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MINNESOTA DEPARTMENTS OF ADMINISTRATION—TRANSPORTATION PURCHASING PILOT PROJECT

FINAL REPORT TO THE LEGISLATURE 1998

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**MINNESOTA DEPARTMENTS OF
ADMINISTRATION—TRANSPORTATION
PURCHASING PILOT PROJECT**

**FINAL REPORT TO THE LEGISLATURE
1998**

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December 31, 1998

The Honorable Arne Carlson
Governor, State of Minnesota
130 State Capitol

Patrick E. Flahaven
Secretary of the Senate
231 State Capitol

Edward A. Burdick, Chief Clerk
House of Representatives
211 State Capitol

Gentlemen:

Pursuant to Minnesota Laws of 1995, Chapter 248, Article 13, Section 4, Subdivision 2, the departments of Administration and Transportation, the select pilot agency, must report to the legislature on the status and recommendations of the purchasing pilot project. The completed Year 2 (and final) Purchasing Pilot Project Report is enclosed.

We appreciate the legislature's invitation to pilot constructive changes in the state procurement process. We believe that our two departments have made significant progress over the last several years in reforming state purchasing and we sincerely thank the many employees within our agencies who made that goal their mission.

Sincerely,

Elaine S. Hansen
Commissioner
Department of Administration

James Denn
Commissioner
Department of Transportation

c: Rep. Phyllis Kahn

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EXECUTIVE SUMMARY

The 1995 Minnesota Legislature authorized a state government purchasing pilot project and required the agency selected for the pilot project — the Department of Transportation — and the commissioner of administration to “make recommendations for legislative changes needed to ensure that the state will have the most efficient and effective system possible for purchasing goods and services” [Minnesota Laws 1995, Chap. 248, Art. 13, Sec. 4, Subd. 2]. This final report on the pilot project summarizes those recommendations and the processes and input used to reach them.

The pilot project allowed the state to experiment with different methods and approaches to purchasing and involved a partnership between hundreds of employees from Transportation and dozens from Administration. Both departments point to the positive results of the pilot project and view it as successful in that it helped result in comprehensive purchasing reform through Administration’s internal reforms in 1997 and the Purchasing Reform Act in 1998, provided perspective on improving some current practices, and verified the effectiveness of other current practices.

The goal of the purchasing pilot project was to create a system that would (1) provide internal and external customers with high-quality materials, equipment, and services when needed and at the least cost; (2) be the most efficient and effective possible under current laws; and (3) be considered best in its class.

The pilot project allowed delegates of the commissioner of transportation to stand in for delegates of the commissioner of administration in setting certain administrative rules, although Transportation still had to comply with state purchasing laws. Specifically and most importantly, the pilot project allowed Transportation to conduct all of its own purchases (or use Administration at Transportation’s option), collect fewer bids if purchasers so chose, use reduced percentage preferences for targeted group and economically disadvantaged vendors, have contracts rewritten as non-exclusive for Transportation, and open sealed bids locally.

Specific outcomes and performance measures were established to determine whether the pilot project succeeded in realizing its goals. Performance measurement and qualitative data collection indicate that the pilot project was successful in increasing the satisfaction of end users, cutting purchasing cycle time, increasing the amount of purchases from local vendors, and improving the perceived quality of goods and services purchased.

While the pilot project was under way, changes in procurement law and Administration policy granted substantially increased purchasing authority to all state purchasers, considerably reducing the dissimilarities between the pilot project and procedures for the rest of the state. Also, legislative changes went into effect in July 1998, and their full impact has not yet been felt. As such, there is

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no evidence of the need to revisit wholesale administrative or legislative procurement reform. However, there are smaller recommendations in the following purchasing areas:

Contract purchasing The state needs to show more flexibility in the writing of contracts to account for differing regional and quality needs and should consider forgoing contracts altogether for certain commodities. The state also needs to hold its vendors to higher performance standards to reduce dissatisfaction with goods and services purchased from contracts. Improvements in this area have been difficult because of poor communication between contract writers and agency purchasing personnel, but many needed changes are under way.

Building construction Performance measurement indicated a cycle-time improvement of more than eight days during the first year of the pilot project and an improvement of less than three days during the second year. For the two years combined, the average improvement was six days. Given Transportation's willingness to do the work, evidence of improved efficiency, and the presence of delegated authority to other state agencies, a considerable extent of the building construction process should continue to be allowed in Transportation, as has temporarily been agreed to by the two agencies under a memorandum of understanding. However, because an internal audit of the process showed that a part of the efficiency improvement may have come at the expense of certain important process controls intended to reduce the state's exposure to legal liability, it is recommended that building construction processing be allowed in Transportation *only* with continuing monitoring and oversight from Administration.

Further purchasing delegation Although performance measures frequently showed improvement for purchases below the sealed-bid limit, those same performance measures showed no improvement for the pilot project in purchases above the sealed-bid limit, offering no strong argument for wholesale delegation of purchasing authority for these more complex purchases, beyond the authority up to the sealed bid limit available to all agencies already granted by the recent procurement reforms. Administration should consider delegating this authority, however, with continuing monitoring and oversight, for state offices that can demonstrate a need for the authority.

Other recommendations Additionally, it is recommended that opportunities like the pilot project continue to be made available, that the Department of Administration continue in the leadership role in regard to purchasing, and that Administration be a strong leader in vendor and contract management through drawing upon the expertise of purchasers in various agencies.

INTRODUCTION

The 1995 Minnesota Legislature authorized a purchasing pilot project that exempted one Executive Branch agency from "any law, rule, or administrative procedure that requires approval of the commissioner of administration before an agency enters into a contract" [Minnesota Laws 1995, Chap. 248, Art. 13, Sec. 4, Subd. 2]. In Administration, this authority normally falls to its Materials Management Division. The Department of Transportation was selected as the pilot agency.

The project purpose was to "establish a process to ensure that agencies obtain goods and services in [the most efficient and cost-effective] manner, while removing rules and procedures that cause unnecessary inefficiencies in the purchasing system" [Subd. 1]. The legislation also specified (1) that guidelines be developed to prevent conflicts of interest in the purchasing process; (2) that the Department of Administration design and implement an evaluation system, in consultation with the pilot agency; and (3) that the agency involved in the pilot project and the commissioner of administration "make recommendations for legislative changes needed to ensure that the state will have the most efficient and effective system possible for purchasing goods and services" [Subd. 2].

This document fulfills the reporting requirements of the legislation and contains the results of the pilot project evaluation required by the legislation.

The pilot project allowed the state to experiment with different methods and approaches to purchasing. It involved the participation of hundreds of Transportation employees and dozens of employees of Administration's Materials Management Division and intense involvement and planning by the pilot team, which included representatives from Transportation and Administration.

The pilot project resulted in measurable improvements in several areas. Transportation additionally has noted an overall positive attitude that accompanied the pilot project. Purchasers were held more accountable for their purchases, because they had more control over them. Purchasers praised the flexibility the pilot project granted them, encouraging innovation and creativity on their part. Initially, concern was expressed about possible downfalls of unlimited authority levels and other purchasing liberties, such as misuse of authority and fraudulent purchases. During the two years of the pilot project, there was no evidence that either occurred.

Administration has stated that the pilot project was very important in providing data and experiences that supported purchasing reform and that this information and the example of the pilot project helped lead to Administration's internal reforms in 1997 and the legislative reforms in the Purchasing Reform Act of 1998. From both departments' perspectives, the pilot project was successful in that it helped result in comprehensive purchasing reform, provided perspective on how some current practices could be improved, and verified the effectiveness of other current practices. Thanks to the

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success of the pilot project, the majority of the expanded flexibility that Transportation tested is now available to other state agencies.

The departments of Administration and Transportation thank the legislature for the opportunity to pursue the pilot project and for the passage of the 1998 Procurement Reform Bill. The departments also thank the hundreds of individuals in both departments who worked hard to make the pilot project successful and helped to collect the data contained in this report.

BACKGROUND

The legislature authorized the Department of Administration to choose a partner from the Executive Branch to participate in the purchasing pilot project. Administration solicited participation from all state agencies via a letter. The Department of Transportation was chosen as the purchasing pilot agency among the two agencies that applied for the authorization. Through agreement by both departments, the Department of Administration's Management Analysis Division was contracted to conduct the evaluation.

Transportation management selected its interagency Materials Management Team, which included Administration's director of the Materials Management Division, to implement the pilot project. In turn, the Materials Management Team formed a 17-member purchasing pilot team of Transportation and Administration managers, purchasers, and customers.

The pilot team identified desired project outcomes or goals as well as performance measures to determine success. The team also developed purchasing pilot project policies — which were endorsed and approved by the Materials Management Team and the commissioner of transportation — and offered new policy and procedure training to inventory centers and business offices.

In 1996, the Department of Administration convened a purchasing reform steering committee of representatives from 14 state agencies having the vast majority of state purchasing dollars and from private industry. The purpose of the steering committee was to recommend administrative and legislative changes to the state's purchasing system. Based on the input of the steering committee and the lessons learned from the purchasing pilot project, Administration developed a comprehensive legislative initiative that was signed into law by Gov. Arne Carlson in April 1998.

Administration has stated that the pilot project provided Administration with solid insight into the practical aspects of expanding agency authority to purchase, and that the pilot project provided a valuable laboratory to test the best thinking and practices related to government purchasing. Administration used steering committee recommendations and insight from the first year of the pilot project to make several changes in administrative rules and procedures, including:

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- a new local purchase authority threshold of \$5,000 or to the sealed-bid limit, then at \$15,000 with additional training, which took place over the following year;
- a shift in focus from the direct provision of services to larger, more complex purchases and its central management responsibilities;
- expanded product and service "user groups" to provide regular agency input on the development and management of statewide contracts;
- a refined process to provide faster resolution of agency concerns related to vendor quality and service delivery; and
- a purchase card.

Administration also submitted to the legislature a procurement reform bill that proposed procurement changes that could not be made at the agency's discretion. Data from the first year of the pilot project was used to support several of the requested changes. The 1998 Legislature passed the Procurement Reform Act. Its major impacts were to:

- replace purchasing criteria based on "low bid meeting specifications" with "best value" criteria,
- raise the sealed-bid threshold from \$15,000 to \$25,000, and
- change the nature of all preference programs, except for preference for purchases from targeted or economically disadvantaged vendors, because any changes for those two programs are pending the results of the disparity study.

The procurement reforms went into effect July 1, 1998.

Knowledge of the impending implementation of the above changes and the fact that this would change the base line for all performance measurement, as well as a desire on the part of both agencies to know more about the impacts of the pilot project on higher dollar purchases and on contracts rendered non-exclusive under the pilot project, led Transportation to request a one-year extension of the pilot project. The legislature approved an extension in the first special session of 1997.

PURCHASING GUIDELINE DIFFERENCES

Procurement changes applied to a wide variety of purchasing categories. Commodities, services, professional/technical contracts, and building construction contracts were all procured under pilot project guidelines. Transportation was exempted from Administration rules but was required to comply with broader laws, such as adherence to sealed-bid limits (the dollar level at which formal bidding is required, mandating advertising for sealed bids that must be submitted by a deadline) for purchases of more than \$15,000 (changed to \$25,000 after July 1, 1998) and to contractual obligations.

Five key differences could be found between the purchasing pilot project and Administration policies during the second year of the pilot project:

1. Administration policy extended local purchase authority for commodities, services, and building construction to orders of up to \$5,000 (up from \$1,500 before the reforms). Goods and services with a cost above local purchase authority are obtained or authorized by Administration. Authority for local purchases up to the dollar level at which sealed bids are required (\$15,000 during the second year, increased to \$25,000 with enactment of the new purchasing law) was given with additional training. The pilot project gave Transportation unlimited local purchase authority.
2. The pilot project required fewer bids than current Administration policy guidelines for purchases of less than the sealed-bid limit.
3. The pilot project had a sliding scale for targeted-group and economically disadvantaged vendor percentage preferences that mandate that the state buy from such a vendor as long as its bid falls within the preference percentage above the lowest bid. The extent of the preference for Transportation began to drop from the level used by Administration when commodities or service purchases exceeded \$5,000 or when building construction contracts exceeded \$100,000.
4. Contracts, when possible, were rewritten to be non-exclusive for pilot project participants and also to encourage more multi-vendor contracts.
5. Sealed bids were opened locally for Greater Minnesota districts.

A complete list of differences is shown in Table 1 on the next page.

Since completion of the pilot project, Transportation and Administration have signed a memorandum of understanding allowing Transportation to continue having certain delegated authorities.

TABLE 1. PURCHASING POLICY GUIDELINES

PRE-PILOT PROJECT	CURRENT (AS OF JULY '98)	PILOT PROJECT
1. Delegated local purchase authority of \$1,500	1. Delegated commodities and services purchase authority of \$5,000; to the sealed-bid limit of \$25,000 with advanced training	1. No dollar limit on delegated local purchase authority
2. Number of bids required: Less than \$500 — 1 \$500 - \$1,500 — 2 More than \$1,500 — 3	2. Number of bids required: Less than \$2,500 — 1 (as mandated by the new laws) \$2,500 - \$5,000 — 2 More than \$5,000 — 3	2. Number of bids required: Less than \$5,000 — 1 \$5,000 - \$15,000 — 2 More than \$15,000 — 3
3. Purchases above local purchase authority must be processed by Administration or authorized by them on a case-by-case basis		3. Purchases processed by Administration at Transportation's option
4. Administration determines purchasing and contracting procedures, with agency input		4. Transportation determined purchasing and contracting procedures
5. Single-source purchases above local purchase authority are determined by Administration		5. Single-source status was determined by Transportation
6. Administration establishes all commodity contracts		6. Transportation could establish its own commodity contracts
7. Required use of Administration contracts, with exceptions granted by Administration or stated in contract		7. Optional use of Administration contracts, subject to legal constraints
8. Targeted-group (TG)/economically disadvantaged (ED) vendors: TG = 6% ED = 4%	8. The same, pending results of a disparity study	8. Targeted-group (TG)/economically disadvantaged (ED) vendors: Commodity TG ED Less than \$5,000 6% 4% \$5,000 - \$15,000 4 2 More than \$15,000 2 1 Building construction TG ED Less than \$100,000 6 4 \$100,000 - \$250,000 5 3 More than \$250,000 4 2
9. Building construction bids are opened in St. Paul		9. Building construction bids opened locally
10. Required advertising in the <i>State Register</i> , additional advertisement at the discretion of the purchasing agency		10. Advertising methods determined by Transportation
11. No delegations were approved for district engineers or office directors to sign on behalf of Transportation		11. Delegations were approved up to \$50,000 for district engineers or office directors to sign on behalf of Transportation
12. Annual plan approval by Administration required for professional/technical services up to \$5,000	12. No pre-approved annual plan required: can contract for limited professional/-technical services up to \$5,000 on "Annual Plan" contract form	

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PERFORMANCE MEASUREMENT FINDINGS AND CONCLUSIONS

FRAMEWORK FOR EVALUATION

The pilot project design included identification of desired outcomes and performance measures that would allow for evaluation of the project in terms of Transportation's objectives as well as those established by the enabling legislation. The Transportation offices and districts that chose not to participate in the pilot project served as a control group. The performance of the participating offices and districts was compared with that of the control group. The differences in results — positive or negative — were to serve as evidence of the purchasing pilot project's impact. It is important to note that the subjects of the evaluation were the different processes used between the pilot project and the control groups. There was explicitly no attempt made to evaluate or compare the relative productivity between individuals in the two groups.

The purchasing pilot team specified outcomes and measures that would determine the extent of the pilot project's success. The desired outcomes, which included all outcomes specified in the authorizing legislation, follow.

DESIRED OUTCOMES

- Increase the satisfaction of Transportation customers, defined as the end users of the products
- Reduce the time to receive goods and services
- Increase the participation by targeted-group, local, small, and economically disadvantaged vendors
- Reduce the cost of goods and services
- Reduce the staff time in purchasing
- Improve the quality of goods and services
- Increase the flexibility of the purchasing process
- Maintain the ethical integrity of the purchasing process

As evaluator, the Management Analysis Division agreed to the selected outcomes and worked with Transportation's Measurement and Evaluation Team, purchasing customers, and purchasers to deve-

lop measurement tools. These tools were (1) a survey instrument for data collection from purchasing system customers, (2) a tracking form on selected individual purchases, (3) reports and information from the state's computerized procurement system, (4) focus groups and interviews with pilot project participants, (5) conversations with vendors, and (6) results of an audit on Transportation's building construction process conducted jointly by internal Administration and Transportation auditors.

Findings for each measure and analytical conclusions are presented here.

MEASURE: TRANSPORTATION CUSTOMER SATISFACTION Customer satisfaction was measured by a survey of end users of products purchased by Transportation. In July 1997, a preliminary survey was conducted to identify any initial differences in survey results between the pilot and control groups. The approximately 400 Transportation customers receiving the survey were selected by Transportation office managers who were given a quantity of surveys determined by their amount of purchasing. They were asked to send the surveys to their most frequent customers. This not-ideal method of survey distribution was deemed the best possible, given lack of a central customer list. In all but one question's replies, pre-pilot project differences were small and not statistically significant. In replies relating to satisfaction with the cost of purchased goods, differences disappeared when purchases from the Twin Cities metropolitan area districts and offices were removed from the sample. It was therefore concluded that a comparison between the two groups could be made despite the lack of random assignment into pilot project and control groups, and that the comparison would provide evidence of the pilot project's impact as long as data was analyzed carefully to make the optimal comparisons.

After the preliminary survey, a more rigorous survey of Transportation customers was begun. A focus group of customers pre-tested the survey and indicated that the best survey would ask customers about specific purchases they had made. In addition, because purchases off the state contract would not be affected by the pilot project, it was decided to survey only customers of non-contract purchases. The results for the first year of the pilot project, contained within last year's evaluation report,¹ showed a generally positive impact of the pilot project on customer satisfaction. Not enough surveys were received for purchases of more than \$5,000 to make conclusions for higher dollar value purchases. These purchases are important because they consist of the dollar thresholds where differences still remain between Transportation and Administration's purchasing rules, after the administrative purchasing reforms took effect in July 1997.

A weekly report of all purchases where payment had been made was regularly downloaded from the state's Infopack data warehouse, and all purchases of more than \$5,000 were selected and screened

¹ *Minnesota Departments of Administration-Transportation Purchasing Pilot Project: Year 1 Report to the Legislature 1997*. Management Analysis Division (St. Paul), December 1997.

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to remove codes for commodities that were purchased only on the state contract. This purchase list was sent to Transportation's Management Analysis team, which contacted the Transportation inventory center that made the purchase and asked whether the purchase was made from a state contract. If it was not, the customer was identified, contacted, and surveyed, with assurances of anonymity. Survey results were entered into a data base by Transportation's word-processing unit and sorted and analyzed by the Management Analysis Division. Of all surveys distributed to customers of non-contract purchases, 50 percent were returned.

It was decided that the best comparison would be among non-metropolitan Transportation districts, because these groups showed the greatest similarity in types of products and services purchases, and the pilot project and control groups had nearly identical results in the 1996 pre-pilot project survey. This comparison is the one shown here. Survey results are contained in the following five figures. A chi square test² of statistical significance was run to determine the statistical likelihood that the differences between the pilot project and control groups could have happened by chance. The significance results are cited in the discussion of each figure. A result at less than .05, or a 5 percent chance, is usually considered to be statistically significant. It should be noted that a significant chi square test does not prove that the pilot project *caused* a positive or negative change, but does provide evidence of whether a change did indeed occur.

² A chi square test is conducted by looking at the frequencies of responses of both groups, deducing the expected response frequencies of each individual group, and then using the difference between expected and observed frequencies to calculate a chi square statistic, which can be used to determine the probability that a difference of that magnitude or greater could occur by chance.

FIGURE 1. COMPARISON OF CUSTOMER-SATISFACTION LEVELS WITH RECEIPT TIME OF GOODS AND SERVICES

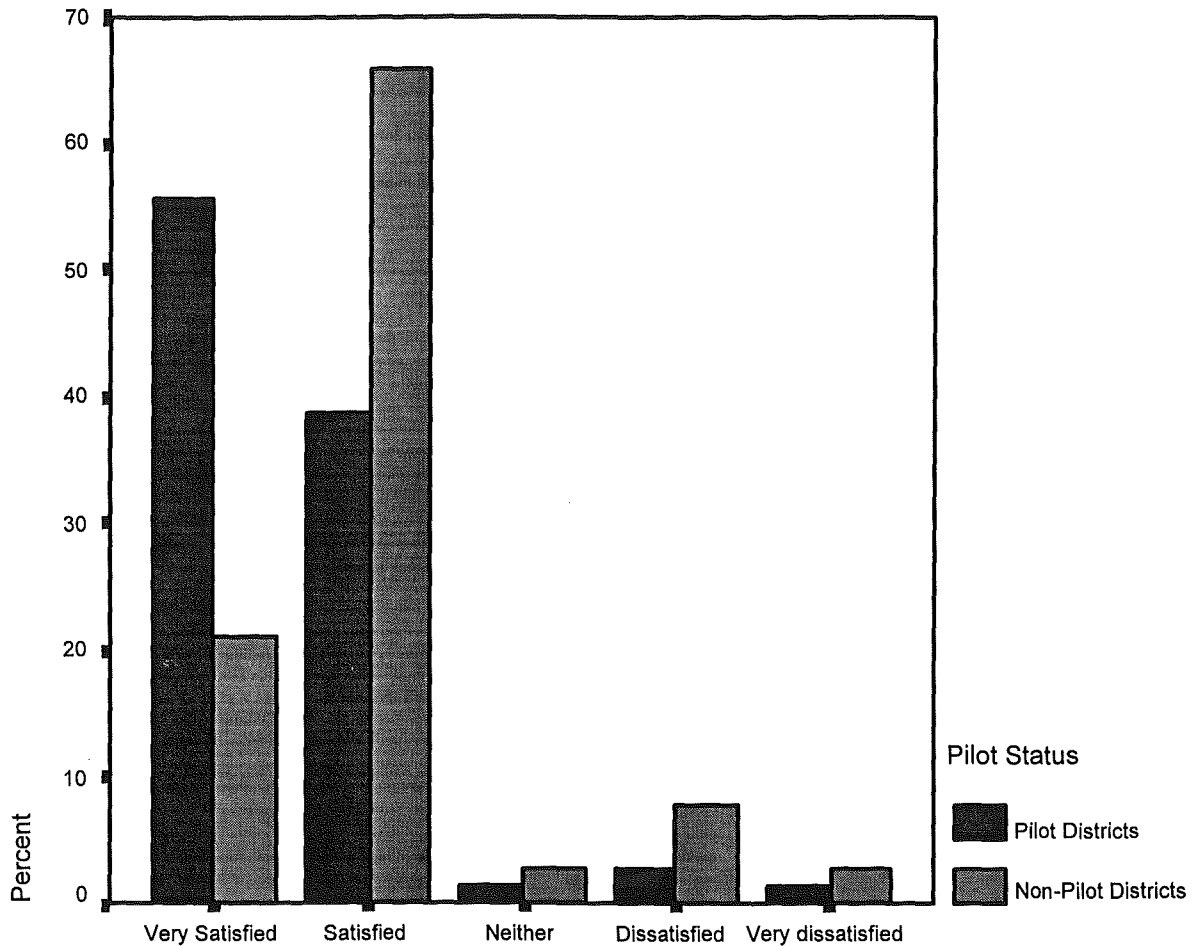


Figure 1 shows a positive impact of the pilot project. A much larger percentage of customers than in the control group reported themselves “very satisfied” with the delivery time, compared with “satisfied.” The difference is significant at the .02 level, meaning that the possibility of this difference occurring by chance is 2 percent. The sample sizes were 70 for the pilot group and 38 for the non-pilot group.

When the data is broken down by different price levels (\$5,000 to \$15,000 and more than \$15,000), a difference in satisfaction level still exists for both groups, but becomes larger for purchases between \$5,000 and \$15,000 and is not as large for purchases of more than the sealed-bid limit of \$15,000.

FIGURE 2. COMPARISON OF CUSTOMER-SATISFACTION LEVELS WITH PRODUCTS' MEETING SPECIFICATIONS

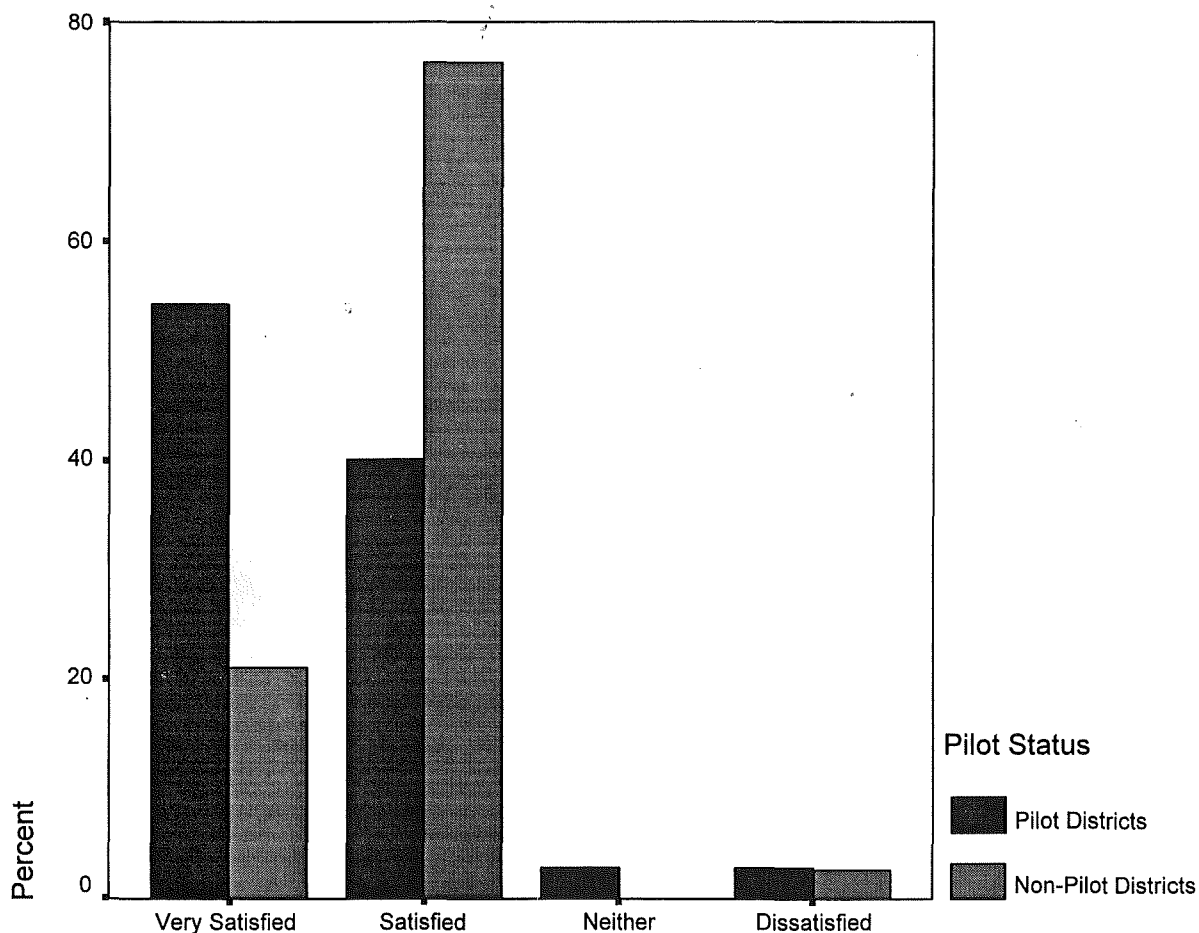


Figure 2 shows customers' satisfaction with the extent to which the product met their expectations. Here, too, a positive impact of the pilot project is shown. (NOTE: If there were no "very dissatisfied" responses, they do not appear as a category on the graph.) The difference is significant at the .003 level, meaning that the possibility of this difference occurring by chance is three-tenths of 1 percent. The sample sizes were 70 for the pilot group and 38 for the non-pilot group. As with delivery time, the difference in results for this question was also much more pronounced for purchases between \$5,000 and \$15,000 than for purchases of more than \$15,000.

FIGURE 3. COMPARISON OF CUSTOMER-SATISFACTION LEVELS WITH COST

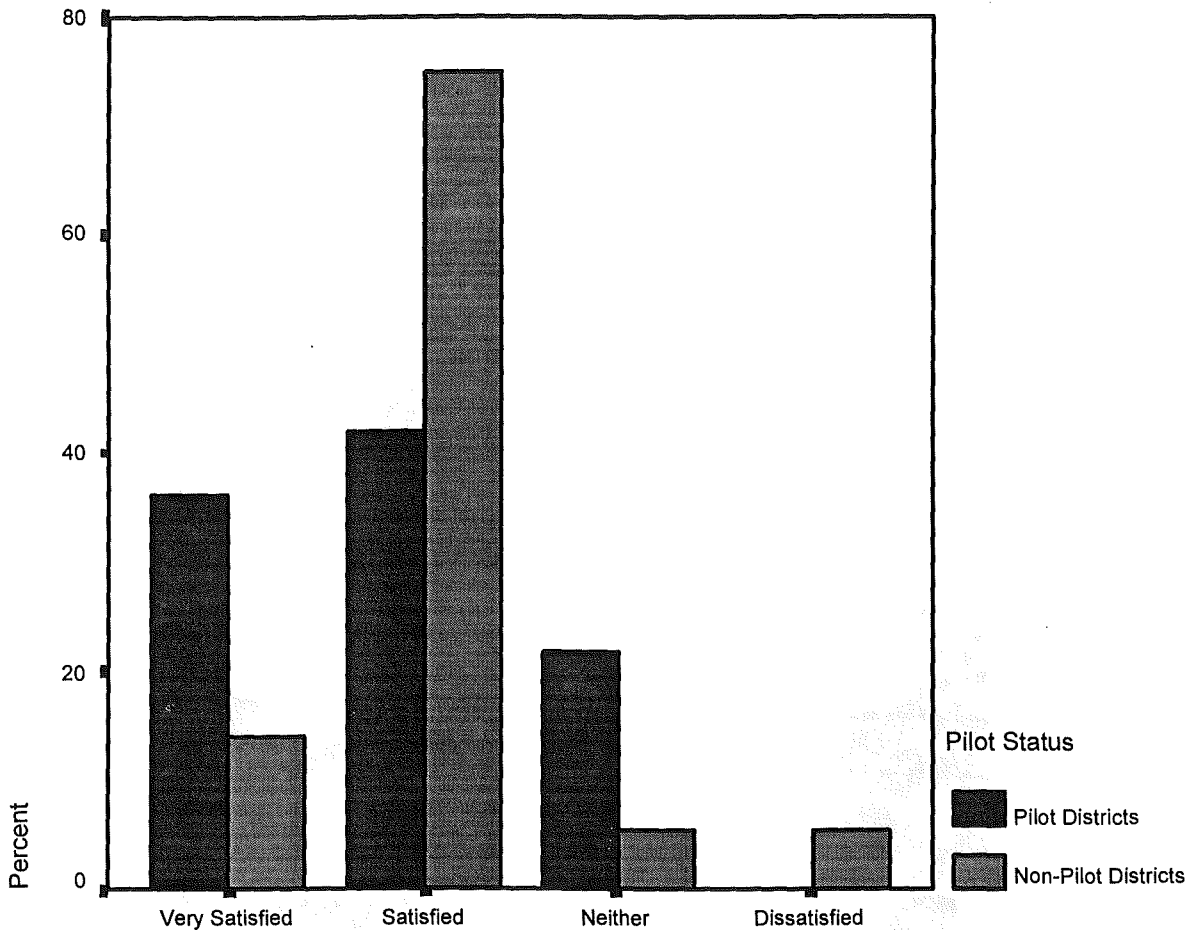


Figure 3, showing customers' satisfaction with costs, shows a slight net positive impact for the pilot project. Although a higher percentage of customers were "very satisfied," a higher percentage were also "neither satisfied nor dissatisfied." The sample sizes were 69 for the pilot group and 36 for the non-pilot group. The difference is significant at the .002 level, meaning that the possibility of this difference occurring by chance is two-tenths of 1 percent, but the trend is toward a *broader distribution* of satisfaction under the pilot project, rather than for *higher level* of satisfaction. When results are broken down by price level, a slightly positive impact is shown for purchases between \$5,000 and \$15,000 and a negative impact for purchases of more than \$15,000.

FIGURE 4. COMPARISON OF CUSTOMER-SATISFACTION LEVELS WITH PERFORMANCE

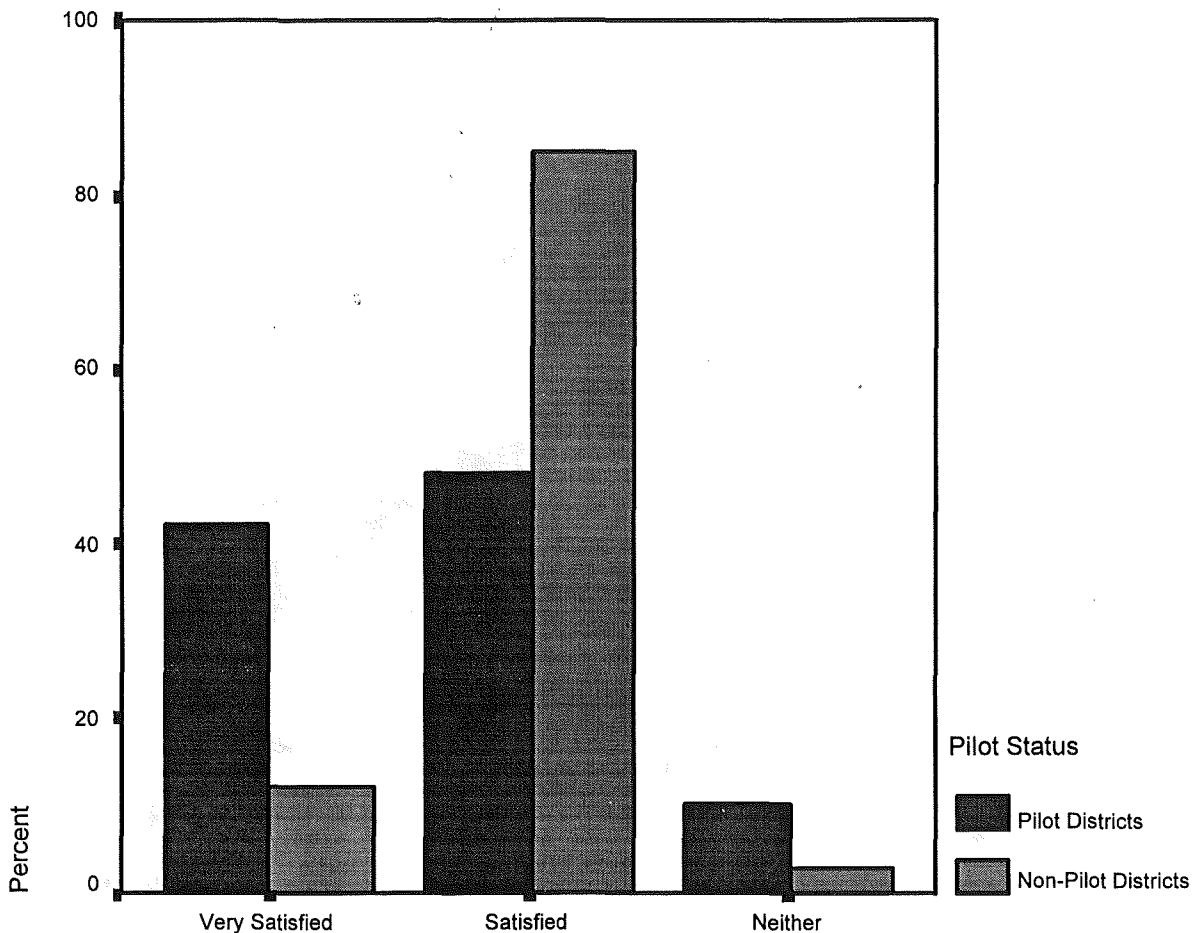


Figure 4, showing customer satisfaction with performance, again shows a positive impact for the pilot project. The difference is significant at the .002 level, meaning that possibility of this difference occurring by chance is two-tenths of 1 percent. The sample sizes were 69 for the pilot group and 33 for the non-pilot group. When results are broken down by different price levels, there is a greater positive impact for purchases between \$5,000 and \$15,000 and a less positive impact for purchases of more than \$15,000.

FIGURE 5. COMPARISON OF CUSTOMERS HAVING A PROBLEM WITH THEIR PURCHASES

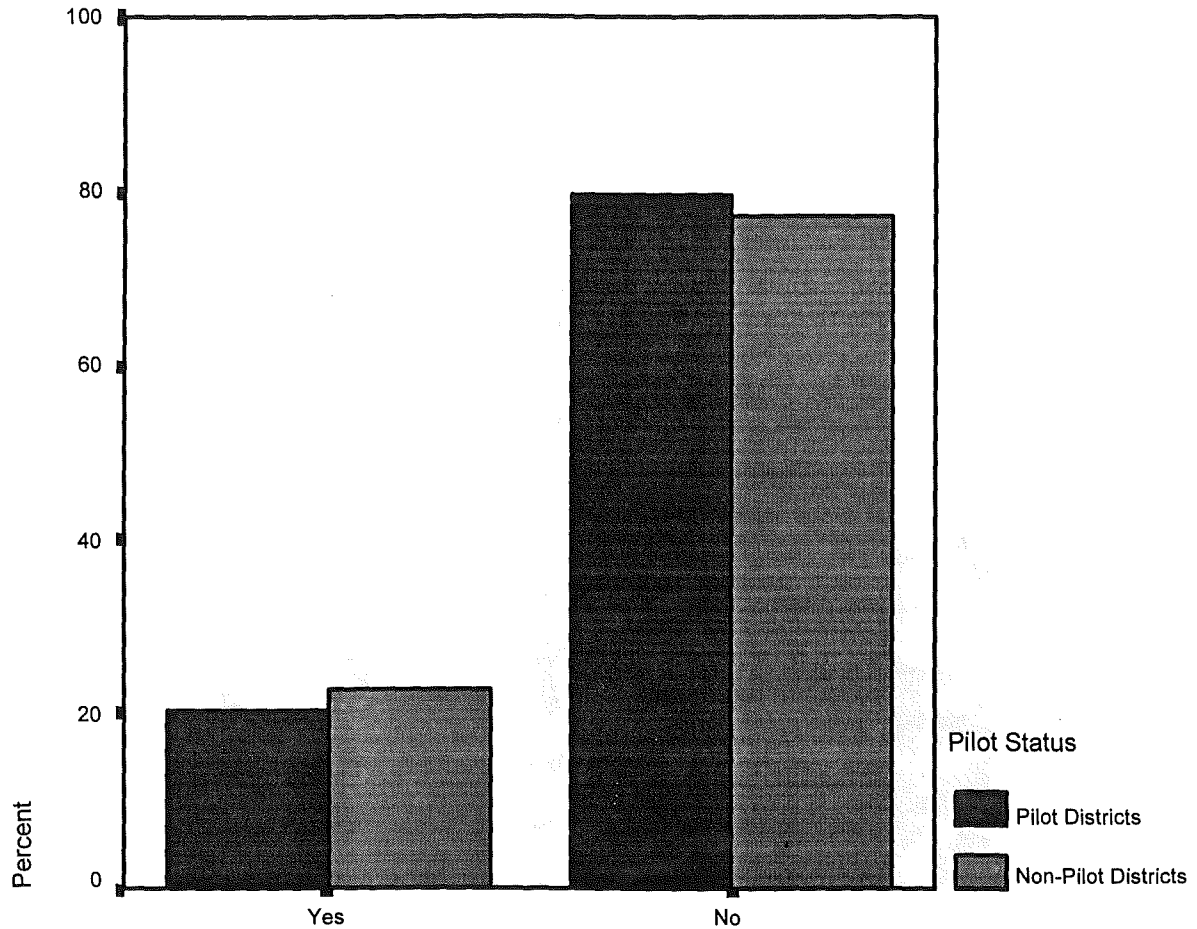


Figure 5 compares the percentage of customers who had problems with their purchases within each group. The differences are very slight and not statistically significant. The sample sizes were 68 for the pilot group and 35 for the non-pilot group. When results are broken down, differences remain very small, but are very slightly positive for purchases between \$5,000 and \$15,000 and very slightly negative for purchases of more than \$15,000. An additional question asked about satisfaction with the extent problems were resolved; the number of purchases with reported problems was too few to graph and was not statistically significant, but was slightly positive in favor of the pilot project for both price groups.

CONCLUSIONS

The pilot project had a positive impact on customer satisfaction, in most cases resulting in a higher degree of "very satisfied" customers than in the non-pilot group. However, results were much less pronounced for purchases exceeding the sealed-bid limit and in a few cases were negative.

MEASURE: TIME TO RECEIVE GOODS AND SERVICES

BUILDING CONSTRUCTION Data was collected on building construction contract cycle times in FYs 96 through 98, and cycle times for Transportation contracts were compared with non-Transportation, or "other," contracts processed by Administration. FY 96 was included as a base year, when both Transportation and "other" contracts were processed by the same organization, in order to ascertain the extent to which a direct comparison between the two was valid.

FY 96 Transportation data and all "other" data were collected from Administration contract files ("other" did not include DNR, which has been delegated the authority to process its own building construction contracts). For economy in data collection, half of all "other" contracts were sampled for the three fiscal years, with every other contract, sorted by contract number, being selected to avoid sampling bias. Data on Transportation contracts during the two pilot project years of FYs 97 and 98 was collected from files. All Transportation contracts were selected, due to their smaller number.

The data for both groups was then averaged and compared (Table 2). The selected comparison was the number of business days it took to process the contract, from bid opening to contractor notification to proceed.

In FY 96, processing time was slightly longer (three days) for Transportation, when compared with that for other agencies. This indicated that Transportation contracts were processed slightly less efficiently before the beginning of the pilot project (they did have an additional sign-off required, when compared with most other agencies). Administration also mentioned that FY 96 was an atypical

TABLE 2. AVERAGE NUMBER OF BUSINESS DAYS NEEDED FOR PROCESSING BUILDING CONSTRUCTION CONTRACTS						
Purchaser	FY 96		FY 97		FY 98	
	Avg. no. of days	No. of contracts	Avg. no. of days	No. of contracts	Avg. no. of days	No. of contracts
Transportation	40.8	45	22.5	64	28.3	38
Other agencies	37.8	93	30.7	81	30.9	71

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year for the Materials Management Division, because introduction of a new accounting and procurement system (MAPS) created slowdowns, and extensive remodeling of division offices created further disruptions. Because these conditions were not present in subsequent years, a drop in cycle time after FY 96 was expected.

In FY97, cycle time dropped by 18 days when contracts were processed by Transportation. In the same time period, Administration's cycle time dropped by seven days, leaving a difference of more than eight days between the two departments during the first year of the pilot project. This drop in Administration's cycle time could be due to the absence of problems with new systems and remodeling complications. Although it is still possible that the long-term reduction in Administration's cycle time was partially caused by the absence of Transportation contracts, it is notable that in the fourth quarter of FY 96 — before the pilot project began but after the remodeling and system changes — cycle time was 31 days, almost identical to what it was for the next two years. In FY 98, the difference between Transportation and Administration was less pronounced, amounting to fewer than three business days.

For the two pilot years combined (the best basis for comparison, because there were no process differences between FYs 97 and 98), the average cycle time at Transportation was 24.7 business days, a time reduction of 6.1 business days from other Administration contracts and 9.1 business days better than the difference that existed before the pilot project. The 6.1-day difference is statistically significant at the 95 percent confidence level, meaning that the possibility of this difference occurring by chance is less than 5 percent.

Transportation, attributing several benefits to a faster cycle time, stated that, when the building construction process is under its control, the agency can better estimate when the process will be complete and can set a likely start date well in advance with much greater confidence. In addition, the contractor is able to line up subcontractors and plan its own work better, which could hypothetically translate into lower costs. These potential cost savings could not be verified independently.

Examination of the cycle times of individual steps of the contracting process showed that Transportation had a much faster turnaround time for drawing up and sending out a contract for signature. In Transportation, this step usually occurred on the same day. In Administration, several paperwork hand-offs would occur; steps that Transportation took simultaneously were taken sequentially in Administration; and Administration's process was frequently held up in waiting for a contract number to be issued.

In order to ascertain whether these efficiency gains came at the expense of increased risk resulting from deviations from preferred business practices or at the expense of non-compliance with state procurement laws, an audit was conducted jointly by internal Administration and Transportation auditors. The internal auditors used their judgment to select a sample of 20 original contract documents and supplemental agreements. Their audit report concluded, "Mn/DOT controls over compliance with requirements for legal and

procedural issues, contract execution, and the Targeted Group Business Program relevant to building construction solicitation and contract development appeared adequate and effective," with two noted findings: (1) deviations from preferred insurance requirements and (2) instances where invalid supplemental agreements were executed, through contract changes not being initialed by the agency and/or the contractor or through problems with a lack of required signatures and formal delegation of authority from Transportation's commissioner and the Attorney General's Office on supplemental agreements.

COMMODITIES AND SERVICES PURCHASING Additionally, time data was collected from purchase tracking forms. Starting Oct. 1, 1997, every district was asked to complete a form for every non-contract purchase of more than \$1,500. The form asked purchasers to report on (1) the number of business days between the date the customer ordered the commodity or service and the date it was received and (2) the amount of time purchasing staff spent on the order. Reports dropped off precipitously toward the latter part of the fiscal year, so it was decided that purchases made only between Oct. 1, 1997, and Feb. 28, 1998, would be reviewed, to reduce the chance of selection bias. Even in this period, it was estimated that the response rate was between 20 and 25 percent.³ This response rate is quite low; the possibility of selectivity bias cannot be ruled out. It is not known if purchases where tracking forms were submitted were similar to purchases where tracking forms were not submitted.

The results showed a negligible difference between the pilot and control groups. Once again, non-metropolitan districts were determined to provide the best basis for comparison. The difference is not statistically significant. Not enough tracking forms were received for purchases of more than \$5,000 for a meaningful cost breakdown comparison. Conversations with transportation purchasers and responses on customer satisfaction surveys indicated that the pilot project led to improvements in delivery time, but the extent of any time savings cannot be determined.

CONCLUSIONS

The pilot project demonstrated that efficiency gains could be made with building construction contract processing by Transportation, but only survey responses and anecdotal evidence exist to show that this efficiency gain occurred elsewhere. This efficiency gain within the building construction area appears to date to have come at the expense of important controls to ensure compliance with legal provisions. It is very likely that the efficiency difference would have been somewhat smaller had Transportation followed all process controls because, in several instances, they would have been required to wait for paperwork. This occurred in a substantial number of judgment-selected contracts. Considering that these potential delays really stemmed from Transportation personnel not

³This number was reached by comparing submitted tracking forms against the list of non-contract purchases obtained through the state's purchasing system in the course of conducting the surveys. The numbers agreed with a second estimate obtained by comparing the number of Transportation purchases performed by Administration with the number of tracking forms received for those same purchases.

knowing that certain insurance certifications were required, it is unlikely that this problem would continue, or would have been allowed to halt the process, for more than a day. It is therefore very unlikely that it accounts for all efficiency gains.

MEASURE: PARTICIPATION BY TARGETED-GROUP, LOCAL, SMALL, AND ECONOMICALLY DISADVANTAGED VENDORS Data for this measure was collected from the GBV16B, "Vendor Activity," report from the state purchasing system. This report categorizes purchases and purchasing dollars from all purchases on the state system into four vendor types: economically disadvantaged, large, small, and targeted-group, as defined by statute. In order to eliminate the possibility that differences were due to geography (such as more targeted-group vendors located in pilot districts), FY 97 and FY 98 data was compared with FY 96 data as well. To further control for the effects of geography, the Twin Cities metropolitan area divisions and offices were removed from the sample for the analysis. Results are shown in Table 3.

One performance measure selected by the pilot team was an increase in participation by local vendors. Transportation stated that increased purchaser discretion and the ability to open sealed bids locally were factors that led to greater participation of local vendors and a larger number of bids. Data collected from pilot districts as well as in interviews with purchasers indicated that pilot districts used their increased purchasing discretion to buy from more local vendors. However, quantitative measures yielded mixed results. It was thought that the small vendor category shown in Table 3 would be correlated with local vendors. This may have been the case but, if so, small vendor increases in the first year of the pilot project were more than made up for by small vendor decreases in the second year.

In summary, for districts outside the metropolitan area, 1997 targeted-group, economically disadvantaged, and small vendor participation grew more in the pilot group than in the control group. In 1996, the control group had greater participation of small and targeted-group vendors than the pilot group and slightly less participation of economically disadvantaged vendors. Also in 1997, the pilot group had greater participation in all areas, and its lead in economically disadvantaged vendor participation increased. In 1998, targeted-group and economi-

TABLE 3. VENDOR PARTICIPATION AS A PERCENT OF TOTAL			
VENDOR TYPE	FISCAL YEAR		
	96	97	98
Targeted-group			
Pilot project	1.03%	1.76%	1.06%
DOT Control group	1.47	1.08	.62
Economically disadvantaged			
Pilot project	.44	.65	.41
DOT Control group	.35	.29	.29
Small			
Pilot project	9.7	11.1	7.6
DOT Control group	11.4	9.1	10.0

cally disadvantaged vendor participation decreased in the pilot group, but the group still had greater participation overall. In the area of small vendor participation, however, the trend reversed itself, that is, participation rates dropped in the pilot group, and the control group's participation rate exceeded the pilot group's.

CONCLUSIONS

A great deal of year-to-year variation occurs in the participation numbers, making it difficult to separate pilot project impacts from natural variation. Targeted-group and economically disadvantaged vendor participation was a concern for the pilot team. Comments from purchasers — stating that one thing they liked most about the pilot project was the ability to use smaller targeted-group and economically disadvantaged vendor preferences — made a negative impact on targeted-group and economically disadvantaged vendor participation seem like a real possibility. However, there is no indication that the pilot project caused a decrease in those vendor groups' participation.

It should be noted that approximately 85 percent of purchasing within Transportation is made using state contracts, and the dollar amount going to these contracts was only marginally affected by the pilot project. Therefore, any year-to-year variation possibly has more to do with changes in the number of contracts awarded to small, targeted-group, and economically disadvantaged vendors, or changes in the goods and services purchased by Transportation, than with any impacts of the pilot project.

Given the unanimity of district purchasers in saying that they were buying from more local vendors, it seems likely that local vendor participation increased over what it would have been without the pilot project and that the large variation seen in the small vendor category is due either to a weaker correlation with local vendors than was thought or to the dominant effect of state contract awards mentioned above.

It should also be noted that a state-commissioned disparities study is nearing completion and is expected to determine whether targeted-group or economically disadvantaged vendors are indeed discriminated against. This disparities study directly addresses the issues at the heart of this measure.

MEASURE: COST OF GOODS AND SERVICES Determining the change in the cost of goods and services purchased during the pilot project was a challenge, because most similar items purchased frequently across pilot and control groups were available on a state contract and therefore cost the same. The method used to collect this data was to look at circumstances where Transportation decided *not* to use the state contracts, to see whether this decision increased or reduced costs. Additionally, purchasers were asked why they chose not to use the state contract in these instances.

Site visits were made to Transportation district offices in Rochester, Owatonna, St. Cloud, Brainerd, Bemidji, and Duluth. Purchasers were given a list of all contracts rendered non-exclusive under the pilot project and for each contract were asked if they had made non-contract purchases for the items listed. If they had, and if the item was one on which it was easy to perform a cost comparison, cost and quantity data for all items purchased during Fiscal Year 1998 was collected.

The high degree of variance in quality, the difficulty in finding similar items, and the relatively small number of items that could be found that even loosely met the criteria make it problematic to attempt to state whether the option to not use state contracts resulted in a net savings or cost. However, some interesting information was obtained.

For a large majority of contracts rendered non-exclusive, Transportation purchasers were quite satisfied with the contract vendor, indicating that in most circumstances contracts are effective. There did exist, however, many instances where purchases did take advantage of the non-exclusive provisions of the contracts. In some circumstances, Transportation purchasers saved money by switching to a different vendor. In other circumstances they paid more, sometimes for perceived quality or service reasons.

CONCLUSIONS

The pilot project led to instances where Transportation saved money, as well as instances where the department spent more money, sometimes in pursuit of higher-quality goods or service. On the small number of contracts which were rendered non-exclusive, and on the small number of those contracts where Transportation purchasers chose to take advantage of contract non-exclusivity, pilot project offices and districts used their increased discretion in choosing whether to use state contracts to take advantage of price or quality differences. It is impossible to determine whether the increased discretion on this limited set of contracts resulted in a net gain or loss for the state.

Transportation predicted that the pilot project purchasing rules would lead to lower inventory levels and therefore lower purchasing costs, if implemented statewide. Given the ability to purchase more products locally and greater freedom to choose vendors under the pilot project rules, this was certainly possible but would likely be reflected only in a longer-term evaluation.

MEASURE: STAFF TIME IN PURCHASING The tracking form data also contained information on the amount of staff time spent making purchases. Differences between the pilot and control groups were negligible and not statistically significant. It should also be noted that this data had the same problems as the other tracking form data, in that the response rate was extremely low and the possibility of some form of selectivity bias cannot be ruled out.

MEASURE: QUALITY OF GOODS AND SERVICES Quality was primarily measured through the survey results, which indicated a measurable improvement in quality in purchases below the sealed-bid limit. Anecdotal information collected from purchasers also indicated that they believed they were getting higher quality goods and services.

MEASURE: FLEXIBILITY OF THE PURCHASING PROCESS The results of this measure were determined by feedback from focus groups and interviews with Transportation purchasing employees. According to these employees, the pilot process was much more flexible. They cited as examples the ability to make their own decisions, not being forced to buy from vendors with service or quality problems, and having more alternatives for meeting customers' needs.

CONCLUSIONS

The pilot process was more flexible by definition, because it gave buyers more purchasing options. The other measures provided perspectives on areas where this flexibility is an advantage or disadvantage to the state.

MEASURE: THE ETHICAL INTEGRITY OF THE PURCHASING PROCESS Transportation included purchasing ethics in its staff training for the pilot project and had several further discussions with purchasing staff. No evidence of any bribes, kickbacks, or conflicts of interest surfaced during the pilot project.

CONTRACTS

The use of non-exclusive contracts, although not mentioned in the authorizing legislation, arose as an issue during the pilot project. Administration bids most of its contracts to be exclusive to the vendor. These contracts are called requirements, or mandatory use, contracts. The argument is that vendors, knowing they have the exclusive right to do business with the state (barring emergencies), will leverage their costs down because of economies of scale that are generated. An argument was raised that exclusivity frequently locks the state into contracts for low-quality products and poor service and into prices that become higher than the market average in volatile markets, and that exclusivity prevents purchasers from using alternatives.

The evaluation showed circumstances where contracts were favorable for the state and others where they were not. Administration pointed to excellent prices received for contracts for paper and road salt as examples of the advantages of the process. Some vendors who were asked about their response to a non-exclusive contract stated that they would not bother with the bidding process or

would bid a higher price due to the uncertain quantity. Administration has also pointed out that contracts are intended for the entire state, generally including cities and counties and even other states as partners, and it may be sensible to force a few agencies to pay a little more, or wait a little longer, in order to garner the cost savings for the state as a whole.

Administration uses multiple-award and regional contracts when it believes they are warranted by the situation. However, these contracts are not always written this way when warranted.

Several existing requirements contracts offer little advantage to the state. Contracts exist that are exclusive but offer no discount over retail price and obligate the state to pay all shipping and handling charges, which are unspecified in the contract. These contracts are often made at the request of agencies. Transportation purchasers often pointed to the location of many contract vendors within the metropolitan area and stated that time lags in shipping cause longer equipment breakdown times, which create additional costs of their own. Some vendors contacted were not aware that their contract was exclusive and did not believe that excluding an agency would cause a price increase.

CONCLUSIONS

Although requirements contracts are advantageous in most situations, there are two situations when setting up a statewide mandatory use contract is not in the state's best interest:

When the contract grants few price advantages. Economies of scale are likely to generate a good discount for the state only if the state represents a significant potential percentage of the vendor's business, and even then it may not matter. The state's contract process creates obstacles for certain potential low-cost vendors, particularly those able to serve only a limited geographical area. Other contracts are in markets where prices change frequently.

Where vendor performance problems exist. Many Transportation complaints indicated problems with vendor management. A downward spiral had been created where agencies stopped sending in vendor complaints because they believed that nothing happened when they did, and Administration did not cancel some contracts or ban vendors because it received no complaints.

Situations where the state reaps large benefits from having statewide mandatory use contracts strongly indicate that this practice should not be discontinued. However, the state needs to take more steps to deal with the two types of situations that can be counterproductive. Administration has taken several recent steps to deal with these issues, including implementation of the "best value" criteria, improvements to its vendor management processes, and pro-actively soliciting feedback about the value of specific contracts from purchasers.

OVERALL CONCLUSIONS

In summary, results for the individual performance measures were as follows:

Measure	Result
Transportation customer satisfaction	For all satisfaction questions, a significantly higher percentage of customers were "very satisfied" compared with "satisfied" for purchases below the sealed-bid limit, currently at \$25,000. Above the sealed-bid limit, the difference disappeared.
Time to receive goods and services	Strong evidence exists that improvements were made in the building construction area, although problems with strict legal compliance surfaced in an internal audit. These problems merit Transportation management's attention to satisfactorily remedy these conditions. For commodities purchasing, survey data (for purchases below the sealed-bid limit) and anecdotal data indicated that improvements were made, but the extent could not be captured due to data collection problems.
Participation by targeted-group, local, small, and economically disadvantaged vendors	The data showed increased participation by targeted and economically disadvantaged groups, but it is difficult to sort out the effects of the pilot project from normal year-to-year purchasing variations. Additionally, qualitative data indicates increased purchases from local vendors, although this cannot be verified empirically. Results for small vendors were mixed. At the very least, there is no evidence of an expected negative impact resulting from lower percentage preferences.
Cost of goods and services	Instances were discovered where the pilot project saved money in the cost of goods, as well as instances where it cost more money, sometimes in the pursuit of better quality or service.
Staff time in purchasing	Inconclusive, due to data collection problems.
Quality of goods and services	Survey results indicated a perception of improved quality for purchases below the sealed-bid threshold.
Flexibility of the purchasing process	The above results point out areas where the impact of the pilot project's greater flexibility were felt.
The ethical integrity of the purchasing process	No evidence of criminal problems such as bribery or kickbacks presented itself during the pilot project.

Results of the pilot project were frequently positive for purchases below the sealed-bid limit, with mixed, inconclusive, or neutral results occurring above the sealed-bid limit.

OVERALL RECOMMENDATIONS

The purpose of the pilot project was to determine whether a state agency could improve its ability to obtain high-quality goods at least cost in the absence of Administration's purchasing rules, with an eye toward possible statewide application. Reforms by Administration, partially informed and supported by data from the first year of the pilot project, have gone a considerable way toward meeting the standards of the pilot project, and, because of changes in law, some reforms have gone beyond what the pilot project was permitted to do by its authorizing legislation. Therefore, most of the authority granted by the pilot project has already been extended to all state agencies. Conversations with Transportation purchasers, as well as results of the performance measures, indicate that meaningful differences between the pilot project and Administration's reformed rules exist in only a few areas, and many of these areas have already been resolved with regard to Transportation through a memorandum of understanding.

Non-contract purchasing Numerous possibilities exist for dealing with the two contracting situations that run counter to the state's interest — when the contract grants few price advantages and when vendor performance problems exist. For the first type of situation — few price advantages — possibilities include not having a statewide mandatory use contract for specific commodities and services; granting more multiple-award contracts; granting more regional contracts (the alternator contract, for instance, is split between metropolitan and non-metropolitan locations, but a good vendor for Rochester may not be a good vendor for Duluth, because of location); and, if no contract is chosen, indicating any state discounts on a periodically updated vendor information list distributed to purchasers throughout the state, with vendors choosing to be on the list.

Administration is taking several different steps to deal with the second type of situation — where vendor performance problems exist. The new purchasing law allows Administration to choose vendors based on "best value" instead of "low bid meeting specifications," which can preclude contracts being granted to vendors with documented poor performance. Additionally, Administration is more actively soliciting comments about vendors before contracts are renewed. It has also reorganized the vendor complaint process, so that complaints are handled by individuals additional to those responsible for maintaining the contract. All of these are positive steps toward repairing the vendor management process and improving communications with end users of Administration's contracts. The only further need in this area is for Administration to aggressively follow through on vendor complaints that the reformed process yields.

Building construction Given Transportation's willingness to do the work, Transportation's view that this helps reduce costs, strong evidence that it reduces delays in the process, and the fact that other agencies have been granted limited delegations in the past to process building construction contracts, a case exists for continuing to have a considerable extent of the building construction

contracting process conducted by Transportation, or any other agency that requests a degree of delegation and demonstrates a need and an ability to perform the responsibilities to Administration's satisfaction. This has already temporarily been agreed to by the two agencies in a memorandum of understanding. However, given the results of the internal building construction audit, this should be done *only* if Transportation satisfactorily implements the internal audit recommendations, and with continuing assistance, monitoring, and oversight by Administration to ensure compliance with state procurement laws.

Further purchasing delegation Under Administration's new rules, purchasing authority for all purchasing under the sealed-bid limit of \$25,000 can be delegated to individual purchasers who pass a two-day training course in St. Paul. Purchases exceeding the sealed-bid limit of \$25,000 are still required to be processed by Administration. Several Transportation purchasers mentioned that they prefer it that way, given the complexity and rarity of those purchases. Others, who purchase at that dollar level more frequently, said they would prefer to have the authority themselves.

Evaluation data did not indicate significant performance differences between pilot project and administrative rules for purchases over the sealed-bid limit. Arguments that the complexity and rarity of the process require a high level of experience in dealing with these purchases carry weight. However, if specific districts or offices, whether in Transportation or a different agency, perform a large amount of sealed-bid purchasing and are interested in doing the work, delegation by Administration with oversight and monitoring could be warranted. Such further delegations are already part of a memorandum of understanding between Administration and Transportation, and such delegations have always been considered on a case-by-case basis by Administration.

There seems to be a trade-off. If the process is performed by a delegated agency, the process is within the control of those who want the work done and thus organizational pressures push the process to be responsive to agency needs. However, these same organizational pressures can create an incentive to bend the rules, requiring compensating management controls.

It can be argued that some risk can be tolerated in the pursuit of efficiency and that it makes little sense to spend \$10 to save \$1. But the state should be aware that it is taking these risks if Administration delegates to interested agencies some of the more complicated aspects of its authority, such as the writing of contracts. If the state decides to delegate more contracting authority to agencies, there will always be an oversight and monitoring role for a central purchasing authority to ensure compliance with laws and required purchasing processes.

Other recommendations Additional recommendations pertain more to the overall role of Administration in central purchasing:

1. Opportunities like the purchasing pilot project should continue to be made available to state agencies in order to keep the state on the leading edge in purchasing and other centrally supported functions.

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2. The Department of Administration should continue in the leadership role in regard to purchasing. This can be accomplished through suggestions from the multi-agency purchasing task force that has been created, by implementing other pilot projects, through input from purchasing organizations, or the implementation of a program that allows for position exchanges or mobility assignments in the acquisition area. The goal would be to provide continuous improvement of the purchasing process.
3. A strong lead in vendor and contract management should continue, with state agencies being able to look to Administration to provide this role. A key to the success of this concept is drawing upon the expertise of employees in various agencies.