



1994
municipal
screening board
data

june, 1994



MNDOT
HE
356
.M6
M53a
1994

May 1994

(612) 296-1662

TO : Municipal Engineers

SUBJECT : Municipal Screening Board Data

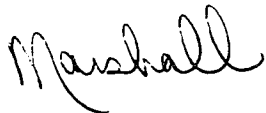
Enclosed is a copy of the June 1994 Municipal Screening Board Data Booklet.

The data included in this report will be used by the Municipal Screening Board at its June 6 and 7, 1994 meeting near Brainerd to establish unit prices for the 1994 Needs Study and the resulting 1995 apportionment. The Board will also review other recommendations of the Needs Study Subcommittee and Unencumbered Construction Subcommittee as outlined in each of their minutes.

Should you have any suggestions or recommendations regarding the data in this publication, please refer them to your District Representative along with a copy to this office, or call the above number prior to the Screening Board Meeting.

A limited number of additional copies of this report are available on request.

Sincerely,

A handwritten signature in cursive script that reads "Marshall".

**R. Marshall Johnston
Acting Municipal Needs Manager**

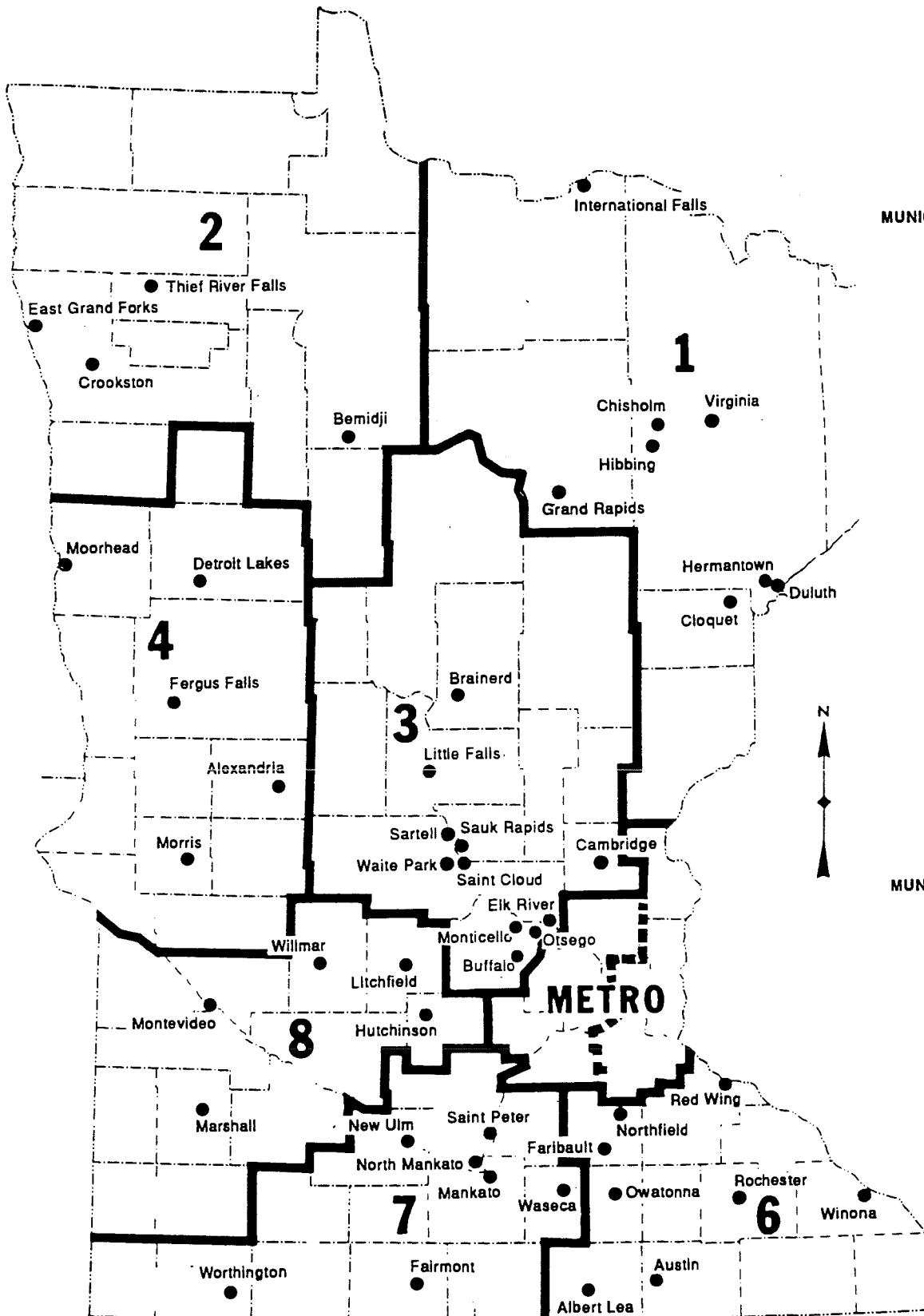
**Enclosures:
1993 Municipal State Aid Screening Board Data Booklet.**

1994 MUNICIPAL SCREENING BOARD DATA

TABLE OF CONTENTS

Map of Highway Districts and Urban Municipalities.....	1
1994 Municipal Screening Board.....	2
Subcommittees Appointed by the Commissioner.....	3
Minutes of Screening Board Meeting - October 25 - 26, 1993.....	4-10
Unit Price Study.....	11
Unit Price Recommendation to the 1994 Screening Board.....	12
Minutes of Needs Study Subcommittee Meeting - April 19, 1994.....	13-16
 Municipal State Aid Street Unit Price and Graphs:	
A. Excavation	17-19
B. Aggregate Shouldering.....	20-21
C. Curb & Gutter Removal # 2104.....	22-24
D. Sidewalk Removal # 2105.....	25-27
E. Concrete Pavement Removal # 2106.....	28-30
F. Tree Removal # 2101.....	31-34
G. Class 4 - Subbase # 2211.....	35-36
H. Class 5 - Gravel Base # 2211.....	37-39
I. Bituminous Base or Surface # 2331.....	40-42
J. Bituminous Surface # 2341.....	43-45
K. Bituminous Surface # 2361.....	46-47
L. Curb & Gutter Construction # 2531.....	48-50
M. Sidewalk Construction # 2521.....	51-53
N. Previous St. Sewer, Lighting, Signals, Railroad Costs.....	54
O. 1993 Storm Sewer Costs Mn/DOT Hydraulics Section.....	55
P. Railroad Crossing Costs Mn/DOT Railroad Operations.....	56
P. 1993 Bridge Construction Costs.....	57-61
Q. Maintenance Needs.....	62
Relationship of the Total 25-Year Needs to Each Individual Construction Items.....	63
Mankato One-way Request.....	64-66
Minneapolis One-way Request.....	67-69
Moorhead One-way Request.....	70-72
Resolution Changes.....	73
Traffic Counts.....	74
Current Resolutions of the Municipal Screening Board.....	75-84

**STATE OF MINNESOTA
HIGHWAY DISTRICTS AND MUNICIPALITIES
AS ESTABLISHED FOR STATE AID PURPOSES
1993**



**MUNICIPALITIES IN METRO-
GOLDEN VALLEY**

Andover
Anoka
Blaine
Bloomington
Brooklyn Center
Brooklyn Park
Champlin
Chanhassen
Chaska
Columbia Heights
Coon Rapids
Corcoran
Crystal
East Bethel
Eden Prairie
Edina
Fridley
Golden Valley
Ham Lake
Hopkins
Lino Lakes
Maple Grove
Minneapolis
Minnetonka
Mound
New Hope
Oak Grove
Orono
Plymouth
Prior Lake
Ramsey
Richfield
Robbinsdale
St. Anthony
St. Louis Park
Savage
Shakopee
Shorewood
Spring Lake Park

**MUNICIPALITIES IN METRO-
OAKDALE**

Apple Valley
Arden Hills
Burnsville
Cottage Grove
Eagan
Falcon Heights
Farmington
Forest Lake
Hastings
Inver Grove Heights
Lake Elmo
Lakeville
Little Canada
Mahtomedi
Maplewood
Mendota Heights
Mounds View
New Brighton
North St. Paul
Oakdale
Rosemount
Roseville
St. Paul
Shoreview
South St. Paul
Stillwater
Vadnais Heights
West St. Paul
White Bear Lake
Woodbury

1994 MUNICIPAL SCREENING BOARD

OFFICERS

Chairman	Kenneth Larson	Duluth	(218) 723-3278
Vice Chairman	Dave Sonnenberg	Minnetonka	(612) 933-2511
Secretary	Dale Swanson	Willmar	(612) 235-4202

MEMBERS

<u>District</u>	<u>Served</u>	<u>Representative</u>		
1	3	Jim Prusak	Cloquet	(218) 879-6758
2	1	Don Boell	Bemidji	(218) 751-5610
3	1	Curt Kreklau	Buffalo	(612) 253-1000
4	3	Herb Reimer	Moorhead	(218) 299-5390
Metro-West	2	Larry Anderson	Prior Lake	(612) 447-4230
6	3	Arnold Putnam	Owatonna	(507) 451-4541
7	2	Ken Saffert	Mankato	(507) 387-8600
8	1	Richard Victor	Marshall	(507) 537-6774
Metro-East	2	Brian Bachmeier	Oakdale	(612) 739-5086
(Three Cities		Kenneth Larson	Duluth	(218) 723-3278
of the		Ramankutty Kannankutty	Minneapolis	(612) 673-2476
First Class)		Thomas Kuhfeld	St. Paul	(612) 266-6111

<u>District</u>	<u>Alternates</u>		
1	Dave Halter	Grand Rapids	(218) 327-2802
2	Gary Sanders	East Grand Forks	(218) 773-1185
3	Bret Weiss	Monticello	(612) 595-5705
4	Gary Nanson	Detroit Lakes	(218) 847-5607
Metro-West	Jack Bittle	Champlin	(612) 421-1955
6	William Malin	Winona	(507) 457-8269
7	Larry Read	Fairmont	(507) 238-9461
8	John Rodeberg	Hutchinson	(612) 587-5151
Metro-East	Dave Jessup	Woodbury	(612) 731-5791

1994 SUBCOMMITTEES

The Screening Board Chairman appoints one city Engineer, who has served on the Screening Board, to serve a three year term on the Needs Study Subcommittee.

The past Chairman of the Screening Board is appointed to serve a three year term on the Unencumbered Construction Fund Subcommittee.

NEEDS STUDY SUBCOMMITTEE	UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE
Ken Haider - Chairman Maplewood (612) 770-4552 Expires in 1994	Jim Grube - Chairman St. Louis Park (612) 924-2551 Expires in 1994
Sid Williamson Sartell (612) 251-6252 Expires in 1995	Dan Edwards Fergus Falls (218) 739-2251 Expires in 1995
Bill Ottensmann Coon Rapids (612) 755-2880 Expires in 1996	Alan Gray Eden Prairie (612) 949-8300 Expires in 1996

ALLOCATION STUDY SUBCOMMITTEE	
Jim Grube-St.Louis Park-Chairman	(612) 924-2551
Larry Anderson - Prior Lake	(612) 447-4230
Bruce Bullert - Savage	(612) 890-1045
Gerald Butcher - Maple Grove	(612) 420-4000
Tom Drake - Red Wing	(612) 227-6220
John Flora - Fridley	(612) 571-3450
Ramankutty Kannankutty - Minneapolis	(612) 673-2456
Tom Kuhfeld - St Paul	(612) 292-6276
Ken Larson - Duluth	(218) 723-3278
Bill Ottensmann - Coon Rapids	(612) 755-2880
Herb Reimer - Moorhead	(218) 299-5390

**MINUTES
FALL MUNICIPAL STATE AID SCREENING BOARD
OCTOBER 25-26, 1993**

I. SESSION I

The 1993 Fall Meeting, held at Ruttger's Resort, Brainerd, Minnesota, was called to order by Chairman Alan Gray at 1:05 p.m., Monday, October 25, 1993. Upon taking of the roll call, the following were noted to be present:

A. Officers

Chairman	Alan Gray	Eden Prairie
Vice Chairman and First Class City Secretary	Kenneth Larson David Sonnenberg	Duluth Minnetonka

B. Representatives and Alternate

District 1	Jim Prusak	Cloquet
District 2	David Kildahl	Crookston
District 3	Sid Williamson	Sartell
District 4	Herb Reimer	Moorhead
West Metro District	Larry Anderson	Prior Lake
District 6	Arnold Putnam	Owatonna
District 7	Ken Saffert	Mankato
District 8	Dale Swanson	Willmar
East Metro District	Brian Bachmeier	Oakdale
First Class City	Ramankutty Kannankutty	Minneapolis
First Class City	Thomas Kuhfeld	St. Paul
District 3 Alternate	Curt Kreklau	Buffalo

**C. Chairman of Needs
Study Subcommittee**

Tom Drake	Red Wing
-----------	----------

D. Mn/DOT Staff

Dennis Carlson	State Aid Engineer
Julie Skallman	Assistant State Aid Engineer
Ken Straus	Manager, Municipal State Aid Needs Unit
Ken Hoeschen	Manager, County State Aid Needs Unit
Marshall Johnson	Municipal State Aid Needs
Mike Tardy	District 3 State Aid Engineer
Tallack Johnson	District 4 State Aid Engineer
Mike Pinsonneault	District 6 State Aid Engineer

D. Mn/DOT Staff (continued)

Doug Haeder	District 7 State Aid Engineer
Tom Behm	District 8 State Aid Engineer
Mary Bieringer	Metro Division Assistant State Aid Engineer
Kathy Vesely	Metro Division Assistant

E. Others

Dave Kreager	Duluth
Dan Sabin	Minneapolis
Don Aluni	Minneapolis
Greg Peterson	St. Paul
Bo Spurrier	Minneapolis

F. Consideration of Minutes

Motion: By Swanson, second by Williamson to approve the minutes of the June 7-8, 1993 Spring Screening Board Meeting. Motion carried.

G. Review of 1993 Municipal State Aid Needs Report

Strauss reviewed the 1993 Municipal State Aid Needs Report and responded to questions. Items specifically noted are as follows:

1. On page 36, the City of Hibbing is proposed to receive a needs adjustment due to an error in computer input that did not eliminate apportionment funding for 2.32 miles of turn-back that was eligible for turn-back funding.
2. Corrections were made to fund balances for the cities of Brooklyn Park, Oakdale, and Shakopee on the money needs apportionment spread sheet.
3. Kuhfeld raised the issue of the September 1 cutoff date with respect to determining the unencumbered construction fund balance of a city. It was clarified that the report of State Aid contract must be filed by this date, and that submittal of plans is not adequate to comply with this requirement. A straw poll was taken of the Board and a majority were not in favor of considering changes to this interpretation.
4. Straus reviewed the proposal for the Unencumbered Construction Fund Subcommittee for "incentive needs" adjustments.

5. On page 43, a correction made to Oakdale's account was noted.
6. No action was taken on any of the preceding items.

The Chairman recessed the Screening Board at 2:24 p.m. and reconvened at 2:42 p.m.

7. Straus raised the topic of the statutory requirement to make needs adjustments when variances are granted for a particular street. The Board was not interested in discussing this issue.

H. One-Way Streets

1. Straus discussed the issue of one-way streets and presented proposed resolution language changes on pages 62 and 63 of the 1993 MSA Needs Report. It was noted that the Subcommittee has recommended deleting the one-way street mileage resolution in its entirety and relying solely on the MSA rules. No action was taken on this item.

I. Trunk Highway Turn-Backs

1. Straus introduced the item of turn-back mileage and noted that the Subcommittee's recommendation is to allow turn-back mileage to be placed on each city's MSA system above the 20 percent ceiling but not allow them to draw needs. The general feeling of the Board was that they should be allowed on a city's MSA system above the 20 percent and also be allowed to draw needs. Straus was requested to revise the mileage resolution shown on page 69 to reflect this position. No action was taken on this item.

Chairman Gray adjourned Session I at 6:16 p.m.

II. SESSION II

Chairman Gray called the meeting to order at 8:36 a.m.

A. Needs Data

1. Motion by Anderson, second by Saffert to approve the needs data shown on pages 19-61 of the 1993 MSA Needs Report.

- B. Motion by Kannankutty, second by Kildahl to approve the needs adjustment for the City of Hibbing as shown on page 36 of the 1993 MSA Needs Report. Motion carried.

- C. Motion by Swanson, second by Anderson to amend the one-way street mileage resolution as follows:

1. Treat all one-way streets between 26 feet and 49 feet wide as one-half of the mileage as outlined in Rule 8820.0600 and allow full needs, except that no more than one parking lane will be eligible to accrue needs. Motion carried.

Discussion on this issue indicated that this change is for needs purposes only, and that actual designations must be approved by the Screening Board in accordance with the remaining requirements of the One-Way Street Mileage Resolution.

- D. Motion by Swanson, second by Kuhfeld to amend the mileage resolution as follows:

1. Trunk highway turn-backs after July 1, 1965 which meet the selection criteria of the MSAS system (8820.07) may be designated and are not subject to the maximum local mileage limitations.
2. The preceding language shall replace the November, 1965, revised 1969 resolution shown on page 76 of the 1993 MSA Needs Report. Upon further discussion, a motion was made by Williamson to amend the motion to exclude trunk highway turn-backs from consideration as part of a city's mileage for computation of the 20 percent allowable MSA mileage. Motion to amend died for lack of second.
3. Motion by Swanson to table the motion amending the mileage resolution died for lack of second.
4. Chairman Gray called the question on the original motion. Motion carried.

- E. Motion by Swanson, second by Williamson to amend the mileage resolution (February, 1959) to read as follows:

The maximum mileage for Municipal State Aid street designation shall be 20 percent of the municipality's basic mileage, which is comprised of the total improved streets less trunk highways, trunk highway turn-backs, and county state aid highways. Motion carried.

Motion by Kuhfeld, second by Kannankutty to delete the January, 1969 revised 1993 paragraphs from the mileage resolution as shown on page 76 of the 1993 MSA Needs Report. Motion carried.

Motion by Putnam, second by Reimer to amend the mileage resolution to read as follows:

The maximum mileage for designation shall be 20 percent of the municipality's basic mileage, which is comprised of the total improved streets less trunk highways, trunk highway turn-backs, and county state aid highways.

However, the maximum mileage for designation may be exceeded to the extent necessary to designate all trunk highway turn-backs after July 1, 1965, subject to State Aid Operations rules.

The maximum mileage for Municipal State Aid Street designation shall be based on the annual certification of mileage current as of December 31 of the preceding year. Submittal of a supplemental certification during the year shall not be permitted.

Frontage roads which are not designated trunk highway, trunk highway turn-back, or County State Aid Highway system shall be included in the basic street mileage. The total mileage of county roads and local streets on corporate limits shall be included in the municipality's basic mileage. Mileage which is on the boundary of two adjoining urban municipalities shall be considered as one-half. Motion carried.

- F. Motion by Anderson, second by Kannankutty to approve the research account motion as follows:

Be it resolved that an amount of \$207,386 (not to exceed one-quarter of one percent of the 1993 MSAS apportionment sum of \$82,954,222) shall be set aside from the 1994 apportionment fund and be credited to the research account. Motion carried.

Chairman Gray recessed the meeting at 9:57 a.m. and reconvened at 10:17 a.m.

- G. Old Business

1. The proposed incentive program recommended by the Unencumbered Construction Fund Subcommittee as a means of more expeditiously utilizing available MSAS funds to construct roadway improvements that will benefit the public. Motion by Saffert, second by Swanson to approve the recommended "incentive needs" adjustment dated 20 October, 1993 to be effective in determining 1995 needs for 1996 allocations. The motion failed on a vote of 2 to 10. The Board requested State Aid staff to prepare examples of the impacts on various cities that would result should the cities of the first class

significantly reduce their balances and to also look at the effect of less severe multipliers for consideration of old business at the Spring 1994 Screening Board Meeting.

H. New Business

1. The Board discussed the example bond payment schedule prepared by the Division of State Aid to evaluate the cost-effectiveness of bonding, considering bond sale and interest expenses. Motion by Bachmeier, second by Kannankutty to refer this item to the Needs Study Subcommittee for review and report. Motion carried.
2. The Board discussed the use of pavement management as a criterion for needs allocation. Motion by Putnam, second by Kannankutty to refer this issue jointly to the Unencumbered Fund and Allocation Subcommittees for study and report. Motion carried.

I. Ramsey County Consolidation Proposal

1. The proposal by Ramsey County to redistribute jurisdiction over a wide variety of roadways in the County to be consistent with functional classifications was presented by Dennis Carlson. Ramsey County is requesting the Screening Board allow the cities in Ramsey County to add routes received from the County to their MSAS systems above the 20 percent maximum. Paul Kirkwold of Ramsey County provided additional details and responded to questions.
2. The question was raised as to whether or not the Screening Board has this authority given that the language in statute explicitly refers to trunk highway turn-backs and is silent on the issue of county highway turn-backs. A determination must be made as to whether statutory silence on this issue enables action by the Board or if specific enabling legislation would be necessary.
3. Motion by Swanson, second by Kannankutty to refer this item to the Needs Study Subcommittee for report at the June meeting. Motion carried.

J. Division of State Aid Report

Dennis Carlson indicated that legislation is being prepared for consideration at the upcoming Session to address the following issues:

1. A research account bill that will increase the amount available for research from one-quarter percent to one-half percent of the MSAS allocation.

2. Bridge bonding bill in an indeterminate amount at this time.
 3. A bill to increase the MSAS mileage limit above the current 2,500 mile maximum.
 4. A bill authorizing two representatives for the Metro Division to be consistent with the old District 5 and District 9 representation.
 5. A proposal by the Commissioner to redistribute the Gas Tax differently than the present constitutional distribution formula.
- K. Chairman Gray acknowledged the work of the State Aid staff, Bruce Bullert and the Unencumbered Construction Fund Subcommittee, Tom Drake and the Needs Study Subcommittee, departing Board Members Dave Kildahl, Sid Williamson, and Dale Swanson, and the Board displayed their gratitude by a round of applause.
- Vice Chairman Larson thanked Chairman Gray for his efforts during the past year, and the Board acknowledged Gray with a round of applause.
- L. Motion by Kuhfeld, second by Kannankutty to adjourn the meeting. Motion carried, and the meeting was adjourned at 12:15 p.m.

Respectfully submitted,



David J. Sonnenberg, P.E.
Secretary, Municipal State Aid Screening Board

UNIT PRICE STUDY

The Unit Price Study is done annually by the State Aid Needs Unit by compiling the quantities and unit prices of items from the prior years Abstract of Bids received in the State Aid Office. The results were obtained from the 1993 bids and are found next to the applicable graphs. These averages and past averages are used by the Needs Study Subcommittee and June Screening Board to determine the prices to be used in the 1994 Needs Study. These prices are then applied against the quantity table located in the State Aid Manual Fig. D & F 5-892.810 to compute the needs of each segment. The needs eventually will be used to compute the 1995 money needs allocation.

Both Mn/Dot and State Aid bridges are used so that more bridges determine the unit price. Generally State Aid contracts do not include many bridges 150 feet and over. Arriving at a reasonable bridge widening cost is difficult, due to the wide variation of work involved. Because of this, the Screening Board resolved to include bridge widening costs with the actual dollar amount of bridge reconditioning.

Mn/Dot's hydraulic office furnished a recommendation of costs for storm sewer construction and adjustment based on 1993 construction costs.

Mn/Dot Railroad Office furnished a letter detailing railroad cost from 1993 construction projects.

Due to the lack of data, a study is not done for traffic signals, special drainage, maintenance, lighting and engineering. Every segment, except those eligible for Turnback Funding, receive needs for traffic signals, lighting, engineering, and maintenance. All the past year's need prices are found in the Screening Board's resolutions included in this booklet.

1994 UNIT PRICE RECOMMENDATIONS

Needs Item			1993 Need Prices	Sub- committee Suggested Prices For 1994	Screening Board Recommended Prices For 1994
Grading (Excavation)	Cu. Yd.		\$3.00	\$3.00	
Aggregate Shoulders #2221	Ton		7.00	7.00	
Curb and Gutter Removal	Lin.Ft.		1.60	1.60	
Sidewalk Removal	Sq. Yd.		4.50	4.50	
Concrete Pavement Removal	Sq. Yd.		4.00	4.00	
Tree Removal	Unit		175.00	175.00	
Class 4 Subbase #2211	Ton		4.50	4.50	
Class 5 Base #2211	Ton		6.00	6.00	
Bituminous Base #2331	Ton		22.00	21.00	
Bituminous Surface #2331	Ton		22.00	21.00	
Bituminous Surface #2341	Ton		24.50	23.50	
Bituminous Surface #2361	Ton		32.00	30.00	
Curb and Gutter Construction	Lin.Ft.		5.50	5.50	
Sidewalk Construction	Sq. Yd.		15.00	16.00	
Storm Sewer Adjustment	Mile		64,000	67,100	
Storm Sewer	Mile		206,000	216,500	
Special Drainage - Rural	Mile		25,000	26,000	
Street Lighting	Mile		20,000	20,000	
Traffic Signals	Per Sig		80,000	80,000	
Signal Needs Based On Projected Traffic					
Projected Traffic	Percentage	X Unit Price	= Needs Per Mile		
0 - 4,999	.25	\$80,000	=	\$20,000	
5,000 - 9,999	.50	80,000	=	40,000	
10,000 & Over	1.00	80,000	=	80,000	
Right of Way (Needs Only)	Acre		60,000	60,000	
Engineering	Percent		18	18	
Railroad Grade Crossing					
Signs	Unit		600	800	
Pavement Marking	Unit		750	750	
Signals (Single Track-Low Speed)	Unit		80,000	80,000	
Signals & Gate (Multiple Track - High & Low Speed)	Unit		110,000	110,000	
Rubberized Material(Per Track)	Lin.Ft.		900	750	
Bridges					
0 to 149 Ft.	Sq. Ft.		55.00	55.00	
150 to 499 Ft.	Sq. Ft.		55.00	55.00	
500 Ft. and over	Sq. Ft.		55.00	55.00	
Bridge Widening	Sq. Ft.		*		
* Recommendation is to use reconditioning cost on the structural need sheet instead of a bridge widening cost.					
Railroad Bridges over Highways					
Number of Tracks - 1	Lin.Ft.		5,000	5,000	
Additional Track (each)	Lin.Ft.		4,000	4,000	

MUNICIPAL STATE AID NEEDS SUBCOMMITTEE

MINUTES OF APRIL 19, 1994 MEETING

The meeting was called to order by Chairman Ken Haider at 1:05 P.M.

The following subcommittee members were present:

Ken Haider, Chairman	-	Maplewood
Bill Ottensmann	-	Coon Rapids
Sid Williamson	-	Sartell

Also in attendance from the MnDOT Municipal State Aid Needs Unit were Ken Straus and Marshall Johnston.

The first item of business was to review the unit prices and to establish a recommendation to the Screening Board for the 1994 Unit Prices to be used in the annual Needs Up-date. After each item was thoroughly discussed, Ottensmann moved and Williamson seconded that the 1994 Unit Prices be suggested to the Screening Board as follows:

See attached sheet.

Motion carried unanimously.

Ottensmann moved and Williamson seconded that the recommendation to the Screening Board be that no adjustment be made for 1994 for the Annual Maintenance Needs Prices. This motion carried unanimously.

One-way streets and their allowable widths for drawing needs was discussed at length. It was felt that the Screening Board should clarify their position on the needs and chargeable mileage for those streets designated as one-way. Of particular concern for clarity is the issue of Trunk Highway Turnback being designated as one-way. Since Trunk Highway Turnback mileage is allowed to be designated above the 20% mileage designation limitation, and if this mileage is designated as one-way and approved as one-half mileage, it will be drawing needs for one-half its length under the 20% limitation and also needs above the limitation for a total needs of one and one half times its length. Thus, Williamson moved and Ottensmann seconded that the Screening Board consider deleting and adding to the existing One-Way Street Mileage - June 1983 (Revised Oct. 1984, Oct. 1993) Resolution as follows:

DELETE

Treat all one-way streets between 26 feet and 49 feet wide as one half of the mileage as outlined in Rule 8820.0600 and allow full needs, except that no more than one parking lane will be eligible to accrue needs.

ADD

Treat all one-way streets between 26 feet and 49 feet wide as one half of the mileage as outlined in Rule 8820.9940 and allow complete needs, except that no more than one parking lane will be eligible to accrue needs.

When Trunk Highway Turnback is used as part of a one-way pair the mileage for certification shall only be included as Trunk Highway Turnback mileage.

This motion carried unanimously.

The subcommittee considered requests from the Cities of Minneapolis, Mankato and Moorhead for designation of one-way mileage. After a presentation by Mr. Bo Spurrier representing the City of Minneapolis, Williamson moved and Ottensmann seconded for approval of the request for one-way designation as presented by the City of Minneapolis. The motion carried unanimously.

The subcommittee then considered the request submitted by the City of Mankato and reviewed the information submitted by City Engineer, Ken Saffert. Ottensmann moved and Haider seconded for approval subject to the availability of mileage which may be impacted dependent on the Boards action regarding Trunk Highway Turnback. The motion carried unanimously.

Next to be considered was the request by the City of Moorhead for one-way mileage designation. City Engineer Herb Reimer had provided information as a part of their request. Ottensmann moved and Williamson seconded for approval with a condition that the non-MSAS segment of 4th Street South from 12th Avenue South to Rivershore Drive be designated as one-way. The motion carried unanimously.

The Fall 1993 Screening Board had asked our Needs Study Subcommittee for an opinion regarding the authority to accept County Highway Turnbacks into the MSAS system and treat them in the same manner as Trunk Highway Turnbacks are treated. Because this issue is presently in a bill being considered by the State Legislature, no action was taken.

The Fall 1993 Screening Board asked our Needs Study Subcommittee to review and report on the cost effectiveness of bonding. After discussing the pros and cons of utilizing the MSAS Bonding mechanism for projects, it was felt that each project needs to be analyzed; thus, a general statement regarding the cost effectiveness would not be factual.

There being no more business to be brought before the subcommittee, Chairman Haider adjourned the meeting at 3:54 P.M.

Respectfully submitted,

Sidney P. Williamson

Sidney P. Williamson, P.E.

City of Sartell

Secretary, Needs Study Subcommittee

1994 UNIT PRICE RECOMMENDATIONS

Needs Item		1993 Need Prices	Sub- committee Suggested Prices For 1994	Screening Board Recommended Prices For 1994
------------	--	------------------------	--	---

Grading (Excavation)	Cu. Yd.	\$3.00	3.00	
Aggregate Shoulders #2221	Ton	7.00	7.00	
Curb and Gutter Removal	Lin.Ft.	1.60	1.60	
Sidewalk Removal	Sq. Yd.	4.50	4.50	
Concrete Pavement Removal	Sq. Yd.	4.00	4.00	
Tree Removal	Unit	175.00	175.00	
Class 4 Subbase #2211	Ton	4.50	4.50	
Class 5 Base #2211	Ton	6.00	6.00	
Bituminous Base #2331	Ton	22.00	21.00	
Bituminous Surface #2331	Ton	22.00	21.00	
Bituminous Surface #2341	Ton	24.50	23.50	
Bituminous Surface #2361	Ton	32.00	30.00	
Curb and Gutter Construction	Lin.Ft.	5.50	5.50	
Sidewalk Construction	Sq. Yd.	15.00	16.00	
Storm Sewer Adjustment	Mile	64,000	67,100	
Storm Sewer	Mile	206,000	216,500	
Special Drainage - Rural	Mile	25,000	26,000	
Street Lighting	Mile	20,000	20,000	
Traffic Signals	Per Sig	80,000	80,000	

Signal Needs Based On Projected Traffic

Projected Traffic	Percentage	X	Unit Price	=	Needs Per Mile
0 - 4,999	.25		\$80,000	=	\$20,000
5,000 - 9,999	.50		80,000	=	40,000
10,000 & Over	1.00		80,000	=	80,000

Right of Way (Needs Only)	Acre	60,000	60,000	
Engineering	Percent	18	18	

Railroad Grade Crossing

Signs	Unit	600	800	
Pavement Marking	Unit	750	750	
Signals (Single Track-Low Speed)	Unit	80,000	80,000	
Signals & Gate (Multiple Track - High & Low Speed)	Unit	110,000	110,000	
Rubberized Material(Per Track)	Lin.Ft.	900	750	

Bridges

0 to 149 Ft.	Sq. Ft.	55.00	55.00	
150 to 499 Ft.	Sq. Ft.	55.00	55.00	
500 Ft. and over	Sq. Ft.	55.00	55.00	
Bridge Widening	Sq. Ft.	*		

*Recommendation is to use reconditioning cost on the structural need sheet instead of a bridge widening cost.

Railroad Bridges over Highways

Number of Tracks - 1	Lin.Ft.	5,000	5,000	
Additional Track (each)	Lin.Ft.	4,000	4,000	

M.S.A.S. UNIT PRICE STUDY EXCAVATION - CUBIC YARD

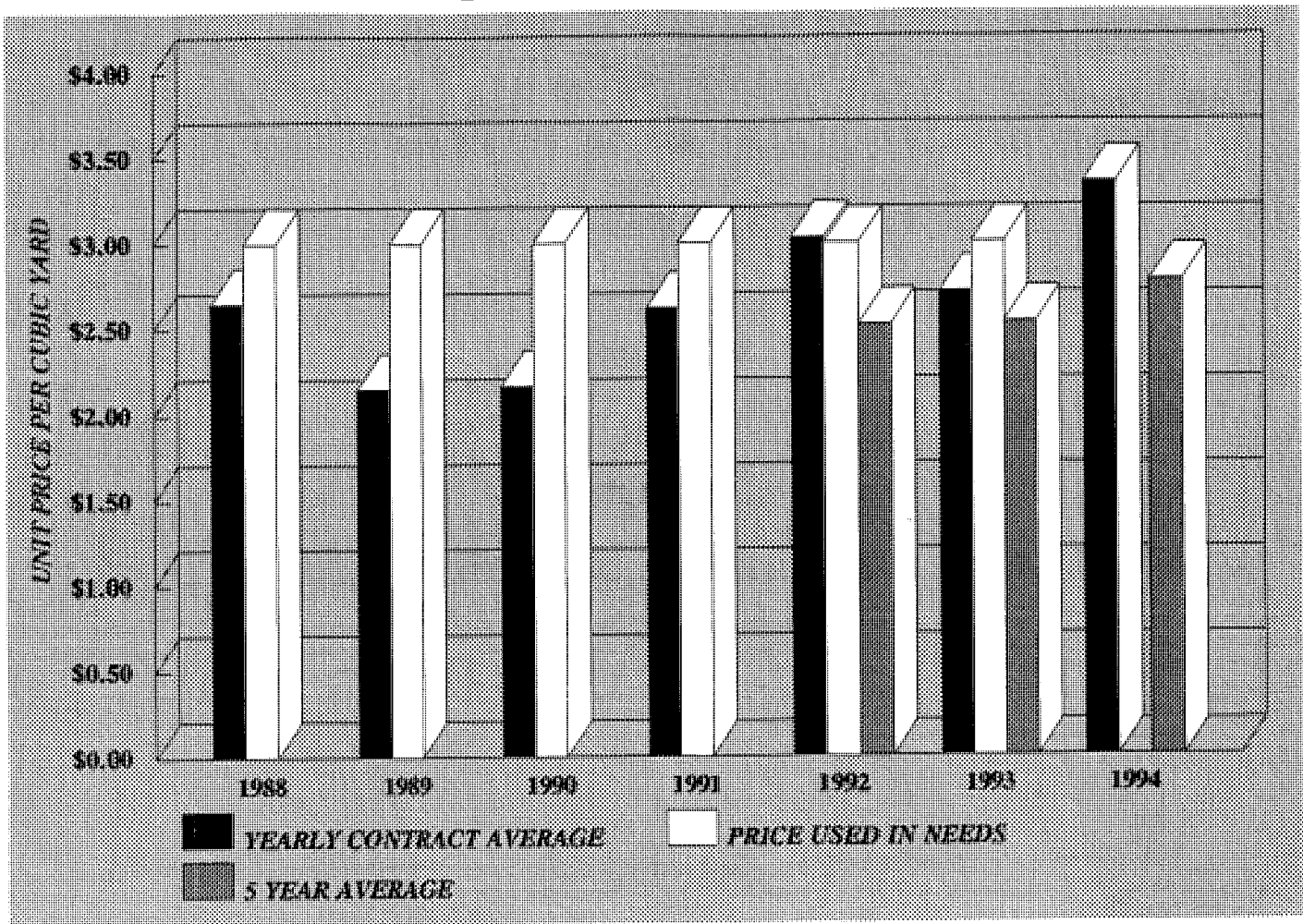
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	46,516	\$209,323	\$4.50
DULUTH	264,461	811,532	3.07
GRAND RAPIDS	9,061	36,495	4.03
HERMANTOWN	52,140	119,395	2.29
INTERNATIONAL FALLS	5,566	27,505	4.94
VIRGINIA	13,402	43,557	3.25
DISTRICT TOTAL	391,146	\$1,247,807	\$3.19
<u>DISTRICT 2</u>			
CROOKSTON	17,998	\$72,328	\$4.02
DISTRICT TOTAL	17,998	\$72,328	\$4.02
<u>DISTRICT 3</u>			
CAMBRIDGE	1,280	\$4,480	\$3.50
LITTLE FALLS	3,846	21,154	5.50
OTSEGO	16,474	20,263	1.23
ST. CLOUD	18,266	120,556	6.60
SAUK RAPIDS	5,839	31,660	5.42
WAITE PARK	11,562	49,160	4.25
DISTRICT TOTAL	57,267	\$247,273	\$4.32
<u>DISTRICT 4</u>			
ALEXANDRIA	30,835	\$81,336	\$2.64
DETROIT LAKES	7,831	19,499	2.49
MOORHEAD	20,713	54,530	2.63
DISTRICT TOTAL	59,379	\$155,365	\$2.62
<u>METRO WEST</u>			
ANDOVER	1,561	\$2,575	\$1.65
BLOOMINGTON	14,602	96,781	6.63
BROOKLYN CENTER	3,298	15,033	4.56
CHAMPLIN	53,322	124,611	2.34
CHANHASSEN	31,565	70,186	2.22
CHASKA	2,888	6,499	2.25
CRYSTAL	11,950	54,970	4.60
FRIDLEY	12,657	53,078	4.19
GOLDEN VALLEY	14,873	62,169	4.18
HAM LAKE	18,577	37,691	2.03
MAPLE GROVE	35,121	121,848	3.47
MINNEAPOLIS	31,947	240,069	7.51
MINNETONKA	32,481	126,089	3.88
NEW HOPE	279	1,163	4.17
PLYMOUTH	87,520	245,934	2.81
RAMSEY	400	1,700	4.25
ST. LOUIS PARK	19,651	138,916	7.07
SHAKOPEE	8,450	16,900	2.00
DISTRICT TOTAL	381,142	\$1,416,212	\$3.72

**M.S.A.S. UNIT PRICE STUDY
EXCAVATION - CUBIC YARD**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
ALBERT LEA	4,500	\$17,550	\$3.90
AUSTIN	3,690	11,070	3.00
FAIRBAULT	3,064	13,929	4.55
NORTHFIELD	5,378	20,365	3.79
RED WING	25,070	29,318	1.17
RICHFIELD	83,477	375,647	4.50
ROCHESTER	44,025	61,520	1.40
WINONA	1,149	6,320	5.50
DISTRICT TOTAL	170,353	\$535,719	\$3.14
<u>DISTRICT 7</u>			
MANKATO	31,122	\$104,259	\$3.35
NEW ULM	6,125	30,625	5.00
ST. PETER	4,058	13,191	3.25
WORTHINGTON	5,319	21,276	4.00
DISTRICT TOTAL	46,624	\$169,351	\$3.63
<u>DISTRICT 8</u>			
HUTCHINSON	18,749	\$52,979	\$2.83
WILLMAR	15,624	70,709	4.53
DISTRICT TOTAL	34,373	\$123,688	\$3.60
<u>METRO EAST</u>			
COTTAGE GROVE	1,050	\$1,050	\$1.00
INVER GROVE HEIGHTS	36,161	42,216	1.17
LAKE ELMO	24,846	48,918	1.97
LITTLE CANADA	5,000	17,450	3.49
MAHTOMEDI	22,980	57,862	2.52
MAPLEWOOD	14,780	36,342	2.46
MENDOTA HEIGHTS	6,136	9,780	1.59
OAKDALE	65,820	267,400	4.06
ROSEMOUNT	41,000	104,650	2.55
ROSEVILLE	11,543	44,233	3.83
SHOREVIEW	2,824	13,488	4.78
SOUTH ST. PAUL	2,892	20,244	7.00
ST. PAUL	37,520	172,904	4.61
STILLWATER	2,560	7,680	3.00
VADNAIS HEIGHTS	28,279	90,984	3.22
WHITE BEAR LAKE	15,950	47,850	3.00
WOODBURY	6,405	13,405	2.09
DISTRICT TOTAL	325,746	\$996,456	\$3.06

<u>DISTRICT TOTALS</u>			
DISTRICT 1	391,146	\$1,247,807	\$3.19
DISTRICT 2	17,998	72,328	4.02
DISTRICT 3	57,267	247,273	4.32
DISTRICT 4	59,379	155,365	2.62
METRO WEST	381,142	1,416,212	3.72
DISTRICT 6	170,353	535,719	3.14
DISTRICT 7	46,624	169,351	3.63
DISTRICT 8	34,373	123,688	3.60
METRO EAST	325,746	996,456	3.06
STATE TOTAL	1,484,028	\$4,964,199	\$3.35

EXCAVATION



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5 YEAR AVERAGE CONTRACT PRICE
1988	62	796,486	\$2,113,700	\$2.65	\$3.00	
1989	70	1,406,108	3,024,233	2.15	3.00	
1990	65	1,263,652	2,733,063	2.16	3.00	
1991	67	1,260,768	3,303,493	2.62	3.00	
1992	70	1,243,656	3,764,822	3.03	3.00	2.52
1993	64	1,105,710	2,994,010	2.71	3.00	2.53
1994	65	1,484,328	4,965,339	3.35		2.77

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS
PER CU. YD. BASED UPON 1993 CONSTRUCTION COSTS.

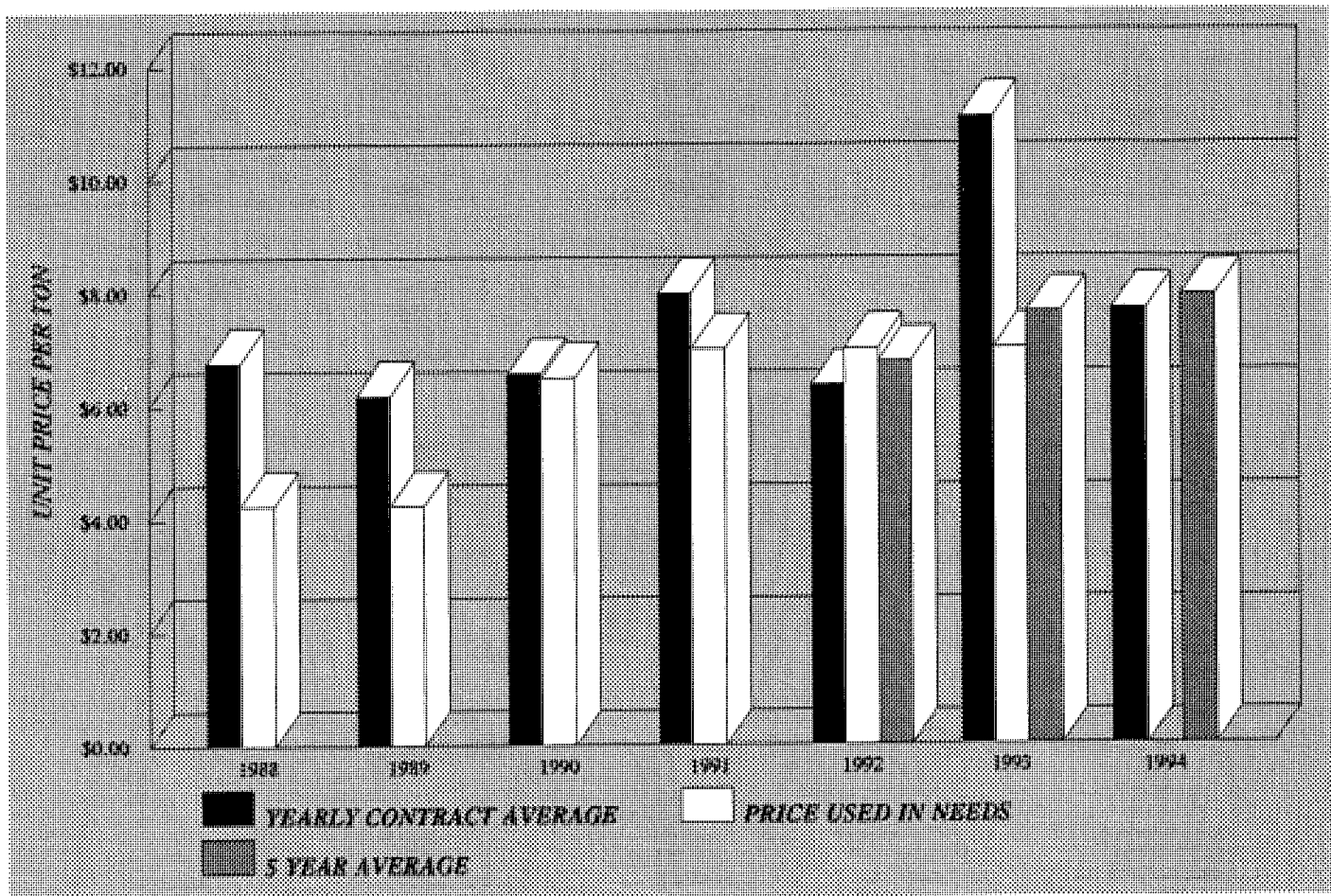
\$3.00

M.S.A.S. UNIT PRICE STUDY AGGREGATE SHOULDERS - TON

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
HERMANTOWN	257	\$2,244	\$8.73
DISTRICT TOTAL	257	\$2,244	\$8.73
<u>DISTRICT 4</u>			
ALEXANDRIA	350	\$1,645	\$4.70
DISTRICT TOTAL	350	\$1,645	\$4.70
<u>METRO-WEST</u>			
EAGAN	165	\$1,402	\$8.50
DISTRICT TOTAL	165	\$1,402	\$8.50
<u>DISTRICT 6</u>			
RED WING	227	\$2,400	\$10.57
DISTRICT TOTAL	227	\$2,400	\$10.57

<u>DISTRICT TOTALS</u>			
DISTRICT 1	257	\$2,244	\$8.73
DISTRICT 2	0	0	0.00
DISTRICT 3	0	0	0.00
DISTRICT 4	350	1,645	4.70
METRO-WEST	165	1,402	8.50
DISTRICT 6	227	2,400	10.57
DISTRICT 7	0	0	0.00
DISTRICT 8	0	0	0.00
METRO-EAST	0	0	0.00
STATE TOTAL	999	\$7,691	\$7.70

AGGREGATE SHOULDERING



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5 YEAR AVERAGE CONTRACT PRICE
1988	4	1,247	\$8,437	\$6.77	\$4.25	
1989	7	3,485	21,554	6.18	4.25	
1990	6	3,714	24,444	6.58	6.50	
1991	3	2,334	18,624	7.98	7.00	
1992	7	6,285	39,992	6.36	7.00	\$6.78
1993	7	803	9,423	11.09	7.00	7.64
1994	4	999	7,691	7.70		7.94

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS
PER TON BASED UPON 1993 CONSTRUCTION COSTS.

\$7.00

**M.S.A.S. UNIT PRICE STUDY
CURB AND GUTTER REMOVAL - LINEAR FEET**

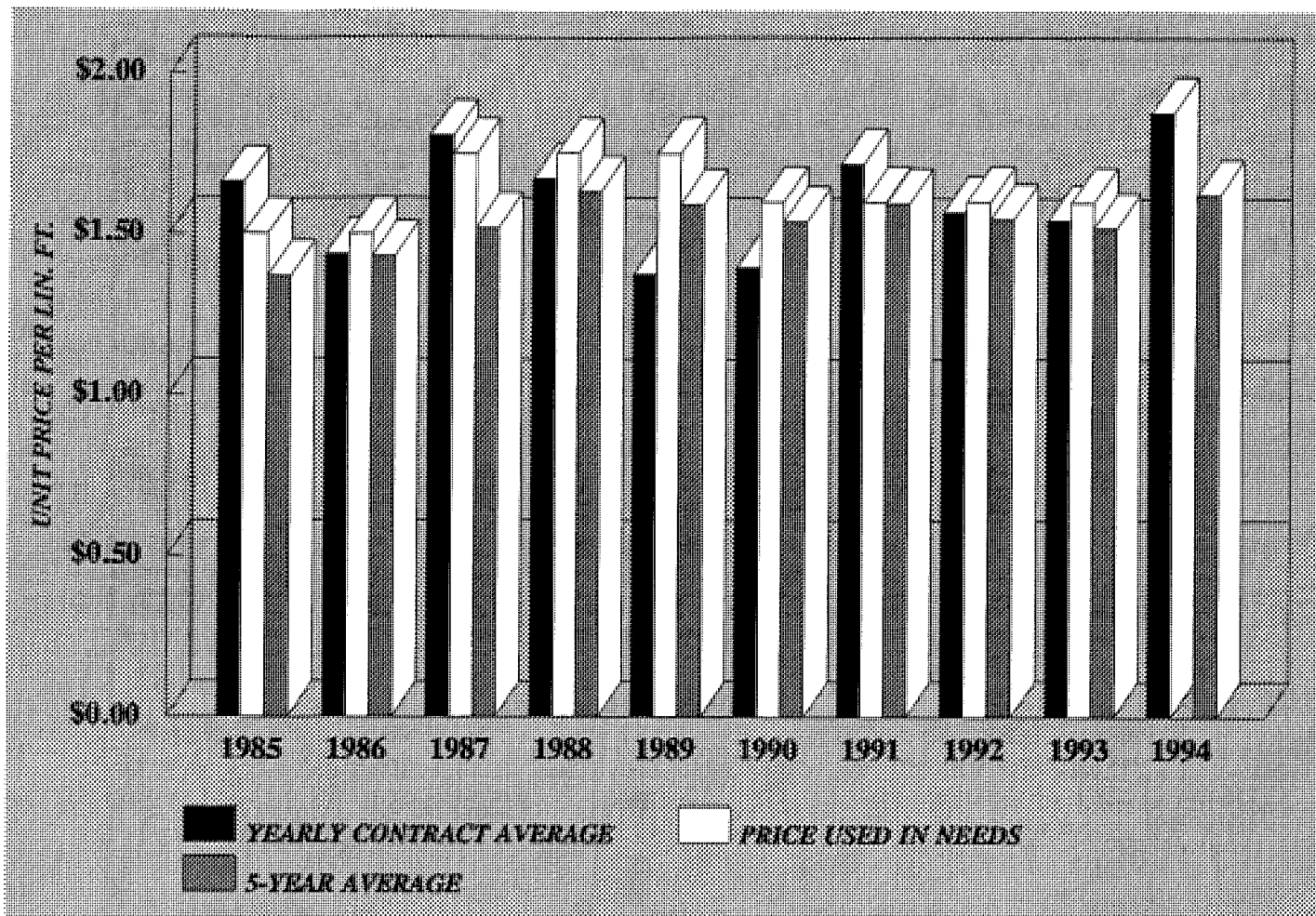
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	2,220	\$2,886	\$1.30
DULUTH	1,389	8,630	6.21
GRAND RAPIDS	2,553	7,659	3.00
INTERNATIONAL FALLS	628	1,247	1.99
VIRGINIA	2,349	2,349	1.00
DISTRICT TOTAL	9,139	\$22,771	\$2.49
<u>DISTRICT 2</u>			
BEMIDJI	1,065	\$1,065	\$1.00
CROOKSTON	968	1,597	1.65
DISTRICT TOTAL	2,033	\$2,662	\$1.31
<u>DISTRICT 3</u>			
LITTLE FALLS	651	\$846	\$1.30
ST. CLOUD	30	300	10.00
SAUK RAPIDS	45	135	3.00
DISTRICT TOTAL	726	\$1,281	\$1.76
<u>DISTRICT 4</u>			
ALEXANDRIA	1220	\$2,440	\$2.00
DETROIT LAKES	3270	4905	1.50
MOORHEAD	1,650	5,910	3.58
DISTRICT TOTAL	6,140	\$13,255	\$2.16
<u>METRO WEST</u>			
ANDOVER	125	\$250	\$2.00
BLOOMINGTON	9,319	17,158	1.84
BROOKLYN CENTER	1,212	2,788	2.30
CHAMPLIN	4,211	4,239	1.01
CHANHASSEN	268	536	2.00
CHASKA	662	1,655	2.50
CRYSTAL	2,015	3,829	1.90
FRIDLEY	7,565	14,815	1.96
GOLDEN VALLEY	7,026	8,783	1.25
HAM LAKE	211	591	2.80
MAPLE GROVE	1,709	2,564	1.50
MINNEAPOLIS	10,488	18,154	1.73
MINNETONKA	40	200	5.00
PLYMOUTH	5,592	9,798	1.75
ROBBINSDALE	5,436	12,485	2.30
ST. ANTHONY	48	308	6.42
ST. LOUIS PARK	3,486	10,601	3.04
SHAKOPEE	5,408	5,408	1.00
DISTRICT TOTAL	64,821	\$114,162	\$1.76

**M.S.A.S. UNIT PRICE STUDY
CURB AND GUTTER REMOVAL - LINEAR FEET**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
ALBERT LEA	2,640	\$2,640	\$1.00
AUSTIN	530	398	0.75
FARIBAULT	1,791	5,162	2.88
NORTHFIELD	6290	7548	1.20
RED WING	258	774	3.00
ROCHESTER	137	231	1.69
WINONA	380	760	2.00
DISTRICT TOTAL	12,026	\$17,513	\$1.46
<u>DISTRICT 7</u>			
FAIRMONT	393	\$1,376	\$3.50
MANKATO	840	840	1.00
NEW ULM	311	311	1.00
ST. PETER	2589	5049	1.95
DISTRICT TOTAL	181,852	\$333,344	\$1.83
<u>DISTRICT 8</u>			
HUTCHINSON	242	\$762	\$3.15
WILLMAR	12003	33169	2.76
DISTRICT TOTAL	12,245	\$33,931	\$2.77
<u>METRO EAST</u>			
APPLE VALLEY	1,717	\$9,267	\$5.40
COTTAGE GROVE	200	1,000	5.00
INVER GROVE HEIGHTS	1,068	1,069	1.00
LAKE ELMO	122	608	4.98
LITTLE CANADA	50	88	1.76
NEW BRIGHTON	80	444	5.55
OAKDALE	1,260	2,095	1.66
ROSEMOUNT	1,560	3,140	2.01
ROSEVILLE	150	370	2.47
ST. PAUL	11,618	19,813	1.71
SHOREVIEW	780	1,562	2.00
SOUTH ST. PAUL	100	120	1.20
VADNAIS HEIGHTS	2,064	2,580	1.25
WHITE BEAR LAKE	90	180	2.00
WOODBURY	50	1	0.02
DISTRICT TOTAL	20,909	\$42,337	\$2.02

<u>DISTRICT TOTALS</u>			
DISTRICT 1	9,139	\$22,771	\$2.49
DISTRICT 2	2,033	2,662	1.31
DISTRICT 3	726	1,281	1.76
DISTRICT 4	6,140	13,255	2.16
METRO WEST	64,821	114,162	1.76
DISTRICT 6	12,026	17,513	1.46
DISTRICT 7	181,852	333,344	1.83
DISTRICT 8	12,245	33,931	2.77
METRO EAST	20,909	42,337	2.02
STATE TOTAL	309,891	\$581,256	\$1.88

CURB & GUTTER REMOVAL #2104



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	43	106,678	176,974	1.66	1.50	1.37
1986	50	145,294	208,971	1.44	1.50	1.43
1987	46	119,913	216,648	1.81	1.75	1.52
1988	35	83,232	139,029	1.67	1.75	1.63
1989	64	211,446	290,721	1.37	1.75	1.59
1990	38	215,935	301,389	1.40	1.60	1.54
1991	59	207,105	355,996	1.72	1.60	1.59
1992	58	152,992	239,845	1.57	1.60	1.55
1993	56	118,793	183,378	1.54	1.60	1.52
1994	59	309,891	581,256	1.88		1.62

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER LIN. FT. BASED UPON 1993 CONSTRUCTION COSTS.

\$1.60

M.S.A.S. UNIT PRICE STUDY **SIDEWALK REMOVAL - SQUARE YARD**

(Two decimal places was used in the quantity column so the conversion
from Sq. Ft. to Sq. Yds. would be more accurate.)

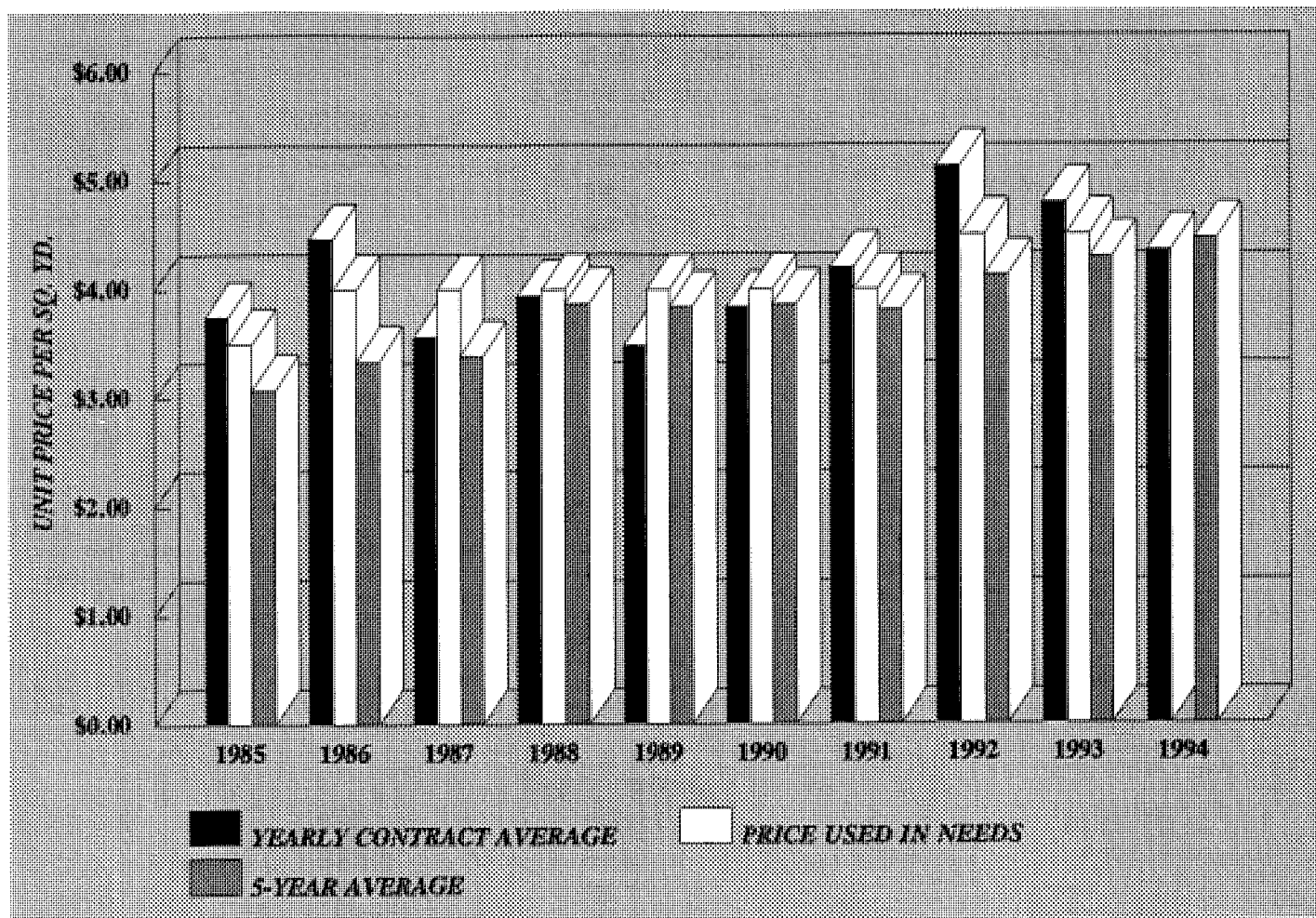
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	2,140.44	\$5,779	\$2.70
DULUTH	1,833.89	8,972	4.89
GRAND RAPIDS	1,492.00	3,731	2.50
INTERNATIONAL FALLS	3,089.56	5,561	1.80
VIRGINIA	1,349.78	3,037	2.25
DISTRICT TOTAL	9,905.67	\$27,080	\$2.73
<u>DISTRICT 2</u>			
BEMIDJI	2,498.00	\$13,477	\$5.40
CROOKSTON	3,446.44	23,309	6.76
DISTRICT TOTAL	5,944.44	\$36,786	\$6.19
<u>DISTRICT 3</u>			
LITTLE FALLS	229.00	\$618	\$2.70
SARTELL	165.56	373	2.25
SAUK RAPIDS	2.78	100	36.00
DISTRICT TOTAL	397.33	\$1,091	\$2.75
<u>DISTRICT 4</u>			
ALEXANDRIA	78.11	\$703	\$9.00
DETROIT LAKES	2,201.11	15,848	7.20
DISTRICT TOTAL	2,279.22	\$16,551	\$7.26
<u>METRO WEST</u>			
BLOOMINGTON	3,549.00	\$14,689	\$4.14
BROOKLYN CENTER	394.44	2,450	6.21
CHAMPLIN	444.44	3,000	6.75
CRYSTAL	96.67	522	5.40
FRIDLEY	8.33	32	3.84
MINNEAPOLIS	6,512.89	36,750	5.64
NEW HOPE	85.56	416	4.86
ROBBINSDALE	2,758.67	8,676	3.14
ST. LOUIS PARK	187.11	1,358	7.26
SHAKOPEE	716.67	1,935	2.70
DISTRICT TOTAL	14,753.78	\$69,828	\$4.73
<u>DISTRICT 6</u>			
AUSTIN	1,938.89	\$4,363	\$2.25
FARIBAULT	1,296.00	5,592.00	4.31
NORTHFIELD	4,066.11	10,979	2.70
RED WING	16.78	38	2.26
ROCHESTER	70.89	490.00	6.91
WINONA	4,030.78	17,612.00	4.37
DISTRICT TOTAL	11,419.44	\$39,074	\$3.42

**M.S.A.S. UNIT PRICE STUDY
SIDEWALK REMOVAL - SQUARE YARD**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 7</u>			
FAIRMONT	233.33	\$2,520	\$10.80
ST. PETER	865.00	3,893	4.50
WORTHINGTON	322.89	1,889	5.85
DISTRICT TOTAL	1,421.22	\$8,302	\$5.84
<u>DISTRICT 8</u>			
HUTCHINSON	200.00	\$900	\$4.50
WILLMAR	2,839.56	15,472	5.45
DISTRICT TOTAL	3,039.56	\$16,372	\$5.39
<u>METRO EAST</u>			
INVER GROVE HEIGHTS	128.33	\$289	\$2.25
NEW BRIGHTON	19.78	196	9.91
ROSEMOUNT	122.22	220	1.80
ROSEVILLE	4.00	36	9.00
ST. PAUL	4,526.33	19,427	4.29
SOUTH ST. PAUL	5.56	23	4.14
WHITE BEAR LAKE	240.00	720	3.00
DISTRICT TOTAL	5,046.22	\$20,911	\$4.14

<u>DISTRICT TOTALS</u>			
DISTRICT 1	9,905.67	\$27,080	\$2.73
DISTRICT 2	5,944.44	36,786	6.19
DISTRICT 3	397.33	1,091	2.75
DISTRICT 4	2,279.22	16,551	7.26
METRO WEST	14,753.78	69,828	4.73
DISTRICT 6	11,419.44	39,074	3.42
DISTRICT 7	1,421.22	8,302	5.84
DISTRICT 8	3,039.56	16,372	5.39
METRO EAST	5,046.22	20,911	4.14
STATE TOTAL	54,206.89	\$235,995	\$4.35

SIDEWALK REMOVAL #2105



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	30	59,315	222,584	3.75	3.50	3.08
1986	38	56,873	254,161	4.47	4.00	3.34
1987	38	44,695	159,347	3.57	4.00	3.39
1988	25	35,889	141,549	3.94	4.00	3.87
1989	46	77,633	270,831	3.49	4.00	3.84
1990	41	50,017	192,021	3.84	4.00	3.86
1991	43	71,868	301,912	4.20	4.00	3.81
1992	45	57,606	295,735	5.13	4.50	4.12
1993	40	43,017	206,147	4.79	4.50	4.29
1994	39	54,206	235,995	4.35		4.46

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS
PER SQ. YD. BASED UPON 1993 CONSTRUCTION COSTS.

\$4.50

M.S.A.S. UNIT PRICE STUDY CONCRETE PAVEMENT REMOVAL - SQUARE YARD

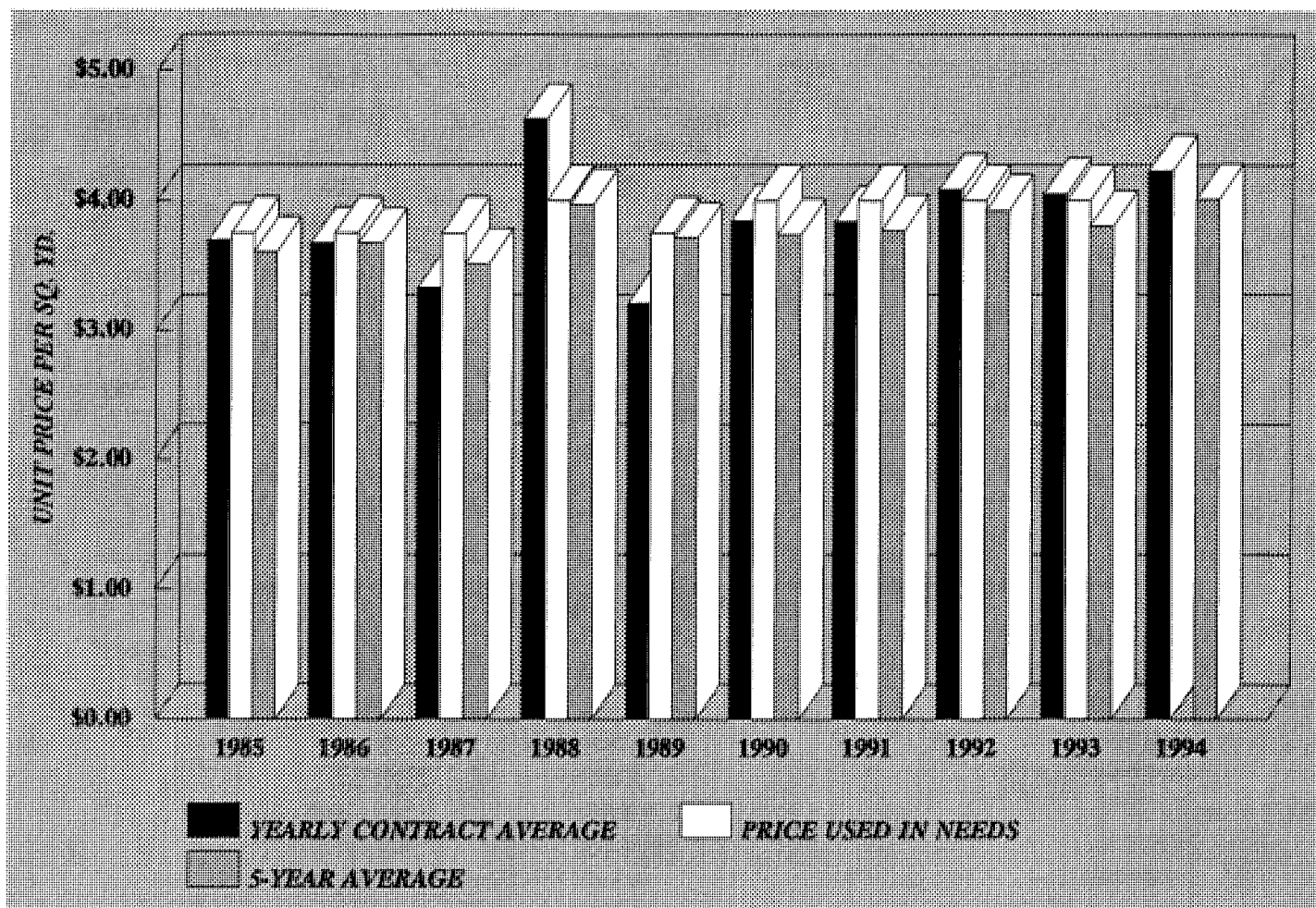
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	5,889	\$11,852	\$2.01
DULUTH	10,788	39,490	3.66
GRAND RAPIDS	251	1,335	5.32
VIRGINIA	46	230	5.00
DISTRICT TOTAL	16,974	\$52,907	\$3.12
<u>DISTRICT 2</u>			
BEMIDJI	3285	\$16,425	\$5.00
CROOKSTON	5849	32169	5.50
DISTRICT TOTAL	9,134	\$48,594	\$5.32
<u>DISTRICT 3</u>			
LITTLE FALLS	42	\$336	\$8.00
DISTRICT TOTAL	42	\$336	\$8.00
<u>DISTRICT 4</u>			
ALEXANDRIA	10,759	\$32,277	\$3.00
DISTRICT TOTAL	10,759	\$32,277	\$3.00
<u>METRO WEST</u>			
CRYSTAL	453	\$1,952	\$4.31
FRIDLEY	265	1,889	7.13
HAM LAKE	16	80	5.00
MINNEAPOLIS	36,466	257,967	7.07
ST. ANTHONY	85	1,020	12.00
ST. LOUIS PARK	539	3,078	5.71
SHAKOPEE	261	705	2.70
DISTRICT TOTAL	38,085	\$266,691	\$7.00
<u>DISTRICT 6</u>			
ALBERT LEA	5,100	\$26,520	\$5.20
NORTHFIELD	10,760	29,590	2.75
ROCHESTER	1,304	3,374	2.59
DISTRICT TOTAL	17,164	\$59,484	\$3.47
<u>DISTRICT 7</u>			
MANKATO	14,806	\$68,552	\$4.63
WORTHINGTON	819	4,791	5.85
DISTRICT TOTAL	15,625	\$73,343	\$4.69
<u>DISTRICT 8</u>			
DISTRICT TOTAL	0	\$0	\$0.00

M.S.A.S. UNIT PRICE STUDY **CONCRETE PAVEMENT REMOVAL - SQUARE YARD**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>METRO EAST</u>			
INVER GROVE HEIGHTS	109	\$218	\$2.00
LITTLE CANADA	40	190	4.75
OAKDALE	297	1,485	5.00
ST. PAUL	67,192	215,580	3.21
SOUTH ST. PAUL	45	180	4.00
WHITE BEAR LAKE	9,600	31,680	3.30
DISTRICT TOTAL	77,283	\$249,333	\$3.23

<u>DISTRICT TOTALS</u>			
DISTRICT 1	16,974	\$52,907	\$3.12
DISTRICT 2	9,134	48,594	5.32
DISTRICT 3	42	336	8.00
DISTRICT 4	10,759	32,277	3.00
METRO WEST	38,085	266,691	7.00
DISTRICT 6	17,164	59,484	3.47
DISTRICT 7	15,625	73,343	4.69
DISTRICT 8	0	0	0.00
METRO EAST	77,283	249,333	3.23
STATE TOTAL	185,066	\$782,965	\$4.23

CONCRETE PAVEMENT REMOVAL #2106



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	16	81,645	301,726	3.70	3.75	3.60
1986	28	134,698	494,572	3.67	3.75	3.67
1987	15	132,405	440,715	3.33	3.75	3.51
1988	25	106,550	493,029	4.63	4.00	3.97
1989	44	276,630	886,757	3.21	3.75	3.71
1990	27	88,278	339,571	3.85	4.00	3.74
1991	27	108,995	418,053	3.84	4.00	3.77
1992	23	98,752	403,278	4.08	4.00	3.92
1993	26	190,259	770,477	4.05	4.00	3.80
1994	26	185,066	782,965	4.23		4.01

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER SQ. YD. BASED UPON 1993 CONSTRUCTION COSTS.

\$4.00

**M.S.A.S. UNIT PRICE STUDY
TREE REMOVAL - CLEARING**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
INTERNATIONAL FALLS	11	\$1,375	\$125.00
DISTRICT TOTAL	11	\$1,375	\$125.00
<u>DISTRICT 2</u>			
DISTRICT TOTAL	0	\$0	\$0.00
<u>DISTRICT 3</u>			
LITTLE FALLS	18	\$1,890	\$105.00
OTSEGO	15	600	40.00
SAUK RAPIDS	53	3,445	65.00
ST. CLOUD	37	2,775	75.00
WAITE PARK	12	900	75.00
DISTRICT TOTAL	68	\$7,720	\$113.53
<u>DISTRICT 4</u>			
DETROIT LAKES	51	\$2,295	\$45.00
MOORHEAD	80	3,200	40.00
DISTRICT TOTAL	131	\$5,495	\$41.95
<u>METRO WEST</u>			
BLOOMINGTON	623	\$11,012	\$17.68
BROOKLYN CENTER	2	210	105.00
CHANHASSEN	100	10,000	100.00
CRYSTAL	29	2,900	100.00
FRIDLEY	2	329	164.50
MAPLE GROVE	15	975	65.00
MINNEAPOLIS	32	9,600	300.00
MINNETONKA	167	20,875	125.00
ST. LOUIS PARK	9	630	70.00
SHAKOPEE	8	1,400	175.00
DISTRICT TOTAL	987	\$57,931	\$58.69
<u>DISTRICT 6</u>			
ALBERT LEA	33	\$2,970	\$90.00
AUSTIN	1	300	300.00
ROCHESTER	42	2,800	66.67
NORTHFIELD	12	3,150	262.50
WINONA	29	725	25.00
DISTRICT TOTAL	117	\$9,945	\$85.00
<u>DISTRICT 7</u>			
WILLMAR	21	\$3,150	\$150.00
WORTHINGTON	2	700	350.00
DISTRICT TOTAL	23	\$3,850	\$167.39
<u>DISTRICT 8</u>			
DISTRICT TOTAL	0	\$0	\$0.00
<u>METRO EAST</u>			
INVER GROVE HEIGHTS	99	\$5,445	\$55.00
LAKE ELMO	84	5,441	64.77
MAPLEWOOD	161	7,245	45.00
MAHTOMEDI	15	2,250	150.00
MENDOTA HEIGHTS	1	67	67.00
ROSEMOUNT	11	2,510	228.18
ROSEVILLE	9	1,105	122.78
ST. PAUL	2	500	250.00
STILLWATER	8	600	75.00
WHITE BEAR LAKE	2	250	125.00
DISTRICT TOTAL	392	\$25,413	\$64.83

**M.S.A.S UNIT PRICE STUDY
TREE REMOVAL - GRUBBING**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
INTERNATIONAL FALLS	4	\$800	\$200.00
DISTRICT TOTAL	4	\$800	\$200.00
<u>DISTRICT 2</u>			
DISTRICT TOTAL	0	\$0	\$0.00
<u>DISTRICT 3</u>			
LITTLE FALLS	18	\$630	\$35.00
OTSEGO	15	900	60.00
ST. CLOUD	37	925	25.00
SAUK RAPIDS	41	2,665	65.00
WAITE PARK	20	1,500	75.00
DISTRICT TOTAL	131	\$6,620	\$50.53
<u>DISTRICT 4</u>			
DETROIT LAKES	51	\$4,335	\$85.00
MOORHEAD	81	3,240	40.00
DISTRICT TOTAL	132	\$7,575	\$57.39
<u>METRO WEST</u>			
BLOOMINGTON	623	\$2,721	\$4.37
BROOKLYN CENTER	2	210	105.00
CHANHASSEN	105	7,875	75.00
CRYSTAL	29	1,450	50.00
FRIDLEY	2	219	109.50
MAPLE GROVE	15	975	65.00
MINNEAPOLIS	34	10,200	300.00
MINNETONKA	167	20,875	125.00
ST. LOUIS PARK	9	630	70.00
SHAKOPEE	8	1,200	150.00
DISTRICT TOTAL	994	\$46,355	\$46.63
<u>DISTRICT 6</u>			
ALBERT LEA	33	\$1,815	\$55.00
AUSTIN	1	50	50.00
NORTHFIELD	12	1,200	100.00
RED WING	260	13,000	50.00
ROCHESTER	42	2,800	66.67
WINONA	29	725	25.00
DISTRICT TOTAL	377	\$19,590	\$51.96
<u>DISTRICT 7</u>			
WILLMAR	21	\$3,150	\$150.00
WORTHINGTON	2	400	200.00
DISTRICT TOTAL	23	\$3,550	\$154.35
<u>DISTRICT 8</u>			
DISTRICT TOTAL	0	\$0	\$0.00
<u>METRO EAST</u>			
INVER GROVE HEIGHTS	100	\$5,500	\$55.00
LAKE ELMO	62	1,860	30.00
MAHTOMEDI	15	750	50.00
MAPLEWOOD	161	3,220	20.00
MENDOTA HEIGHTS	1	65	65.00
ROSEMOUNT	11	1,056	96.00
ROSEVILLE	9	1,105	122.78
ST. PAUL	2	500	250.00
WHITE BEAR LAKE	2	200	100.00
DISTRICT TOTAL	-363	\$14,256	\$39.27

M.S.A.S. UNIT PRICE STUDY TREE REMOVAL - CLEARING

	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT TOTALS</u>			
DISTRICT 1	11	\$1,375	\$125.00
DISTRICT 2	0	0	0.00
DISTRICT 3	68	7,720	113.53
DISTRICT 4	131	5,495	41.95
METRO WEST	987	57,931	58.69
DISTRICT 6	117	9,945	85.00
DISTRICT 7	23	3,850	167.39
DISTRICT 8	0	0	0.00
METRO EAST	392	25,413	64.83
STATE TOTAL	1,729	\$111,729	\$64.62

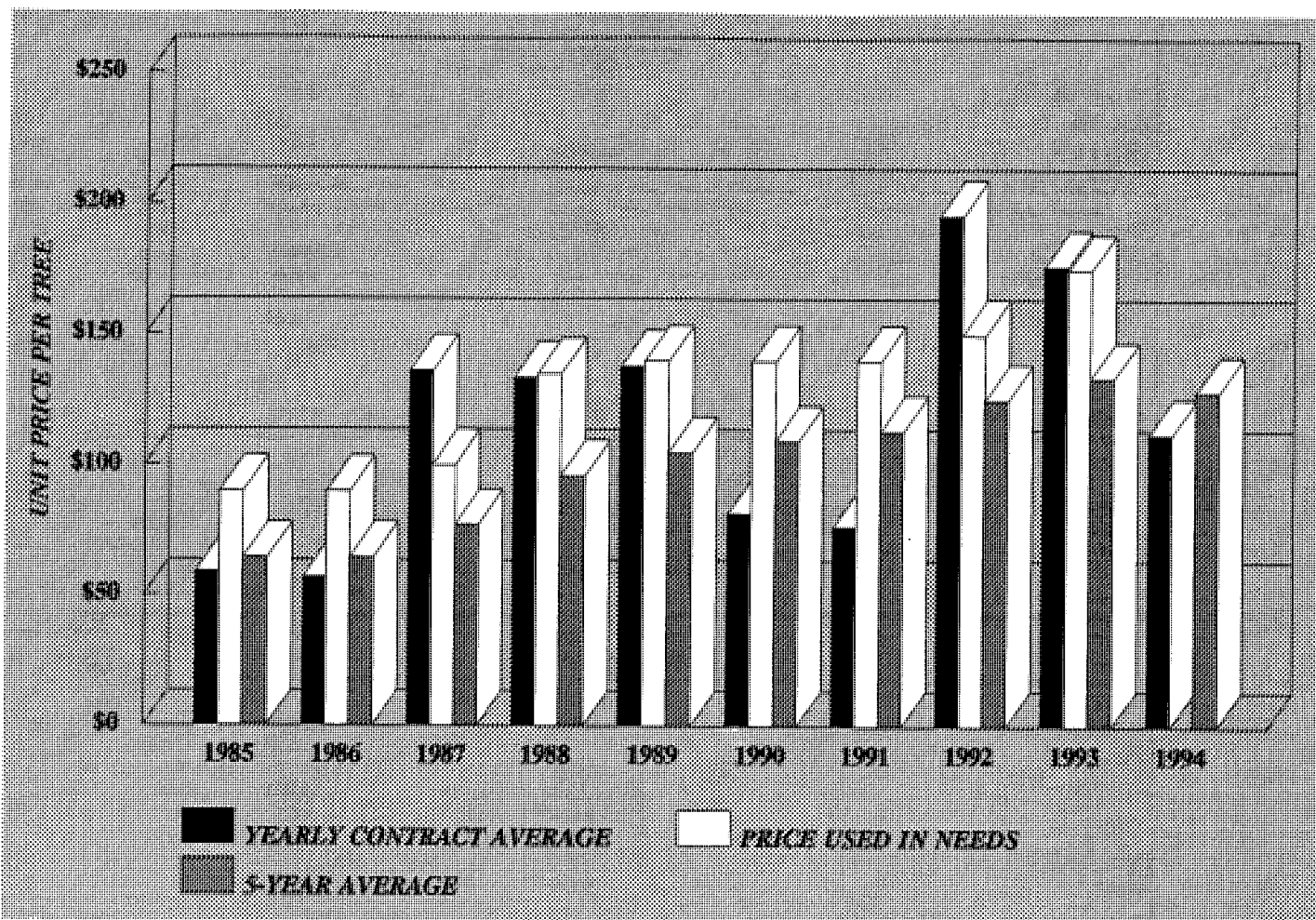
M.S.A.S UNIT PRICE STUDY TREE REMOVAL - GRUBBING

	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT TOTALS</u>			
DISTRICT 1	4	\$800	\$200.00
DISTRICT 2	0	0	0.00
DISTRICT 3	131	6,620	50.53
DISTRICT 4	132	7,575	57.39
METRO WEST	994	46,355	46.63
DISTRICT 6	377	19,559	51.96
DISTRICT 7	23	3,550	154.35
DISTRICT 8	0	0	0.00
METRO EAST	363	14,256	39.27
STATE TOTAL	2,024	\$98,715	\$48.77

CLEARING AND GRUBBING ARE COMBINED TO COMPUTE TREE REMOVAL

	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
TOTAL CLEARING	1,729	\$111,729	\$64.62
TOTAL GRUBBING	<u>2,024</u>	<u>98,715</u>	<u>48.77</u>
TOTAL	3,753	\$210,444	\$56.07
3,753/2 = 1876 TREES			
AVERAGE COST PER TREE = \$210,444/1876 = \$112.15			

TREE REMOVAL #2101



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	34	3,743	221,765	59.25	90.00	64.50
1986	30	1,442	82,586	57.27	90.00	64.56
1987	18	311	42,365	136.22	100.00	77.11
1988	19	535	71,490	133.63	135.00	95.96
1989	40	884	122,030	138.04	140.00	104.88
1990	37	1,659	135,381	81.60	140.00	109.35
1991	35	1,869	142,888	76.45	140.00	113.19
1992	39	867	169,797	195.84	150.00	125.11
1993	34	1,705	150,442	176.47	175.00	133.68
1994	35	3,753	210,444	112.15		128.50

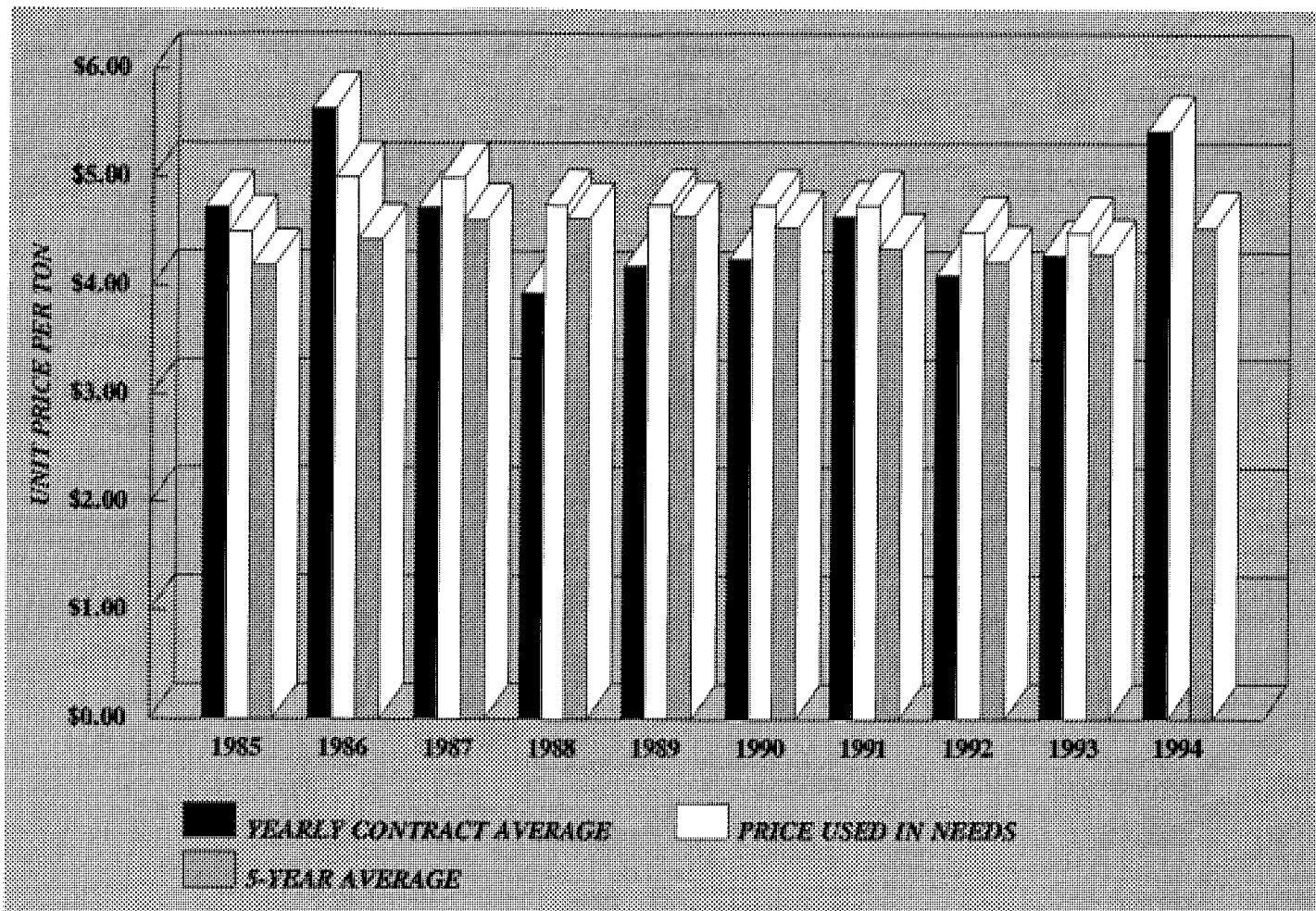
SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER TREE BASED UPON 1993 CONSTRUCTION COSTS.

\$175.00

**M.S.A.S. UNIT PRICE STUDY
AGGREGATE SUBBASE 2211 - TONS**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>METRO WEST</u>			
CHASKA	1,500	\$8,550	\$5.70
DISTRICT TOTAL	1,500	\$8,550	\$3.50
<u>METRO EAST</u>			
LITTLE CANADA	3,640	\$19,420	\$5.34
DISTRICT TOTAL	3,640	\$19,420	\$5.34
STATE TOTAL	5,140	\$27,970	\$5.44

CLASS 4 SUBBASE #2211



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	13	146,141	691,052	4.73	4.50	4.19
1986	4	21,968	123,871	5.64	5.00	4.43
1987	6	52,643	248,938	4.73	5.00	4.61
1988	8	60,793	239,623	3.94	4.75	4.63
1989	10	68,406	286,398	4.19	4.75	4.64
1990	5	56,590	240,949	4.26	4.75	4.55
1991	7	30,594	142,157	4.65	4.75	4.35
1992	7	69,260	284,485	4.11	4.50	4.23
1993	3	25,634	109,928	4.29	4.50	4.30
1994	2	5,140	27,970	5.44	4.50	4.55

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER TON BASED UPON 1993 CONSTRUCTION COSTS.

\$4.50

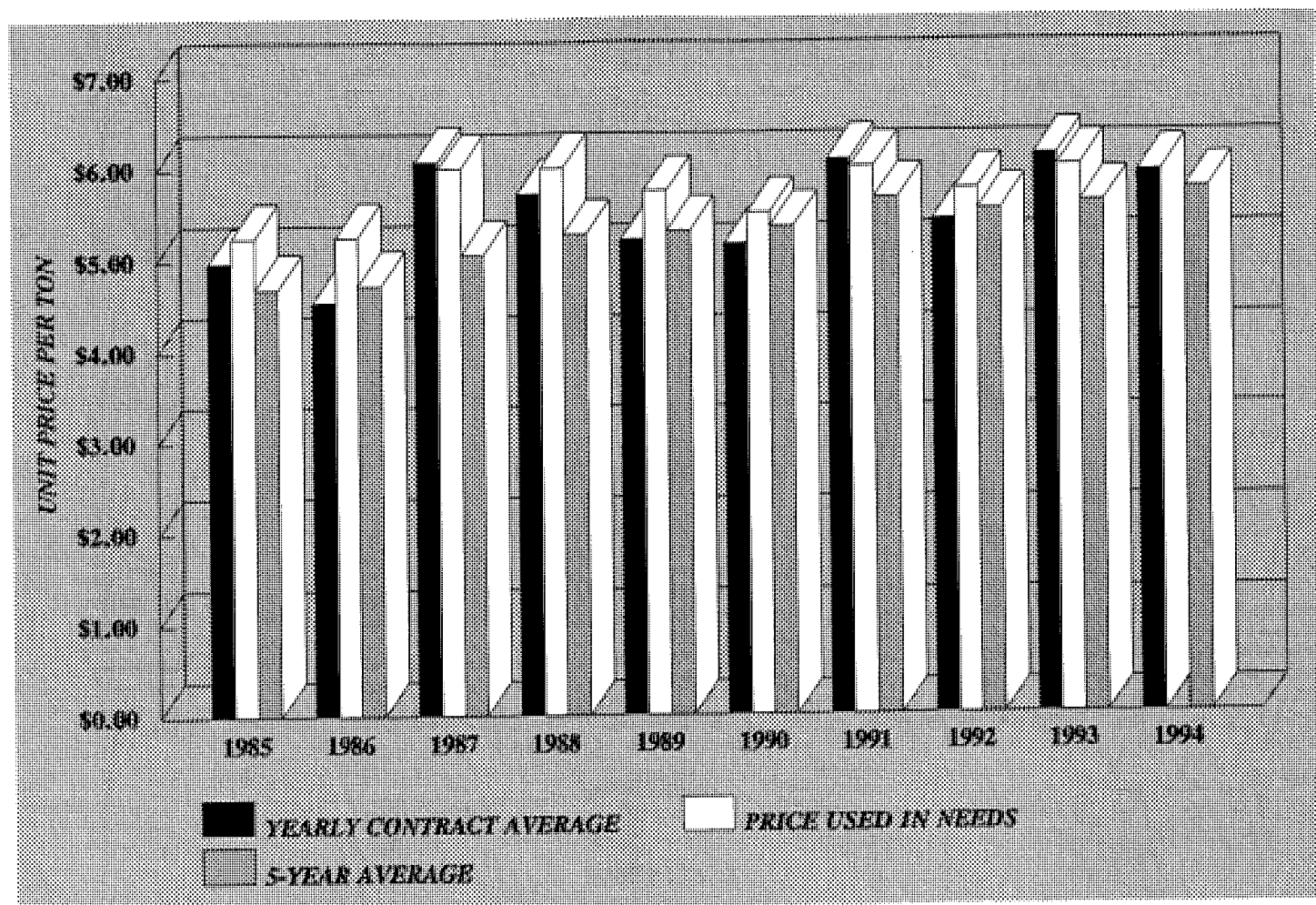
**M.S.A.S. UNIT PRICE STUDY
AGGREGATE BASE 2211-TONS**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
ALBERT LEA	4,100	\$31,775	\$7.75
AUSTIN	4,070	24,420	6.00
FARIBAULT	2,871	20,528	7.15
NORTHFIELD	8,296	47,865	5.77
RED WING	14,426	84,239	5.84
ROCHESTER	23,690	114,580	4.84
WINONA	2,000	16,500	8.25
DISTRICT TOTAL	59,453	\$339,907	\$5.72
<u>DISTRICT 7</u>			
MANKATO	10,403	\$64,397	\$6.19
NEW ULM	6,325	31,625	5.00
ST. PETER	3,737	27,579	7.38
WORTHINGTON	3,215	25,515	7.94
DISTRICT TOTAL	23,680	\$149,116	\$6.30
<u>DISTRICT 8</u>			
HUTCHINSON	11,888	\$46,970	\$3.95
WILLMAR	17,829	108,591	6.09
DISTRICT TOTAL	29,717	\$155,561	\$5.23
<u>METRO EAST</u>			
APPLE VALLEY	61	\$543	\$8.90
COTTAGE GROVE	5,440	24,020	4.42
INVER GROVE HEIGHTS	12,583	56,624	4.50
LAKE ELMO	15,000	75,751	5.05
LITTLE CANADA	4,500	24,030	5.34
MAHTOMEDI	9,930	52,133	5.25
MAPLEWOOD	15,506	105,441	6.80
MENDOTA HEIGHTS	9,068	50,379	5.56
OAKDALE	15,846	83,044	5.24
ROSEMOUNT	15,915	101,119	6.35
ROSEVILLE	16,389	105,458	6.43
ST. PAUL	9,031	55,713	6.17
SHOREVIEW	1,405	10,399	7.40
SOUTH ST. PAUL	3,250	21,183	6.52
VADNAIS HEIGHTS	7,613	51,335	6.74
WHITE BEAR LAKE	8,348	56,349	6.75
WOODBURY	4,560	24,600	5.39
DISTRICT TOTAL	154,445	\$898,121	\$5.82
<u>DISTRICT TOTALS</u>			
DISTRICT 1	55,773	\$321,139	\$5.76
DISTRICT 2	8,565	45,924	5.36
DISTRICT 3	35,165	226,275	6.43
DISTRICT 4	43,801	199,460	4.55
METRO WEST	249,575	1,585,727	6.35
DISTRICT 6	59,453	339,907	5.72
DISTRICT 7	23,680	149,116	6.30
DISTRICT 8	29,717	155,561	5.23
METRO EAST	154,445	898,121	5.82
STATE TOTAL	660,174	\$3,921,230	\$5.94

M.S.A.S. UNIT PRICE STUDY **AGGREGATE BASE 2211 - TONS**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	9,005	\$46,410	\$5.15
DULUTH	16,263	99,230	6.10
GRAND RAPIDS	4,809	30,864	6.42
HERMANTOWN	8,291	39,044	4.71
INTERNATIONAL FALLS	10,096	72,721	7.20
VIRGINIA	7,309	32,870	4.50
DISTRICT TOTAL	55,773	\$321,139	\$5.76
<u>DISTRICT 2</u>			
BEMIDJI	2,749	\$14,550	\$5.29
CROOKSTON	5,816	31,374	5.39
DISTRICT TOTAL	8,565	\$45,924	\$5.36
<u>DISTRICT 3</u>			
CAMBRIDGE	675	\$5,083	\$7.53
ELK RIVER	140	1,187	8.48
LITTLE FALLS	2,313	18,298	7.91
OTSEGO	5,840	28,266	4.84
ST. CLOUD	18,456	129,830	7.03
SARTELL	3,290	19,035	5.79
SAUK RAPIDS	2,268	11,640	5.13
WAITE PARK	2,183	12,936	5.93
DISTRICT TOTAL	35,165	\$226,275	\$6.43
<u>DISTRICT 4</u>			
ALEXANDRIA	41,822	\$187,774	\$4.49
DETROIT LAKES	1,635	9,320	5.70
MOORHEAD	344	2,366	6.88
DISTRICT TOTAL	43,801	\$199,460	\$4.55
<u>METRO WEST</u>			
ANDOVER	8,809	\$52,854	\$6.00
BLOOMINGTON	7,225	47,715	6.60
BROOKLYN CENTER	7,048	52,715	7.48
CHAMPLIN	11,328	52,191	4.61
CHANHASSEN	32,050	229,158	7.15
CHASKA	3,427	22,276	6.50
COON RAPIDS	1,100	6,930	6.30
CRYSTAL	14,213	88,831	6.25
FRIDLEY	9,812	77,398	7.89
GOLDEN VALLEY	2,067	14,676	7.10
HAM LAKE	7,095	47,295	6.67
MAPLE GROVE	23,971	124,294	5.19
MINNEAPOLIS	9,768	103,360	10.58
MINNETONKA	12,890	64,975	5.04
PLYMOUTH	46,799	317,467	6.78
RAMSEY	2,635	14,577	5.53
RICHFIELD	17,214	100,205	5.82
ROBBINSDALE	13,580	38,133	2.81
ST. ANTHONY	740	7,880	10.65
ST. LOUIS PARK	12,414	87,377	7.04
SHAKOPEE	5,390	35,420	6.57
DISTRICT TOTAL	249,575	\$1,585,727	\$6.35

CLASS 5 AGGREGATE BASE #2211



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	50	444,073	\$2,210,475	\$4.98	\$5.25	\$4.69
1986	63	584,097	2,651,362	4.54	5.25	4.72
1987	61	455,259	2,768,438	6.08	6.00	5.05
1988	51	381,898	2,185,112	5.72	6.00	5.27
1989	70	648,988	3,385,938	5.22	5.75	5.31
1990	68	715,922	3,696,421	5.16	5.50	5.34
1991	70	553,874	3,368,664	6.08	6.00	5.65
1992	69	650,835	3,525,629	5.42	5.75	5.52
1993	60	621,247	3,807,092	6.13	6.00	5.60
1994	70	660,174	3,921,230	5.94		5.75

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER TON BASED UPON 1993 CONSTRUCTION COSTS.

\$6.00

**M.S.A.S. UNIT PRICE STUDY
BIT. BASE & SURF. 2331 - TONS**

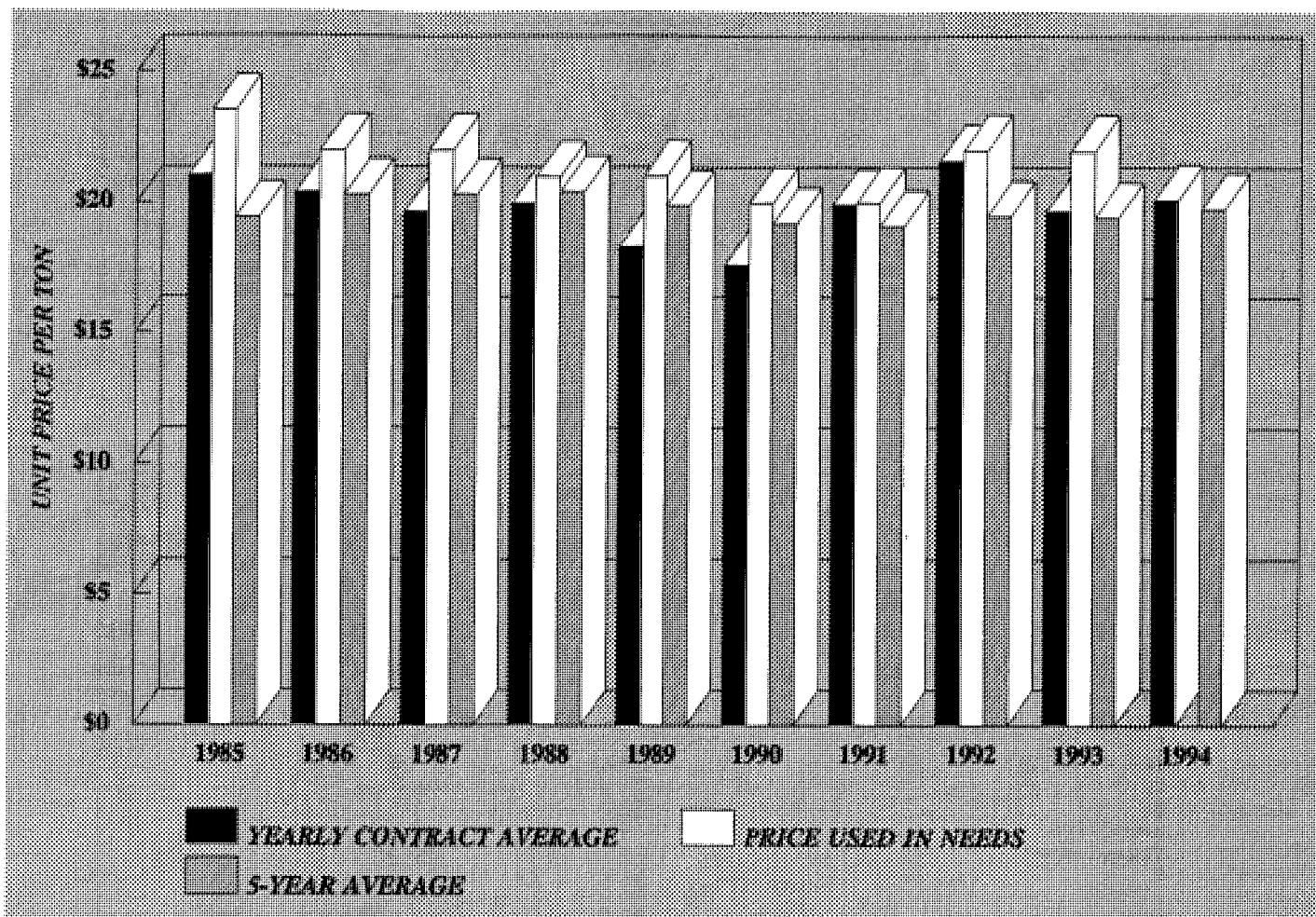
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	2,975	\$71,102	\$23.90
DULUTH	4,227	100,289	23.73
GRAND RAPIDS	2,123	50,949	24.00
HERMANTOWN	3,110	65,310	21.00
INTERNATIONAL FALLS	1,210	34,000	28.10
VIRGINIA	1,722	39,606	23.00
DISTRICT TOTAL	15,367	\$361,256	\$23.51
<u>DISTRICT 2</u>			
BEMIDJI	1,317	\$34,242	\$26.00
CROOKSTON	73	2,190	30.00
DISTRICT TOTAL	1,390	\$36,432	\$26.21
<u>DISTRICT 3</u>			
CAMBRIDGE	320	\$5,600	\$17.50
LITTLE FALLS	1,090	27,861	25.56
OTSEGO	1,771	34,729	19.61
ST. CLOUD	9,583	175,008	18.26
SARTELL	1,430	33,369	23.33
SAUK RAPIDS	655	12,085	18.45
WAITE PARK	1,358	27,466	20.23
DISTRICT TOTAL	16,207	\$316,118	\$19.51
<u>DISTRICT 4</u>			
ALEXANDRIA	13,386	\$258,820	\$19.34
DETROIT LAKES	887	17,359	19.57
MOORHEAD	23,408	474,529	20.27
DISTRICT TOTAL	37,681	\$750,708	\$19.92
<u>METRO WEST</u>			
BLOOMINGTON	5,278	\$120,159	\$22.77
BROOKLYN CENTER	3,261	61,241	18.78
CHAMPLIN	3,370	55,437	16.45
CHANHASSEN	5,225	87,519	16.75
CHASKA	534	11,481	21.50
COON RAPIDS	370	8,888	24.02
CRYSTAL	3,603	65,975	18.31
FRIDLEY	4,763	107,145	22.50
GOLDEN VALLEY	3,084	57,825	18.75
HAM LAKE	2,366	47,249	19.97
LINO LAKES	14,995	256,565	17.11
MAPLE GROVE	6,477	110,694	17.09
MINNEAPOLIS	1,814	47,460	26.16
MINNETONKA	1,541	35,443	23.00
NEW HOPE	76	1,252	16.47
PLYMOUTH	17,445	345,540	19.81
RAMSEY	1,380	26,833	19.44
RICHFIELD	2,982	59,640	20.00
ROBBINSDALE	815	22,055	27.06
ST. LOUIS PARK	9,645	194,233	20.14
SHAKOPEE	1,089	30,800	28.28
DISTRICT TOTAL	90,113	\$1,753,434	\$19.46

**M.S.A.S. UNIT PRICE STUDY
BIT. BASE & SURF. 2331 - TONS**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
FARIBAULT	4,678	\$121,428	\$25.96
NORTHFIELD	420	9,440	22.48
RED WING	8,825	166,927	18.92
ROCHESTER	13,766	282,185	20.50
DISTRICT TOTAL	14,661	\$298,276	\$20.34
<u>DISTRICT 7</u>			
FAIRMONT	3,535	\$122,344	\$34.61
NEW ULM	266	7,326	27.54
ST. PETER	731	17,398	23.80
DISTRICT TOTAL	4,532	\$147,068	\$32.45
<u>DISTRICT 8</u>			
HUTCHINSON	4,724	\$94,794	\$20.07
WILLMAR	7,381	200,781	27.20
DISTRICT TOTAL	12,105	\$295,575	\$24.42
<u>METRO EAST</u>			
APPLE VALLEY	788	\$23,160	\$29.39
COTTAGE GROVE	2,130	42,920	20.15
EAGAN	2,550	49,100	19.25
INVER GROVE HEIGHTS	4,785	78,039	16.31
LAKE ELMO	2,712	51,392	18.95
LITTLE CANADA	972	19,099	19.65
MAHTOMEDI	1,750	35,875	20.50
MAPLEWOOD	3,668	73,208	19.96
MENDOTA HEIGHTS	2,223	31,021	13.95
NEW BRIGHTON	2,960	43,529	14.71
OAKDALE	5,115	99,883	19.53
ROSEMOUNT	4,225	71,165	16.84
ROSEVILLE	2,037	37,268	18.30
ST. PAUL	27,589	532,991	19.32
SHOREVIEW	236	4,639	19.66
SOUTH ST. PAUL	1,275	22,058	17.30
STILLWATER	310	5,270	17.00
VADNAIS HEIGHTS	5,097	106,020	20.80
WHITE BEAR LAKE	1,546	29,188	18.88
WOODBURY	1,390	25,020	18.00
DISTRICT TOTAL	73,358	\$1,380,845	\$18.82

<u>DISTRICT TOTALS</u>			
DISTRICT 1	15,367	\$361,256	\$23.51
DISTRICT 2	1,390	36,432	26.21
DISTRICT 3	16,207	316,118	19.51
DISTRICT 4	37,681	750,708	19.92
METRO WEST	90,113	1,753,434	19.46
DISTRICT 6	14,661	298,276	20.34
DISTRICT 7	4,532	147,068	32.45
DISTRICT 8	12,105	295,575	24.42
METRO EAST	73,358	1,380,845	18.82
STATE TOTAL	265,414	\$5,339,712	\$20.12

BITUMINOUS BASE OR SURFACE #2331



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT AMOUNT	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT AMOUNT
1985	54	376,525	\$7,922,674	\$21.04	\$23.50	\$19.42
1986	62	294,318	6,000,326	20.39	22.00	20.30
1987	63	261,043	5,130,552	19.65	22.00	20.29
1988	50	176,177	3,515,861	19.96	21.00	20.43
1989	71	316,333	5,793,245	18.31	21.00	19.87
1990	61	313,022	5,517,034	17.63	20.00	19.19
1991	70	349,058	6,952,316	19.92	20.00	19.09
1992	67	358,244	7,739,246	21.60	22.00	19.48
1993	58	243,491	4,791,236	19.68	22.00	19.43
1994	68	265,414	5,339,712	20.12		19.79

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER TON BASED UPON 1993 CONSTRUCTION COSTS.

\$21.00

**M.S.A.S. UNIT PRICE STUDY
BIT. SURF. 2341 - TONS**

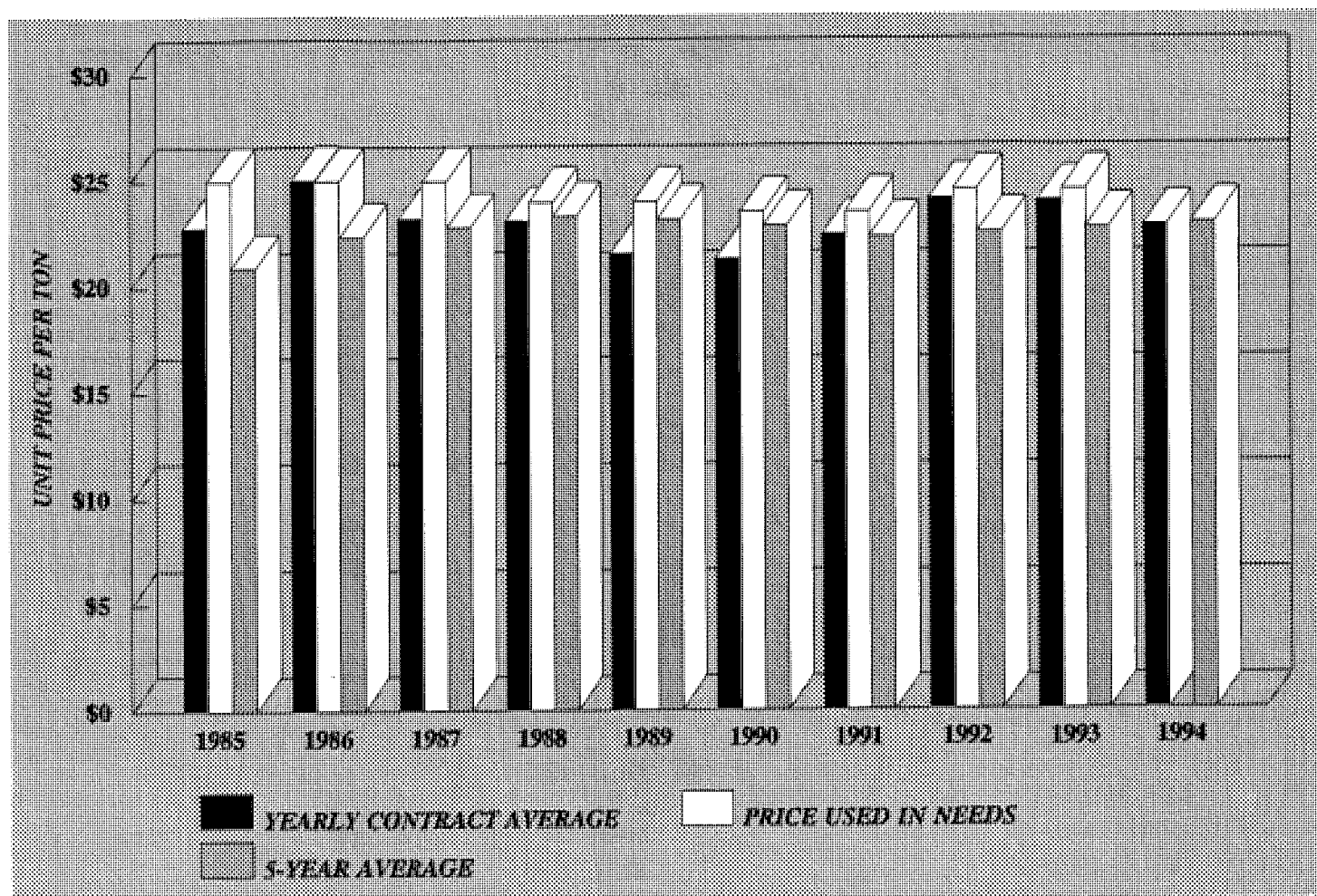
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	1,383	\$36,280	\$26.23
DULUTH	6,714	158,294	23.58
HERMANTOWN	1,982	46,472	23.45
INTERNATIONAL FALLS	900	27,345	30.38
DISTRICT TOTAL	10,979	\$268,391	\$24.45
<u>DISTRICT 2</u>			
BEMIDJI	6,514	\$164,149	\$25.20
CROOKSTON	2,512	64,460	25.66
DISTRICT TOTAL	9,026	\$228,609	\$25.33
<u>DISTRICT 3</u>			
CAMBRIDGE	236	\$5,374	\$22.77
LITTLE FALLS	817	22,517	27.56
OTSEGO	1,329	29,653	22.31
ST. CLOUD	203	4,507	22.20
SAUK RAPIDS	725	14,909	20.56
WAITE PARK	1,027	23,374	22.76
DISTRICT TOTAL	4,337	\$100,334	\$23.13
<u>DISTRICT 4</u>			
DETROIT LAKES	665	\$13,893	\$20.89
MOORHEAD	4,511	108,023	23.95
DISTRICT TOTAL	5,176	\$121,916	\$23.55
<u>METRO WEST</u>			
ANDOVER	2,197	\$44,517	\$20.26
BLAINE	4,673	95,551	20.45
BLOOMINGTON	10,132	225,162	22.22
BROOKLYN CENTER	1,407	28,747	20.43
CHAMPLIN	5,939	115,452	19.44
CHANHASSEN	2,620	55,442	21.16
CHASKA	1,498	33,055	22.07
COLUMBIA HEIGHTS	9,670	217,343	22.48
COON RAPIDS	380	9,824	25.85
CRYSTAL	2,607	52,271	20.05
FRIDLEY	6,150	150,094	24.41
GOLDEN VALLEY	2,289	48,796	21.32
HAM LAKE	1,842	43,439	23.58
LINO LAKES	3,503	66,418	18.96
MINNEAPOLIS	21,681	559,402	25.80
MINNETONKA	4,509	117,703	26.10
MAPLE GROVE	1,836	41,062	22.36
NEW HOPE	75	2,301	30.68
PLYMOUTH	10,667	234,170	21.95
RAMSEY	1,050	22,705	21.62
RICHFIELD	2,398	57,489	23.97
ROBBINSDALE	2,971	64,918	21.85
ST. LOUIS PARK	1,774	48,665	27.43
SHAKOPEE	1,089	38,500	35.35
DISTRICT TOTAL	102,957	\$2,373,026	\$23.05

**M.S.A.S. UNIT PRICE STUDY
BIT. SURF. 2341 - TONS**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
RED WING	13,867	\$286,954	\$20.69
ROCHESTER	1,224	27,049	22.10
NORTHFIELD	2,430	55,190	22.71
WINONA	640	21,035	32.87
DISTRICT TOTAL	18,161	\$390,228	\$21.49
<u>DISTRICT 7</u>			
MANKATO	922	\$29,447	\$31.94
NEW ULM	1,320	40,035	30.33
ST. PETER	548	15,020	27.41
WORTHINGTON	27	2,700	100.00
DISTRICT TOTAL	2,817	\$87,202	\$30.96
<u>DISTRICT 8</u>			
WILLMAR	5,677	\$178,956	\$31.52
DISTRICT TOTAL	5,677	\$178,956	\$31.52
<u>METRO EAST</u>			
APPLE VALLEY	8,393	\$136,378	\$16.25
COTTAGE GROVE	1,080	25,206	23.34
EAGAN	2,450	47,000	19.18
INVER GROVE HEIGHTS	2,328	46,470	19.96
LAKE ELMO	6,291	127,648	20.29
LITTLE CANADA	488	10,311	21.13
MAHTOMEDI	2,000	44,344	22.17
MENDOTA HEIGHTS	881	13,877	15.75
NEW BRIGHTON	1,158	26,339	22.75
OAKDALE	4,990	108,477	21.74
ROSEMOUNT	3,325	63,753	19.17
ROSEVILLE	1,588	33,542	21.12
ST. PAUL	772	17,607	22.81
SHOREVIEW	818	16,436	20.09
SOUTH ST. PAUL	1,038	21,590	20.80
STILLWATER	329	6,580	20.00
VADNAIS HEIGHTS	1,808	43,199	23.89
WHITE BEAR LAKE	1,408	29,498	20.95
WOODBURY	845	17,098	20.23
DISTRICT TOTAL	41,990	\$835,353	\$19.89

<u>DISTRICT TOTALS</u>			
DISTRICT 1	10,979	\$268,391	\$24.45
DISTRICT 2	9,026	228,609	25.33
DISTRICT 3	4,337	100,334	23.13
DISTRICT 4	5,176	121,916	23.55
METRO WEST	102,957	2,373,026	23.05
DISTRICT 6	18,161	390,228	21.49
DISTRICT 7	2,817	87,202	30.96
DISTRICT 8	5,677	178,956	31.52
METRO EAST	41,990	835,353	19.89
STATE TOTAL	201,120	\$4,584,015	\$22.79

BITUMINOUS SURFACE #2341



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	47	144,567	\$3,295,718	\$22.80	\$25.00	\$20.89
1986	50	154,773	3,876,447	25.05	25.00	22.34
1987	55	122,701	2,851,035	23.24	25.00	22.78
1988	47	101,894	2,352,539	23.09	24.00	23.31
1989	58	144,986	3,119,592	21.52	24.00	23.14
1990	44	127,267	2,707,906	21.28	23.50	22.83
1991	48	125,102	2,804,228	22.42	23.50	22.31
1992	31	77,735	1,873,836	24.11	24.50	22.48
1993	66	124,623	2,988,543	23.98	24.50	22.66
1994	52	201,120	4,584,015	22.79		22.91

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER TON BASED UPON 1993 CONSTRUCTION COSTS.

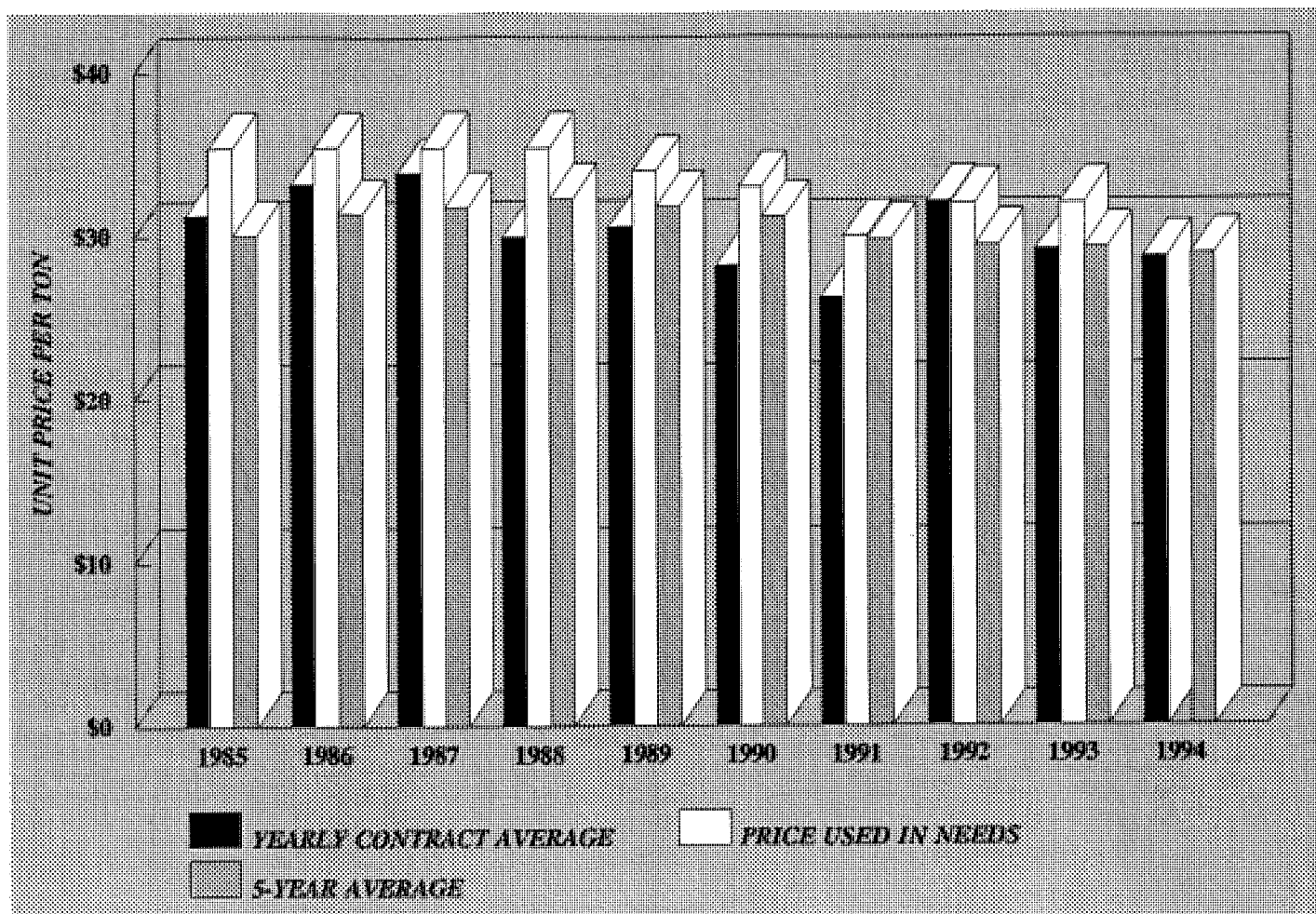
\$23.50

M.S.A.S. UNIT PRICE STUDY **BIT. SURF. 2361 - TONS**

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
DULUTH	3,050	\$77,775	\$25.50
GRAND RAPIDS	737	26,677	36.20
VIRGINIA	363	10,384	28.61
DISTRICT TOTAL	4,150	\$114,836	\$27.67
<u>DISTRICT 3</u>			
ST. CLOUD	6,820	\$177,472	\$26.02
DISTRICT TOTAL	6,820	\$177,472	\$26.02
<u>METRO WEST</u>			
MINNEAPOLIS	6,826	\$210,202	\$30.79
ROBBINSDALE	620	18,214	29.38
ST. LOUIS PARK	1,128	29,678	26.31
DISTRICT TOTAL	8,574	\$258,094	\$30.10
<u>DISTRICT 8</u>			
HUTCHINSON	725	\$26,339	\$36.33
DISTRICT TOTAL	725	\$26,339	\$36.33
<u>METRO EAST</u>			
ST. PAUL	3,228	\$96,575	\$29.92
OAKDALE	450	14,018	31.15
WOODBURY	465	13,605	29.26
DISTRICT TOTAL	4,143	\$124,198	\$29.98

<u>DISTRICT TOTALS</u>			
DISTRICT 1	4,150	\$114,836	\$27.67
DISTRICT 2	0	0	0
DISTRICT 3	6,820	177,472	26.02
DISTRICT 4	0	0	0
METRO WEST	8,574	258,094	30.10
DISTRICT 6	0	0	0
DISTRICT 7	0	0	0
DISTRICT 8	725	26,339	36.33
METRO EAST	4,143	124,198	29.98
STATE TOTAL	24,412	\$700,939	\$28.71

BITUMINOUS SURFACE #2361



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	16	38,723	\$1,212,779	\$31.32	\$35.50	\$30.07
1986	18	36,507	1,213,006	33.23	35.50	31.40
1987	14	25,213	855,500	33.93	35.50	31.78
1988	11	23,776	713,311	30.00	35.50	32.33
1989	17	25,201	770,369	30.57	34.00	31.81
1990	14	31,527	888,370	28.18	33.00	31.18
1991	13	13,901	364,419	26.22	30.00	29.78
1992	3	6,186	198,585	32.10	32.00	29.41
1993	13	33,901	991,209	29.14	32.00	29.24
1994	11	24,412	700,939	28.71		28.87

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER TON BASED UPON 1993 CONSTRUCTION COSTS.

\$30.00

**M.S.A.S. UNIT PRICE STUDY
CURB AND GUTTER CONSTRUCTION**

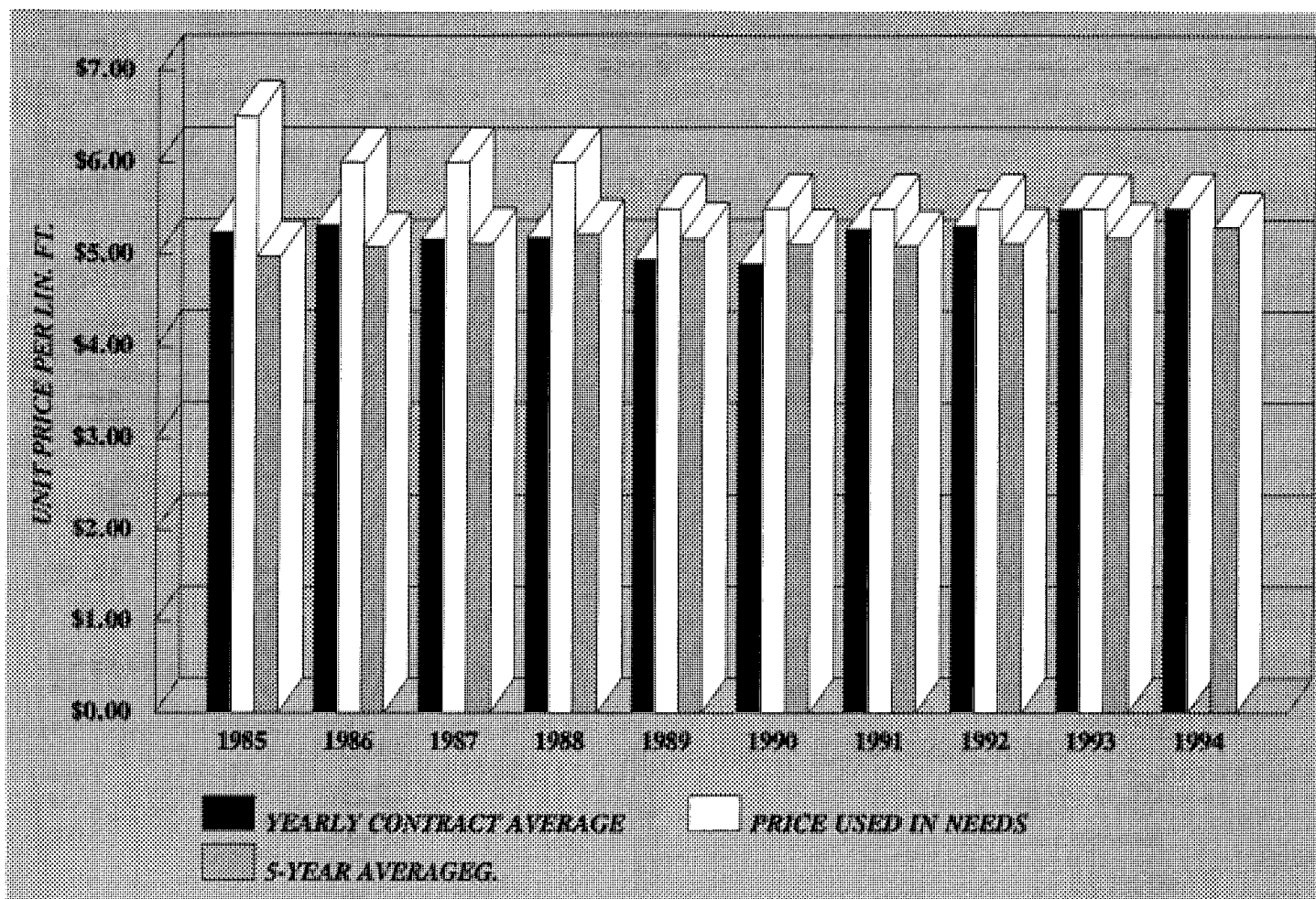
MUNICIPALITY	TOTAL QUANTITY	TOTAL AMOUNT	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	4,842	\$36,315	\$7.50
DULUTH	13,469	80,699	5.99
GRAND RAPIDS	2,585	17,139	6.63
HERMANTOWN	3,616	26,939	7.45
INTERNATIONAL FALLS	4,392	36,190	8.24
VIRGINIA	2,409	17,345	7.20
DISTRICT TOTAL	31,313	\$214,627	\$6.85
<u>DISTRICT 2</u>			
BEMIDJI	2,494	\$18,905	\$7.58
CROOKSTON	4,858	41,768	8.60
DISTRICT TOTAL	7,352	\$60,673	\$8.25
<u>DISTRICT 3</u>			
CAMBRIDGE	1,280	\$8,440	\$6.59
LITTLE FALLS	3,041	17,273	5.68
OTSEGO	5,300	22,790	4.30
ST. CLOUD	16,992	82,831	4.87
SARTELL	2,730	16,517	6.05
SAUK RAPIDS	3,420	16,929	4.95
WAITE PARK	3,885	19,814	5.10
DISTRICT TOTAL	36,648	\$184,594	\$5.04
<u>DISTRICT 4</u>			
ALEXANDRIA	1,754	\$9,472	\$5.40
DETROIT LAKES	3,253	17,566	5.40
MOORHEAD	21,069	151,030	7.17
DISTRICT TOTAL	26,076	\$178,068	\$6.83
<u>METRO WEST</u>			
ANDOVER	11,100	\$48,748	\$4.39
BLOOMINGTON	13,836	81,655	5.90
BROOKLYN CENTER	6,933	32,132	4.63
CHAMPLIN	15,193	77,928	5.13
CHASKA	1,692	9,052	5.35
COON RAPIDS	2,944	16,076	5.46
CRYSTAL	5,902	30,705	5.20
FRIDLEY	28,459	139,170	4.89
GOLDEN VALLEY	7,026	36,184	5.15
HAM LAKE	11,445	51,962	4.54
MAPLE GROVE	12,919	67,981	5.26
MINNEAPOLIS	17,334	126,440	7.29
MINNETONKA	10,306	47,249	4.58
NEW HOPE	238	1,524	6.40
PLYMOUTH	14,140	71,892	5.08
RAMSEY	2,250	10,778	4.79
ROBBINSDALE	5,443	33,303	6.12
ST. LOUIS PARK	10,976	54,732	4.99
SHAKOPEE	5,500	26,125	4.75
DISTRICT TOTAL	183,636	\$963,636	\$5.25

**M.S.A.S. UNIT PRICE STUDY
CURB AND GUTTER CONSTRUCTION**

MUNICIPALITY	TOTAL QUANTITY	TOTAL AMOUNT	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
ALBERT LEA	2,630	\$16,648	\$6.33
FARIBAULT	2,139	19,055	8.91
NORTHFIELD	6,935	36,598	5.28
RED WING	10,740	56,922	5.30
ROCHESTER	15,464	94,285	6.10
WINONA	1,727	13,144	7.61
DISTRICT TOTAL	39,635	\$236,652	\$5.97
<u>DISTRICT 7</u>			
FAIRMONT	390	\$6,240	\$16.00
MANKATO	549	3,843	7.00
NEW ULM	311	3,420	11.00
ST. PETER	2,330	14,679	6.30
WORTHINGTON	32	384	12.00
DISTRICT TOTAL	3,612	\$28,566	\$7.91
<u>DISTRICT 8</u>			
HUTCHINSON	6,019	\$36,114	\$6.00
WILLMAR	12,274	78,484	6.39
DISTRICT TOTAL	18,293	\$114,598	\$6.26
<u>METRO EAST</u>			
APPLE VALLEY	2,045	\$13,498	\$6.60
COTTAGE GROVE	4,350	19,775	4.55
EAGAN	200	1,200	6.00
INVER GROVE HEIGHTS	7,176	30,857	4.30
LITTLE CANADA	3,291	16,324	4.96
LAKE ELMO	4,098	16,982	4.14
MAHTOMEDI	9,300	41,385	4.45
MAPLEWOOD	8,085	31,591	3.91
MENDOTA HEIGHTS	3,033	14,862	4.90
NEW BRIGHTON	80	1,768	22.10
OAKDALE	18,790	92,599	4.93
ROSEMOUNT	11,950	58,548	4.90
ROSEVILLE	10,133	44,263	4.37
SHOREVIEW	1,320	6,540	4.95
SOUTH ST. PAUL	3,990	18,953	4.75
ST. PAUL	10,258	63,171	6.16
STILLWATER	1,640	8,610	5.25
VADNAIS HEIGHTS	3,714	24,851	6.69
WHITE BEAR LAKE	8,100	38,394	4.74
WOODBURY	2,780	13,205	4.75
DISTRICT TOTAL	114,333	\$557,376	\$4.88

<u>DISTRICT TOTALS</u>			
DISTRICT 1	31,313	\$214,627	\$6.85
DISTRICT 2	7,352	60,673	8.25
DISTRICT 3	36,648	184,594	5.04
DISTRICT 4	26,076	178,068	6.83
METRO-WEST	183,636	963,636	5.25
DISTRICT 6	39,635	236,652	5.97
DISTRICT 7	3,612	28,566	7.91
DISTRICT 8	18,293	114,598	6.26
METRO-EAST	114,333	557,376	4.88
TOTAL	460,898	\$2,538,790	\$5.51

CURB & GUTTER CONSTRUCTION #2531



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	58	554,327	2,907,985	5.25	6.50	4.95
1986	61	469,258	2,498,655	5.32	6.00	5.00
1987	67	434,124	2,243,498	5.17	6.00	5.10
1988	51	359,952	1,868,721	5.19	6.00	5.20
1989	73	606,413	3,002,995	4.95	5.50	5.10
1990	57	603,356	2,954,409	4.90	5.50	5.10
1991	67	559,342	2,952,849	5.28	5.50	5.10
1992	68	523,717	2,783,163	5.31	5.50	5.10
1993	69	515,687	2,836,644	5.50	5.50	5.10
1994	70	460,898	2,538,790	5.51		5.30

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS
PER LIN. FT. BASED UPON 1993 CONSTRUCTION COSTS.

\$5.50

M.S.A.S. UNIT PRICE STUDY **SIDEWALK CONSTRUCTION - SQUARE YARD**

(Two decimal places was used in the quantity column so the conversion
from square feet to square yards would be more accurate.)

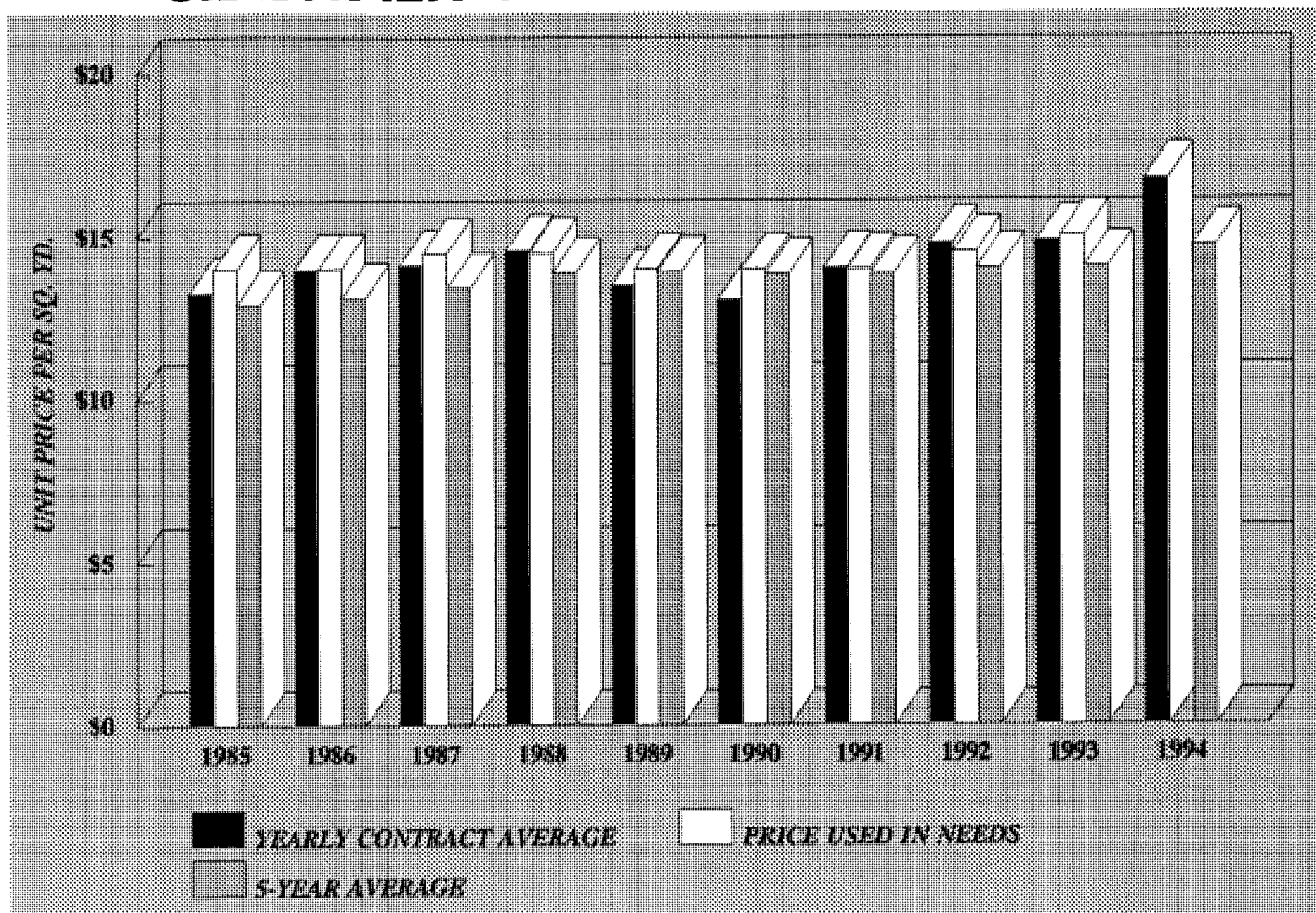
MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 1</u>			
CLOQUET	2,721.11	\$58,041	\$21.33
DULUTH	6,751.56	143,155	21.20
GRAND RAPIDS	1,144.56	23,178	20.25
HERMANTOWN	606.67	9,555	15.75
INTERNATIONAL FALLS	2,964.89	50,966	17.19
VIRGINIA	1,345.00	22,394	16.65
DISTRICT TOTAL	15,533.78	\$307,289	\$19.78
<u>DISTRICT 2</u>			
BEMIDJI	1,850.78	\$39,976	\$21.60
CROOKSTON	2,056.78	37,224	18.10
DISTRICT TOTAL	3,907.56	\$77,200	\$19.76
<u>DISTRICT 3</u>			
CAMBRIDGE	904.44	\$16,280	\$18.00
ELK RIVER	196.56	3,308	16.83
LITTLE FALLS	2,596.89	38,330	14.76
ST. CLOUD	3,430.00	41,675	12.15
SARTELL	165.11	2,288	13.86
SAUK RAPIDS	2.78	123	44.28
WAITE PARK	866.22	11,694	13.50
DISTRICT TOTAL	8,162.00	\$113,698	\$13.93
<u>DISTRICT 4</u>			
ALEXANDRIA	106.33	\$2,153	\$20.25
DETROIT LAKES	1,962.22	30,982	15.79
MOORHEAD	773.56	15,142	19.57
DISTRICT TOTAL	2,842.11	\$48,277	\$16.99
<u>METRO WEST</u>			
BLOOMINGTON	4,925.67	\$74,925	\$15.21
BROOKLYN CENTER	1,463.22	18,700	12.78
CHAMPLIN	959.22	11,663	12.16
CRYSTAL	2,505.67	36,758	14.67
FRIDLEY	17.22	415	24.10
MINNEAPOLIS	9,108.11	146,650	16.10
NEW HOPE	85.56	970	11.34
PLYMOUTH	335.56	5,285	15.75
ROBBINSDALE	552.56	14,883	26.93
ST. ANTHONY	1,221.11	17,584	14.40
ST. LOUIS PARK	1,425.44	20,522	14.40
SHAKOPEE	2,855.56	37,265	13.05
DISTRICT TOTAL	25,454.89	\$385,620	\$15.15

M.S.A.S. UNIT PRICE STUDY
SIDEWALK CONSTRUCTION - SQUARE YARD

MUNICIPALITY	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 6</u>			
ALBERT LEA	634.44	\$10,164	\$16.02
AUSTIN	2,026.67	37,392	18.45
FARIBAULT	1,138.44	25,150	22.09
NORTHFIELD	4,102.22	56,490	13.77
RED WING	8.89	240	27.00
ROCHESTER	1,528.22	26,077	17.06
WINONA	5,296.78	91,022	17.18
DISTRICT TOTAL	14,735.67	\$246,535	\$16.73
<u>DISTRICT 7</u>			
FAIRMONT	218.89	\$8,865	\$40.50
NEW ULM	383.33	8,782	22.91
ST. PETER	1,285.22	20,011	15.57
WORTHINGTON	294.67	6,100	20.70
DISTRICT TOTAL	2,182.11	\$43,758	\$20.05
<u>DISTRICT 8</u>			
HUTCHINSON	1,680.00	\$31,320	\$18.64
WILLMAR	3,488.33	61,265	17.56
DISTRICT TOTAL	5,168.33	\$92,585	\$17.91
<u>METRO EAST</u>			
EAGAN	16.67	\$398	\$23.88
INVER GROVE HEIGHTS	2,005.11	27,069	13.50
LITTLE CANADA	6.67	120	18.00
MAPLEWOOD	2,233.33	25,125	11.25
NEW BRIGHTON	19.78	587	29.68
ROSEMOUNT	172.22	3,255	18.90
ROSEVILLE	1,557.11	20,876	13.41
ST. PAUL	3,722.44	78,947	21.21
SHOREVIEW	411.00	6,373	15.51
SOUTH ST. PAUL	5.56	90	16.20
STILLWATER	1.11	20	18.00
VADNAIS HEIGHTS	555.56	10,000	18.00
WHITE BEAR LAKE	969.44	13,786	14.22
DISTRICT TOTAL	11,676.00	\$186,646	\$15.99

<u>DISTRICT TOTALS</u>			
DISTRICT 1	15,533.78	\$307,289	\$19.78
DISTRICT 2	3,907.56	77,200	19.76
DISTRICT 3	8,162.00	113,698	13.93
DISTRICT 4	2,842.11	48,277	16.99
METRO-WEST	25,454.89	385,620	15.15
DISTRICT 6	14,735.67	246,535	16.73
DISTRICT 7	2,182.11	43,758	20.05
DISTRICT 8	5,168.33	92,585	17.91
METRO-EAST	11,676.00	186,646	15.99
STATE TOTALS	89,662.44	\$1,501,608	\$16.75

SIDEWALK CONSTRUCTION #2521



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	44	96,059	1,277,135	13.30	14.00	12.90
1986	48	103,377	1,446,980	14.00	14.00	13.09
1987	51	79,756	1,126,616	14.13	14.50	13.42
1988	40	94,423	1,376,749	14.58	14.50	13.90
1989	62	159,205	2,150,360	13.51	14.00	13.90
1990	54	125,748	1,639,735	13.04	14.00	13.85
1991	60	179,115	2,514,996	14.04	14.00	13.86
1992	62	141,946	2,097,863	14.78	14.50	13.99
1993	55	119,082	1,767,834	14.85	15.00	14.04
1994	56	89,662	1,501,608	16.75		14.69

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS
PER SQ. YD. BASED UPON 1993 CONSTRUCTION COSTS.

\$16.00

STORM SEWER, LIGHTING AND SIGNAL NEEDS COSTS				
NEEDS	STORM SEWER ADJUSTMENT (Per Mile)	STORM SEWER CONSTRUCTION (Per Mile)	LIGHTING (Per Mile)	SIGNALS (Per Mile)
1982	62,000	196,000	2,000	10,000
1983	62,000	196,000	2,000	10,000
1984	62,000	98,000 *	2,000	10,000
1985	62,000	0 *	2,000	10,000
1986	62,000	196,000 *	2,000	10,000
1987	62,000	196,000 *	2,000	12,000
1988	62,000	196,000 *	16,000	15,000
1989	62,000	196,000 *	16,000	15,000-45,000
1990	62,000	196,000	16,000	15,000-45,000
1991	62,000	196,000	16,000	15,000-45,000
1992	62,000	196,000	16,000	18,750-75,000
1993	62,000	199,500	20,000	20,000-80,000
1994	64,000	206,000	20,000	20,000-80,000

* Years that "After the Fact Needs" were in effect. 1986 to 1989 price was used only for needs purposes.

MN\DOT'S HYDRAULIC OFFICE RECOMMENDED PRICES FOR 1994:

Storm Sewer. Adjustment \$67,100
Storm Sewer Construction \$216,500

SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1994:

Storm Sewer. Adjustment \$67,100
Storm Sewer Construction \$216,500
Lighting \$20,000
Signals \$20,000-80,000

RAILROAD CROSSINGS NEEDS COSTS

NEEDS	SIGNS (Per Unit)	PAVEMENT MARKING	SIGNALS (Low Speed) (Per Unit)	SIGNALS & GATES (High Speed) (Per Unit)	RUBBERIZED MATERIAL (Per Ft.)
1982	\$300		\$60,000	\$95,000	
1983	300		65,000	95,000	
1984	300		65,000	95,000	
1985	300		65,000	95,000	
1986	300		65,000	95,000	
1987	300		65,000	95,000	
1988	300		65,000	95,000	
1989	300		70,000	99,000	
1990	400		75,000	110,000	
1991	500		80,000	110,000	
1992	600	\$750	80,000	110,000	
1993	600		80,000	110,000	
1994	600	750	80,000	110,000	900

MN\DOT'S RAILROAD OFFICE RECOMMENDED PRICES FOR 1994:

Pavement Marking \$750
Signals \$80,000
Sig. & Gates \$110,000
Rub. Mat. \$750

SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1994:
1994 \$800
1994 \$750
1994 \$80,000
1994 \$110,000
1994 \$750

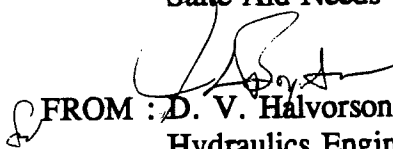
DEPARTMENT : TRANSPORTATION
Office of Bridges and Structures
Waters Edge Building
1500 West County Road B2
Roseville, Minnesota 55113-3105

STATE OF MINNESOTA
Office Memorandum



DATE : January 3, 1994

TO : K. E. Straus
State Aid Needs Unit

FROM : D. V. Halvorson
Hydraulics Engineer

PHONE : 582-1106

SUBJECT : State Aid Storm Sewer Construction Costs for 1993

We have analyzed the State Aid storm sewer construction costs for 1993 and find that for planning and needs purposes, a figure of approximately \$216,500 per mile can be used. For Storm sewer adjustments, we suggest approximately \$67,100 per mile.

The above amounts are based on the average cost per mile of State Aid storm sewer using highway unit prices on approximately 104 plans for 1993.

CC: Y. M. Crocker

STATE OF MINNESOTA**DEPARTMENT OF TRANSPORTATION
MS 470, Transportation Building****Office Memorandum****TO: Kenneth Straus
Highway Needs Unit****DATE: February 22, 1994****FROM: Robert G. Swanson, Director
Railroad Administration****PHONE: 296-2472****SUBJECT: Projected Railroad Grade Crossing
Improvements - Cost for 1994**

We have projected 1994 costs for railroad-highway work at grade crossing improvements. For planning purposes, we recommend using the following figures:

Railroad Grade Crossings:		
Signals (Single Track - Low Speed)*		
(Average Price)	per unit	\$60-80,000.00
Signals and Gates:		
(Multiple Track - High & Low Speed)** (Average Price)	per Unit	\$90-110,000.00
Signs (Advance warning signs & crossbucks Pavement Markings)	per Crossing	\$800.00
(Tape)	per Crossing	\$5,500.00
(Paint)	per Crossing	\$750.00
Crossing Surfaces: (Rubber Crossing Surface) Complete reconstruction of the crossing. Labor and Materials	per track ft	\$750.00

- * Modern signals with motion sensors - signals are activated when train enters electrical circuit - deactivated if train stops before reaching crossing.
- ** Modern signals with grade crossing predictors - has capabilities in (*) above, plus ability to gauge speed and distance of train from crossing to give constant 20-25 second warning of approaching trains traveling from 5 to 80 MPH.

As part of any project in the vicinity of railroad crossings, a review of advance warning signs should be conducted. In addition, pavement markings (RxR, STOP BAR, and NO PASSING STRIPE), if required, should be installed.

We also recommend that projects are not designed so that they start or end at railroad crossings. A project should be carried through the crossing area so that the crossing does not become the transition zone between two different roadway sections or widths.

1993 BRIDGE CONSTRUCTION COSTS**Bridges 0-149 Feet..**

BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST SQ. FT.	LENGTH
01517	01-598-08	5,228	\$209,596	\$40.09	145.21
09516	09-599-06	3,920	196,419	50.11	112.00
* 11004	1120-0048	4,390	238,597	54.35	87.67
18520	18-609-07	3,910	151,179	38.66	96.38
* 19088	1909-0065	9,056	639,390	70.60	145.68
20538	20-611-03	4,602	176,569	38.37	117.00
20545	20-599-60	2,632	133,142	50.59	84.00
20546	20-599-61	2,447	111,850	45.71	78.10
22583	22-599-61	1,943	105,744	54.42	62.00
* 23016	2307-0011	6,220	416,273	66.92	135.42
23553	23-599-107	3,233	143,891	44.51	91.50
25559	25-601-12	3,716	240,736	64.78	78.50
27692	141-215-11	9,604	932,208	97.06	126.90
* 28020	2804-0027	4,232	207,699	49.08	91.67
29519	29-598-01	2,738	139,527	50.96	77.50
33525	33-598-06	3,813	170,282	44.66	107.92
35531	35-599-55	2,755	163,165	59.23	85.21
* 42017	4208-0038	4,047	245,615	60.69	78.83
42549	42-601-03	4,960	165,451	33.36	124.00
45549	45-649-03	3,130	160,296	51.21	86.92
49535	49-597-02	2,361	110,383	46.75	66.83
49538	49-599-25	3,226	200,121	62.03	94.88
50569	50-599-33	3,687	172,035	46.66	117.67
50575	50-599-53	3,030	145,225	47.93	96.80
51523	51-599-55	3,329	168,283	50.55	106.20
54542	54-618-12	3,453	200,705	58.12	94.20
55549	55-599-36	3,233	142,555	44.09	91.50
58531	58-653-05	3,088	130,403	42.23	78.50
59521	59-599-15	2,851	179,934	63.11	95.03
59531	59-598-20	3,999	186,339	46.60	113.20
62563	62-623-36	2,739	247,418	90.33	51.83
62566	62-651-27	2,742	268,270	97.84	41.03
* 62895	6281-62895	20,883	1,123,109	53.78	116.18
63508	63-598-13	3,104	174,814	56.32	97.00
64550	64-599-35	4,299	191,120	44.46	137.20
65541	65-604-11	2,508	125,840	50.18	66.00
66524	66-599-22	1,836	109,009	59.37	54.00
69597	69-633-07	4,768	241,995	50.75	121.21
70521	70-618-16	5,533	328,829	59.43	116.72
70522	70-618-17	5,155	329,495	63.92	116.72
73531	73-599-47	4,381	201,131	45.91	124.00
79539	79-598-06	2,350	118,013	50.22	66.50
80530	80-611-05	4,394	181,861	41.39	92.83
85531	85-625-23	3,944	284,971	72.25	116.00
85532	85-625-24	3,463	202,819	58.57	91.13
85533	85-643-03	5,016	195,364	38.95	125.41
** 99037	141-291-04	5,947	222,277	37.38	133.64
** 99149*	1120-0048	1,909	81,607	42.75	63.33
** 99158*	2735A	4,485	151,149	33.70	149.50
TOTAL	49	208,289	\$11,362,703	\$54.55 AVERAGE	
TOTAL w/o					
Temp. Brdgs.	46	201,895	\$10,907,670	\$54.03 AVERAGE	

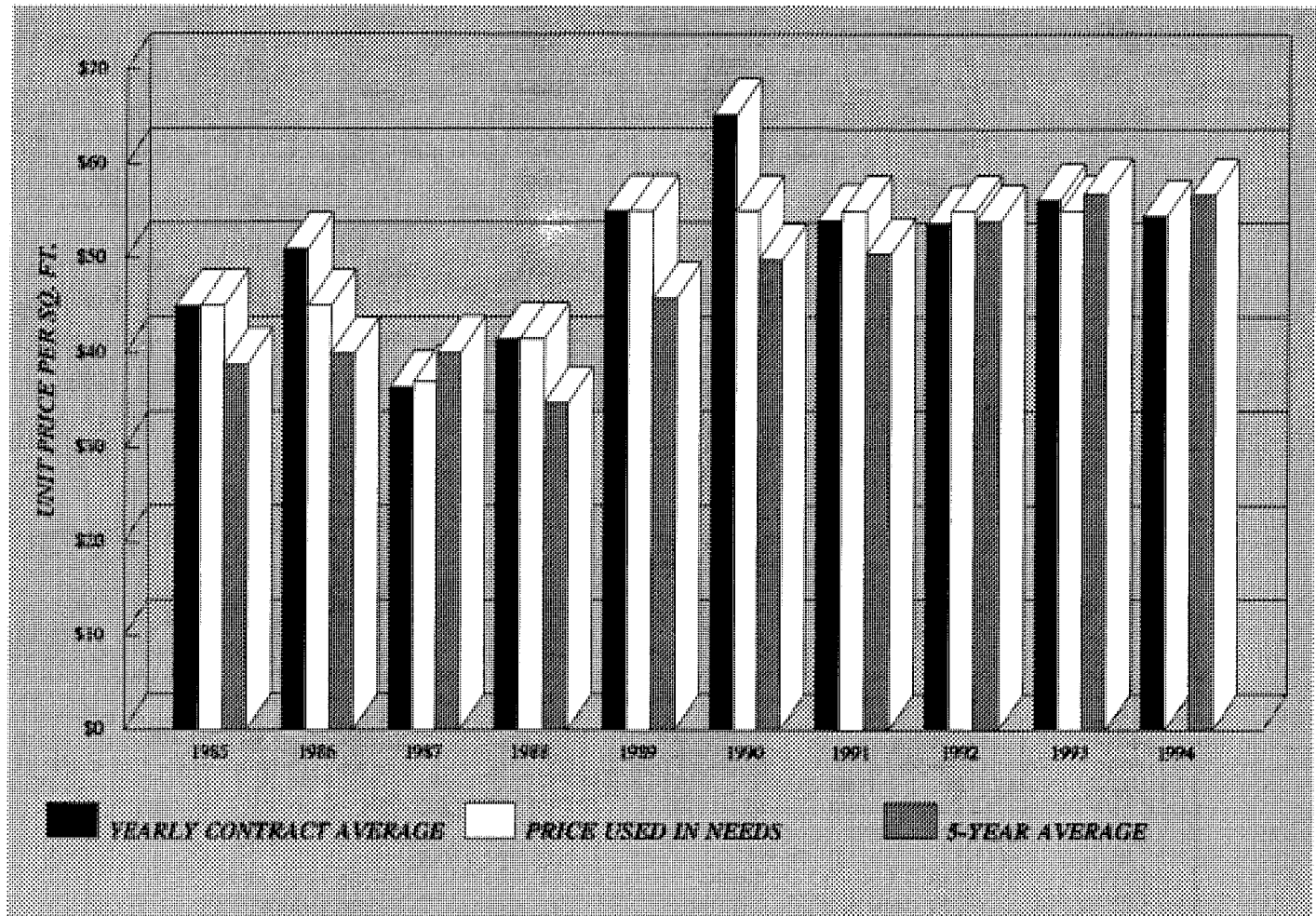
** Temporary Bridge

WITH TEMPORARY BRIDGES				
STATE AID PROJECTS	153,067	\$8,259,264	\$53.96	Average
* MN/DOT PROJECTS	55,222	\$3,103,439	\$56.20	Average

WITHOUT TEMPORARY BRIDGES				
STATE AID PROJECTS	147,120	\$8,036,987	\$54.63	Average
* MN/DOT PROJECTS	48,828	\$2,870,683	\$58.79	Average

BRIDGE COST

O-149 FEET



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	31	*	*	45.00	45.00	38.80
1986	29	*	*	51.00	45.00	40.00
1987	41	145,094	\$5,281,503	36.40	37.00	40.08
1988	22	73,683	3,057,881	41.50	41.50	34.78
1989	11	35,733	1,966,077	55.02	55.00	45.78
1990	42	214,557	14,003,285	65.27	55.00	49.84
1991	37	136,770	7,472,265	54.09	55.00	50.46
1992	39	147,313	7,929,250	53.83	55.00	53.94
1993	38	190,400	10,709,785	56.25	55.00	56.89
1994	49	208,289	11,362,703	54.55		56.80

* Information unavailable

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER SQ. FT. BASED UPON 1993 CONSTRUCTION COSTS.

\$55.00

1993 BRIDGE CONSTRUCTION COSTS

Bridges 150-499 Feet					
BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST SQ. FT.	LENGTH
11003	1120-0036 *	10,008	\$418,513	\$41.82	199.50
14517	14-598-07	8,041	348,067	43.29	227.58
19087	1909-0065 *	8,100	543,246	42.97	150.39
19089	1909-0065 *	9,416	716,288	57.69	321.74
19090	1909-0065 *	11,876	626,357	60.31	211.00
25021	2514-0103 *	18,840	815,449	43.28	415.58
25023	2514-0103 *	12,683	669,744	64.29	279.77
25562	25-601-13	7,179	358,964	50.00	165.68
27019	2738-27019 *	12,796	616,102	28.05	260.00
27693	27-618-65	8,270	427,623	51.71	181.70
27694	27-618-66	7,770	415,100	53.42	181.70
31015	3116-0103 *	16,168	697,982	25.67	314.97
31016	3116-0103 *	18,575	769,336	37.58	312.83
43527	43-599-14	5,413	242,451	44.79	153.19
47007	4710-0018 *	7,283	319,977	43.93	157.75
62564	164-191-06	19,048	1,484,056	77.91	413.38
63509	63-598-17	4,833	239,165	49.49	154.24
69607	118-190-01	15,968	804,347	50.37	356.17
69608	69-604-46	10,201	590,709	57.91	215.52
70014	7005-0054 *	20,757	874,804	42.15	217.73
70039	7005-0054 *	8,972	391,860	43.68	203.15
70040	7005-0054 *	8,972	391,860	43.68	203.15
70518	70-618-13	6,686	527,221	78.85	227.93
70519	70-618-14	15,336	798,920	52.09	256.75
70520	70-618-15	11,392	608,983	53.46	257.94
77520	77-598-04	5,652	198,957	35.20	157.00
** 99139	3116-0103 *	5,208	517,388	99.34	359.17
** 99148	1120-0036 *	5,948	100,488	16.89	195.00
** 99152	0502-0081 *	6,220	105,549	16.97	180.16
Total	29	307,611	\$15,619,506	\$50.78	AVERAGE
Total w/o					
Temp. Brdgs.	26	290,235	\$14,896,081	\$51.32	AVERAGE
STATE AID PROJECTS					
		125,789	\$7,044,563	\$56.00	AVERAGE
* MN/DOT PROJECTS					
		181,822	8,574,943	\$47.16	AVERAGE
** Temporary Bridge					
WITHOUT TEMPORARY BRIDGES					
* MN/DOT PROJECTS					
		164,446	\$7,851,518	\$47.75	AVERAGE

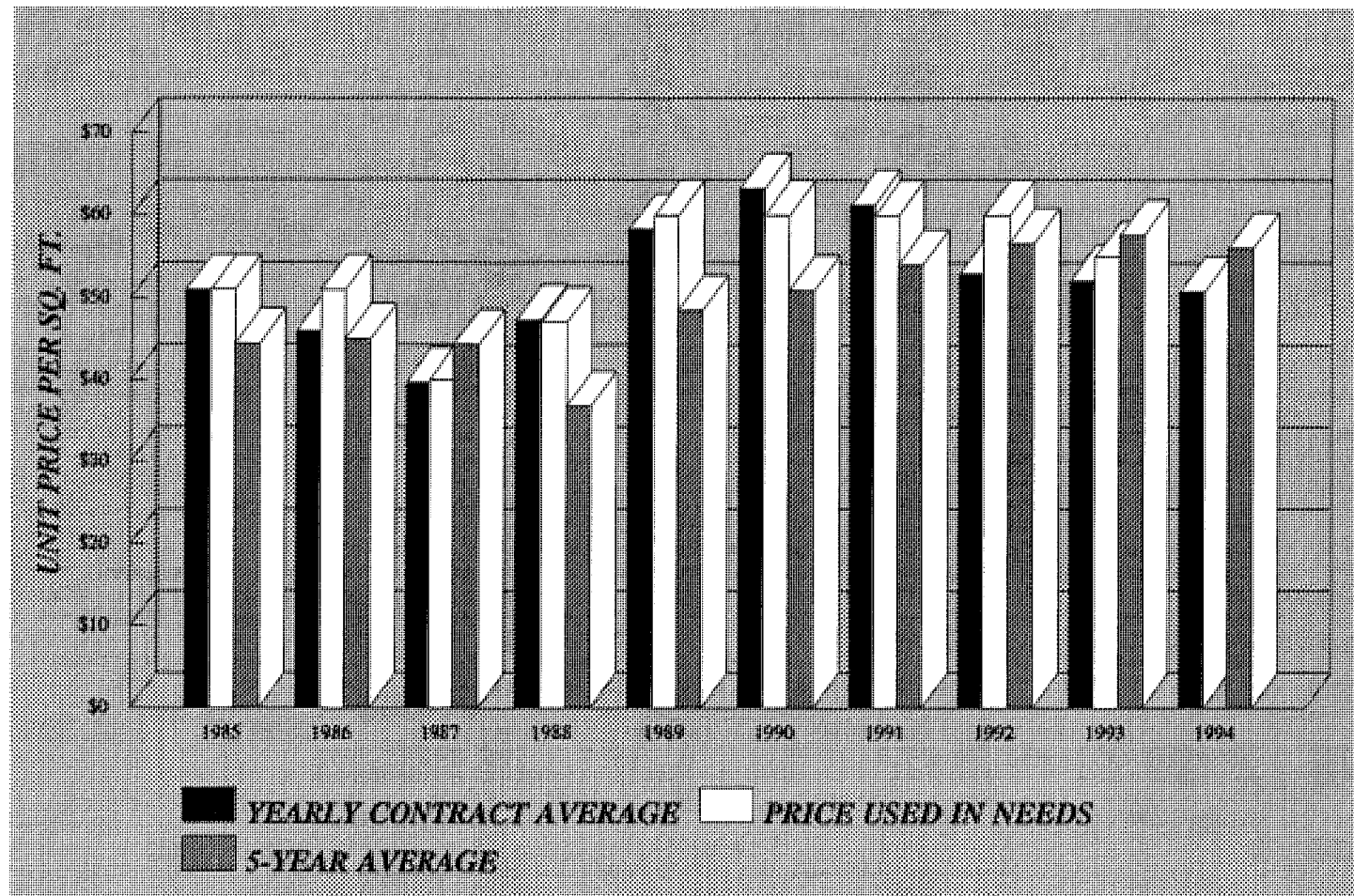
Bridges 500 Feet and Over					
BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST SQ. FT.	LENGTH
62560 #	164-020-57	29,545	\$2,384,073	\$80.69	516.05
86005	*	45,880	1,575,431	34.34	706.78
27684	141-218-05	38,770	2,381,507	61.43	531.41
Total	3	114,195	\$6,341,011	\$55.53	AVERAGE
STATE AID PROJECTS					
		68,315	4,765,580	\$69.76	AVERAGE
* MN/DOT PROJECTS					
		45,880	\$1,575,431	\$34.34	AVERAGE

Tunnel

Railroad Bridges					
BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST LIN. FT.	LENGTH
NO RAILROAD BRIDGES LET IN 1993					

BRIDGE COST

150-499 FEET



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	9	*	*	51.00	51.00	44.40
1986	19	*	*	46.00	51.00	45.00
1987	6	49,899	\$1,979,192	39.66	40.00	44.33
1988	10	83,149	3,932,729	47.30	47.00	36.79
1989	11	116,378	6,796,566	58.40	60.00	48.47
1990	25	418,376	26,483,631	63.30	60.00	50.93
1991	27	368,709	22,167,571	61.33	60.00	54.00
1992	24	331,976	17,582,542	52.96	60.00	56.66
1993	31	421,583	21,987,208	52.15	55.00	57.63
1994	29	307,611	15,619,506	50.78		56.10

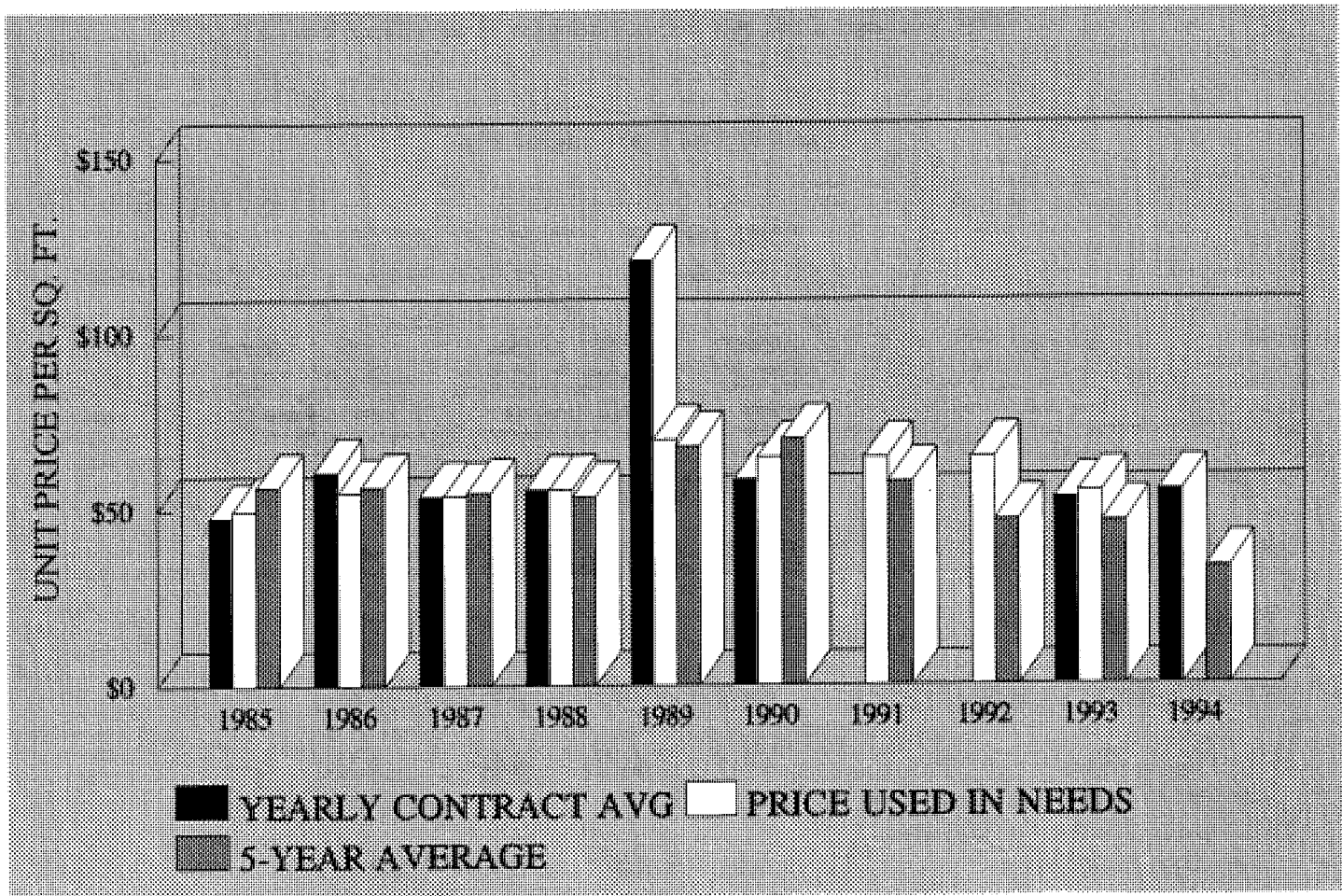
* Information unavailable

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER SQ. FT. BASED UPON 1993 CONSTRUCTION COSTS.

\$55.00

BRIDGE COST

500 FEET AND OVER



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1985	1	*	*	\$48.00	\$50.00	\$56.80
1986	3	*	*	61.00	55.00	56.60
1987	1	29,800	\$1,612,847	54.12	54.00	55.02
1988	1	25,942	1,453,694	56.04	56.00	53.83
1989	8	335,830	40,615,626	120.94	70.00	68.02
1990	13	684,812	40,178,274	58.67	65.00	70.15
1991	0	0	0	0	65.00	57.95
1992	0	0	0	0	65.00	47.13
1993	6	245,572	13,068,106	53.21	55.00	46.56
1994	3	75,425	3,959,504	55.53		33.48

* Information unavailable

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1994 NEEDS STUDY IS PER SQ. FT. BASED UPON 1993 CONSTRUCTION COSTS.

\$55.00

ANNUAL MAINTENANCE NEEDS COST

Used only for needs purposes.

These are the current maintenance prices used in the M.S.A.S. needs study. The total maintenance needs cost for 1993 is \$15,288,665 and is used only in the money needs allocation. The average cost per improved mile in needs is \$6,781.

EXISTING FACILITIES ONLY

	1993 NEEDS PRICES		SUBCOMMITTEE SUGGESTED PRICES		SCREENING BOARD RECOMMENDED PRICES	
	Under 1000 VPD	Over 1000 VPD	Under 1000 VPD	Over 1000 VPD	Under 1000 VPD	Over 1000 VPD
Traffic Lane Per Mile	\$1,320	\$2,200	\$1,320	\$2,200		
Parking Lane Per Mile	1,320	1,320	1,320	1,320		
Median Strip Per Mile	440	800	440	800		
Storm Sewer Per Mile	440	440	440	440		
Per Traffic Signal	440	440	440	440		
Normal M.S.A.S. Streets Minimum Allowance Per Mile Unlimited Segments:	4,400	4,400	4,400	4,400		
Combination Routes Minimum Allowance Per Mile Limited Segments:	2,200	2,200	2,200	2,200		

"Parking Lane Per Mile" shall never exceed two lanes, and is obtained from the following formula:

(Existing surface width minus the # of traffic lanes x 12) / 8 = # of parking lanes.

Existing # of Traffic lanes	Existing Surface Width	# of Parking Lanes for Maintenance Computations
2 Lanes	less than 32'	0
	32' - 39'	1
	40' & over	2
4 Lanes	less than 56'	0
	56' - 63'	1
	64' & over	2

25 YEAR CONSTRUCTION NEEDS FOR EACH INDIVIDUAL CONSTRUCTION ITEM

ITEM	1992 APPORTIONMENT NEEDS COST	1993 APPORTIONMENT NEEDS COST	DIFFERENCE	1993 % OF THE TOTAL
Grading	\$100,656,502	\$106,543,784	\$5,887,282	6.88%
Special Drainage	2,833,976	3,359,937	525,961	0.22%
Storm Sewer Adjustment	19,557,900	24,167,680	4,609,780	1.56%
Storm Sewer Construction	156,272,340	167,152,520	10,880,180	10.80%
Curb & Gutter Removal	12,805,342	13,414,846	609,504	0.87%
Sidewalk Removal	12,421,190	12,848,578	427,388	0.83%
Pavement Removal	32,483,545	34,033,081	1,549,536	2.20%
Tree removal	4,167,600	6,312,075	2,144,475	0.41%
SUBTOTAL GRADING	\$341,198,395	\$367,832,501	\$26,634,106	23.77%

Gravel Subbase #2211	64,142,973	66,608,124	2,465,151	4.30%
Gravel Base #2211	53,841,521	57,616,742	3,775,221	3.72%
Bituminous Base #2331	96,765,552	99,568,473	2,802,921	6.43%
SUBTOTAL BASE	\$214,750,046	\$223,793,339	\$9,043,293	14.46%

Bituminous Surface #2331	2,433,134	2,692,052	258,918	0.17%
Bituminous Surface #2341	192,124,363	197,065,268	4,940,905	12.73%
Bituminous Surface #2361	49,668,201	52,090,774	2,422,573	3.37%
Surface Widening	3,187,775	2,905,586	(282,189)	0.19%
SUBTOTAL SURFACE	\$247,413,473	\$254,753,680	\$7,340,207	16.46%

Gravel Shoulders #2221	913,241	910,098	(3,143)	0.06%
SUBTOTAL SHOULDERS	\$913,241	\$910,098	(\$3,143)	0.06%

Curb and Gutter	77,802,236	80,068,021	2,265,785	5.17%
Sidewalk	86,636,389	96,936,585	10,300,196	6.26%
Traffic Signals	88,909,800	91,403,800	2,494,000	5.91%
Street Lighting	48,036,800	49,206,000	1,169,200	3.18%
Retaining Walls	7,115,135	16,233,658	9,118,523	1.05%
SUBTOTAL MISCELLANEOUS	\$308,500,360	\$333,848,064	\$25,347,704	21.57%

TOTAL ROADWAY	\$1,112,775,515	\$1,181,137,682	\$68,362,167	76.32%
----------------------	------------------------	------------------------	---------------------	---------------

Bridge	80,288,039	84,187,173	3,899,134	5.44%
Railroad Crossings	31,168,175	33,296,427	2,128,252	2.15%
Maintenance	13,621,360	15,288,665	1,667,305	0.99%
Engineering	220,361,760	233,751,990	13,390,230	15.10%
SUBTOTAL OTHERS	\$345,439,334	\$366,524,255	\$21,084,921	23.68%

TOTAL	\$1,458,214,849	\$1,547,661,937	\$89,447,088	100.00%
--------------	------------------------	------------------------	---------------------	----------------

202 East Jackson Street
Post Office Box 3368
Mankato, Minnesota 56002-3368

Phone: (507) 387-8600
Fax: (507) 388-7530



March 22, 1994

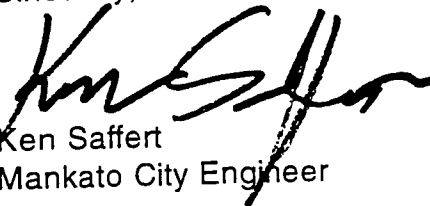
Marshall Johnston
Division of State Aid
Mail Stop 500
395 John Ireland Blvd
St. Paul, MN 55155-1899

REF: City of Mankato Long Time One-Way Streets

Dear Marshall:

These are the street sections and MSA control sections which have been one-way for at least 15 years and exceed all criteria. We believe that these matched pairs can be converted to half mileage status under the Municipal Screening Board definition by resolution. Please process for your further consideration.

Sincerely,


Ken Saffert
Mankato City Engineer

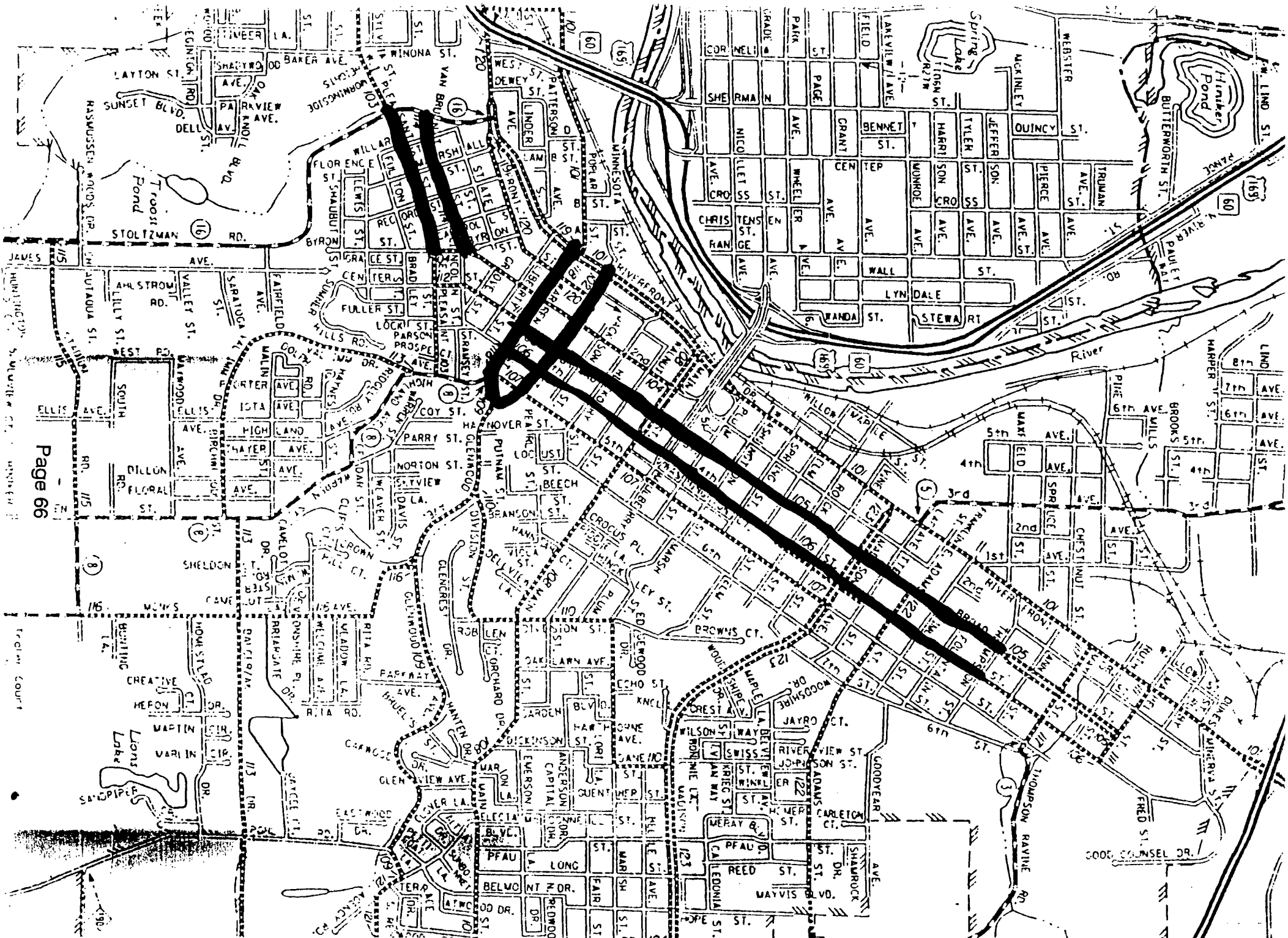
mc

MUNICIPAL STATE AID-ONE WAY PAIRS

*Denotes that Segment Termini extends beyond one-way designation

(Termini and length shown is to end of one-way designation)

Segment	From	To	Segment Length	Section Total
BROAD STREET - Control Section 105				
005	Warren	Cherry	0.10	
010	Cherry	Main	0.30	
020	Main	Vine	0.55	
030	Vine	Madison	0.07	
031	Madison	Lafayette	0.09	
040	Lafayette	Thompson	0.34	1.45
NORTH FOURTH STREET - Control Section 106				
005	Warren	Cherry	0.08	
010	Cherry	Main	0.32	
020	Main	Madison	0.63	
030	Madison	Thompson *	0.43	1.46
CHERRY STREET - Control Segment 102				
010	Riverfront	Front	0.07	
020	Front	Broad	0.15	
030	Broad	Fourth	0.07	
040	Fourth	Fifth	0.10	
050	Fifth	Glenwood "Y"	0.08	0.47
WARREN STREET - Control Segment 118				
005	Riverfront	Front	0.07	
010	Front	Broad	0.15	
020	Broad	Fourth	0.07	
030	Fourth	Fifth	0.10	
040	Fifth	Glenwood "Y"	0.09	0.48
EAST PLEASANT STREET - Control Section 103				
030	Byron	Willard	0.28	
040	Willard	Stoltzman *	0.09	0.37
VAN BRUNT STREET - Control Section 114				
010	Stoltzman	Willard	0.06	
020	Willard	Byron	0.29	0.35
TOTALS:			4.58	4.58



DEPARTMENT OF PUBLIC WORKS

350 South 5th Street - Room 203
Minneapolis MN 55415-1390

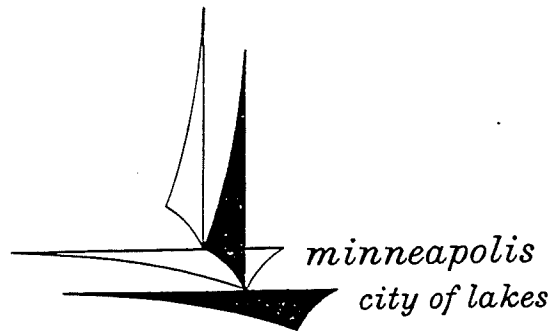
(612) 673-2443

RICHARD L. STRAUB
CITY ENGINEER - DIRECTOR OF PUBLIC WORKS

BRIAN J. LOKKESMOE
ASSISTANT DIRECTOR OF PUBLIC WORKS/
DIRECTOR, ENGINEERING OPERATIONS

MICHAEL J. MONAHAN
ASSISTANT DIRECTOR OF PUBLIC WORKS/
DIRECTOR, TRANSPORTATION & SPECIAL PROJECTS

J. M. GARBER DIRECTOR, ADMINISTRATION
J. F. HAYEK DIRECTOR, WATER WORKS
R. KANNANKUTTY DIRECTOR, ENGINEERING DESIGN
M. J. KROENING DIRECTOR, GENERAL SERVICES
A. E. MADISON MANAGER, FINANCE
T. B. SADLER SUPERINTENDENT, EQUIPMENT
R. H. SMITH DIRECTOR, MANAGEMENT SUPPORT
S. A. YOUNG DIRECTOR, SOLID WASTE & RECYCLING



February 25, 1994

Mr. Tom Drake, P.E. - Chair
City of Red Wing
315 West 4th Street
P.O. Box 34 City Hall
Red Wing, Minnesota 55066

Mr. Ken Haider, P.E.
City of Maplewood
1830 East County Road B
St. Paul, Minnesota 55109


Mr. Pete McClurg, P.E.
City of New Ulm
100 North Broadway
New Ulm, Minnesota 56073

RE: Municipal State Aid Needs Study Subcommittee
Municipal State Aid Screening Committee Resolution - June 1983 (Rvsd. Oct., 1984; Oct., 1993)
Request for Approval of One Way Streets As Half Mileage in the Needs Study

Dear Subcommittee Members:

The City of Minneapolis requests review, favorable recommendation from your committee and the approval of the Municipal State Aid Screening Committee for the segments, listed in the attached table, that do not need a variance. Other one-way couples located Downtown and on 26th and 28th Street are shown but would require a variance from Rule 8820.0600 in order to be designated as half mileage. If your committee finds that has any questions, or if we can provide any other information, please contact me at (612) 673-2456 or Bo Spurrier at (612) 673-3611.

Sincerely,


Ramankutty Kannankutty
Director, Engineering Design

RLS:RK:HRS:cc

cc: Mary L. Bieringer, Metro Division Assistant State Aid Engineer

Ken Strauss, Needs Unit

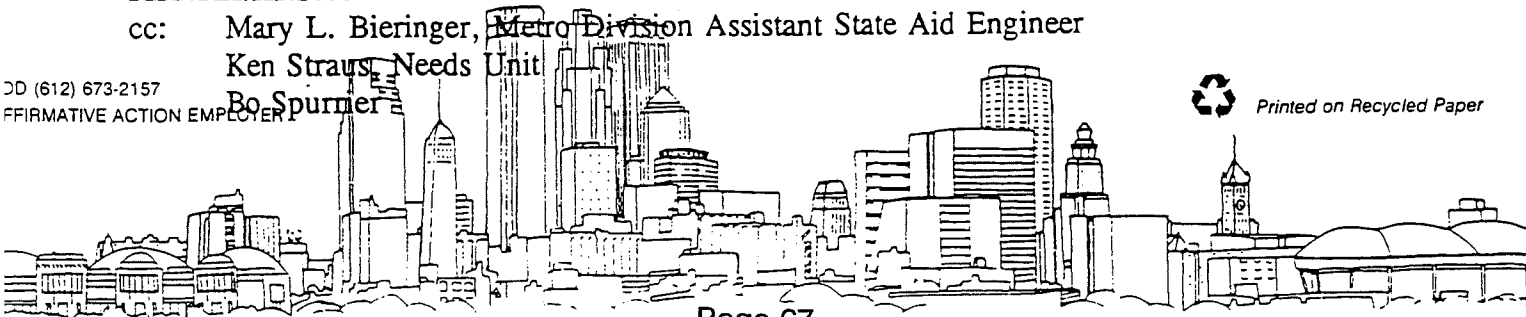
Bo Spurrier

DD (612) 673-2157

AFFIRMATIVE ACTION EMPLOYER



Printed on Recycled Paper



City of Minneapolis - Hennepin County Route Exchange

Proposed State Aid Routes, Designated One-Way, Half Mileage After Route Exchange

IDNO	TERMINI
141000158010	BLAISDELL AVE S - FRANKLIN TO W 26TH ST
141000158020	BLAISDELL AVE S - W 26TH ST TO RR BRIDGE
141000158030	BLAISDELL AVE S - R.R. BRIDGE TO LAKE ST
141000158040	BLAISDELL AVE S - W LAKE ST TO 32ND ST W
141000158050	BLAISDELL AVE S - 32ND ST W TO 40TH ST W
141000190040	1ST AVE S - E FRANKLIN AVE TO 135 FT. SOUTH
141000190050	1ST AVE S - 135 FT S OF FRANKLIN AVE TO E 24TH ST
141000190060	1ST AVE S - E 24TH ST TO E 29TH ST
141000190065	1ST AVE S - E 29TH ST TO E LAKE ST
141000190070	1ST AVE S - E LAKE ST TO E 31ST STREET
141000190075	1ST AVE S - E 31ST STREET TO E 33RD STREET
141000190080	1ST AVE S - 33RD ST EAST TO 36TH STREET EAST
141000190090	1ST AVE S - E 36TH ST TO E 38TH ST
141000190100	1ST AVE S - E 38TH ST TO E 39TH ST
141000190110	1ST AVE S - E 39TH ST TO E 40TH ST
141000159030	LASALLE AVE - GRANT ST TO OAK GROVE ST
141000159040	LASALLE AVE - OAK GROVE ST TO CLIFTON AVE
141000159050	LASALLE AVE - CLIFTON AVE TO FRANKLIN AVE W
141000190010	1ST AVE SO - E GRANT ST TO E 16TH ST
141000190020	1ST AVENUE SOUTH - 16TH STREET EAST TO 17TH STREET
141000190030	1ST AVE S - E 17TH ST TO E FRANKLIN AVE
141000170030	DUPONT AVENUE SOUTH - LAKE STREET WEST TO 34TH STRE
141000170035	DUPONT AVE.S. - W.34TH ST. TO W.36TH ST.
141000172030	EMERSON AVENUE SOUTH - LAKE STREET WEST TO 34TH STR
141000172035	EMERSON AVENUE S. - W.34TH ST. TO W.36TH ST.
141000175020	FREMONT AVE N - PLYMOUTH AVE N TO BROADWAY AVE N
141000175030	FREMONT AVE N BETWEEN W BROADWAY AVE TO 26TH AVE N
141000175040	FREMONT AVE N BETWEEN 26TH AVE N TO LOWRY AVE N
141000175050	FREMONT AVE N BETWEEN LOWRY AVE N TO 33RD AVE N
141000221040	EMERSON AVE N FROM PLYMOUTH AVE N WEST BROADWAY
141000221050	EMERSON AVE N BETWEEN W BROADWAY AVE TO 26TH AVE N
141000221060	EMERSON AVE N BETWEEN 26TH AVE N TO LOWRY AVE N
141000221070	EMERSON AVE N BETWEEN LOWRY AVE N TO 33RD AVE N
141000230000	W 26TH ST. - HENNEPIN AVE. TO COLFAX AVE.
141000230010	W 26TH ST. - COLFAX AVE. S TO LYNDALE AVE. S
141000230020	W 26TH ST. - LYNDALE AVE. TO BLAISDELL AVE.
141000230030	28TH ST. W - HENNEPIN AVE. TO LYNDALE AVE. S
141000230040	28TH ST. W - LYNDALE AVE. S TO BLAISDELL AVE.
141000230050	E 26TH ST. - STEVANS AVE. TO 3RD AVE. S
141000230060	E 26TH ST. - 3RD AVE S TO CLINTON AVE.
141000230070	E 26TH ST. - CLINTON AVE. TO 5TH AVE. S
141000230080	E 26TH ST. - 5TH AVE. S TO CHICAGO AVE. S
141000230090	E 26TH ST. - CHICAGO AVE. TO BLOOMINGTON AVE.
141000230100	E 26TH ST. - BLOOMINGTON AVE. TO CEDAR AVE.
141000230110	28TH STREET EAST - STEVENS AVENUE TO 4TH AVENUE SOU
141000230120	28TH ST E - 4TH AVE S TO PORTLAND AVE
141000230130	28TH STREET EAST - PORTLAND AVENUE TO CHICAGO AVENU
141000230140	28TH STREET EAST - CHICAGO AVENUE TO CEDAR AVENUE
141000249020	35TH STREET EAST - NICOLLET AVENUE TO 172 FT E OF 1
141000249030	35TH ST E - 172 FT E OF 1ST AVE S TO 174 FT W OF 3R
141000249040	35TH STREET EAST - 174 FT W OF 3RD AVE SOUTH TO PAR
141000251070	36TH STREET EAST - NICOLLET AVENUE TO 173 FT E OF 1
141000251080	36TH ST E - 173 FT E OF 1ST AVE S TO 174 FT W OF 3R
141000251090	36TH STREET EAST - 174 FT W OF 3RD AVE S TO PORTLAN
141000251100	36TH STREET EAST - PORTLAND AVENUE TO PARK AVENUE

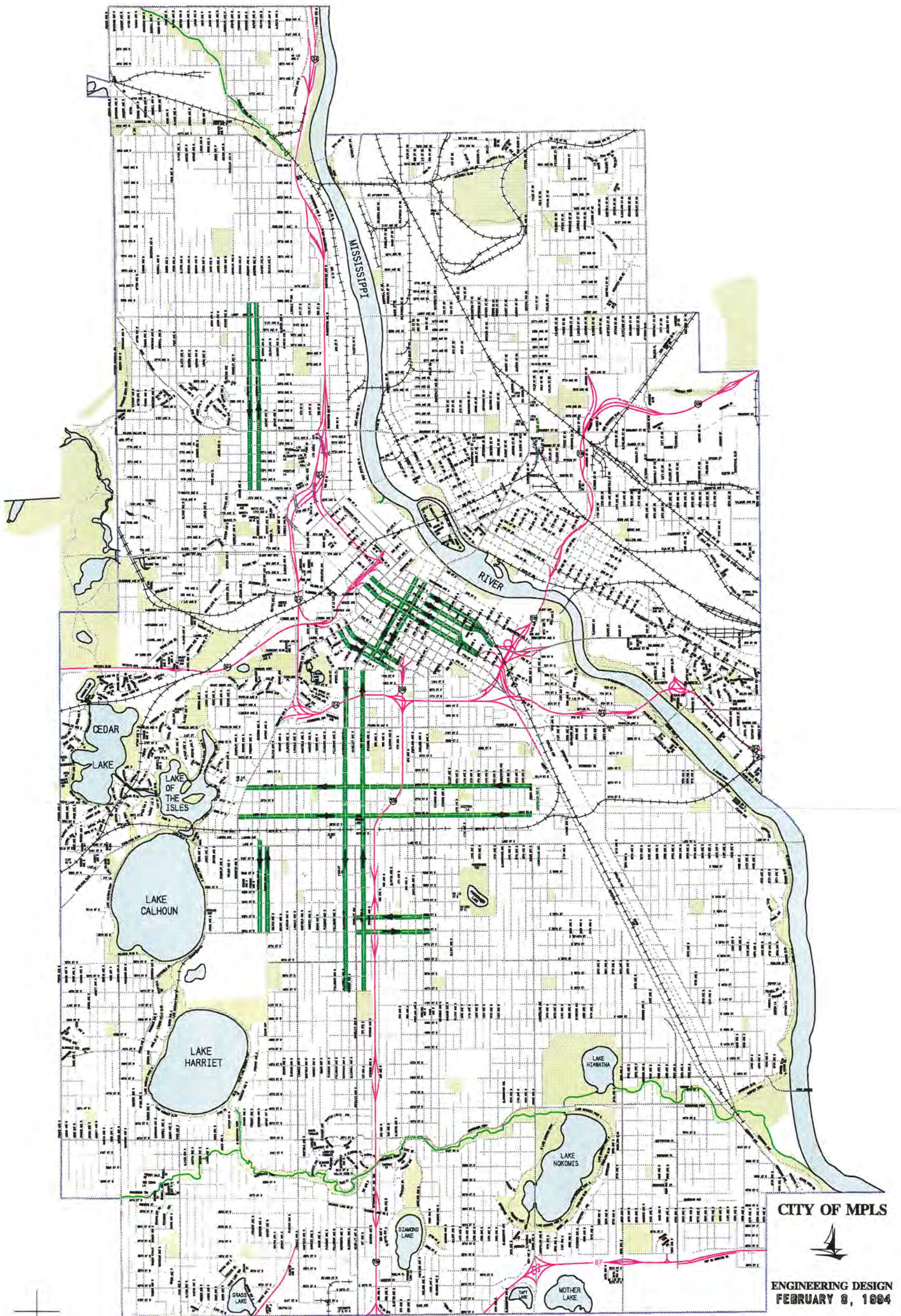
EXISTING TRAFLANE	EXISTING PARKLANE	STREET WIDTH	ADT	SEGLENGTH
2	1	36	8565	0.49
2	2	40	10193	0.35
2	2	44	11420	0.14
2	2	44	8313	0.25
2	1	36	3792	0.98
Route No. 158 Total Mileage				2.21
2	1	39	6885	0.03
2	1	36	6885	0.21
2	1	36	10065	0.48
2	1	36	10065	0.27
3	0	40	7175	0.12
2	1	36	4780	0.24
2	2	32	4780	0.37
2	1	30	2855	0.25
2	1	30	975	0.12
2	0	29	975	0.13
Route No. 190 Total Mileage				2.22
2	2	40	8830	0.24
2	2	44	8335	0.07
2	2	40	8335	0.19
Route No. 159 Total Mileage				0.50
2	2	42	4753	0.18
2	2	42	5260	0.07
2	2	42	5260	0.25
Route No. 190 Total Mileage				0.50
2	1	30	1020	0.49
2	1	36	1020	0.25
Route No. 170 Total Mileage				0.74
2	1	30	1235	0.49
2	1	30	1235	0.25
Route No. 172 Total Mileage				0.74
2	1	32	4950	0.50
3	0	32	4300	0.46
3	0	32	4300	0.51
2	2	40	4000	0.12
Route No. 175 Total Mileage				1.59
3	0	36	5220	0.50
3	0	40	3600	0.47
3	0	43	3600	0.51
3	1	42	2450	0.12
Route No. 221 Total Mileage				1.60
2	1	36	5880	0.24
2	1	36	5880	0.19
2	1	40	10470	0.41
Route No. 239 Total Mileage				0.84
2	1	36	7230	0.50
2	1	36	10930	0.41
Route No. 241 Total Mileage				0.91
2	1	44	11808	0.13
2	1	44	13145	0.06
2	1	44	13145	0.13
2	1	44	11734	0.31
2	1	44	6895	0.50
2	1	44	6895	0.25
Route No. 239 Total Mileage				1.38
4	0	44	11450	0.25
4	0	44	11450	0.13
2	1	44	13485	0.25
2	1	44	7755	0.75
Route No. 241 Total Mileage				1.38
2	1	36	12855	0.10
2	1	44	10598	0.12
2	2	36	6420	0.41
Route No. 249 Total Mileage				0.63
2	2	44	12850	0.10
2	2	44	10598	0.12
2	2	44	9685	0.29
2	2	44	4755	0.12
Route No. 251 Total Mileage				0.63

Total Mileage 15.87

CITY OF MINNEAPOLIS

PLANNING & PROGRAMMING

ONE-WAY PAIRS ON MSA ROUTES



CITY OF LAKES

CITY OF MOORHEAD MINNESOTA

500 CENTER AVENUE, BOX 779, MOORHEAD, MINNESOTA 56561
(218) 299-5301

April 4, 1994

Julie Skallman
Acting State Aid Engineer
Office of State Aid
Minnesota Department of Transportation
395 John Ireland Boulevard
St. Paul, MN 55155

RE: One-Way Streets (one-half mileage requests)
Municipal State Aid Street System - City of Moorhead

Dear Ms. Skallman:

On behalf of the City of Moorhead I hereby request that the Needs Study Subcommittee review the City of Moorhead's existing one-way mileage for consideration as one-half mileage on the MSA system. The following are the one-way streets I wish the Committee to consider:

4th Street South - 12th Avenue South to Main Avenue

Control Section	Segment#	Mileage	Description	Existing Width	Parking Status	1993 ADT
104	010	0.13	4th Street South - 12th to 10th Avenue	34'	1-lane	4,650
104	020	0.21	" " " - 10th to 7th Avenue	28'	0-lane	4,650
104	030	0.07	" " " - 7th to 6th Avenue	28'	0-lane	4,650
104	040	0.16	" " " - 6th to 4th Avenue	36'	1-lane	4,650
104	045	0.02	" " " - 4th to 4th Avenue	38'	0-lane	3,900
104	050	0.02	" " " - 4th to 4th Avenue	38'	0-lane	3,900
104	060	0.11	" " " - 4th to 2nd Avenue	44'	2-lanes	3,900
104	070	0.07	" " " - 2nd to Main Avenue	50'	2-lanes	3,900
		0.79				

5th Street South - Rivershore Drive to Main Avenue

Control Section	Segment#	Mileage	Description	Existing Width	Parking Status	1993 ADT
120	020	0.16	5th Street South - Rivershore Dr. to 20th Ave.	36'	0-lane	2,710
120	030	0.50	" " " - 20th Avenue to 12th Avenue	36'	1-lanes	2,710
120	040	0.22	" " " - 12th Avenue to 9th Avenue	36'	1-lanes	2,660
120	050	0.13	" " " - 9th Avenue to 7th Avenue	36'	1-lanes	4,360
120	055	0.31	" " " - 7th Avenue to 3rd Avenue	36'	1-lane	4,360
120	060	0.06	" " " - 3rd Avenue to 2nd Avenue	40'	1-lanes	4,360
120	070	0.07	" " " - 2nd Avenue to Main Avenue	50'	2-lanes	4,350
		1.45				

Julie Skallman
April 4, 1994
Page 2

These two streets (4th Street South - southbound; and 5th Street South - northbound) operate as one-way street pairs. However, Fourth Street South between 12th Avenue South and Rivershore Drive is not on the Municipal State Aid Street System. It is our intention if our request for one-half mileage is granted to request this street to be placed on the City's State Aid System.

11th Street South - 2nd Avenue South to 12th Avenue South

Control					Existing	Parking	1993
<u>Section</u>	<u>Segment#</u>	<u>Mileage</u>	<u>Description</u>		<u>Width</u>	<u>Status</u>	<u>ADT</u>
121	025	0.14	11th Street South - 2nd Avenue to 4th Avenue		32'	0-lanes	6,100
121	030	0.36	" " " - 4th Avenue to 9th Avenue		32'	0-lanes	4,160 - 5,600
121	040	<u>0.21</u>	" " " - 9th Avenue to 12th Avenue		36'	1-lane	5,600 - 3,150
		0.71					

14th Street South - Main Avenue to 12th Avenue South


Control					Existing	Parking	1993
<u>Section</u>	<u>Segment#</u>	<u>Mileage</u>	<u>Description</u>		<u>Width</u>	<u>Status</u>	<u>ADT</u>
122	040	0.65	14th Street South - Main Avenue to 10th Avenue		40'	**	2,920 - 3,760
122	050	<u>0.13</u>	" " " - 10th Avenue to 12th Avenue		36'	**	3,760 - 2,780
		0.78					

** 12th Avenue to 11th Avenue - 1 lane
11th Avenue to 9th Avenue - 2 lanes
9th Avenue to 4th Avenue - 0 lanes
4th Avenue to Main Avenue - 2 lanes

Eleventh Street south operates as a one-way street (southbound) between 2nd Avenue South and 12th Avenue south. The segment of 11th Street South between Main Avenue and 2nd Avenue South operates as a two-way street. Fourteenth Street operates as a one-way (northbound) between Main Avenue and 12th Avenue South.

If you have any question concerning these matters please call me (218) 299-5390.

Sincerely,

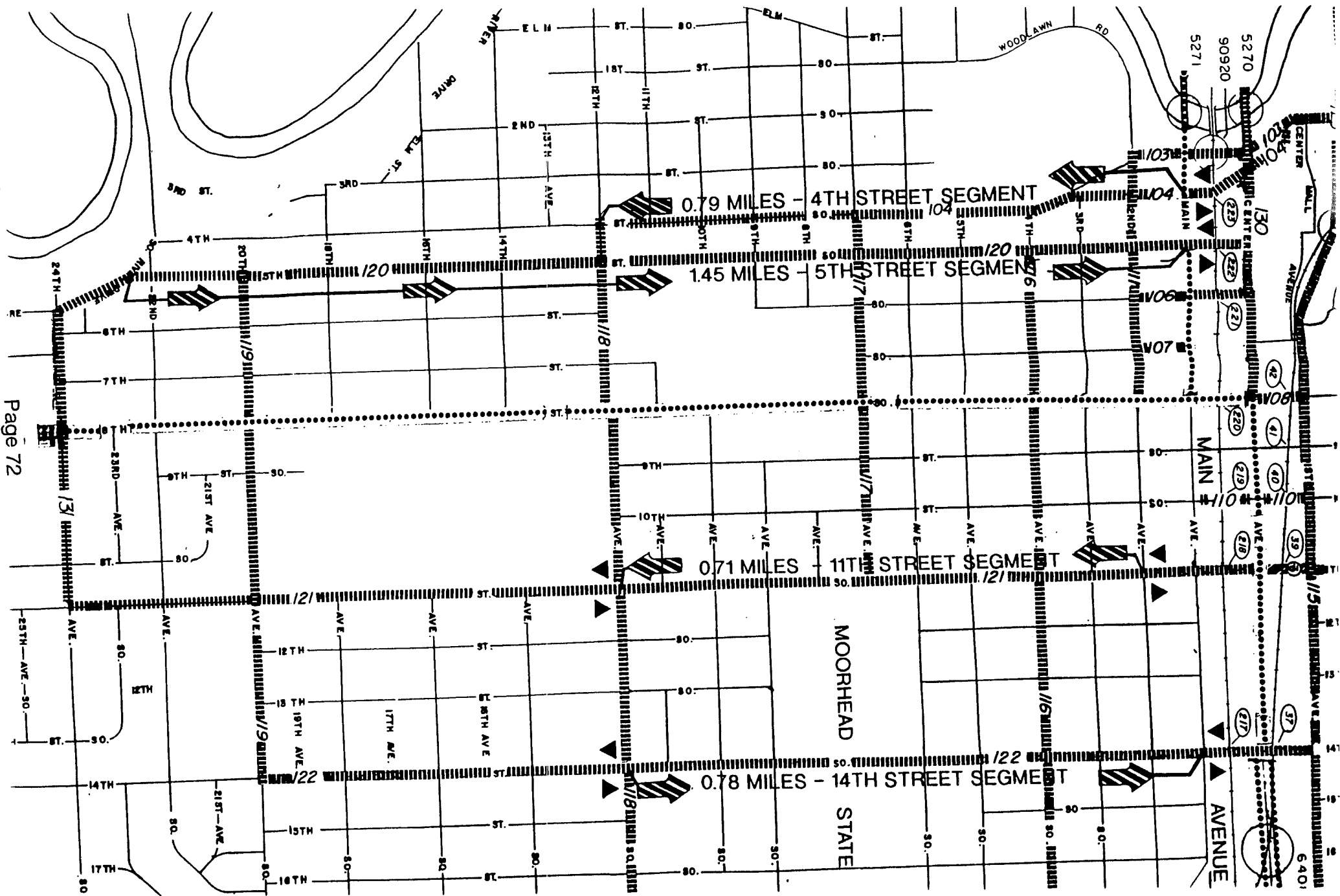


Herbert D. Reimer, P.E.
City Engineer/Asst. Public Works Director

HDR:cw/april\4js

cc: Robert D. Martin, Public Works Director
Tallack Johnson, District State Aid Engineer

Attachment: Map of MSA System



RESOLUTIONS

THE SHADED WORDING IS THE WORDING RECOMMENDED BY THE NEEDS STUDY SUBCOMMITTEE.

One Way Street Mileage

That one way streets added to the Municipal State Aid Street system must be reviewed by the Needs Study Subcommittee, and approved by the Screening Board before any one way street can be treated as one half mileage in the Needs Study.

Treat all one way streets between 26 feet and 49 feet wide as one half of the mileage as outlined in Rule ~~8820.0600~~ 8820.9940 and allow ~~full~~ complete needs, except that no more than one parking lane will be eligible to accrue needs.

When Trunk Highway Turnback is used as part of a one way pair, mileage for Certification shall only be included as Trunk Highway Turnback mileage.

STATUS OF MUNICIPAL TRAFFIC COUNTING

(Most out-state traffic counts are done by state forces)

1. Seven County Metropolitan Traffic Area

Cities in the seven county metropolitan area count cooperatively with Mn/Dot on a year cycle and are scheduled to be counted in 1994. Minneapolis and St. Paul count one half each year.

2. Out-State Municipalities

The out-state cities will be counted on a four-year cycle.

3. Municipalities that have a count annually

Duluth counts 1/4 of the city each year.

TRAFFIC TO BE COUNTED IN 1994		
Alexandria	Rochester	Worthington
Cloquet	Willmar	

TRAFFIC TO BE COUNTED IN 1995		
Bemidji	Hutchinson	Sartell
Cambridge	Litchfield	Sauk Rapids
Chisholm	North Mankato	Thief River Falls
Elk River	Owatonna	Virginia
Fergus Falls	Red Wing	Waite Park
Hermantown	St. Cloud	Waseca
Hibbing	St. Peter	Winona

TRAFFIC TO BE COUNTED IN 1996		
Austin	International Falls	Otsego
Buffalo	Montevideo	
Detroit Lakes	Monticello	

TRAFFIC TO BE COUNTED IN 1997		
Albert Lea	Faribault	Moorhead
Brainerd	Grand Rapids	Morris
Crookston	Little Falls	New Ulm
East Grand Forks	Mankato	Northfield
Fairmont	Marshall	

The State Aid Needs unit updates the needs traffic counts when they are received from the Mn/Dot traffic counting office.

**CURRENT RESOLUTIONS
OF THE
MUNICIPAL SCREENING BOARD**

OCTOBER 1993

BE IT RESOLVED:

ADMINISTRATION

Appointments to Screening Board - Oct. 1961 (Revised June 1981)

That annually the Commissioner of Mn/DOT will be requested to appoint three (3) new members, upon recommendation of the City Engineers Association of Minnesota, to serve three (3) year terms as voting members of the Municipal Screening Board. These appointees are selected from the Nine Construction Districts together with one representative from each of the three (3) major cities of the first class.

Screening Board Chairman and Vice Chairman - June 1987

That the Chairman and Vice Chairman, nominated annually at the annual meeting of the City Engineers association of Minnesota and subsequently appointed by the Commissioner of the Minnesota Department of Transportation shall not have a vote in matters before the Screening Board unless they are also the duly appointed Screening Board Representative of a construction District or of a City of the first class.

Screening Board Secretary - Oct. 1961

That annually, the Commissioner of the Minnesota Department of Transportation (Mn/DOT) may be requested to appoint a secretary, upon recommendation of the City Engineers' Association of Minnesota, as a non-voting member of the Municipal Screening Board for the purpose of recording all Screening Board actions.

Appointment to the Needs Study Subcommittee - June 1987 (Revised June 1993)

The Screening Board Chairman shall annually appoint one city engineer, who has served on the Screening Board, to serve a three year term on the Needs Study Subcommittee. The appointment shall be made at the annual winter meeting of the City's Engineers Association. The appointed subcommittee person shall serve as chairman of the subcommittee in the third year of the appointment.

Appointment to Unencumbered Construction Funds Subcommittee - Revised June 1979

The Screening Board past Chairman be appointed to serve a three-year term on the Unencumbered Construction Fund Subcommittee. This will continue to maintain an experienced group to follow a program of accomplishments.

Screening Board Alternate Attendance - June 1979

The alternate to a third year member be invited to attend the final meeting. A formal request to the alternates governing body would request that he attend the meetings and the municipality pay for its expenses.

Appearance Screening Board - Oct. 1962 (Revised Oct. 1982)

That any individual or delegation having items of concern regarding the study of State Aid Needs or State Aid Apportionment amounts, and wishing to have consideration given to these items, shall, in a written report, communicate with the State Aid Engineer. The State Aid Engineer with concurrence of the Chairman of the Screening Board shall determine which requests are to be referred to the Screening Board for their consideration. This resolution does not abrogate the right of the Screening Board to call any person or persons before the Board for discussion purposes.

Research Account - Oct. 1961

That an annual resolution be considered for setting aside a reasonable amount of money for the Research Account to continue municipal street research activity.

Soil Type - Oct. 1961

That the soil type classification as approved by the 1961 Municipal Screening Board, for all municipalities under Municipal State Aid be adopted for the 1962 Needs Study and 1963 apportionment on all streets in the respective municipalities. Said classifications are to be continued in use until subsequently amended or revised by Municipal Screening Board action.

Improper Needs Report - Oct. 1961

That the Office of State Aid and the District State Aid Engineer is requested to recommend an adjustment of the Needs Reporting whenever there is a reason to believe that said reports have deviated from accepted standards and to submit their recommendations to the Screening Board, with a copy to the municipality involved, or its engineer.

New Cities Needs - Oct. 1983

Any new city which has determined their eligible mileage, but does not have an approved State Aid System, their money needs will be determined at the cost per mile of the lowest other city.

Construction Cut Off Date - Oct. 1962 (Revised 1967)

That for the purpose of measuring the Needs of the Municipal State Aid Highway System, the annual cut off date for recording construction accomplishments based upon the project award date shall be December 31st of the preceding year.

Construction Accomplishments - Oct. 1988 (Revised June 1993)

When a Municipal State Aid Street is constructed to State Aid Standards, said street shall be considered adequate for a period of 20 years from the date of project letting or encumbrance of force account funds.

If, during the period that complete needs are being received the street is improved with a bituminous overlay, concrete joint repair or is widened, the municipality will continue to receive complete needs but shall have the State Aid cost of the bituminous resurfacing or concrete joint repair or widened construction project plus any items constructed that are included in the needs deducted from its total needs for a period of ten (10) years.

In the event sidewalk or curb and gutter is constructed for the total length of the segment, then those items shall be removed from the needs for a period of 20 years.

If the construction of the Municipal State Aid Street is accomplished with local funds, only the construction needs necessary to bring the roadway up to State Aid Standards will be permitted in subsequent needs for 20 years from the date of the letting or encumbrance of force account funds. At the end of the 20 year period, reinstatement for complete construction needs shall be initiated by the Municipality.

Needs for resurfacing, lighting, and traffic signals shall be allowed on all Municipal State Aid Streets at all times.

That any bridge construction project shall cause the needs of the affected bridge to be removed for a period of 35 years from the project letting date or date of force account agreement. At the end of the 35 year period, needs for complete reconstruction of the bridge will be reinstated in the needs study at the initiative of the Municipal Engineer. If, during the period that complete bridge needs are being received the bridge is improved with a bituminous overlay, the municipality will continue to receive complete needs but shall have the non-local cost of the overlay deducted from its total needs for a period of ten (10) years.

The adjustments above will apply regardless of the source of funding for the road or bridge project. Needs may be granted as an exception to this resolution upon request by the Municipal Engineer and justification to the satisfaction of the State Aid Engineer (e.g., a deficiency due to changing standards, projected traffic, or other verifiable causes).

In the event that a M.S.A.S route earning "After the Fact" needs is removed from the M.S.A. system, then, the "After the Fact" needs shall be removed from the needs study, except if transferred to another state system. No adjustment will be required on needs earned prior to the revocation.

DESIGN

Design Limitation on Non-Existing Streets - Oct. 1965

That non-existing streets shall not have their needs computed on the basis of urban design unless justified to the satisfaction of the Commissioner.

Less Than Minimum Width - Oct. 1961 (Revised 1986)

That in the event that a Municipal State Aid Street is constructed with State Aid Funds to a width less than the standard design width as reported in the Needs Study, the total needs shall be taken off such constructed street other than the surface replacement need. Surface replacement and other future needs shall be limited to the constructed width unless exception is justified to the satisfaction of the Commissioner.

Greater Than Minimum Width (Revised June 1993)

If a Municipal State Aid Street is constructed to a width wider than required, resurfacing needs will be allowed on the constructed width.

Miscellaneous Limitations - Oct. 1961

That miscellaneous items such as fence removal, bituminous surface removal, manhole adjustment, and relocation of street lights are not permitted in the Municipal State Aid Street Needs Study. The item of retaining walls, however, shall be included in the Needs Study.

MILEAGE

Feb. 1959 (Revised Oct. 1993)

The maximum mileage for Municipal State Aid Street designation shall be 20 percent of the municipality's basic mileage - which is comprised of the total improved streets less Trunk Highway, County State Aid Highways, and Trunk Highway Turnbacks.

Nov. 1965 (Revised 1972, Oct. 1993)

The maximum mileage for Municipal State Aid Street designation shall be based on the Annual Certification of Mileage current as of December 31st of the preceding year. Submittal of a supplementary certification during the year shall not be permitted. Frontage roads which are not designated trunk highway, trunk highway turnback or County State Aid Highway system shall be considered in the computation of the basic street mileage. The total mileage of county roads and local streets on corporate limits shall be included in the municipality's basic street mileage. Mileage which is on the boundary of two adjoining urban municipalities shall be considered as one-half mileage.

However, the maximum mileage for State Aid designation may be exceeded to designate trunk highway turnbacks after July 1, 1965 subject to State Aid Operations Rules.

Oct. 1961 (Revised May 1980, Oct. 1982, Oct. 1983, and June 1993)

All requests for additional mileage or revisions to the Municipal State Aid System must be received by the District State Aid Engineer by March first and a City Council resolution of approved mileage and the Needs Study reporting data must be received by May first, to be included in the current year's Needs Study. Any requests for additional mileage or revisions to the Municipal State Aid Systems received by the District State Aid Engineer after March first will be included in the following year's Needs Study.

One Way Street Mileage - June 1983 (Revised Oct. 1984, Oct. 1993)

That any one-way streets added to the Municipal State Aid Street system must be reviewed by the Needs Study Sub-Committee, and approved by the Screening Board before any one-way street can be treated as one-half mileage in the Needs Study.

Treat all one-way streets between 26 feet and 49 feet wide as one-half of the mileage as outlined in Rule 8820.0600 and allow full needs, except that no more than one parking lane will be eligible to accrue needs.

St. Paul

MSA ROUTE <u>NO.</u>	<u>TERMINI</u>	APPROVAL <u>DATE</u>	<u>MILEAGE</u>	<u>NEEDS WIDTH</u>
134 EB Fifth St.	- Fort Rd. (W. 7th St.) to Broadway St.	6/89	0.85 Miles	28' & 36'
198 WB Sixth St.			0.86 Miles	36'
235 NB Wabasha St.	- Kellogg Blvd. to Twelfth St.	6/89	0.61 Miles	36'
236 SB St. Peter St.			0.62 Miles	36'
165 NB Minnesota St.	- Kellogg Blvd. to Tenth St.	6/89	0.47 Miles	36'
117 SB Cedar St.			0.46 Miles	36'
196 NB Sibley St. SB Jackson St.	- Shepard Road to Seventh St.	6/89	0.34 Miles	36'
			<u>CSAH</u> 4.21 Miles	

Red Wing

104 West Ave.	- Main to Third	6/93	.08 miles	28'
105 East Ave.			.07 miles	28'
105 East Ave.	- Third to 7th St.	6/93	.29 miles	28'
106 West Ave.			.29 miles	28'

COST

Construction Item Unit Prices - (Revised Annually)

Right of Way (Needs only) \$ 60,000.00 Acre

Grading (Excavation) \$ 3.00 Cu. Yd.

Base:

Class 4	Spec. #2211	\$ 4.50 Ton
Class 5	Spec. #2211	6.00 Ton
Bituminous	Spec. #2331	22.00 Ton

Surface:

Bituminous	Spec. #2331	\$ 22.00 Ton
Bituminous	Spec. #2341	24.50 Ton
Bituminous	Spec. #2361	32.00 Ton

Shoulders:

Gravel	Spec. #2221	\$ 7.00 Ton
--------	-------------	-------------

Miscellaneous:

Storm Sewer Construction	\$206,000.00 Mile
Storm Sewer Adjustment	64,000.00 Mile
Special Drainage-Rural	25,000.00 Mile
Traffic Signals	20,000 to 80,000.00 Mile

Signal Needs Based On Projected Traffic

Projected Traffic	Percentage	X	Unit Price =	Needs Per Mile
0 - 4,999	.25		\$80,000 =	\$ 20,000.00 Mile
5,000 - 9,999	.50		\$80,000 =	40,000.00 Mile
10,000 & Over	1.00		\$80,000 =	80,000.00 Mile

Street Lighting	20,000.00 Mile
Curb & Gutter	5.50 Lin. Ft.
Sidewalk	15.00 Sq. Yd.
Engineering	18%

Removal Items:

Curb & Gutter	\$ 1.60 Lin. Ft.
Sidewalk	4.50 Sq. Yd.
Concrete Pavement	4.00 Sq. Yd.
Tree Removal	175.00 Unit

STRUCTURES

Bridge Costs - Oct. 1961 (Revised Annually)

That for the study of needs on the Municipal State Aid Street System, bridge costs shall be computed as follows:

Bridges 0 to 149 Ft.	\$ 55.00 Sq. Ft.
Bridges 150 to 499 Ft.	55.00 Sq. Ft.
Bridges 500 & Over	55.00 Sq. Ft.

"The money needs for all "non-existing" bridges and grade separations be removed from the Needs Study until such time that a construction project is awarded. At that time a money needs adjustment shall be made by annually adding the total amount of the structure cost that is eligible for State Aid reimbursement for a 15-year period." This directive to exclude all Federal or State grants.

Bridge Width & Costs - (Revised Annually)

That after conferring with the Bridge Section of Mn/DOT and using the criteria as set forth by this Department as to the standard design for railroad structures, that the following costs based on number of tracks be used for the Needs Study:

Railroad Over Highway

Number of Tracks - 1	\$5,000 Lin. Ft.
Each Additional Track	\$4,000 Lin. Ft.

RAILROAD CROSSINGS

Railroad Crossing Costs - (Revised Annually)

That for the study of needs on the Municipal State Aid Street System, the following costs shall be used in computing the needs of the proposed Railroad Protection Devices:

Railroad Grade Crossings

Signals - (Single track - low speed)	\$ 80,000 Unit
Signals and Gates(Multiple Track - high	\$110,000 Unit
Signs Only & (low speed)	\$ 600 Unit
Rubberized Railroad Crossings (Per Track)	\$ 900 Lin. Ft.
Pavement Marking	\$ 750 Unit

Maintenance Needs Costs - June 1992 (Revised 1993)

That for the study of needs on the Municipal State Aid Street System, the following costs shall be used in determining the maintenance apportionment needs cost for existing facilities only.

	Cost For Under 1000 Vehicles Per Day -----	Cost For Over 1000 Vehicles Per Day -----
Traffic Lanes:	\$1,320	\$2,200
Segment length times number of	(Per Mile)	(Per Mile)

traffic lanes times cost per mile.

Parking Lanes:	\$1,320	\$1,320
Segment length times number of parking lanes times cost per mile.	(Per Mile)	(Per Mile)

Median Strip:	\$ 440	\$ 880
Segment length times cost per mile.	(Per Mile)	(Per Mile)

Storm Sewer:	\$ 440	\$ 440
Segment length times cost per mile.	(Per Mile)	(Per Mile)

Traffic Signals:	\$ 440	\$ 440
Number of traffic signals times cost for each signal.	(Per Each)	(Per Each)

Unlimited Segments: Normal M.S.A.S. Streets.

Minimum allowance for mile is determined by segment length times cost per mile.	\$4,400	\$4,400
	(Per Mile)	(Per Mile)

Limited Segments: Combination Routes.

Minimum allowance for mile is determined by segment length times cost per mile.	\$2,200	\$2,200
	(Per Mile)	(Per Mile)

NEEDS ADJUSTMENTS

Bond Adjustment - Oct. 1961 (Revised 1976, 1979)

That a separate annual adjustment shall be made in total money Needs of a municipality that has sold and issued bonds pursuant to Minnesota Statutes, Section 162.18, for use on State Aid projects.

That this adjustment, which covers the amortization period, and which annually reflects the net unamortized bonded debt shall be accomplished by adding said net unamortized amount to the computed money needs of the municipality.

For the purpose of this adjustment, the net unamortized bonded debt shall be the total unamortized bonded indebtedness less the unexpended bond amount as of December 31st of the preceding year.

That for the purpose of this separate annual adjustment, the unamortized balance of the St. Paul Bond Account, as authorized in 1953, 2nd United Improvement Program, and as authorized in 1946, Capital Approach Improvement Bonds, shall be considered in the same manner as those bonds sold and issued pursuant to Minnesota Statutes, Section 162.18.

"Bond account money spent off State Aid System would not be eligible for Bond Account Adjustment. This action would not be retroactive, but would be in effect for the remaining term of the Bond issue."

Unencumbered Construction Fund Balance Adjustment - Oct. 1961 (Revised October 1991)

That for the determination of Apportionment Needs, the amount of the unencumbered construction fund balance as of September 1st of the current year shall be deducted from the 25-year total Needs of each individual municipality.

Projects that have been received before September 1st by the District State Aid Engineer for payment shall be considered as being encumbered and the construction balances shall be so adjusted.

Right of Way - Oct. 1965 (Revised June 1986)

The Right of Way needs shall be included in the apportionment needs based on the unit price per mile, until such time that the right of way is acquired and the actual cost established. At that time a money needs adjustment shall be made by annually adding the local cost (which is the total cost less county or trunk highway participation) for a 15-year period. Only right of way acquisition costs that are eligible for State-Aid reimbursement shall be included in the right-of-way money needs adjustment. This Directive to exclude all Federal or State grants. Right-of-way projects that are funded with State Aid Funds will be compiled by the State Aid Office. When "After the Fact" needs are requested for right-of-way projects that have been funded with local funds, but qualify for State Aid reimbursement, documentation (copies of warrants and description of acquisition) must be submitted to the State Aid Office.

Trunk Highway Turnback - Oct. 1967 (Revised June 1989)

That any trunk highway turnback which reverts directly to the municipality and becomes part of the State Aid Street system shall not have its construction needs considered in the money needs apportionment determination as long as the former trunk highway is fully eligible for 100 percent construction payment from the Municipal Turnback Account. During this time of eligibility, financial aid for the additional maintenance obligation, of the municipality imposed by the turnback shall be computed on the basis of the current year's apportionment data and shall be accomplished in the following manner.

Initial Turnback Maintenance Adjustment - Fractional Year Reimbursement:

The initial turnback adjustment when for less than 12 full months shall provide partial maintenance cost reimbursement by adding said initial adjustment to the money needs which will produce approximately 1/12 of \$7,200 per mile in apportionment funds for each month or part of a month that the municipality had maintenance responsibility during the initial year.

To provide an advance payment for the coming year's additional maintenance obligation, a needs adjustment per mile shall be added to the annual money needs. This needs adjustment

per mile shall produce sufficient apportionment funds so that at least \$7,200 in apportionment shall be earned for each mile of trunk highway turnback on Municipal State Aid Street System.

Turnback adjustments shall terminate at the end of the calendar year during which a construction contract has been awarded that fulfills the Municipal Turnback Account Payment provisions; and the resurfacing needs for the awarded project shall be included in the Needs Study for the next apportionment.

TRAFFIC - June 1971

Traffic Limitation on Non-Existing Streets - Oct. 1965

That non-existing street shall not have their needs computed on a traffic count of more than 4,999 vehicles per day unless justified to the satisfaction of the Commissioner.

Traffic Manual - Oct. 1962

That for the 1965 and all future Municipal State Aid Street Needs Studies, the Needs Study procedure shall utilize traffic data developed according to the Traffic Estimating Manual - M.S.A.S. #5-892.700. This manual shall be prepared and kept current under the direction of the Screening Board regarding methods of counting traffic and computing average daily traffic. The manner and scope of reporting is detailed in the above mentioned manual.

Traffic Counting - Sept. 1973 (Revised June 1987)

That future traffic data for State Aid Needs Studies be developed as follows:

1. The municipalities in the metropolitan area cooperate with the State by agreeing to participate in counting traffic every two years.
2. The cities in the outstate area may have their traffic counted for a nominal fee and maps prepared by State forces every four years, or may elect to continue the present procedure of taking their own counts and preparing their own traffic maps at four year intervals.
3. Some deviations from the present four-year counting cycle shall be permitted during the interim period of conversion to counting by State forces in the outstate area.