in the current debate regarding the equity of sales tax revenue allocation is the balance between the revenues generated by a jurisdiction and the revenues received by that jurisdiction. Sales tax revenues are used primarily to fund operating deficits. Therefore, the revenues received by (or returned to) a jurisdiction can be represented by the operating subsidy attributed to trips taken by residents of a jurisdiction, reflecting their travel on services provided by each of the Service Boards.

Operating subsidies attributed to the residents of a jurisdiction can be reasonably estimated from: (i) the passenger miles traveled (or boardings made) by residents on the routes of each Service Board; and (ii) the average subsidy per passenger mile (or per boarding) of a particular Service Board. As noted in one of the earlier tables, the subsidy per passenger mile and the subsidy per boarding vary considerably among the Service Boards.

Given the distribution of work trips summarized in Exhibit 8-32, one can derive a distribution of operating subsidies for these trips based on either the operating subsidy per passenger mile or the operating subsidy per boarding for each Service Board. This distribution of operating subsidies can then be compared to the sales tax revenue distribution by jurisdiction, presented previously in Exhibit 8-29, to determine the relative degree of revenues imported or exported by each jurisdiction.

The data summarized previously in Exhibit 8-32 represent work trips taken on fixed-route transit services: CTA bus and rail, Metra commuter rail, and Pace bus. Accordingly, the operating subsidies used in this analysis must reflect only these services. Exhibit 8-34, below, presents the unit operating subsidies for each Service Board in 2005, that is consistent with the travel data presented in Exhibit 8-32.

Exhibit 8-34
UNIT OPERATING SUBSIDIES BY SERVICE BOARD, 2005

	CTA				
	Bus	**Rail**	**Total or Average**	**Metra**	**Pace**
Operating Cost ($ MM)	724.1	435.5	1,159.6	503.6	124.3
Operating Revenue ($ MM)					
Passenger Revenue	247.6	168.1	415.7	198.5	32.4
Other Operating Revenue	17.6	12.0	29.6	62.6	7.0
Total	**265.2**	**180.1**	**445.3**	**261.1**	**39.4**
Operating Subsidy ($ MM)	458.9	255.4	714.3	242.5	84.9
Passenger Miles (MM)	782.0	1,136.5	1,918.5	1,548.3	227.2
Boardings (MM)	303.2	186.8	490.0	68.6	33.8
Subsidy per passenger mile	0.59	0.22	0.37	0.16	0.37
Subsidy per boarding	1.51	1.37	1.46	3.54	2.51

Notes: Modal estimates are prorated from system total as a function of passenger revenues. Also, the Exhibit does not include demand-responsive or vanpool services.
Source: CTA, Metra, Pace submissions to National Transit Database, Financial Management chapter tables

The unit operating subsidies in Exhibit 8-34 were applied to the trip distributions in Exhibit 8-32 to yield an estimate of the subsidy returned to each jurisdiction. The results are presented in Exhibit 8-35, along with the distribution of sales tax revenues generated by jurisdiction. The difference between the subsidy received and the tax revenues generated indicates whether the jurisdiction is a net importer (+) or exporter (–) of tax revenues.

Whether one bases the subsidy allocation on passenger miles or boardings, the results are essentially the same: the city of Chicago is the largest net **importer** of transit tax revenues, and suburban Cook County is the largest net **exporter** of sales tax revenues. Since a predominant number of trips made by residents of Chicago is on the CTA, it is clear that CTA benefits from the current statutory and discretionary allocations of sales tax revenues.

The current revenue allocations also favor the collar counties, with the exception of Kane County, which is a net exporter of sales tax revenues. Generally, the net import of tax revenues by the collar counties reflects the effect of a lower sales tax rate than is levied in Cook County, while at the same time their residents have good access to transit services provided by Metra and Pace.

Exhibit 8-35
COMPARISON OF OPERATING SUBSIDIES RECEIVED BY JURISDICTION TO SALES TAX REVENUES GENERATED BY JURISDICTION

Distribution of Regional Operating Subsidy for Work Trips, Based on Passenger Miles

Jurisdiction of Trip Origin	CTA	METRA	PACE	TOTAL	% Revenue Generated	% Imported/ (Exported)
Chicago	51.9%	3.0%	0.0%	55.0%	30.6%	24.4%
Suburban Cook	7.3%	12.0%	4.5%	23.9%	53.3%	-29.4%
Subtotal: Cook	59.3%	15.0%	4.5%	78.8%	83.9%	-5.0%
DuPage	0.9%	7.4%	0.6%	8.9%	6.4%	2.6%
Kane	0.1%	1.4%	0.4%	1.8%	2.2%	-0.4%
Lake	0.4%	3.8%	0.6%	4.8%	3.9%	0.8%
McHenry	0.1%	1.6%	0.2%	1.9%	1.2%	0.6%
Will	0.4%	2.8%	0.5%	3.8%	2.4%	1.4%
Subtotal: Collar	1.9%	16.9%	2.3%	21.2%	16.1%	5.0%
Total	61.2%	31.9%	6.9%	100.0%	100.0%	

Distribution of Regional Operating Subsidy for Work Trips, Based on Boardings

Jurisdiction of Trip Origin	CTA	METRA	PACE	TOTAL	% Revenue Generated	% Imported/ (Exported)
Chicago	43.4%	7.3%	0.0%	50.7%	30.6%	20.2%
Suburban Cook	3.1%	19.8%	4.2%	27.1%	53.3%	-26.2%
Subtotal: Cook	46.5%	27.2%	4.2%	77.9%	83.9%	-6.0%
DuPage	0.2%	10.3%	0.4%	10.9%	6.4%	4.6%
Kane	0.0%	1.3%	0.4%	1.7%	2.2%	-0.5%
Lake	0.1%	4.2%	0.5%	4.8%	3.9%	0.9%
McHenry	0.0%	1.3%	0.1%	1.4%	1.2%	0.2%
Will	0.1%	3.0%	0.3%	3.3%	2.4%	0.9%
Subtotal: Collar	0.4%	19.9%	1.7%	22.1%	16.1%	6.0%
Total	46.9%	47.1%	5.9%	100.0%	100.0%	

Note: Totals may not add due to rounding.
Source: CATS document, Service Board Financial Statements, and NTD submissions

Since the above analysis addresses work trips only, the question naturally arises as to what result would be if non-work trips were considered as well. Non-work trips are shorter; this can be seen by the longer trip length of work trips (e.g., 8.7 miles for CTA) compared to the average for all trips (e.g., 3.9 miles for CTA). Also, non-work trips are concentrated in the city of Chicago. CTA officials reported that CTA's Saturday ridership is 60 percent of weekday ridership, versus 41 percent for Pace and 20 percent

for Metra, thus confirming the observation that non-work trips are concentrated in the City of Chicago. Thus, it is likely that the subsidy of trips made by Chicago residents would grow relative to the other jurisdictions if the universe of trips were analyzed. Other refinements, such as considering the subsidy per passenger mile of individual routes (e.g., some routes operated by a Service Board are more efficient than others), could change the results slightly. However, because the passenger mile and boardings distributions are the most significant variables, the results would change markedly only if the 2000 census journey-to-work data set could be shown to be unrepresentative of the actual population of journey-to-work trips. Since both the passenger mile and boardings distributions are plausible, it is unlikely that such a refutation could be made.

OBSERVATIONS – REGIONAL REVENUES

The statutory revenue allocation understates the sales tax revenues actually received by the CTA, since RTA's discretionary revenue allocations heavily favor the CTA.

- Population change has not materially affected sales tax revenue allocations, even though population growth has been faster in the suburbs, since the tax rate in the collar counties (0.25%) is much lower than that in Cook County (1%).
- No single operating statistic can accurately measure tax allocation equity. Other metropolitan areas that grapple with this issue focus on costs incurred and revenues generated by jurisdiction, taking into account multiple variables.
- Transit journey-to-work data illustrate significant differences between revenue allocations and transit use by jurisdiction of residence, generally to the benefit of CTA and Pace.
- Regardless of the allocation formula utilized, changing the formula will not address the problem of lack of funding for all of the transit agencies.

Chapter Nine

FINANCIAL MANAGEMENT

CHAPTER CONCLUSIONS

Transit finance in the Chicago metropolitan area is in a serious situation. In addition to the financial assistance needed simply to sustain existing operations, there needs to be an overhaul of the financial oversight process so that policymakers receive appropriate information in time to take corrective action. At the heart of this overhaul should be a transparent presentation of the financial requirements to satisfy the operating and capital requirements of existing services.

RTA revenues are insufficient to pay the continuing cost of programs or fund the operating subsidy of additional services.

- For all entities, growth in operating costs over the past five years (6.5% annually) substantially exceeded the growth in operating revenues (2.2% annually), producing a 10 percent annual increase in operating subsidies.
- The traditional sources of operating subsidies (i.e., RTA sales tax plus the Public Transportation Fund allocations) grew at 1.7 percent annually, reflecting slow growth in retail sales.
- The RTA Act allows any costs that do not require a cash expenditure to be excluded from its budget. Because the annual pension cost is not technically a cash expense (but is a payment into a fund for future expenditures), it may and has been excluded from the RTA's budget review process.
- Other undesirable effects, such as inadequate investment in plant, fleet, and equipment, and the erosion of liquidity, have little public visibility because the budget approval process neglects re-investment in capital assets.

CTA's current level of service is not sustainable with current revenues. This situation occurred due to operating decisions, labor agreements, and arbitration decisions. CTA expended more funds between 2001 and 2005 than were available and employed stop-gap measures to avoid cash shortfalls. Metra is in a good financial position but upward growth in operating subsidies will soon be a problem if current trends continue. Pace finances were well-managed during the 2001-2005 period, but its operating financial trends and capital funding are deteriorating and are cause for concern.

The Service Boards are semi-autonomous organizations with their own boards. The Service Boards propose capital improvement programs and are responsible for capital program management.

OVERVIEW

Transit financial management in the Chicago metropolitan area is multi-faceted with elements of both centralization and decentralization, making the assignment of accountability difficult. It is in a serious situation. In addition to the financial assistance needed simply to sustain existing operations, there needs to be an overhaul of the financial oversight process so that negative trends can be vetted by policymakers in sufficient time to take corrective action. At the heart of this overhaul should be a transparent presentation of the financial requirements to satisfy the operating and capital requirements of existing services.

The Service Boards are semi-autonomous organizations with their own boards. The Service Boards propose capital improvement programs and are responsible for capital program management. The Service Boards collectively receive, according to a statutory formula, 85 percent of RTA sales tax revenues collected in the RTA district, comprised of Cook, DuPage, Kane, Lake, McHenry, and Will counties. CTA has limited authority to issue debt, while Metra and Pace are not so empowered.

The RTA has limited central financial authority. The RTA receives all regional sales tax revenues and most State funds, including a 25 percent match of sales tax revenues (the Public Transportation Fund, or PTF), along with financial support for the regional capital improvement plan. The RTA is empowered to review and approve the Service Boards' operating budgets, subject to criteria specified in the RTA Act, and the capital improvement plan. The RTA has discretion to allocate to the Service Boards 15 percent of regional sales tax revenues, PTF revenues, reduced fare subsidies, and other State funds. RTA is also the major issuer of debt in the region; it issues bonds that are secured by regional sales tax revenues and PTF revenues. Also, the State authorizes RTA to issue bonds for capital programs, and the State reimburses the RTA for the cost of servicing these bonds.

A common theme that emerged from the Service Boards and the RTA was the lack of financial capacity to sustain current operations and renew existing plant, equipment, and rolling stock. Although the financial environment is complex, the factors leading to this result are straight-forward:

- For all entities, growth in operating costs over the past five years (6.5% annually) substantially exceeded the growth in operating revenues (2.2% annually), producing a 10 percent annual increase in operating subsidies.
- The traditional sources of operating subsidies (i.e., RTA sales tax plus PTF allocations) grew at 1.7 percent annually, reflecting slow growth in retail sales. Between 1995 and 2005, sales tax revenue growth (3.2% annually) was likewise well below the growth in operating subsidies.
- Even though retail sales growth was slow, transit service was expanded by about 14 percent (or 3.3% annually); additional service accounted for about 54 percent of the cost growth between 2001 and 2005.

- The gap between total operating subsidy requirements and the traditional sources of operating subsidies was bridged by unsustainable means:
  - CTA deferred about 73 percent of its annual pension cost, producing a net pension obligation (unfunded) of $1.02 billion at the end of 2005.
  - Federal Transit Administration (FTA) grants previously used for capital projects were reallocated for operations.
  - The State of Illinois made a special $54.3 million appropriation.
  - Cash reserves were drawn down.

The full effect of this situation was not apparent in CTA's annual budget documents submitted to the RTA, since deferred pension payments are excluded from these documents. This exclusion has served only to defer the inevitable if nothing changes; CTA is projecting a need for additional operating subsidies, despite the transfer of its demand-responsive operations to Pace.

OPERATING SUBSIDY

As used in this report, operating subsidy is calculated as operating cost (excluding depreciation), minus operating revenues.

- Operating costs and operating revenues are those determined by using generally-accepted accounting principles (GAAP).
- The National Transit Database (NTD) was used in those cases where the Service Board operates multiple modes (e.g., bus, rail, demand-responsive service, vanpools).

Where the operating subsidy is cited by mode, the operating revenue for that mode is calculated as follows:

- Modal passenger revenue reported in NTD, plus an allocation of non-fare operating revenue reported in the audited financial statements.
- Non-fare operating revenues are allocated to individual modes in proportion to a mode's share of total passenger revenues for that Service Board.

Other undesirable effects, such as inadequate investment in plant, fleet, and equipment, and the erosion of liquidity, have little public visibility because the budget approval process focuses on metrics that allow underlying, negative trends to proceed unchecked.

REGIONAL TRANSPORTATION AUTHORITY

The Regional Transportation Authority (RTA) is responsible for financial oversight of the three Service Boards that operate transit services in the Chicago metropolitan area, including review and approval of the Service Boards' operating budget and capital improvement program (CIP). RTA also serves as a conduit for regional and State funds that comprise the primary financial support for operating and capital programs. The RTA currently has a limited operating and administrative role: it administers regional financial programs, provides certain centralized regional services (e.g., travel information center, Americans with Disabilities Act (ADA) special services certification, reduced fare program), regional technical assistance programs, and regional technology programs.

The analysis in this section focuses on the flow of funds through the RTA, and the ability of this funding stream to sustain existing transit services, both operating and capital. In this context, RTA's financial management activities can be broken into two areas: (i) programs that are funded with revenues that are continuing in nature and expected to be available every year and (ii) programs that rely on special appropriations or authority that are of fixed duration and extent.

Generally, the first area comprises financial support of Service Board and RTA operations, and a limited amount of CIP support, while the second area comprises the bulk of CIP funding and special appropriations, such as the 2005 State appropriation for operating support of CTA demand-responsive services. The breakdown is useful in understanding the RTA's cash flow and its ability to sustain existing programs.

RTA does not have the financial capability to fund current operations, or to fund the CIP on a continuing basis:

- The revenues available to RTA's continuing programs are not sufficient to meet current operating needs, even excluding the CTA pension shortfall described in this audit.
- Special appropriations are fundamental to the CIP and may soon be necessary to fund operating expenditures as well.
- RTA has been steadily drawing on its fund balances to fund operating and capital programs.

The findings presented in this section draw primarily from audited financial statements, summarized in Table 9-1 (see Appendix C). Exhibit 9-1, below, presents an abstract.

RTA CONTINUING PROGRAMS

Continuing revenues are no longer sufficient to fund continuing programs, and have zero capability to fund service expansion. RTA's continuing revenues are those that: (i) are authorized for RTA's continued use in State law, with little likelihood of legislative intervention (i.e., 15 percent of RTA sales tax revenues, PTF revenues); or (ii) managed by RTA for the benefit of regional programs (e.g., investment income). Between 2001 and 2005, continuing revenues grew by $16.1 million, a 1.4 percent average rate of growth:

Exhibit 9-1
SUMMARY OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES, REGIONAL TRANSPORTATION AUTHORITY, 2001-2005
Total Governmental Funds
(In thousands unless otherwise indicated)

	2001	2005	Increase (decrease) 2001- 2005	% Change 2001-2005	Avg. Annual % Change
Revenues					
Sales taxes (RTA discretionary)	98,028	105,059	7,031	7.2%	1.7%
Public Transportation Fund	164,987	175,668	10,681	6.5%	1.6%
State assistance (to service debt)	43,662	111,419	67,757	155.2%	26.4%
Other revenues	27,284	79,909	52,625	192.9%	30.8%
Total Revenues	333,961	472,055	138,094	41.4%	9.0%
Expenditures					
Financial assistance to service boards	168,857	168,076	(781)	-0.5%	-0.1%
Capital grants	201,548	277,130	75,582	37.5%	8.3%
CTA Operating assistance grant	-	54,252	54,252	na	na
RTA Expenditures:					
Administrative	5,030	6,380	1,350	26.8%	6.1%
Regional and non-administration	14,301	19,705	5,404	37.8%	8.3%
Capital outlay	72	1,438	1,366	1897.2%	111.4%
Subtotal - RTA	19,403	27,523	8,120	41.8%	9.1%
Debt service	96,100	181,195	85,095	88.5%	17.2%
Total Expenditures	485,908	708,176	222,268	45.7%	9.9%
Excess (deficiency) of revenues over expenditures	(151,947)	(236,121)	(84,174)	-55.4%	-11.70%
Other financing sources (uses)	109,540	942	(108,598)	-99.1%	-69.5%
Net change in fund balances	(42,407)	(235,179)	(192,772)	-454.6%	-53.5%
Fund balances:					
Beginning of year	533,504	638,563			
End of year[1]	491,097	403,384	(130,120)	-24.4%	-6.8%
Breakdown of e-o-y fund balances:					
General fund	153,883	95,038	(58,845)	-38.2%	-11.4%
Debt service fund	44,577	66,025	21,448	48.1%	10.3%
Capital projects fund	292,636	242,320	(50,316)	-17.2%	-4.6%

Note: [1] The three right-most columns reflect the change in 2005 end-of-year (e-o-y) value versus 2001 beginning-of-year value.
Source: RTA Comprehensive Annual Financial Reports, 2001 – 2005

- RTA's share of regional sales tax revenues (15%) accounted for 34.3 percent of continuing revenues in 2005. This source grew at 1.7 percent annually for a net gain of $7 million.
- Allocations to RTA from the Public Transportation Fund (PTF) accounted for 57 percent of continuing revenues in 2005. This fund provides a 25 percent match to RTA sales tax revenues (both the 85% statutory and 15% discretionary components). PTF grew at 1.6 percent annually for a net gain of $10.7 million.
- Other revenue, primarily investment income, accounted for 8.4 percent of continuing revenues in 2005. These sources declined at 1.5 percent annually producing a net loss of $1.6 million.

The fact that these sources are growing very slowly, well below the growth in operating subsidies, indicates that continuing revenues have very limited ability to fund normal cost growth of existing services, and no capability to fund service expansion.

RTA Continuing Expenditures

Continuing expenditures are those that are normally funded by the continuing revenues described above, either out of necessity (e.g., debt service on RTA bonds) or regular business practice (e.g., financial assistance and discretionary capital grants provided to Service Boards). Between 2001 and 2005, continuing expenses grew by $71.2 million, or 6 percent annually:

- Financial assistance to the Service Boards for operations accounted for 65 percent of continuing expenditures in 2005, or $222.3 million. This expenditure increased by $53.5 million between 2001 and 2005, or 7.1 percent annually. The increase is primarily attributable to the growth in CTA operating subsidies that was funded by a special $54.3 million State appropriation linked to the cost of demand-responsive services. At the time, this was a special appropriation, but was continued in 2006.
- Debt service accounted for nearly 20 percent of continuing expenditures in 2005, or $67 million. This is the portion of debt service that is not paid by the State as part of "State assistance" discussed below. RTA-funded debt service rose by $16 million between 2001 and 2005.
- Discretionary capital grants to Service Boards accounted for 7.4 percent of continuing expenditures in 2005, or $25.4 million. This expenditure was $6.3 million lower in 2005 than in 2001, reflecting the need to fund increases in operating costs of various types, as well as debt service.
- Other continuing expenditures were for programs managed by the RTA, including administrative services, regional and non-administrative programs, and RTA capital outlays. These expenditures collectively accounted for 8 percent of continuing expenditures in 2005, or $27.5 million. These expenditures increased by $8 million between 2001 and 2005.

RTA Excess (Deficiency) of Continuing Revenues

Low growth in continuing revenues and high growth in continuing expenditures produced an accumulated deficiency in continuing revenues of $92 million over the past five years (2001-2005). The expenses of RTA's continuing programs totaled $1.56 billion, while continuing revenues totaled $1.47 billion. This deficiency was accommodated by a special State appropriation ($54.3 million) and by drawing down the RTA general fund. In 2005, the ending general fund balance was $59 million lower than in 2001. About $37 million of this reduction can be attributed to the deficiency in continuing revenues remaining after the special state appropriation.

SPECIAL APPROPRIATIONS

Programs that rely on special appropriations or authority that are of fixed duration and extent should be considered separate from continuing programs, because the related funds are for specific and limited purposes. The bulk of the CIP, and some operating expenditures, are funded in this manner. Because these funds appear only when specific uses are identified, and because the uses of the funds typically fluctuate with respect to time, the relationship between these funds and their uses needs to be viewed over a multi-year period, rather than focusing on year-to-year changes.

In the five-year period ended 2005, the funds generated by special appropriations or bonding authority totaled $1.72 billion, while the expenditures associated with these funds totaled $1.76 billion, producing a funding deficiency in this period. This deficiency was accommodated by corresponding draws on the RTA capital projects fund.

Project financing and one-time revenues totaled $1.72 billion during the period 2001-2005, comprising: (i) net proceeds from financings, $1.27 billion; (ii) financial assistance from the State of Illinois, used to pay debt service on bonds issued on the State's behalf by RTA, $395 million; and (iii) a special State appropriation of operating assistance, $54 million, applied to CTA operations.

Proceeds from financings provide the overwhelming majority of RTA funds for the CIP. In the period 2001-2005, approximately 94 percent of the capital project cost funded by RTA was derived from bond proceeds. The remainder was funded by draws on the existing balance in the capital projects fund (2%), or discretionary capital funding from sales tax revenues or the Public Transportation Fund (4%). The CIP is also supported by funds from other sources, but because the Service Boards are the grantees for these funds, these other capital funds are not recorded on RTA's books.

The State of Illinois annually appropriates the funds needed to pay debt service on bonds the State authorizes the RTA to issue. There have been a variety of bond-funded capital programs sponsored by the State, most recently the Strategic Capital Improvement Program (SCIP). State law authorizes the amount and timing of SCIP bonds. The most recent series of SCIP bonds were issued in 2004. At the close of 2005, there was approximately $1.42 billion SCIP bond principal outstanding, and about $731 million in RTA bonds outstanding. In the period 2001-2005, State financial assistance paid for about 58 percent of debt service cost incurred by RTA.

Special appropriations and authorities provided in State law are essential to the RTA capital program, and are a backstop for operating emergencies. During the five-year period ending in 2005, the capital funds generated from these sources were slightly less than the related expenditures, thus necessitating a drawdown of the RTA capital projects fund. The question of the sufficiency of capital funds to support the existing system is a larger question, and is addressed in Chapter 10, Capital Program.

Conclusions - RTA

The on-going revenues available to RTA that are under its control have grown at a very slow rate over the past five years, just 1.4 percent annually, indicating that State financial intervention or other measures will soon be needed. The on-going revenues available to RTA are insufficient to pay the continuing cost of related programs, as evidenced by the need for a special appropriation for operating costs, and a steady drawdown of the RTA general fund. There are virtually no funds available to pay the operating subsidy of additional services, and it is questionable whether the capacity exists to pay for normal cost increases of existing services. There is virtually no remaining cash flow to leverage additional RTA debt, and virtually no net remaining debt capacity – including the series 2006A bonds issued in August 2006, the RTA is essentially at its statutory debt limits with $1.8 billion in SCIP bonds outstanding and $705 million out of $800 million authorized for non-SCIP bonds.

RTA FINANCIAL MANAGEMENT	
RECOMMENDATION NUMBER **28**	***RTA should prepare and adopt annually a ten-year financial plan, reflecting:*** • ***The agency's current cash position and all then-known obligations;*** • ***The amounts of discretionary sales tax and PTF revenues, and planned distributions of these funds to RTA uses, debt service, and to Service Boards as a group;*** • ***Anticipated amounts of State and federal capital grants, and State appropriations for servicing existing and planned debt issued by RTA on behalf of the State;*** • ***The Service Boards' capital replacement and rehabilitation plans, based on asset replacement standards and fleet plans; and*** • ***Positive working capital (i.e., current assets less current liabilities).*** ***In addition, the RTA should adopt a financial planning standard that requires a Service Board to demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.***
RTA RESPONSE	The RTA agrees that the annual budget and financial plan process should provide a comprehensive and transparent assessment of the RTA system's existing and anticipated financial and physical condition, and existing and anticipated financial obligations, as well as a comprehensive and transparent near term and long range plan that addresses ongoing financial stability, continuity of service delivery, and responsiveness to future mobility needs of the region.

CHICAGO TRANSIT AUTHORITY

The CTA is financially under the Regional Transportation Authority (RTA), a State authority that provides transit funding and exercises financial oversight. RTA's oversight responsibilities include:

- Approving the annual budget and five-year capital program
- Approving the operating budget if it meets certain conditions, including a fare recovery ratio target and a balanced budget, and
- Allocating some revenues at its discretion, including a portion of regional sales tax revenues and other funds from the State of Illinois.

The CTA also receives directly a portion of regional sales tax revenues, which flow through the RTA but are not otherwise affected by any action of the RTA. The CTA has complete authority over its operating revenues and expenditures and is a federal grantee. The CTA may also issue debt, with the RTA's agreement, if the debt is to be repaid from operating revenues or other project-specific revenues (e.g., grants) available to CTA. The CTA may not pledge any funds passing through the RTA to repay debt. The focus of this audit was on fiscal year 2005 (ending December) but a look back to 2001 was performed to discern the direction of CTA's current performance.

This audit concludes that the CTA is in a precarious financial position:

- CTA operating costs have grown at a faster rate (7.7% annually) than its operating revenues (2.9% annually) and the operating assistance provided through the RTA (4.3% annually).
- Part of the cost growth (up to 40%) is for additional services that were undertaken during a period when there was virtually no growth in regional sales tax revenues.
- The net increase in operating subsidies (i.e., beyond that funded by or through the RTA) was accommodated by non-sustainable measures:
  - Deferring CTA's pension contributions ($220 million in 2005 for a total of $1.02 billion total deferred through 2005);
  - Obtaining a special State appropriation to fund demand-responsive services ($54.3 million in 2005); and
  - Redirecting FTA capital funds to pay for preventive maintenance, an operating expense ($26.8 million in 2005).
- CTA is minimally liquid; its cash reserves are sufficient to fund only two weeks of expenditures, and its current liabilities exceed its current assets.
- Capital investment for replacement of plant and equipment is not keeping pace with the aging of the capital asset base.

In short, CTA does not have the financial resources to sustain current operations. CTA expended more funds between 2001 and 2005 than were normally available to it and employed stop-gap measures to make up the difference.

The operating and financial data cited in the remainder of this section on the CTA are found in Tables 9-2A and 9-2B (see Appendix C).

CTA OPERATING FINANCIAL TRENDS

Trends in service, ridership, operating expenses, and operating funds are material considerations in interpreting the financial health of the CTA. This audit uses CTA's annual financial statements and its annual submittal to the National Transit Database (NTD).

The annual financial statements and NTD submittals are prepared in accordance with generally accepted accounting principles (GAAP). CTA's operating costs, as reported in these documents, are substantially higher than those reported in the CTA budget, which in turn is reflected in the RTA budget. The main difference is the annual pension costs. Under GAAP, these are a current operating expense.

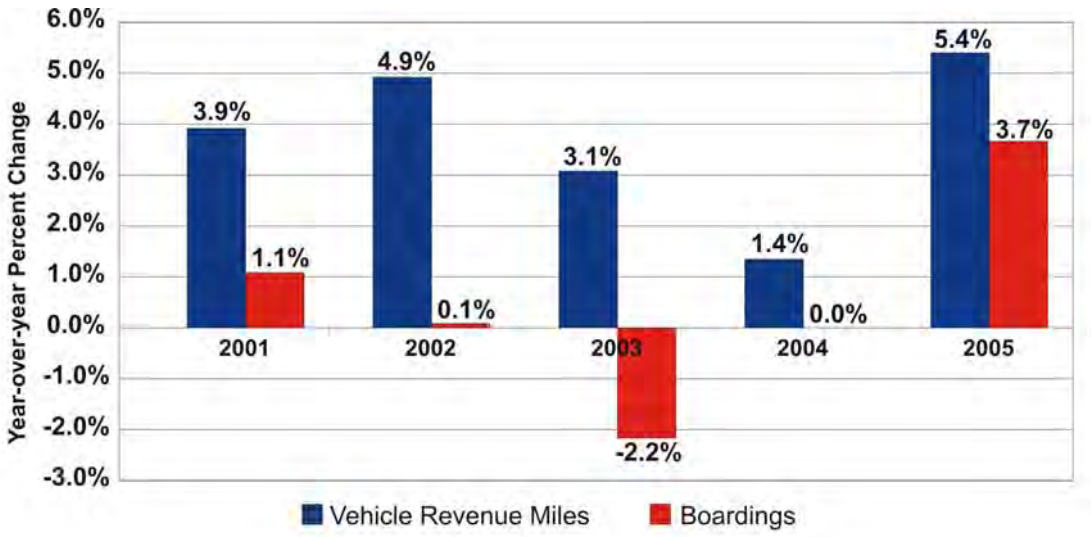
The RTA Act requires that operating expenditures reviewed by the RTA be consistent with GAAP, but allows an exclusion for *"any other cost to which it is reasonably expected that a cash expenditure will not be made."* (70 ILCS 3615/4.01(b)). Because the annual pension cost is not technically a cash expense (rather it is a payment into a fund to support future expenditures), it may be excluded from the RTA's budget review process.

In 2005, CTA funded 23 percent of the actuarial recommended contributions for its pension plans. The contribution shortfall, $217 million, represents 18 percent of the GAAP-basis operating cost (excluding depreciation), accounting for virtually all of the difference between the GAAP- and budget-basis presentations of CTA operating costs. The performance audit here relies on the GAAP-basis presentation, because it more closely reflects CTA's true financial obligations for services delivered, excluding nothing of material importance.

CTA Service Supplied and Consumed

A summary of CTA service supplied and consumed is presented in Exhibit 9-2. Between 2001 and 2005, CTA expanded its services by 15.5 percent (3.7% annual average), as measured by annual vehicle revenue miles. Ridership (i.e., annual boardings) improved by 1.5 percent (0.4% annual average). Passenger miles (not pictured) grew by 9.3 percent (2.3% annually) due to an increase in average passenger trip length.

Exhibit 9-2
CTA SERVICE SUPPLIED AND CONSUMED



Source: 2001-2005 NTD data

CTA increased the vehicle revenue miles operated to 150.2 million in 2005 from 130.0 million in 2001. The incremental vehicle revenue miles were distributed as follows: bus 14.9 percent; heavy rail 55.4 percent; and demand-responsive 29.7 percent. Overall, the service increase was modest for bus (4.7% compared to 2001), significant for heavy rail (19.4%), and substantial for demand-responsive services (70.6%).

CTA realized an increase in boardings to 492.3 million in 2005 from 484.8 million in 2001. The incremental change in boardings was distributed as follows: bus, 20 percent; heavy rail, 68 percent; and demand-responsive, 12 percent.

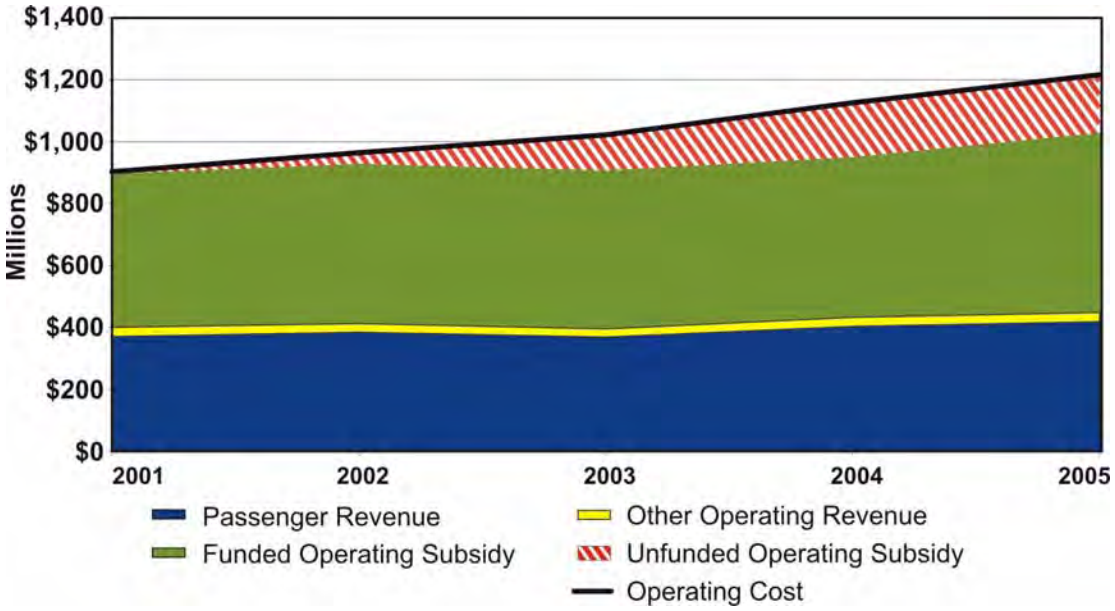
CTA Operating Financial Results

The system-wide CTA operating results presented in this section reflect the annual audited financial statements. Operating costs are net of depreciation. It should be noted that operating costs reported in the audited financial statements include, per GAAP, the full annual pension contribution. As noted earlier, this cost is omitted from the CTA budget and from the RTA's calculation of the farebox recovery ratio.

In this report, operating subsidy refers to the difference between operating costs, net of depreciation, and operating revenues (i.e., those revenues earned by a Service Board from operation of transit services and facilities). The operating subsidy by mode is not reported in either the financial statements or NTD, although NTD does report passenger revenues by mode. The operating subsidy by *mode* was calculated based on the NTD operating cost by mode, less passenger revenues, less an allocation of system-wide non-fare operating revenues to each mode based on their respective shares of passenger revenues.

The combination of baseline services, additional services, ridership response, and cost growth resulted in a 53 percent increase in operating subsidy between 2001 and 2005, or about 11.2 percent annually (Exhibit 9-3).

Exhibit 9-3
CTA OPERATING FINANCIAL RESULTS



Source: CTA 2001-2005 Audited Financial Statements

A growing portion of the operating subsidy is unfunded. Total operating revenues and (funded) subsidies grew by $133 million between 2001 and 2005, versus a $313 million increase in operating cost, yielding a $180 million increase in the 2005 operating deficit, relative to 2001. The unfunded deficit accrued to $542 million between 2001 and 2005, primarily due to deferred pension costs, which are reflected as a long-term liability in the CTA's balance sheets.

CTA Operating Costs

CTA's operating costs increased by 35 percent ($313 million) between 2001 and 2005. This is a 7.7 percent annual rate of growth. The incremental operating expenses were distributed as follows: bus 63 percent; heavy rail 30 percent; and demand-responsive 7 percent. Although CTA doubled its demand-responsive services during this period, the incremental operating cost associated with the demand-responsive service was minor compared to the cost growth of the other two larger modes of operations. According to CTA's NTD submittal for 2005, operating costs by mode were: bus, $724.1 million; heavy rail, $435.5 million; and demand-responsive, $55.1 million.

The incremental cost of additional service (i.e., new vehicle revenue hours) between 2001 and 2005 was approximately $126 million on a fully-allocated cost basis (i.e., new vehicle revenue miles x cost per vehicle revenue mile in 2005). This is about

40 percent of the change in cost between 2001 and 2005. The cost of additional service was distributed as follows: bus, 26 percent; heavy rail, 56 percent; and demand-responsive, 18 percent. The incremental cost of the service existing in 2001, by subtraction, was $186 million. A breakdown of the operating costs by mode is presented in Chapter 3, CTA Operations.

CTA Operating Revenues

CTA operating revenues increased by 12.1% ($48.3 million) between 2001 and 2005, or at a 2.9 percent annual rate of growth. Most of this increase was from passenger fares, which grew by 11.4 percent ($42.9 million). Passenger revenues by mode are available from NTD only from 2002. In the period 2002-2005, the incremental passenger revenues were distributed as follows: bus, 69.2 percent; heavy rail, 27.2 percent; and demand-responsive, 3.6 percent. Other operating revenues, such as concessions or advertising grew by 17.7 percent ($4.7 million), or 4.2 percent annually. Because operating revenue by mode is not available for 2001, it is not possible to perform the comparison by mode.

CTA Operating Subsidy

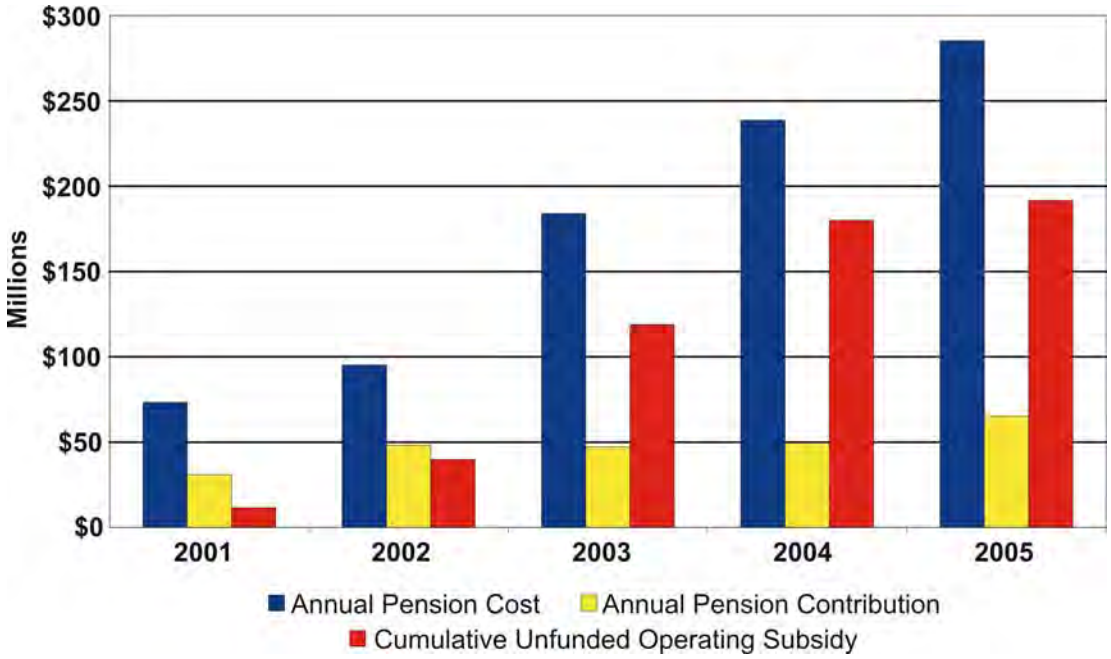
The CTA's annual operating subsidy increased by $264.9 million between 2001 and 2005, growing to $767.8 million in 2005 from $502.9 million in 2001. Non-operating revenues grew by $84.7 million between 2001 and 2005, a 17 percent increase (or 4.1% annually).

- Revenues by the RTA grew by $76.9 million (18.3% total, or 4.3% annually). This includes sales tax revenues allocated by statutory formula, sales tax revenues allocated at the RTA's discretion, and the special 2005 operating assistance appropriation by the State of Illinois.
- Operating grant revenue from the FTA Section 5307 program totaled $26.8 million in 2005. This source was not used for operations in 2001; rather, it was wholly dedicated to capital.
- Reduced-fare subsidies from the State of Illinois remained stable between 2001 and 2005, at about $32 million on an annual basis.
- Investment income increased by $7 million (56%) to $19.7 million.
- Other sources of non-operating revenues (unspecified) declined by $25.5 million.

CTA accommodated the net subsidy requirement ($180.2 million) by substantially under-funding its pension obligation (see Exhibit 9-4).

The annual pension obligation, per GAAP, is included in total operating costs, as noted above. CTA reflects this obligation in its financial statements by an increase in its long-term liabilities. Between 2001 and 2005, CTA added $627 million (159%) in accrued pension cost to its long-term liabilities.

Exhibit 9-4
CTA PENSION DEFERRALS AND THE UNFUNDED OPERATING SUBSIDY



Source: CTA 2001-2005 Audited Financial Statements

CTA OPERATING PERFORMANCE

Several operating performance metrics were analyzed for the CTA for the period 2001-2005: (i) service effectiveness, measured as passenger boardings per vehicle revenue mile; (ii) unit cost of operations, measured as annual operating cost per vehicle revenue mile; (iii) cost effectiveness, measured as operating cost per passenger boarding; and (iv) operating subsidy per passenger mile. Collectively, these metrics convey trends in how effectively and efficiently the CTA is managing its service delivery. These statistics are presented in Table 9-2A (see Appendix C).

The CTA's operating performance gradually declined over the period 2001-2005, reflecting the divergent trends in the amount of service delivered, ridership, operating costs, and operating subsidies (Exhibit 9-5).

Exhibit 9-5
CTA OPERATING PERFORMANCE
(All modes combined)

	2001	2005	% Change	Avg.% Change
Boardings per vehicle revenue mile	3.73	3.28	-12.1%	-3.2%
Operating cost per vehicle revenue mile	$6.95	$8.10	16.6%	3.9%
Operating cost per boarding	$1.86	$2.47	32.6%	7.3%
Operating subsidy per passenger mile	$0.28	$0.40	39.6%	8.7%

Source: IMG from 2001 and 2005 NTD data, and 2001 and 2005 CTA audited financial statements

- ***Service effectiveness declined by 12.1 percent (or 3.2% annually).*** CTA expanded its services by 15.5 percent while realizing a 1.5 percent gain in ridership. Service effectiveness fell for all modes: bus (4%), heavy rail (14%), and demand-responsive services (4%).
- ***Unit costs of operations increased by 16.6 percent (or 3.9% annually).*** Unit cost grew 1.6 percent above inflation, as measured by the Chicago-area consumer price index for all urban consumers (CPI-U), which grew at an average annual rate of 2.3 percent. The growth rates varied considerably by mode: bus unit costs grew at 7.2 percent annually; heavy rail unit costs grew at 1.8 percent annually; and demand-responsive unit cost fell at 0.8 percent annually.
- ***Cost effectiveness declined by 32.6 percent (or 7.3% annually).*** The system-wide operating cost per passenger rose to $2.47 in 2005 from $1.86 in 2001. The cost per passenger increased substantially on the bus and heavy rail systems (38% and 25% respectively), while the cost per passenger for demand-responsive services changed very little, 0.4 percent overall, and just 0.1 percent annually.
- ***Operating subsidy per passenger mile increased by 39.6 percent (or 8.7% annually).*** The system-wide subsidy per passenger mile grew to $0.40 in 2005 from $0.28 in 2001. The contribution of each mode to this result may be inferred from the marginal rates between 2002 and 2005 (modal values cannot be calculated for 2001). The marginal rate is change in operating subsidy ÷ change in passenger miles. On this basis, the upward movement of system-wide subsidy per passenger mile appears to have been most affected by bus service ($5.47 marginal subsidy per passenger mile), slightly less affected by demand-responsive service ($2.91 marginal subsidy per passenger mile), and affected very little by heavy rail service ($0.47 marginal subsidy per passenger mile). The marginal rates for bus and heavy rail services are considerably higher than the average subsidy per passenger mile in 2005: bus $0.59; rail $0.22. The 2005 average subsidy per passenger mile for demand-responsive, though higher than bus and heavy rail at $2.94, was less than the marginal rate, indicating that demand-responsive service was becoming more cost effective.

The operating performance trends indicate that the growth in operating subsidy, relative to passenger miles traveled, should be a significant concern as CTA moves forward. This indicator had the largest unfavorable rate of growth, and it appeared to be grounded in the largest component of CTA services, the bus system. The results also indicate that demand-responsive services were not as large a drain on resources as had been anticipated.

CTA FINANCIAL CONDITION

Financial condition refers to the sustainability of the organization from the standpoint of liquidity and the condition of plant and equipment. These aspects of CTA's financial health were examined for the period 2001-2005, relying on CTA's annual

audited financial statements. Table 9-2B in Appendix C to the report contains supporting details.

CTA Liquidity

Liquidity refers to the ability to meet short-term financial obligations on time. The audit considered several measures of liquidity:

- Net cash flow, from the annual statements of cash flows;
- The current ratio (current assets ÷ current liabilities);
- The acid ratio ([cash + accounts receivable] ÷ current liabilities);
- Accounts payable percentage of total expenditures;
- Accounts receivable percentage of governmental revenues (i.e., revenues and grants provided by other entities); and
- Cash on-hand expressed as weeks of expenditures (Exhibit 9-6).

Exhibit 9-6
CTA LIQUIDITY

	2001	2005
Net cash flow (in millions)	($14.7)	$44.6
Current ratio	0.86	0.95
Acid ratio	0.70	0.74
Accounts payable percent of expenditures	4.9%	5.1%
Accounts receivable percent of grants	30.5%	44.2%
Weeks of cash	7	2

Source: 2001 and 2005 CTA audited financial statements

CTA's liquidity is minimal, and pressures on its liquidity are increasing:

- The net cash flow has been negative for four of the past five years. In 2005, CTA reversed a trend of consecutive-year declines in cash by generating some gains in capital financing and investing activities.
- The current ratio was less than 1.0 in each of the past five years, indicating that obligations incurred in a given year and coming due in the next twelve months could not be paid from then-current financial resources. The average value was 0.75. The current ratio in 2005 (0.95), however, was the highest of the period reviewed.
- The acid ratio likewise was less than 1.0, with generally the same implications as for the current ratio. This ratio is a more conservative indicator of liquidity because it omits the value of materials inventory, which is quite large at the CTA. The average value of the acid ratio was 0.6, indicating that about 60 percent of current liabilities could be paid from the most-readily convertible assets, including cash, short-term investments, and accounts receivable. The acid ratio in 2005 (0.74) was the highest of the period.
- Accounts payable, expressed as a percent of total expenditures, is stable. Accounts payable was 4.9 percent of expenditures in 2000 and 5.1 percent in 2005.
- Accounts receivable, expressed as a percentage of governmental revenues, increased to 44 percent in 2005 from 31 percent in 2001. This trend indicates that CTA's cash requirements are increasing, since a growing portion of its funding base is being received in arrears. Governmental revenues increased by 23 percent

over this period, while accounts receivable increased by 78 percent. Accounts receivable is reported in CTA's annual balance sheets.

- Weeks of cash, expressed relative to annual operating and capital expenditures, declined from 7 weeks in 2001 to just 2 weeks in 2005. This indictor hit a low point of just 1 week of cash in 2004.

CTA's liquidity would be even worse if it were not for the fact that pension contributions were substantially less than the pension cost. Between 2001 and 2005, CTA's pension contributions ($241 million) were $635 million less than the annual pension cost ($876 million). The implications of this practice are detailed in Chapter 7, Pensions.

CTA Renewal of Plant and Equipment

The financial health of a transit system is materially affected by the extent of re-investment in capital plant and equipment as these assets approach the end of their useful lives. In the absence of a detailed study of capital asset replacement needs, one can draw conclusions about the general health of plant and equipment by examining trends in the ratio of net depreciable assets to their cost (or gross depreciable assets), and trends in the average age of the vehicle fleet:

- The ratio of net to gross capital assets has steadily declined over the past five years, to 42 percent in 2005 from 52 percent in 2001. During this period, CTA invested $1.14 billion in capital plant and equipment. Even this seemingly large level of re-investment was insufficient to offset a decline in the remaining useful life of the asset base, indicating the need for serious consideration of the investment required to replace and rehabilitate existing capital assets.
- The average age of the overall fleet increased slightly, to a weighted average of 10.5 years in 2005, from 10.1 years in 2001. This aging trend was flattened somewhat by the new vehicles acquired to expand the demand-responsive fleet. Between 2001 and 2005, the bus fleet aged slightly to 9.7 from 8.8; the heavy rail fleet aged to 21.7 years in 2005 from 17.7 years in 2001; and the demand-responsive fleet age held steady at 1.7 years. The bus fleet is well beyond an average fleet age target of 6 years (or one-half the useful life) used by FTA in assessing the health of capital plant and equipment. Forty-six percent of the bus fleet, at the end of 2005, was older than the industry-standard 12-year life.

Conclusions – CTA

CTA's current level of service is not sustainable with current revenues. This outcome has been predictable, given the much slower pace of growth in operating revenues and RTA-channeled operating subsidies relative to the growth of operating cost. Capital investments have been insufficient to keep pace with the aging of CTA infrastructure and its revenue vehicle fleet.

- Management decisions made by CTA that are detrimental to CTA's financial health have proceeded unchecked in the RTA Act budget review and approval process, clearly indicating a need to modify and improve financial oversight.
- CTA liquidity is inadequate, as indicated by its current ratio and acid ratio (both less than 1.0), with just two weeks of cash being available.
- The decision to defer over $1 billion in pension obligations brings into serious question the financial oversight in this area by the CTA Board and management.

CTA FINANCIAL MANAGEMENT	
RECOMMENDATION NUMBER **29**	***The CTA should:*** • ***Modify the presentation of its budget to include all operating costs per GAAP, and require Board approval of any deferral of operating costs to subsequent years;*** • ***Prepare and adopt annually a ten-year financial plan, reflecting:*** – ***The agency's current cash position and all then-known obligations, including pension contributions;*** – ***A capital replacement and rehabilitation plan that reflects CTA asset replacement standards; and*** – ***Positive working capital (i.e., current assets less current liabilities); and*** • ***Demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.***
CTA RESPONSE	CTA agrees that GAAP accounting presents a more accurate picture of long-term obligations. CTA financial statements report GAAP figures, but the 1983 RTA Act requires CTA's budget to comply with GAAP but exclude certain expenditures. CTA agrees that a ten-year financial plan would be useful, both for operating and capital expenditures and hopes to work with RTA to set common, objective asset replacement and capital funding standards across the region. CTA has submitted a funding request to the RTA to bring the system to a state of good repair. It will also seek to be responsive to the Illinois Congressional delegation's desire to increase the region's share of federal funds and expand service to meet growing demand.

METRA

Metra is unique among the Service Boards in that it operates commuter rail services that traverse the entire RTA district. A substantial portion of these services is operated by private railroads, under contract to Metra. Metra also leases trackage rights to these railroads for freight operations.

Metra, like the other Service Boards, operates independently of the RTA except (i) the RTA approves the annual Metra budget and five-year capital program; (ii) RTA must approve the Metra operating budget if Metra meets certain conditions, including a fare recovery ratio target and a balanced budget; and (iii) the RTA allocates some revenues at its discretion to the other Service Boards, including a portion of regional sales tax revenues and other funds made available by the State of Illinois. Metra also receives directly a portion of regional sales tax revenues, which flow through the RTA but are not otherwise affected by any action of the RTA. Metra has complete authority over its operating revenues and expenditures, and is a federal grantee. Metra is not empowered to issue debt.

Metra is in a good financial position but upward growth in operating subsidies will soon be a problem if current trends continue:

- Metra's operating costs have grown at a faster rate (4.0% annually) than its operating revenues (1.2% annually) and the operating assistance provided through the RTA (1.7% annually).
- Part of the cost growth (about 25%) is for additional services that were undertaken during a period when there was virtually no growth in regional sales tax revenues.
- The net increase in operating subsidies (i.e., beyond that funded by or through the RTA) was accommodated by reducing capital projects and drawing down cash reserves, neither of which is a sustainable practice. Some of the 2005 cash drawdown was due to higher fuel costs, according to Metra officials.
- Metra has adequate, but declining, liquidity; its cash reserves are sufficient to fund only three weeks of expenditures, but its current assets exceed its current liabilities by a 30 percent margin.
- Capital investment for replacement of plant and equipment is keeping pace with the aging of the capital asset base, from primarily a financial accounting viewpoint. Metra officials say that their capital needs, however, are greater than this level of investment.

The findings in the remainder of this section on Metra draw mainly from financial and operating data that are presented in Tables 9-3A and 9-3B (see Appendix C).

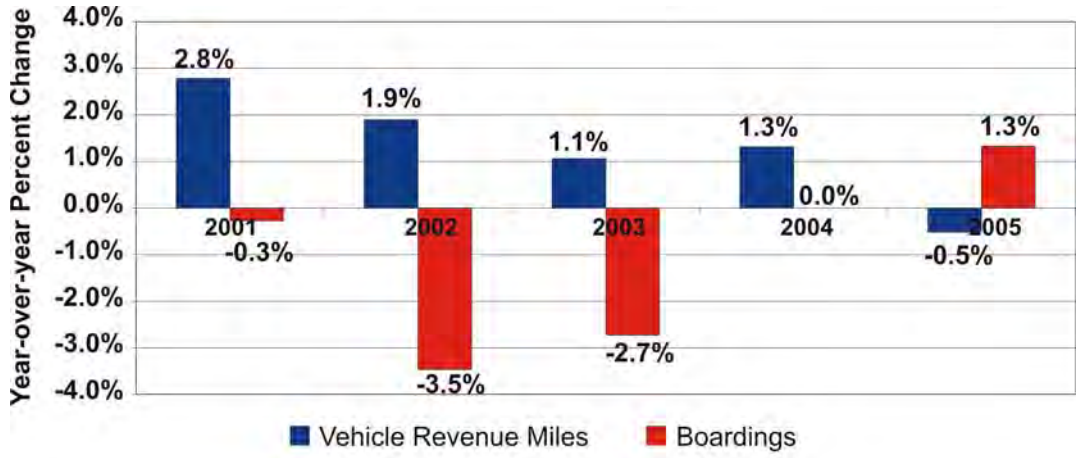
METRA OPERATING FINANCIAL TRENDS

Trends in service, ridership, operating expenses, and operating funds are material considerations in interpreting the financial health of Metra. The information presented in Metra's annual financial statements and its annual submittal to the NTD are prepared in accordance with GAAP. There are no material differences between the budget-based and GAAP-based operating expenditures.

Metra Service Supplied and Consumed

Exhibit 9-7 presents Metra service supplied and service consumed. Between 2001 and 2005, Metra expanded its services by 3.8 percent (0.9% annual average), as measured by annual vehicle revenue miles. Ridership (i.e., annual boardings) fell by 4.9 percent (1.2% annual average). Passenger miles (not shown) fell by 1.8 percent (0.5% annually), which relative to the loss on boardings reflects an increase in average passenger trip length, to 22.6 miles in 2005 from 21.9 miles in 2001.

Exhibit 9-7
METRA SERVICE SUPPLIED AND CONSUMED

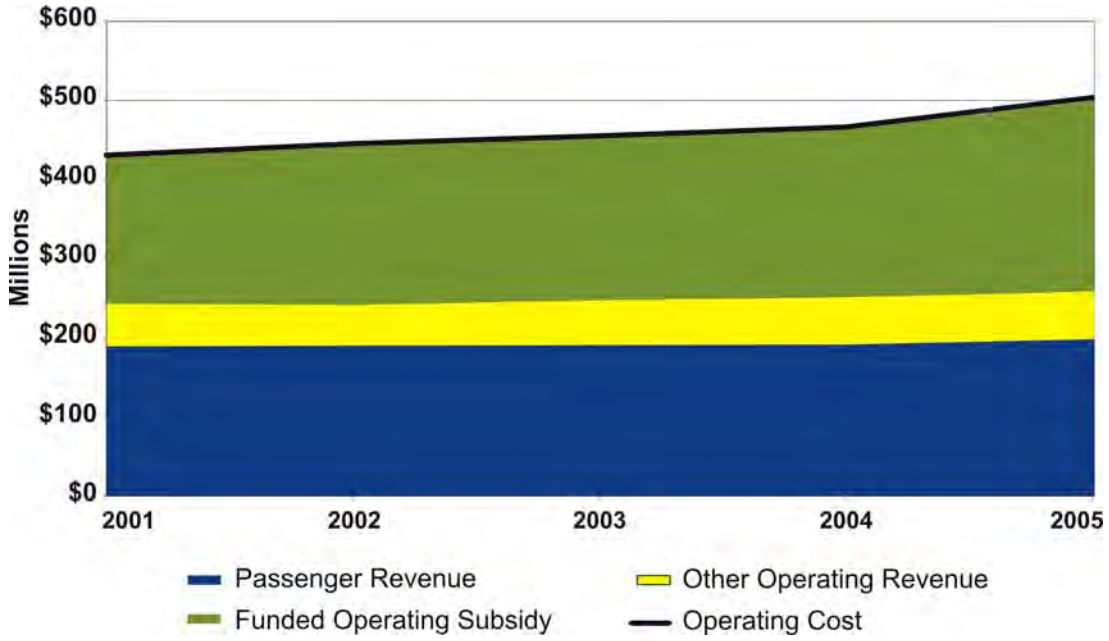


Source: 2001-2005 NTD data

Metra Operating Financial Results

The combination of baseline services, new services, and ridership response, together with trends in cost growth, resulted in a 34 percent increase in operating subsidy between 2001 and 2005, or about 7.5 percent annually. Exhibit 9-8 portrays the trend in operating cost, operating revenue, and operating subsidy.

Exhibit 9-8
METRA OPERATING FINANCIAL RESULTS



Source: Metra 2001-2005 Audited Financial Statements

Metra Operating Costs

Metra's operating cost increased by 17 percent ($73 million) between 2001 and 2005. This is a 4.0 percent annual rate of growth. The cost of additional services in this period, on a fully allocated cost basis, was $18.4 million, or about 25 percent of the cost increase.

Metra Operating Revenues

Metra's operating revenues increased by 4.8 percent ($12.0 million) between 2001 and 2005. This increase was almost equally divided between passenger revenues and non-fare operating revenues, including trackage fees, concessions, parking, and discounted fare subsidies. Passenger fares grew by 3.2 percent ($6.1 million). Non-fare revenues increased by 10.4 percent ($5.9 million).

Metra Operating Subsidy

Because the operating revenues grew at a slower rate than operating cost, Metra's operating subsidy requirements grew by 34 percent ($61 million) between 2001 and 2005, a 7.5 percent average annual rate of growth.

The operating subsidies available to Metra and the statutory allocation of RTA sales tax revenues exceeded Metra's operating subsidy requirements for most of the five-year period, providing partial funding for Metra's capital program. This margin was gradually whittled away, however. Between 2001 and 2005, the statutory tax allocation grew by $15.9 million, only about a quarter of the increase in operating subsidy ($61 million). Net operating revenues available to the capital program fell to a negative $0.8 million in 2005, from $44.4 million in 2001.

Metra accommodated the decline in net operating income by drawing on its cash reserves. Cash and cash equivalents stood at $80.3 million in 2001 were reduced to $46.2 million at the close of 2005, a net reduction of $34.1 million.

METRA OPERATING PERFORMANCE

Several operating performance metrics were analyzed for Metra for the period 2001-2005: (i) service effectiveness, measured as passenger boardings per vehicle revenue mile; (ii) unit cost of operations, measured as annual operating cost per vehicle revenue mile; (iii) cost effectiveness, measured as operating cost per passenger boarding; and (iv) operating subsidy per passenger mile. Collectively, these metrics convey trends in how effectively and efficiently Metra is managing its service delivery. These statistics are presented in Table 9-3A (see Appendix C).

Metra's operating performance gradually declined over the period 2001-2005, reflecting the divergent trends in the amount of service delivered, ridership, and operating costs. These performance indicators for 2001 and 2005 are presented in Exhibit 9-9 below.

Exhibit 9-9
METRA OPERATING PERFORMANCE

	2001	2005	% Change	Avg. % Change
Boardings per vehicle revenue mile	1.95	1.79	-8.3%	-2.2%
Operating cost per vehicle revenue mile	$11.67	$13.15	12.7%	3.0%
Operating cost per boarding	$5.97	$7.34	22.9%	5.3%
Operating subsidy per passenger mile	$0.12	$0.16	36.2%	8.0%

Note: Approximately $13 million of Metra's operating costs in 2005 were paid to the Northern Indiana Commuter Transportation District (NICTD) as an operating subsidy. If this cost was excluded from the above calculations, the effect would be to reduce the operating cost per vehicle mile and the operating cost per boarding by about 2.5% each, and to reduce the operating subsidy per passenger mile by about 5.7%. Similar data were not examined for 2001, but the effect is believed to be similarly insignificant.
Source: IMG from 2001 and 2005 NTD data, and 2001 and 2005 Metra audited financial statements

- ***Service effectiveness declined by 8.3 percent (or 2.2% annually).*** Metra expanded its services by 3.8 percent over this period, while realizing a 4.9 percent loss in ridership. Passenger boardings per revenue vehicle mile declined to 1.8 in 2005 from 2.0 in 2001.
- ***Unit cost of operations increased by 12.7 percent (or 3.0% annually).*** Unit cost growth was 0.7 percent above inflation, as measured by the Chicago-area

consumer price index for all urban consumers (CPI-U), which grew at an average annual rate of 2.3 percent.

- ***Cost effectiveness declined by 22.9 percent (or 5.3% annually).*** The operating cost per passenger rose to $7.34 in 2005 from $5.97 in 2001. This increase, which represents a decline in cost effectiveness, reflects the divergence between service expansion (3.8%) and the ridership loss (-4.9%) between 2001 and 2005.
- ***Operating subsidy per passenger mile increased by 36.2 percent (or 8.0% annually).*** The rate of growth in this indicator is affected by the divergence between the growth in operating revenues (1.2% annually), operating cost (4% annually), and passenger miles (-0.5% annually). This rapid increase bears watching for Metra, because the subsidy requirements are whittling away at the sales tax revenues available to the capital program.

In summary, Metra's unit operating costs are under control but the weakness in the commuter travel market and slow growth in operating revenues are contributing to an increase in operating subsidies that will diminish Metra's ability to fund capital projects with internal revenues.

METRA FINANCIAL CONDITION

Metra's liquidity is declining and could be pressured in the near future. Net cash flow has been negative for four of the past five years. Metra has gradually been drawing down its cash reserves to finance capital expenditures and, in 2005, incurred a net operating loss.

- The current ratio was greater than 1.0 over the entire period 2001-2005, indicating that obligations incurred in a given year and coming due in the next twelve months can be paid from then-current financial resources. The current ratio has fallen steadily; however, in 2005, the value was 1.31, compared to 1.81 in 2001.
- The acid ratio likewise was greater than 1.0, with generally the same implications as for the current ratio. This ratio is a more conservative indicator of liquidity because it omits the value of materials inventory ($11.3 million in 2005). The average value of the acid ratio was 1.5, indicating that about 150 percent of current liabilities could be paid from the cash, short-term investments, and accounts receivable. The acid ratio in 2005 (1.20) was the lowest of the period.
- Accounts payable, expressed as a percent of total expenditures, is declining, indicating that Metra is paying its bills in an increasingly timely manner. Accounts payable declined from 8 percent of expenditures in 2001 to 6 percent in 2005.

- Accounts receivable, expressed as a percentage of governmental revenues, fell to 16 percent in 2005 from 20 percent in 2001. According to Metra officials, the decline was attributable to the implementation of improved systems and procedures that reduced outstanding accounts receivable. This trend indicates that Metra's cash requirements are decreasing, since a declining portion of its funding base is being received in arrears.

Exhibit 9-10
METRA LIQUIDITY

	2001	2005
Net cash flow (in millions)	($71.1)	($12.0)
Current ratio	1.81	1.31
Acid ratio	1.68	1.20
Accounts payable percent of expenditures	8.2%	6.3%
Accounts receivable percent of grants	20.3%	15.7%
Weeks of cash	5	3

Source: 2001 and 2005 Metra audited financial statements

- Weeks of cash, expressed relative to annual operating and capital expenditures, declined from five weeks in 2001 to just three weeks in 2003, where it has held steady. If the growth in operating subsidy requirements continues to outpace sales tax revenue growth, this margin could be quickly eroded (See Exhibit 9-10). Metra officials stated that some of the 2005 cash drawdown was due to higher fuel costs and that it has increased its cash reserves for 2006.

Metra Renewal of Plant and Equipment

The ratio of net to gross capital assets remained steady over the past five years – it was 53.6 percent in 2005 and 53.3 percent in 2001. During this period, Metra invested $1.5 billion in capital plant and equipment. This is about the right level of investment needed to sustain existing capital assets at approximately half their useful life, from primarily a financial accounting viewpoint. Metra officials say that their capital needs, however, are greater than this level of investment.

The average age of the overall revenue fleet is quite high, at 23.3 years. Metra relies on a major car rehabilitation process that significantly extends the useful life of their bi-level rail cars.

Conclusions - Metra

Metra's current level of service is marginally sustainable with current revenues. Upward growth in operating subsidy requirements is a concern. Metra's pursuit of expanded services is at odds with the trends in RTA operating subsidies. However, as noted in the Chapter 8, Revenues, Metra's market is the least sensitive to fare increases of any of the Service Boards. Metra's liquidity is adequate, though trending downward. Metra has maintained its plant and equipment in a steady-state condition.

METRA FINANCIAL MANAGEMENT	
RECOMMENDATION NUMBER **30**	***Metra should:*** • ***Continue to present its budget to include all operating costs per GAAP, and require Board approval of any deferral of operating costs to subsequent years;*** • ***Prepare and adopt annually a ten-year financial plan, reflecting:*** – ***The agency's current cash position and all then-known obligations, including pension contributions;*** – ***A capital replacement and rehabilitation plan that reflects Metra asset replacement standards and fleet plans; and*** – ***Positive working capital (i.e., current assets less current liabilities); and*** • ***Demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.***
METRA RESPONSE	• As noted by the auditors, Metra staff has presented comprehensive operating budgets in accordance with GAAP to its Board, and intends to continue to do so. • Metra is currently developing a long-range planning process that will be the base for addressing these objectives. • Metra has prided itself on demonstrating a comprehensive approach and good judgment when approaching the designing and constructing of facilities and expanding services. Its sustained growth in ridership and high operating ratios are evidence of this. It should also be noted that Metra's thorough and comprehensive plans for the addition of new services implemented in 2006 on the SouthWest Service, the Union Pacific West Line, and the North Central Service were cited by federal agencies and staff as examples for other transits to follow. • In its current planning for New Start services on the Union Pacific West and Northwest Lines, the proposed South East Service, and the proposed STAR Line, Metra will use even more comprehensive planning.

PACE

Pace operates bus, demand-responsive, and vanpool services in the suburban areas of the RTA district. It has a large service area of about 3,500 square miles. Although Pace is predominately a suburban transit operator, it recently assumed control of the demand-responsive services that were formerly operated by the CTA.

Pace, like the other Service Boards, operates independently of the RTA, but for the following arrangements: (i) the RTA approves the annual Pace budget and five-year capital program; (ii) RTA must approve the Pace operating budget if Pace meets certain conditions, including a fare recovery ratio target and a balanced budget; and (iii) the RTA allocates some revenues at its discretion to Pace and the other Service Boards, including a portion of regional sales tax revenues and other funds made available by the State of Illinois. Pace also receives directly a portion of regional sales tax revenues, which flow through the RTA but are not otherwise affected by any action of the RTA. Pace has complete authority over its operating revenues and expenditures, and is a federal grantee. Pace is not empowered to issue debt.

Pace finances were well-managed during the 2001-2005 period, but its operating financial trends and capital funding are deteriorating and are cause for concern:

- The need for operating subsidies (8.4% annually) outpaced growth in traditional sources of operating assistance, including RTA sales tax revenues and reduced-fare subsidies (1.6% annually).
- Pace's current level of service is not sustainable with current revenues. Pace has had to defer capital projects as a growing portion of grants are used for operations.
- Pace's liquidity is adequate, but trended downward between 2001 and 2004 before recovering in 2005.
- Pace has maintained its plant and equipment in a steady-state condition.

The findings in the remainder of this section on Pace draw primarily from operating and financial data presented in Tables 9-4A and 9-4B (see Appendix C).

PACE OPERATING FINANCIAL TRENDS

Trends in service, ridership, operating expenses, and operating funds are material considerations in interpreting the financial health of Pace. The information presented in Pace annual financial statements and its annual submittal to the NTD are prepared in accordance with GAAP.

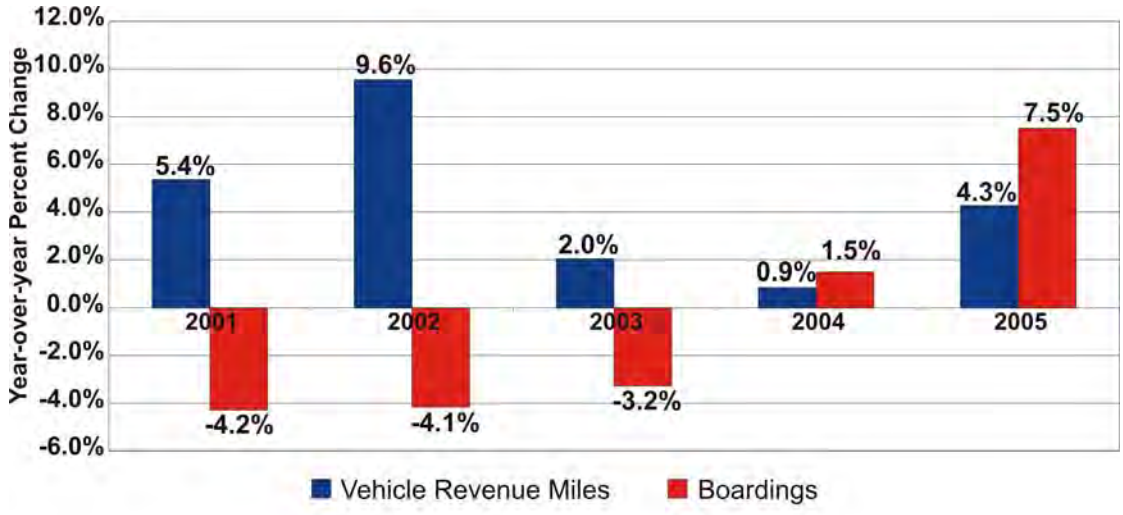
Between 2001 and 2005, Pace expanded service, realized no net gain in ridership (though it has increased in the past two years), and experienced an increase in operating subsidy that outpaced the growth in sources of funds traditionally used for operating assistance. Consequently, Pace transferred funds to operations that would otherwise have been available to its capital program, which is a non-sustainable financial practice.

Pace Service Supplied and Consumed

Exhibit 9-11 presents annual percentage changes in Pace service supplied and consumed for the period 2001-2005. Pace expanded its services by 17.6 percent (or 4.1% annually), as measured by annual vehicle revenue miles, but realized virtually

no increase in system-wide ridership. On a year-to-year basis, however, Pace has recent improvements in ridership and a steady increase in passenger miles (not shown).

Exhibit 9-11
PACE SERVICE SUPPLIED AND CONSUMED



Source: 2001-2005 NTD data

Most of the service expansion was for demand-responsive services, which accounted for 77.6 percent of the increase, almost double the 2001 level of service. Vanpool service accounted for the remaining 22.4 percent of the service increase. There was virtually no change in bus service between 2001 and 2005.

Pace ridership showed little change when comparing 2001 (36 million boardings) to 2005 (37 million boardings). Passenger miles, however, were reported to have increased by 11.8 percent (2.8% annually), due to a longer average trip length, which was 7.4 miles in 2005, versus 6.7 miles in 2001. Bus ridership fell by 1.5 percent, or about 0.4 percent per year.

Demand-responsive ridership increased by 57.7 percent, or about 12.1 percent per year, but the net gain was just 0.6 million boardings. Passenger miles doubled (19.1% per year), reflecting an increase in the average trip length to 7.5 miles in 2005 from 5.9 miles in 2001.

Vanpool ridership grew by 39.0 percent between 2001 and 2005, or about 8.6 percent annually, producing a net gain of 0.4 million boardings. Passenger miles, however, declined by 9.2 percent, reflecting a substantial decrease in the average trip length, falling to 22.4 miles in 2005 from 34.3 miles in 2001.

Pace Operating Financial Results

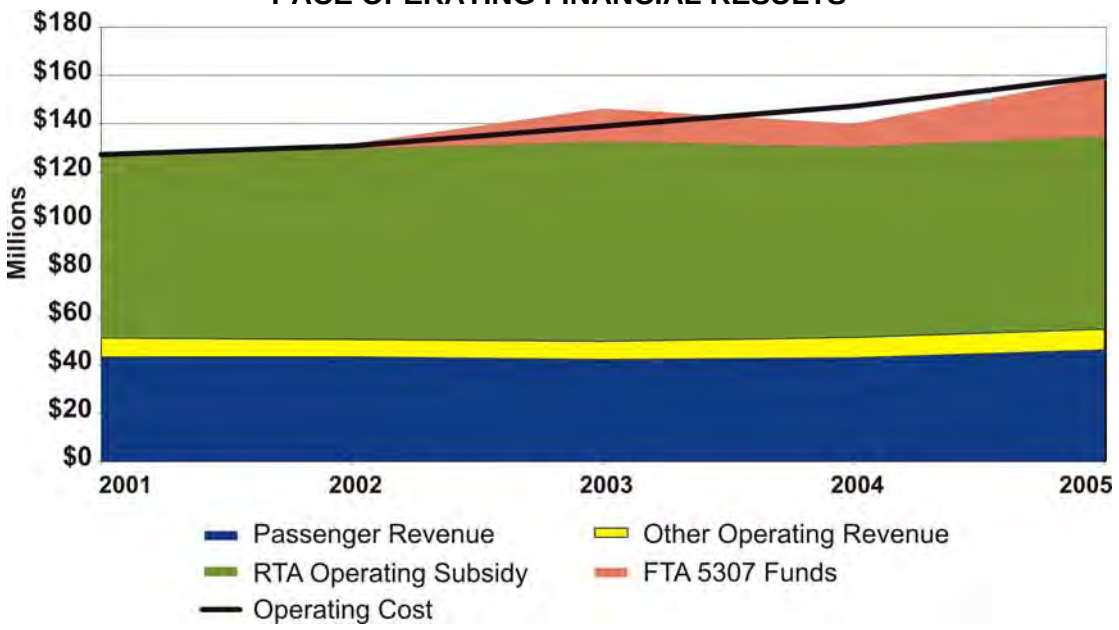
The system-wide operating results presented in this section reflect the annual audited financial statements (see Table 9-4B). Operating costs are net of depreciation. References to a breakdown of the operating costs by mode in the paragraphs below are based on modal operating costs reported to the National Transit Database (NTD). In 2001, there was a 5.6 percent difference in operating costs reported in the Comprehensive Annual Financial Report (CAFR) versus that reported in NTD. For years 2002-2005, however, the discrepancies were less than 1 percent.

The operating results discussed in this section also reference operating subsidies by mode (i.e., bus, demand-responsive, and vanpool). Operating subsidy refers to the difference between operating costs, net of depreciation, and operating revenues (i.e., those revenues earned by a Service Board from operation of transit services and facilities). The operating subsidy by mode is not reported in either the financial statements or NTD, although NTD does report passenger revenues by mode. In this audit, the operating subsidy by mode was calculated based on the NTD operating cost by mode, less passenger revenues, less an allocation of system-wide non-fare operating revenues to each mode based on their respective shares of passenger revenues.

The combination of baseline services, additional services, and ridership response, together with trends in cost growth, resulted in a 37.9 percent increase in operating subsidy between 2001 and 2005, or about 8.4 percent annually (Exhibit 9-12).

Pace operating expense increased by 25.5 percent ($32 million) between 2001 and 2005. This is a 5.8 percent annual rate of growth. Although most (56.9%) of the incremental cost was incurred by the bus system, Pace's distribution of operating resources shifted toward demand-responsive services – they accounted for 12.0 percent of operating expenditures in 2001, and 18.9 percent of operating expenditures in 2005. The share of gross and net operating expenses for vanpool services was about the same, at just over 3 percent of the total.

Exhibit 9-12
PACE OPERATING FINANCIAL RESULTS



Source: Pace 2001-2005 Audited Financial Statements

Pace Operating Revenues

Pace operating revenues increased by 7.1 percent ($3.6 million) between 2001 and 2005, a 1.7 percent annual rate of growth. This increase derived entirely from passenger fares, which grew by 26.8 percent ($9.8 million), offsetting a decline in non-fare revenue. Passenger revenues by mode are available only from 2002, but is seems clear that the increase in passenger revenue was concentrated in demand-responsive services. Between 2002 and 2005, demand-responsive passenger revenue grew by $3.3 million (42.3%), vanpool revenue grew by $0.5 million (20.8%), while passenger bus revenue fell by $0.1 million (0.2%).

Pace Operating Subsidy

Because the operating revenues grew at a slower rate than did operating cost, Pace's operating subsidy requirements grew by 37.9 percent ($28.8 million) between 2001 and 2005, an 8.4 percent average annual rate of growth.

Pace's traditional sources of operating subsidy, RTA sales tax allocations and reduced-fare subsidies, grew by 6.7 percent ($5 million) between 2001 and 2005, or 1.6 percent annually. The shortfall between these subsidies and the overall subsidy requirement was bridged by Pace's using a growing portion of its FTA §5307 Urban Formula funds, traditionally used for capital purposes. This has required Pace to defer a like amount of capital projects.

Between 2001 and 2005, Pace substantially increased the allocation of FTA §5307 funds to operations. In 2001, $0.4 million was allocated to operations, whereas in 2005 some $24.5 million was allocated to operations. Over the entire period, Pace allocated $50.2 million of §5307 funds to operations. Since these funds would otherwise have been available to fund capital improvements, Pace effectively deferred the corresponding amount of capital projects. The $50.2 million equates to about 18 percent of Pace's 2006-2010 capital program.

PACE OPERATING PERFORMANCE

Several operating performance metrics were analyzed for Pace for the period 2001-2005: (i) service effectiveness, measured as passenger boardings per vehicle revenue mile; (ii) unit cost of operations, measured as annual operating cost per vehicle revenue mile; (iii) cost effectiveness, measured as operating cost per passenger boarding; and (iv) operating subsidy per passenger mile. Collectively, these metrics convey trends in how effectively and efficiently Pace is managing its service delivery. The annual values and underlying data for these metrics are presented in Table 9-4A (see Appendix C).

Pace's operating performance gradually declined over the period 2001-2005, reflecting the divergent trends in the amount of service delivered, ridership, and operating costs presented previously (Exhibit 9-13).

Exhibit 9-13
PACE OPERATING PERFORMANCE
(All modes combined)

	2001	2005	% Change	Avg.% Change
Boardings per vehicle revenue mile	1.16	1.00	-13.8%	-3.6%
Operating cost per vehicle revenue mile	$4.05	$4.32	6.8%	1.7%
Operating cost per boarding	$3.49	$4.33	23.9%	5.5%
Operating subsidy per passenger mile	$0.31	$0.38	23.3%	5.4%

Source: IMG from 2001 and 2005 NTD data, and 2001 and 2005 Pace audited financial statements

- ***Service effectiveness declined by 13.8 percent (or 3.6% annually).*** Pace expanded its services by 17.6 percent over this period, with virtually no change in ridership. Passenger boardings per revenue vehicle mile declined to 1.0 in 2005 from 1.16 in 2001.
- ***Unit costs of operations increased by 6.8 percent (or 1.7% annually).*** Unit cost growth was 0.6 percent below inflation, as measured by the Chicago-area consumer price index for all urban consumers (CPI-U), which grew at an average annual rate of 2.3 percent. The average annual increase in unit cost varied by mode: bus 5.2 percent; demand-responsive 1.8 percent; and vanpool 3.0 percent.
- ***Cost effectiveness declined by 23.9 percent (or 5.5% annually).*** The operating cost per passenger increased to $4.33 from $3.49 between 2001 and 2005. This trend reflects the divergence between service expansion and static ridership, and

also that most additional service was invested in demand-responsive services, which traditionally have a high cost per boarding.

- ***Operating subsidy per passenger mile increased by 23.3 percent (or 5.4% annually).*** The results for this metric benefited from the growth in passenger miles (2.8% annually) noted above in service supplied and consumed, which helped dampen the effect of the somewhat higher growth in operating subsidy (8.4% annually).

In summary, Pace has done a good job of managing its cost of production. Declines in service effectiveness, cost effectiveness and unit subsidy are a concern, especially since unit subsidies benefited from an increase in average trip length that may not be sustained.

PACE FINANCIAL CONDITION

Financial condition refers to the sustainability of the organization from the standpoint of liquidity and the condition of plant and equipment. These two aspects of Pace's financial health were examined for the period 2001-2005, relying on Pace's financial statements and submittals to the National Transit Database.

Pace Liquidity

Pace presented positive trends in liquidity between 2001 and 2005, evidence of conservative and effective financial management. These trends are summarized in Exhibit 9-14 and are further commented on below.

Exhibit 9-14
PACE LIQUIDITY

	2001	2005
Net cash flow (in millions)	($0.4)	$4.8
Current ratio	2.43	2.14
Acid ratio	2.21	1.84
Accounts payable percent of expenditures	1.3%	1.4%
Accounts receivable percent of grants	23.9%	21.3%
Weeks of cash	3	8

Source: 2001 and 2005 Pace audited financial statements

- The net cash flow has been positive for the past three years, and was only marginally negative for the other two years. Pace recorded a net positive $4.8 million cash flow in 2005.
- The current ratio was greater than 1.5 over the entire period 2001-2005, indicating that obligations incurred in a given year and coming due in the next twelve months can be paid from then-current financial resources. The current ratio in 2005 (2.14) was higher than the average for the period (2.0).
- The acid ratio likewise was strong, averaging 1.8 between 2001 and 2005. This ratio is a more conservative indicator of liquidity because it omits the value of materials inventory and restricted current assets ($9.5 million in 2005). The acid ratio in 2005 (1.84) was above average for the period.

- Accounts payable, expressed as a percentage of total expenditures, remained steady at a low level, indicating that Pace is paying its bills in a very timely manner. Accounts payable was 1.3 percent of expenditures in 2001 and 1.4 percent in 2005.
- Accounts receivable, expressed as a percentage of governmental revenues, fell to 21 percent in 2005 from 24 percent in 2001. This trend indicates that Pace's cash requirements are decreasing relative to its expenditures, since a declining portion of its funding base is being received in arrears.
- Weeks of cash, expressed relative to annual operating and capital expenditures, rose to 8 weeks in 2005 from 3 weeks in 2001.

In summary, Pace has good liquidity and adequate working capital, even though its financial capacity to sustain existing operations, as noted in Operating Financial Results, above, is minimal.

Pace Renewal of Plant and Equipment

The ratio of net to gross capital assets remained steady over the past five years. It was 36.4 percent in 2005 and 40.7 percent in 2001. During this period, Pace invested $119 million in capital plant and equipment. Although this level of investment kept Pace from losing ground, the useful life of Pace's assets was, on average, about two-thirds exhausted.

The average age of the overall fleet changed little in the past five years: 4.28 years in 2005 versus 4.81 years in 2001. The bus fleet was aged 6.5 years in 2005 versus 7.2 years in 2001. The demand-responsive fleet was aged 3.6 years in 2005, versus 4.0 years in 2001. The vanpool fleet was slightly older in 2005 (2.4 years) than in 2001 (1.8 years). The age of each fleet approximates half the standard useful life used nationally for fleet replacement: 12 years for buses; 6 to 8 years for demand-responsive vans; and 4 to 6 years for vanpool vans.

Conclusions - Pace

The need for operating subsidies (8.4% annually) outpaced growth in traditional sources of operating assistance, consisting of RTA sales tax revenues and reduced-fare subsidies (1.6% annually). Pace's current level of service is not sustainable with current revenues; Pace has had to defer capital projects as a growing portion of grants are used for operations. Pace's liquidity is adequate, but trended downward between 2001 and 2004 before recovering in 2005. Pace has maintained its plant and equipment in a steady-state condition.

PACE FINANCIAL MANAGEMENT	
RECOMMENDATION NUMBER **31**	***Pace should:*** • ***Continue to present its budget to include all operating costs per GAAP, and require Board approval of any deferral of operating costs to subsequent years;*** • ***Prepare and adopt annually a ten-year financial plan, reflecting:*** – ***The agency's current cash position and all then-known obligations, including pension contributions;*** – ***A capital replacement and rehabilitation plan that reflects Pace asset replacement standards and fleet plans; and*** – ***Positive working capital (i.e., current assets less current liabilities); and*** • ***Demonstrate the financial capability to achieve a state of good repair for existing plant and equipment and to sustain existing services, prior to designing or constructing expanded services or facilities.***
PACE RESPONSE	Pace maintains all accounting records and prepares all financial reports in conformity with generally accepted accounting principles (GAAP). Pace's operating budget is prepared in a manner consistent with the Agency's financial statements which are prepared on the accrual basis of accounting for a proprietary (enterprise) fund type. The only difference between financial and budget reporting is that depreciation expenses for grant funded assets are excluded from both the planning and reporting of the operating budget. The Board approves all budgeted operating costs through adoption of an annual budget appropriation ordinance. This action approves all known operating budget expenditures for a finite (one-year period). All planned / known costs are generally accrued for in the current year. During the annual budget process, it usually becomes evident if specific operating costs will be delayed, or may require deferral. When this occurs, these costs are re-evaluated, and if determined to be necessary, are reprogrammed into a subsequent year of the three year financial plan. Pace has prepared and adopted a three year financial plan annually since the Agency was formed in 1984. A three year planning horizon is consistent with the "Recommended Practices for State and Local Governments" approved by the Government Finance Officers Association (GFOA). The RTA Act specifically calls for a (3) three year operating financial plan and a (5) five year capital plan and program. Further budget planning requirements included in the RTA Act also include the provision that proposed programs and budgets contain

	statements of funds estimated to be on-hand at the beginning of the fiscal year, the funds estimated to be received from all sources for the given year, and the funds to be on hand at the end of such year. Pace's annual submittals meet these requirements, showing all cash flows / cash needs, as well as all known costs, including required pension obligations for all years of the plan. Pace's multiyear plans also incorporate required capital replacement needs and Pace asset replacement standards and fleet plans. Funding restrictions currently necessitate the preparation of two plans—one based on known replacement needs (unconstrained) and one based on funding levels identified by RTA (constrained). Pace is required by the RTA Act to adopt its annual capital program and five year plan in conformance with the RTA's constrained funding levels. Pace concurs with the importance of achieving a state of good repair for existing plant and equipment, and maintaining the financial capability to sustain existing services prior to expanding services or facilities.

Chapter Ten

CAPITAL PROGRAM

CHAPTER CONCLUSIONS

The Regional Transportation Authority (RTA) adopts five-year capital program "marks" as part of the annual budget process. These marks authorize funds for all capital projects to be implemented by the Service Boards. The marks adopted by RTA in 2006 totaled $3.02 billion for the period 2006 – 2010. The marks included $1.84 billion (61 percent) for CTA projects, $0.94 billion (31 percent) for Metra projects, and $0.24 billion (8 percent) for Pace projects. Seventy-five percent of these capital funds are provided by the Federal Transit Administration (FTA). The remaining funds derive mainly from the State of Illinois, either through grants from the Illinois Department of Transportation (IDOT), or through bonds issued by the RTA but paid with annual State appropriations.

Most aspects of capital program management are the responsibility of the Service Boards. The Service Boards define and propose the capital projects to be considered by the RTA, implement the approved capital projects, and receive capital grants from the FTA and IDOT. The RTA issues bonds, the principal source of non-federal funds for capital projects, and disburses bond funds as requested by the Service Boards for approved projects.

The capital programs managed by the Service Boards may be characterized as follows:

- Capital replacement and rehabilitation projects are not given priority, and as noted in this chapter and Chapter 12, Fleet, capital replacement needs are clearly not being met.
- Capital investments have been insufficient to keep pace with the aging of the CTA infrastructure and its revenue vehicle fleet. CTA's estimated unfunded needs to reach a state of good repair far exceed five-year capital improvement program (CIP) expenditures, calling into question why system expansion is being considered.
- In the past three years (2003-2005), CTA and Pace have become more efficient in initiating capital projects (as evidenced by declines in the percent of capital funds that are unobligated) but have become less efficient in applying capital funds to the projects (as evidenced by increases in the percent of capital funds unexpended). Metra's performance has been stable; generally, it has a lower unobligated funds balance and a lower unexpended funds balance than does CTA or Pace.
- There is evidence to suggest that bond funds are being expended at a slowing rate. The percentage of unexpended capital funds increased from 64 percent in 2003 to 71 percent in 2005, and the RTA capital funds balance increased steadily through 2004, falling only in 2005 (as discussed in Chapter 9, Financial Management).

The cost of bond financing is substantial. Annual interest costs paid by the RTA increased by $53.9 million (72 percent) between 2001 and 2005. Given the relatively large and growing unexpended capital program balance, the effectiveness of the transit capital program funds could be improved by switching to a dedicated, predictable funding source that would allow greater use of pay-as-you-go financing, more closely tied to the actual cash needs of capital projects.

REGIONAL TRANSPORTATION AUTHORITY (RTA)

As discussed in Chapter 9, proceeds from debt financing provide the overwhelming majority of RTA funds for the CIP. In the period 2001 – 2005, approximately 94 percent of capital project costs funded by RTA came from bond proceeds. During the same time period, State financial assistance paid for about 58 percent of debt service costs incurred by RTA. However, since the total capital funds generated from special appropriations and authorities were slightly less than the related expenditures, a drawdown of the RTA capital projects fund was necessary. Exhibits 10-1 and 10-2 show that RTA's total outstanding general obligation (GO) debt and legal debt capacity were $2.156 billion and $429 million respectively as of December 31, 2005.

All RTA bonds are general obligations of the RTA, i.e., the full faith and credit of the RTA are pledged to the bondholders. These general obligation bonds can be categorized into Strategic Capital Improvement Program (SCIP) bonds and other RTA bonds. Exhibit 10-1 shows that as of December 31, 2005, RTA had a total general obligation bonds payable amount of $2,156,155,000. Its existing debt service payment schedule extended for about 30 years with a final maturity date in the year 2034.

Exhibit 10-1
RTA's GO BONDS PAYABLE
December 31, 2005

RTA Non-SCIP Debt Limit	$800,000,000
Authorized but Unissued RTA Debt	$69,335,000
Total Non-SCIP (RTA) Principal Outstanding	$730,665,000
Total SCIP Principal Outstanding	1,425,490,000
Total RTA GO Debt Outstanding	$2,156,155,000
Current Portion of Total RTA GO Debt Outstanding	$55,110,000

Source: RTA Budget and Five-Year Plan 2006 and Comprehensive Annual Financial Report (CAFR) for the year ending December 31, 2005

Exhibit 10-2
RTA's LEGAL DEBT CAPACITY
December 31, 2005

Debt Limitation per Act for General Obligations	$2,600,000,000
Total Non-SCIP (RTA) Bonds Applicable to Limitation	($730,665,000)
Total SCIP Bonds Applicable to Limitation	($1,540,000,000)
Debt Margin for General Obligations	$329,335,000
Debt Limitation per Act for Working Cash Notes	$100,000,000
Total Legal Debt Margin	$429,335,000

Source: RTA Comprehensive Annual Financial Report (CAFR) for the year ending December 31, 2005

According to the RTA Comprehensive Annual Financial Report (CAFR) for the year ending December 31, 2005 and the RTA 2006 Budget, the bonds are secured by an assignment of a lien on the sales taxes imposed by the RTA. All sales tax receipts are to be paid directly to the trustee by State of Illinois officials. Funds are only to be made available to the RTA for regular use when all debt service payments have been made; otherwise, the trustee is to deduct the required monthly debt service payment from the receipts. Further, pursuant to the RTA Act, CTA, Metra, and Pace farebox revenues and funds on hand are not available for payment of RTA bond debt service. In general, the RTA's GO obligations are superior to and have priority over all other obligations of the authority, with certain exceptions such as Separate Ordinance Obligations.

RTA bond indentures require a "revenues test" to be met, which is essentially a minimum sales tax revenue to debt service payment coverage ratio of 2.5 times. In the Series 2005B bond official statement, the sales tax revenue projection submitted shows that this minimum coverage ratio is always met. The projection assumes that sales tax revenues will grow at an annual rate of 3.20 percent and, accordingly, the minimum coverage ratio steadily increases from 3.88 times in 2005 onward to 37.09 times in 2033 and 100.02 times in 2034. This coverage ratio is based on gross sales tax revenues and no coverage ratio projection is provided after netting out the projected operating deficit allocations to the Service Boards.

CONCLUSIONS - RTA

RTA's capital project financing costs are magnified by its over-reliance on debt as opposed to "cash pay as you go" or grants. There is virtually no remaining cash flow to leverage additional RTA debt, although RTA has, by law, net remaining debt capacity of $429 million as of December 31, 2005. RTA's capital fund was growing steadily until 2005 when RTA was forced to draw from its fund.

RTA CAPITAL PROGRAM	
RECOMMENDATION NUMBER 32	***RTA should investigate whether pay-as-you-go financing for a portion of the capital program would be a more efficient use of State funds than the current strategy that relies totally on bond financing.*** ***In addition, in the capital program it adopts, the RTA should include a provision for the disclosure of unfunded capital needs so that decision-makers and the public are aware of the cost of attaining a state of good repair, even if the funds do not exist to attain it.***
RTA RESPONSE	The RTA agrees that the RTA system capital program should include "pay-as-you-go" funding to meet the objectives of efficiency, equity, and effectiveness. An appropriate amount of "pay-as-you-go" funding requires that the RTA system have a greater level of funding than existing levels. Further, appropriate capital investment funding requires a reliable, preferably dedicated, source of revenue. The RTA agrees that it will be beneficial to policymakers in the region to assess and report on a regular basis the total capital funding needed to maintain, enhance and expand the region's transit system. The Strategic Plan recently developed by the RTA, in conjunction with the CTA, Metra and Pace, contains such an assessment, and should be updated as necessary.

CHICAGO TRANSIT AUTHORITY (CTA)

CTA's capital program comprises approximately 61 percent of the region's five-year capital improvement program (CIP) for 2006–2010. CTA's capital program addresses rehabilitation and replacement of assets as well as rail system extensions. Highlights of the five-year capital program include:

- Rehabilitation and replacement of buses and rail cars;
- Reconstruction of the Douglas Branch of the Blue Line;
- Brown Line capacity expansion;
- New Starts projects to extend and expand the CTA rail system;
- Replacement of fareboxes on CTA buses;
- Upgrade of Automated Fare Control system components; and
- Reconstruction of Howard Station on the Red Line.

In general, while the CTA has a process in place to identify capital projects and manage its implementation, much more emphasis should be placed on bringing the system into a state of good repair:

- CTA's capital funding sources diminished significantly in 2005 from prior years due to the expiration of the *Illinois FIRST* funding program.
- CTA has improved its ability to move projects from award to procurement, but has experienced a steady increase in unexpended project balances, which can diminish the buying power of grants and also is an indication of schedule delays.
- CTA's estimated unfunded needs to reach a state of good repair far exceed planned CIP expenditures over a five-year timeframe, calling into question CTA's pursuit of system expansion projects. The current CIP approval process limits the presentation of capital projects to those that can be funded with the capital program "marks" (essentially, a 5-year program budget) identified by the RTA. Thus, unfunded needs, such as those presented by CTA, have no visibility in the regional capital program document.
- CTA has brought the Brown Line construction project costs in line with available funds through reorganization of the construction packages. However, the remaining project contingency appears to be inadequate relative to remaining project costs and should be increased, given a steady trend of construction bids that exceed the engineer's estimate.

Where possible, five-year historical data were gathered for analysis—in some cases, only three or four years of data are available.

CTA Capital Funding Sources

The CTA capital program in 2005 was funded primarily from federal grants (59.3%), and secondarily by State funds (35.6%) that are realized as proceeds from bonds sold by the RTA. Grants from the State through the Illinois Department of Transportation (IDOT) comprised the remaining 5.1 percent. Exhibit 10-3 shows the annual percentage share by funding source for the years 2001—2005.

Exhibit 10-3
CTA'S CHANGE IN CAPITAL ASSETS BY FUNDING SOURCE
(% DISTRIBUTION)
2001-2005

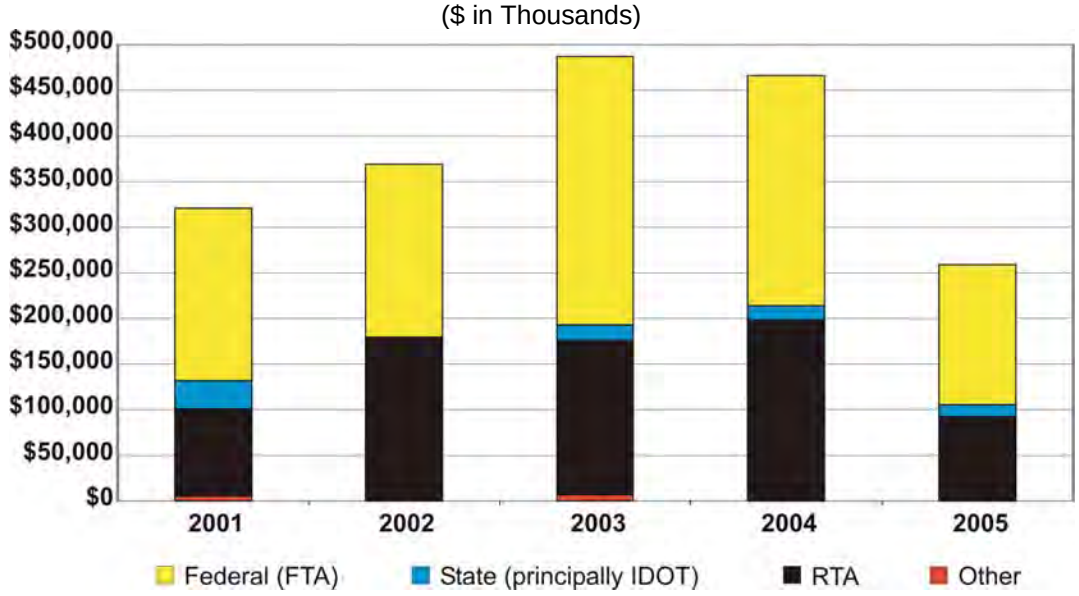
	2001	2002	2003	2004	2005
Federal (FTA)	59.0%	51.4%	60.4%	54.1%	59.3%
State (principally IDOT)	9.6%	0.0%	3.5%	3.4%	5.1%
RTA	29.6%	48.6%	34.7%	42.3%	35.6%
Other	1.8%	0.0%	1.4%	0.2%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Capital funds are calculated based on the change in capital assets by funding source before accumulated depreciation and include additions and disposals. Immaterial negative changes were excluded.
Source: CTA Financial Statements

Capital funding for the CTA in 2005 was significantly less than in recent years. This is primarily due to the expiration of *Illinois FIRST* in 2004 as a State funding source and the lack of a successor to this program.

Data gathered from CTA's financial statements from 2001 to 2005 (Exhibit 10-4) show that capital funds grew steadily through 2003, tapered off slightly in 2004, and then fell precipitously in 2005 when the *Illinois FIRST* program expired. Capital funds are calculated based on the change in capital assets by funding source before accumulated depreciation and include additions and disposals. The change in capital assets before accumulated depreciation in 2005 ($259 million) was 44 percent less than that of the prior year ($466 million), and well below the five-year average (2001-2005, $381 million). Given that CTA has identified substantial unfunded capital needs, any reduction in capital funding can be expected to worsen the aging trend of CTA's infrastructure.

Exhibit 10-4
CTA ANNUAL SOURCES OF FUNDS FOR CAPITAL 2001–2005
($ in Thousands)



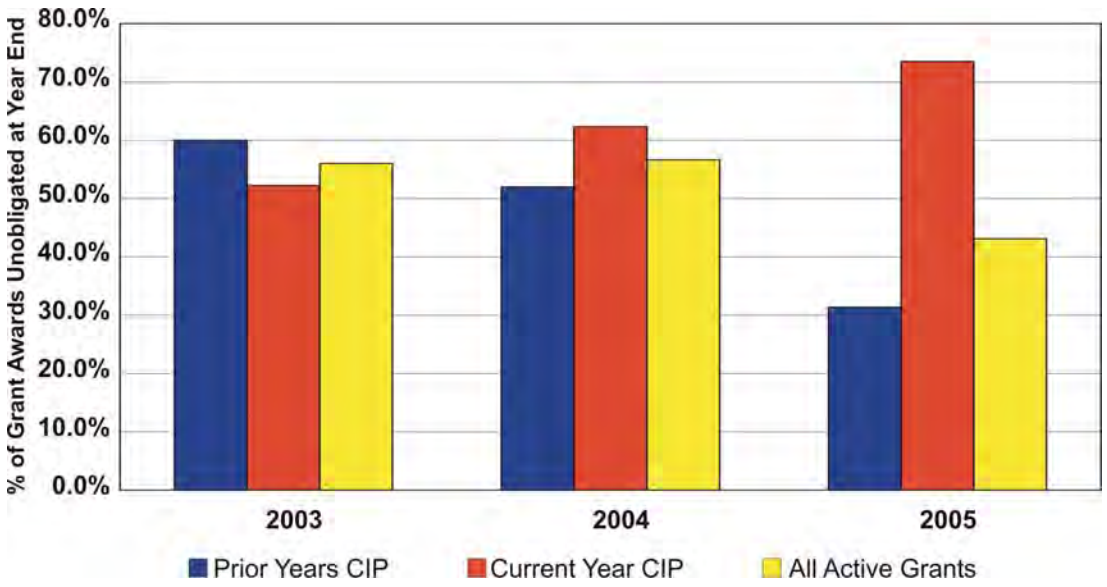
Note: RTA funds are proceeds from bonds authorized by the State of Illinois. Capital funds are calculated based on the change in capital assets by funding source before accumulated depreciation and include additions and disposals. Immaterial negative changes were excluded.
Source: CTA Financial Statements

Effectiveness of Capital Program Management

The effectiveness of capital program management may be assessed by evaluating how quickly grant awards are converted into commitments to expend funds, and how quickly the funds are expended. The RTA in quarterly capital program reports tracks these aspects of capital program performance. The trend in the commitment of funds is measured by the *unobligated capital program balance*, which is the percentage of approved capital grants that has not yet been obligated through contracts with third

parties or reserve funds used to pay in-house labor to perform capital-related work. The trend in the expenditure of funds is measured by the *unexpended capital balance*, which is the percentage of approved capital grants that has not yet been expended. Both the unobligated balance and the unexpended balance are reported by the RTA separately for the current-year capital program and prior-year capital programs. The trends in CTA's unobligated balance and unexpended balance are summarized in Exhibit 10-5 and 10-6. The underlying data and compilation method are explained in Exhibits 10-27 and 10-28 appended to this chapter.

Exhibit 10-5
TREND IN CTA UNOBLIGATED CAPITAL PROGRAM BALANCE 2003-2005



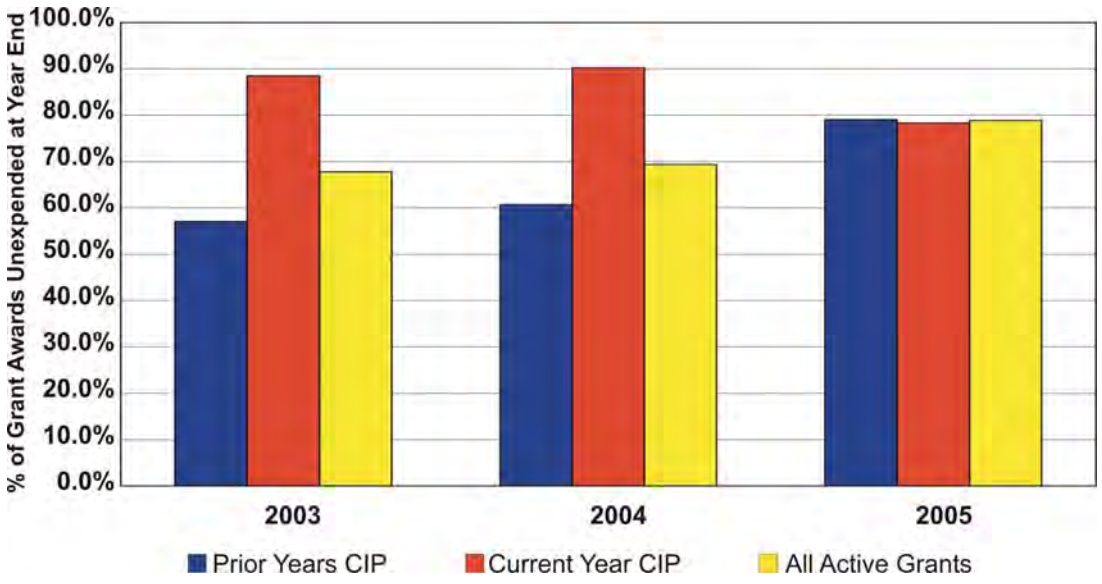
Source: RTA Capital Financial Reports for 4th quarter 2003, 2004, and 2005

Overall, the CTA has been increasingly effective at moving projects from grant award to procurement, as shown by the decline in the unobligated balance for all active grants (see Exhibit 10-5). The unobligated balance fell to about 43 percent in 2005 from 56 percent in 2003. This improvement, however, is due primarily to efficiently moving forward grants approved in prior years. The unobligated balance for current-year approvals has been increasing. In 2005, it was about 74 percent, versus just 52 percent in 2003. Additional analysis would be required to determine the precise reason for this trend. However, it does imply that recently approved projects are moving forward at a progressively slower pace.

There has been a slowdown in moving projects from contract to construction. As seen in Exhibit 10-6 the unexpended balance is trending upward, primarily due to slow-moving projects that have been approved in prior years. Projects approved in prior years accounted for almost 80 percent of active grants in 2005. A slow-down in the rate of expenditure for these projects may diminish the buying power of grants, and is an

indication of project schedule delays. Further study is warranted in terms of which projects are causing these overall trends.

Exhibit 10-6
TREND IN CTA UNEXPENDED CAPITAL PROGRAM BALANCE 2003-2005



Source: RTA Capital Financial Reports for 4th quarter 2003, 2004, and 2005

CTA Historical vs. Planned Capital Expenditures

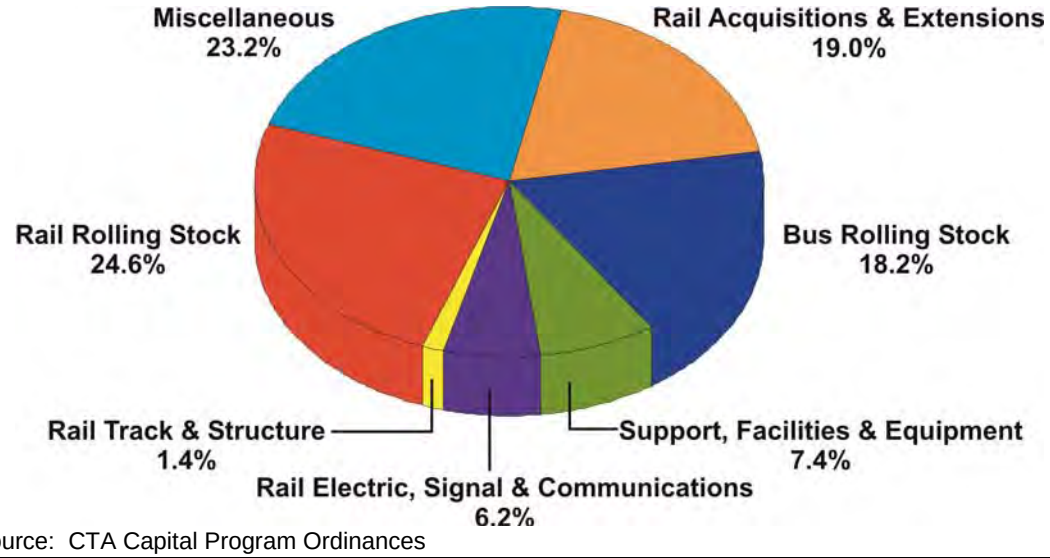
CTA's five-year CIP for 2006 – 2010 as amended on March 16, 2006 includes a total of $2.223 billion of bus, rail, facilities, equipment, and other capital expenditures. Capital expenditures for bus revenue vehicles and rail rolling stock comprise 18 percent and 25 percent of the total amount, respectively (Exhibit 10-7). Given CTA's fleet profile, CTA may be understating the bus and rail car replacement needs in its five-year CIP (please refer to Chapter 12, Fleet, for more detail on this subject).

Most CTA capital projects are for the renewal of plant and equipment, or for safety-related improvements. The breakdown of the capital program, as shown in Exhibit 10-7, follows a functional classification of the capital assets. It is not readily apparent which projects are not renewal or safety-related. Clearly, one project, the Circle Line (included in rail acquisitions and extensions), is an addition to the capital asset base, but others are less clear. It would be beneficial to classify the projects as infrastructure renewal, safety, capacity enhancements, extensions, or new supporting assets, so that the capital program priorities are more readily apparent.

CTA anticipates higher levels of capital funding in the future. Exhibit 10-8 shows historical capital expenditures versus planned CIP expenditures for 2006 – 2010. These levels of capital expenditures assume the existence of a "new initiative," totaling about $590 million regionally, that was presented in the CTA and RTA 2006 budgets. CTA's

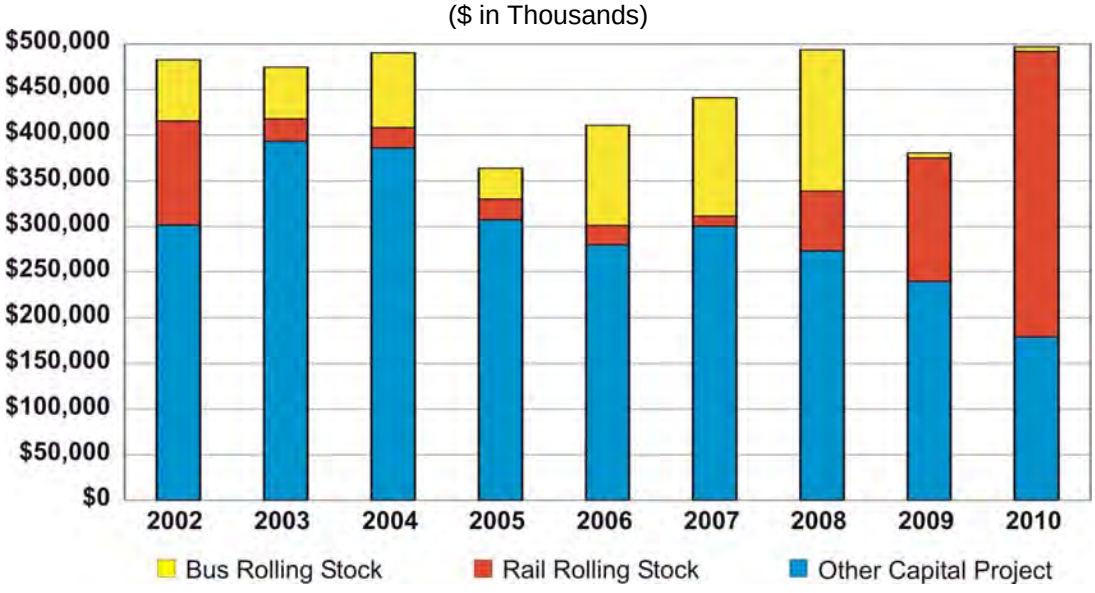
share of the overall regional program includes increased expenditures for bus and rail rolling stock, relative to recent years, but somewhat less emphasis on other capital projects. As noted in the following section, however, non-fleet capital needs are substantial.

Exhibit 10-7
CTA CAPITAL PROGRAM USES (2006-2010 CIP)



Source: CTA Capital Program Ordinances

Exhibit 10-8
CTA HISTORICAL CAPITAL EXPENDITURES AND PLANNED CIP (2006–2010)
($ in Thousands)



Source: CTA Capital Program Ordinances and National Transit Database submissions

Costs to Reach a State of Good Repair

CTA recently identified the costs to reach a state of good repair over a 5-year horizon, 2007–2011. As stated in CTA's 2006 budget, a "state of good repair" means that:

- No bus is in service over the industry standard retirement age of 12 years
- All rail cars are rehabilitated at mid-life (12-13 years), overhauled at their quarter-life points (6 and 18 years), and either rehabilitated or replaced at the end of their useful life (25 years).
- All rail stations are in state-of-the-art condition, and able to meet modern standards for customer comfort, security, and reliability. Stations should be replaced or rehabilitated at the end of their useful life of 40 years.
- All rail lines operate at scheduled speeds; no areas are slowed down because of track or structural disrepair. Rail signal systems are fully reliable and meet modern standards of performance.
- Service management systems are fully reliable and incorporate current technology. Such systems are used to send information between CTA's control center and its vehicles and stations, and are vital in dealing with emergencies and service problems.
- All maintenance facilities are designed and kept in good condition, to permit buses and trains to be maintained efficiently and effectively.

The unfunded needs to reach a state of good repair total $5.82 billion. In addition, CTA identified another $4.7 billion in rail line extensions that it says are necessary to meet growing demand. The unfunded program total, $10.5 billion, significantly exceeds the planned five-year CIP (2006-2010) expenditures of $2.2 billion. Exhibit 10-9 compares these two 5-year amounts side by side. It should be noted that the current CIP is for the years 2006 – 2010, whereas the unfunded needs estimate, a more current report (July 2006), is for the years 2007 – 2011. This difference is significant and brings into question why CTA would consider any expansion of its current system when the estimated state of good repair needs are overwhelming.

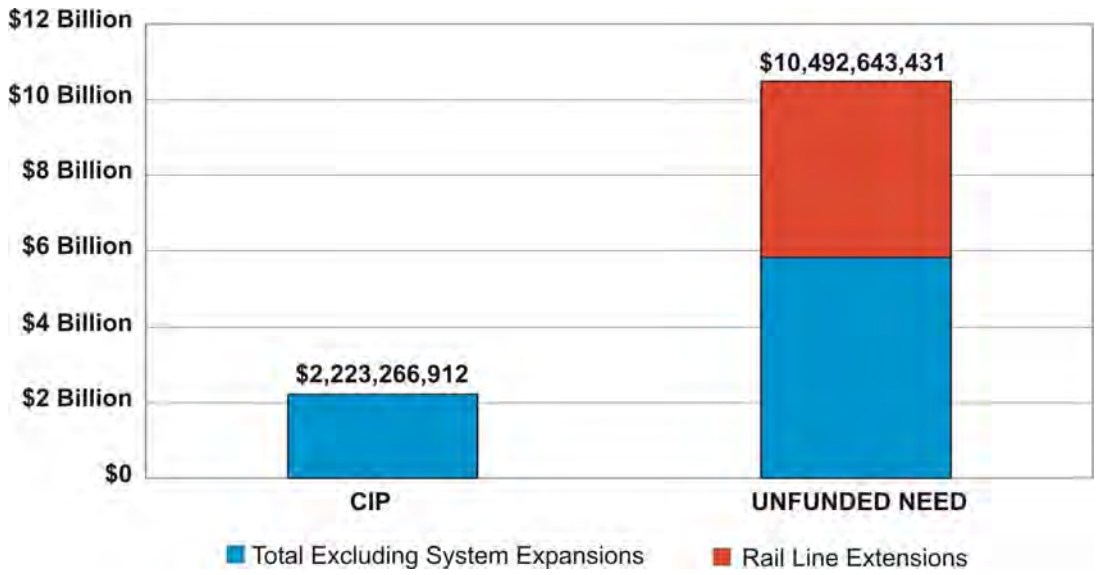
The costs to attain a state of good repair for existing infrastructure assets (i.e., excluding rail extensions) are primarily targeted toward rail infrastructure. The *unfunded costs* of renewing existing infrastructure assets include:

- $3.8 billion (66%) for rail system components (communications, traction power, stations, park & ride lots, signals, systems, and structures);
- $0.9 billion (15%) for rail, ($0.7 billion) for bus, and ($0.2 billion) for fleet replacement;
- $0.7 billion (12%) for maintenance and support facilities; and
- $0.4 billion (7%) for the renewal of all other assets.

Given the extent of the unfunded needs for infrastructure renewal alone – *more than double the cost of the current capital program* – it is questionable for the CTA to

consider major design and construction investments in the extensions to the existing rail system. Nonetheless, CTA has identified the following extensions for consideration: Circle Line ($2.7 billion), Ogden-Carroll-Navy Pier Streetcar ($0.5 billion), Red Line extension to 130th and Stony ($0.8 billion), Orange Line extension to Ford City ($0.3 billion), and Yellow Line extension to Old Orchard ($0.3 billion).

Exhibit 10-9
CTA CURRENT CIP VERSUS COSTS TO REACH A STATE OF GOOD REPAIR 5-YEAR COMPARISON



Notes: [1]CIP amount includes rail acquisitions and extensions; rail line extensions separated only for Unfunded Need.
[2]Current 5-year CIP amount is for 2006-2010, whereas the Unfunded Need amount is for 2007-2011.
Source: CTA Capital Program Ordinances and "Unfunded Needs to Reach a State of Good Repair" report

CTA Capital Project Identification and Management Process

CTA has a process in place to identify candidate projects and to manage its capital projects during implementation. CTA undergoes an annual review process to determine which projects are included in its proposed 5-year Capital Improvement Program (CIP). This report reviews the CIP which spans years 2006 – 2010 (the most recent CIP amendment referenced in this report is dated March 16, 2006). Each year, the capital investment department sends out a 5-year CIP solicitation package to the vice presidents and general managers of all CTA departments, including a program development schedule, new project submittal and evaluation form instructions, and a project request form including an evaluation form. Each department ranks the priority of the submitted project by a low, medium, or high scale, with high being the most needed. In addition to this ranking, an evaluation form must be completed, where the projected impact of the project on several characteristics is estimated by indicating a measure of 1 to 5, where a

higher score indicates that the project will promote or improve that characteristic. These characteristics are categorized as follows: safety/security, customer service, operations and maintenance, federal/state compliance, innovation/technological, community impacts, and capital program continuity. These criteria are considered equally; no greater or lesser weight is applied to any criterion. While this process may facilitate the evaluation of projects within each department, there is no process to prioritize and evaluate projects across departments. Essentially, each project is evaluated based on the rating assigned to it by the originating manager.

After the various CTA departments submit this information to the Capital Investment department, the Capital Investment staff examine the candidate projects, considering the self-evaluations from the submitting departments but relying on independent means to rank the projects. Capital Investment staff conduct meetings with subject matter experts who are familiar with past and current capital projects before taking into account RTA capital marks (based on grant awards) and developing the 5-year CIP as well as the current year's operating and capital budgets. For example, ongoing projects are given priority so as to not stop them during mid-construction. Additional factors taken into account include geographic balance, socioeconomic factors, and environmental justice issues. Finally, the President of the CTA is also consulted for capital program development. This proposed CIP is then submitted to the CTA Board of Directors for approval.

Upon Board approval, the capital program becomes effective for that fiscal year. The project managers from the respective departments manage the schedule and budget on a day-to-day basis, whereas the capital investment department officials monitor the capital project costs on a monthly basis. Also, quarterly project-specific reports are prepared for various funding agencies. From meetings with capital investment department officials during this audit, it was not clear whether a summary of the whole program is prepared with the same kind of regularity. Also, finance department officials do not monitor whether a project is performing according to schedule, although it is the responsibility of the officials of the respective project sponsoring departments.

Brown Line Capacity Expansion Project

The Brown Line Capacity Expansion project includes major upgrades of the existing Brown Line stations, signals, and communications, and will make the Line accessible to mobility-impaired persons. The project was selected for review in this audit because the original construction plan was substantially modified after the initial construction bids were found to exceed the project budget. The modified plan required a series of temporary station closures, whereas CTA had originally committed to keeping all stations open during construction, resulting in public criticism of the project and questioning of CTA's project management capability.

The key findings from this review are as follows:

- CTA's reorganization of the construction packages has brought the cost of the project back in line with the available funds.
- Variances between bids and CTA's engineering cost estimates have been growing progressively larger with each new bid opening.
- The project contingency is very low in comparison to remaining project costs.
- The schedule delays incurred so far do not appear to affect the final delivery date for the project, since they affect individual stations.

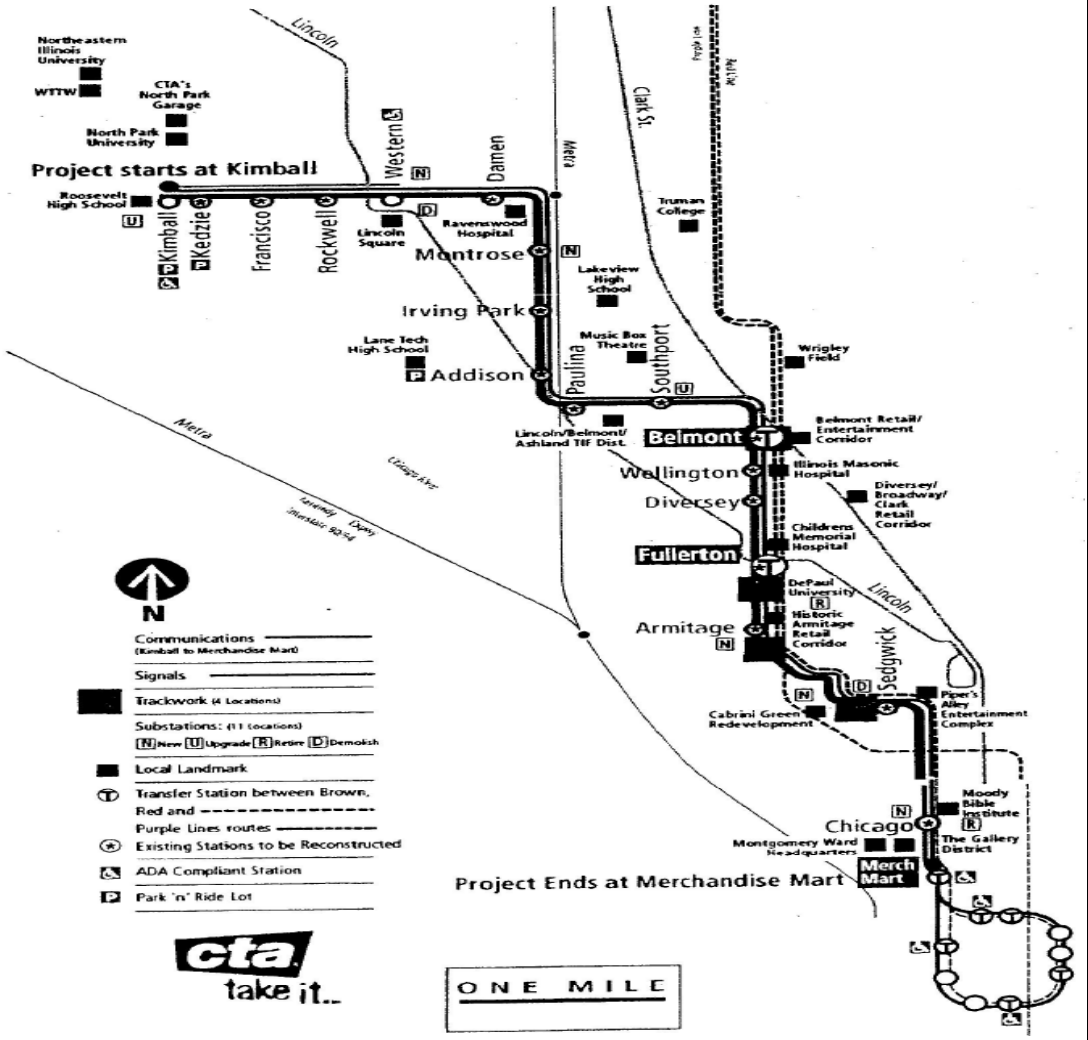
This review of the Brown Line project rests largely upon project management oversight (PMO) reports prepared for the Federal Transit Administration by an independent engineer. The PMO program is an essential part of FTA's exercise of fiduciary responsibility for "New Starts" projects, which consist of extensions to or capacity expansions of existing rail systems, as well as entirely new rail lines. Since the PMO program includes tried and tested project management oversight techniques that the FTA has relied on for many years, and because project cost and schedule information is central to the federal grant appropriation process, reports prepared by the PMO were requested by the OAG to aid in this audit.

The remainder of this section provides a description of the project, and then provides additional details to support the above findings.

Project Description

The Brown Line is a 9.1 mile elevated heavy rail line serving north and northwest Chicago. Its outer terminal is the Kimball Station. The line serves 19 stations before joining the Loop in downtown Chicago. The Brown Line capacity expansion project includes 18 of those stations; it excludes the Merchandise Mart station. In December 2005, the Brown Line carried 43,460 passengers on an average weekday, or about 9 percent of CTA rail ridership. See Exhibit 10-10 for a map of the Brown Line.

Exhibit 10-10
BROWN LINE MAP



Source: CTA

The Brown Line Capacity Expansion includes a number of improvements. Platforms are to be expanded at the outermost 18 stations to accommodate longer trains; 16 of the stations will be expanded to accommodate 8-car trains (versus the current 6), and tracks at two of the stations (Fullerton and Belmont) will be constructed to accommodate future ten-car berthing for the Red Line service. The project includes significant station upgrades. Sixteen stations will be reconstructed, two stations will be renovated, and all stations will be fully ADA-accessible. The Brown Line's signal, communication and traction power systems will be rehabilitated.

The total cost of the project is currently estimated to be $530 million. This includes $54 million for financing and $476 million for design, construction, construction management, project administration, real estate acquisition, relocation and contingency.

Through June 2006, $168.9 million had been expended, leaving a balance of $361.1 million. As of May 31, 2006, the project contingency was $18.3 million, or about 5.1 percent of the remaining project cost. However, a bid award in June 2006, which exceeded the engineer's estimate by $15.4 million, effectively reduced the unallocated contingency to $0.3 million from $15.7 million.

The project is funded by: federal "New Starts" funds, $245.5 million; federal 5307 formula funds, $177.6 million; and local funds, $106.8 million.

The project is scheduled to be complete by December 31, 2009.

Reconfiguration of the Construction Plan

The Brown Line Capacity Expansion project was originally to have been implemented pursuant to a construction plan that allowed all stations to remain in operation during construction. However, the construction bids were higher than estimated by CTA. Rather than increase the cost of the project, CTA opted to reconfigure the construction packages to allow temporary closures of stations during construction, as well as other changes to the procurement that reduced a contractor's risk. The station closures engendered much criticism of the project, and along with recent developments have cast doubt on CTA's ability to deliver the project as planned.

The highlights in the reconfiguration of the construction plan are as follows:

- The lowest of two bids received by CTA in May 2004 for the construction of all stations was 27 percent (+$90.5 million) higher than the engineer's estimate of $330 million. CTA rejected the bids.
- CTA reassessed the design for each station, the substations, and the signal and communication packages and identified cost reduction features to bring the cost of the packages within anticipated budgets. The cost reduction features included:
    - Re-organizing the original scope of work into eight construction packages:
        - Clark Junction and signals
        - Substations
        - Communications
        - Belmont-Fullerton stations package
        - Armitage, Sedgwick, Chicago stations package
        - Kimball, Kedzie, Francisco, Rockwell, Western stations package
        - Damen, Montrose, Irving Park, Addison stations package
        - Paulina, Southport, Wellington, Diversey stations package
    - More frequent progress payments (twice monthly rather than once monthly)

  - Prompt payment requirement for subcontractors (within 5 days of payment to prime contractor)
  - Increased mobilization percentage from 4 percent to 6 percent of contract value, 75 percent of which would be paid with the first invoice
  - Reduced retainage from 10 percent to 5 percent, and paid as milestones are reached, rather than at job completion
  - Allowed the application of overhead and profit rates to a broader set of costs (e.g., to change orders, to subcontracted work)

- To effect the repackaging of the contracts, CTA announced in January 2005 that various stations would be temporarily closed during construction. CTA indicated that closure of the stations would increase the productivity of the contractors, thereby reducing construction costs and allowing CTA to retain customer amenities planned for the stations. CTA elected to not close adjacent stations at the same time and to not close stations that are over ½ mile apart. Of the 18 stations to be rehabilitated:
  - Three stations would not close (Western, Belmont & Fullerton).
  - Three stations would be closed up to six weekends (Armitage, Sedgwick & Chicago).
  - Eight stations would be closed weekdays and weekends up to 10 to 12 months (Damen, Montrose, Irving Park, Addison, Paulina, Southport, Wellington & Diversey).
  - Four stations would be closed weekdays and weekends up to 6 to 8 months and up to 10 additional weekend closures (Kimball, Kedzie, Francisco & Rockwell).

Collectively, these measures were intended to deliver the project within the original budget and schedule.

Cost of Awarded Construction Contracts

Through July 2006, CTA had awarded six Brown Line construction contracts totaling $271.5 million. As shown in Exhibit 10-11, the contract awards exceeded the engineer's estimate by about 8.4 percent ($21.0 million) for these six contracts. The variance between the engineer's estimate and the bid award has been growing, however, with each successive bid award.

In all but one case, the contract was awarded to the low bidder. CTA rejected a low bid of $41.5 million for the Armitage, Sedgwick, Chicago package as being non-responsive in meeting the DBE goal. The contract was awarded to a firm that also has had the winning (i.e., low) bids on two other packages, the Belmont-Fullerton package and the Kimball, Kedzie, Francisco, Rockwell, and Western package.

Two construction contracts remain to be awarded: Wellington, Paulina, Diversey and Southport Stations (advertised Summer 2006), and Communications (to advertise in Fall 2007).

With these results, the question naturally arises as to the adequacy of the remaining contingency to cover any further variances between bids and the engineer's estimate, as well as change orders and other potential cost increases that occur during construction.

Exhibit 10-11
BROWN LINE CONTRACT AWARDS VERSUS ESTIMATES
($ in Millions)

Package	Bid Date	Bid Amount	Engineer's Estimate	Δ Engineer's Estimate – Bid
Clark Junction & Signals	9/21/04	$45.5	$48.5	$3.0 / 6.2%
Substations	11/10/04	$7.9	$9.4	$1.5 / 16.0%
Belmont-Fullerton	5/20/05	$94.3	$94.9	$0.6 / 0.6%
Armitage, Sedgwick, Chicago	8/12/05	$45.5	$39.8	($5.7) / -14.3%
Kimball, Kedzie, Francisco, Rockwell, Western	8/26/05	$19.9	$14.9	($5.0) / -33.6%
Damen, Montrose, Irving Park, Addison	6/15/06	$58.4	$43.0	($15.4) / -35.8%
TOTAL – AWARDED BIDS		**$271.5**	**$250.5**	**($21.0) / -8.4%**

Source: FTA PMOC Report, July 2006

As noted earlier, the project contingency as of May 31, 2006 was $18.3 million. However, the Damen station package bid award, which exceeded the engineer's estimate by $15.4 million, reduced the unallocated contingency to $0.3 million from $15.7 million. At that time, the Project Management Oversight Contractor (PMOC) assigned to monitor the project by the Federal Transit Administration (FTA) opined that the contingency was not adequate for the current stage of project development.

There is one safety valve potentially available to CTA to increase the project contingency. CTA had anticipated issuing bonds to act as bridge financing between the federal share of project cost and the timing of federal grant receipts, which will lag the Brown Line construction schedule. CTA had included in the project cost estimate a total of $54 million financing costs. Should CTA find that it can issue less debt, either by tapping another source or because the project cash flow has changed from CTA's original assumptions, some of this cost may be shifted to project contingency. It should be noted that the PMOC opined in its July 2006 report to FTA that financing costs for the project would be less than the budget.

Schedule

CTA recently announced some project schedule modifications that attracted media and Board attention. Three stations, Armitage, Sedgwick, and Chicago, would have the opening date delayed by approximately 172 days. The Federal Transit Administration's PMOC monitoring report on the Brown Line reconstruction noted that

due to permits not being received, the project was behind schedule by about six months for all three stations. These delays may eventually cost CTA additional money should the CTA be found to have been at fault. Another station, Western, would be completed four months late, though it is important to note that this station is open during construction.

Although these delays are significant, CTA has opened two stations, Kedzie and Rockwell, almost two months ahead of schedule, and is forecasting to open the Francisco station five months early and the Kimball station six months early. The Kimball Station was reopened after the conclusion of our fieldwork.

Because of the way the construction packages are organized, these slippages should not affect the overall project delivery schedule. Rather, it is the schedule for the two longest lead-time stations, Fullerton and Belmont, which would affect the final completion date, and possibly the final stations package, since the remaining stations are scheduled to be closed 10 to 12 months each.

CTA CAPITAL PROGRAM	
RECOMMENDATION NUMBER 33	***Regarding its capital program, the CTA should:*** • ***Reexamine system expansion decisions given that the significant estimated five-year unfunded needs to reach a state of good repair are significantly higher than planned CIP expenditures***; • ***Investigate why the "percent unobligated" balance for current years' CIP has been increasing in recent years and address the issue accordingly;*** • ***Investigate the problem of increasing "percent unexpended" balances in recent years and address the issue accordingly, possibly by expediting its capital procurement process;*** • ***Identify whether its proposed capital projects are primarily for: (i) safety; (ii) infrastructure renewal; (iii) capacity expansion for the existing system; (iv) extensions to the existing system; or (v) other supporting assets;*** • ***Increase the Brown Line project contingency to ensure its adequacy; and*** • ***Review its engineer's estimates during the course of major projects to ensure that the cost-to-complete estimate is current and reliable.***
CTA RESPONSE	CTA's Capital Improvement Program balances needs to bring the system to a state of good repair with future needs to respond to changing demands of its customers. Federal funding for system expansion or "New Starts" comes largely from Section 5309 New Starts funds. New starts funds are discretionary funds which are available only for "New Starts" projects identified in federal law. The system expansions and extensions shown in CTA's 2007-2011 CIP would use federal New Starts funds. As seen below,

extensions make up just 0.53% of the CIP. CTA does not propose diverting formula funds to support system extensions and expansions.

Percent unobligated for current year measures how quickly CTA obligates funds received in that year. In 2006, both unexpended and unobligated balances declined. Through December 2006, CTA had obligated $717.7 million and spent $639.2 million. This reflects resumption of the normal federal funding cycle with earlier grant receipts, and CTA's success in implementing certain major projects.

CTA agrees that reducing the unobligated and unexpended balances of capital funds helps improve capital assets sooner. Funding tools including pre-award authority, Letters-of-No Prejudice, and other advance obligation mechanisms allow CTA to enter into third-party contracts before funds are in hand. Although federal rules permit CTA and other service boards to proceed using pre-award authority, RTA and Illinois Department of Transportation have imposed rules in the past that CTA have all cash in place before proceeding with obligating contracts.

A further impediment to accelerating obligations is the uncertainty of non-federal capital funding. Over the past several decades, major state bonding initiatives (SCIP I&II) have been authorized for a fixed period, followed by a funding drought. It is extremely difficult to adopt just-in-time funding strategies if there is uncertainty about future funding availability. Providing a reliable, continuous funding source is the best means of reducing unobligated and unexpended capital balances.

CTA believes safety is an integral part of almost every infrastructure renewal project. For example, CTA's current project to renew and upgrade signals on the Congress/Dearborn Subway/O'Hare Branch of the Blue Line is an infrastructure renewal project that will ensure safe operation of CTA's rail system. Therefore, the following classification of projects, in response to the Auditor General's request, combines safety and infrastructure renewal.

Auditor General Report Categories	FY 2007-2011	Percentage
(i) safety & (ii) infrastructure renewal	$1,408,938,321	53.03%
(iv) extensions to the existing system	$14,100,000	0.53%
(iii) capacity expansion-existing system	$772,539,800	29.08%
(v) other supporting assets	$461,423,593	17.37%
Total	$2,657,001,715	100.00%

In December 2006, CTA completed a budget revision to reflect award of the final station contract that was approved by all three of CTA's funding agencies (Federal Transit Administration, Illinois Department of Transportation, and RTA). All elements of the

	project are now under contract except the communications package. That package (which is estimated at under $6 million) will be awarded in 2008. With this budget revision the contingency line item is now $9.6 million. It is anticipated that approximately $4 million in excess land will be sold in the future (prior to project completion). This amount will be added to contingencies. This and other projected credits will increase the contingency by approximately $7 million to approximately $16.6 million or 5.9% of unspent construction. This level is considered appropriate at this point in construction. CTA has instituted a procedure to review the engineer's estimate with a third-party estimating company and the program manager every four to six months before a specification is put out for bid. In addition, the estimate is checked just before the specification is advertised.

METRA

Metra's capital program uses comprise the second largest share of the region's five-year capital improvement program (CIP) for 2006 – 2010 of the three Service Boards. According to the RTA 2006 Annual Budget and Five-Year Program, Metra's share of the total capital program was approximately 31 percent. Metra's capital program plans to address renewal of its commuter rail infrastructure and preparation for expansion of its system. Highlights of Metra's five-year capital improvement program include:

- Rehabilitation, improvements, and overhaul of locomotives, commuter cars, electric cars, and rolling stock fleet components;
- Rehabilitation, preventive maintenance, and replacement of track and structure, including bridges;
- Electric, signal, and communications projects such as Lake Street interlocker improvements and the installation of Passenger Information Display Systems (PIDS) at stations throughout the system;
- Support facilities and equipment such as land acquisition for new coach yards on the Metra Electric District and Union Pacific Northwest Line;
- Rehabilitation and expansion of stations and parking; and
- Extension and expansion of the system including three New Start projects near completion (North Central Service, Union Pacific West Line, and the South West Service Line), and four proposed New Start projects including two new lines (Suburban Transit Access Route or "STAR" and Southeast Service).

The key findings from a review of Metra's capital program can be summarized as follows:

- Metra forecasts approximately $1.142 billion of capital projects according to its amended five-year CIP for 2006 – 2010.
- A small proportion of Metra's original estimated five-year capital improvement program needs was related to rolling stock (21 percent). Metra's actual fleet replacement needs are greater (see Fleet chapter), but only that portion of the capital program that can be funded from RTA "marks" is shown in the approved capital program.
- Metra has improved its ability to move from grant awards to procurement with respect to current year programs, but has experienced a declining trend with respect to prior year programs indicating some slow-moving projects.

Where possible, five-year historical data were gathered for analysis and in some cases, only three or four years of data are available.

Capital Funding Sources

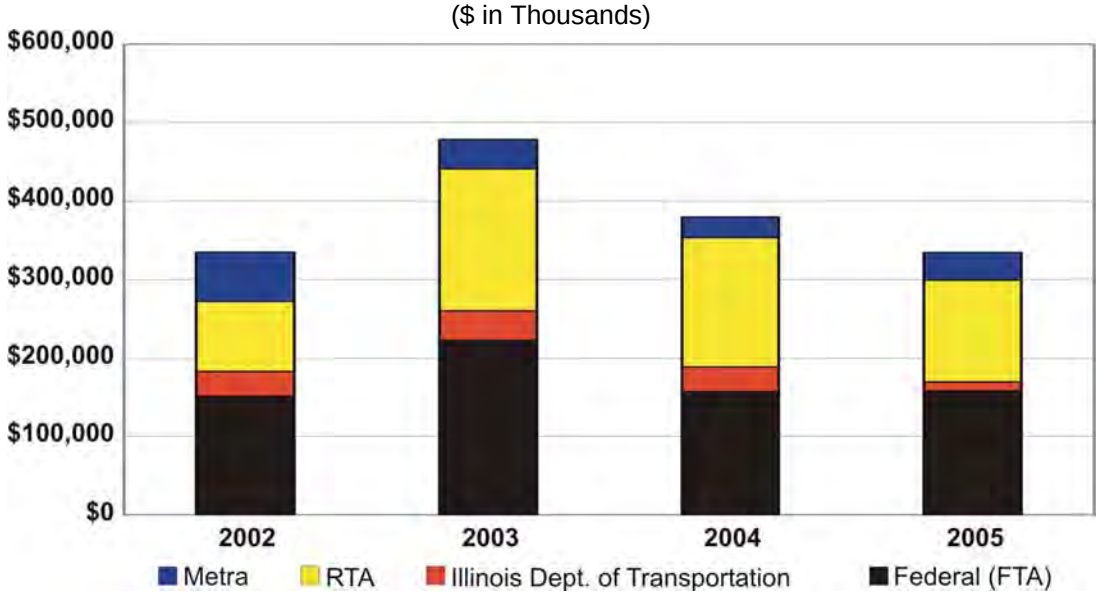
The total amount of sources of capital funding for Metra in 2005 were less than those of recent years. Data gathered from Metra's financial statements from 2002 to 2005 (Exhibits 10-12 and 10-13) show that the capital funding sources amount in 2005 of $334 million was the least of all the years. This is a 12 percent reduction from $380 million in 2004, and approximately the same as the amount in 2002. Further, while federal funding remained relatively unchanged from 2004 to 2005 ($158 million in 2005), Illinois DOT funding declined by 64.5 percent from 2004 to $11 million in 2005, and by 64.7 percent from 2002 to 2005. RTA funding declined by 21.3 percent from 2004 to $129 million in 2005, but was 45.9 percent higher than the amount in 2002. Finally, the 2005 percent distribution of funding sources was 47.3 percent federal, 38.7 percent RTA, 10.6 percent Metra, and 3.4 percent State (Exhibit 10-12).

Exhibit 10-12
METRA'S CHANGE IN CAPITAL ASSETS BY FUNDING SOURCE (% DISTRIBUTION)
2002–2005

	2002	2003	2004	2005
Federal (FTA)	45.2%	46.6%	41.3%	47.3%
Illinois Dept. of Transportation	9.6%	7.7%	8.4%	3.4%
RTA	26.5%	38.0%	43.3%	38.7%
Metra	18.7%	7.7%	7.0%	10.6%
Total	100.0%	100.0%	100.0%	100.0%

Source: Metra Financial Statements

Exhibit 10-13
METRA ANNUAL SOURCES OF FUNDS FOR CAPITAL 2002-2005
($ in Thousands)



Note: RTA funds are proceeds from bonds authorized by the State of Illinois.
Source: Metra Financial Statements

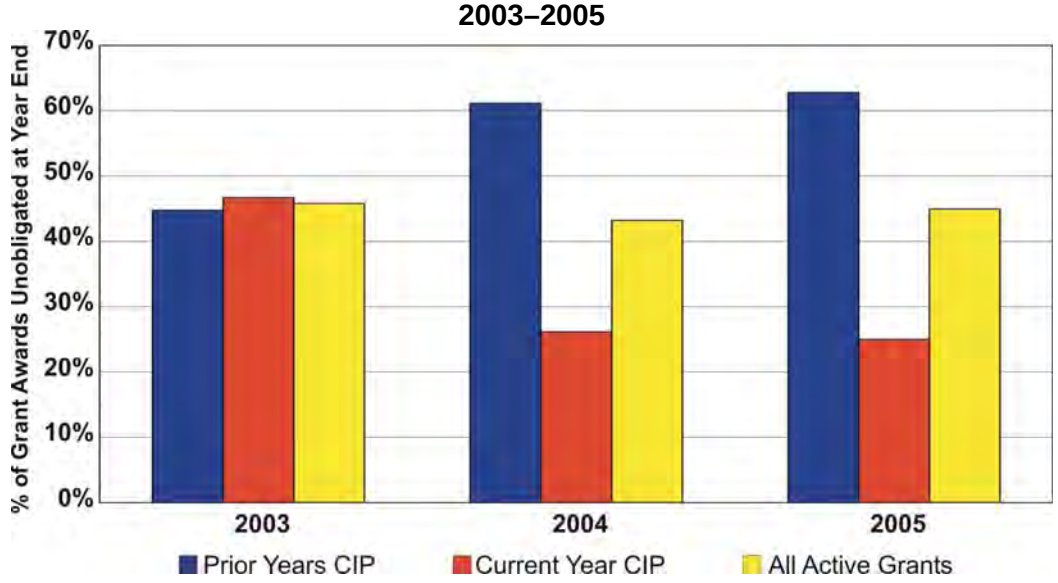
Effectiveness of Capital Program Management

The effectiveness of capital program management may be assessed by evaluating how quickly grant awards are converted into commitments to expend funds, and how quickly the funds are expended. These aspects of capital program performance are tracked by the RTA in quarterly capital program reports. The trend in the commitment of funds is measured by the *unobligated capital program balance*, which is the percentage of approved capital grants that has not yet been obligated through contracts with third parties or reserve funds used to pay in-house labor to perform capital-related work. The trend in the expenditure of funds is measured by the *unexpended capital balance*, which is the percentage of approved capital grants that has not yet been expended. Both the unobligated balance and the unexpended balance are reported by the RTA separately for the current-year capital program and prior-year capital programs. The trends in Metra's unobligated balance and unexpended balance are summarized in Exhibits 10-14 and 10-15. The underlying data and compilation method are explained in Exhibits 10-27 and 10-28 appended to this chapter.

Metra has demonstrated consistent performance in moving projects from grant awards to procurement. As shown in Exhibit 10-14, the unobligated capital balance has stayed at around 40 percent for the past three years. However, there has been a steady increase in the unobligated capital balance percentage of Metra projects approved in prior years, which rose to over 60 percent in 2005, from about 45 percent in 2003. This indicates the existence of slow-moving projects, and should be further reviewed.

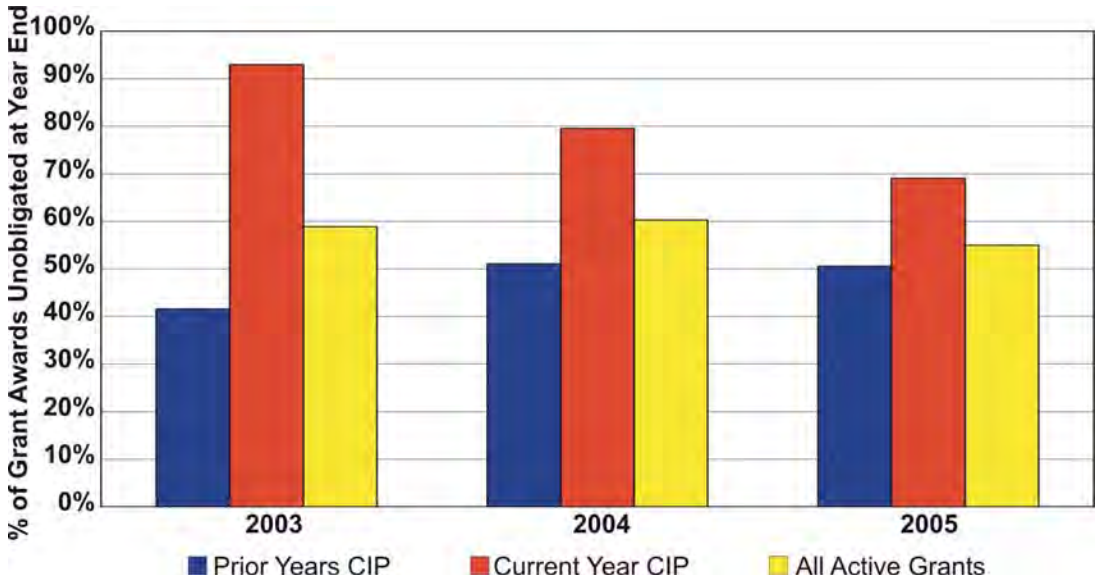
Metra's overall performance in the rate of expenditure for capital projects improved in 2005 over 2004 and 2003. Exhibit 10-15 shows the trend in the year-end balance of percent of grant awards that are unexpended. The unexpended capital balance fell to about 55 percent in 2005 from almost 59 percent in 2003. The unexpended capital balance percentage for current-year grant awards fell even more dramatically, to about 69 percent in 2005 from over 90 percent in 2003. However, there has been a slight increase in the unexpended balance for projects approved in prior years. Given that the unobligated balance for this family of projects has also increased, as noted above, Metra should review its backlog of prior-year projects to determine the causes for slow movement. Metra officials noted that Metra had to focus its resources in 2004/2005 on finishing New Starts under the full funding agreements with the FTA. They noted that these services were up and running in January 2006, and that while older projects slipped slightly, they are now moving forward.

Exhibit 10-14
TREND IN METRA UNOBLIGATED CAPITAL PROGRAM BALANCE 2003–2005



Source: RTA Capital Financial Reports for 4th quarter 2003, 2004, and 2005

Exhibit 10-15
TREND IN METRA UNEXPENDED CAPITAL PROGRAM BALANCE 2003-2005



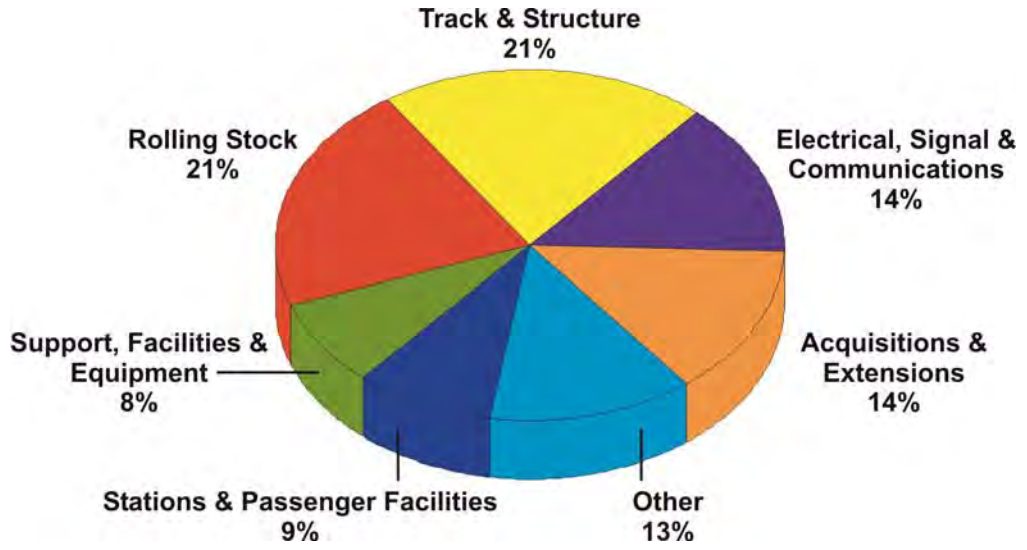
Source: RTA Capital Financial Reports for 4th quarter 2003, 2004, and 2005

Metra's Current CIP: Historical versus Planned Capital Expenditures

According to the RTA 2006 Budget and Five-Year Plan, Metra's current five-year CIP for 2006 – 2010 includes a total of $937 million of rolling stock, facilities, equipment, and other capital expenditures. Capital expenditures for rolling stock comprise 21 percent of the total amount planned (Exhibit 10-16). It should be noted that the June 2006 CIP amendment revised the estimated capital uses for 2006 – 2010 from $937,324,238 to $1,142,108,000. However, since the year-by-year expenditures were not available, the graphs below are based on the original RTA 2006 Budget estimates.

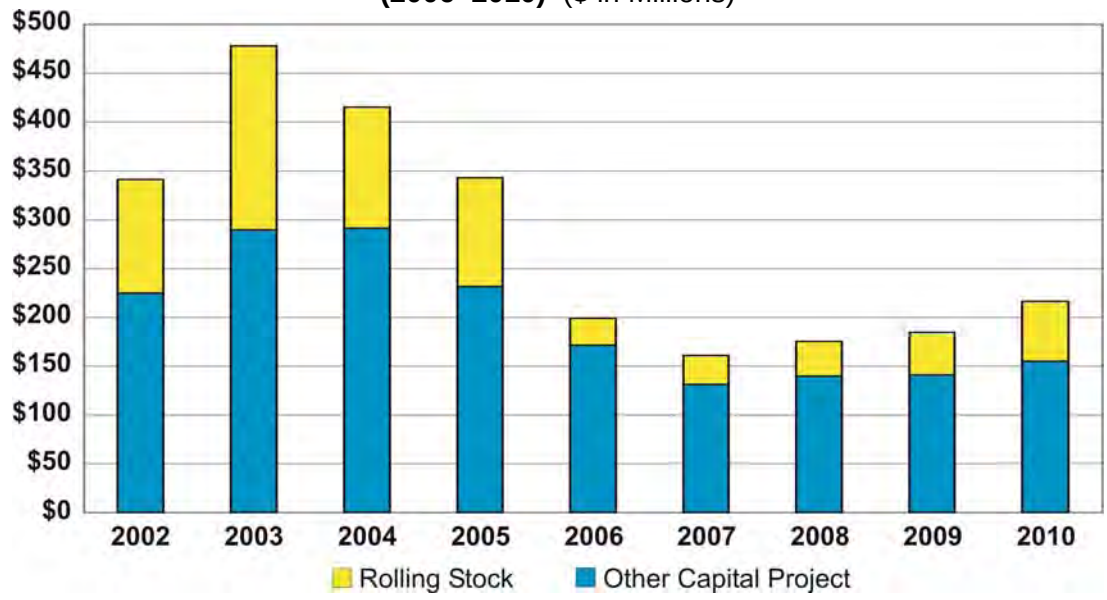
Exhibit 10-17 shows historical capital expenditures versus planned CIP expenditures for 2006 – 2010. The CIP assumes a much smaller average annual expenditure in years 2006 – 2010 ($187 million) than historical trends ($395 million over 2002 – 2005). Furthermore, the amounts planned for rolling stock in the five-year forecast is a smaller percentage of overall capital expenditures (21.2 percent in years 2006 – 2010) as compared to that of recent years (34.2 percent in years 2002 – 2005). The historical capital expenditure data was obtained from the National Transit Database.

Exhibit 10-16
METRA CAPITAL PROGRAM USES (2006-2010 CIP)



Source: RTA Budget and Five-Year Plan 2006

Exhibit 10-17
METRA HISTORICAL CAPITAL EXPENDITURES AND PLANNED CIP (2006–2010) ($ in Millions)



Note: The above 2006-2010 CIP is based on RTA 2006 Budget (total expenditures of $937,324,238) and does not reflect the June 2006 CIP amendment which revised the total 2002-2010 capital program needs to $1,142,108,000.
Source: RTA Budget and Five-Year Plan 2006 and Metra National Transit Database submissions

Metra's Capital Project Identification and Management Process

Metra's general procedures for the development, implementation, and management of grant-funded capital improvement projects are described in Metra's Project Management Plan (PMP). Further information on Metra's capital program development process was provided by Metra at various meetings.

The Metra PMP, the Grant Development and Programming (GD&P) and user departments collaboratively identify short- and long-term capital needs and develop appropriate planning documents on an ongoing basis. The annual capital program planning cycle runs from May through December.

In general, the PMP uses the following steps to describe the Metra capital program planning process:

- User departments review future needs on a yearly basis and submit list of potential projects to GD&P capital planning officials.
- GD&P reviews potential projects from user departments and add them to proposed Metra Capital Program (unconstrained).
- User departments and GD&P then jointly evaluate the list of proposed projects based on available funding and develop a fiscally constrained program.
- The Preliminary Capital Program is then prepared and submitted to the Metra Board for approval, after which public hearings are held.
- The Metra Board adopts the final Capital Program and submits this to RTA for the RTA Board's review and approval.
- GD&P completes the grant application process after RTA Board approval.

Metra also has a detailed capital project monitoring process in place. A monthly status report is prepared for each capital project that contains project-specific progress information such as updated expenditures, variances, etc. Additionally, capital planning officials meet with project managers on a monthly basis to discuss project status. The monthly project status reports are regularly submitted to RTA.

CONCLUSIONS – METRA

Metra forecasts approximately $1.142 billion of capital projects according to its amended five-year CIP for 2006 – 2010. A small proportion of Metra's estimated five-year capital improvement program is related to rolling stock (21 percent). Metra has improved its ability to move from grant awards to procurement with respect to current year programs, but has experienced a declining trend with respect to prior year programs indicating some slow-moving projects.

METRA CAPITAL PROGRAM	
RECOMMENDATION NUMBER 34	***Metra should review its past grant awards and determine if projects that are contributing to the growth in the unobligated balances are still necessary, and, if so, why they are not being expended in a more timely manner.***
METRA RESPONSE	Metra staff conducts project review meetings on a monthly basis. At these meetings, status of all project activities, including obligation and expenditure amounts, are discussed and evaluated as to their progress. Over the long term, Metra's total unobligated balance, both in absolute dollars and percentage, has been fairly consistent and, in fact, has been decreasing in recent years. Examining one year of unobligated prior year's funding does not provide an accurate picture of Metra's ability to obligate funds. A myriad of factors affect the obligation rate and type of projects that get obligated in any given year. While each project is unique, the following gives a flavor for some of the underlying factors that have affected Metra's project obligation and subsequent project expenditure rates. In recent years, grant awards have been made later in the year than previously experienced. Because of the limited construction season (mid-March through mid-November), there often isn't enough time to move forward with a project until the subsequent year. Several of Metra's projects involved purchase of property through condemnation and therefore experienced delays due to the detailed land acquisition process required by the FTA when using federal funds. Several of the projects required more financial resources than Metra can provide in a single year. Therefore, Metra banked funding within the project for several years until there was enough funding available to proceed with the project. During the period reviewed by the Auditor General, Metra was completing its New Start projects. These projects had a grant contract required absolute in-service date. As such, staff resources were focused on these projects. The New Start projects were delivered on time and under budget. (See attached letter from the Regional Administrator of the FTA complimenting Metra for its efforts in this area) These and other factors result in unobligated balances which give the appearance of inactivity when, in fact, progress is being made and funds are being obligated and expended in a timely manner. Metra monitors all grant activities and constantly strives to improve

	performance
AUDITOR COMMENTS	**Metra has acknowledged that the report's multi-year examination of unobligated balances is accurate and offered several reasons why the unobligated balance grew. Among these reasons was the allocation of resources to the completion of New Starts projects.**

PACE

Pace's capital program uses comprises the smallest share of the region's five-year capital improvement program (CIP) for 2006 – 2010 of the three Service Boards. According to the RTA 2006 Annual Budget and Five-Year Program, Pace's share of the total capital program was approximately 8 percent. Pace's capital program plans to primarily address the replacement and expansion of rolling stock as well as support facilities and equipment. Highlights of Pace's five-year capital improvement program include:

- The purchase of up to 1,216 transit vehicles;
- The purchase and installation of a new system-wide radio system to replace the existing one;
- Improvements to garages and facilities;
- Purchase and installation of computer hardware and software including implementation of the Enterprise Resource Planning (ERP)/Finance system;
- Renovation of various passenger transportation center and transfer facilities such as the Northwest Transportation Center; and
- Implementation of Bus Rapid Transit (BRT) and Transit Signal Priority (TSP) projects contained in the SAFETEA-LU legislation.

The key findings from a review of Pace's capital program can be summarized as follows:

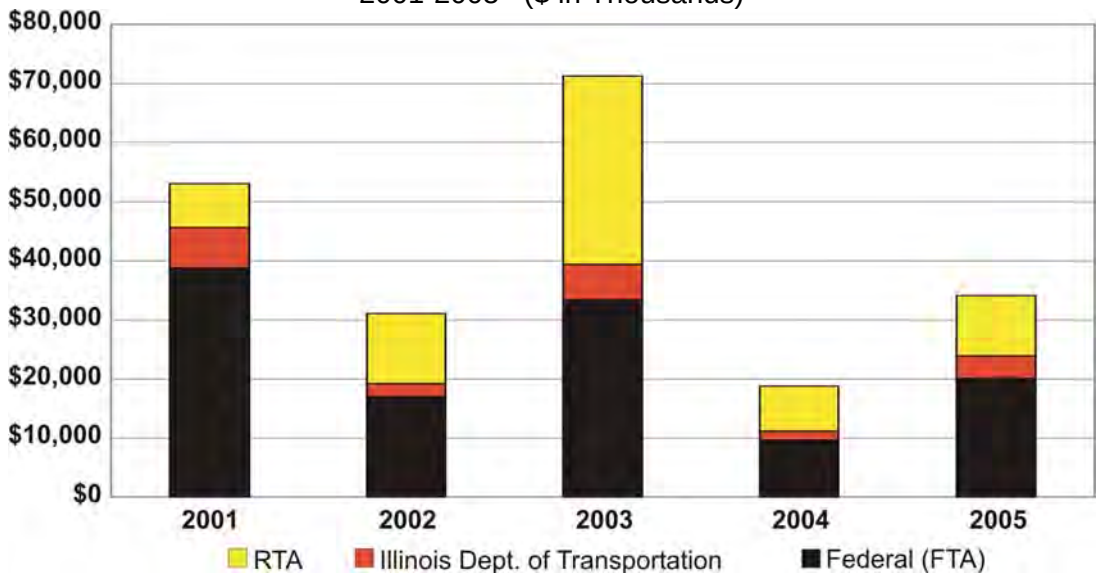
- Pace's unconstrained capital needs far exceed the constrained capital program uses presented in the 2006 – 2010 CIP.
- In particular, Pace would need to replace about 26 percent of its bus fleet in the next five years, at a cost of roughly $65 million, or about 38 percent higher than presented in the current CIP (please refer to Chapter 12, Fleet).
- Pace has improved its ability to move from grant awards to procurement with respect to all active grants, but has experienced a declining trend with respect to current year programs only, indicating some slow-moving projects.
- Pace has a high "percent unexpended" balance, especially with respect to current year programs, although for all active grants, there was an improvement in 2005.

Where possible, five-year historical data were gathered for analysis and in some cases, only three or four years of data are available.

Capital Funding Sources

While the total amount of capital funding sources for Pace in 2005 is higher than that of 2004, it is lower than the average annual amount from 2001 - 2005. Data gathered from Pace's financial statements from 2001 to 2005 (Exhibit 10-18) show that the annual sources of capital grant reimbursements in 2005 of $34.1 million was an 81.4 percent increase from $18.8 million in 2004, but a 35.7 percent decrease from $53.0 million in 2001. Further, the amount of funding coming from federal sources (FTA) increased by 109.4 percent from 2004 to $20.1 million in 2005 but was 48.2 percent less than the amount in 2001. The amount from RTA increased by 34.2 percent from 2004 to $10.2 million in 2005, and was 37.8 percent higher than the amount in 2001. The amount from Illinois DOT increased by 137.5 percent from 2004 to $3.8 million in 2005, but was 44.1 percent less than the amount in 2001. Finally, the 2005 percent distribution of funding sources was 58.9 percent federal, 29.9 percent RTA, and 11.1 percent State (Exhibit 10-19).

Exhibit 10-18
PACE ANNUAL SOURCES OF CAPITAL GRANT REIMBURSEMENTS
2001-2005 ($ in Thousands)



Note: RTA funds are proceeds from bonds authorized by the State of Illinois.
Source: Pace Financial Statements

Exhibit 10-19
PACE SOURCES OF CAPITAL GRANT REIMBURSEMENTS (% DISTRIBUTION)
2001–2005

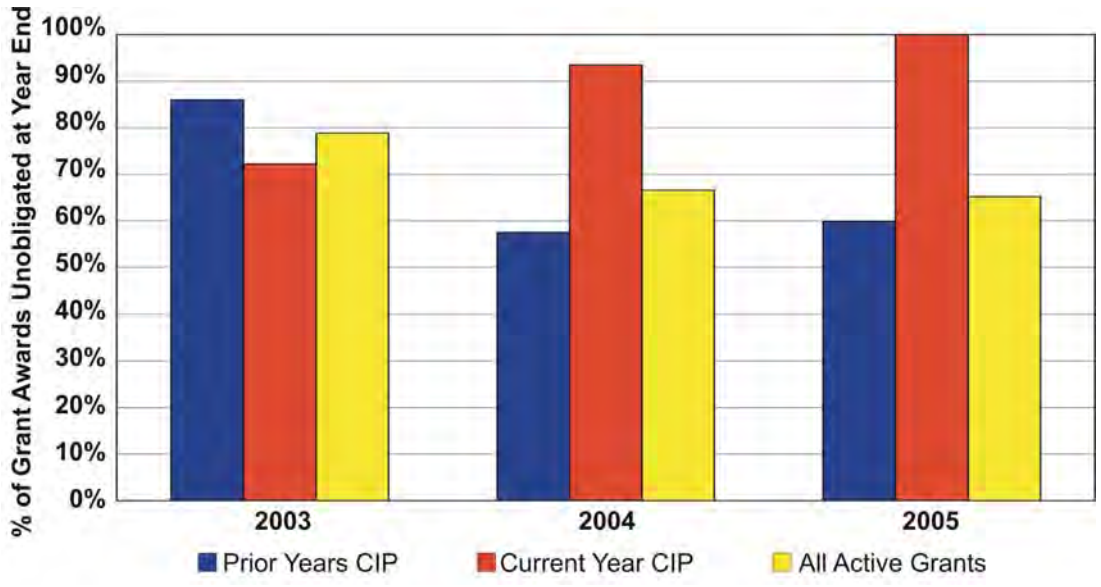
	2001	2002	2003	2004	2005
FTA	73.2%	54.7%	46.8%	51.1%	58.9%
IDOT	12.8%	7.1%	8.4%	8.5%	11.1%
RTA	14.0%	38.3%	44.7%	40.4%	29.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Pace Financial Statements

Capital Grant Awards, Obligations, and Expenditures

Recent year trends show that Pace has improved its ability to move from grant awards to procurement with respect to all active grants, but has experienced a declining (increasing "percent unobligated" balance) trend with respect to current year programs only, indicating some slow-moving projects. This is demonstrated by the trend in the year-end balance of percent of grant awards unobligated from years 2003 – 2005 (Exhibit 10-20). The underlying data and compilation method for the data summarized in these exhibits are explained in Exhibits 10-27 and 10-28 appended to this chapter.

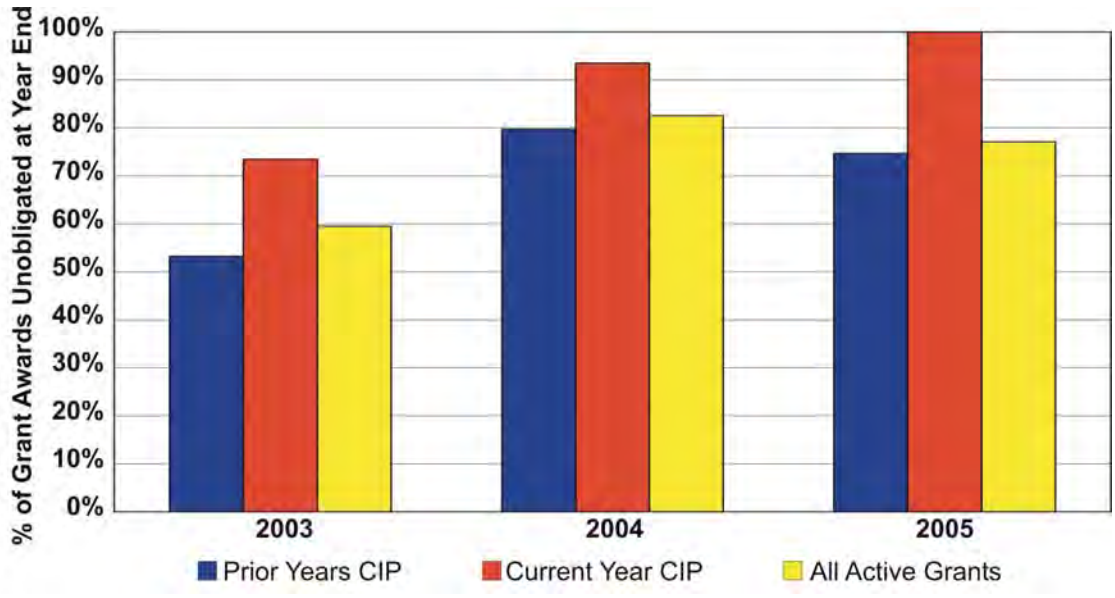
Exhibit 10-20
PACE TREND IN UNOBLIGATED CAPITAL PROGRAM BALANCE 2003–2005



Source: RTA Capital Financial Reports for 4th quarter 2003, 2004, and 2005

Exhibit 10-21 shows the trend in the year-end balance of percent of grant awards that are unexpended. Here, Pace experienced a slightly positive (declining) trend in 2005 with respect to all active grants, but generally the trend has been negative (i.e., higher unexpended balances). This is the case for both current-year grant awards and awards made in prior years, and may indicate the existence of slow-moving projects.

Exhibit 10-21
PACE TREND IN UNEXPENDED CAPITAL PROGRAM BALANCE 2003–2005



Source: RTA Capital Financial Reports for 4th quarter 2003, 2004, and 2005

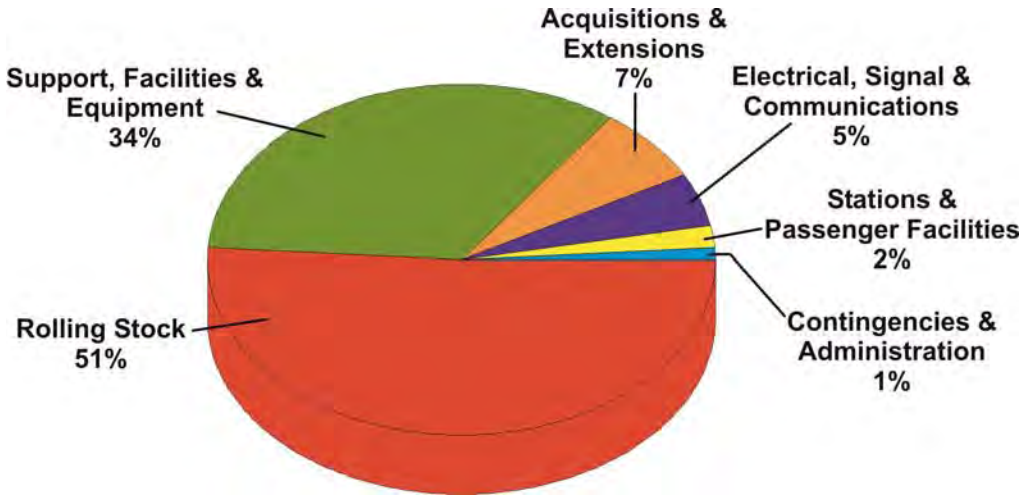
Pace's Current CIP: Historical versus Planned Capital Expenditures

According to the RTA 2006 Budget and Five-Year Plan, Pace's current five-year CIP for 2006 – 2010 includes a total of $239 million of rolling stock, facilities, equipment, and other capital expenditures. Capital expenditures for rolling stock comprise 51 percent of the total amount planned (Exhibit 10-22). It should be noted that these capital expenditures are based on a constrained budget. Pace also produces an unconstrained budget, based on this unconstrained capital plan. Pace's five-year capital needs amount to $400 million, approximately 67.4 percent higher than that constrained capital needs amount. In particular, Pace would need to replace about 29 percent of its bus fleet in the next five years, at a cost of roughly $65 million, or about 38 percent higher than presented in the current CIP (please refer to Chapter 12, Fleet, for more detail on this subject). The constrained CIP expenditures assume that Illinois DOT funding equal to federal match requirements will be available starting in 2007.

Exhibit 10-24 shows historical capital expenditures versus planned CIP expenditures for 2006 – 2010. The CIP assumes a much greater average annual expenditure amount in years 2006 – 2010 ($48 million) than historical trends

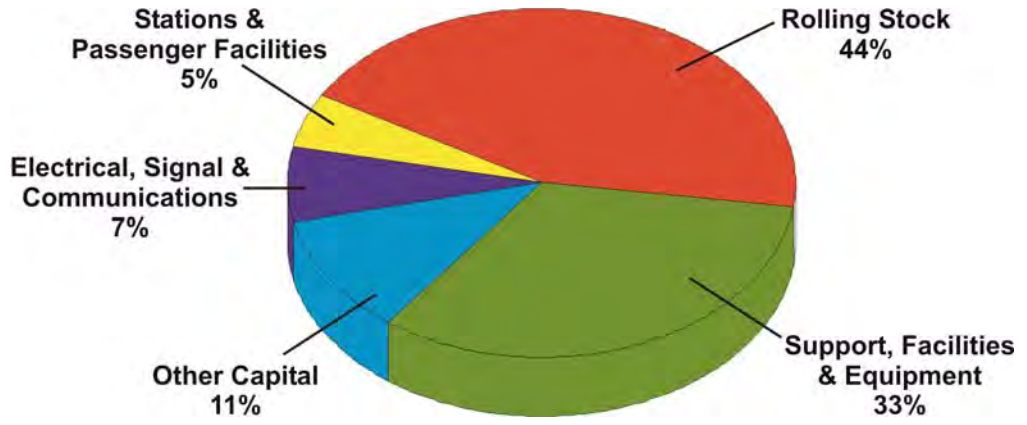
($40 million), the largest amount of $58 million assumed in 2010. The planned annual total capital expenditure amount steadily increases from 2006 to 2010. However, the amount planned for rolling stock in the five-year forecast is a much smaller percentage of overall capital expenditures (51.1 percent in years 2006 – 2010) as compared to that of recent years (61.7 percent in years 2002 – 2005). Exhibit 10-25 shows the same information except using the unconstrained CIP forecast instead of the constrained one. The historical capital expenditure data was obtained from the National Transit Database.

Exhibit 10-22
PACE CAPITAL PROGRAM USES (2006-2010 CIP)—CONSTRAINED BUDGET



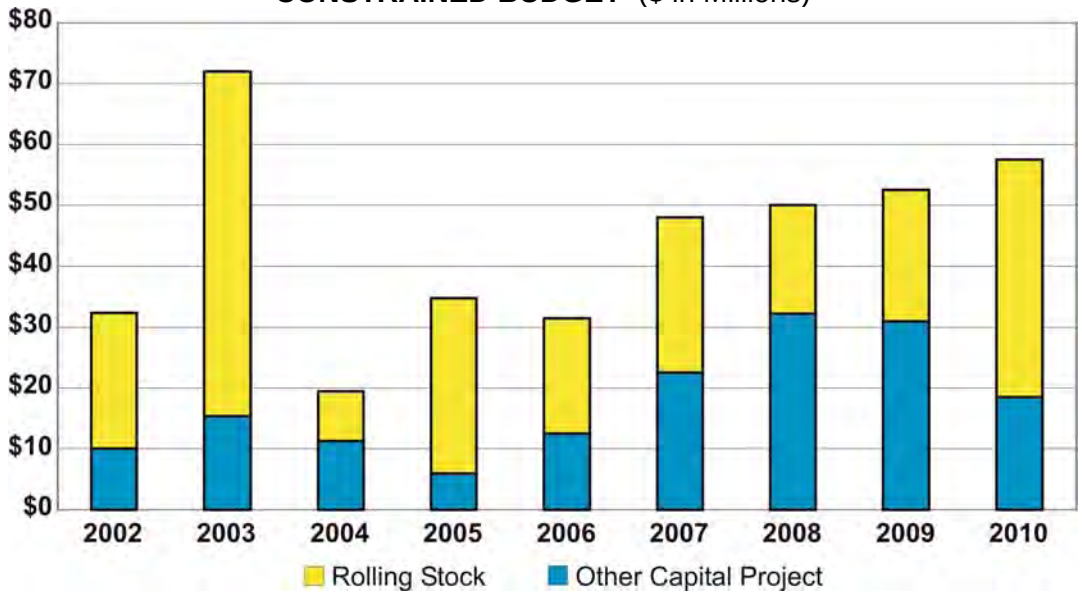
Source: RTA Budget and Five-Year Plan 2006

Exhibit 10-23
PACE CAPITAL PROGRAM USES (2006-2010 CIP)—UNCONSTRAINED BUDGET



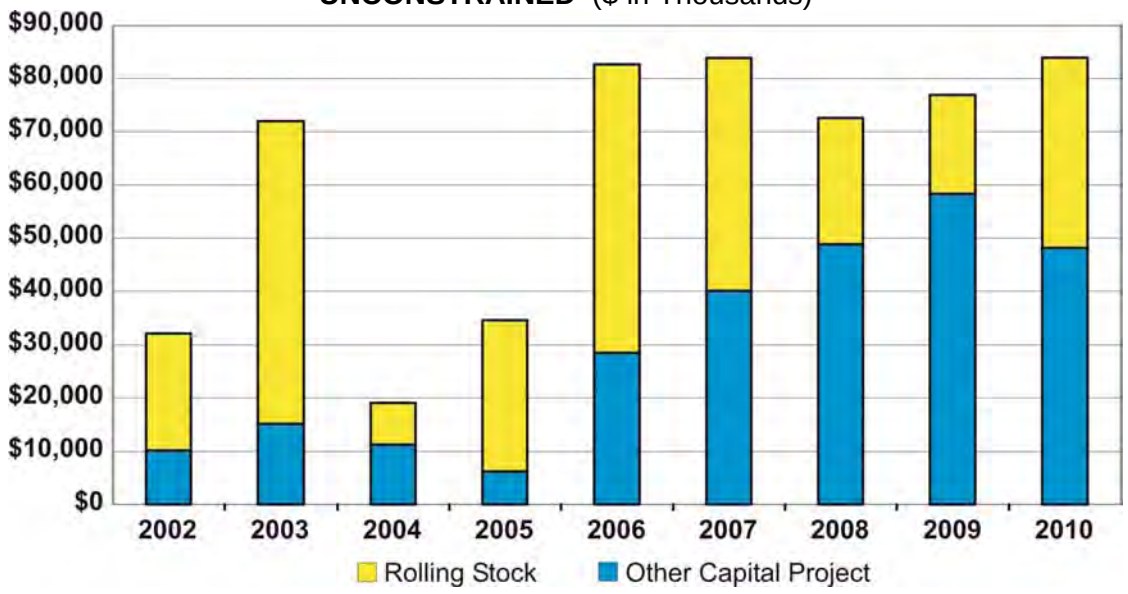
Source: Pace Capital Budget for 2006-2010 Unconstrained

Exhibit 10-24
PACE HISTORICAL AND PLANNED CIP EXPENDITURES (2006–2010)
CONSTRAINED BUDGET ($ in Millions)



Source: RTA Budget and Five-Year Plan 2006 and Pace National Transit Database submissions

Exhibit 10-25
PACE HISTORICAL AND PLANNED CIP EXPENDITURES (2006–2010)
UNCONSTRAINED ($ in Thousands)



Source: Pace Unconstrained Budget and Pace National Transit Database submissions

Pace's Capital Project Identification and Management Process

As part of its formal budget process, Pace undergoes a capital project identification process similar to that of the other Service Boards. Capital financing and infrastructure department officials solicit all functional areas within the agency for capital project needs. All managers must sign off on project requests, which are then entered into a database and usually result in around $100 million in annual capital project requests. At the end of the process, Pace produces two five-year CIP projections: a constrained one based on RTA marks, and another unconstrained one. Due to limited capital funding, projects are generally identified based on funding availability.

With respect to project implementation, Pace has a management procedure in place that includes finance department controls. For example, monthly and quarterly milestone and status reports are prepared. Finance controls ensure that operating funds are not being used for capital projects. Furthermore, projects are regularly matched against available funding and projects that need to be replaced are identified. No contract is awarded without ensuring availability of funds, and any contract over $100,000 is submitted for Board approval.

CONCLUSIONS – PACE

Pace's unconstrained capital needs far exceed the constrained capital program uses presented in the 2006 – 2010 CIP. In particular, Pace would need to replace about 26 percent of its bus fleet in the next five years, at a cost of roughly $65 million, or about 38 percent higher than presented in the current CIP. Pace has improved its ability to move from grant awards to procurement with respect to all active grants, but has experienced a declining trend with respect to current year programs only, indicating some slow-moving projects. Pace also has a high and growing "percent unexpended" balance, possibly indicating the existence of slow-moving projects.

PACE CAPITAL PROGRAM	
RECOMMENDATION NUMBER 35	***Pace should review its past grant awards and determine if projects that are contributing to the growth in the unexpended balances are still necessary, and, if so, why they are not being expended in a more timely manner.***
PACE RESPONSE	As part of Pace's annual budget process, all outstanding projects not yet obligated are evaluated to determine if the project is still viable. If not the project is deobligated and the funds are reobligated to new projects proposed as part of the next year's capital budget. This process is a routine function of the annual budget process evidenced by the numerous scope changes Pace processes each year.

DEBT ISSUANCE COSTS FOR RTA AND CTA BONDS

In order to assess whether costs of issuance related to recent bond financings of RTA and CTA were within a reasonable market range relative to other comparable bond issues, costs of issuance data for city of Chicago and State of Illinois tax-exempt bond issues that occurred during a similar period, 2003-2006, were compiled. This peer group was determined to be the most suitable for comparability due to their similar credit profiles and the fact that the tax-exempt bond market is often driven by regional factors. RTA and CTA bond financings that took place during the period 2003 to 2006 were compared. Below is a summary of these findings:

- There were four (4) bond issues for RTA during this time period. A comparison of average total upfront expenses as a percentage of total par amount shows that RTA's average is within a reasonable market range.
- There were four (4) bond issues for CTA during this time period including the Series 2003 Public Building Commission of Chicago (PBC) CTA headquarters financing. A comparison of average total upfront expenses as a percentage of total par amount shows that upon considering the unique financing structure of the PBC bond issue, CTA's average is also within a reasonable market range.

While the peer groups were selected based on their closeness to RTA and CTA, it should be noted that all of these issuers have distinct characteristics and credit profiles and should not be considered directly comparable.

The city of Chicago's average of total upfront expenses as a percentage of par amount was 1.54 percent, ranging from 0.87 percent to 2.90 percent based on a group of nine (9) bond issues taking place over the time period 2003 to 2006. All of these were insured; no comparable uninsured city of Chicago bond issues took place.

The State of Illinois' average of total upfront expenses as a percentage of par amount for insured bond issues was 0.53 percent, ranging from 0.36 percent to 0.61 percent based on a group of four (4) bond issues taking place over the same time period. Further, based on five (5) uninsured State of Illinois bond issues during this time period, the average of total upfront expenses as a percentage of par amount for uninsured bond issues was 0.35 percent, ranging from 0.29 percent to 0.38 percent.

Exhibit 10-26 compares the individual bond issues.

Exhibit 10-26
COSTS OF ISSUANCE ASSESSMENT FOR RTA AND CTA, 2003-2006

	# of Bond Issues Included	Par Amount			Total Upfront Expenses[1] Percentage of Par Amount		
		Average	Low	High	Average	Low	High
Insured[2]							
RTA	4	$172,263,750	$ 19,055,000	$260,000,000	1.07%	0.83%	1.34%
CTA	4	144,055,000	100,000,000	207,200,000	2.36%	1.40%	4.74%
CTA Excluding HQ (PBC)[3]	3	152,400,000	100,000,000	207,200,000	1.56%	1.40%	1.88%
Peer: City of Chicago	9	231,993,889	66,625,000	582,435,000	1.54%	0.87%	2.90%
Peer: State of Illinois	4	208,750,000	125,000,000	285,000,000	0.53%	0.36%	0.61%
Uninsured[2]							
RTA	1	148,110,000	148,110,000	148,110,000	0.60%	0.60%	0.60%
Peer: State of Illinois	5	382,590,000	150,000,000	963,000,000	0.35%	0.29%	0.38%

1. Total upfront expenses related to bond financing include costs of issuance, underwriter's discount, bond insurance premimum, and any other administrative expenses.
2. Certain RTA and State of Illinois bonds included in the analysis are not insured and are, therefore, compared separately.
3. Since the Series 2003 Public Building Commission (CTA Headquarters) financing used a lease/pass-through structure, its total upfront expenses include a PBC administrative fee; due to this, total expenses are higher than average at 4.74% of par.

Source: Official statements for RTA, CTA, city of Chicago, and State of Illinois

Regional Transportation Authority

Of the RTA bond issues considered, four were insured and one was uninsured. With respect to the insured bonds, RTA's average total upfront expenses as a percentage of total par amount (1.07%) was between the averages of the city of Chicago (1.54%) and State of Illinois (0.53%). Total upfront expenses as a percentage of par for the uninsured RTA issue were 0.60 percent — this was higher than the State of Illinois average (for uninsured issues) of 0.35 percent but not unreasonable in comparison.

Chicago Transit Authority

All four (4) of CTA's bond issues during this time period, including the Series 2003 Public Building Commission of Chicago (PBC) CTA headquarters financing, were insured. While CTA's average total upfront expenses as a percentage of par (2.36%) is higher than those of the City (1.54%) and State (0.53%), this is mainly due to the high expenses related to the PBC headquarters financing (4.74%). Since the PBC headquarters financing was structured as a lease between CTA and PBC, a PBC administrative fee of 2.50 percent was included. Excluding this fee, CTA's average would be 1.73 percent, which was closer to those of the City and State. Further, when the PBC bond issue was excluded from CTA's average (since it is an outlier), CTA's average of total upfront expenses is 1.56 percent of par, well within the city of Chicago's range. Once again, since the issuing entities being compared all have distinct financial characteristics, a direct comparison cannot be made.

Exhibit 10-27

SUMMARY OF CAPITAL PROGRAM EXPENDITURES, 2003-2005 ($ in MILLIONS)

Service Board	Year	Program	EXPENDITURES Carry-forward	Jan-Dec awards	Jan-Dec expend	unexpended	percent unexpended
CTA	2003	Prior year programs	974.8	0.9	418.5	557.2	57.1%
		current year program	-	503.0	57.9	445.1	88.5%
		total	974.8	503.9	476.4	1,002.3	67.8%
	2004	Prior year programs	1,003.7	35.1	408.3	630.5	60.7%
		current year program	-	429.9	42.0	387.9	90.2%
		total	1,003.7	465.0	450.3	1,018.4	69.3%
	2005	Prior year programs	932.5	208.1	238.8	901.8	79.1%
		current year program	-	308.5	66.9	241.6	78.3%
		total	932.5	516.6	305.7	1,143.4	78.9%
Metra	2003	Prior year programs	757.3	-	442.5	314.8	41.6%
		current year program	-	385.3	27.0	358.3	93.0%
		total	757.3	385.3	469.5	673.1	58.9%
	2004	Prior year programs	660.5	18.8	332.3	347.0	51.1%
		current year program	-	324.5	66.3	258.2	79.6%
		total	660.5	343.3	398.6	605.2	60.3%
	2005	Prior year programs	596.3	4.7	296.7	304.3	50.6%
		current year program	-	185.7	57.4	128.3	69.1%
		total	596.3	190.4	354.1	432.6	55.0%
Pace	2003	Prior year programs	128.1	9.7	64.4	73.4	53.3%
		current year program	-	61.5	16.3	45.2	73.5%
		total	128.1	71.2	80.7	118.6	59.5%
	2004	Prior year programs	117.2	-	23.8	93.4	79.7%
		current year program	-	31.0	2.0	29.0	93.5%
		total	117.2	31.0	25.8	122.4	82.6%
	2005	Prior year programs	119.0	13.0	33.4	98.6	74.7%
		current year program	-	14.0	-	14.0	100.0%
		total	119.0	27.0	33.4	112.6	77.1%
TOTAL	2003	Prior year programs	1,860.2	10.6	925.4	945.4	50.5%
		current year program	-	949.8	101.2	848.6	89.3%
		total	1,860.2	960.4	1,026.6	1,794.0	63.6%
	2004	Prior year programs	1,781.4	53.9	764.4	1,070.9	58.4%
		current year program	-	785.4	110.3	675.1	86.0%
		total	1,781.4	839.3	874.7	1,746.0	66.6%
	2005	Prior year programs	1,647.8	225.8	568.9	1,304.7	69.6%
		current year program	-	508.2	124.3	383.9	75.5%
		total	1,647.8	734.0	693.2	1,688.6	70.9%

Source:
RTA Capital Program Reports, published quarterly. Data in this exhibit come from 4th quarter reports for 2003, 2004, and 2005 (documents RTA 102, 103, 104).
See pages in these reports for each service board, for example "CTA obligations", "CTA expenditures".
In these reports:
the row labelled "Total" for the prior year-end is represented as "Carry-Forward" in the table above.
the row labelled "*nnnn* Capital Program" (where *nnnn* is the current year) is represented as "Current Year Program" in the table above.
the row labelled "Previous Programs" is represented as "Prior year programs" in the table above.
All other labels used in the table above are consistent with the labels used in the Capital Program reports.
"percent unobligated" in the table above is unobligated total divided by the sum of the carry-forward and Jan-Dec awards.
"percent unexpended" in the table above is unexpended total divided by the sum of the carry-forward and Jan-Dec awards.

Exhibit 10-28

SUMMARY OF CAPITAL PROGRAM OBLIGATIONS, 2003-2005 ($ in MILLIONS)

Service Board	Year	Program	OBLIGATIONS: Carry-forward	Jan-Dec awards	Jan-Dec obligations	unobligated	percent unobligated
CTA	2003	Prior year programs	422.5	0.9	169.4	254.0	60.0%
		current year program	-	448.8	214.2	234.6	52.3%
		total	422.5	449.7	383.6	488.6	56.0%
	2004	Prior year programs	490.0	35.1	252.1	273.0	52.0%
		current year program	-	429.9	162.0	267.9	62.3%
		total	490.0	465.0	414.1	540.9	56.6%
	2005	Prior year programs	530.0	270.2	549.1	251.1	31.4%
		current year program	-	308.5	81.7	226.8	73.5%
		total	530.0	578.7	630.8	477.9	43.1%
Metra	2003	Prior year programs	230.2	-	127.2	103.0	44.7%
		current year program	-	275.5	146.9	128.6	46.7%
		total	230.2	275.5	274.1	231.6	45.8%
	2004	Prior year programs	219.5	18.8	92.6	145.7	61.1%
		current year program	-	250.2	184.8	65.4	26.1%
		total	219.5	269.0	277.4	211.1	43.2%
	2005	Prior year programs	203.0	4.7	77.3	130.4	62.8%
		current year program	-	185.7	139.3	46.4	25.0%
		total	203.0	190.4	216.6	176.8	44.9%
Pace	2003	Prior year programs	47.5	9.7	8.0	49.2	86.0%
		current year program	-	61.5	17.1	44.4	72.2%
		total	47.5	71.2	25.1	93.6	78.9%
	2004	Prior year programs	92.2	-	39.2	53.0	57.5%
		current year program	-	31.0	2.0	29.0	93.5%
		total	92.2	31.0	41.2	82.0	66.6%
	2005	Prior year programs	78.7	13.0	36.8	54.9	59.9%
		current year program	-	14.0	-	14.0	100.0%
		total	78.7	27.0	36.8	68.9	65.2%
TOTAL	2003	Prior year programs	700.2	10.6	304.6	406.2	57.1%
		current year program	-	785.8	378.2	407.6	51.9%
		total	700.2	796.4	682.8	813.8	54.4%
	2004	Prior year programs	801.7	53.9	383.9	471.7	55.1%
		current year program	-	711.1	348.8	362.3	50.9%
		total	801.7	765.0	732.7	834.0	53.2%
	2005	Prior year programs	811.7	287.9	663.2	436.4	39.7%
		current year program	-	508.2	221.0	287.2	56.5%
		total	811.7	796.1	884.2	723.6	45.0%

Source:
RTA Capital Program Reports, published quarterly. Data in this exhibit come from 4th quarter reports for 2003, 2004, and 2005 (documents RTA 102, 103, 104).
See pages in these reports for each service board, for example "CTA obligations", "CTA expenditures".
In these reports:
the row labelled "Total" for the prior year-end is represented as "Carry-Forward" in the table above.
the row labelled "*nnnn* Capital Program" (where *nnnn* is the current year) is represented as "Current Year Program" in the table above.
the row labelled "Previous Programs" is represented as "Prior year programs" in the table above.
All other labels used in the table above are consistent with the labels used in the Capital Program reports.
"percent unobligated" in the table above is unobligated total divided by the sum of the carry-forward and Jan-Dec awards.
"percent unexpended" in the table above is unexpended total divided by the sum of the carry-forward and Jan-Dec awards.

Chapter Eleven

CONTRACTS AND PROCUREMENT

CHAPTER CONCLUSIONS

There is little coordination of contract and procurement functions among the RTA, CTA, Metra and Pace. While opportunities for joint procurement may be limited, given the differing modes of service offered by the Service Boards, some opportunities for improvement exist. For example, the CTA-Pace farebox procurement has been underway for over three years without reaching an award and, according to CTA and Pace officials, it is not clear that this procurement will produce a contract. The RTA should assist the Service Boards in identifying and facilitating opportunities for joint procurements.

BACKGROUND

The procurement activities of the four entities are subject to routine reviews. We coordinated our work with that of the financial auditors of the entities and reviewed the internal control reports issued in connection with the annual "single audits" of federal grant funds. No material weaknesses related to contracting and procurement were noted. Federal Transit Administration (FTA) "Triennial Review" reports issued in 2004 did not identify contracting deficiencies.

We also reviewed the applicable sections of the recent AECOM Report on the CTA. The AECOM report on CTA included 29 separate productivity, cost-effectiveness, and cost-efficiency recommendations regarding purchasing and inventory. Based on our review of the report and the CTA implementation reports, as of July 2006, the CTA reported: 9 recommendations had been implemented, 4 were in the process of being implemented, 11 were planned to be implemented (including 2 that required statutory action to implement), and 5 were not planned to be implemented. Based on our review of the CTA responses and follow-up discussions with CTA officials, it appears that the CTA is, overall, proceeding to implement this body of recommendations.

We reviewed contracts of various types at each of the four agencies and found that the agencies generally had adequate controls to ensure compliance with the applicable requirements. The total value of the 2005 contracts reviewed at the four agencies was approximately $80 million.

JOINT PROCUREMENTS

The transit operations of the three transit operating agencies are unique by mode, as Metra operates only commuter rail and is the sole commuter rail operator, CTA is the only heavy rail operator, and Pace is the only van pool operator. The exceptions are:

- Both CTA and Pace operated demand-responsive services. However, all such service was consolidated under Pace, effective July 1, 2006.
- Both CTA and Pace operate bus service.

While both CTA and Pace operate bus service, a more detailed review of the specifics of their operations shows many significant differences. An important minority of CTA's fleet is 60-foot articulated buses (226 of 2,033, or 11%), which Pace does not operate. Pace operates a large number of smaller buses (213 of Pace's 680 fixed route buses, or 31 percent, are 35-footers or shorter), which are not a major portion of CTA's fleet (increasing to 45 of 2,033, or 2 percent, over the next year). Even in the 40-foot buses that make up the majority of each total bus fleet, there is little commonality of vehicle manufacturers, let alone specific bus models, between the fleets. This significantly reduces the opportunities to standardize the procurement and inventory of buses and bus parts. Also, the procurement sizes of both CTA's and Pace's major bus buys are large enough to attract the full attention of the major bus suppliers on their own.

Based on our document review and interviews with procurement management at all four agencies, joint procurements between the four agencies have been very limited. Metra and the CTA worked together on a joint request for proposal for electricity.

The CTA and Pace have also entered into a joint procurement for fareboxes. After more than three years, this effort has not produced a contract, and may never do so.

As part of the regional move towards common fare media, it is important to have fare collection equipment, including fareboxes that accept common fare media, such as various types of transit passes and stored value cards. CTA and Pace buses have been able to utilize such fare media as the CTA Chicago Card™ and 7-Day Pass™. However, the current generation of fareboxes available from suppliers has far more capabilities than the existing equipment, which is at or beyond the end of its planned useful life. CTA's fareboxes are approximately 18 years old, compared to a 10-year expected useful life. The project is funded at $38,999,000 for CTA and $13,000,000 for Pace.

CTA and Pace agreed that CTA would be the lead agency for this procurement. Pace assisted in the preparation of the procurement document, the evaluation of the proposal(s), and is involved in the vendor negotiation process. After agreement was reached on the technical specifications, a request for proposal (RFP) was issued in 2003. The procurement is still open. Negotiations commenced, but have not produced an awarded contract to date. Both CTA and Pace officials were uncertain if this process would result in the award of a contract.

The Service Boards identified other areas where joint procurements have been made with other entities. For example, since 1991, Metra has been authorized to participate in a joint governmental purchasing program with the State of Illinois and with other governmental units. On an annual basis, Metra officials stated they typically enter into 40 to 50 of these types of procurements.

The CTA has also participated in joint procurements with the city of Chicago and other government agencies for prescription drugs, HMO, PPO providers and electricity procurement.

The Federal Transit Administration has a program to perform joint procurements. The program allows transit agencies to do joint procurement with far more ability for each agency to specify its own unique features, while retaining the advantages of avoiding the duplicative administrative features of government procurement. Such a program may give the Service Boards the opportunity to gain the advantages of multi-agency vehicle procurements with non-Chicago area operators. This process also allows federal funding to be utilized to pay for up to 90 percent of the cost of the vehicles, rather than the usual 80 percent limit.

We inquired about the agencies' utilization of other non-conventional means of joint procurement, such as:

- P-Cards – short for "purchase card" or "procurement card," are credit or debit cards that are issued to governmental units for the procurement of relatively low-value supplies in small quantities. Authorized users are given a P-card and held responsible for its uses.

- U.S. General Service Administration (GSA) and other agencies' "Schedules" – GSA has pre-negotiated contracts with a variety of suppliers of common goods and services frequently utilized by governmental agencies.

- Non-low-bid/responsive-responsible bidder construction contracting techniques, such as design-build and design-build-operate-maintain.

Our interviews with procurement department personnel showed that they are pursuing or considering such opportunities. For example, Pace officials noted they have had a fully functioning purchasing card program in place for several years. In 2006, over 3,100 transactions were processed with a value of over $500,000.

Metra has used procurement cards since 1997. Metra officials noted the use of the card is limited to pre-approved commodities, number of daily transactions, set dollar amounts, and direct supervisor's review and approval. Metra has 216 procurement card users with an annual expenditure of approximately $500,000, at an average of 4,200 procurement card transactions.

Furthermore, CTA procurement personnel expressed overall satisfaction with the flexibility available for structuring procurements under State statutes, but sought higher limits for various types of procurements above the current $10,000 limit. The AECOM report discussed the benefits of higher dollar value procurement authorizations, some of which would require changes in statutes.

Furthermore, as part of our interviews with other major departments, we inquired as to the degree of satisfaction with the procurement and stores functions. In general, the responses were favorable.

There is little coordination of contract and procurement functions between the RTA and the Service Boards. Given the RTA's role in overseeing the finances of the Service Boards, the RTA could take a lead role in this effort, much like it has in the recent strategic planning initiative.

CONTRACTS AND PROCUREMENTS	
RECOMMENDATION NUMBER 36	***Regarding contracts and procurements:*** • ***The RTA should assist the Service Boards in identifying and facilitating opportunities for joint procurements that would result in cost savings and/or coordinated service delivery; and*** • ***The CTA and Pace should work together to bring about the joint bus farebox procurement.***
RTA RESPONSE	The RTA agrees that it should assist the Service Boards in identifying and facilitating opportunities for joint procurements that would result in cost savings and/or coordinated service delivery.
CTA RESPONSE	Regarding joint procurement, CTA is pursuing a Purchasing Card program and is also evaluating pre-negotiated contracts through the State of Illinois Joint Procurement program, as well as local sister agencies for suppliers of common goods. CTA's shift in fare policy to reduce cash has resulted in significant operating and capital efficiencies, including extending the life of existing fareboxes through dramatically reduced maintenance. CTA had originally budgeted about $60 million for farebox replacement, but now is planning to extend the life of the existing fareboxes at a substantially lower cost.
METRA RESPONSE	Over its history, including most recently the possible joint acquisition of electric power with the CTA, Metra has explored opportunities and ways to benefit the region and itself through potential joint procurements. Currently, Metra and the RTA

	jointly procure health insurance for non-contract staff, and all of the Service Boards procure excess liability insurance with the RTA. However, as pointed out by the Auditor General's report, there are very few opportunities for joint procurements due to the differences in service provided; vehicles, rights-of-way, etc. Metra is willing to explore a procurement that can be done in an efficient manner and that would reduce costs. Additionally, Metra wishes to point out that for some time, it has consolidated, amongst its purchase of service carriers, the procurement of high volume and high dollar items. The result has been to receive more competitive pricing and to take advantage of Metra's sales tax exemption. Fuel, wheels, brake shoes and repair and return of locomotive components are some examples of items directly procured by Metra and distributed to the BNSF and Union Pacific. Metra also procures all insurance to cover all commuter rail operations, eliminating this cost recovery item from the purchase of service carriers and achieving a substantial savings in the placement of this coverage overall.
PACE RESPONSE	Pace agrees with the recommendation to bring about the joint farebox procurement. Unfortunately, the current financial crisis has forced the re-direction of the necessary resources from capital investments of this type to support daily operations. Pace considers this project a high priority and will pursue it provided there is a restoration of capital funding.

PEER COMPARISONS

We examined certain ratio analyses for each of the three Service Boards related to their: 1) cost of materials and supplies; and 2) inventory. We compared the Service Boards' ratios with those of their peers.

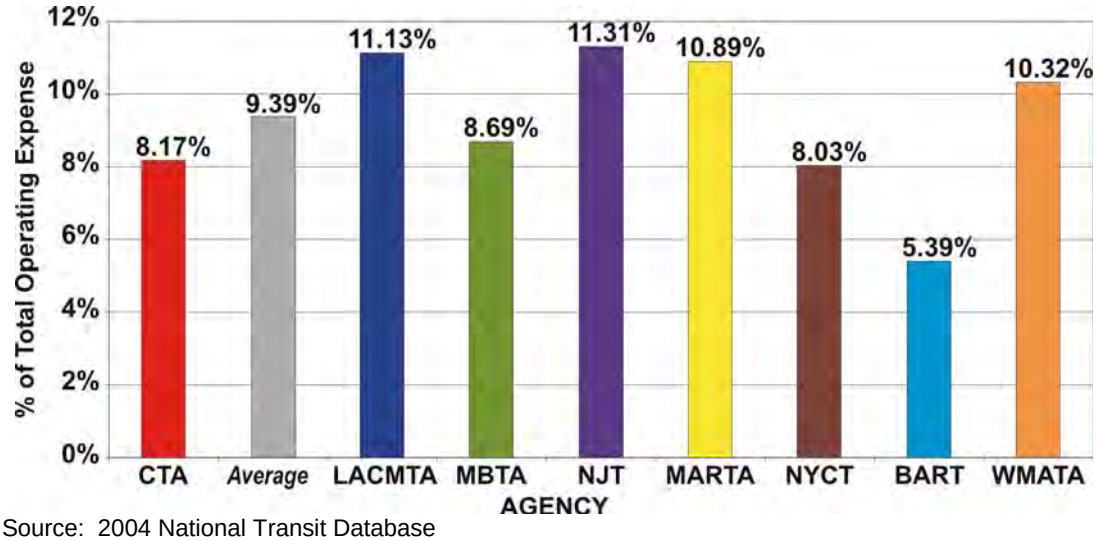
The first ratio, shown in Exhibits 11-1, 11-2 and 11-3 for CTA, Metra and Pace, respectively, examined materials and supplies expense as a percentage of total operating expense. This ratio can give an indication if an entity is incurring material and supply costs higher than would be expected.

Results for each of the Service Boards were generally within the reasonable range. CTA's and Pace's ratios were close to those of their peers. Metra had a slightly higher than average percentage of its total operating costs in materials and supplies. However, more of Metra's service is diesel fueled compared to several of the other commuter rail operators that used more electric propulsion. Since diesel fuel is a materials and supplies expense but electric propulsion power is not, it is not unexpected that Metra has a higher materials and supplies expense than its peers.

The CTA peers are:

LACMTA	Los Angeles County Metropolitan Transportation Authority
MBTA	Massachusetts Bay Transportation Authority (Boston)
NJTransit	New Jersey Transit Corporation
MARTA	Metropolitan Atlanta Rapid Transit Authority
NYCT	MTA-New York City Transit Authority
BART	San Francisco Bay Area Rapid Transit District
WMATA	Washington Metropolitan Area Transit Authority

Exhibit 11-1
CTA PEERS: MATERIALS AND SUPPLIES EXPENSE AS A PERCENTAGE OF TOTAL OPERATING EXPENSE

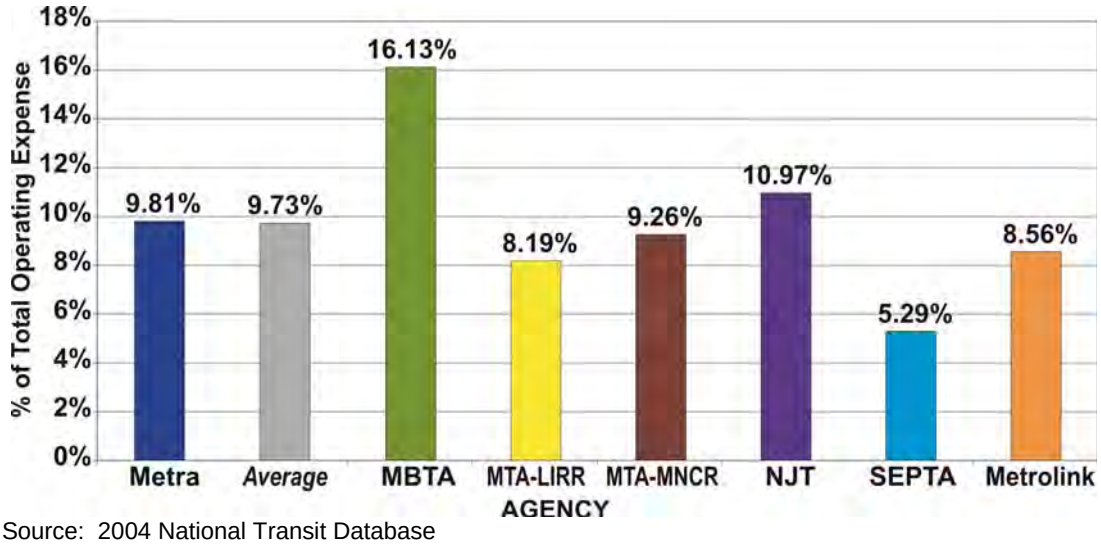


Source: 2004 National Transit Database

The Metra Peers are:

MBTA	Massachusetts Bay Transportation Authority (Boston)
MTA-LIRR	Long Island Rail Road (to New York City)
MTA-MNCR	Metro North Commuter Railroad Company (to New York City)
NJTransit	New Jersey Transit Corporation
SEPTA	Southeastern Pennsylvania Transportation Authority (Philadelphia)
Metrolink	Southern California Regional Rail Authority (to Los Angeles)

Exhibit 11-2
METRA PEERS: MATERIALS AND SUPPLIES EXPENSE AS A PERCENTAGE OF TOTAL OPERATING EXPENSE

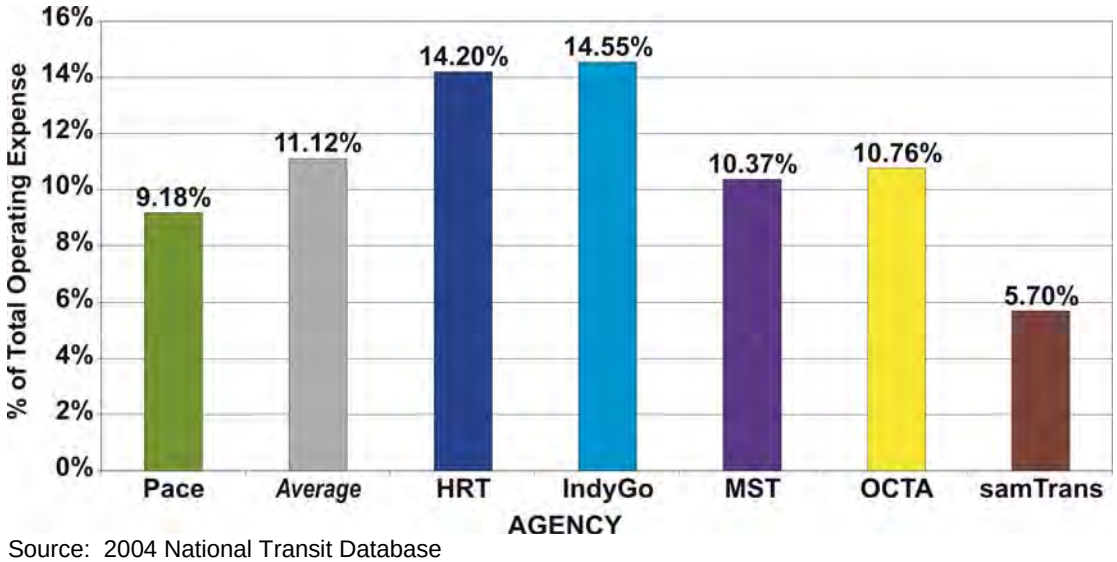


Source: 2004 National Transit Database

The Pace peers are:

HRT	Hampton Roads Transit, Transportation District Commission of Hampton Roads, Virginia
IndyGo	Indianapolis Public Transit Corporation
MST	Monterey-Salinas Transit, California
OCTA	Orange County Transportation Authority (Southern California)
SamTrans	San Mateo County Transit District (San Francisco Bay Area)

Exhibit 11-3
PACE PEERS: MATERIALS AND SUPPLIES EXPENSE AS A PERCENTAGE OF TOTAL OPERATING EXPENSE



Source: 2004 National Transit Database

The second set of ratios pertained to inventory, as a percentage of total assets and the number of times inventory turns over per year. CTA's inventory as a percentage of total assets ratio, at 1.01 percent, was approximately double the peer average of 0.51 percent, and its inventory turnover, at 1.06, was about two-thirds of the peer average of 1.69. These statistics would indicate that CTA's spare parts inventory was larger than what might be expected. However, these peer statistics need to be utilized with care because they are agency-wide, and for all-modes. Even if CTA's parts inventory is somewhat on the high side, this must be balanced against the purpose of having a parts inventory, which is to get vehicles back into service as soon as reasonably possible and to be able to do vital repairs on fixed facilities swiftly.

CTA data showed an average number of buses not available for revenue service due to non-availability of parts to be approximately 28 during the month of May 2006, under 1.5 percent of the fleet. The comparable data for heavy rail were an average of slightly under six vehicles, well under one percent of the fleet. These are very acceptable ratios. A reasonable investment in parts inventory at this level to avoid vehicles lost to revenue service due to the unavailability of parts appears to be a justifiable decision.

The inventory ratios for Pace and Metra were reasonable. Pace's results on both indicators were within the expected range and on the high-performance side within this peer group. Metra reported that it had 3.84 inventory turns per year and inventory which was 0.23 percent of total assets; both statistics appear reasonable.

Chapter Twelve

FLEET

CHAPTER CONCLUSIONS

All three Service Boards operate fleets of buses and/or rail cars that are older than the average age of peer transit systems. Collectively, the Service Boards are facing significant fleet replacement costs, which are understated in the "financially constrained" capital improvement program (2006-2010). Readily-identifiable fleet replacement needs exceeded the capital improvement program (CIP) budget by $1.23 billion, in part because the Service Boards must produce CIPs that can be funded within the CIP period. The RTA provides funding "marks" to the Service Boards, which are projections of funding available over a 5-year period. As a result, the Service Boards have fleet replacement needs that exceed the funding marks, and thus are not included in the CIP.

CTA compares favorably with its peers in terms of efficiency of fleet operations. CTA's vehicle utilization rate (i.e., annual hours of operation per vehicle) and spare ratio (i.e., the number of spare buses or rail cars divided by the peak fleet requirement) were better than the peer average. Metra's spare ratio was better than its peers but its vehicle utilization rate was significantly lower than its peer average, primarily due to a stronger peak-oriented operation than its peers, which reduces the amount of hours that vehicles are operated per day. Pace's vehicle utilization rate was below the peer average; Pace's spare ratio was better than that of its peers.

CTA FLEET

The Chicago Transit Authority operates the largest revenue and non-revenue vehicle (NRV) fleets in the region, with a total replacement value of about $2.3 billion. This audit considered how well its various fleets were utilized relative to peers, the ages of the fleets, and planned replacement costs:

- Although CTA operates relatively old bus and rail fleets, CTA uses its revenue vehicles efficiently relative to its peer group.
- Bus fleet replacement costs may be understated in the financially constrained capital improvement program (CIP) as amended in March 2006, 2006-2010: 1,317 buses will eclipse retirement age in the next five years, totaling at least $448 million, versus $370 million in the CIP. In future bus procurements, CTA should try to even-out the fleet age so that it has a more age-diverse fleet that flattens the demand for maintenance resources.
- Rail car replacement cost, for vehicles eligible for retirement, is substantially understated in the financially constrained CIP. Some 935 rail cars will reach or surpass the 25-year threshold for replacement in the next 5 to 6 years and would

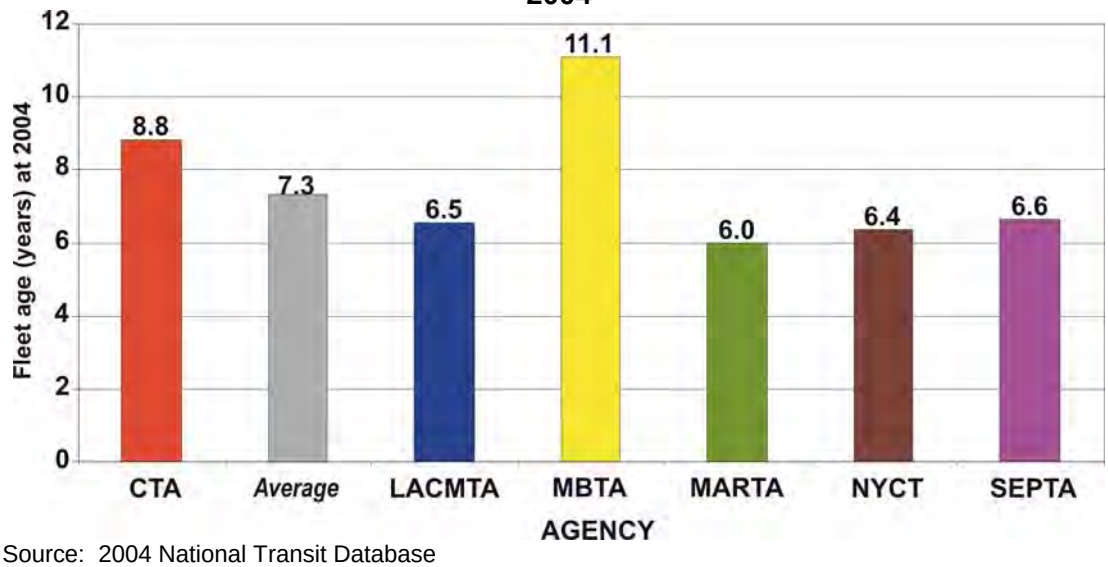
cost $1.23 billion to replace, based on the unit costs of CTA's recent rail car procurement award. This replacement cost is $733 million higher than the $501 million included in the CIP.

- CTA is in the process of implementing recommendations from the AECOM study pertaining to its non-revenue vehicle fleet. Implementation of those recommendations should reduce the non-revenue fleet and increase the efficiency of capital investment, vehicle use, and repair cost.

CTA BUS FLEET

CTA operates the nation's third-largest bus fleet. Its full replacement cost, in today's dollars, is approximately $689 million. Because the CTA fleet is relatively old, near-term replacement costs are significant, and probably exceed the $370 million presented in the financially constrained CIP (2006-2010). Also, because the bus fleet was purchased in quantities that contribute to inefficient use of maintenance resources, it is important that CTA in future procurements attempt to even-out the age profile and effect a more age-diverse fleet.

Exhibit 12-1
AVERAGE FLEET AGE, CTA BUS vs. PEERS
2004



Source: 2004 National Transit Database

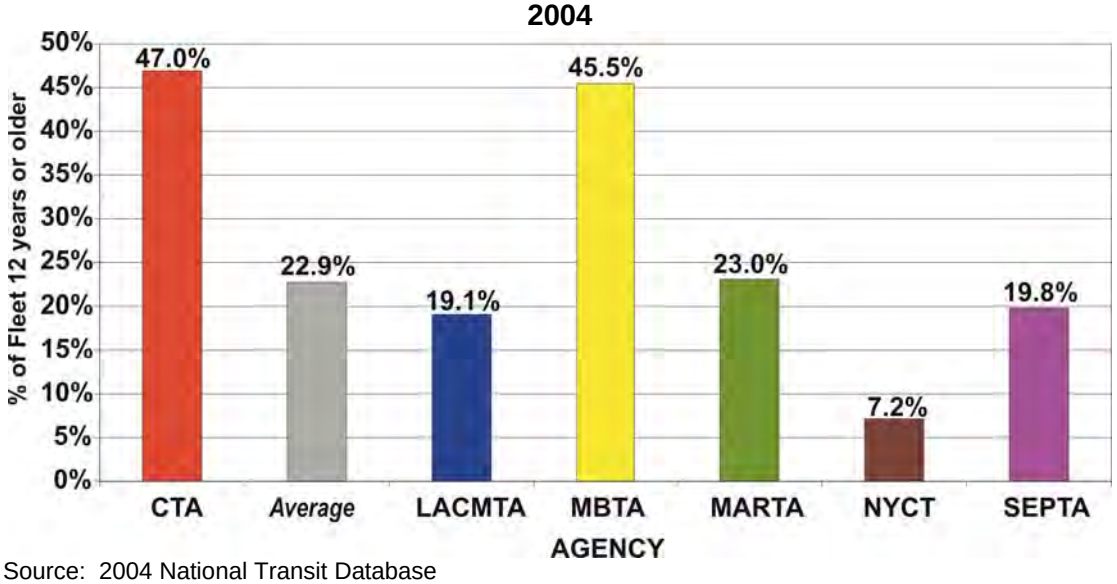
CTA Bus Fleet Peer Comparison

The CTA bus fleet was compared to five peer bus operations with respect to age, percent of fleet at or past retirement age, use (annual vehicle hours per vehicle), and spare ratio. National Transit Database (NTD) data was used for these comparisons. CTA vehicle maintenance characteristics, compared to peers, were presented in Chapter 3, CTA Operations.

As shown in Exhibit 12-1, CTA's average fleet age was 8.8 years, or about 21 percent older than the peer average of 7.3 years. Please note that this fleet age is reported by NTD and is less than the current fleet age (2005) reported later in this section. Four of the five peers have fairly young fleets, with an average age between 6 and 7 years. MBTA had an average fleet age of 11.1 years.

As shown in Exhibit 12-2, 47 percent of the CTA bus fleet is eligible for retirement, using the Federal Transit Administration (FTA) standard of 12 years – more than double the peer average of 23 percent. CTA has the highest rate of all of its peers.

Exhibit 12-2
VEHICLES IN EXCESS OF RETIREMENT AGE, CTA BUS vs. PEERS
2004

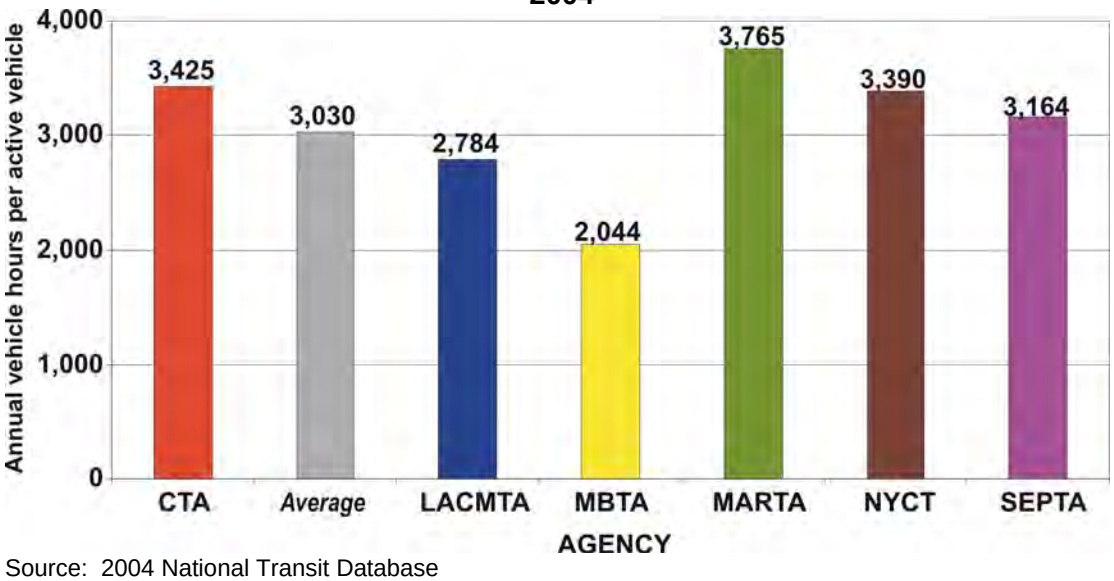


Source: 2004 National Transit Database

CTA achieves relatively good vehicle utilization. Exhibit 12-3 presents CTA and peer results for annual hours operated per vehicle and Exhibit 12-4 presents the spare ratio (i.e., spare vehicles ÷ peak vehicle requirements).

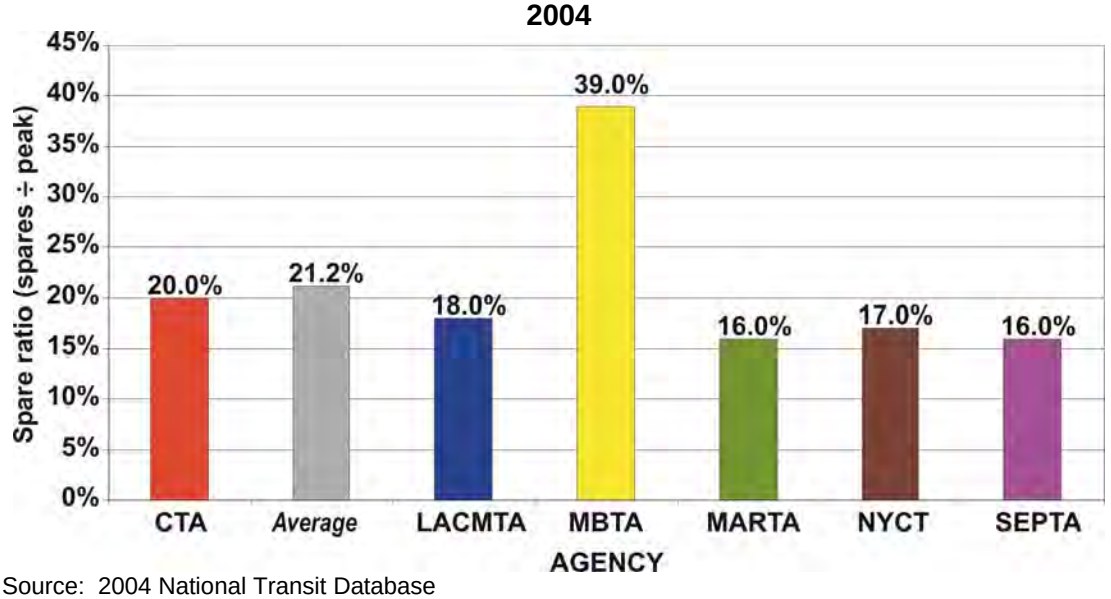
CTA vehicle use is about 13 percent greater than the peer average. CTA averages 3,425 hours per vehicle in a year, indicating that each vehicle is in service about 9 hours per day. Only one peer, MARTA, exceeds this rate. The peer average is 3,030 hours.

Exhibit 12-3
FLEET UTILIZATION, CTA BUS vs. PEERS
2004



Source: 2004 National Transit Database

Exhibit 12-4
SPARE RATIO, CTA BUS vs. PEERS
2004



Source: 2004 National Transit Database

CTA's spare ratio (20 percent) is lower than the peer average and at the FTA maximum of 20 percent, but is higher than four of the five peer systems. Relative to the four lowest peers, CTA's higher spare ratio may be a product of its infrequent, large vehicle procurements, which result in many vehicles coming due for major maintenance at the same time.

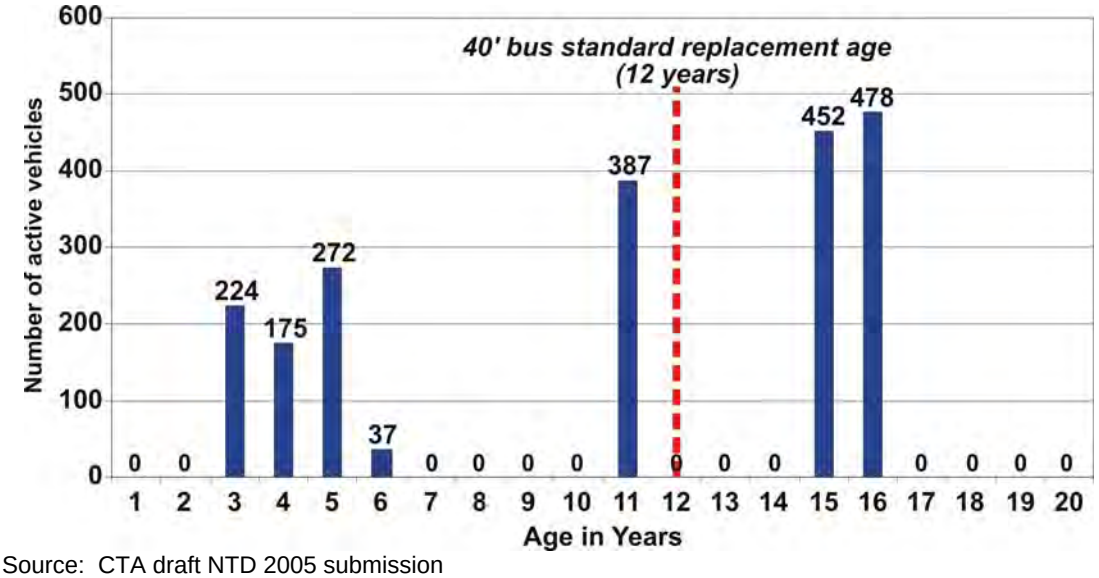
CTA Bus Fleet Age Profile, 2005

The CTA bus fleet numbered 2,025 vehicles at the end of 2005 (Exhibit 12-5). The age was calculated based on full years. For example, buses purchased in 2000 were calculated to be six years of age, regardless of when the vehicles entered service. The average fleet age is 10.7 years. This is higher than the NTD 2004 average fleet age estimate referred to earlier because it reflects year-end 2005 rather than 2004.

At the end of 2005, nearly one-half (46%) of the CTA fleet (930 vehicles) was eligible for retirement. Another 19 percent of the fleet (387 vehicles) was approaching retirement age at 11 years. In all, CTA has a short-term need to replace 1,317 vehicles, or 65 percent of its fleet.

The fleet age distribution is characterized by large purchases of vehicles that are widely spaced. This bunching of vehicles places more stress on maintenance planning than would be the case if the age distribution were more even. For example, when maintenance is required to correct a specific problem, or to extend the useful life of vehicles, a large percentage of the fleet is affected. This makes the spare ratio slightly higher than it would need to be and restricts CTA's options for rotating vehicles to achieve more uniform annual mileage within the fleet.

Exhibit 12-5
CTA BUS FLEET AGE PROFILE
2005



Source: CTA draft NTD 2005 submission

CTA employs a mid-life overhaul program to extend the useful life of a bus to 14 or more years. The 1990 fleet (now aged 16 years) was rehabilitated in 1998. The 1991 fleet, now aged 15 years, was rehabilitated in 1999. It is uncommon for transit systems to employ this type of overhaul program, and it is usually performed only when funds are insufficient to replace aging vehicles.

CTA Bus Fleet Replacement Plan

The financially constrained CIP as amended at March 2006 includes a 5-year program for fleet replacement totaling $370 million. Of this total, $102 million is funded. These funds are being applied to a contract with New Flyer to replace 450 of the oldest vehicles. The contract includes three other options for 200 vehicles apiece, allowing CTA to replace up to 1,050 of the 1,317 vehicles that will reach retirement age during the next five years. Prices for the last two options have not been negotiated.

At the unit costs in the current contract ($340,000 on average), the replacement costs for all CTA buses exceeding 12 years of age within the next five years, 1,317 vehicles, would total $448 million in today's dollars. This is $78 million (21%) more than indicated in the CIP ($370 million).

CTA RAIL FLEET

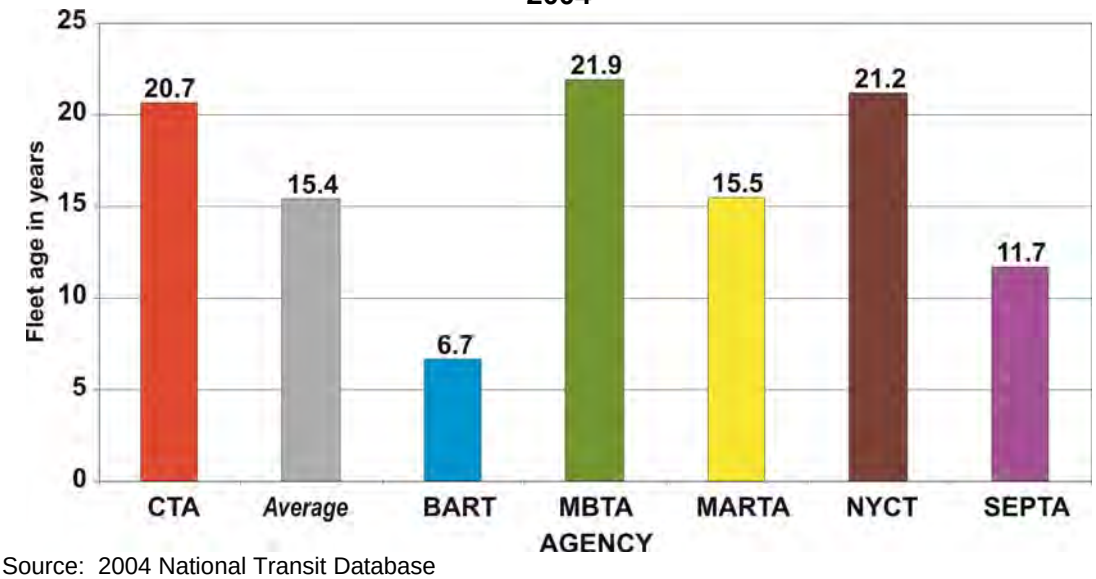
CTA operates the nation's second-largest heavy rail fleet. Its full replacement cost in today's dollars is approximately $1.57 billion. Because the CTA fleet is relatively old, near-term replacement costs are significant, and exceed the costs presented in the financially constrained CIP (2006-2010) by approximately $733 million. CTA may defer some replacement costs with a less-costly rehabilitation program.

CTA Rail Fleet Peer Comparison

The CTA rail fleet was compared to five peer rail operations with respect to average age, percent of fleet at or past retirement age, use (annual vehicle hours per vehicle), and spare ratio. CTA rail vehicle maintenance characteristics, compared to peers, were presented in Chapter 3.

As shown in Exhibit 12-6, CTA's average fleet age, reported by the NTD, was 20.7 years, or about 34 percent older than the peer average of 15.4 years. Two of the peers, NYCT and MBTA, operate fairly old fleets that are of comparable age to CTA. BART and SEPTA operate relatively young fleets. BART just completed a major car rebuilding program that stripped the original BART cars to their shell and added entirely new components.

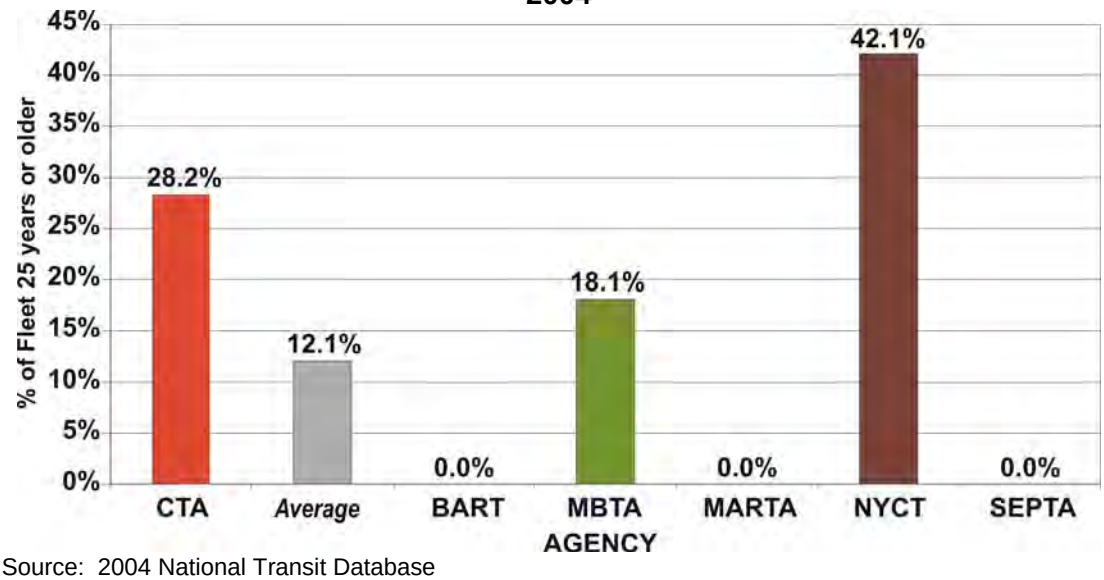
Exhibit 12-6
AVERAGE FLEET AGE, CTA RAIL vs. PEERS
2004



Source: 2004 National Transit Database

About 28.2 percent of CTA's rail fleet is past the minimum retirement age allowed by FTA (see Exhibit 12-7). This is considerably higher than the peer average of 12.1 percent. SEPTA, MARTA, and BART have no vehicles older than 25 years.

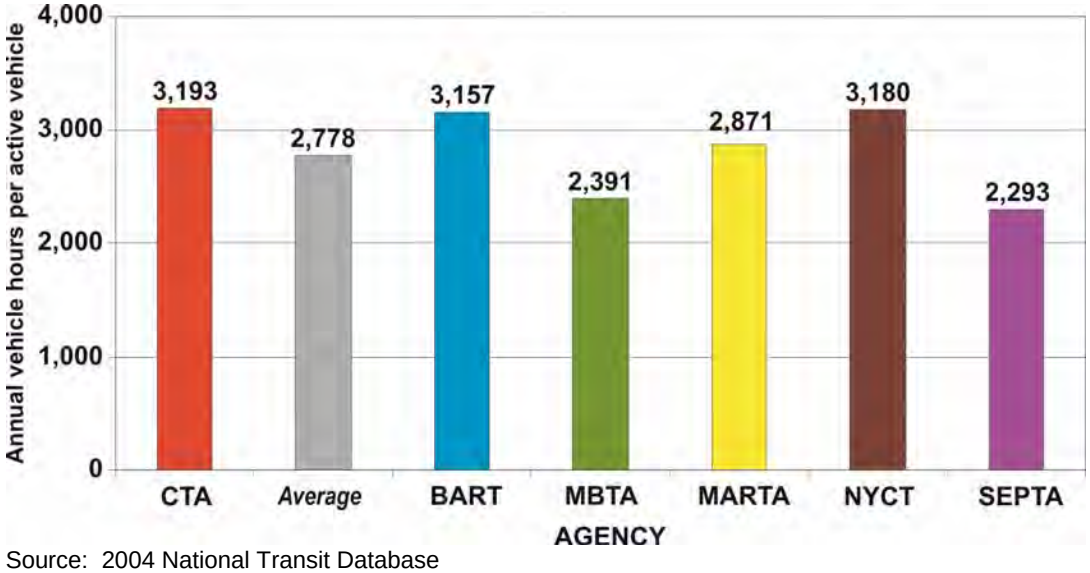
Exhibit 12-7
VEHICLES EXCEEDING MINIMUM RETIREMENT AGE, CTA RAIL vs. PEERS
2004



Source: 2004 National Transit Database

CTA achieves good utilization from its rail vehicle fleet. Exhibit 12-8 presents CTA and peer results for annual hours operated per vehicle, and Exhibit 12-9 presents the spare ratio (i.e., spare vehicles ÷ peak vehicle requirements).

Exhibit 12-8
VEHICLE UTILIZATION, CTA RAIL vs. PEERS
2004

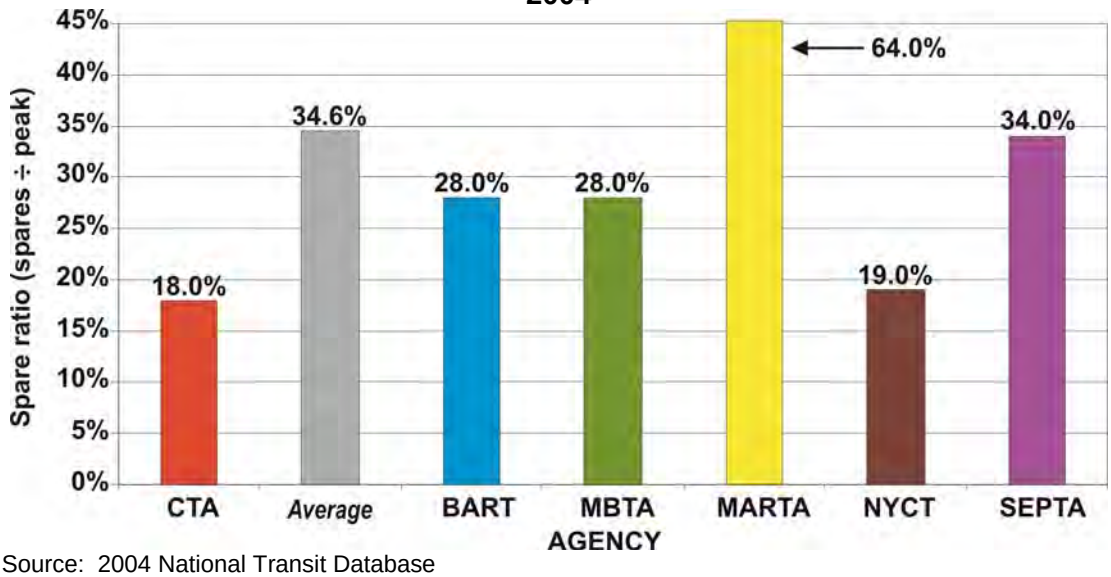


Source: 2004 National Transit Database

CTA vehicle utilization is about 15 percent greater than the peer average. CTA averages 3,193 hours per active vehicle per year, indicating that each vehicle is in service almost 9 hours per day. This is the highest utilization rate in the peer group.

CTA has a low spare ratio of 18 percent relative to its peers and falls below the FTA maximum of 20 percent. This was much better than the 35 percent peer average, and was the lowest in the peer group. All of the peers other than NYCT and CTA reported fairly high spare ratios. In particular, the peer average is skewed by MARTA. Even with MARTA excluded, CTA is still well under the resulting peer average (27 percent).

Exhibit 12-9
SPARE RATIO, CTA RAIL vs. PEERS
2004



Source: 2004 National Transit Database

The primary feature of CTA's rail fleet that merits concern in the above metrics is the fleet age, in particular the number of vehicles that exceed or are approaching retirement age. Given that rail cars have unit prices of about $1.32 million, the pending retirements pose a significant financial obligation.

CTA Rail Fleet Age Profile, 2005

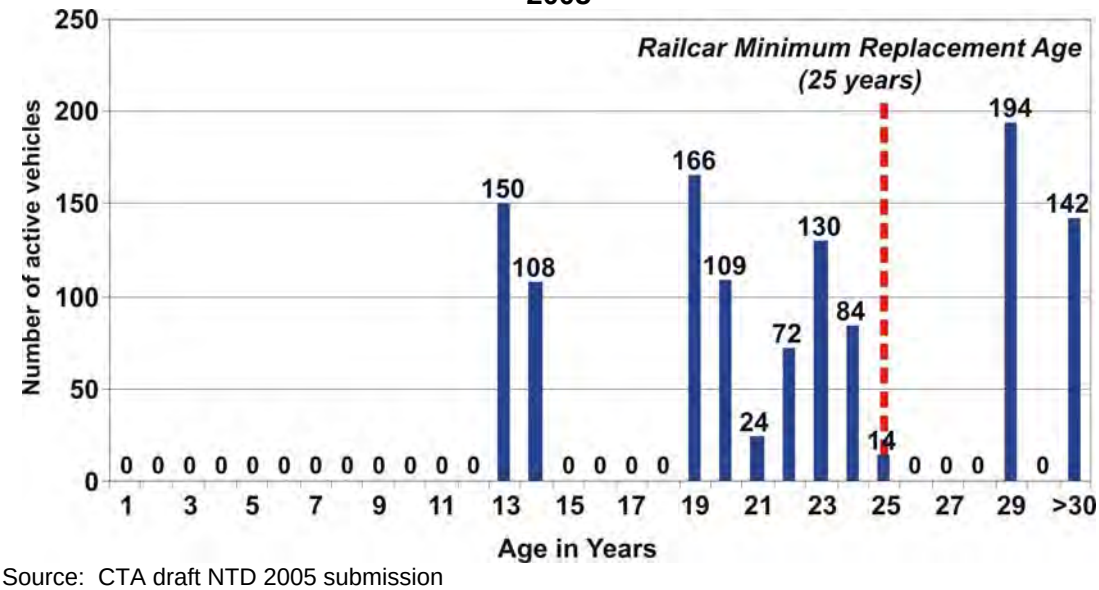
The CTA rail fleet numbered 1,193 vehicles at the end of 2005 (see Exhibit 12-10). The age was calculated based on full years – for example, rail cars purchased in 1992 were calculated to be 14 years of age, regardless of when the vehicles entered service. At the end of 2005, the average fleet age was 22.7 years.

At the end of 2005, 29 percent of the CTA fleet (or 350 vehicles) was eligible for retirement. Another 49 percent of the fleet (585 vehicles) will reach retirement age in the next 5 to 6 years. In all, CTA has a short-term need to replace up to 935 vehicles, or 78 percent of its fleet.

The fleet age distribution is more staggered than the bus fleet, but it is evident that CTA has deferred rail car replacement for a long time. The newest rail cars now in operation were purchased 13 years ago.

CTA employs a mid-life overhaul program to ensure another 12 to 14 years of operation before the next major rehabilitation effort (or vehicle replacement) is required. The mid-life rehab consists of replacing or rebuilding most of the vehicle's systems.

Exhibit 12-10
CTA RAIL FLEET PROFILE
2005



Source: CTA draft NTD 2005 submission

Depending on financial constraints and a railcar's structural condition, the mid-life rehab can be performed again at the typical replacement age (25 years) to extend the useful life of the vehicle. Mid-life rail car rehabs are a fairly common practice, given the unique attributes and high costs of rail car systems that can drive up replacement costs. With the exception of fleets purchased in 1969 and 1970, all CTA rail cars older than 15 years of age have undergone a mid-life overhaul.

CTA Rail Fleet Replacement Plan

The financially constrained CIP as amended on March 2006 includes a 5-year program for fleet replacement totaling $501 million. Of this total, $175 million is funded. In May 2006, CTA awarded a contract for up to 706 rail cars at a total cost of up to $933 million. CTA is proceeding with a base order of 206 cars, and has an additional option in the contract for another 200 cars. The baseline order and the option total $577 million, or about $1.42 million per car, slightly more than the unit cost for the entire contract of $1.32 million (i.e., $933 million ÷ 706 cars). Cars ordered in the baseline contract would be delivered in 2010; the first option would make additional cars available in 2012. These figures include an additional 56 cars for the Brown Line capacity expansion project. CTA realized an excellent unit price for these new rail cars; rail car procurements nationally have ranged between $2 million and $3 million per car (albeit for larger rail cars used by other agencies).

Given the average unit cost of $1.32 million in this new contract, CTA's short-term rail car replacement needs, using the 25-year age threshold, will total $1.23 billion. This is based on the rail fleet age profile discussed immediately above, which indicates that 935 cars would need to be replaced in the next 5 to 6 years. This estimate is

$733 million (146%) higher than the $501 million for rail cars as stated in the amended financially constrained CIP of March 2006. Thus, while the recent rail car procurement resulted in a good price, and will provide sorely-needed vehicles fairly soon, it can be seen as only a down payment on CTA's capital re-investment needs.

CTA Non-Revenue Fleet

The non-revenue fleet is the collection of cars, trucks, and other over-the-road vehicles that CTA uses to support its operations. An extensive review of NRV management was performed by AECOM just prior to the commencement of this audit. Because the AECOM review recommended a number of changes that CTA is in the process of implementing, this audit did not further explore this area. The highest-priority recommendations made by AECOM were as follows:

- **Reduce vehicles in the CTA non-revenue fleet.** An examination of bus garages and West shops found many unnecessary and unused vehicles. Up to 30 vehicles were awaiting repair, and between 45 and 90 duplicative vehicles were identified. CTA has defined a 2-year timeline for implementing this recommendation.
- **Assign vehicle costs to vehicle users.** Vehicle users were charged for fuel but not for service or capital costs. CTA has defined a 9-month timeline for implementing the charge-back system recommended by AECOM.
- **Examine opportunities to "right-size" the mix of vehicles in the CTA fleet.** Opportunities exist to cut per-vehicle costs by $10,000 for each of the 270 sedans and SUVs in the CTA fleet. CTA defined a six-month to one-year timeline to implement this recommendation.
- **Procure NRV parts through a single source.** Common parts, such as starters, gear boxes, and oil filters are competitively procured one item at a time. By single sourcing, transaction costs and maintenance delays can be reduced. CTA defined a six-month timeline to implement this recommendation.
- **Reduce the number of take-home vehicles.** Analysis indicated that up to one-half of the current take-home vehicle users could instead be serviced by an enhanced vehicle pool. CTA defined a six-month timeline to implement this recommendation.
- **Move vehicle pool relative to CTA HQ.** The existing vehicle pool is located at the 120 N. Racine Ave., approximately one mile from CTA headquarters. In order to use pool vehicles, users must walk or ride the bus approximately 20 minutes to Racine Ave., adding 40 minutes to any trip. CTA defined a three-month timeframe to implement this recommendation.

Conclusions - CTA

Although CTA operates relatively old bus and rail fleets, CTA uses its revenue vehicles efficiently relative to its peer group. Bus fleet replacement costs are understated by $78 million in the financially constrained CIP. An estimated 1,317 buses will eclipse retirement age in the next five years, totaling at least $448 million, versus $370 million in the CIP. Rail car replacement cost is even more understated in the CIP. Some 935 rail

cars will reach or surpass the 25-year threshold for replacement in the next 5 to 6 years, and would cost $1.23 billion, versus $501 million included in the CIP, or a difference of $733 million.

CTA FLEET	
RECOMMENDATION NUMBER 37	***The CTA should:*** • ***Review and update its Capital Improvement Program to ensure it accurately captures the total estimated cost of replacing bus and rail fleets;*** • ***Seek to even-out the fleet age profile to ensure more even maintenance needs; and*** • ***Continue to implement the non-revenue fleet recommendations contained in the AECOM report.***
CTA RESPONSE	The total cost of replacing bus and rail fleets is reflected in CTA's Unfunded Need Report completed in August 2006. Under the 1983 RTA Act, CTA's 2007-2011 Capital Improvement Program is constrained by RTA's funding "marks" which are projections of funding availability over the 5-year period. Thus, CTA can only program bus and rail car replacements and other capital initiatives equal to available funds. CTA would support a change to the RTA Act's reporting requirements that would highlight the total estimated costs of maintaining its fleet and other infrastructure in a state of good repair. CTA agrees with the recommendation to reduce the average fleet age; however, due to insufficient capital funds, CTA has had to keep vehicles in service beyond their useful life which increases operating costs. CTA agrees with AECOM non-revenue fleet recommendations, has implemented four of the twelve recommendations, and is pursuing implementation of the remainder.

METRA

Metra operates the largest, single-agency commuter rail fleet in the U.S., totaling 1,408 vehicles. The total replacement value of this fleet is approximately $3.6 billion. The fleet varies considerably in age and durability. For this reason, it is important to consider the characteristics of each subfleet to ascertain replacement practices. The non-revenue fleet is very small, with a replacement value of less than $1 million.

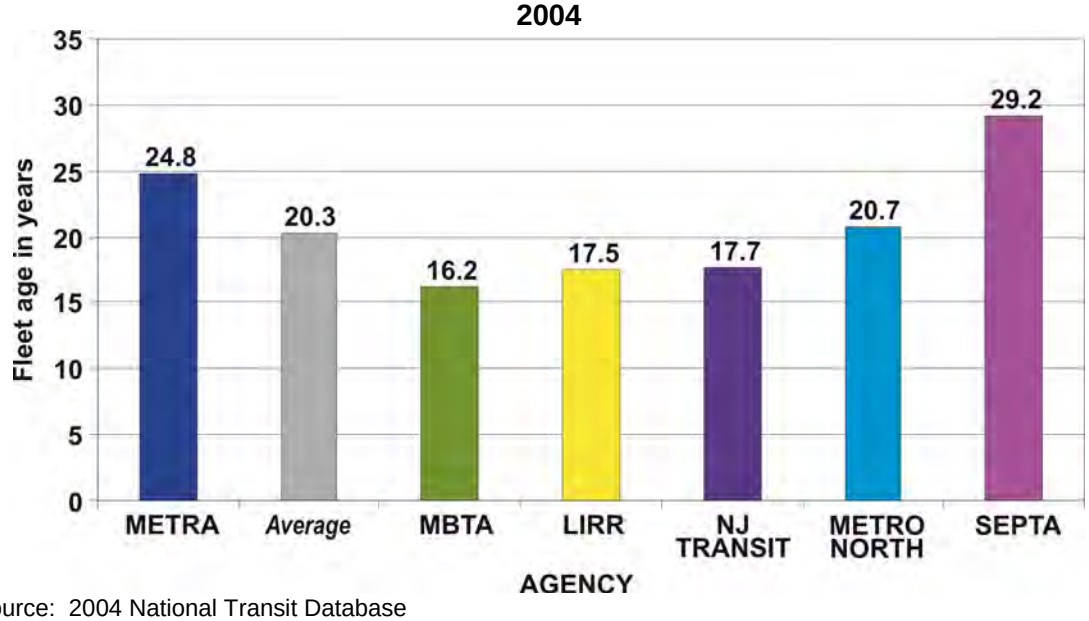
Metra's fleet is in sound condition, though some needed replacements are not reflected in the financially constrained CIP:

- The electric fleet is far beyond the FTA-eligible retirement age, is a poorer candidate for rehabilitation, and should be given greater consideration in Metra's financially constrained CIP.
- Metra's fleet replacement requirements apart from the electric fleet are modest, assuming that it is able to maintain its rehabilitation program for locomotives and passenger cars.
- Metra operates relatively old passenger car and electric fleets but achieves a low spare ratio, indicating efficient management of spare revenue vehicles.

Metra Peer Comparison

The Metra passenger car fleet (i.e., excluding locomotives) was compared to five peer commuter rail operations with respect to average age, percent of fleet at or past retirement age, use (annual vehicle hours per vehicle), and spare ratio. This comparison is based on 2004 data, the most recently available data from the National Transit Database. Metra vehicle maintenance characteristics, compared to peers, were presented in Chapter 4.

Exhibit 12-11
AVERAGE FLEET AGE, METRA vs. PEERS
2004

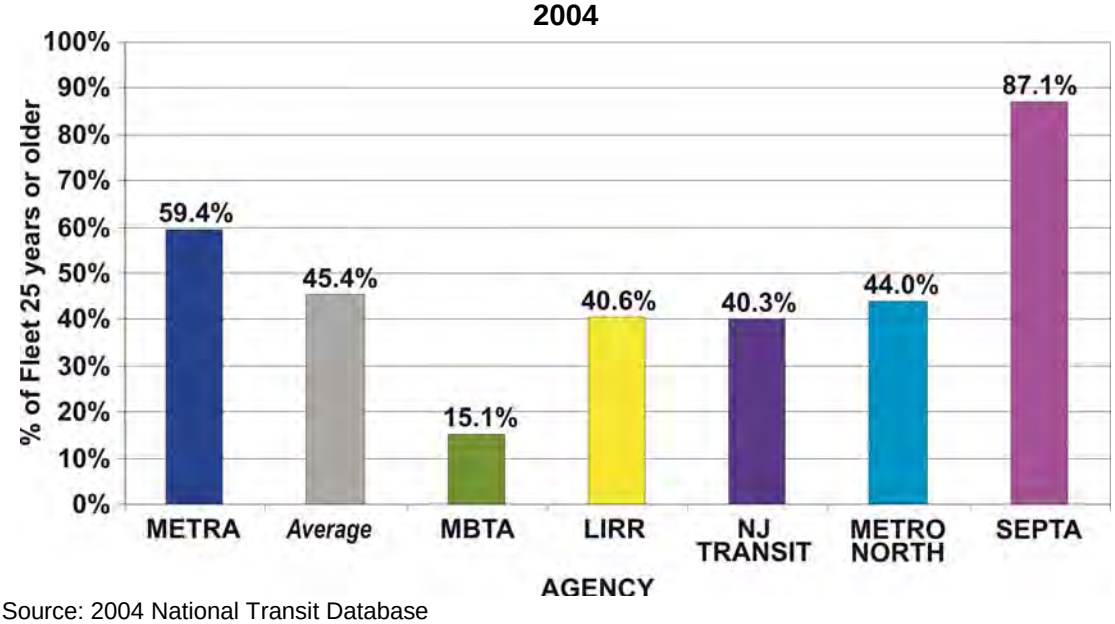


Source: 2004 National Transit Database

Metra operates a relatively old fleet. As shown in Exhibit 12-11, Metra's average fleet age was 24.8 years, or about 22 percent older than the peer average of 20.3 years reported by the NTD. It is not unusual for commuter rail operators to have very old fleets as compared to heavy rail operations. Technologically, the cars are much simpler since the cars are trailers that are pulled by locomotives. Metra also has 165 electrical motor unit (EMU) Highliner cars.

About 59 percent of Metra's passenger car fleet is past the minimum retirement age allowed by FTA (please see Exhibit 12-12). This is well above the peer average of 45 percent. Thus, even though Metra's average fleet age is not dramatically higher than the peer average, Metra has a proportionately greater number of very old cars.

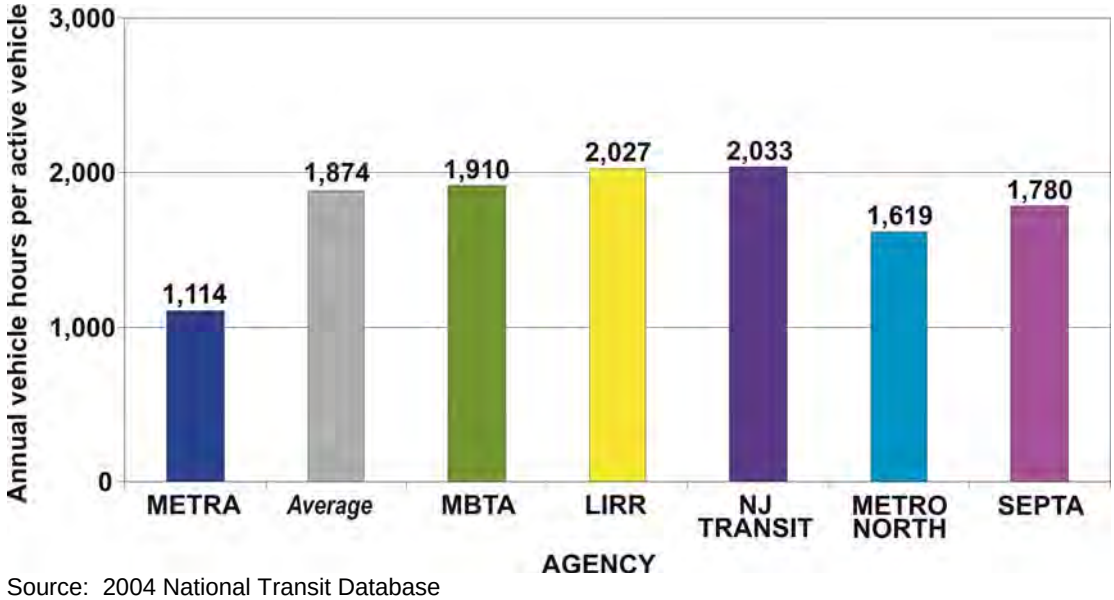
Exhibit 12-12
VEHICLES EXCEEDING MINIMUM RETIREMENT AGE, METRA vs. PEERS 2004



Source: 2004 National Transit Database

Exhibit 12-13 presents Metra and peer results for annual hours operated per vehicle. Metra vehicle productivity is about 41 percent less than the peer average. Metra averages 1,114 hours per active vehicle per year, indicating that each vehicle is in service about 4 hours per weekday. This is the lowest utilization rate in the peer group. Metra's service is more peak-oriented than its peers, which de facto results in fewer hours operated per car for a weekday schedule.

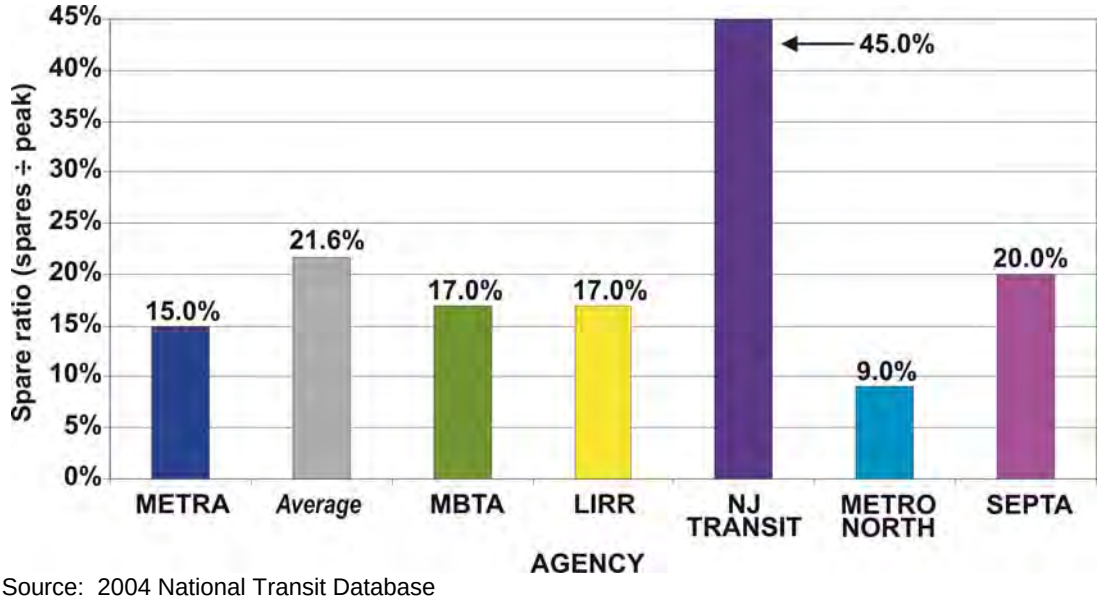
Exhibit 12-13
FLEET UTILIZATION, METRA vs. PEERS
2004



Source: 2004 National Transit Database

Metra has a low spare ratio relative to its peers but gets less productivity from its fleet due to its schedules and operating characteristics. Exhibit 12-14 presents the spare ratio (i.e., spare vehicles ÷ peak vehicle requirements). Metra's spare ratio in 2004 reported through NTD was 15 percent. This was well below the 22 percent peer average and second lowest in the peer group. Metra's spare ratio is artificially high, however, because it includes cars that are still in the inventory but for which replacement cars have been acquired. Typically, Metra's spare ratios are 8 percent for passenger cars, 7 percent for self-propelled electric cars, and 14 percent for locomotives.

Exhibit 12-14
SPARE RATIO, METRA vs. PEERS
2004

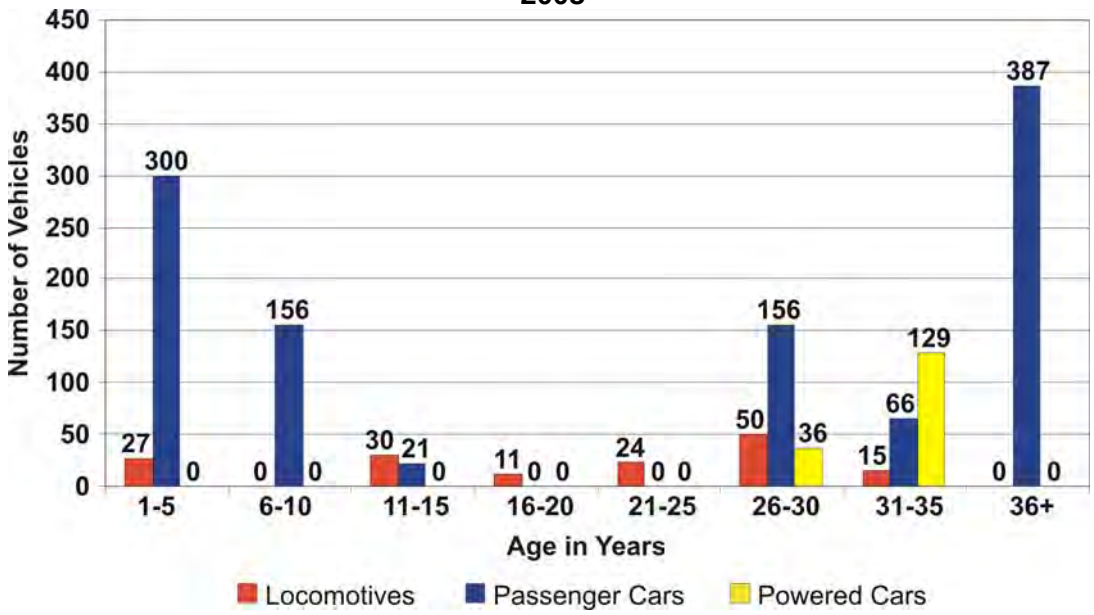


Source: 2004 National Transit Database

Metra Fleet Age Profile, 2005

The Metra rail fleet numbered 1,408 vehicles at the end of 2005, comprised of 157 locomotives, 1,086 passenger cars, and 165 self-propelled rail cars that are used in the Electric District. Exhibit 12-15 presents the number of vehicles by age at the end of 2005, as reported to NTD. The age was calculated based on full years – for example, passenger cars purchased in 2003 were calculated to be three years of age, regardless of when the vehicles entered service. The average fleet age, inclusive of all vehicles, was 24.3 years, as of the end of 2005. The average ages of the subfleets are: locomotives, 19.9 years; passenger cars, 23.7 years; and electric cars, 32.8 years.

Exhibit 12-15
METRA FLEET AGE PROFILE
2005



Source: Metra fleet data

Because of the variety of commuter rail fleets and their means of propulsion, the FTA does not adopt fleet replacement standards. Rather, the FTA defines a minimum retirement age of 25 years. This replacement age is reasonable for locomotives and self-powered cars, but the replacement age for passenger cars having a stainless steel structure can be extended as far as 50 years, provided that car components and finishings are renewed when worn.

At the end of 2005, 60 percent of the Metra fleet (or 839 vehicles) was eligible for retirement. This includes: 65 locomotives (41% of locomotive fleet); 609 passenger cars (56% of passenger car fleet); and 165 self-propelled electric cars (100% of electric fleet). Another 24 locomotives will reach retirement age in the next 5 to 6 years.

Of these replacement requirements, the electric fleet is the most pressing. The shell of these vehicles is core-10 steel, and subject to corrosion. Accordingly, these vehicles are not good candidates for an end-of-life rehab. The locomotive and passenger car fleets, however, are good candidates and passenger cars over 25 years of age could be deferred at least 10 years if the vehicles are rebuilt.

Metra Fleet Replacement Plan

The Metra fleet plan defined in the 2006 financially constrained CIP relies on fleet rehabilitation rather than replacement. For the period 2006-2010, the following amounts are allocated: locomotive rehabs, $77.2 million (approximately 52 units);

passenger car rehabs, $67.3 million (approximately 122 units); and electric car rehabs, $4 million.

Metra is currently updating its fleet plan. It is planning on replacing the electric car fleet and to construct a new electric car yard. The new cars would be fully compliant with ADA requirements and would include restrooms, which are currently available on passenger (i.e., commuter) cars. Furthermore, the current yard is reported to be inefficient and not capable of supporting the new vehicles.

Metra Non-Revenue Fleet

Metra has a small non-revenue vehicle fleet which totals 34 vehicles: 24 pickup trucks; five vans; two 2.5-ton trucks; one 1.5-ton super-duty truck; one 1-ton vehicle; and one sedan. The average age of this non-revenue fleet is 6 years. The total replacement cost is approximately $0.6 million.

Conclusions – Metra

Although Metra operates relatively old passenger car and electric fleets, Metra achieves a low spare ratio, indicating efficient management of spare revenue vehicles. Metra's fleet replacement requirements, apart from the electric fleet, are modest, assuming that Metra is able to maintain its rehab program for locomotives and passenger cars.

METRA FLEET	
RECOMMENDATION NUMBER 38	***Metra should examine whether it is more cost-effective to maintain and rehabilitate its electric fleet, which is far beyond the FTA-eligible retirement age, or replace it with new electric cars.***
METRA RESPONSE	Since the completion of the last rehabilitation of the Electric District fleet of Highliners, Metra has analyzed the operational and economic feasibility of a second rehabilitation project. There is no doubt that the fleet is beyond its useful life and is not a candidate for rehabilitation. The electrical components of the vehicles are no longer supported by the original equipment manufacturer. The bodies of the vehicles are carbon steel (a decision made by a predecessor organization of Metra's) and present a continuous and serious corrosion problem. Finally, the current fleet cannot accommodate any restroom facilities which are now required under Metra Board policy.

PACE

Pace operates a fixed-route fleet of 643 vehicles, having a replacement value of approximately $225 million. Pace also operates a large demand-response fleet, mostly through contracts with private operators, totaling 470 vehicles. The demand-responsive fleet consists primarily of small vehicles (e.g., vans, taxicabs) that vary greatly in durability and longevity, as well as unit cost (e.g., $25,000 to $70,000). The audit focuses on the fixed-route fleet, since it accounts for about 90 percent of vehicle asset value.

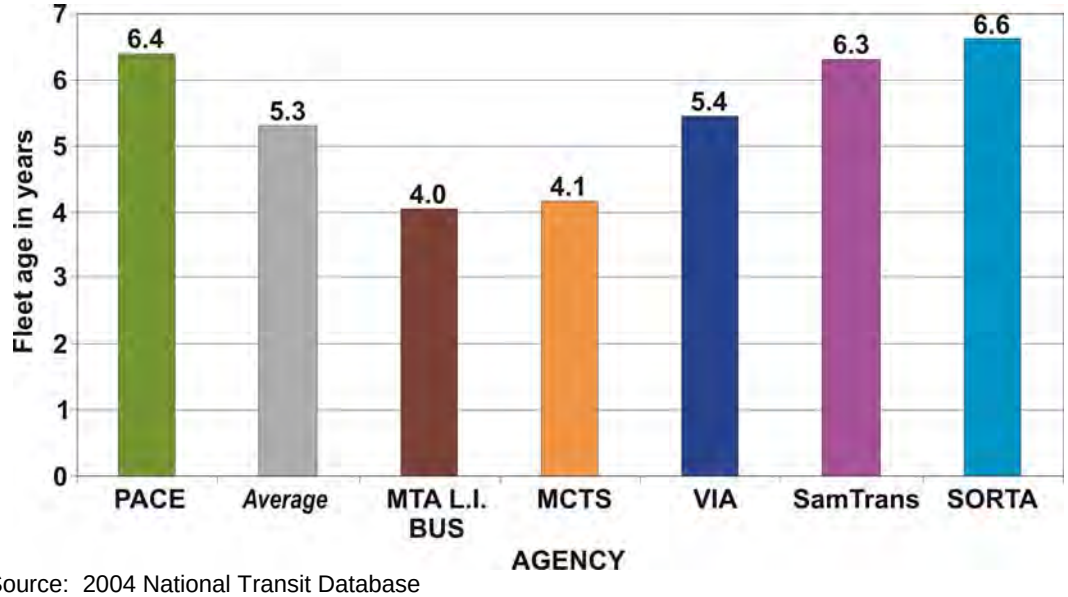
Pace manages its bus fleet effectively, but has replacement needs that exceed those presented in the financially constrained CIP:

- The Pace fleet is comparable in age to its peers, and Pace achieves about the same utilization rates as its peers.
- Pace has done a good job of creating an age-diverse fleet by staggering its vehicle replacements.
- Absent funding constraints, Pace would need to replace about 29 percent of its bus fleet in the next five years, at an estimated cost of $65 million, or about $18 million (38%) higher than presented in the financially constrained CIP.

Pace Bus Peer Comparison

The Pace bus fleet was compared to five peer bus operations with respect to average fleet age, percent of fleet at or past retirement age, utilization (annual vehicle hours per vehicle), and spare ratio. Pace vehicle maintenance characteristics, compared to peers, were presented in Chapter 5.

Exhibit 12-16
AVERAGE FLEET AGE, PACE BUS vs. PEERS
2004



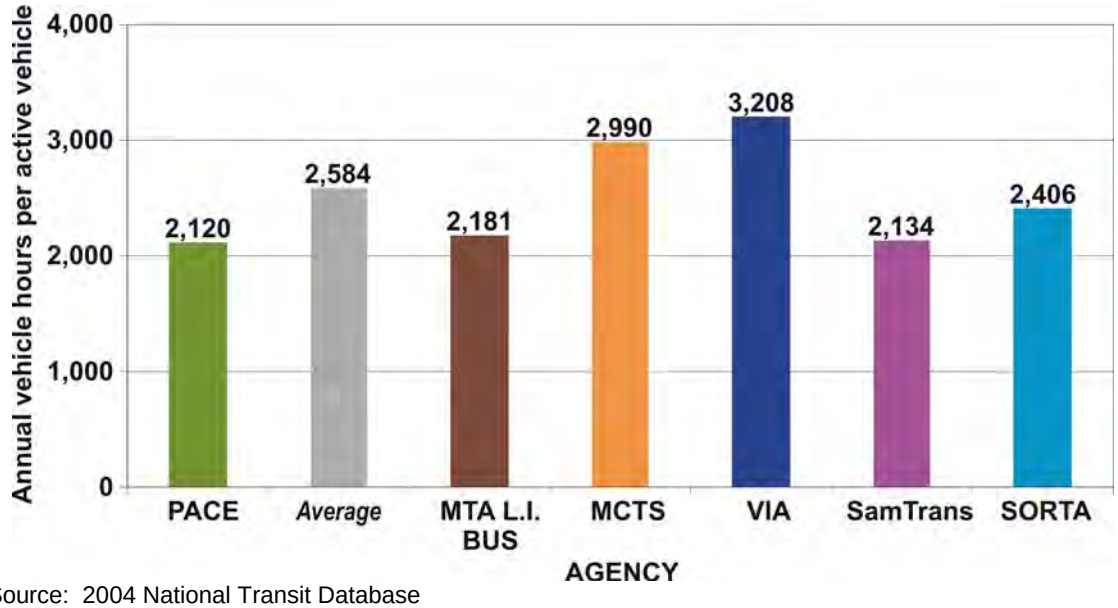
Source: 2004 National Transit Database

The Pace bus fleet, at 6.4 years, is slightly older than the peer average (5.3 years), and approximates the national average (6.5 years) for the top 50 U.S. transit systems. Notably, the Pace fleet is younger than the CTA bus fleet (8.8 years in 2004).

Exhibit 12-16 shows Pace's average fleet age reported by the NTD for 2004 was 6.4 years, or about 20 percent older than the peer average of 5.3 years. Three of the five peers have fairly young fleets, with an average age between 4 and 6 years. The average ages of all of these fleets compare favorably to the national average of 6.5 years.

Pace achieves fairly good vehicle utilization, though slightly below the peer average. Exhibit 12-17 presents Pace and peer results for annual hours operated per vehicle and Exhibit 12-18 presents the spare ratio (i.e., spare vehicles ÷ peak vehicle requirements).

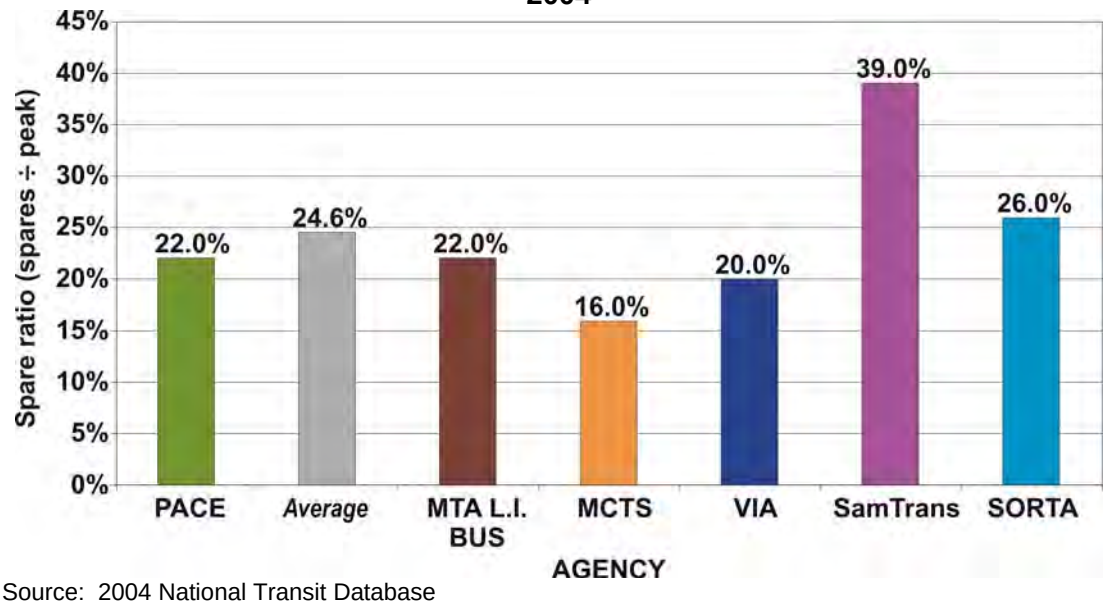
Exhibit 12-17
FLEET UTILIZATION, PACE BUS vs. PEERS
2004



Source: 2004 National Transit Database

Pace vehicle utilization (Exhibit 12-17) is about 18 percent less than the peer average. Pace averages 2,120 hours per active vehicle per year, indicating that each vehicle is in service almost 6 hours per day. This utilization rate is exceeded by all of the five peers.

Exhibit 12-18
SPARE RATIO, PACE BUS vs. PEERS
2004



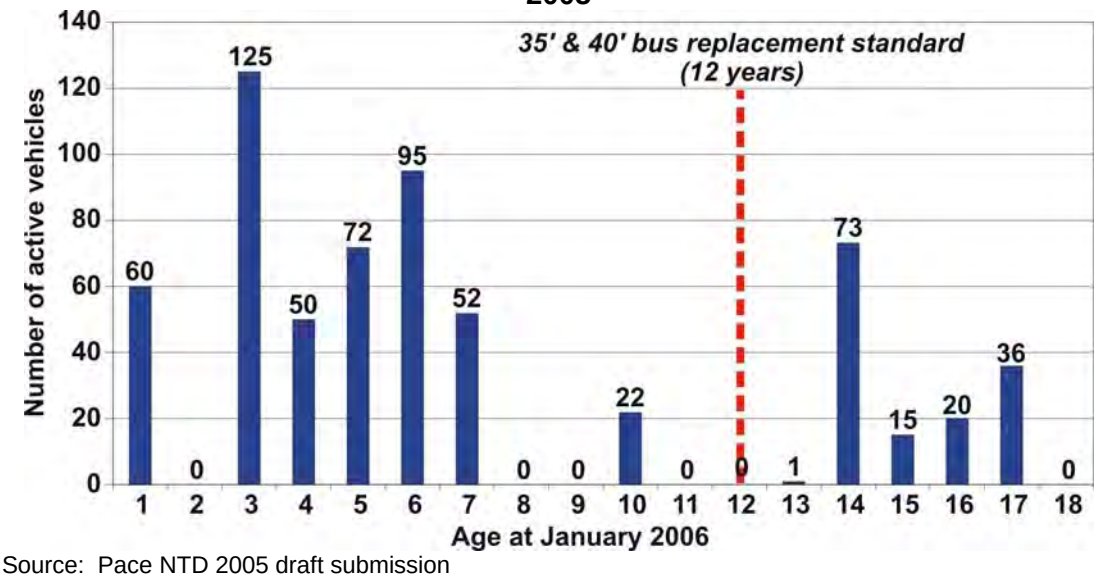
Source: 2004 National Transit Database

The Pace spare ratio is slightly better (i.e., less) than the peer average, at 22 percent versus 25 percent for the peer average. Two of the peers actually have a lower spare ratio than Pace. Conversely, SamTrans reported a very high spare ratio.

Pace Bus Fleet Age Profile, 2005

The Pace fixed-route fleet includes a variety of buses with lengths of 27', 30', 35' and 40'. The shorter buses are typically designed to a less durable standard than the larger buses. For this reason, FTA prescribes two minimum bus service lives: 12 years for 35' and 40' buses and 10 years for heavy-duty buses of 30' and less. Buses may be replaced earlier if mileage exceeds FTA minimums (500,000 miles for 35' and 40' buses; 300,000 miles for 30' buses).

Exhibit 12-19
PACE BUS FLEET AGE PROFILE (35' AND 40' BUSES)
2005



Source: Pace NTD 2005 draft submission

Exhibit 12-19 shows the age distribution of Pace's large vehicle fleet. The larger 35' and 40' buses account for 621 of the 643 active buses. The smaller 30' and 27' buses number 22 vehicles. The overall fleet age is 7.1 years.

Although the larger vehicle fleet has a lower average age, this is due to a large number of young vehicles. Almost a quarter of the fleet (145 vehicles) is well past retirement age and another 22 vehicles are approaching retirement. In the next five years, Pace could justify retiring all 167 vehicles that are past, or nearing, retirement age. Once these vehicles are retired, Pace can go five or more years without further vehicle replacements, given the significant investment in new vehicles made over the past seven years. The smaller vehicle fleet brackets the 10-year replacement standard, ranging in age between 9 and 11 years.

Pace Bus Fleet Replacement Plan

The financially constrained CIP provides for the replacement of 135 fixed-route buses at unit costs in today's dollars of about $350,000, or a total of $47 million. This estimate appears slightly understated, given that 167 large buses would be in the 12-and-over category in the next five years, along with 22 smaller buses. To fully fund Pace's bus replacement requirements, the five-year cost is approximately $65 million, (or approximately $18 million more than budgeted in the CIP), based on a $350,000 unit cost for the larger buses, and $289,000 for the smaller ones.

Conclusions – Pace

Pace operates a fleet that is similar in age to its peers and achieves about the same utilization as its peers. Pace has done a good job of creating an age-diverse fleet by staggering its vehicle replacements.

PACE FLEET	
RECOMMENDATION NUMBER 39	***Pace should review its Capital Improvement Program to determine if it needs to be updated given that it would need to replace about 29 percent of its bus fleet in the next five years, at an estimated cost of $65 million, or about 38 percent higher than presented in the current financially constrained CIP.***
PACE RESPONSE	Pace annually updates bus fleet needs as part of its budget process. Reductions in capital funding due to the lapse of RTA and State bond capital financing has resulted in Pace not being able to adequately fund its bus fleet replacement needs.

Chapter Thirteen

REAL ESTATE

CHAPTER CONCLUSIONS

CTA, Metra, and Pace possess real estate to house their administrative operations, as well as to operate their respective transit systems. Our review of the Service Boards' real estate administrative operations identified the following:

- The top floor of the CTA Headquarters building (approximately 34,000 square feet) is unoccupied. The CTA has been attempting to rent it, but has been unsuccessful. The CTA's financial plan for acquiring the new headquarters was based on the assumption that rental income would be generated by this space.
- Metra occupies approximately 63 percent of its headquarters building and an additional 18 percent is leased to tenants. The remaining 19 percent is vacant and Metra has engaged the services of a real estate broker to further increase the occupancy of the building.
- Pace conducted a Capital Needs Assessment over 10 years ago that concluded that the cost to substantially rebuild its existing headquarters to meet current operational and technological requirements exceeded the cost to construct a new headquarters facility. However, a new facility has not been constructed but is in the final stage of design with construction scheduled to begin in mid-2007.

Our audit also concluded that opportunities for improvement exist at one or more of the Service Boards in the areas of surplus property management and the introduction of commercial development in real property.

INTRODUCTION

Organizations acquire and hold real estate assets for various purposes related to the operation of the organization. In the case of CTA, Metra and Pace, real estate is required to serve several functions:

- Headquarters and accommodation for administration and managerial services;
- Garage and parking for fleet storage, maintenance, repair and overhaul;
- Stations and points of access to the transit system; and
- Right-of-way.

In conducting this performance audit, we examined the processes and procedures that are employed to acquire, manage and dispose of real estate. The primary measure of effectiveness with respect to these activities is the degree to which the operating divisions

are able to meet their service commitments unconstrained by the location, scale, and quality of real estate assets. A secondary measure of effectiveness is the degree to which the organization is not burdened by excessive or under-utilized facilities that may hold value that could be applied in other aspects of transit operations, or represent an unnecessary drain on financial resources.

ACQUISITION OF REAL ESTATE

Organizations may respond to changing demands and operational requirements by acquiring facilities. Certain facilities are acquired to meet administrative and operational needs, while other facilities provide access to the transit system or are acquired in the interest of customer service. In conducting this performance audit, we examined the manner in which new or replacement facilities were acquired.

CTA Headquarters (567 West Lake Street)

The CTA recently consolidated most administrative functions in a new building at 567 West Lake Street in Chicago (West Lake) following their move out of leased accommodation in several locations, including the Merchandise Mart. The 12-story building was designed as a "Class A" structure that can accommodate a wide range of corporate tenants and is, therefore, not institutional in either appearance or function.

The building was acquired by the Public Building Commission of Chicago (PBC) following the issuance of a revenue bond in 2003 that is serviced (principal and interest) by rental income paid by the CTA. CTA is a tenant of the PBC until the debt is retired in 2023.

The top floor of the CTA headquarters (approximately 34,000 square feet) is unoccupied and marketed for rent to sub-tenants. CTA officials said that they intended to use less than the total gross floor area of the building in the initial years of occupancy to ensure adequate space for future expansion. The financial plan for acquisition of the property, including bond financing, was based on the assumption that rental income would be generated by the residual space. Accordingly, one full floor of the building was set aside for future use by CTA, but has been advertised to public agencies as a long-term sublease. CTA officials said the expansion floor has been marketed since August 2003, although no serious offers to lease have been received for either the full or partial floor.

Restrictions on users that may occupy any portion of the building may be a material factor that has hampered CTA's efforts to sublease this space. Covenants in the bond financing with respect to the tax-exempt status of the construction bonds limit the universe of sub-tenants to State of Illinois and local public agencies. This constraint was confirmed through our inquiry with the Director of Finance of the PBC.

The CTA may be required to subsidize the cost of vacant space that was budgeted to be a source of supplemental income from the property. The annual value of the

opportunity cost of maintaining nearly 34,000 square feet for potential future expansion would be quantified with reference to the imputed market rent for that space. Accordingly, the projected net present value of the project at the time of financing may have been skewed by an assumption of recurring revenue from subleased space that has not materialized and may be difficult to attain.

Having known the restrictive covenants that would be applied by the PBC to secure tax-exempt financing, we question whether the quantitative advice that was prepared on behalf of CTA should have applied a more conservative assumption regarding the ability to realize a revenue stream from sub-tenants. In particular, the financial advice presented to the Senior Vice President, Budget and Capital Finance on November 14, 2002 by the real estate advisors to CTA increased the assumed rental income from non-CTA space from $18.00 to $19.00 per square foot per year. The increase was to reflect data obtained from a recent survey of market rents for equivalent space. However, the survey of market rents (lease comparables) did not appear to include any organizations or agencies that would have qualified as potential tenants in the space, as permitted by the Tax Exemption Certificate and Agreement.

In addition to the 12th floor, space was reserved on the ground floor for commercial tenants that would provide convenience services to building tenants. In this regard, CTA has been successful in leasing space to a convenience store, which is accessible from the street and interior of the building. This building amenity enhances the quality of the tenant experience and is a source of third-party revenue. This retail sublease could be implemented because it does not exceed a maximum amount of floor area that can be occupied by a non-governmental entity as specified in the bond covenants.

CTA Control Center (120 North Racine)

The North Racine property was acquired by CTA in a structured lease finance transaction in August 1996, in which CTA is technically a sub-tenant to the equity trustees. This property is subject to numerous related transactions and layers of security and debt repayment provisions. Furthermore, there appear to be multiple triggers for events of default that are attached to a number of the lease and financial documents.

The irrevocable and complex nature of the transaction to acquire that property may require CTA to pay in full or subsidize the rent of other users of the space for the duration of the lease term regardless of whether CTA occupies the space.

When CTA consolidated its headquarters at West Lake, most of the administrative functions that were located at North Racine were relocated to West Lake. The CTA control center remains in the North Racine building, occupying the top floor of a three-story building, which has a total gross floor area of approximately 100,000 square feet.

The decision to vacate two-thirds of that building (approximately 71,500 square feet) did not relieve CTA of its lease payment obligations (as stipulated on the rent

schedule that is attached as Appendix G to a sublease between CTA and the city of Chicago). With respect to Appendix G, the payment amounts and due dates that apply to CTA have been "intentionally omitted," apparently by CTA (being not applicable to a document provided to a sub-tenant). In our subsequent request to obtain that information from CTA, we received a "fixed rent and lease loan schedule" that stipulates the annual lease payment that must be made by CTA, regardless of its occupancy or use of that facility.

The lease obligation for North Racine that continued to apply following the consolidation of operations at West Lake was tempered, however; a sublease dated November 1, 2005 (and expiring April 30, 2016 for a term of 126 months) granted the city of Chicago the right to occupy approximately two-thirds of the available space, including basement space and 100 parking spaces for general office use. That sublease (technically a sub-sublease) does not oblige the City to incur any liabilities of the CTA and the only financial commitments of the City are to pay a fixed rent subject to annual escalation and a share of annual operating expenses. It appears that the City sub-lease is essentially a cost-recovery arrangement for which CTA will be no better or worse off, provided that the City retains continuous occupancy of the space for the duration of its term.

We question the rationale to sublease two floors of the North Racine building rather than vacating all of the space at North Racine in the hope of finding one or more tenants to acquire all of the space. CTA does not appear to have addressed the question of whether it would realize faster absorption and higher market rent by attempting to sublease the North Racine property in its entirety (approximately 100,000 square feet) rather than creating two sublease scenarios (at West Lake and North Racine) of equivalent floor space that were each subject to use restrictions.

CTA's apparent lack of analysis of the difficulty to sub-lease space in two properties under conditions that restrict the use and user may indicate insufficient attention to the financial consequences of dealing with surplus administrative space and therefore an ad hoc approach to its resolution.

CTA HEADQUARTERS	
RECOMMENDATION NUMBER **40**	***The CTA should continue its efforts to find a tenant for the top floor of its headquarters building.***
CTA RESPONSE	CTA agrees.

Metra Headquarters

Metra occupies a multi-story commercial building at 547 West Jackson Boulevard in Chicago. The building was built in approximately 1912 and based on its characteristics including location, quality, and amenities, it is considered to be a Class C building. This designation denotes an office property that is generally not suitable for occupancy by major commercial or institutional tenants and lacks all but the most basic health, safety and operational features.

Metra acquired the property through a series of transactions starting in 1983, when it first moved into the building. Currently, the building accommodates most of Metra's key administrative functions including information technology, communications and security monitoring services that operate 24 hours per day. Based on our inspection of the property, it appears to be well maintained despite the fact that Metra has been economical in the provision of furniture and fixtures. Due to the age and general condition of the building, specialized heating, ventilation, air conditioning equipment, and telecommunications infrastructure have been fitted into the building to support Metra operations.

Metra currently occupies approximately 63 percent of the available space in the building and an additional 18 percent is leased to tenants. The remaining 19 percent is vacant. Metra has engaged the services of a real estate broker to further increase the occupancy of the building. The net income that is derived from subtenants helps defray a portion of Metra's cost to maintain the property and perform capital repairs.

METRA HEADQUARTERS	
RECOMMENDATION NUMBER **41**	***Metra should continue its efforts to find tenants for the unoccupied space in its headquarters building.***
METRA RESPONSE	Metra concurs with this recommendation, and is constantly seeking to generate tenant income at its headquarters building. Metra's selection of a recognized and highly regarded commercial broker to market its vacant space has already yielded 2 lease renewals, the signing of a new tenant to occupy 6,000 square feet of vacant space, has a letter of intent for a major national credit operation in its ground floor space, and has lease proposal out to potential tenants that, if signed, will result in Metra's headquarters being over 93% occupied.

Pace Headquarters

Pace is headquartered in a single story 43,000 square foot suburban office building. Pace officials said the facility has outlived its useful economic life and represents a constraint on the operational efficiency of headquarters personnel.

Senior management at Pace explained that a 60,000 square foot replacement building is planned for an adjacent site that was acquired for this purpose. A Capital Needs Assessment conducted on behalf of Pace concluded over 10 years ago that the cost to substantially rebuild the existing structure to meet current operational and technological requirements exceeded the cost to construct a new facility. A new facility has not been constructed, but is in the final stage of design with construction scheduled to begin in mid-2007. Once the new building is built and occupied, Pace officials intend to sell a portion of the existing site.

SURPLUS PROPERTY

Officials at each agency were interviewed regarding their policies and procedures to identify and dispose of surplus property, and in particular focused on a series of questions regarding:

- The source of initiatives to declare property surplus to the organization;
- The factors that are considered, and by whom, when evaluating each recommended disposal; and
- The process that is employed by each organization to achieve the stated objectives for disposal.

We observed that a formal procedure is followed to record the rationale for each requested disposal. For example, CTA provided internal correspondence and a checklist of procedures that have been applied with respect to recommendations to declare property surplus to the organization and commence a process of disposal.

Pace officials indicated that senior management canvass (annually or more frequently) operating personnel to confirm that all owned and leased property is used for the intended purpose. What was not apparent at CTA and Metra was evidence of the incentive or obligation for operations personnel to be proactive in declaring the ongoing utility of all property, as distinct from declaring that individual parcels or sites may be surplus to corporate needs. Furthermore, we were not presented with evidence that either CTA or Metra proactively imposed and followed a disposal schedule for property that has been declared surplus. For example, the list of surplus property that was supplied by Metra during fieldwork did not indicate the status of actions taken to dispose of the specified properties, the expected proceeds from disposal, or the period of time that each property has been listed for sale.

Metra officials noted that the surplus property list provided to the auditors was a draft that had not been vetted by stakeholder departments. Subsequent to our fieldwork, Metra officials stated that all stakeholder departments within Metra have reviewed the list and only three properties should be classified as surplus.

There are instances in which real estate has outlived its useful life, such as unused bus turnarounds and dormant or abandoned sections of right-of-way. In these instances, the agency is generally faced with the prospect of selling to adjacent property owners without competition or attempting to sell remnant parcels that have limited use and value.

Most of the surplus real estate that is held by CTA may be characterized in this manner. In fact, many parcels are "back lots" that represent the rear portion of numerous established residential and commercial properties. As such, much of the surplus CTA property has no independent access, no address, and essentially no competitive market. Nevertheless, CTA has held these properties for many years, some dating back to the 1950's and 1960's. Although the aggregate acreage is low (less than 50 acres), the current approach of holding these properties until they are sold piecemeal has not resulted in disposal of these properties. The liabilities associated with ownership of derelict property may outweigh the potential future benefits of a sale.

There are occasions in which consolidation or new development for operational purposes creates surplus property. As an example, Pace's development of new garage facilities permitted consolidation of several smaller facilities. Rather than continuing to operate each facility as an independent entity, Pace officials examined the operational and financial merits of combining one or more operations into a new facility. The process of expansion led to opportunities to acquire and develop new facilities, and subsequent disposal of one or more of the pre-merger assets.

Although there have been limited instances in which consolidation of space has occurred, there appears to be a lack of policy within CTA and Metra, to continually monitor their portfolios to identify opportunities to reconfigure their operations or facilities to enhance efficiency. The annual budget cycle provides a de facto window for this process to occur, which is not a sufficient incentive for operational managers to recognize opportunities to declare and deal with surplus properties. It would be appropriate for each organization to have an annual or bi-annual review process that involves a structured review of the utility of each property, and in some circumstances a more thorough assessment (benefit/cost analysis) of alternative use or disposal.

SURPLUS REAL PROPERTY	
RECOMMENDATION NUMBER **42**	***Regarding surplus real property:*** • ***CTA and Metra should develop and implement a formal process to guide senior operational managers in a regular assessment of property utilization. In this process, property would be declared surplus unless a decision is made to retain the property for operational or administrative needs; and***

	• ***CTA and Metra should actively dispose of real property that was determined to be surplus, which may include non-traditional (i.e., non-sale) methods in the case of properties for which there is no competitive market.***
CTA RESPONSE	CTA agrees. CTA currently maintains a process for declaring property as surplus and disposing of property thereafter. CTA will continue and expand this process to include an annual review. CTA seeks to outsource some or all of its real estate functions. Once this process is complete, the selected contractor will oversee this function.
METRA RESPONSE	Metra will develop and implement formal guidelines for managers to reference. As noted in the audit, Metra has very few parcels that were categorized as surplus. Metra is familiar with non-traditional methods of property disposal and has utilized such approaches in the past.

COMMERCIALIZATION OF SPACE

CTA, Metra, and Pace noted that improving the level of customer service is the prime factor in their initiatives to introduce commercial activities and tenants into their service areas. The provision of automated teller machines and food and beverage concessions are the most widely available service-oriented facilities that have been pursued by CTA and Metra. Another common activity is the provision of premium parking spaces that command a higher monthly fee (CTA and Metra). Pace is limited in its commercial development potential due to the location and scale of its facilities.

Our concern regarding reported methods that are employed by CTA and Metra to expand the array of commercial services within transit facilities relates to the relatively recent introduction of sub-tenancy and co-development initiatives. Recently, however, both CTA and Metra have been proactive in their efforts to maximize the commercial potential of transit station development. For example, Metra has incorporated revenue generating commercial space into public spaces at major downtown Chicago facilities (Ogilvie Transportation Center and Millennium Station).

The pursuit of additional commercial activities consistent with recent initiatives in the service areas of each organization can result in a higher level of customer service and additional non-fare revenue.

COMMERCIAL ACTIVITIES	
RECOMMENDATION NUMBER 43	***Real estate management personnel within each Service Board should continue to pursue initiatives and opportunities to introduce or expand commercial services and annually update their goals for revenue generated from self-managed and third party commercial services.***
CTA RESPONSE	CTA agrees.
METRA RESPONSE	Since the time of the audit, Metra has reorganized its real estate function, merging contract management, real estate, legal services and risk management into one central operation. One outgrowth of this re-organization is significantly greater emphasis on revenue development opportunities. Metra expects that this effort will continue to develop already significant non-fare revenue growth. Metra's new real estate management team is currently evaluating all current revenue generating activities, and will be setting goals for the year during the first quarter of 2007. Metra agrees that this must be an annual process.
PACE RESPONSE	Pace examines each passenger facility investment for its potential to support commercial services. The considerations include the volume and duration of passenger occupancy, the cost of providing the requisite infrastructure and local market conditions. In general, our transportation center facilities do not generate sufficient market demand to support commercial development. In addition, Pace's limited capital resources for the past 20 years has precluded Pace from pursuing more aggressive joint development and commercial infrastructure opportunities. Of our (9) nine transportation centers, the only one that supports commercial use is the Harvey Transportation Center which has leased limited commercial space since it opened in 1999.

ATTRACTING PRIVATE INVESTMENT

During the course of this audit, we identified relatively few instances in which corporate real estate had been leveraged through the use of private investment. This appears to result from the focus within each organization on the use of real estate for transportation purposes, the relatively limited amount of space that may be available for alternative use, and the fact that primary responsibility for the declaration of property as surplus rests with operational managers.

This combination of circumstances, however, may result in missed opportunities to undertake a more ambitious program of commercial development that capitalizes on *portions* of properties. A maintenance yard, for example, may have excellent exposure in an established commercial area, making a portion of the site accessible to neighboring residents and the traveling public. A ground lease to a recognized restaurant chain for a portion of the site that is not required for transit operations could represent an opportunity for revenue enhancement.

As noted above, we observed only limited interest and commitment to capture the value in real estate that may fall in a "grey area" between operational and surplus property. Two noteworthy exceptions to this observation involved initiatives that have been pursued by Metra and Pace.

Metra officials cited two examples in which they have been proactive in their efforts to promote ancillary commercial development in large transportation hubs. The recent acquisition and redevelopment of the Ogilvie Transportation Center presented Metra with an opportunity to enhance the scale of commercial uses in that facility and to make the project a more compelling draw to current and potential transit system users. A similar initiative has been pursued at the Millennium Station in which a small commercial concourse has been developed as an underground promenade leading up to the station ticket counters.

In both cases, Metra officials stated that they sought competitive proposals for the development of a certain mix of uses that would enhance the customer experience and be likely to attract brand-name retailers and convenience food services. They noted that Metra structured each development project to reflect a head-lease arrangement whereby it will receive a stream of revenue payments from tenants. A similar initiative has been pursued on a smaller scale in numerous passenger rail stations.

Pace also engaged the private sector in property development initiatives with successful results. New transportation facilities have been constructed on behalf of Pace by UPS and Sears in conjunction with the development by those companies of new warehouse and administrative facilities.

We explored the willingness of CTA to objectively evaluate potential opportunities for development of "out-parcels" at major installations by way of ground lease or joint venture with the private sector. CTA did not provide any verifiable information to confirm whether this type of initiative occurs. Accordingly, we conclude that CTA may be missing opportunities to capitalize on changes in market conditions and the use of under-utilized transit facilities as a supplemental source of income.

PRIVATE INVESTMENT	
RECOMMENDATION NUMBER 44	***Regarding private investment, CTA should:*** • ***Examine the potential to outsource development opportunities at major installations and identify the risk/reward profile of any identified options; and*** • ***Develop a methodology to systematically address opportunities to introduce or increase commercial services on its property in conjunction with the private sector on a routine basis, such as every two years.***
CTA RESPONSE	CTA agrees and is seeking proposals to privatize its real estate development management.

REAL ESTATE MANAGEMENT

The preceding sections of this chapter on real estate activities and processes addressed several issues that may be broadly classified as real estate management. In this section we focus more precisely on the property management functions (day-to-day activities) that represent custodial services provided in support of user departments that operate within each facility. Foremost in our assessment is the extent to which "tenants" that occupy administrative and operational premises and installations have access to personnel with the authority to implement repairs of building services that affect the safety, security and comfort of tenants.

Our interviews with senior management personnel in the operational divisions of CTA, Metra and Pace disclosed a good working relationship with facility management personnel that are responsible for building upkeep and repair. Each organization reported that regular meetings are held to receive tenant requests and review the status of responses to previous requests and work-in-progress. Each agency also holds regularly scheduled meetings to facilitate dialogue between users and operators of the facilities. CTA and Pace maintain a written record of each meeting as evidence of their commitment to ensure that tenants/users are able to track the status of their requests and the response. In addition, each agency maintains a computerized log of requests for repair and replacement of building equipment that identifies the party that is responsible for action and records repair dates and deficiencies (if applicable).

The secondary issue that we addressed is the degree to which property management personnel are proactive in their efforts to maintain facilities at standards that are specified for building operational efficiency and effectiveness.

On this point, we noted that only Metra and Pace have developed codified lists of building condition requirements that represent minimum acceptable standards of

cleanliness and repair of administration and operational facilities. Although not a mandatory requirement, private sector property management firms will generally commit to a set of service standards for which their customers hold them accountable. In our judgment, it would be appropriate for the CTA to develop a similar set of property management guidelines that reflect the minimum physical requirements for CTA facilities, in the same manner that CTA has developed space planning design guidelines for its headquarters.

REAL ESTATE MANAGEMENT	
RECOMMENDATION NUMBER 45	***The CTA should develop a codified list of building condition requirements for administrative, operational and transit facilities that represent minimum acceptable standards of cleanliness or repair, as appropriate to their real estate assets, staff and customer service requirements.***
CTA RESPONSE	CTA agrees. These requirements exist for privately managed facilities at 567 W. Lake, 120 Racine and 3125 S. Federal, and will be codified as part of the outsourcing of CTA's real estate management.

MONITORING EFFICIENCY AND EFFECTIVENESS OF REAL ESTATE OPERATIONS

The efficiency and effectiveness of real estate operations, including planning, development, management and disposal, are geared to the provision of transit operations. The operating divisions are for the most part the users and managers of real estate services.

When real estate services are provided, it is necessary to be aware that those activities are generally isolated from the mainstream of real estate that is conducted in a competitive commercial environment. When the "customer" is responsible for key decisions that have far-reaching financial implications, there is the risk that market discipline will be overlooked or be ineffective. In this regard, the customers in each of the transit agencies are the bus and rail operating divisions.

To bridge this gap and ensure that practices and procedures are consistent with those that are applied in the competitive real estate environment, we examined the degree to which each organization maintains guidelines or financial standards to measure the cost of its accommodation and value of its real estate holdings.

Our examination of real estate operations in each organization revealed instances in which decisions to own or lease real estate were evaluated with reference to alternative forms of ownership and management. CTA, for example, considered a range of possible

sites and forms of tenure when making its decision to acquire the West Lake property. Pace officials noted that they lease parking facilities to pre-test the concept of new "Park and Ride" operations before formally acquiring the property. Metra officials stated they consider whether outright acquisition or easement is required to secure a property for its intended purpose and that Metra employs a wide range of techniques to hold property (e.g., fee simple, co-tenancy, joint-tenancy, leasehold, permanent easement, City of Chicago permanent grant for railroad purposes, and license agreement).

While each organization has adapted its own doctrine and management practices for the management of its real estate portfolio, none of the Service Boards disclosed a standardized form of benefit/cost analysis, break-even analysis, or other guidelines for conducting financial due diligence with respect to real estate acquisitions and disposal. We understand that the scale of operations and facilities that are owned and operated by Pace may not warrant that level of detailed real estate due diligence or third-party analysis. Despite the infrequency with which new facilities are acquired or surplus property is disposed by CTA and Metra, it would be appropriate for these organizations to each establish a written protocol, regardless of the level of detail, that provides guidance in future transactions.

REAL ESTATE MANAGEMENT	
RECOMMENDATION NUMBER **46**	***CTA and Metra should develop a formal process based on current practices that considers the opportunity cost of owning and managing their own real estate portfolio, which can be employed on a systematic basis when considering the manner in which property should be acquired, managed, and disposed.***
CTA RESPONSE	CTA agrees and is pursuing these efforts through the outsourcing of real estate management.
METRA RESPONSE	Metra currently employees [sic] such a process, though not in a codified form. Metra fully comprehends the opportunity cost of owning and managing real estate, and factors in all of the pros and cons and various types of acquisition interests at the time of initial property acquisition consideration. As an example, Metra has a policy of partnership with the local municipalities it serves in the region, with respect to the control of commuter rail parking and/or stations. Metra believes that there are inherent benefits in entering into agreements to turn over the operation and maintenance responsibility of these parking lots and stations to the local communities so that it can focus on its core operation. While Metra agrees to forgo the revenue these operations may generate, it is relieved of the maintenance and other liabilities associated with operating this property. In return, the local communities become more vested in enhancing the commuter rail operation, take pride in "their" parking lots and stations, and pledge all revenue earned towards future capital improvements for

	these facilities. Metra points out the seeming inconsistency of the comments in Section 8 of the report regarding the fact that its parking revenues are below "peer" railroads, with the comment in this section about evaluating the opportunity cost of owning and managing all of its parking lots and stations. Metra will document its process
AUDITOR COMMENTS	**There is no "seeming inconsistency" between the auditors' conclusions in Chapter 8 that Metra's parking revenues are below peer averages and Recommendation #45 that Metra should exercise due diligence in its real estate management practices. First, Recommendation #45 includes all real estate, not just parking lots. Second, Metra's parking revenues are below the peer average. Third, Recommendation #45 is recommending that Metra formally document the opportunity costs associated with its property management decisions, which Metra, in its response, acknowledges is *not* being done.**

AECOM REPORT FINDINGS ON REAL ESTATE

The AECOM report cited a number of recommendations for action by CTA with respect to real estate planning and operations. We reviewed those recommendations and subsequent actions that may have been implemented by CTA in the context of our audit.

Overall, we found CTA is working to implement the majority of the recommendations provided to it by the AECOM consultant's report. In general, our review concurred with the AECOM's conclusions regarding real estate. There were, however, a few areas where our conclusions differed. For example, the AECOM report recommended that management of real estate be outsourced. We concluded that there appears to be sufficient expertise within CTA to manage real estate in an efficient and effective manner. Where applicable, CTA may examine the possibility of supplementing its own expertise with that of outside contractors on a task-by-task basis.

Several of the AECOM recommendations focused on more efficient utilization of existing office space, as well as exploring opportunities to generate additional revenues. We agree in principle with these recommendations and have observed a good faith effort on the part of CTA to implement the majority of them.

AECOM RECOMMENDATIONS	
RECOMMENDATION NUMBER 47	***The CTA should continue to implement the AECOM recommendations related to the management of real property.***
CTA RESPONSE	CTA agrees.