

Vehicle Use by Employees of the Milwaukee Department of Neighborhood Services

**Kristen Grill
Erik Larson
Tim Steiner**

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Foreword

This report, which analyzes ways in which the Milwaukee Department of Neighborhood Services might better provide vehicle options for its employees, is the product of a collaboration between the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison and the City of Milwaukee’s Budget and Management Division in the Department of Administration, and departments of Neighborhood Services and Public Works. This partnership gives graduate students at La Follette the opportunity to practice their policy analysis skills while contributing to the capacity of the City of Milwaukee to effectively provide public services.

The La Follette School offers a two-year graduate program leading to a master’s degree in public affairs. Students study policy analysis and public management, and pursue a concentration in a public policy area of their choice. They spend the first year and a half taking courses in which they practice using the tools needed to analyze public policies. The authors of this report are all enrolled in Public Affairs 869, Workshop in Public Affairs, Domestic Issues. Although acquiring a set of policy analysis skills is important, there is no substitute for doing policy analysis as a means of learning policy analysis. Public Affairs 869 provides graduate students that opportunity.

The students were assigned to one of several project teams. Two additional groups worked with the City of Milwaukee’s Budget and Management Division, while others worked with the Wisconsin Joint Legislative Council, and the Wisconsin departments of Revenue, Administration, and Health and Family Services. The topic of this report—identifying ways to manage the utilization of work-related vehicle options for city employees—was chosen by Mark Nicolini, the budget director of the City of Milwaukee, in consultation with his staff.

In Milwaukee, the Department of Neighborhood Services is one of many agencies that provide services requiring employees to travel around the city. The central question of this report was how to determine the most efficient vehicle use. The three main policy alternatives are to have the city directly provide the vehicles through the Department of Public Works, to reimburse employees for use of their personal vehicles, or to lease new vehicles for employees. A fourth option would be to maintain the status quo, where the majority of employees are reimbursed for the use of their vehicles, while the others use vehicles the DPW provides.

The research team created a series of detailed cost analyses, using a variety of assumptions. They found that the most cost-efficient alternative is to reimburse employees for the use of their personal vehicles. This was significantly cheaper than the next policy option, the status quo, followed by city provision of vehicles and then leasing. In addition to examining cost, the research team undertook a survey of employee opinions. They found strong employee support for city-provided vehicles rather than personal provision of vehicles. At the same time,

employees criticized the quality of city-provided vehicles. Given that the City is unlikely to purchase or lease a significant number of new vehicles, it does not seem that the City can offer an option that fosters high employee satisfaction and financial feasibility. On this basis, the research team recommends reimbursing employees for using their personal vehicles and details how alternate reimbursement schedules would affect the cost of this option.

This report would not have been possible without the support and encouragement of Budget Director Mark Nicolini, Eric Pearson, and Erick Shambarger, who served as the project coordinator for the Budget and Management Division, solicited ideas for policy analysis from the Budget Office staff, and coordinated the efforts of staff in support of the project. Jeffrey Crouse at the Department of Neighborhood Services provided project advice and invaluable support in administering the survey of DNS employees. Michael O'Donnell of the Department of Public Works gave practical guidance in helping the authors understand how the City provides vehicles to city employees.

The report also benefited greatly from the support of the staff of the La Follette School. Outreach Director Terry Shelton, along with Kari Reynolds, Mary Mead, and Gregory Lynch, contributed logistical and practical support. Karen FASTER, La Follette publications director, edited the report and shouldered the task of producing the final bound document.

I am very grateful to Wilbur R. Voigt whose generous gift to the La Follette School supports the La Follette School public affairs workshop projects. With his support, we are able to finance the production of the final reports, plus other expenses associated with the projects.

By involving La Follette students in one of the tough issues faced by the City of Milwaukee, I hope the students not only have learned a great deal about doing policy analysis but also have gained an appreciation of the complexities and challenges facing city government in Wisconsin and elsewhere. I also hope that this report will contribute to the work of Mayor Barrett, the Division of Budget and Management, the Department of Public Works, and the Department of Neighborhood Services.

Donald Moynihan
May 1, 2007

Acknowledgments

The authors would like to thank those individuals who contributed in the production of this report. We would like to personally thank Mark Nicolini, Eric Pearson, Erick Shambarger, Jeffrey Crouse, and Michael O'Donnell of the City of Milwaukee for their invaluable assistance throughout the course of the project. We appreciate the opportunity to work on a project with real-world applications. We would also like to thank Bert Dodds of the Wisconsin Department of Administrations Bureau of Enterprise Fleet for his helpful advice. Last, but not least, we would like to thank Karen FASTER for her help in editing our report and Professor Donald Moynihan of the University of Wisconsin-Madison for his guidance and insights.

Executive Summary

The Milwaukee Department of Neighborhood Services (DNS) has 116 employees who use vehicles to conduct their daily work for the city. The city reimburses DNS employees for their use of personal vehicles or provides city vehicles for work use. In this report, we evaluate the current DNS vehicle use policy. Furthermore, we evaluate three alternative methods of vehicle provision: 100 percent personal provision of vehicles, 100 percent city provision of vehicles, and 100 percent provision of leased vehicles.

The employee provision alternative would require that all DNS employees provide personal vehicles for their work. This alternative would force the 34 employees who now use city vehicles to provide personal vehicles for DNS-related work. City provision of vehicles to all DNS employees would entail the provision of 116 vehicles by the Department of Public Works (DPW) to DNS. This alternative would require that the City purchase 82 new vehicles. The third alternative involves DNS leasing all 116 vehicles from a private vendor.

Our main criterion for the evaluation of the status quo and the three alternatives is cost. At an annual cost of \$237,691, or 36 cents per mile, personal vehicle provision is the least expensive of the three alternatives and the status quo. The status quo is the second least expensive policy at a cost of \$255,390 to \$294,693 annually, or 38 to 44 cents per mile. City vehicle provision and leasing vehicles are more costly than personal vehicle provision. City provision would cost \$403,347 to \$595,011 annually, or 60 to 89 cents per mile. Leasing would cost the City an estimated \$533,900 annually, or 80 cents per mile.

In addition to cost, we assess each alternative according to the following secondary criteria: productivity, employee safety, equity, and feasibility. Leasing and city provision score relatively high in terms of productivity, employee safety, and equity. However, they are the two costliest alternatives. Also, implementation for both of these alternatives would be difficult and relatively less feasible.

In light of our analysis, we recommend the personal vehicle provision alternative. While this alternative rates low for equity and may be unpopular with employees, it is clearly the most cost-effective alternative.

Introduction

The Milwaukee Department of Neighborhood Services (DNS) has approximately 116 employees who need access to vehicles to conduct their work for the City. The City provides some employees with vehicles from a fleet managed by the Department of Public Works (DPW). Other employees use their personal vehicles, for which the City reimburses them. The Milwaukee Budget and Management Division commissioned us to analyze vehicle use by DNS and determine whether alternative ways can meet the Department's needs at a lower cost to the City of Milwaukee.

DNS was created in 1999 to ensure the physical quality, aesthetics, and environmental conditions within the City. DNS conducts tasks that include residential code enforcement, trade and commercial inspection services, nuisance control, and maintenance of city-owned vacant lots. The nature of the work conducted by DNS employees requires extensive travel throughout the City and results in a total reliance on vehicles to complete their assigned duties.

The City of Milwaukee operates in an environment of severe fiscal constraints and faces a structural deficit. "The 2006-2008 budget plan estimates a three-year structural imbalance between baseline revenues and expenditures of approximately \$166 million" (Milwaukee Department of Administration, 2006). To address the deficit, Milwaukee's 2006 budget proposed to "continue to prioritize operating expenditures" and "improve service quality and productivity" (Milwaukee Department of Administration, 2006).

In light of the City's fiscal situation, the Office of the Comptroller produced a 2004 report and expressed concerns that the current method of centralized fleet management through DPW is too costly and inefficient. The 2004 report found, amongst other things, that:

- A lack of citywide fleet management standards and enforcement exists, with little emphasis on cost control;
- Some departments underutilize their vehicles (the average mileage per vehicle per year was 4,504 miles);
- Departments have little incentive to lower vehicle-related costs (Milwaukee Office of the Comptroller, 2004).

While the report condemned some city practices, it highlighted DNS as a positive example of citywide fleet management standards. Although it appears DNS implemented relatively robust management standards, the Budget and Management Division still tasked us with evaluating whether DNS, through its formal relationship with DPW, manages its small fleet of vehicles at optimal efficiency. Thus, we look at DPW practices when evaluating the costs of alternative forms of DNS vehicle provision policies.

Scope of Analysis

In this report, we evaluate the method that the City uses to provide for vehicle use by DNS employees. We also propose and analyze three alternative methods of vehicle provision that the City might instead choose to employ at DNS.

The primary aim of our analysis involves analyzing whether alternative means exist to provide DNS vehicles at a lower cost to the City. However, our analysis considers a number of other factors. We assess the relative benefits of each type of vehicle provision by assessing each policy in terms of the productivity and safety of DNS employees, the equity of each policy as it pertains to DNS employees, and the feasibility of each policy.

According to data provided by Jeffrey Crouse of DNS (personal communication, February 2007), DNS's fleet of DPW-provided vehicles is aging rapidly, with some vehicles approaching two decades and other vehicles with mileage above 125,000.¹ Declining vehicle quality due to an aging fleet may reduce worker productivity. First, inspectors lose time in the field when they must wait with broken-down vehicles. DPW does not have enough vehicles to guarantee replacements for vehicles that are temporarily out of commission (Michael O'Donnell, personal communication, February 2007). Inspectors without vehicles cannot perform their assigned duties. Second, poor vehicle quality could reduce employee morale. Third, public respect for inspectors might diminish because of poor vehicle appearance, resulting in a lack of cooperation from Milwaukee residents. We surveyed DNS employees to assess their opinions and experiences related to vehicle reliability and worker productivity. DNS administrators distributed the survey to all 116 DNS employees who use a vehicle in their day-to-day work for the city. We received 81 survey responses (a 70 percent response rate). Appendix D shows a summary of the survey results.

We also examine whether intangible benefits exist when employees use clearly labeled city vehicles. If benefits exist, then worker productivity may decline when employees use their personal vehicles. In the past, DNS has used magnetic signs for marking personal vehicles used by temporary employees in the Nuisance and Environmental Health Division (see photos in Appendix A). Use of signs might be expanded to provide temporary markings for all private vehicles if intangible benefits exist.

DNS employee safety is an additional concern. Some vehicles might be unsafe to drive. According to interviews with DNS management (personal communication, February 2007), many DNS inspectors refuse to take certain vehicles on the highway. Furthermore, a broken-down vehicle compromises the safety of employees when stranded in unsafe areas of the city. We analyze our employee survey data to ascertain DNS employees' perceptions of vehicle safety.

¹ DNS provided us with data that indicates the make, model, and year of each vehicle in their fleet, in addition to per vehicle mileage data.

Last, the current vehicle use policy might impose burdens on DNS employees, the majority of whom must supply vehicles for their work. This may expose them to burdens that include higher insurance and vehicle maintenance costs, and increased exposure to vehicle vandalism. DNS reimburses employees for personal vehicle use at rates negotiated with the employee unions, so reimbursement may outweigh these additional expenses. The employee survey helps to assess the perceived presence or severity of burdens placed on DNS employees.

The Status Quo: Current DNS Vehicle Use

DNS employs a mixed-use vehicle provision policy. DNS assigns City vehicles to 34 employees in the Plumbing Section and in the Nuisance and Environmental Health Division. The remaining 82 employees must provide their own vehicles. The City reimburses DNS employees for the use of their personal vehicles through a pre-determined mileage reimbursement rate established through negotiation between the City and the employee unions represented by District Council 48 (Jeffrey Crouse, personal communication, April 2007).

The DPW provides and maintains the City vehicles for DNS. Under the current arrangement, the DPW rents 34 vehicles to DNS and provides loaner vehicles, if available, in the event of vehicle breakdown or routine maintenance. According to data supplied by the DPW (personal communication, March 2007), the vehicles range from compact cars to pickup trucks, with mileage as low as 18,665 miles and as high as 127,490 miles. The vehicles range from 1989 to 2004 model years.

The DPW leases the vehicles to DNS at rates that depend on the class of vehicle (compact car, full size car, pickup truck, etc.). In total, the DPW assigns rates to 23 vehicle classes. The City of Milwaukee's Office of the Comptroller determines the fleet rates based on the average maintenance cost of a specific class of vehicle (e.g. full size, compact, etc.) for the average month. To calculate the monthly rental rate, the Comptroller's Office takes the two highest years out of the past three years to determine an average, annual maintenance cost. The Comptroller's Office then divides the annual figure by 12 and, subsequently, by the number of units in the vehicle class to determine per vehicle, monthly rental rates. The figure thus far only includes maintenance expenses. The Comptroller's Office then assigns an administrative fee to the base monthly maintenance cost. The administrative fee primarily includes the cost associated with purchasing, maintaining, and operating the computer hardware and software necessary to log vehicle information that includes repair, purchasing, and fueling records (Milwaukee Department of Public Works, n.d.).

The Comptroller's Office omits two notable expenses in its maintenance figure: purchase costs and fuel expenses. According to DPW, the monthly rental rates do not incorporate the cost of the initial vehicle purchase, which DPW contends artificially lowers their rates. In addition, DNS is responsible for the payment of all fuel costs.

DPW provides discounted gas to DNS at 10 City-owned stations throughout Milwaukee (Michael O'Donnell, personal communication, April 2007). Employees who use city vehicles may patronize these stations, but employees who use their personal vehicles may not. According to DPW, this is because the gas is tax exempt and therefore cannot be used for personal driving. Whereas the City can ensure that city-controlled vehicles are only used for business, employees will inevitably use personal vehicles for business and personal driving (Michael O'Donnell, personal communication, February 2007).

The 82 employees not in the Plumbing Section or the Nuisance and Environmental Health Division drive their personal vehicles for work. DNS requires that as a pre-condition of employment, prospective employees must have working vehicles, present valid drivers licenses and proof of insurance, and agree to use their vehicles for DNS-related work (Jeffrey Crouse, personal communication, April 2007). Employees must also supply replacements if their vehicles are unavailable for any reason (e.g., vehicle maintenance). DNS’s enforcement of this policy was confirmed by comments in responses to our survey of DNS employees.

The City reimburses DNS employees who supply their own vehicles per a reimbursement rate schedule. The City of Milwaukee’s Office of the Comptroller sets several rate schedules for various types of city employees (Private Transportation Reimbursement ordinance [2005]). City officials determined the final reimbursement rate for DNS employees through negotiation with the employees’ union (Jeffrey Crouse, personal communication, April 2007). Table 1 shows the personal vehicle reimbursement schedule for DNS employees.

**Table 1:
Personal Vehicle
Reimbursement Rate Schedule**

Monthly Miles Driven	Monthly Base Amount	Additional Cents per Mile ¹
0-134	\$29.00	0
135-200	\$29.00	46.5
201-300	\$59.69	42.4
301-400	\$102.09	35.5
401-500	\$137.59	33.0
501+	\$170.59	32.5

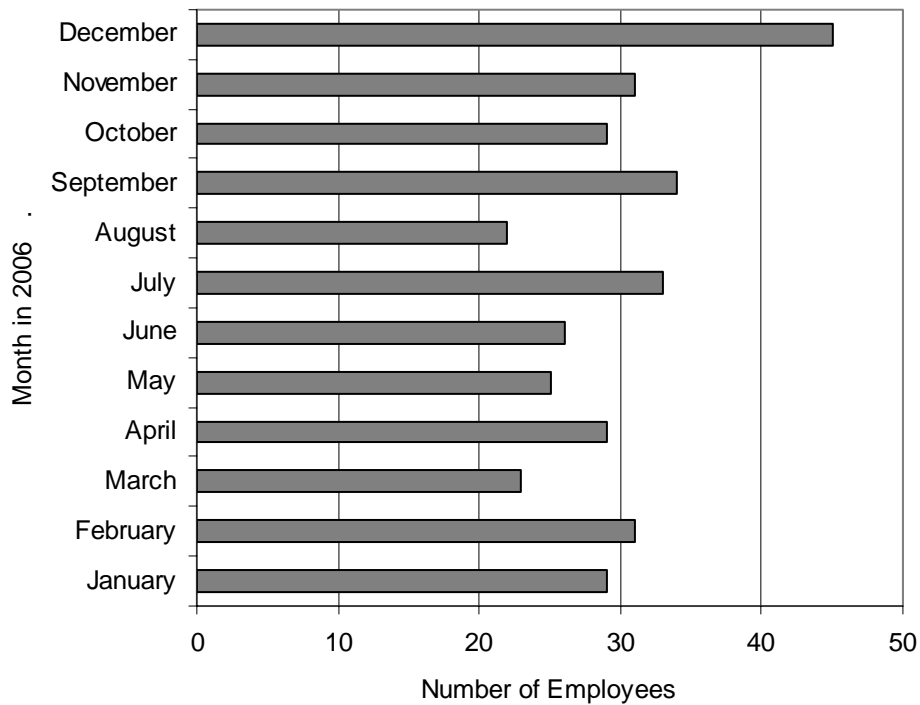
¹These additional cents per mile are only paid for the miles driven in the particular range.

Source: City of Milwaukee and Milwaukee District Council 48 AFSCME, AFL-CIO. (2004). Contract for January 1, 2004-December 31, 2006.

According to city ordinance, the City guarantees that each DNS employee required to supply a vehicle receive a minimum monthly reimbursement equivalent to 300 miles per month “even though no actual miles may be driven” (Private Transportation Reimbursement ordinance [2005]). Under current mileage reimbursement rates, the 300-mile-per-month provision equates to a minimum reimbursement of \$102.09 per month for each of the 82 employees required to supply a vehicle

(Jeffrey Crouse, personal communication, March 2007).² Employees who provide personal vehicles for work incur fixed and variable costs in any arrangement. This minimum monthly reimbursement guarantee ensures that the City compensates all employees for fixed costs. According to our analysis of DNS data, the minimum guaranteed reimbursement was employed 357 times in 2006 to reimburse employees who drove less than 300 miles in a given month (Jeffrey Crouse, personal communication, March 2007). Figure 1 shows a per-month breakdown of reimbursements made at the guaranteed minimum rate in 2006.

**Figure 1:
Number of DNS Employees Reimbursed
at Guaranteed Minimum Rate by Month, 2006**



Source: Authors' calculations

² DNS supplied us with its records of actual employee reimbursement.

Alternative Policies

In this section, we introduce three means by which the City can provide vehicles for use by DNS employees. The first alternative is to provide all DNS employees with city-owned vehicles from the DPW-managed fleet. The second is to require all DNS employees to use their personal vehicles, with the City reimbursing DNS employees for miles driven. The third alternative is to contract out vehicle provision by leasing vehicles from a private vendor. The remainder of this section details each alternative. The next section evaluates the relative ability of each alternative to meet specific policy goals.

Provide City Vehicles to all Employees

Under this alternative, DPW would provide vehicles to all DNS employees who require vehicles to perform their duties. DNS would store the vehicles in city-owned garages near the department's offices. DNS employees would fuel their vehicles with gas from DPW-operated gas stations. DPW would charge DNS a flat monthly rate for each vehicle and a variable rate for the gas. The monthly cost for gas would depend on the gallons consumed and on fuel prices.

Currently, DPW provides 34 of the 116 DNS employees with vehicles. Under this alternative, DPW would have to provide DNS with 82 more vehicles. As a result, the City would have to purchase new vehicles to accommodate DNS's new demand. Furthermore, the City of Milwaukee would have to provide DNS with additional parking stalls near DNS offices.

Require all DNS Employees to Use Personal Vehicles

Under this alternative, the 34 DNS employees from DNS Plumbing Section and the Nuisance and Environmental Health Division who use city vehicles would instead use their personal vehicles. Consequently, DNS would reimburse 116 DNS employees for vehicle use. Under the current rules, DNS employees would receive at least \$102.09 per employee per month. DNS employees who drive more than 300 miles in a month would receive reimbursement per a rate schedule defined by city ordinance.

A personal-use vehicle policy would require DNS employees to supply vehicles for any day that work requires travel. If a vehicle is unavailable (including if it needs repair), the employee would bear the responsibility of finding a substitute. This is the current policy for employees without city vehicles.

Under this scenario, DPW would take back city vehicles used by DNS staff. The City would sell several of the oldest cars in the fleet, reflecting the reduced need for city cars.

Lease Fleet of Vehicles for DNS Employees

The third alternative involves DNS leasing all 116 vehicles from a private vendor. DNS has two primary vehicle lease options: a closed or open-ended lease. Our analysis will focus on a closed-end vehicle lease, an arrangement that imposes annual mileage and wear-and-tear restrictions upon the lessee. This form of vehicle lease reduces the risk to the lessee. The lessor bears the responsibility of paying the difference between the actual and residual value of the vehicle at lease end (U.S. Federal Reserve Board, n.d.b).³ For a definition of common lease terms, including close- and open-ended leases, see Appendix B.

For the sake of our analysis, we evaluate the costs associated with a three-year (36-month), 15,000-mile-per-year, closed-end leasing arrangement. The lease agreement does not include any additional options, such as extended warranty coverage, special vehicle outfitting, or roadside assistance. Appendix C provides justification of our leasing assumptions.

Since the City could better ensure that DNS employees would use leased vehicles for business, DNS could continue to take advantage of DPW-operated gas stations. Access to DPW-operated gas stations, in turn, allows DNS to benefit from DPW's discounted fuel prices.

Our analysis assumes that DNS is only responsible for maintenance and repair costs not included in the vehicle's 36,000 mile, bumper-to-bumper warranty. This typically takes the form of scheduled and unscheduled vehicle maintenance ("Warranty: Guide to New Car Factory and Extended Warranties," n.d.). DNS would assume responsibility for acquiring vehicle maintenance outside the terms negotiated in the lease contract.

³ The residual value of the vehicle is its predicted value at the end of the lease term. The lessor calculates the residual value in advance of a vehicle leasing arrangement. The actual (or realized) value is the fair market value for the leased vehicle at lease termination (U.S. Federal Reserve Board, n.d.b). In a closed-end lease, for example, if a lessor predicts a residual value of \$10,000 at lease end and the actual value is \$8,000, the lessor bears the \$2,000 burden between the two values. For further clarification of these terms, please reference Appendix B.

Evaluation of Alternatives

We evaluate each of the alternative policies and the status quo by their ability to meet five criteria: cost, productivity, employee safety, equity, and feasibility. Table 2 provides a full description of these criteria.

We assess the criteria used in our analysis with rankings of low, medium, and high, with the exception of cost, which we rank in dollar terms. For the non-quantitative criteria – productivity, employee safety, equity, and feasibility – we relied on our personal judgment when assigning ratings. For much of the non-cost criteria, we based our analysis on the results of our survey of DNS employees. For more information about the employee survey, see Appendix D. The low, medium, high rankings are relative within criteria but not across criteria. For instance, a “high” ranking for a specific policy alternative in the equity criterion does not necessarily carry the same value or meaning as a “high” ranking for a specific policy alternative in the productivity criterion.

**Table 2:
Evaluation Criteria**

Cost	Cost is the primary criterion by which we evaluate the various alternatives. Each policy alternative and the status quo will present cost in terms of two figures: average annual cost and average cost per mile.
Productivity	The productivity criterion evaluates DNS employees' abilities to conduct their work under a given vehicle use policy. Productivity is a direct outcome of the availability and reliability of vehicles under a specific vehicle use policy.
Employee Safety	The employee safety criterion assesses the safety of the vehicles utilized by DNS employees under a specific vehicle use policy. Safety also relates to vehicle reliability. Reliable vehicles allow DNS employees to quickly extract themselves from dangerous situations and help them avoid unsafe situations that result from broken-down vehicles.
Equity	The equity criterion assesses the burdens placed on DNS employees by a specific vehicle use policy. Since DNS employees are the primary group directly affected by any policy change, we examined equity in terms of the burdens placed upon this group.
Feasibility	Our analysis of feasibility evaluates political and administrative feasibility. Political feasibility primarily includes consideration of policymakers at the Budget and Management Division and DNS, while administrative feasibility examines the complexity of each policy for DNS administrators.

Cost

In estimating costs, we have to make a number of assumptions, and for the status quo and city vehicle option, we offer a range of costs. However, the overall differences between the costs of the alternatives are great enough that the personal vehicle reimbursement is clearly the least costly alternative, followed by the status quo, with the city-vehicle and leased-vehicle alternatives being the most expensive. Table 3 shows a summary of costs by alternative and the status quo.

**Table 3:
Comparison of the Costs
of Vehicle Provision Alternatives**

	Status Quo	100 Percent City Provision	100 Percent Personal Provision ¹	Leased Vehicles
Cost Annual	\$255,390 – \$294,693	\$403,347 – \$595,011	\$237,691	\$533,900
Cost Per Mile	38 – 44 cents	60 – 89 cents	36 cents	80 cents

¹ Additionally, the city would receive an estimated \$20,400 from the sale of unneeded vehicles.

The status quo costs \$255,390 to \$294,693, or 38 to 44 cents per mile

Under the status quo, the City pays for the provision of 34 cars from the DPW fleet and provides mileage reimbursement for 82 employees who use personal vehicles. The total annual cost to the City is between \$255,390 and \$294,693.

We used 15-, 10- and seven-year estimates for lifespan drawn from two sources. First, we based the 15-year estimate on the article *End-of-Life Vehicle Recycling in the European Union*, which states, “the average lifespan of a car in use is between 12 and 15 years” (Kanari, et al., 2003). A 15-year lifespan is therefore at the outer range of assumptions, but we employed a generous estimate because it is in line with current DPW policies of using vehicles for as long as possible. Many DNS vehicles exceed 15 years in age, and some are 19 years old. Second, the 10-year and seven-year estimates are those used in *Audit of City of Milwaukee Fleet Management Automobiles and Pickup Trucks*, a report published in 2004 by the City of Milwaukee’s Office of the Comptroller (Milwaukee Office of the Comptroller, 2004). Table 4 contains the three estimates for average annual depreciation of each vehicle type.

**Table 4:
Depreciation Estimates for Three Vehicle Types**

	Low Estimate (Assumes a 15-Year Lifespan)	Moderate Estimate (Assumes a 10-Year Lifespan)	High Estimates (Assumes a 7-Year Lifespan)
Average annual depreciation for cars	\$895.2403	\$1,342.86	\$1,918.37
Average annual depreciation for trucks	\$1,094.036	\$1,641.05	\$2,344.36
Average annual depreciation for vans	\$1,351.17	\$2,026.76	\$2,895.36

Source: Authors' calculations

According to our calculations, the cost to provide 34 vehicles to DNS is between \$115,264.08 and \$154,567.06. Currently, DPW provides DNS with 18 cars, 13 trucks, and three cargo vans. To calculate average total costs per vehicle for each vehicle type, we used three cost figures: depreciation, maintenance, and fuel. Appendix E displays three estimates for the average annual costs of city cars, trucks, and cargo vans. These represent low, moderate, and high estimates based on various assumptions for vehicle life. The low estimate assumes a 15-year lifespan, the moderate estimate assumes a 10-year lifespan, and the high estimate assumes a seven-year lifespan. Assuming a 15-year lifespan, the average cost for a city-provided car is \$2,889 per year, or 43 cents per mile. With a seven-year lifespan, the annual cost is \$3,912, or 58 cents per mile. The average annual costs for city-provided trucks range from \$3,835.96, or 53 cents per mile, to \$5,086.28, or 70 cents per mile. The average annual costs for city vans range from \$4,459.81, or 75 cents per mile, to \$6,004.00, or \$1.02 per mile.

Calculating Average Yearly Depreciation for City Provision under the Status Quo
We calculate yearly vehicle depreciation by dividing vehicle purchase price by vehicle lifespan. To find the average depreciation for each type of vehicle, we first calculate the average vehicle purchase cost, adjusted to 2006 dollars, for each vehicle type. We find the average purchase price, adjusted to 2006 dollars, is \$13,428.61 for cars, \$16,410.54 for trucks, and \$20,267.55 for vans (Friedman, 2006).⁴ Appendix F displays the original vehicle purchase prices, purchase year, and the purchase price adjusted to 2006 dollars. Assuming higher purchase costs for vehicles results in higher annual depreciation.

Calculating Maintenance Costs, Fuel Costs, and Average Miles Driven

To determine average annual maintenance costs, we multiply the monthly fee the DPW charges to maintain vehicles in each category by 12. DPW charges DNS a monthly fee of \$104.21 for cars, \$137.41 for trucks, and \$132.47 for

⁴ “The Inflation Calculator” was used to calculate inflation. Appendix F lists the parameters necessary to replicate these calculations.

vans (personal communication, February 2007), which represent the average monthly maintenance costs. Therefore, the average annual maintenance cost is \$1,250.52 for cars, \$1,648.92 for trucks, and \$1,519.00 for vans. The average fuel costs are the actual average fuel costs for each vehicle type in 2006. Appendix G displays 2006 fuel costs for each of the 34 city vehicles DNS uses. The average annual fuel costs per vehicle are \$744 for cars, \$1,093 for trucks, and \$1,519 for vans. The average miles driven in each vehicle category are the average of the actual miles driven for each vehicle type in 2006. Appendix G also displays the miles driven in 2006 for each of the 34 city vehicles DNS uses. The average annual miles driven per vehicle are 6,701 for cars, 7,257 for trucks, and 5,910 for vans.⁵

Aggregated Average Cost of City Provision under the Status Quo

Table 5 provides cost estimates for all 34 vehicles. These cost estimates are the average costs for all 34 DNS vehicles. This table provides three estimates of the costs for the city provision of 34 vehicles to DNS. The low estimate assumes a 15-year life span, the moderate estimate assumes a 10-year lifespan, and the high estimate assumes a seven-year lifespan.

**Table 5:
Cost Estimate for City Provision of 34 Vehicles**

	Low Estimate (Assumes a 15-Year Lifespan)	Moderate Estimate (Assumes a 10-Year Lifespan)	High Estimate (Assumes a 7-Year Lifespan)
Depreciation per vehicle	\$1,011.48	\$1,517.22	\$2,167.45
Maintenance per vehicle	\$1,432.77	\$1,432.77	\$1,432.77
Fuel per vehicle	\$945.87	\$945.87	\$945.87
Total per vehicle	\$3,390.12	\$3,895.86	\$4,546.09
Total costs for 34 vehicles	\$115,264.08	\$132,459.24	\$154,567.06
Average miles	6,840	6,840	6,840
Per mile cost	50 cents	57 cents	66 cents

Source: Authors' calculations

⁵ DPW provided the 2006 fuel costs and miles driven.

Employee Provision with the Status Quo

In 2006, the City paid \$140,126 in mileage reimbursement to the 82 employees required to use private vehicles for work. Employees using private vehicles averaged 392 miles per vehicle per month (4,698 miles per vehicle per year). By dividing the average monthly reimbursement rate by the sum of average monthly mileage, we derived a cost of 36 cents per mile for personal vehicle use under the status quo. This is close to the median mileage reimbursement rate.

Total Costs for Status Quo

Combining the cost of reimbursement for personal vehicle use and the cost of city provision of vehicles yields a total cost of between \$255,390 and \$294,693 for vehicle provision with the status quo. A simple comparison of current per mile costs suggests that it costs the City a good deal less to reimburse DNS employees for personal vehicle use (36 cents per mile) than from DPW supplied vehicles (50-66 cents per mile).

City provision costs \$401,992 to \$595,011, or 60 to 89 cents per mile

In this section, we explore the costs associated with the provision of 116 vehicles by DPW to DNS. The cost figures include vehicle depreciation, maintenance, and fuel cost estimates. Table 6 summarizes our three cost estimates for 100 percent city provision of vehicles to DNS employees under three depreciation scenarios. The low estimate assumes a 15-year lifespan, the moderate estimate a 10-year lifespan, and the high estimate a seven-year lifespan. Our final total annual cost estimates for city provision ranges from \$401,992 to \$595,011, or 60 to 89 cents per mile.

**Table 6:
Annual Cost Estimates for City Provision of 116 DNS Vehicles**

City Provision	Low Estimate (Assumes a 15-Year Lifespan)	Moderate Estimate (Assumes a 10-Year Lifespan)	High Estimate (Assumes a 7-Year Lifespan)
Average debt service or depreciation per vehicle	\$1,235.23	\$1,709.00	\$2,899.19
Average maintenance costs per vehicle	\$1,432.77	\$1,432.77	\$1,432.77
Average fuel costs per vehicle	\$797.45	\$797.45	\$797.45
Average total costs per vehicle	\$3,465.45	\$3,939.22	\$5,129.41
Total costs for 116 vehicles	\$401,992.20	\$456,949.52	\$595,011.56
Average miles driven	5,772	5,772	5,772
Average per mile costs	60 cents	71 cents	89 cents

Source: Authors' calculations

Calculating Average Yearly Debt Service and Depreciation

For our low estimate, we use average debt service costs for the 82 vehicles that DPW would need to purchase with this alternative. Given Milwaukee's financial situation, the City is unlikely to be able to afford to pay for 82 new vehicles in one year. Therefore, we use a combination of debt service and depreciation, instead of just depreciation, for our low estimate.

To calculate average debt service per vehicle, we assume that each vehicle would cost \$15,172 and the total cost to purchase 82 vehicles would be \$1,244,104. The average of the original purchase price of the 34 city vehicles the DNS uses is \$15,172, adjusted to 2006 dollars. Appendix H contains an approximation of the debt service schedule the City would face if it issued \$1,244,104 in general obligation serial bonds and paid off this debt in equal parts over 15 years. A 15-year vehicle lifespan is at the outer range of assumptions for vehicle life. Furthermore, the per-vehicle cost of \$15,172 is at the lower range of assumptions. We used these estimates so that we could provide a low estimate for the cost of city provision. With the estimated debt schedule we have derived, debt service would be an average of about \$1,328 per year, per vehicle over 15 years. Our sample debt service schedule uses the interest rates from a \$159,985,000 serial bond issued in 2002, which is shown in Appendix I (City of Milwaukee, n.d.). To calculate the final cost for this section, we averaged the 15-year estimate of depreciation for the 34 city vehicles DNS uses (see Table 5), with the average annual debt service for the 82 vehicles the City would have to purchase for the DNS. We used the equation $[(1,328*82)+(1,011.48*34)]/116$ and came up with \$1,235.23 for our annual per vehicle depreciation/debt service number in the "low estimate."

Our moderate and high estimates in Table 6 calculate depreciation using vehicle purchase costs and life span assumptions that come from the 2004 audit of fleet management conducted by the Milwaukee Office of the Comptroller (2004). This report has two key differences from our low estimate that increase depreciation costs. First, the audit estimated average purchase costs to be higher. While we found the average purchase price, adjusted to 2006 dollars, to be \$13,428.61 for cars, \$16,410.54 for trucks, and \$20,267.55 for vans, or an average of \$15,172 for all 34 vehicles, the comptroller's audit estimated the purchase costs for cars and trucks in 2004 to be between \$16,000 and \$19,000, or \$17,089.95 and \$20,294.32 in 2006 dollars. Second, the audit assumed the average useful lifespan of a vehicle to be seven to 10 years. Our moderate estimate uses the comptroller's low estimate for depreciation (\$17,090 purchase cost divided by a 10-year life span) and our high estimate uses the comptroller's high estimate for depreciation (\$20,294 divided by a seven-year lifespan).

Calculating Maintenance Costs, Fuel Costs and Average Miles Driven

We based the average maintenance costs in all three estimates on the average monthly fee the DPW charges to maintain DNS vehicles, as discussed in the status quo section.

The fuel cost estimates in this section differ from the fuel cost estimates in the status quo section. This is because the 34 employees in DNS's Nuisance and Environmental Health Division and Plumbing Division, who are the only employees who drive city vehicles, average more miles than other DNS employees. These 34 employees drive 6,840 miles per vehicle per year, but the average miles driven per year for all 116 employees is 5,772. While the average fuel costs for the 34 vehicles owned by the city is \$945.87 (personal communication, March 2007), as displayed in Appendix H, we adjusted the fuel cost to reflect this lower average mileage driven by all 116 employees using the equation $\$945.87 * (5,772 / 6,840)$.⁶ As a result, we estimate the average fuel costs to be \$797.45 per year per vehicle.

Other Cost Considerations

Indirect costs include DPW administration, maintenance employees, and facilities. Since the addition of 82 vehicles to the City's total fleet is a relatively small increase, we assume these indirect costs will not increase.

Although added parking facilities would likely increase the costs of city vehicle provision, we did not include these costs in our analysis. We also did not include insurance costs because the City self-insures its vehicles.

Employee provision would cost an estimated \$237,691 per year, or 36 cents per mile

There are two components to the cost of 100 percent employee vehicle provision: (1) the total annual cost of reimbursing employees for their use of personal vehicles, and (2) the one-time savings from reducing the City fleet. We estimate an annual cost to the City for this alternative of \$237,691 in mileage reimbursement and a one-time gain to the City of about \$20,400 through the sale of unneeded vehicles. We also provide estimated costs to the City of adopting a variety of other reimbursement rate policies.

Cost of employee reimbursement

The cost of this alternative is determined by the mileage reimbursement rate and by the minimum guaranteed reimbursement. Currently, DNS employees are guaranteed reimbursement for at least 300 miles per month even if they drive fewer than 300 miles in the month. By determining average monthly mileage for each employee (based on 2006 driving records), we determined that 28 employees who drive personal vehicles and four employees who drive city vehicles drive fewer than 300 miles per month on average and would therefore routinely receive the minimum guaranteed reimbursement.

To derive the estimated cost of mileage reimbursement under a 100 percent employee vehicle provision alternative, we use records of actual mileage driven by all DNS employees in 2006 to determine a monthly average mileage for each employee (including those who drive city vehicles). We then apply the reimbursement rate

⁶ DPW tracks annual fuel cost and miles driven for the vehicles it provides to DNS.

schedule to arrive at each employee’s average monthly reimbursement. By dividing average reimbursement by the average actual miles driven, we derive a cost-per-mile of the alternative of 35.5 cents (which we present as the rounded number 36 cents throughout this report). Multiplying 35.5 cents per mile by a DNS-wide average annual mileage of 669,552, we arrived at a total annual cost to the city of \$237,691.

Analysis of the Cost of Alternative Reimbursement Rates

We also modified our calculations to determine the cost of this alternative at various mileage reimbursement rates both with the current policy of guaranteeing a minimum reimbursement equal to 300 miles and without that guarantee. We considered three rates. The first is the current rate schedule (provided in Table 1). The second is the federal mileage reimbursement rate as defined by the Internal Revenue Service (IRS). Appendix J provides more information about the federal mileage reimbursement rate. Finally, we determined which mileage reimbursement rate would result in a total cost equal to the costliest alternative analyzed in this report: leasing. Table 7 shows the results.

**Table 7:
Cost Of 100 Percent Personal Vehicle Use
for 116 Vehicles at Various Reimbursement Rates**

	Current Rate		IRS Rate		Rate to Equal Cost of Leasing Alternative	
Reimbursement rate	21.64 to 46.5 cents	21.64 to 46.5 cents	48.5 cents	48.5 cents	77.5 cents	80 cents
Base guaranteed reimbursement	300 miles	0	300 miles	0	300 miles	0
Average cost per mile	36 cents	34 cents	51 cents	49 cents	80 cents	80 cents
Estimated annual cost	\$237,691	\$224,758	\$339,622	\$324,732	\$533,900	\$533,900

Source: Authors’ calculations

One-Time Gain from Vehicle Sales

A final cost consideration for this alternative is the savings realized from eliminating vehicles from the city fleet. If DNS returns its 34 vehicles to the DPW fleet, then DPW will most likely respond by selling a comparable (although perhaps not equal) number of its oldest vehicles. DPW’s 2006 Fleet Report lists the price received by the City the last time it sold older, underutilized passenger vehicles (Milwaukee Department of Public Works, 2006). The City estimated a sale price for older cars, pickups, and vans of between \$500 and \$700. Assuming that DPW

decides to reduce the fleet by the full number of vehicles no longer needed for DNS, we multiply a mid-range estimate of \$600 by 34 vehicles. This results in a one-time benefit to the City of about \$20,400.

Reduction of the fleet by 34 vehicles is unlikely to have any effect on staffing levels at DPW. Thirty-four vehicles would be a very small reduction for a fleet of 399 passenger vehicles and more than 4,000 vehicles overall (Milwaukee Department of Public Works, 2006).

Leasing would cost an estimated \$533,900 or 80 cents per mile

We cite three components to the total cost of leasing a fleet of vehicles for DNS use: the lease rate, maintenance costs, and fuel costs. We then provide an estimate of total costs for adopting this alternative. Finally, we provide rough estimates of lease rates required to lower the cost of this alternative so that it would be comparable to the other alternatives analyzed in this report.

Lease Rate Costs

A lease rate typically covers the depreciation cost of the vehicle during the lease period and a rental charge (also known as a finance fee) (U.S. Federal Reserve Board, n.d.a). We relied on vendor lease quotes solicited by the Wisconsin Department of Administration's State Bureau of Procurement. This bureau received a variety of lease quotes, including quotes for three-year, closed-end leases. All lease quotes allow for 15,000 maximum annual miles. Mileage in excess incurs an additional cost, typically 15 to 20 cents per mile. The quotes do not include maintenance or insurance coverage (Wisconsin Department of Administration, 2006). Thus, we treated the quotes as roughly equivalent in terms of service provided.

According to a conversation with one leasing vendor (Neuville Motors, personal communication, March 2007), municipalities can "piggyback" on State Bureau of Procurement lease rates. Thus, the City of Milwaukee could utilize the lease rates outlined in Table 8.

**Table 8:
State Bureau of Procurement Vehicle Lease Quotes
for Common DNS Vehicle Classes**

Vehicle Type	3-year/15,000 mile per year lease rate			
Compact Sedan (e.g. Ford Focus, Dodge Neon)	Acme Auto Leasing	Mayfair Leasing	Neuville Motors	Average
	\$335	\$308	\$250	\$298
12-Passenger Van	Acme Auto Leasing	Mayfair Leasing	Neuville Motors	Average
	\$430	\$376	\$375	\$394

Source: Wisconsin Department of Administration. (2006). State Procurement Operational Bulletin No. 15-97514-401. Madison: Author. Retrieved March 16, 2007, from http://vendornet.state.wi.us/vendornet/wais/bulldocs/1623_4.DOC

Note: The lease quotes provided are valid from April 2006 to April 2007, with the exception of the Mayfair lease rates, which expired in April 2006.

Our final lease rate for each vehicle type is an average of the three State Bureau of Procurement lease quotes. The average lease rate for a compact sedan is \$298. The average lease rate for a 12-passenger van is \$394.

DNS officials indicated that their vehicle needs might not warrant the use of pickup trucks, which their current fleet contains (personal communication, April 2007). Instead, DNS could utilize a fleet of 114 compact sedans and two cargo vans for a total of 116 vehicles.⁷ Based on the average lease rates for each vehicle class, total lease rate costs for DNS equal \$33,972 per month to lease compact sedans and \$788 per month to lease two cargo vans. The department's total monthly lease rate costs equal \$34,760. Annual lease rate costs equal \$417,120.

Maintenance Costs

Vehicle maintenance costs vary by region and service vendor. *Edmunds.com*, a popular and well-regarded automobile website, provides a feature known as "True Cost to Own"TM that estimates regional maintenance and repair expenses for every year for the first five years of vehicle ownership.⁸ Using this tool, we estimated the first three years of maintenance and repair expenses for the two vehicles representative of the current DNS fleet: the Ford Focus compact sedan and the GMC Savana passenger van ("True Cost to Own," n.d.). However, *Edmunds.com* bases the "True Cost to Own"TM figure on an average annual

⁷ The Wisconsin Department of Administration lease rates do not include quotes for cargo vans. We utilized the lease quote for a 12-passenger van as an approximation.

⁸ According to *Edmunds.com*, the maintenance figure includes scheduled maintenance costs (e.g., oil changes) and unscheduled maintenance costs (e.g., wheel alignment and the replacement of items such as taillights, brakes, battery, etc). Repair costs are costs for repairs *not* covered by a vehicle manufacturer's warranty.

vehicle usage of 15,000 miles. Since DNS employees, on average, place 5,772 miles on their vehicles per year, we estimated DNS maintenance and repair costs by multiplying the *Edmunds.com* figure by 1/3 to reflect DNS's lower annual vehicle use. Table 9 lists the adjusted *Edmunds.com* maintenance and repair estimates.

**Table 9:
Edmunds.com Estimated Maintenance and Repair Costs**

Compact Sedan: Ford Focus SE	1st year	2nd Year	3rd Year	3-Year Total	3-year Distributed Monthly Costs
Estimated maintenance and repair costs ¹	\$163	\$186	\$282	\$631	\$17.50
Passenger Van: GMC Savana LE	1st Year	2nd Year	3rd Year	3-Year Total	3-Year Distributed Monthly Costs
Estimated maintenance and repair costs ²	\$65	\$191	\$252	\$508	\$14

Source: Authors' calculations

¹ We used the following options to obtain the data: 2007 Ford Focus, SE 4 door sedan, and zip code equals 53201.

² We used the following options to obtain the listed data: 2007 GMC Savana, LE 1500 rear-wheel drive, and zip code equals 53201.

Distributing the total three-year maintenance and repair costs over 36 months reveals a total monthly maintenance and repair cost of \$17.50 for a compact sedan like the Ford Focus and \$14.00 for a passenger van like the GMC Savana. For the entire DNS fleet, total monthly maintenance and repair costs equal \$1,995 for all compact sedans and \$28 for passenger vans for a combined monthly total of \$2,023. Total annual maintenance costs equal \$24,276.

DNS may want to consider soliciting in-house maintenance figures from DPW. Within the time constraints of this report, DPW did not have the ability to derive annual maintenance cost figures for the vehicle types listed in Table 9. DPW personnel say that DPW offers maintenance labor rates 18 percent to 42 percent lower than private dealers or maintenance shops (Michael O'Donnell, personal communication, March 2007). Thus, DNS could, potentially, lower leasing costs by using in-house maintenance services.

Fuel Costs

We utilize the adjusted per vehicle annual fuel cost of \$797.45 when estimating fuel costs for the vehicle lease alternative. The adjusted DPW annual fuel cost estimate is an adequate approximation, since, according to DPW, DNS could fuel

its leased vehicles at DPW-operated gas stations and benefit from the City’s discounted fuel price. Since fuel prices fluctuate, the number is a basic approximation. With 116 leased vehicles, DNS would pay \$7,709 in monthly fuel costs or \$92,504⁹ in annual fuel costs.

Other Cost Considerations

Indirect costs include DPW administration, maintenance employees, and facilities. Since the addition of 116 vehicles to the City’s total fleet is a relatively small increase to the DPW’s total fleet, we assume these indirect costs will not increase.

Although the adding parking facilities would likely increase the costs of city vehicle provision, we did not include these costs in our analysis. We also did not include insurance costs because the City self-insures its vehicles.

Total Cost Figures

We determined three-year, average annual, and per mile lease costs. The results are in Table 10.

**Table 10:
Final Lease Cost Estimates for 116 Vehicles**

Cost Estimate Type	Final Cost Estimate
Three-year Total Lease Cost ¹	\$1,601,700
Average, Annual Lease Cost ²	\$533,900
Average, Per Mile Lease Cost ³	80 cents/mile

Source: Authors’ calculations

¹ Multiplication of the average annual lease costs by three obtained three-year total lease costs.

² Totaling the average monthly lease costs and multiplying by 12 obtained average annual lease costs.

³ Dividing the average annual lease cost by the average total annual mileage for all 116 employees (i.e., 669,552 miles) obtained average, per-mile lease costs.

DNS may want to pursue vehicle leasing if the department can negotiate lower vehicle lease rates. For the sake of simplification, the following parameter adjustment only varies the vehicle lease rate; the fuel and maintenance costs are fixed.¹⁰ We have two targets for our parameter adjustment: For the lease alternative to be viable, the cost of leasing would have to be comparable to the cost of requiring employees to provide their own cars, or \$237,691 a year. The second target is the cost of the status quo. Because the status quo involves a range of costs, we use the midpoint figure. To be a viable alternative, leasing would have to be comparable to the \$275,042 average annual status quo midpoint cost. Our calculated vehicle lease rates do not distinguish between vehicle classes (compact sedan, pickup truck, and passenger van) and are, thus, an average of all three vehicle classes.

⁹ 116 DNS vehicles * \$797.45 (average annual fuel cost for DPW-provided vehicles).

¹⁰ Annual fuel costs equal \$92,504 and annual maintenance costs equal \$24,276 in the parameter adjustment calculations.

The figures in Table 11 highlight the need for drastic and unrealistic reductions in leasing rates for the vehicle leasing policy to equal the average, annual costs associated with the status quo and personal vehicle use alternatives. In a mixed-use vehicle policy, the average lease rate between both vehicle classes is \$346 based on the Wisconsin Department of Administration figures. Depending on whether one uses the personal vehicle use or status quo targets, the average vehicle lease rate must decrease by 75 percent or 67 percent, respectively.

**Table 11:
Results of Vehicle Lease
Policy Parameter Adjustments**

Target	Monthly Lease Rate Required to Meet Target
\$237,691 (average annual personal vehicle use cost)	\$87.00
\$275,042 (midpoint of the average annual status quo cost)	\$113.67

Source: Authors' calculations

Productivity

Our analysis of productivity indicates that the status quo and personal vehicle use alternatives rate lower in comparison to the city-provision and leased-vehicle alternatives. Our analysis depends on perceived estimates of productivity, and therefore is somewhat less precise than our cost estimates. Our productivity analysis is based on a survey of DNS's 116 employees. DNS administrators distributed the survey to all 116 DNS employees who use vehicles in their day-to-day work for the city. We received 81 survey responses (a 70 percent response rate). Our results indicate that employees would be more satisfied and thus more productive if the city provided work vehicles, whether leased or city-owned. Survey respondents frequently cited burdens imposed upon them by the requirement to use personal vehicles. Furthermore, leasing would provides DNS employees with new vehicles, which would require less maintenance and better ensure that DNS employees conduct their required work without the disruption of breakdowns. The city-provision and leased-vehicle alternatives benefit from their official designation as city vehicles, which, according to survey responses, increases the likelihood of gaining cooperation from City residents. Table 12 shows the relative strength of the status quo and each alternative and in terms of productivity.

**Table 12:
Evaluation of Productivity by Vehicle Use Policy**

Goal	Status Quo	100% City Provision	100% Personal Provision	Leased Vehicles
Productivity	Medium	High	Medium	High

The status quo and employee provision of private vehicles rate *medium* in terms of productivity

Survey responses indicate that there might be some productivity benefit from employees driving vehicles that are clearly marked as belonging to the City. One DNS employee noted that driving marked vehicles would “make it very clear who we are, what we are doing, and why we are in the neighborhood we go to.” In addition, clearly marked vehicles may improve city residents’ satisfaction. For example, one employee stated, “It may give the community a sense that the City is working to provide a safer place to live.” Respondents to the employee survey frequently commented that employees in marked city vehicles provided residents with proof that they were on official city business, thereby making residents more likely to allow employees entrance to their homes. A DNS employee stated that with clearly marked vehicles, “People know that it is the inspector that is arriving for the appointment.” Since personal vehicles lack such markings, this alternative is rated medium in terms of effectiveness. Since the status quo also relies heavily on employee-provided personal vehicles, it likewise rates medium.

This difference might be overcome by providing employees with magnetic placards to put on their cars to identify their use for official city business. The DNS has such placards for temporary employees in the Nuisance Control and Environmental Health Division to use (see example in Appendix A). Widespread use of placards such as these could allow the City to realize the same benefits from marked vehicles that it realizes when employees drive city vehicles.

City provision of vehicles rates *high* in terms of productivity

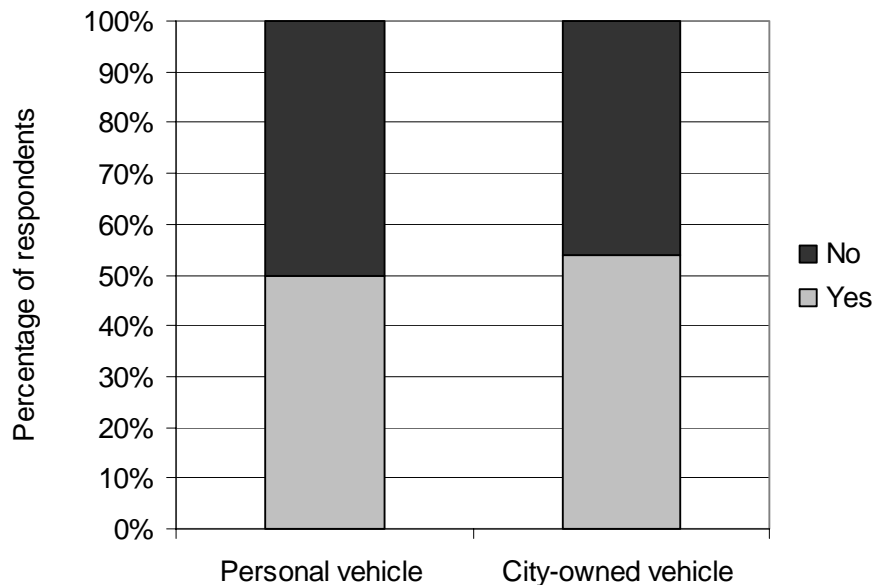
At the start of this analysis, we hypothesized that the age and high mileage of the DNS fleet might make the vehicles less reliable and might result in frequent breakdowns and, consequently, lost employee productivity. However, our employee survey suggests that this was not a major issue. Although employees who drive city vehicles perceive their vehicles as being less reliable than employees who drive personal vehicles, the two groups of employees were equally likely to report actual vehicle breakdowns.

We asked employees about their perceptions of their vehicle’s reliability and actual history of breakdowns. An employee who uses a city vehicle was more likely than his or her colleagues to report a perception that his or her vehicle was unreliable. Of those driving personal vehicles, 88 percent either agree or strongly that the vehicles they use at DNS are reliable. The remaining 12 percent of the

group neither agrees nor disagrees that the vehicles they use at DNS are reliable. No one in this group felt their vehicles were not reliable. Of those driving city vehicles, 48 percent either agree or strongly agree that their city vehicles are reliable. An additional 28 percent neither agree nor disagree. In contrast to drivers of personal vehicles, 12 percent of employees who drive city vehicles disagree and 12 percent strongly disagree that the city vehicles they use at DNS are reliable.

Despite employees' perceptions of reliability, survey questions asking about an actual history of breakdowns imply that city and personal vehicles are equally likely to break down. Overall, about 51 percent of drivers reported that their vehicles had broken down while in the field sometime during the past 12 months. There was no apparent difference between the two groups of drivers. Some 50 percent of surveyed employees who drive personal vehicles reported breakdowns, and 54 percent of employees who drive city vehicles reported breakdowns. We did not ask respondents to elaborate as to the reason for the breakdowns, but many mentioned flat tires. Very few drivers of either type of vehicle reported being stranded due to mechanical problems. These responses suggest that the reliability of the vehicle itself might not be a significant factor in breakdowns.

**Figure 2:
Percentage of Survey Respondents Who Said
Their Vehicles Had Broken Down in the Field in the Past 12 Months**



A major difference between the two types of vehicle provision alternatives is that employees who provide personal vehicles must take time off when their vehicles are out of service (or find their own replacement vehicles). Multiple employees noted that they had to take vacation time to fix their vehicles. Employees who drive city vehicles remain at work and continue to receive pay when their primary work vehicle is unavailable. The same would be true if the city decided to lease vehicles for its employees. Overall, under the status quo policy, 41 percent of employees

reported that they were unable to go into the field because of mechanical problems with their vehicles. However, once again, the type of vehicle provision (by the employee or the city) did not appear to be a determinant in the lost work time.

City provision of vehicles might improve the quality of employee DNS attracts and hires and thus improve productivity, as Chip Taggart notes in the article *Company Provision of Business Cars*. Taggart states, “Company provision of vehicles also plays a role in attracting and keeping top employees” (Taggart, 1990, 18). Our survey indicates that city provision would improve employee satisfaction, as 85 percent of employees indicated they would prefer to use a city vehicle in work. Improved satisfaction can, in turn, increase employee productivity (Taggart, 1990). Consequently, this alternative is rated as *high* for employee productivity.

Leasing rates *high* in terms of productivity

With leased vehicles, DNS would maximize employee productivity. DNS employees using leased vehicles would not miss work if their primary vehicles are unavailable. Vehicle availability is more likely due to the “new” nature of the vehicles and the decreased need for maintenance. Furthermore, leased vehicles could easily sport official City of Milwaukee signage, which would allow DNS employees to achieve improved productivity, safety, and any other intangible benefits. DNS would need to ensure that the lease agreement allows for the modification of leased vehicles if it wanted to provide permanent markings; otherwise leased vehicles could be marked with removable magnetic placards. Consequently, the use of leased vehicles would allow DNS to recoup much of the lost productivity under the status quo policy and personal vehicle provision alternatives. Regardless of the type of vehicle provision, the same amount of productivity would be lost to flat tires.

Employee Safety

The status quo, city provision, and personal provision alternatives are comparable in terms of employee safety as reported by employees in our survey. The leased vehicle policy scores “high” in employee safety largely due to the acquisition of all new vehicles that, presumably, exhibit increased reliability and standard safety features not found on the older City-provided vehicles. Table 13 shows the relative strength of each alternative and the status quo in providing employee safety.

**Table 13:
Evaluation of Employee Safety by Vehicle Use Policy**

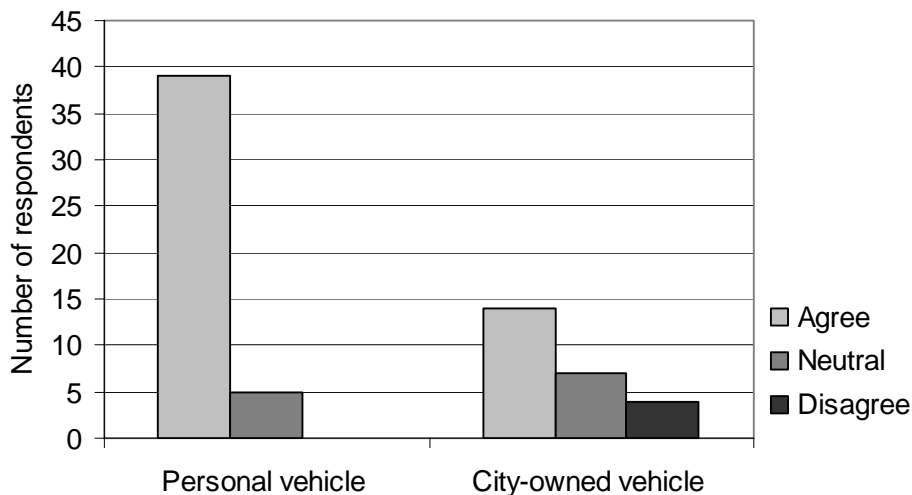
Goal	Status Quo	100% City Provision	100% Personal Provision	Leased Vehicles
Employee Safety	Medium	Medium	Medium	High

Status quo, employee provision, and city provision rate *medium* in terms of employee safety

The new vehicles the City would purchase if it provided all DNS vehicles would no doubt rate high in safety. However, some DNS employees show concern that some of the aging 34 city vehicles that the DPW provides to DNS are not safe. Older vehicles may be more prone to mechanical failures and lack many of the standard safety features on newer vehicles. Vehicles that break down in dangerous areas of the City expose DNS employees to physical harm from irate city residents or passing vehicles. One employee noted when a vehicle breaks down, “You’re a ‘sitting duck’ in that crooks know you can’t go anywhere for a while.” Another DNS employee explained, “I broke down in an unsafe neighborhood while driving an older vehicle and had to wait for some time before assistance arrived.” In total, 59 percent of those who broke down in the past 12 months noted they felt their safety was compromised. The fiscal context of the City also suggests that in the long-run, even if new vehicles were purchased for DNS employees, they would not be replaced in a timely fashion.

Survey results suggest that employees who drive personal vehicles perceive their vehicles as safer compared to employees who drive city vehicles from the DPW fleet (see Figure 3). With those driving their own vehicles, 43 percent strongly agree and 45 percent agree that the vehicles they used at DNS are safe. The remaining 11 percent of the group neither agrees nor disagrees that the vehicles they used at DNS are safe. No one in this group felt their vehicle was not safe. In contrast, 12 percent of employees who drive city vehicles disagree, and 4 percent strongly disagree that the vehicles they use are safe. Of those driving city vehicles, 16 percent strongly agree and 40 percent agree that the city vehicles they use are safe. The remaining 28 percent neither agree nor disagree.

Figure 3:
Those Who Drive City Vehicles are Less Likely to Agree with the Statement “The Vehicle that You Use at the DNS is Safe”

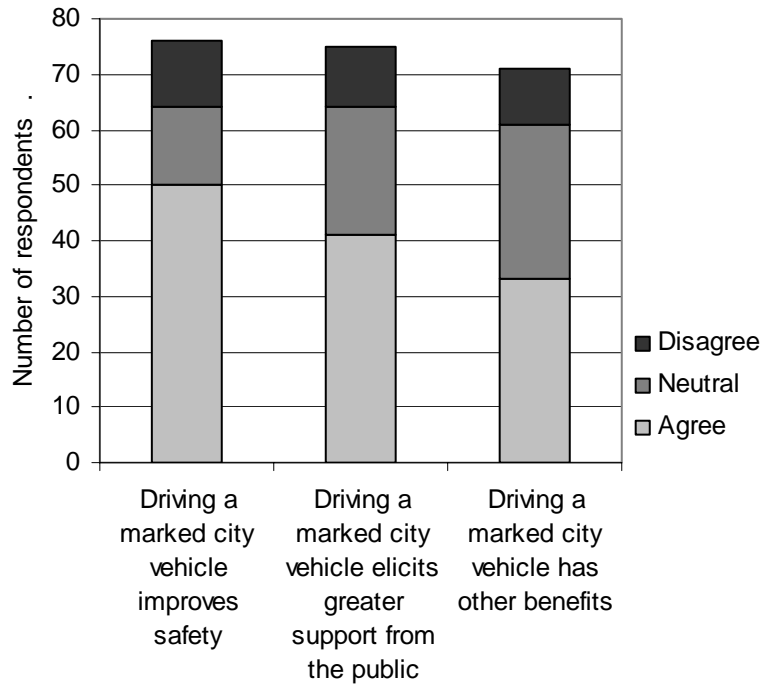


Although drivers of private vehicles are more likely than drivers of city vehicles to feel that their vehicles are safe, the majority of employees feel that driving a vehicle clearly marked as belonging to the City of Milwaukee provides them with greater safety (see Figure 4). Some of the reasons employees include:

- It announces who we are before we approach a resident’s door.
- We are less likely to be the victim of road rage (other drivers understand that employees might have legitimate reasons for driving slowly or stopping frequently).
- We would get help more quickly if something happened.

However, few employees feel the opposite, that driving a vehicle marked as belonging to the City actually has a negative effect on their safety. For example, one employee who responded stated, “In the past, marked vehicles have been targeted for violent acts.”

**Figure 4:
Most Respondents See Benefit to Driving Marked City Vehicles**



As we mentioned, the City might capture the benefits of marked city vehicles by using temporary placards to identify personal vehicles employed in city use.

One major difference between employees who drive city vehicles and those who drive personal vehicles is that the latter choose that vehicle. Their choice of vehicle (and the level of safety provided by that vehicle) therefore reflects their personal preferences. However, an employee’s financial situation may prohibit that person from purchasing and maintaining a safe vehicle. With city-provision, the City could ensure that the vehicles employees use on the job are safe.

Considering all of these factors, city and private vehicles appear to be roughly equivalent in terms of the safety that they provide employees. Thus, the status quo, 100 percent city-provision of vehicles, and 100 percent employee provision of private vehicles score *medium* in terms of safety.

Leasing rates *high* in terms of safety

Newer vehicles should benefit from new safety standards including, but not limited to, standard front airbags, side air bags, stability control, and impact/crumple zones. Additionally, new vehicles should benefit from increased reliability, which would minimize safety concerns associated with mechanical breakdowns.

Equity

The status quo and personal vehicle use alternatives score more poorly than city provision and leased vehicle alternatives. Survey respondents indicated dissatisfaction over the different vehicle use standards present in the status quo policy. In addition, the status quo and personal vehicle use policies, according to survey respondents, place a greater burden on DNS employees to cover rising fuel costs and maintenance costs not covered by the mileage reimbursement rate. City provision and leased vehicle alternatives do not suffer from the aforementioned drawbacks. Table 14 shows the relative strength of the three alternatives and the status quo with regard to equity.

**Table 14:
Evaluation of Equity by Vehicle Use Policy**

Goal	Status Quo	100% City Provision	100% Personal Provision	Leased Vehicles
Equity	Low	High	Low	High

The status quo rates *low* in terms of equity

Our survey of DNS employees found that an overwhelming majority of DNS employees (85 percent) would prefer to use city vehicles, rather than personal vehicles, if given the opportunity. The survey further found that some employees who use personal vehicles are upset that some of their colleagues are provided with city vehicles under the status quo. This implies that some dissatisfaction would be reduced if all employees were required to use the same type of vehicle. The status quo therefore rates low in terms of equity.

City provision of vehicles rates *high* in terms of equity

City provision of vehicles would not burden employees with the requirement of owning and using those vehicles to do their jobs. Current employees and potential employees may not have the means to provide vehicles. Some 20 of the 26 people,

or 77 percent, surveyed who drive city vehicles stated that they would not be able to use their own vehicles to carry out the work that they do for DNS. Further, under this scenario, all employees would have vehicles provided by the City, eliminating the status quo split in vehicle provision that creates a perception of inequality among employees. In light of all this, city provision is rated “high” for equity.

Employee provision of private vehicles rates *low* in terms of equity

Although negotiations with the employee union resulted in the guaranteed minimum reimbursement, our employee survey indicates that employees are very dissatisfied with their reimbursement. Many employees commented in the survey that they felt that the mileage reimbursement rate failed to adequately compensate them for extreme wear-and-tear, flat tires, vandalism, and other damage that occurs to their vehicles while on the job. Employees noted that driving on damaged pavement and incessant starting and stopping of vehicles was a regular part of the job that accounts for some of these problems.

Another equity concern related to employee vehicle provision is that the policy makes Milwaukeeans who do not have access to automobiles ineligible for employment in these positions. According to analysis of 2000 Census data, 21 percent of adults in Milwaukee live in households without cars or trucks (Pawasarat, 2005). An unknown number of additional people live in households where two or more people share vehicles. Requiring employees to supply vehicles for work usage could eliminate them from employment eligibility.

Finally, employees who use their personal vehicles for work at DNS must take vacation time on days when they cannot supply a needed vehicle. Employees responding to the survey frequently mentioned having to take time off while their vehicles are being repaired. Employees do not see this as fair, especially when vehicle repairs are due to driving done for work at DNS.

Leasing vehicles rates *high* in terms of equity

Vehicle-leasing scores high on equity in contrast to the status quo and mileage reimbursement policies. Leasing DNS vehicles would not introduce any new burdens on DNS employees and would minimize the burdens presented by the status quo and mileage reimbursement policies. While in a vehicle-lease policy, employees would no longer pay higher insurance premiums for using their personal vehicle for work. In addition, leasing would mean employees would not have to subject their vehicles to harsh use, such as stopping and starting their vehicles multiple times in a day. Consequently, these employees’ out-of-pocket maintenance costs would decrease. Last, DNS would realize non-financial benefits because not requiring employees to have vehicles should broaden the prospective pool of applicants.

Feasibility

The status quo policy, at least in the short term, is politically and administratively feasible, as is the personal provision of vehicle policy. Due to the high costs associated with city provision and leased vehicle alternatives, both alternatives rank poorly in political feasibility. The leased vehicle policy contains added administrative costs, which makes the policy administratively infeasible. Table 15 shows the relative feasibility of each of the alternatives and the status quo.

**Table 15:
Evaluation of Feasibility by Vehicle Use Policy**

Goal	Status Quo	100% City Provision	100% Personal Provision	Leased Vehicles
Feasibility	High	Low	High	Low

The status quo rates *high* in terms of feasibility

Presumably, because this policy is the status quo, it is politically feasible, though it may not be feasible in the long term given DNS employees' dissatisfaction with the current policy.

City provision rates *low* in terms of feasibility

This alternative is rated as low feasibility. Purchasing 82 new vehicles to accommodate DNS employees who provide their own vehicles would be very difficult given the City's current financial situation. Though the City does not officially prohibit the purchase of new vehicles, the Budget and Management Division has placed greater restrictions on vehicle purchases in recent years (Erick Shambarger, personal communication, April 2007).

In 2006, the Budget and Management Division did not fund DPW's request for 12 passenger vehicles, though it did fund the purchase of five new pick-up trucks in the 2007 budget (Erick Shambarger, personal communication, April 2007). It remains unlikely, however, that the budget office would grant DNS approval for purchasing 82 vehicles. Unless this changes, city provision of vehicles for all 116 DNS employees is unlikely.

Employee provision rates *high* in terms of feasibility

Employee provision of personal vehicles rates high in terms of feasibility. The Milwaukee code of ordinances would allow for the adoption of this alternative since all DNS employees are part of a designated category eligible to receive reimbursement from the city for work-related personal vehicle use. All DNS employees fall into the class of employees approved for reimbursement by the ordinance (Private Transportation Reimbursement ordinance [2005]).

Current employees of the DNS Plumbing Section and the Nuisance and Environmental Health Division have a long-standing history of being provided city vehicles. Any change might precipitate conflict with the employee union that would have to be resolved in order to adopt the alternative. Although 77 percent of DNS employees who use city vehicles said that they would be unable to supply personal vehicles for work use if required to do so, survey comments generally reflect an unwillingness to supply vehicles rather than lack of ability to do so. Some exceptions however exist and the City would likely face the choice of continuing to provide vehicles for those employees or losing them.

Leasing vehicles rates *low* in terms of feasibility

Leasing scores low on political and administrative feasibility. As vehicle leasing cost figures show, leasing vehicles is one of the most expensive vehicle provision alternatives with an average cost of 80 cents per mile.

Despite the added reliability of vehicles and the minimization of equity concerns, the high costs of leased vehicles reduce the likelihood that city policymakers would view vehicle leasing as feasible, especially in light of the fiscal pressures on the City. Furthermore, the acquisition of 116 leased vehicles is unlikely considering the restrictions on vehicle purchases mentioned above.

Leasing vehicles places an administrative burden on the DNS. The additional work required to oversee the lease purchase and general administration of 116 vehicles would increase administrative costs relative to the other policy alternatives. Under a vehicle-lease policy, DNS would have to solicit bids and negotiate final lease rates, a time-consuming endeavor. DNS could minimize some of the associated administrative costs by using the lease quotes provided by the Wisconsin State Bureau of Procurement. However, DNS would still bear the ultimate responsibility for ensuring the proper maintenance and storage of the vehicles and negotiating the return of the vehicles to the lessors.

Recommendation and Conclusion

We recommend that the City adopt a policy of 100 percent employee provision of vehicles. At an estimated annual cost of \$237,691, it is the least costly alternative and cheaper than the status quo by about \$17,699 to \$57,002 per year, or about 2 to 8 cents per mile.

Adopting this alternative would be feasible, but unpopular with employees (and the employee union). It also raises concerns about equity. Employees responding to our survey overwhelmingly preferred to use city vehicles, although those using city vehicles were concerned about the quality of their vehicles. While most cited dissatisfaction with the mileage reimbursement rate and concerns for the added wear-and-tear on their vehicles, a few employees said they were unwilling to use their personal vehicles for work because they must carry poison in their vehicles for their jobs, a concern that DNS management echoed. DNS would have to evaluate these personal health/safety concerns on a case-by-case basis. The more common concerns about the cost of providing personal vehicles for work use might be mitigated by increasing the mileage reimbursement rate. Table 7 provides a comparison of the estimated costs to the City for various reimbursement policies.

One concern in adopting a policy of personal vehicle provision is that there appears to be value in employees driving cars marked as belonging to the City. The City might consider using magnetic placards on personal vehicles used for city business. These placards could be modeled after those available to employees in the Nuisance and Environmental Health Division.

Table 16 presents a summary of our analysis comparing the three alternative policies and the status quo.

**Table 16:
Summary of Goals and Alternatives**

Goal	Status Quo	100% City Provision	100% Personal Provision ¹	Leased Vehicles
Cost Annual	\$255,390 – \$294,693	\$401,992 – \$595,011	\$237,691	\$533,900
Cost Per Mile	38 – 44 cents	60 – 89 cents	36 cents	80 cents
Productivity	Medium	High	Medium	High
Employee Safety	Medium	Medium	Medium	High
Equity	Low	High	Low	High
Feasibility	High	Low	High	Low

¹ Additionally, the city would receive an estimated \$20,400 from the sale of unneeded vehicles.

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Appendix A: Magnetic Placards to Mark Non-City Vehicles Used for City Business

The Nuisance and Environmental Health Division has magnetic placards, with which staff mark vehicles used by temporary employees. The City could use similar placards to mark personal vehicles in order to attain the benefits of driving marked city vehicles.



Photographs supplied by Dave Cry, Jim Igowsky, and Ken Keintz of the DNS (Ken Keintz, personal communication, April 2007)

Appendix B: Vehicle Leasing Primer

We adapted this from the U.S. Federal Reserve Board's *Keys to Vehicle Leasing: Glossary*.

Adjusted capitalized cost: The amount capitalized at the beginning of the lease, equal to the gross capitalized cost minus the capitalized cost reduction. This amount is sometimes referred to as the net cap cost.

Capitalized cost: Shortened term for gross capitalized cost or adjusted capitalized cost. Federal law requires disclosure of both types of costs. Some states require that the term "capitalized cost" be used in state lease disclosures.

Capitalized cost reduction (cap cost reduction): The sum of any down payment, net trade-in allowance, and rebate used to reduce the gross capitalized cost. The cap cost reduction is subtracted from the gross cap cost to get the adjusted cap cost.

Closed-end lease (walk-away lease): A lease in which the lessee is not responsible for the difference if the actual value of the vehicle at the scheduled end of the lease is less than the residual value (though the lessee may be responsible for excessive wear and excess mileage charges and for other lease requirements).

Depreciation and any amortized amounts: Total of (1) amount charged to cover the vehicle's projected decline in value through normal use during the lease term and (2) other items that are paid for over the lease term; calculated as the difference between the adjusted capitalized cost and the vehicle's residual value. This amount is a major part of the lessee's base monthly payment.

Excess mileage charge: A charge by the lessor for miles driven in excess of the maximum specified in the lease agreement. The excess mileage charge is usually between 10 and 25 cents per mile.

Excessive wear-and-tear charge: Amount charged by a lessor to cover wear and tear on a leased vehicle beyond what is considered normal. The charge may cover interior and exterior damage, such as upholstery stains, body dents and scrapes, and tire wear beyond the limits stated in the lease agreement. Open-end leases typically do not include an excessive wear and use charge.

Gross capitalized cost: The agreed-upon value of the vehicle at the time of the lease, which generally may be negotiated, plus any items the lessee agrees to pay for over the lease term (amortized amounts), such as taxes, fees, service contracts, insurance, and any prior credit or lease balance.

Lease: A contract between a lessor and a lessee for the use of a vehicle or other property, subject to stated terms and limitations, for a specified period and at a specified payment.

Lessee: The party to whom the vehicle is leased. In a consumer lease, the lessee is the consumer. The lessee is required to make payments and to meet other obligations specified in the lease agreement.

Lessor: A person or organization that regularly leases, offers to lease, or arranges for the lease of a vehicle.

Money factor (lease factor): A number, often given as a decimal, used by some lessors or assignees to determine the rent charge portion of the lessee's monthly payment. This number is not a lease rate and cannot be converted to a lease rate by moving the decimal point.

Open-end lease: A lease agreement in which the amount that the lessee owes at the end of the lease term is based on the difference between the residual value of the leased property and its realized value. The lease agreement may provide for a refund of any excess if the realized value is greater than the residual value. In an open-end consumer lease, assuming that the lessee has met the mileage and wear standards, the residual value is considered unreasonable if it exceeds the realized value by more than 3 times the base monthly payment (sometimes called the "three-payment rule").

Realized value: (1) The amount the lessor receives for the leased vehicle at disposition, (2) the highest offer for the leased vehicle at disposition, or (3) the fair market value of the leased vehicle at termination. The realized value may be the wholesale or the retail value specified in the lease agreement.

Rent or rent charge: The portion of the lessee's base monthly payment that is not depreciation or any amortized amounts. This charge is similar to interest on a loan.

Residual value: The end-of-term value of the vehicle established at the beginning of the lease and used in calculating the base monthly payment. The residual value is deducted from the adjusted capitalized cost to determine the depreciation and any amortized amounts. This estimate may be determined, in part, by using residual value guidebooks. The residual value may be higher or lower than the realized value at the scheduled end of the lease.

Source: U.S. Federal Reserve Board. (n.d.b.). *Keys to Vehicle Leasing: Glossary*. Washington D.C.: Author. Retrieved February 27, 2007, from <http://www.federalreserve.gov/pubs/leasing/glossary>

Negotiating Lease Terms

As with purchasing a vehicle, leasing a vehicle often requires negotiation between the customer (lessee) and the dealer (lessor). Many variables come into play when negotiating lease terms. The following discussion outlines four prominent negotiated lease terms. These four variables constitute the main lease negotiation factors. The lessee may negotiate additional factors including maintenance agreements, annual mileage allotments, and roadside assistance.

The gross capitalized cost of the vehicle is one of the key items that a lessee can negotiate. The gross capitalized cost is the agreed-upon value of the leased vehicle (“The Guide to Leasing: How Leasing Works,” n.d.). It is in the best interests of the lessee to negotiate the lowest possible capitalized cost. A lower capitalized cost results in lower lease payments. In addition, if the lessee can take advantage of manufacturer rebates or factory-to-dealer incentives, the lower adjusted capitalized cost of the vehicle (capitalized cost minus the capitalized cost reduction) will result in reduced lease payments and further cost savings for the lessee.

The residual value of the car is also an important factor in lease negotiations. A higher residual value will lower lease payments. The residual value is the worth of the vehicle at the end of the lease term. The lessor deducts the residual value from the adjusted capitalized cost to determine depreciation and amortized amounts (U.S. Federal Reserve Board, n.d.b). Thus, selecting a vehicle with a higher residual value will decrease the lease payments. Private firms provide industry data and calculations on residual values, which leasing vendors subsequently use to determine their residual values (“The Guide to Leasing: How Leasing Works,” n.d.).

Money factors are a third variable that the lessee may negotiate in a lease agreement. The money factor is analogous to an annual percentage rate when purchasing a vehicle. Money factors are represented as decimals. Lessors use the figures to determine the rental fee portion of the monthly lease payment (U.S. Federal Reserve Board, n.d.b). Lower money factors result in lower lease payments.

The last main variable in lease negotiations is the lease term, which typically occurs in 12-month periods of 24, 36, or 48 months. Longer lease terms result in lower lease payments.

Important Equations for Calculating Lease Payments

1. Depreciation Fee = (Adjusted Capitalized Cost – Residual) / Term
2. Finance Fee = (Adjusted Capitalized Cost + Residual) x Money Factor
3. Total Lease Payment (Monthly/Yearly) = Depreciation Fee + Finance Fee

Source: *The Guide to Leasing: Monthly Lease Payments*. (n.d.).

Appendix C: Justification of Vehicle Leasing Assumptions

We base our vehicle lease analysis on a three-year, 15,000-mile-per-year, closed-end lease arrangement. We assume that this form of lease arrangement best suits DNS's needs for the following reasons.

First, DNS employees, on average, place 5,772 miles on their vehicles per year. The typical closed-end lease affords the lessee anywhere from 12,000 to 15,000 miles per year. DNS falls well below this mileage limitation. A closed-end leasing arrangement with higher mileage allotments or an open-end lease with no mileage limitations presumably would add additional, unnecessary costs.

Second, in 2006, the maximum annual mileage placed on a DNS vehicle was 12,098 miles, which would extend to 36,294 miles for three years of vehicle use (personal communication, February 2007). Thus, the vast majority of DNS vehicles would remain under the automobile manufacturer's 36-month, 36,000 mile, bumper-to-bumper warranty throughout the lease term. Bumper-to-bumper warranties typically cover all factory and dealer installed items but exclude consumable items, such as wiper blades, oil, and tires. In addition, the leased vehicle would have major mechanical components covered by the vehicle's powertrain warranty ("Warranty: Guide to New Car Factory and Extended Warranties," n.d.). This minimizes the potential vehicle maintenance costs to DNS. A longer lease period (e.g. 48 or 60 months) would place greater responsibility for vehicle maintenance on DNS. The leased vehicle spends a portion of the lease term outside of warranty coverage, which may result in an increase in total leasing costs.

Third, 36-month, 36,000-mile, closed-end leasing agreements are common in the leasing industry. Many of the advertised lease rates are for this particular type of lease. Furthermore, the bids solicited by governments, in this case the Wisconsin Department of Administration, include lease rates of this type. Not only are data on 36-month, 36,000 mile, closed-end leases readily available, this kind of agreement offers a standard leasing arrangement that DNS may, subsequently, use as a basis for further research into vehicle leasing.

Fourth, depending on the negotiated lease terms, the lessor may provide temporary replacement vehicles or towing services. The provision of replacement vehicles and towing services varies by private vendor, lease terms, and vehicle warranties. As a result, DNS might benefit from these services; however, they are not necessarily standard in a vehicle leasing policy and thus do not factor into our analysis.

Last, fleet management experts highlight that closed-end leases allow for predictable budgeted payments and result in fewer "surprises" at resale (Calloway, 2007). In a closed-end lease, the lessee is not responsible for any difference between the actual value (realized value) of the vehicle and the residual value at the end of the lease (U.S. Federal Reserve Board, n.d.b). This places the burden of risk on the lessor and not the lessee.

Appendix D: Employee Survey

Appendix D describes a survey of DNS employees that we conducted for this report. The following section explains the methodology we used in developing and administering the survey and the degree of confidence we have in the survey results.

Survey Methodology

DNS distributed the survey to all 116 employees who use vehicles in their day-to-day work for the City. We received 81 survey responses (a 70 percent response rate). However, on five of the surveys, respondents did not indicate whether they drove personal or city-provided vehicles. Since the ultimate purpose of the survey was to make comparisons among groups of employees based on the method of vehicle provision, we excluded those five surveys from our analysis. Of the remaining 76 surveys, we received responses from 50 of the 82 employees who use personal vehicles (61 percent) and from 26 of the 34 employees who use city vehicles (72 percent).

We followed standard social science practice in developing and conducting the survey. We gave employees with the opportunity to provide contact information for possible follow-up, but we guaranteed that their choice to respond, as well as the content of their responses, would be kept confidential. Survey questions were generally closed-ended to allow for quantitative analysis of results. However, we encouraged respondents to explain or elaborate on their responses in comments fields throughout the survey. Many respondents chose to provide such comments. These comments gave us a better understanding of employees and improved our ability to analyze the survey responses.

In an attempt to maximize response rate, DNS management distributed surveys to their employees directly. However, managers also stressed that completing the survey was voluntary. DNS management felt that employees would be better assured that their responses would remain confidential if we requested responses by mail rather than e-mail. DNS provided employees with hard copies of the surveys and self-addressed, stamped envelopes. Survey responses were addressed directly to the research team.

Any response rate less than 100 percent leads to concerns that the respondents who completed surveys are systematically different from those who did not (non-response bias). Although there is no general consensus on what constitutes a good response rate, many researchers consider 70 percent to be the threshold (Mundy, 2002; Babbie, 2004). We therefore are comfortable that our results generally represent employee experiences and opinions. However, to the degree that there is non-response bias, it is likely that it biased the results toward dissatisfaction rather than satisfaction with city policies. This would be the case since dissatisfied employees might take the survey as an opportunity to influence a change in policy. We should take special care in interpreting responses that are not directly about employee preferences as such motivations might have influenced responses.

Introduction to Employee Survey

The e-mail below was sent by Jeffrey Crouse, business operations manager of DNS, to employees requesting their assistance in completing the survey.

From	Jeffrey Crouse <omitted>
Sent	Thursday, March 15, 2007 10:43 am
To	omitted
Cc	omitted
Subject	Vehicle Use Survey

This e-mail is directed to DNS Inspectors for their consideration.

In conjunction with the Budget Office, our department has asked graduate students from the University of Wisconsin-Madison Lafollette Study group to study our current system of inspector vehicle use (City owned vehicles, and privately owned vehicles), and other possible systems (i.e.- leasing vehicles for inspectors).

One part of this study is a survey for inspectors to provide their opinions regarding their use of City and personal vehicles in their day-to-day work. The survey is voluntary. The responses are completely confidential. Individual responses will not be shared with anyone in our department, or City of Milwaukee government. Inspectors will be given a survey and a stamped self addressed envelope for mailing directly to the University of Wisconsin graduate students conducting the survey. Anyone wishing to complete the survey, just has to fill it out, and mail it in the envelope provided. Individual survey responses will be combined to give your opinions on this topic. There is no need to return any unused survey forms or envelopes.

On this Friday the 16th, I will be sending the various sections survey forms and envelopes for distribution to inspectional staff.

If you have any questions about this survey, please feel free to contact Kristen Grill at (phone number omitted) (e-mail address omitted).

Thank you.

Employee Survey

The text of the survey is provided below:

Vehicle use by the Milwaukee Department of Neighborhood Services

The Department of Neighborhood Services (DNS) and the Budget and Management Division of the Milwaukee Department of Administration are interested in learning more about vehicle use by DNS employees. The purpose of this survey is to provide DNS employees with a chance to share their opinions regarding their use of city and personal vehicles in their day-to-day work.

Please take a few minutes to fill out this voluntary survey. Completing the survey will take 5-10 minutes. Your responses are completely confidential. Individual responses will not be shared with anyone at DNS or City of Milwaukee government. Your responses will be sent directly to University of Wisconsin graduate students who will combine your responses with those of your colleagues to answer general questions about employee vehicle use. If you have any questions about the survey, please contact Kristen Grill at <<omitted>>.

**Please send this survey in the envelope provided by
Friday, March 23rd**

Please consider the following questions and put an X in the column that represents your answer (see example below).

EXAMPLE:		Your own personal vehicle	A city-supplied vehicle	Other (please specify)
	Which of the following describes the vehicle that you currently use to do your work for DNS?	X		

		Your own personal vehicle	A city-supplied vehicle	Other (please specify)
1.	Which of the following describes the vehicle that you currently use to do your work for DNS?			

		To use your own personal vehicle at work and be reimbursed	To use a vehicle provided by the city
2.	If you had your choice, which type of vehicle would you prefer?		

Please consider the following questions and put an X in the column that represents your answer (see example below). We are especially interested in hearing you describe your experiences and preferences in the *comments* column.

EXAMPLE:		Yes	No	<i>Comments</i>
	If required to do so, would you be able to use your own personal vehicle to carry out the work that you do for DNS?	X		<i>Please provide any additional comments you have in the space in this column. If you need additional room, please attach a separate sheet of paper.</i>
		Yes	No	<i>Comments</i>
3.	If required to do so, would you be able to use your own personal vehicle to carry out the work that you do for DNS? If you answer no, please describe in the “comments” field why you would be unable to use your personal vehicle.			
4.	In the past 12 months has your work vehicle ever broken down while you were in the field?			
5.	If you answered yes to question 4, when your vehicle broke down while on the job, did you feel that your safety was compromised? If you answer yes, please elaborate in the “comments” field.			
6.	In the past 12 months have you ever been unable to go into the field because of mechanical problems with your vehicle?			
7.	In the past 12 months have you ever felt that you were less effective in your job because of problems related to the vehicle that you use?			

		Have never been unable to do work because of vehicle problems	One hour or less	More than one hour but less than three hours	Between three hours and one day	More than one day
8.	If you have been unable to do your work because of problems with your vehicle in the past 12 months, how long was it before you could resume work? (If you have been unable to work on more than one occasion due to vehicle trouble, please add all of the time you couldn't do your work in the past 12 months and check the box representing the total time).					

Please consider the following statements about vehicles and mark an X in the column that you feel best describes your agreement or disagreement with the statement (see example below). We are especially interested in hearing you describe your experiences and preferences in the *comments* column.

EXAMPLE:		strongly agree	agree	neutral	disagree	strongly disagree	Comments
	The vehicle that you currently use at DNS is reliable			X			<i>Please provide any additional comments you have in the space in this column. If you need additional room, please attach a separate sheet of paper.</i>

		strongly agree	agree	neutral	disagree	strongly disagree	Comments
9.	The vehicle that you currently use at DNS is reliable						
10.	The vehicle that you currently use at DNS is safe						

		strongly agree	agree	neutral	disagree	strongly disagree	<i>Comments</i>
11.	Driving a vehicle that is clearly marked as belonging to the city of Milwaukee provides employees with greater safety						
12.	Driving a vehicle that is clearly marked as belonging to the city of Milwaukee elicits greater respect from the public						
13.	Driving a vehicle that is clearly marked as belonging to the city of Milwaukee has other benefits (please specify in the comments section)						

14. Would you be willing to participate in a brief follow-up interview? If yes, please provide a phone number or e-mail address where we can reach you. Your decision to speak with us will be kept confidential.

15. Please provide any additional comments that you feel will help us better understand your vehicle needs.

Thank you very much for taking the time to fill out the above survey.

Employee Survey Results

The tables below summarize the results of our employee survey.

Question 1: Which of the following describes the vehicle that you currently use to do your work for DNS?		Personal vehicle	City vehicle
	Personal vehicle	50	0
	City owned vehicle	0	26
	Total	50	26

Question 2: If you had your choice, which type of vehicle would you prefer?		Personal vehicle	City vehicle
	Personal vehicle	9	40
	City owned vehicle	2	23
	Total	11	63

Question 3: If required to do so, would you be able to use your own personal vehicle to carry out the work that you do for DNS?		Yes	No
	Personal vehicle	50	0
	City owned vehicle	6	20
	Total	56	20

Question 4: In the past 12 months has your work vehicle ever broken down while you were in the field?		Yes	No
	Personal vehicle	25	25
	City owned vehicle	14	12
	Total	39	37

Question 5: If you answered yes to question 4, when your vehicle broke down while on the job, did you feel that your safety was compromised?		Yes	No
	Personal vehicle	13	16
	City owned vehicle	5	10
	Total	18	26

Question 6: In the past 12 months have you ever been unable to go into the field because of mechanical problems with your vehicle?		Yes	No
	Personal vehicle	20	30
	City owned vehicle	11	15
	Total	31	45

Question 7: In the past 12 months have you ever felt that you were less effective in your job because of problems related to the vehicle that you use?		Yes	No
	Personal vehicle	13	36
	City owned vehicle	7	19
	Total	20	55

Question 8: If you have been unable to do your work because of problems with your vehicle in the past 12 months, how long was it before you could resume work? (If you have been unable to work on more than one occasion due to vehicle trouble, please add all of the time you couldn't do your work in the past 12 months and check the box representing the total time).

	Have never been unable to do work because of vehicle problems	One hour or less	More than one hour but less than three hours	Between three hours and one day	More than one day
Personal vehicle	17	4	2	5	9
City owned vehicle	10	6	5	0	4
Total	27	10	7	5	13

Question 9: The vehicle that you currently use at DNS is reliable

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Personal vehicle	19	17	8	0	0
City owned vehicle	5	7	7	3	3
Total	24	24	15	3	3

Question 10: The vehicle that you currently use at DNS is safe					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Personal vehicle	19	20	5	0	0
City owned vehicle	4	10	7	3	1
Total	23	30	12	3	1

Question 11: Driving a vehicle that is clearly marked as belonging to the city of Milwaukee provides employees with greater safety					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Personal vehicle	18	14	8	4	6
City owned vehicle	15	3	6	2	0
Total	33	17	14	6	6

Question 12: Driving a vehicle that is clearly marked as belonging to the city of Milwaukee elicits greater respect from the public					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Personal vehicle	12	12	18	4	4
City owned vehicle	10	7	5	0	3
Total	22	19	23	4	7

Question 13: Driving a vehicle that is clearly marked as belonging to the city of Milwaukee has other benefits					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Personal vehicle	14	5	21	3	3
City owned vehicle	9	5	7	1	3
Total	23	10	28	4	6

Appendix E: Cost Estimates Under the Status Quo for 34 City Vehicles

The following table shows three estimates of the costs associated with the provision of each vehicle type, i.e. cars, pickup trucks, and vans, under the status quo. The three estimates use three different figures for annual depreciation. The differences in depreciation are the only differences between the three estimates.

**Table E1:
Cost Estimates under the Status Quo for 34 City Vehicles**

	Low Estimate Assumes 15- Year Lifespan	Moderate Estimate Assumes 10- Year Lifespan	High Estimate Assumes 7- Year Lifespan
Cars			
Average depreciation	\$895.24	\$1,342.86	\$1,918.37
Average maintenance costs	\$1,250.52	\$1,250.52	\$1,250.52
Average fuel costs	\$744.00	\$744.00	\$744.00
Average total costs	\$2,889.76	\$3,337.38	\$3,912.89
Average miles driven	6,701	6,701	6,701
Average per-mile cost	43 cents	50 cents	58 cents
Pickup trucks			
Average depreciation	\$1,094.03	\$1,641.05	\$2,344.36
Average maintenance costs	\$1,648.92	\$1,648.92	\$1,648.92
Average fuel costs	\$1,093.00	\$1,093.00	\$1,093.00
Average total costs	\$3,835.96	\$4,382.98	\$5,086.28
Average miles driven	7,257	7,257	7,257
Average per-mile cost	53 cents	60 cents	70 cents
Cargo vans			
Average depreciation	\$1,351.17	\$2,026.76	\$2,895.36
Average maintenance costs	\$1,589.64	\$1,589.64	\$1,589.64
Average fuel costs	\$1,519.00	\$1,519.00	\$1,519.00
Average total costs	\$4,459.81	\$5,135.4	\$6,004
Average miles driven	5,910	5,910	5,910
Average per-mile cost	75 cents	87 cents	\$1.02

Source: Authors' calculations

Appendix F: Original Vehicle Purchase Prices and the Purchase Price Adjusted to 2006 Dollars

Table F1 contains the original purchase price, purchase date, and the original purchase price in 2006 dollars for each of the 34 city vehicles used by DNS. The amounts were calculated using “The Inflation Calculator,” which is found at the website <http://www.westeg.com/inflation>.

**Table F1:
Original Purchase Price of 34 City Vehicles**

Model	Vehicle type	Original Purchase Price	Purchase Year	Original Purchase Price in 2006 Dollars
Cavalier 4dr	Compact car	\$7,654.00	4/17/1991	\$11,387.63
Cavalier 4dr	Compact car	\$7,654.00	4/18/1991	\$11,387.63
Sundance 4dr	Compact car	\$7,984.95	4/28/1992	\$11,401.17
Sundance 4dr	Compact car	\$7,984.95	4/28/1992	\$11,401.17
Sunbird	Compact car	\$8,714.00	6/2/1993	\$12,079.74
Cavalier 4dr	Compact car	\$9,232.00	1/27/1995	\$12,110.20
Cavalier 4dr	Compact car	\$9,232.00	1/30/1995	\$12,110.20
Cavalier 4dr	Compact car	\$10,250.00	7/3/1995	\$13,445.57
Cavalier 4dr	Compact car	\$10,250.00	7/3/1995	\$13,445.57
Focus	Four door car	\$12,585.47	6/6/2000	\$14,735.97
Focus	Four door car	\$12,585.47	6/1/2000	\$14,735.97
Focus	Four door car	\$13,710.00	5/12/2003	\$14,922.19
Focus	Four door car	\$13,710.00	5/12/2003	\$14,922.19
Focus	Four door car	\$13,710.00	5/12/2003	\$14,922.19
Focus	Four door car	\$13,710.00	5/12/2003	\$14,922.19
Acclaim	Mid size car	\$9,453.50	3/16/1992	\$13,498.01
Acclaim	Mid size car	\$9,453.50	3/16/1992	\$13,498.01
Intrepid 4dr	Mid size car	\$13,119.00	3/25/1996	\$16,789.29
			Average cost:	\$13,428.61

Model	Vehicle type	Original Purchase Price	Purchase Year	Original Purchase Price in 2006 Dollars
S15	Mini pickup	\$9,969.00	8/1/1989	\$16,383.19
S15	Mini pickup	\$9,969.00	7/20/1989	\$16,383.19
S15	Mini pickup	\$10,253.00	7/11/1990	\$16,078.17
S15	Mini pickup	\$9,127.00	7/11/1990	\$14,312.44
TS10603	Mini pickup	\$9,462.50	8/17/1992	\$13,510.86
TS10603	Mini pickup	\$12,988.00	10/25/1994	\$17,480.15
TS10603	Mini pickup	\$13,250.00	8/20/1996	\$16,956.94
TS10653	Mini pickup ext. Cab 4x2	\$16,671.00	6/29/2000	\$19,519.60
TS10653	Pickup - extended cab 4x2 4400 lb	\$15,588.00	6/6/2001	\$17,651.40
CS10653	Mini pickup extended cab 4x2 4600 lbs.	\$13,792.00	8/20/2002	\$15,371.71
CS10653	Mini pickup extended cab 4x2 4600 lbs.	\$14,542.00	2/12/2003	\$15,827.75
R14C	Ranger supercab 4x2 pickup	\$15,982.00	7/30/2004	\$17,070.73
R14C	Ranger supercab 4x2 pickup	\$15,720.00	8/9/2004	\$16,790.88
			Average cost:	\$16,410.54
	Cargo van	\$10,592.00	8/14/1987	\$18,773.07
	Cargo van	\$11,965.00	9/6/1991	\$17,801.54
	Cargo van	\$19,831.00	11/17/1998	\$24,228.03
			Average cost:	\$20,267.55

Source: Michael O'Donnell, personal communication, March 2007;

Friedman, S. Morgan. (2006). The Inflation Calculator. (n.d.). Retrieved April 8, 2007, from <http://www.westegg.com/inflation> .

Appendix G: Fuel Costs for Each of the 34 DNS Vehicles

The following table contains the actual gas costs and miles driven for each of the 34 city vehicle used by DNS in 2006.

**Table G1:
Gas and Mileage Costs for 34 City Vehicles**

Vehicle Type	Gas Costs	Miles Driven
Passenger car	\$894.48	8,717
Passenger car	\$344.51	2,598
Passenger car	\$369.62	3,385
Passenger car	\$771.09	7,574
Passenger car	\$506.79	4,072
Passenger car	\$659.79	7,505
Passenger car	\$805.58	7,007
Passenger car	\$1,009.79	9,259
Passenger car	\$697.06	6,754
Passenger car	\$571.82	5,609
Passenger car	\$612.90	5,816
Passenger car	\$1,184.45	12,098
Passenger car	\$918.20	7,332
Passenger car	\$958.26	7,626
Passenger car	\$992.59	8,143
Passenger car	\$581.26	3,765
Passenger car	\$1,174.30	9,824
Passenger car	\$346.84	3,533
Pickup	\$499.43	3,314
Pickup	\$938.57	6,817
Pickup	\$866.04	4,191
Pickup	\$859.19	5,715
Pickup	\$796.23	9,778
Pickup	\$768.05	8,385
Pickup	\$983.71	6,999
Pickup	\$1,433.36	7,181
Pickup	\$828.74	5,639

Vehicle Type	Gas Costs	Miles Driven
Pickup	\$1,727.36	10,193
Pickup	\$1,385.96	8,000
Pickup	\$1,453.31	9,246
Pickup	\$1,663.56	8,887
Light van	\$1,569.57	6,930
Light van	\$1,330.21	5,201
Light van	\$1,656.83	5,599
Average	\$946	6,840

Source: Michael O'Donnell, personal communication, March 2007

Appendix H: Sample Debt Schedule

Table H1 is a sample debt schedule for \$1,244,104 in general obligation serial bonds, paid off in equal increments over 15 years.

Table H1: Sample Debt Schedule

Interest	0.0250	0.0250	0.0300	0.0400	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0525	0.0525	0.0525	0.0525	0.0525
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<u>Debt service</u>															
Principal	82,940														
Interest	2,074														
Principal		82,940													
Interest	2,074	2,074													
Principal			82,940												
Interest	2,074	2,074	2,488												
Principal				82,940											
Interest	2,074	2,074	2,488	3,318											
Principal					82,940										
Interest	2,074	2,074	2,488	3,318	4,147										
Principal						82,940									
Interest	2,074	2,074	2,488	3,318	4,147	4,147									
Principal							82,940								
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147								
Principal								82,940							

Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147							
Principal									82,940						
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147						
Principal										82,940					
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147					
Principal											82,940				
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147	4,354				
Principal												82,940			
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147	4,354	4,354			
Principal													82,940		
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147	4,354	4,354	4,354		
Principal														82,940	
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147	4,354	4,354	4,354	4,354	
Principal															82,940
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147	4,354	4,354	4,354	4,354	4,354
Principal															82,940
Interest	2,074	2,074	2,488	3,318	4,147	4,147	4,147	4,147	4,147	4,147	4,354	4,354	4,354	4,354	4,354
Principal															82,940
Debt Service	114,050	111,976	115,284	122,756	128,557	124,410	120,263	116,116	111,969	107,822	104,711	100,356	96,002	91,648	87,294
Per Vehicle	1,374	1,349	1,389	1,479	1,549	1,499	1,449	1,399	1,349	1,299	1,262	1,209	1,157	1,104	1,052
Total Principal	1,244,104			Total Debt Service Per Vehicle	19,918										
Principal per Vehicle	15,172			Average Total Debt Service Per Vehicle	1,328										

Source: Authors' calculations

Appendix I: 2002-A Debt Schedule

Below is the debt schedule for a general obligation refunding bond issued to the City of Milwaukee in 2002. We used these interest rates to calculate our sample debt schedule, shown in Appendix H.

\$159,985,000
CITY OF MILWAUKEE, WISCONSIN
General Obligation Refunding Bonds, Series of 2002-A

Interest				Interest			
<u>September 1</u>	<u>Amount</u>	<u>Rate</u>	<u>Yield</u>	<u>September 1</u>	<u>Amount</u>	<u>Rate</u>	<u>Yield</u>
2003	\$5,220,000	2.50%	1.35%	2010	\$17,505,000	5.00%	3.30%
2004	8,680,000	2.50	1.73	2011	23,675,000	5.00	3.40
2005	6,255,000	3.00	1.95	2012	21,720,000	5.00	3.50
2006	2,425,000	4.00	2.23	2013	14,715,000	5.25	3.61
2007	2,295,000	5.00	2.54	2014	16,715,000	5.25	3.76
2008	6,460,000	5.00	2.84	2015	14,430,000	5.25	3.87
2009	11,665,000	5.00	3.07	2016	8,225,000	5.25	3.98

Source: City of Milwaukee. General Obligation Refunding Bonds, Series of 2002-A.

(n.d.). Milwaukee: Author. Retrieved April 12, 2007, from

<http://www.city.milwaukee.gov/displayFile.asp?docid=1917&filename=/User/pmensa/goref02a.pdf>

Appendix J: Composition and Administration of the Federal Mileage Reimbursement Rate

Many organizations, including local and state governments, adopt the federal mileage reimbursement rate for their organization's personal use. The widespread adoption of the federal reimbursement rate, defined by the Internal Revenue Service (IRS), is, presumably, due to the perceived validity of the rate's calculation and the lower administrative costs associated with adopting the externally defined rate.

Since 1981, the IRS has contracted the establishment of the rate to a private company: Runzheimer International, Inc., a Wisconsin-based private consulting firm that, amongst other activities, provides fleet management and business vehicle analytical services to federal, state, and local governments (Runzheimer International, Inc., n.d.a).

According to the company's website, Runzheimer "developed an economic and statistical model that incorporates representative vehicles weighted by sales in each state" to help formulate the federal mileage rate. In addition, the Company derives the mileage rate by researching and including fixed and variable costs in its calculations. Fixed costs include: insurance, depreciation, license, title, and taxes. Variable costs include: fuel, oil, maintenance, and tires (Runzheimer International, Inc., n.d.b). More specific details on how the company compiles its data into a single mileage rate are unavailable. The IRS considers such information proprietary.

In general, the IRS releases updated mileage reimbursement rates annually. However there are some notable exceptions. For instance, after the events of Hurricane Katrina and the resulting increases in gas prices, the IRS temporarily (from September through December 2005) increased the mileage reimbursement rate from 40.5 cents to 48.5 cents ("IRS Increases Mileage Reimbursement Rate," 2005). The most recent increase occurred in January 2007 when the IRS increased the reimbursement rate to 48.5 cents, following a mileage reimbursement rate of 44.5 cents in 2006 (Internal Revenue Service [IRS], 2006).