

# 1988 Municipal Screening Board Data



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June 1988

# 1988 MUNICIPAL SCREENING BOARD DATA

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# 1988 MUNICIPAL SCREENING BOARD

## OFFICERS

Chairman	Fred Moore	Plymouth	(612) 559-2800
Vice Chairman	Ronald Rudrud	Bloomington	(612) 881-5811
Secretary	Bruce Bullert	Northfield	(507) 645-8832

## MEMBERS

District	Served	Representative		
----------	--------	----------------	--	--

1	3	Clyde Busby	Hibbing	(218) 262-3486
2	1	James Walker	Thief River Falls	(218) 751-3004
3	1	Terry Maurer	Elk River	(612) 774-6021
4	3	Dan Edwards	Fergus Falls	(218) 739-2251
5	2	William Ottensmann	Coon Rapids	(612) 755-2880
6	3	Richard Murphy	Austin	(507) 437-7671
7	2	Dwayne Haffield	Worthington	(507) 376-3161
8	1	Joseph Bettendorf	Litchfield	(612) 252-4740
9	2	Charles Siggerud	Burnsville	(612) 890-4100
(Three Cities		John Carlson	Duluth	(218) 723-3278
of the		Marvin Hoshaw	Minneapolis	(612) 348-2456
First Class)		Thomas Kuhfeld	St. Paul	(612) 298-5070

## District

## Alternates

1	Norman Schmidt	Hermantown	(218) 729-6331
2	David Kildahl	Crookston	(218) 281-6522
3	Roger Larson	Sauk Rapids	(612) 253-1000
4	Alvin Moen	Alexandria	(612) 762-8149
5	Michael Eastling	Richfield	(612) 869-7521
6	Robert Bollant	Winona	(507) 452-8550
7	Brian Bachmeier	Fairmont	(507) 238-9461
8	Dale Swanson	Willmar	(612) 235-4202
9	Ken Haider	Maplewood	(612) 770-4552

1988 SUBCOMMITTEES APPOINTED BY THE SCREENING BOARD

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NEEDS STUDY SUBCOMMITTEE

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Chairman - Steve Gatlin  
White Bear Lake  
(612-429-8531)  
Expires in 1988

Gerald Butcher  
Maple Grove  
(612) 420-4000  
Expires in 1989

Ronald Schweninger  
Brainerd  
(218) 828-2309  
Expires in 1990

UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE

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Chairman - H. R. Spurrier  
Brooklyn Center  
(612-561-5440)  
Expires in 1988

Larry Anderson  
Prior Lake  
(612) 447-4230  
Expires in 1989

Kenneth Saffert  
Mankato  
(507) 625-3161  
Expires in 1990



Minnesota Department of Transportation

Transportation Building, St. Paul, MN 55155

Phone 612-296-1662

May 1988

TO : Municipal Engineers

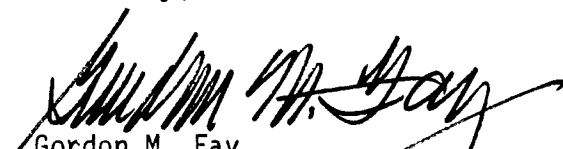
SUBJECT : Municipal State Screening Board Data

Enclosed is a copy of the June 1988 Municipal Screening Board Data.

The data included in this report will be used by the Municipal Screening Board at its June 21 and 22, 1988, meeting near Brainerd to establish unit prices for the 1988 Needs Study and the resulting 1989 apportionment. The Board will also review other activities of the Needs Study Subcommittee condensed in a separate booklet which will be sent before the district meetings.

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.

Sincerely,

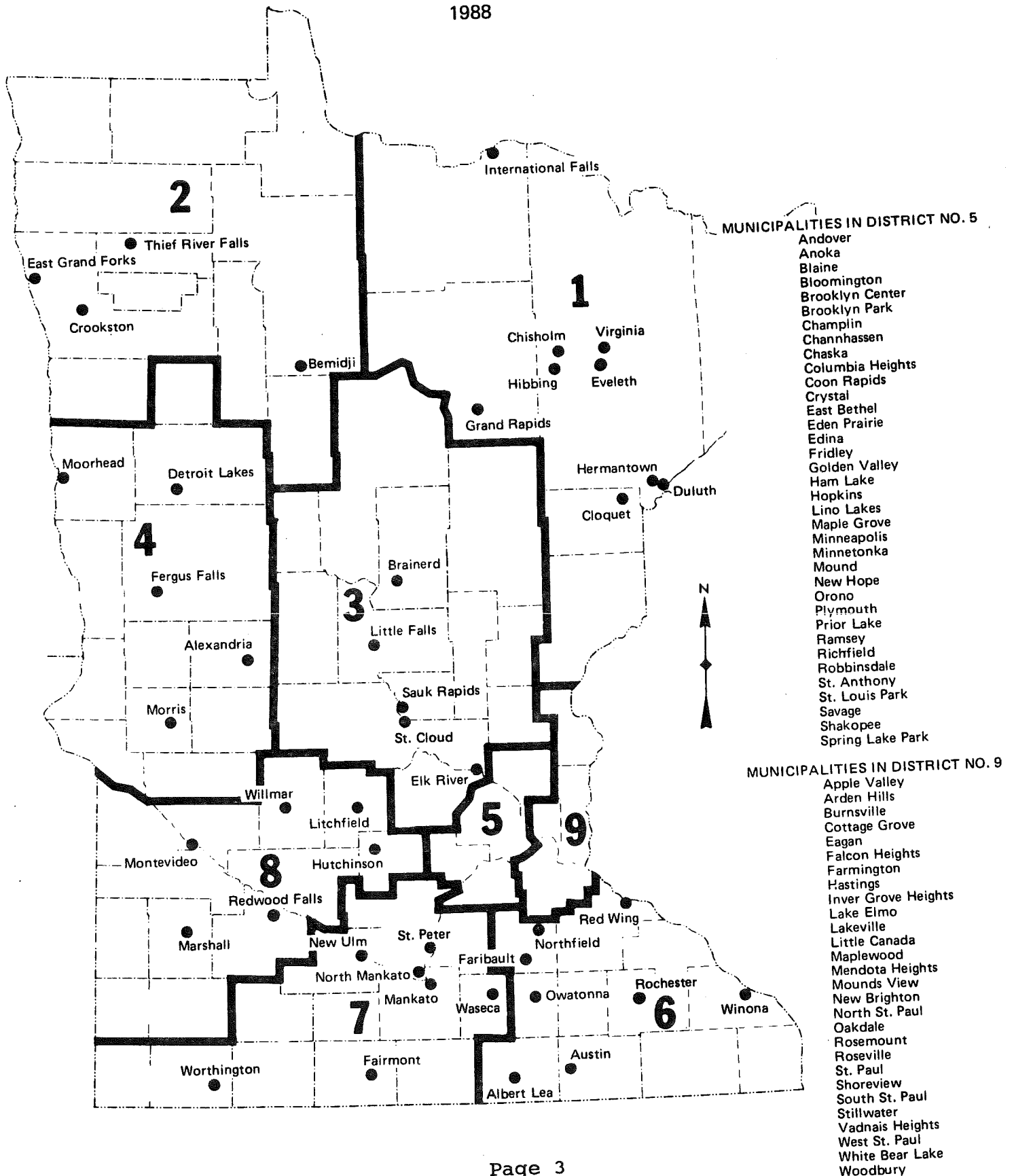


Gordon M. Fay  
Director, Office of State Aid

Enclosures:  
1988 Municipal State Aid Screening Board Data

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

1988



MINUTES  
FALL  
MUNICIPAL SCREENING COMMITTEE  
OCTOBER 27-28, 1987

Revised -12-30-87  
Unapproved

The fall meeting of the Screening Board was called to order by Chairman Saffert at 1:00 p.m. on Tuesday, October 27, 1987. Roll call was taken by the Secretary. Present were:

Officers and Screening Board Members

Chairman Ken Saffert, Mankato  
Vice Chairman Fred Moore, Plymouth  
Secretary Ron Rudrud, Bloomington

District 1 - Clyde Busby	Hibbing
District 2 - Gary Sanders	East Grand Forks
District 3 - Ronald Schweninger	Brainerd
District 4 - Dan Edwards	Fergus Falls
District 5 - Wm. Ottensmann	Coon Rapids
District 6 - Richard Murphy	Austin
District 7 - Brian Bachmeier(Alt.)	Fairmont
District 8 - Thomas Rodeberg	Montevideo
District 9 - Charles Siggerud	Burnsville
First Class City - Ed Leone (Alt.)	Duluth
First Class City - Marvin Hoshaw	Minneapolis
First Class City - Tom Kuhfeld	St. Paul
Chairman Needs Study	
Subcommittee - Roger Plumb	Rochester
Chairman Unencumbered Construction	
Funds Subcommittee	
- Herbert Reimer	Moorhead

Others:

Don Asmus	Minnetonka
Lowell Odland	Golden Valley
John Ketokoski	Minneapolis
James Walker -Dist. 2 Alt.	Thief River Falls
James Bettendorf-Dist. 8 Alt.	Litchfield
Ken Straus	Mn/DOT Municipal State Aid Needs Unit
Jack Isaacson	Mn/DOT District 2, State Aid
Dave Reed	Mn/DOT District 3, State Aid
Vern Korzendorfer	Mn/DOT District 4, State Aid
Chuck Weichselbaum	Mn/DOT District 5, State Aid
Earl Welshons	Mn/DOT District 6, State Aid
Larry Hoben	Mn/DOT District 7, State Aid
John Hoeke	Mn/DOT District 8, State Aid
Elmer Morris	Mn/DOT District 9, State Aid
Ken Hoeschen	Mn/DOT County State Aid Needs Unit

## I. MINUTES CONSIDERATION:

Chairman Saffert called for consideration of approval of the June 16-17, 1987, Screening Board meeting. They are printed on pages 6 through 17 of the 1987 Municipal State Aid Needs Report dated October 1987. Charles Siggerud moved, seconded by Ottensmann, to approve the minutes. Motion carried.

## II. MEETING PROCEDURE

Chairman Saffert mentioned that all agenda items regarding the needs apportionment, adjustments, and other business matters would be discussed today. Additional informal discussions will occur this evening beginning at 8:00 p.m. Action on all items will occur at tomorrow's meeting which will be in this room at 9:00 a.m.

## III. CITY OF DULUTH ALTERNATE REPRESENTATIVE (Reference XVII)

Chairman Saffert stated Duluth's representative, John Carlson, has sent a letter requesting that Ed Leone be approved as the Duluth representative for this meeting. Saffert read three portions of the letter. Mr. Carlson mentioned that he did not find anything that prevented Mr. Leone from serving as the representative in Mr. Carlson's absence. In the event that Mr. Leone is not approved as a voting representative, Mr. Carlson requested that he be allowed to take part in discussions. The Chairman requested comments and questions concerning this request.

It was suggested that the first class cities should have alternates appointed in the same manner that the districts do.

Mr. Schweninger asked if there was anything that required a representative to be a registered professional engineer. It was stated that there were several places that wording inferred that they would be registered engineers, but there was nothing that specifically required it. Siggerud asked how Hoshaw and Kuhfeld were appointed. Hoshaw stated, "A letter is sent in annually to the State Aid office by Perry Smith, City Engineer of Minneapolis, asking that I be appointed." Kuhfeld said, "Don Nygaard, Director of Public Works and City Engineer for St. Paul, wrote a letter to the State Aid Office requesting that he be appointed as the St. Paul representative."

Rudrud asked if the chairman and the committee had the right to appoint someone to serve on the committee. "I believe that the normal procedure is that the recommendations come from the chairman of the Screening Committee. Those recommendations are approved by the Commissioner of the Department of Transportation and a letter is sent by the Commissioner to the individual informing him that he has been appointed."

This was verified by Straus.

A motion to table this matter until tomorrow's meeting was made by Kuhfeld, seconded by Siggerud. Motion carried.



#### IV. NEEDS REPORT (Reference XVIII)

Ken Straus referred to the 1987 Municipal State Aid Needs Report dated October 1987.

Mr. Straus referred to pages 18 and 19. He pointed out that Farmington had a special census. As a result of that census, they have been added to the list of municipalities receiving apportionment from State Aid funds.

He reviewed pages 20-25, the mileage records. Pages 26 and 27 gives the Needs for all of the communities. Mr. Straus mentioned there are some errors on page 26. Northfield is erroneously listed twice, and the city of St. Paul should not be on this list. The highest average cost is now in Maplewood at \$420,139 per mile. Mr. Straus pointed out that the tabulation on pages 42 and 43, shows the total after-the-fact needs for storm sewer is now \$15,890,054. Siggerud asked when you have to get your mileage information in to be on the list. Mr. Straus mentioned that they like to have it by January 15. "You will be getting a notice next month."

During this discussion it was pointed out that the interest on bonds is not paid automatically. A request must be submitted by December 15 to receive more than the minimum maintenance allocation.

On pages 53-55 there are lists of right-of-way needs. They are added on for 15 years. It is for the cost of right-of-way on municipal state aid streets. It can include local funds which are expended for this purpose.

Straus mentioned that needs adjustment for reconstruction projects are found on page 56. He said that there is an error in the Duluth column under date of construction. The first one should read 1930; all of the rest of the dates of construction should be 1975 $\pm$ .

Mr. Straus mentioned that the money needs are shown on page 57 through 59. Each \$1000 in adjusted money needs earns approximately \$51.63 in money needs apportionment. Pages 62-64 give the population apportionment. The population apportionment is approximately \$11.27 per person. The amount of, and percentage of, increase or decrease of the total allotment is shown on pages 69 through 71. Ninety-nine communities increased their allotment and eight had decreases. Population determines 50% of the total apportionment.

Mr. Straus mentioned the bond account adjustments listed on pages 50-51.

#### V. CONSTRUCTION WITHOUT USE OF STATE AID FUNDS/BOND ACCOUNTS (Reference XIX)

Siggerud expressed a concern, as follows: "If you sell bonds you can add those dollars to your needs. Why then can't you claim other outside money, that is used to construct the improvement, to your needs? If we improve a street with 'our own' non-State Aid funds, we lose the needs."

Siggerud said he had received a letter from Eagan Public Works Director Tom Colbert expressing a concern. Mr. Siggerud read a portion of that letter as follows:

*"This concern pertains to the situation where a community sells municipal state aid bonds to finance major improvements on its state aid*

*system, but those improvements are not initiated or completed within one - two years. If MSAS bonds are sold to finance a proposed five-year CIP program, it is possible that a City may encounter an unencumbered construction fund balance exceeding their particular years expenditures based on this preconstruction bond financing. While we have not been impacted by such a scenario, I would appreciate your inquiry to ensure that a community is not penalized for having unencumbered construction funds at the end of any given year due to a significant bond issue previously being processed."*

It was stated by Marv Hoshaw that it was highly unlikely that this would happen. Mr. Hoshaw also mentioned that it was somewhat questionable whether it was advantageous to sell bonds versus taking a penalty because of the cost of interest on the bonds. If there was an overage in the unencumbered balance, the Unencumbered Construction Fund Subcommittee would need to review it.

A concern was expressed that many have proceeded using their own funds and were not reimbursed. If the policy were changed to allow other funds to be added in as needs, it should be retroactive. This might be difficult to administer. An example of a community that would be treated unfairly is the City of Richfield. They have almost completed their system and have used other funds for much of their construction. By being progressive and completing their system, they are losing needs. If other people are now allowed to claim this use of other funds on future projects, there is some question of the equitability for Richfield and others that have completed their system, or done work in the past, using their own funds.

It was mentioned that if outside funds are not allowed, then possibly the bonding provision should be removed from the needs.

Hoshaw expressed concern about removing anything from the Needs. He indicated, "There have been many things, such as the storm sewer, removed previously, which give us a falsely low overall needs figure for municipalities."

A concern was expressed that rapidly developing communities would add a great deal to their Needs which would take away Needs and available money from the other communities that are not making improvements as quickly. It was felt that the intent of the bonding provision was to allow, on a one-time basis, a project to be completed that could not be done using the year by year allotments. It was determined that this should be discussed this evening. It may be something that we want to refer to a committee for further study.

## VI. UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE & CRITERIA (Reference XX)

Minutes of the Subcommittee are printed on pages 72-77 of the report. The committee reviewed 15 communities. It is only recommended that adjustment be made for West St. Paul.

Herb Reimer discussed recommended changes to the criteria used by the Unencumbered Construction Funds Subcommittee. He felt it was necessary to make changes to make decisions easier and more consistent. Mr. Reimer mentioned that, based on his two years' experience, the results from the

five criteria that are used have indicated that system has worked well, but there is a concern that all communities be treated alike. One of those concerns is regarding the possibility of attorneys taking some kind of action because of a lack of consistency. The five criteria that have been used by the Unencumbered Construction Fund Subcommittee are:

1. Has a 429 feasibility hearing been held by the City Council and the project ordered in?
2. Project submitted to the District State Aid Engineer?
3. Plan approval by City Council and the District State Aid Engineer?
4. Does project have a letting date or been let?
5. State Aid Construction funds requested?

The Subcommittee reviewed processing requirements for the encumbrance related data in order to recommend realistic cut off dates in its recommendations. The Subcommittee found that a cut off date of December 31, resulted in unnecessary revisions, duplication of work and late distribution of the apportionment data. The Subcommittee concluded that most of the problems would be eliminated with recommended revisions.

Mr. Reimer stated that:

The Subcommittee recommended that the Screening Committee consider the following recommendations.

1. *Establish a committee or direct the Unencumbered Construction Fund Subcommittee to review the equity of the evaluation criteria.*
2. *All adjustments to a City's 25-year Construction Needs or any progress considered by the Unencumbered Construction Fund Subcommittee must be made by September 1, of the current year so that a timely adjustment of the 25 year Needs can be made by State Aid Staff.*

*Recommended guidelines to be used:*

*Minimum of one criteria must be met followed the next year by the next construction process.*

1. *Has a 429 feasibility hearing been held by the City Council and the project ordered in?*
2. *Plan approval by the City Council and the District State Aid Engineer?*
3. *A report of State Aid Contract submitted to the State Aid Engineer by September 1, which would reduce Unencumbered balance permitted by the resolution of the Screening Committee.*

The Subcommittee also proposed a possible alternate. That alternate is as follows:

The Subcommittee felt that the guidelines were too inconsistent and many communities waited too long to either begin a project, or projects have been under construction for lengthy periods of time, two years, prior to filing a report of State Aid Contract.

**Recommendation:**

The Subcommittee recommends that the Screening Committee consider new guidelines for determining the time frame for consideration of an adjustment of needs for those communities exceeding the guidelines for fund balance. The communities are notified that are exceeding the balance as of June 30, and requested to provide a status report of their projects. The following year an adjustment would be made if the following two items are not met.

1. The project should be submitted to the District State Aid Engineer by June 1, to allow adequate time for the process. If a community chooses to submit at a later date, they do so at their own risk.
2. If the Report of State Aid Contract is not filed with the District State Aid Engineer by September 1, which would reduce the fund balance to comply with the Screening Committee resolution, a needs adjustment would be made.

Mr. Reimer mentioned that he thought this alternate is expected to be best. Mr. Straus mentioned, "We discussed sending a letter February 15 letting the communities know."

In response to a question, Mr. Reimer responded, "If the alternate recommendation would have been in effect, more than just West St. Paul would have had Needs adjustments made. There would probably have been several. In the past we've had several indicate they were proceeding based on the five criteria, but they did nothing."

Richard Murphy stated that District 6 felt that the alternate recommendation would be even further simplified by removing #1 from the recommendation.

In response to a question, Straus said, "It would be a year and a half before anything would happen." He also stated that he felt that wording should be placed into the recommendation that would allow the community to appear in front of the Unencumbered Construction Fund Subcommittee.

Ken Straus handed out recommendations for Needs adjustments for errors, incorrect information, and/or bridge removals, as follows:

Hibbing Needs adjustment	(-)\$2,454,300
Shakopee Needs adjustment	(-)\$1,899,013
Minneapolis Needs adjustment	(-)\$1,606,000
Elk River Needs adjustment	(-) \$640,090

Ken Straus passed out a corrected copy of the 1987 Municipal State Aid Apportionment Data Determination of the 1987 Construction Needs to replace those found on pages 36-38 in the book.

Straus passed out a proposed 'Municipal State Aid Needs Urban State Aid Streets 30-mile per Hour Design Speed Suggested Table' to be used in determining the Needs. He asked for input from the Board on the possibility of using this chart. He said there is a great variance in widths of streets being used for determining Needs for the same traffic volume streets.

He was asked what the intent of the statement in the middle of the page 'Divided roadway must have 8000 projected traffic' was. It seemed like it might be interpreted by someone as saying that you cannot get Needs on a divided roadway. Mr. Straus answered that he felt that that statement should be removed from the chart.

It was mentioned that there is difficulty with alternate side parking and its need for greater width. This was discussed. Plumb mentioned that it is a big advantage to be able to clean or plow one side at a time. Larger cities with a lot of rental units need alternate side parking. For low volume streets, with alternate side parking, you would need a 38' wide street. Busby said, "Although I don't like the requirement for striping, it is a city determination to allow alternate side parking." He felt it was a city problem.

Straus mentioned that he had been in New Ulm. He saw that their fairly low-volume streets were quite wide. It was questioned whether they should be allowed to draw needs on wider streets than the chart would indicate.

Saffert asked, "What is the charts 'under 1000' projected traffic volume doing on this chart? How does a street with less than 1000 projected ultimate traffic volume get to be a State Aid street?" Straus responded that in the smaller towns there are a number of State Aid streets with under 1000 projected traffic volume.

Reed mentioned that we are, by this chart, mixing design standards and Needs. He mentioned that St. Cloud has an ordinance that requires a city-wide referendum to change a street from two-lane to four-lane. They have the traffic need for the four-lane street. Hoshaw said that when they go to construct the street they will be penalized. Saffert said that this is an item that should be discussed this evening. It may then be referred to the appropriate committee.

Mr. Straus mentioned there are unencumbered construction fund deductions recommended for Hibbing on page 81 and Andover on page 82.

Both of these adjustments are necessitated by using greater maintenance funds than the standard. The request for these greater maintenance allocations was not known at the time of the original calculations by State Aid. These recommendations are for a deduction of \$83,023 for Hibbing and a deduction of \$40,582 for Andover.

## VII. VARIANCES (Reference XVIII)

Straus stated, "A resolution of the Municipal Screening Board requires a needs adjustment for those cities that receive a variance approval to construct a street to a lesser width that was requested in the Needs Study. In accordance with this resolution, an adjustment will be required for Albert Lea, Eagan, Columbia Heights, Duluth, Hopkins, Minneapolis,

Rochester, St. Anthony, St. Paul (2), Shakopee, South St. Paul, and Winona (2). The description for these proposed adjustments are found on page 84-88."

The resolution concerning variances is found on page 101. The recommendations concerning the variances are found on page 89.

Straus mentioned that the Needs Subcommittee had recommended at their October 6, 1987, meeting that the MSA adjustment requirement be changed to allow a reduced Needs adjustment when a community can justify the reduction.

Mr. Straus also mentioned that the Winona adjustment found on page 88 was an error. The amount should be (-)\$76,752 instead of the (-)\$146,355 printed in the book.

Kuhfeld suggested that we consider the timing of the adjustments. "Should the variance adjustment be made at the time the variance is approved or when the project is constructed?" He felt it would be more appropriate to do it at the time of the construction, since the construction might occur several years later, if at all. It was suggested that the variance should not be applied for until they were ready to go ahead with the project. Kuhfeld stated, "It is necessary to determine whether variances will be granted, before the design work can be completed." Hoshaw stated that the intent was to adjust at the time of the variance, and to adjust for the widths used for needs (not the standard widths) versus the widths constructed.

Straus mentioned the Subcommittee reviewed variances which presently require a Needs adjustment. It appears the present system would require Needs adjustment which in some cases are disproportionate with the MSA funds actually received. The Committee reviewed two examples.

- 1) In Eagan a 44' width was constructed where the requirement was for a 62' street. No needs were drawn because the road had previously been a County-State Aid highway. The adjustment was made for a ratio of 18/62 of the costs x 15.
- 2) Rochester had a 60' width constructed instead of a 62' width. They had previously drawn Needs based on 62' width. The adjustment was calculated at the ratio of 12/72 x 15.

The Subcommittee felt the adjustment should be made on the basis of the 62' width for which Needs were drawn, which would have made the ratio [(62-60) divided by 62] x 15.

Siggerud read from another portion of City of Eagan Director of Public Works Tom Colbert's letter, as follows:

*On Page 84 of the report, because of a Variance approved for the City of Eagan for a width reduction for Nicols Road (MSAS 122), it is proposed that our total 15-year needs be reduced by approximately \$995,000. This is in accordance with a resolution approved in October 1982 and revised in 1984, "Variance granted - reduction of money needs." It seems very inequitable to have our total money needs reduced by approximately*

\$1,000,000 when no needs were ever drawn on this segment of roadway which was placed on our state aid system as a result of a county road turnback process. This road segment went on to the City's state aid system in 1986 with a contract being awarded in early 1987 with construction being completed to the width approved through the Variance.

Therefore, I strongly support the proposed revision to the previous resolution regarding reduction of money needs to incorporate the rationale of "proportional difference" based on previous needs received.

The Needs Subcommittee recommends that the MSA adjustment requirement be changed to allow a reduced Needs adjustment when a community can justify the reduction.

#### VIII. TRAFFIC SIGNAL, RAILROAD CROSSING, AND LIGHTING NEEDS (Ref. XXVII. C. & D.)

Chairman Saffert discussed the October 6, 1987, Municipal State Aid Needs Subcommittee Meeting minutes. He mentioned that at the last meeting of the Screening Committee the Needs Committee was asked to review the traffic signal, railroad crossing, and lighting needs. He discussed the alternates that were discussed for the traffic signal needs. They were as follows:

##### A. Traffic Signals

- 1) Retain the present system using \$12,000 per mile. Population is already a major factor in determining MSA funding and would in general reflect the fact that larger cities have higher traffic signal costs.
- 2) Retain \$12,000 per mile for all cities 40,000 population and under and add \$.15/capita for all persons over 40,000 population. An approximate example of this, for the City of Minneapolis, would be:

$$\begin{array}{rcl} (370,000 - 40,000) \times .15 & = & \$49,500 \\ & & \underline{+12,000} \\ & & \$61,500/\text{mile} \end{array}$$

This alternative would recognize the fact that in general, larger cities have higher traffic signal expenses. This system would keep the calculations simple.

- 3) Retain the \$12,000/mile but allow cities to submit justification for actual traffic signal costs higher than \$12,000/mile. The additional cost over \$12,000 per mile would be reduced 50% for the fact that population is presently in the needs formula, and by 17% to account for other factors such as federal and other funding programs. Under this system, 33% of the net additional cost over \$12,000 per mile would be added to the needs. An example here would be if Minneapolis could document actual cost of \$124,000/mile, then

$$\begin{array}{rcl} (\$124,000 - 12,000) \times .33 & = & \$36,900 \\ & & \underline{+12,000} \\ & & \$48,900/\text{mile} \end{array}$$

The Needs Subcommittee recommends Alternative #2 due to the ease of implementation.

Using alternate #2 \$16,000,000 would be added to the overall Municipal Needs. Only three cities would gain apportionment. They are Minneapolis - \$345,286, St. Paul - \$177,705, and Bloomington \$971. Mr. Straus passed out the tentative 1988 money needs apportionment with the traffic signal alternate (2) included as a comparison to the Needs without signals.

Mr. Hoshaw mentioned that whatever we do, we should not artificially reduce the needs.

Roger Plumb mentioned that the recommendations of the Sub-Committee were prior to getting information. He felt that they would recommend against the signal needs using Alternate 2 because there are only three communities that gain, and all the rest are losers.

#### B. Street Lighting

The street lighting needs consideration are also included in the October 6, 1987, minutes. The Needs Subcommittee recommends that the lighting price remain at \$2,000 per mile. That recommendation was made because the costs vary widely among the various cities, and State Aid only participates in lighting at accident-prone intersections.

#### C. Railroad Crossing

No recommendation was made regarding railroad crossings.

### IX. RESEARCH ACCOUNT (Reference XXII)

Page 90 of the report indicates the history of the research account. In the past a certain amount of money has been set aside for research projects each year. It is recommended that 1/4 of 1 percent be allocated to this account.

### X. ADMINISTRATIVE ACCOUNT (Reference XXIII)

Murphy said that there had been discussion at District 6 about the 1 1/2% total funds being set-aside for the administration of State Aid. They suggested that that 1 1/2% be reduced so that the money would be disbursed to the communities faster. The response was that that is part of the rules, rather than our policy. Therefore it cannot be reduced. The balance is redistributed the next year, however.

### XI. COOPERATIVE AGREEMENTS (Reference XXIV)

Ottensmann mentioned that there is a concern about municipal-state cooperative agreements. They are given last priority. Sometimes they don't ever seem to come to the top since all of the State and Federal type agreements have to be completed first. It was suggested that a fund be used to hire someone to work with Mn/DOT on those agreements.

It was proposed that personnel be added from funds from the Research or the Administration Account.



XII. STATE AID STANDARDS (Reference XXV)

It was suggested that the State Aid office create and maintain a file on standards that should be considered for change/and or allowance for alternates. This would allow better preparation and readiness in the event the standards are opened for discussion and change in the future.

XIII. OLD BUSINESS

None

XIV. NEW BUSINESS (Reference XXVII & XXI)

- A. Chairman Saffert mentioned that Bill Ottensmann had brought up a subject earlier in the meeting. Chuck Weichselbaum mentioned that that concern was with the standards being required to be met completely and exactly. The intent of the standards originally was to have them used in conjunction with other determinants. Lowell Odland mentioned that he was on a committee that hired Jack Leach to study the standards. It took two years to come up with the "standards." The "standards" were intended to be used along with other criteria to determine the widths. The interpretation at the central office at present, is that the only factor used for determining widths is traffic.
- B. Bill Ottensmann indicated that a problem had been brought up at the District 5 meeting. Fred Salisbury of Columbia Heights mentioned that they had a project that they were proceeding on for construction this year. The project involved an existing street which has Minneapolis on one side and Columbia Heights on the other. The project was to involve the replacement of a few panels of concrete paving, and overlaying the street. When the plans were reviewed by the State Aid office, they were not approved. The vertical curves did not meet the site distance requirements. The discrepancies amounted to about 1/10 of a foot. Mr. Salisbury felt that there should have been some way for minor variances on these types of projects to be allowed; since the street had been in place for 20 years, and the discrepancies were minor. He felt that the plans should have been approved despite the site distance problem based on meeting some conditions, such as adding adequate lighting. There is a concern about the standards being enforced too rigidly.

It was pointed out that the variance route was available. Columbia Heights probably will need to pass a City Council Resolution holding Mn/DOT harmless from any liabilities that might occur due to the waiver of these standards.

One of the complications was the variance process will not allow the project to be done this fall as had been planned. A question came up regarding the time required to receive a variance. There were indications that it varies considerably. It can take several months. If you happen to get your application in just in time for notices to be sent out for a meeting, it can go quite rapidly. However, the central office holds the variances until they receive six or eight variances, so that they can make up a full one-day agenda for a variance committee to meet.

A suggestion was made that the State Aid office should be given the ability to grant some minor variances. They could administratively require, and receive, the resolutions from the City Councils holding Mn/DOT harmless and insure other such standard requirements are fulfilled.

#### XV. OTHER BUSINESS

None

#### XVI. ADJOURNMENT

There being no further business, Chairman Saffert adjourned the meeting at 3:45 p.m. Mr. Saffert mentioned that there will be informal discussion of these items at 8:00 p.m. tonight, and tomorrow's session will begin at 9:00 a.m. in this room.

## SECOND SESSION

Chairman Saffert called the Municipal Screening Committee Board back into session at 9:00 a.m. on October 28, 1987. Roll call was taken and the list of attendees was the same as yesterday's meeting.

### XVII. CITY OF DULUTH ALTERNATIVE REPRESENTATIVE (Reference III.)

A motion was made by Rodeberg, seconded by Murphy to accept the requests of Duluth City Engineer John Carlson to allow Ed Leone to be the representative for Duluth for this meeting. Busby stated, "My only concern is this could establish a precedent." Motion carried.

### XVIII. NEEDS ADJUSTMENTS (Reference IV & VII)

A motion was made by Schweninger, seconded by Ottensmann, to make needs adjustments for errors, incorrect information, and/or bridge removals as follows:

Hibbing	(-) \$2,454,300
Shakopee	(-) 1,899,013
Minneapolis	(-) 1,606,000
Elk River	(-) 640,090

Kuhfeld asked why the State Aid office didn't just go ahead and make these corrections. Straus mentioned that they were for corrections for previous years. Also the dollars involved were large and he felt action should be taken by the Screening Committee. Motion passed.

It was moved by Siggerud, seconded by Murphy, that the needs adjustments recommendations on pages 81 and 82 be made, as follows:

Hibbing	(-) \$83,023
Andover	(-) \$40,582

Motion carried.

A motion was made by Schweninger, seconded by Siggerud, to make the needs adjustments for the variances as shown on pages 84 through 88, as follows:

Albert Lea	(-) \$ 33,865	
Eagan	(-) \$994,607	See below
Columbia Heights	(-) \$ 50,692	
Duluth	(-) \$199,038	
Hopkins	(-) \$ 9,634	
Minneapolis	(-) \$ 50,692	
Rochester	(-) \$1,578,272	See below
St. Anthony	(-) \$236,567	
St. Paul	(-) \$460,338	
St. Paul	(-) \$154,100	
Shakopee	(-) \$ 52,131	

So. St. Paul	(-) \$ 58,045
Winona	(-) \$174,355
Winona	(-) \$ 76,752

Mr. Straus mentioned that the Winona adjustment recommended was in the book at \$146,355. That was an error. \$76,752 is the correct figure. The State Aid office will review files to insure that the communities have met the full requirements of the variance approvals prior to State Aid plan approval.

Motion carried.

The Needs Study Sub-Committee recommended that the MSA adjustment requirement be changed to allow a reduced needs adjustment when the community can justify the reduction. Hoshaw said, "It was my understanding that the adjustment would be from the width used for needs."

Hoshaw moved, seconded by Siggerud, that the resolution on "Variance Granted" as printed on page 101 of the October 1987 Needs Report, be hereby changed to read as follows:

*That the State Aid Office give future money needs based on the date of variance approval.*

*The adjustment for width variances will be based on the needs cost of the base and surface, times the proportional difference between the minimum standards and the granted variance, times fifteen or the proportional difference between the average past 15 years of base and surface needs received and the granted variance times fifteen (Documentation furnished by the city). This would be a one-year adjustment to the 25-year needs.*

Hoshaw moved, seconded by Siggerud, that the adjustments listed above for Eagan and Rochester be tabled until the next Screening Committee Meeting because of this new change. Motion carried.

A motion was made by Hoshaw, seconded by Bachmier, for the chairman to appoint a committee to review the fund balance, and recommend ways to reduce the overall fund balance. The committee will report back for spring meeting. Motion carried.

Motion made by Ottensmann, seconded by Edwards, to approve the needs and the letter found on page 28. Motion carried.

#### XIX. CONSTRUCTION WITHOUT USE OF STATE AID FUNDS/BOND ACCOUNTS (Reference V.)

A motion was made by Ottensmann, seconded by Siggerud, to refer this matter to the Executive Committee for action. It was mentioned that Siggerud and others might take part in this action.

Hoshaw moved that the previous bond resolution be rescinded. This motion died for lack of a second. The original motion was amended to state that consideration be given to rescinding the bonding resolution.

The amended motion carried.

XX. UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE & CRITERIA (Reference VI)

Hoshaw made a motion, seconded by Sanders, to accept the recommendations on pages 72 to 76 for all 15 communities, whose construction fund balance exceeds the guidelines, as follows:

Chaska	No adjustment
Fridley	No adjustment
Golden Valley	No adjustment
Grand Rapids	No adjustment
Hopkins	No adjustment
International Falls	No adjustment
Lake Elmo	No adjustment
Maplewood	No adjustment
New Brighton	No adjustment
New Hope	No adjustment
New Ulm	No adjustment
Prior Lake	No adjustment
Richfield	No adjustment
Rosemount	No adjustment
West St. Paul	Adjusted by reducing the needs by a factor of 3 x balance in construction fund minus the 1987 construction allotment that existed as of 6-30-87.

Busby asked if we should make this automatic any time the balance gets to a certain ratio. No further action was taken on that suggestion. Siggerud mentioned that West St. Paul would get two adjustments.

Original motion carried.

Straus mentioned that it has been suggested that the alternative on page 80, minus paragraph No. 1 be accepted. It would include letters being sent out by February 15 to communities with large balances. Busby moved, seconded by Murphy, to accept the recommendation as outlined by Mr. Straus.

Siggerud expressed a concern that this would be pretty cut and dried. It doesn't appear to leave any flexibility to allow a municipality to accumulate funds for a large project. Odland stated he would prefer to have an absolute cut-off of September 1. If desired, the factor could be increased from two times to three times. Hoshaw mentioned that the communities must decide whether to take an adjustment versus paying the interest costs for bonding. "It may be financially advantageous to take the adjustment."

Busby moved, seconded by Murphy, to amend the original motion to allow for appeal to the Unencumbered Subcommittee. Rodeberg said, "That opens it up again. We are right back where we started."

Busby said he wants to add the ability for the community to plead their case. Asmus said that he thought that they should be required to give some proof at the Unencumbered Sub-Committee meeting that they had council approval to proceed. That proof might consist of the street being on a 5-year plan or in some other way approved by the council. It was suggested

that the phrase "unless adequate justification is submitted" be added. Odland said that he would rather see it absolute. Sometimes a street is on the 5-year capital improvement program list, but is continuously being moved back and never gets built. Hoshaw said there are two ways that projects can be completed. The community can sell bonds, or they can take the adjustment. It is more economical to take the adjustment. Plumb mentioned that if the deduction was automatic, there would no longer be a need for the subcommittee. Hoshaw stated that he still felt that the committee was needed to review the actions being taken. Saffert mentioned that a good presentation can get a favorable decision. Straus stated, "At our meeting last night, it was recommended that a committee be appointed to look into ways to reduce the balances." It was asked if the absolute cut-off would be fair to small communities, since they wouldn't get to do a large project. Reimer stated, "I would like to tighten up the rule, but allow the committee to review for large projects."

After additional discussion and the addition of friendly amendments, the motion became:

Communities exceeding the guidelines for fund balance will be notified by February 15 that they will be exceeding the balance as of the upcoming June 30, and be requested to provide a status report of their projects. The following year an adjustment would be made if the report of state aid contract, which would reduce the fund balance to comply with the Screening Committee resolution, is not filed with the District State Aid Engineer by September 1.

The community will be given an opportunity to appear before the Unencumbered Subcommittee. The Subcommittee will make recommendations on adjustments to the Screening Committee. The Screening Committee will determine whether to grant an exception to the community.

Motion carried.

#### XXI. VARIANCE COMMITTEE (Reference XIV)

A motion by Edwards, seconded by Murphy, that the Variance Committee's meetings be scheduled at a definite time, every 90 days, and additional meetings be scheduled at peak need times. Information should be distributed to communities giving the dates of the proposed regularly scheduled meetings and the dates that information has to be submitted to allow time for publication. Hoshaw requested that the counties be advised of our action.

The motion and second were withdrawn.

It was requested that the State Aid office report back to the Screening Committee at the spring meeting with schedules of 1988 Variance Committee meetings. Roy Hanson will give input and recommendations at that meeting. The Chairman of the City Engineers Association of Minnesota and the County Chairman are to be involved in discussions of this matter prior to that meeting.

#### XXII. RESEARCH ACCOUNT (Reference IX)

A motion was made by Schweninger, seconded by Sanders, to approve the motion

on page 90, setting aside \$132,754 for the research account. A question was asked, "Why aren't we spending these funds?" Motion carried. The possibility of removing funds from this source for hiring a person to study the overall needs on cooperative agreements, was discussed.

#### XXIII. ADMINISTRATIVE ACCOUNT (Reference X)

There was additional discussion regarding the possibility of using funds from the administrative account for purposes discussed under research account. The fact that \$806,240 is the allotment for the administrative account for 1987 was acknowledged.

#### XXIV. COOPERATIVE AGREEMENTS (Reference XI)

Hoshaw moved that research or administrative funds be used to hire someone for projects that cities have requested that have not been proceeding. This motion was seconded by Busby. The motion was defeated. We may want to reconsider this after additional information is submitted regarding what projects are being delayed, how long they have been delayed, and other additional information to determine the extent of the problem.

Motion was made by Siggerud, seconded by Bachmier, to request the counties to consider this same resolution..

It was mentioned that the County Screening Committee and Executive Board are completely separate.

#### XXV. STATE AID STANDARDS (Reference XII)

It was suggested that the State Aid office create and maintain a file on standards that should be considered for change/and or allowance for alternates. This would allow better preparation and readiness in the event the standards are opened for discussion and change in the future.

#### XXVI. OLD BUSINESS

None

#### XXVII. NEW BUSINESS (Reference XIV.)

##### A. Design Requirements

A motion by Ottensmann, seconded by Siggerud, that the Screening Committee ask the State Aid Engineers to consider all factors, not just E.D.T., in determining the requirements. Welshons stated, "You need to tell us what your plans consist of, what the road is designated as, (arterial), and that the plan consist of two 12' lanes, and one parking lane. This information is necessary for us to make a judgment on the plans."

Motion carried.

##### B. Width Chart (Reference VI)

Straus discussed his proposed charts and asked for guidance on whether

he should use it. He will send out instructions and the chart for municipalities to make changes. He will then review the municipalities' submittals.

C. Comprehensive Needs Review (Reference VIII)

Hoshaw pointed out the currently reflected needs for municipalities are significantly lower than the actual needs.

A motion was made by Hoshaw, seconded by Leone, that funds be provided from appropriate State Aid funds to hire a consultant to work with the Executive Committee, Needs Committee, other City Engineers, and the State Aid office to review the total 25-year needs for the Municipal State Aid system.

Possible sources for funding that were discussed included the research account and the administrative account. All of the individual need items would be considered. Specific items that were discussed include storm sewer, traffic signals, and other after-the-fact needs. It was suggested that they consider hiring someone familiar with the system, such as a retired City Engineer or State Aid employee. The intent is to more accurately indicate the total needs. Motion carried.

D. Traffic Signal, Railroad Crossings and Lighting Needs

No changes were made at this time. See C. above for additional information.

XXVIII. OTHER BUSINESS

Chuck Weichselbaum, speaking for the State Aid Director, made the following report: The highway system is extremely important to the economic development of the state. If the funds are raised by increased taxation on fuels, the additional monies would be shared on a 62-29-9 percentage basis.

Weichselbaum mentioned that Mn/DOT is putting together a financial proposal to the legislators. It includes five categories, as follows:

CATEGORY	DOLLARS NEEDED	GAS TAX INCREASE REQUIRED TO ACCOMPLISH THE CATEGORY
(1) Reduced expectations	-	-
(2) Restore the program (restores projects removed last year)	\$145,000,000	\$ .04/Gallon
(3) System preservation	Not reported	.09
(4) Working with economic development (addresses the trans- portation to market requirements)	"	.23



The funds would not necessarily all be obtained by gas tax increases, but could come from some other sources. The proposal calls for doing 735 miles per year. They would not, under this proposal, turn back roads to the cities and counties.

Hoshaw mentioned that it is forecast that the state will have excess funds in 1987. It is possible that they could transfer some of the MVET funds to highway funding. It doesn't do much for council members, or city engineers, to do the talking. It is important to get the general public doing the talking. The legislators don't want to hear from us.

Weichselbaum mentioned that Bob Witty is here. Witty confirmed, "My legislator is saying he is not hearing from the people."

D.J. Leary has been hired by the counties as a media consultant to get the information out for the counties.

Hoshaw mentioned that he appreciates the help of the county engineers in informing him how to approach the legislators.

Chairman Saffert thanked Roger Plumb, who is going off of the Needs Committee. Steve Gatlin will move up to become Chairman of the Needs Committee. Schweninger has been added as the new member of the Needs Committee. The Needs Committee appointments are made from a list of previous Screening Committee Board members.

Saffert thanked Herb Reimer for his work as Chairman of the Unencumbered Funds Subcommittee. Herb is going off of the committee, and Saffert will be added to that committee. This is the normal sequence, with the past Chairman becoming the new member of the Subcommittee.

Saffert mentioned that Dwayne Haffield was appointed to serve as the Screening Board member from District 7. Brian Bachmeier, as the alternate from District 7, was here as the representative for this meeting. Tom Rodeberg, Gary Sanders, and Ron Schweninger are going off of the board. Saffert stated, "My thanks to these outgoing members." The replacements, who have been serving as alternates, are Joe Bettendorf, District 7; Jim Walker, District 2; and Terry Maurer, District 3. They were, except for Maurer, present at this meeting.

Saffert thanked the District State Aid Engineers for their attendance and valuable input to our meeting.

The chairman welcomed Larry Hoben to his first meeting with the City Engineers Screening Committee.

XXIX. ADJOURNMENT

A motion was made by Siggerud, seconded by Ottensmann, to adjourn the meeting.

The meeting was adjourned at 11:30 a.m.

Respectfully submitted,

*Ronald L. Rudrud*

Ronald L. Rudrud  
Secretary, CEAM

**MINUTES OF  
MUNICIPAL STATE AID NEEDS SUBCOMMITTEE**

Thursday, March 31, 1988  
White Bear Lake, Minnesota

The Needs Subcommittee meeting was called to order at 11:15 a.m. by Chair Steve Gatlin. Those in attendance were:

Steve Gatlin,	Needs Subcommittee, Chair
Gerry Butcher,	Needs Subcommittee
Ron Schweninger,	Needs Subcommittee
Roy Hanson,	Mn/DOT MSA
Ken Straus,	Mn/DOT MSA
Marv Hoshaw,	City of Minneapolis
Bruce Bullert,	City of Northfield

**UNIT PRICES**

First item of business for the Needs Subcommittee was the review of the unit price data prepared by State Aid staff. The Needs Subcommittee recommends that the unit prices shown on the attached 1988 Unit Price Recommendation sheet be used for the 1988 Needs Study.

The major changes in unit prices which merit an explanation include the following:

- o **Traffic Signals** - It is recommended that the amount for traffic signals be increased from \$12,000 per mile to \$15,000 per mile. The recommendation is based on the Subcommittee's feeling that \$12,000 per mile is too low a figure. For example, Brainerd's jurisdictional responsibility for three equivalent signal systems is \$16,000 per mile (i.e.,  $3 \times \$80,000 \text{ per system} = \$240,000 \div 15 \text{ miles}$ ). White Bear Lake also shows an amount of \$13,500 per mile (i.e.,  $6 \times \$40,000 \text{ per system} \div 17.8 \text{ MSA miles}$ ). The Subcommittee felt an amount of \$15,000 per mile would be more appropriate.
- o **Street Lighting** - The current amount is \$2,000 per mile based on the MSA street lighting participation being limited to only accident-prone intersections. The Subcommittee felt a figure of \$16,000 per mile would be appropriate assuming eight intersections per mile with one light per intersection. The Screening Committee would have to make a determination that all intersections are "accident-prone". The \$2,000 per mile assumes that only one intersection per mile is "accident-prone".
- o **Storm Sewer** - The Subcommittee recommends that the unit price for storm sewer construction be annually reviewed since it is included in the Needs Study even though it's not included in the Apportionment. The current amount used in the Needs Study is \$196,000 per mile. The Committee felt that a value greater than this may be appropriate. The Mn/DOT hydraulics office has recommended a value of \$196,000 per mile for 1988.
- o **Other Changes** - The other recommended changes are based on the actual bid costs of improving Municipal State Aid streets in 1987.

## REAL NEEDS OF MSA SYSTEM:

Marv Hoshaw and Bruce Bullert next addressed the Subcommittee with a presentation on the historical Municipal State Aid Needs Apportionment and current Municipal State Aid Needs. The data presented indicate that the Needs Study does not reflect the true cost of constructing and maintaining the Municipal State Aid system. Failure to show our true Needs could lead to a change in the funding formula for State, County and Municipal road improvements. A number of items have been removed from our Needs Study such as storm sewer, new bridge construction, and there is no provision for identifying the cost to reconstruct those upgraded Municipal streets which are over 25 years old.

Recommendation - The Subcommittee recommended that Roy Hanson and Ken Straus work with Marv Hoshaw and Bruce Bullert and their staffs to:

- o Develop ways to show the true cost to bring the Municipal State Aid system up to standards.
- o Develop a fair system to all communities.
- o Show what affect the overall changes would have on each city's Needs and Apportionment.

The following should be considered to show the true cost of the MSA system:

1. All streets constructed with State Aid funds should be allowed to collect Needs after 25 years of service instead of after-the-fact, second-time construction.
2. All non-existing and other bridges should collect Needs and not draw Needs only after a construction project is awarded. If the route is real enough to be in the system, the cost of upgrading or constructing is a real need.
3. All storm sewers should be in the reported Needs, with monitoring for abuse the responsibility of the State Aid Engineer.
4. All street lighting Needs should be reported based on average cost of statewide street lighting projects/per mile, based on actual cost rather than \$2,000 as presently reported.
5. Signal Needs should be based on actual intersection signalization cost as reported to State Aid on recent contracts.
6. The cost of rubberized railroad grade crossings should be included in the Needs Study.
7. The cost of connecting Municipal State Aid streets to County and State roadways should be included in the Needs Study. In many instances, Municipal State Aid funds are required to construct turn lanes and by-pass lanes and make sight distance corrections to County and State roads. These costs are not now included in the Needs Study.

8. The true cost of maintaining the MSA system should be included in the Needs Study based on actual maintenance cost rather than \$1,500 per mile. Also, the Needs Study should show the actual amount available for construction after maintenance costs are removed similar to the County system.
9. Any other costs that should be included in a true Needs Study.

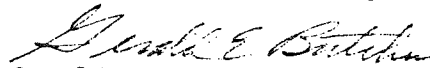
The Subcommittee recommends that this group develop a proposal which will show the true Needs of the Municipal State Aid system and its effect on each community's apportionment. The proposal should be available for review by the Needs Subcommittee prior to the District meetings to be held in June before the Screening Committee meeting.

VARIANCE REQUIREMENTS - NEED FOR "URBAN STANDARDS"

Some communities have complained that they are having to go through the Variance Committee on designs that do not meet the "highway" design criteria. Highway design standards do not recognize many of the issues associated with the urban street design. The Needs Subcommittee recommends that a study of "urban design standards" which is difference from "highway design standards" be considered by the Screening Committee.

The meeting was concluded at 3:30 p.m. with the Committee agreeing to meet again in Brainerd on the 18th day of May. Ken Straus will send an announcement on place and time.

Respectfully submitted,

  
Gerald E. Butcher, P.E.  
Needs Subcommittee Member

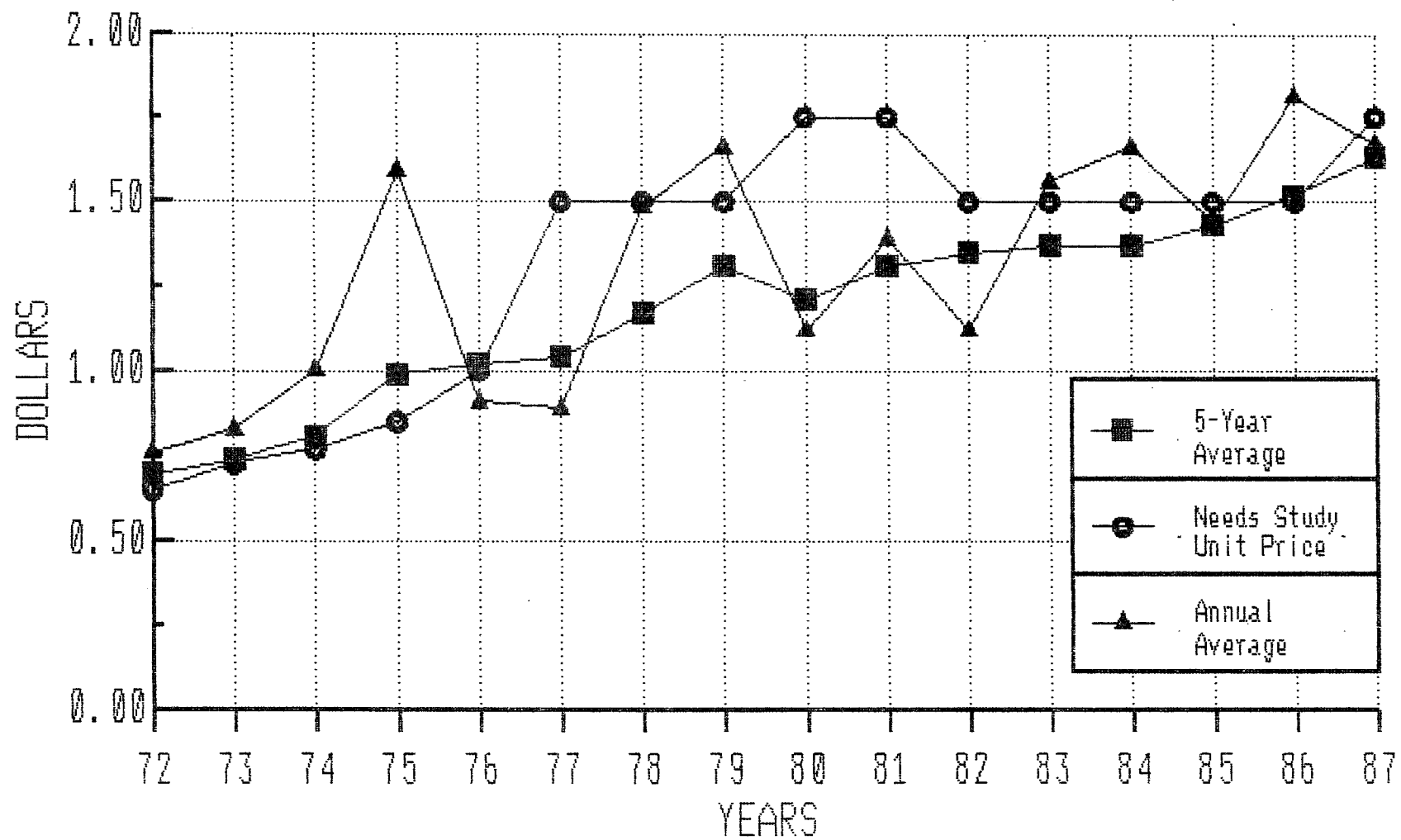
# 1987 RELATIONSHIP OF THE TOTAL 25-YEAR NEEDS

## TO EACH INDIVIDUAL CONSTRUCTION ITEM

ITEM -----	APPORTIONMENT COST -----	% OF THE TOTAL -----
Grading	53,997,679	9.90%
Special Drainage	1,993,655	0.37%
Storm Sewer Adjustment	9,487,240	1.74%
Curb & Gutter Removal	6,152,644	1.13%
Sidewalk Removal	4,269,636	0.78%
Pavement Removal	12,357,103	2.27%
Tree removal	2,580,200	0.47%
TOTAL GRADING	\$90,838,157	16.65%
Gravel Subbase #2211	48,315,898	8.86%
Gravel Base #2211	33,690,720	6.18%
Bituminous Base #2331	52,698,936	9.66%
TOTAL BASE	\$134,705,554	24.70%
Bituminous Surface #2331	2,805,880	0.51%
Bituminous Surface #2341	117,104,894	21.47%
Bituminous Surface #2361	42,411,032	7.78%
Surface Widening	3,608,000	0.66%
TOTAL SURFACE	\$165,929,806	30.42%
Gravel Shoulders #2221	664,928	0.12%
TOTAL SHOULDERS	\$664,928	0.12%
Curb and Gutter	50,858,280	9.32%
Sidewalk	14,895,857	2.73%
Traffic Signals	25,721,348	4.72%
Street Lighting	4,318,200	0.79%
Retaining Walls	1,867,784	0.34%
TOTAL MISCELLANEOUS	\$97,661,469	17.90%
TOTAL ROADWAY	\$489,799,914	89.80%
Bridge	35,701,797	6.55%
Railroad Crossings	14,755,900	2.71%
Maintenance	2,569,683	0.47%
Right-of-Way	1,853,560	0.34%
TOTAL OTHERS	\$54,880,940	10.06%
TOTAL	\$544,680,854	99.86%
* Farmington	776,510	0.14%
* TOTAL Including Farmington	\$545,457,364	100.00%

# M.S.A.S. UNIT PRICE STUDY CURB & GUTTER REMOVAL #2104

Page 28



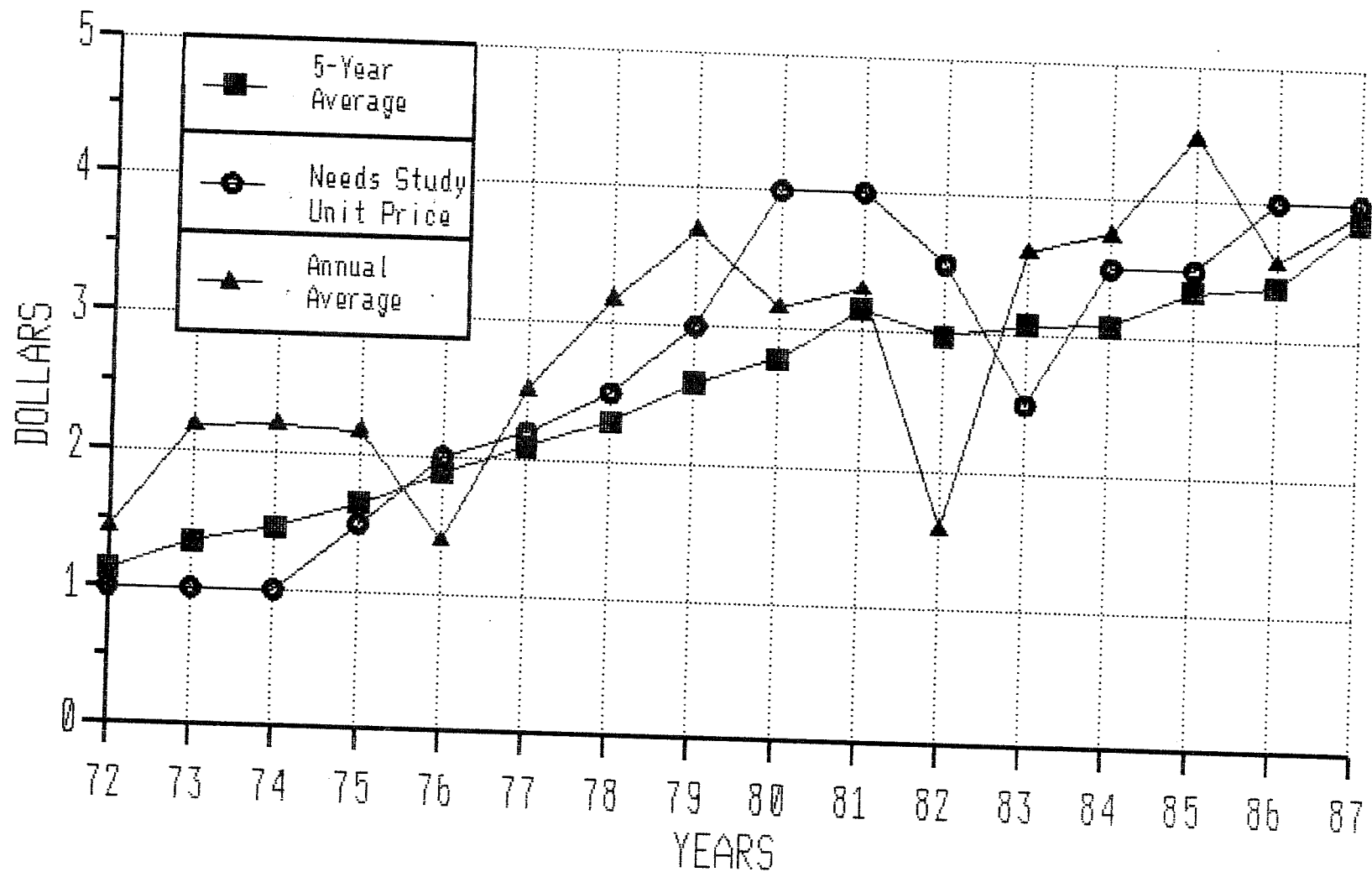
M.S.A.S. UNIT PRICE STUDY  
CURB & GUTTER REMOVAL #2104

Year	No. of Cities	Quantity	Cost	Cost Per Lin. Ft.	5-Year Average	Needs Study Unit Price
-----	-----	-----	-----	-----	-----	-----
1966	24	59,532	\$32,332	\$0.54	--	\$ --
1967	21	73,031	36,592	0.50	--	--
1968	28	76,302	49,669	0.65	--	--
1969	19	47,268	29,607	0.63	--	--
1970	32	159,504	113,005	0.71	0.61	--
1971	20	44,767	33,630	0.75	0.65	--
1972	23	88,188	67,387	0.76	0.70	0.65
1973	30	123,954	102,972	0.83	0.74	0.73
1974	27	39,256	39,140	1.00	0.81	0.77
1975	26	49,508	78,796	1.59	0.99	0.85
1976	17	41,176	37,554	0.91	1.02	1.00
1977	18	28,011	24,847	0.89	1.04	1.50
1978	24	28,277	41,774	1.48	1.17	1.50
1979	25	45,053	74,853	1.66	1.31	1.50
1980	26	83,672	93,360	1.12	1.21	1.75
1981	24	41,852	58,030	1.39	1.31	1.75
1982	45	77,339	86,596	1.12	1.35	1.50
1983	33	42,589	66,635	1.56	1.37	1.50
1984	43	106,678	176,974	1.66	1.37	1.50
1985	50	145,294	208,971	1.44	1.43	1.50
1986	46	119,913	216,648	1.81	1.52	1.50
1987	35	83,232	139,029	1.67	1.63	1.75

Subcommittees recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.



# M.S.A.S. UNIT PRICE STUDY SIDEWALK REMOVAL #2105



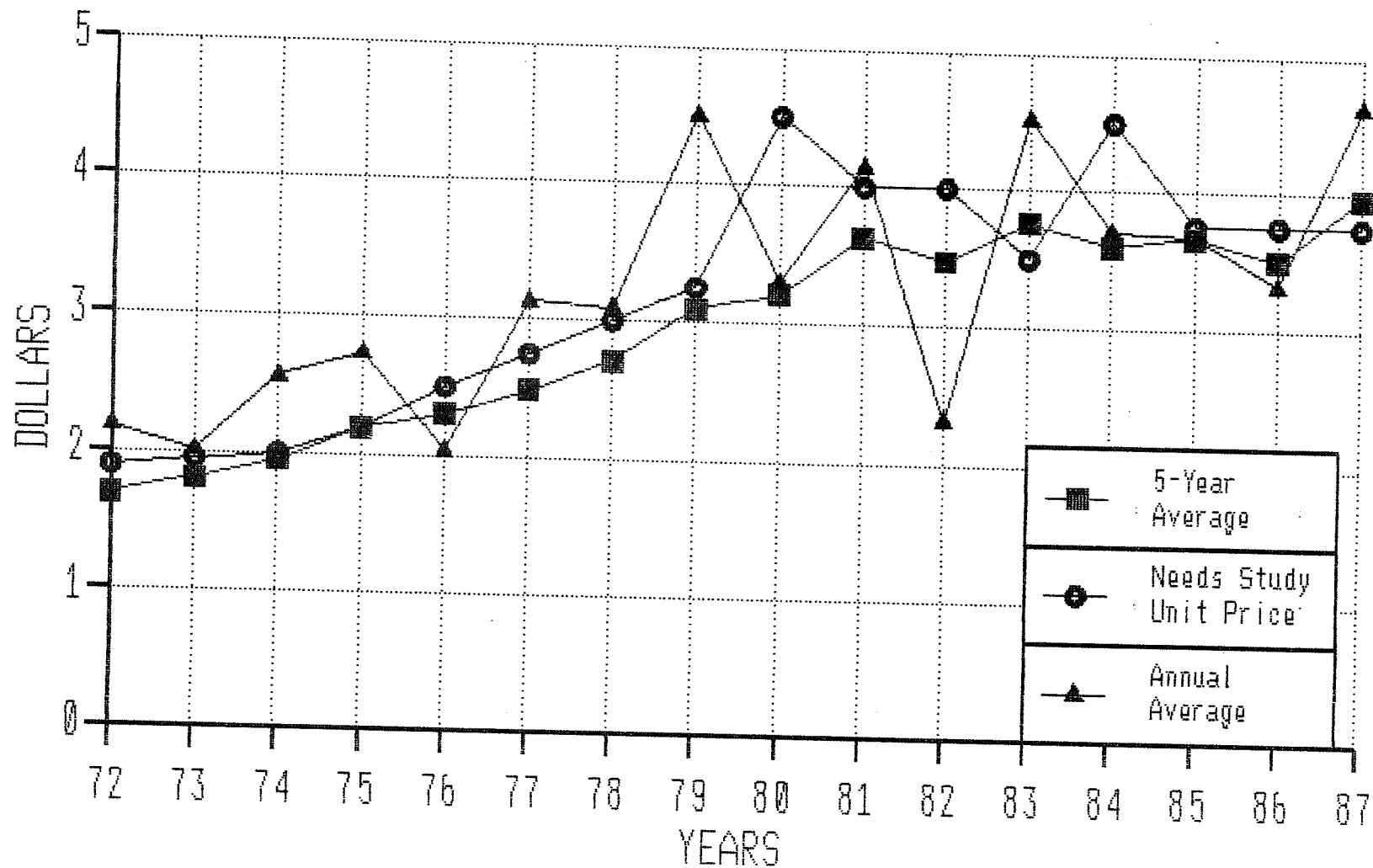
# M.S.A.S. UNIT PRICE STUDY

## SIDEWALK REMOVAL #2105

Year	No. of Cities	Quantity	Cost	Cost Per Sq. Yd.	5-Year Average	Needs Study Unit Price
----	-----	-----	----	-----	-----	-----
1966	18	19,887	\$15,742	\$0.79	--	\$ --
1967	21	21,607	14,570	0.67	--	--
1968	24	36,820	41,060	1.12	--	--
1969	18	9,105	14,879	1.63	--	--
1970	28	44,882	55,188	1.23	1.09	--
1971	18	97,565	23,084	0.24	0.98	--
1972	19	69,223	99,576	1.44	1.13	1.00
1973	20	46,628	101,998	2.19	1.35	1.00
1974	21	17,422	38,380	2.20	1.46	1.00
1975	19	18,465	40,094	2.17	1.65	1.50
1976	14	32,917	45,829	1.39	1.88	2.00
1977	14	13,237	33,250	2.51	2.09	2.20
1978	15	13,268	42,115	3.17	2.29	2.50
1979	16	23,223	85,805	3.69	2.59	3.00
1980	17	30,387	95,782	3.15	2.79	4.00
1981	19	20,627	68,003	3.30	3.17	4.00
1982	33	61,909	98,144	1.59	2.98	3.50
1983	21	27,288	98,276	3.60	3.07	2.50
1984	30	59,315	222,584	3.75	3.08	3.50
1985	38	56,873	254,161	4.47	3.34	3.50
1986	38	44,695	159,347	3.57	3.39	4.00
1987	27	35,889	141,549	3.94	3.87	4.00

Subcommittees recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

# M.S.A.S. UNIT PRICE STUDY CONCRETE PAVEMENT REMOVAL #2106



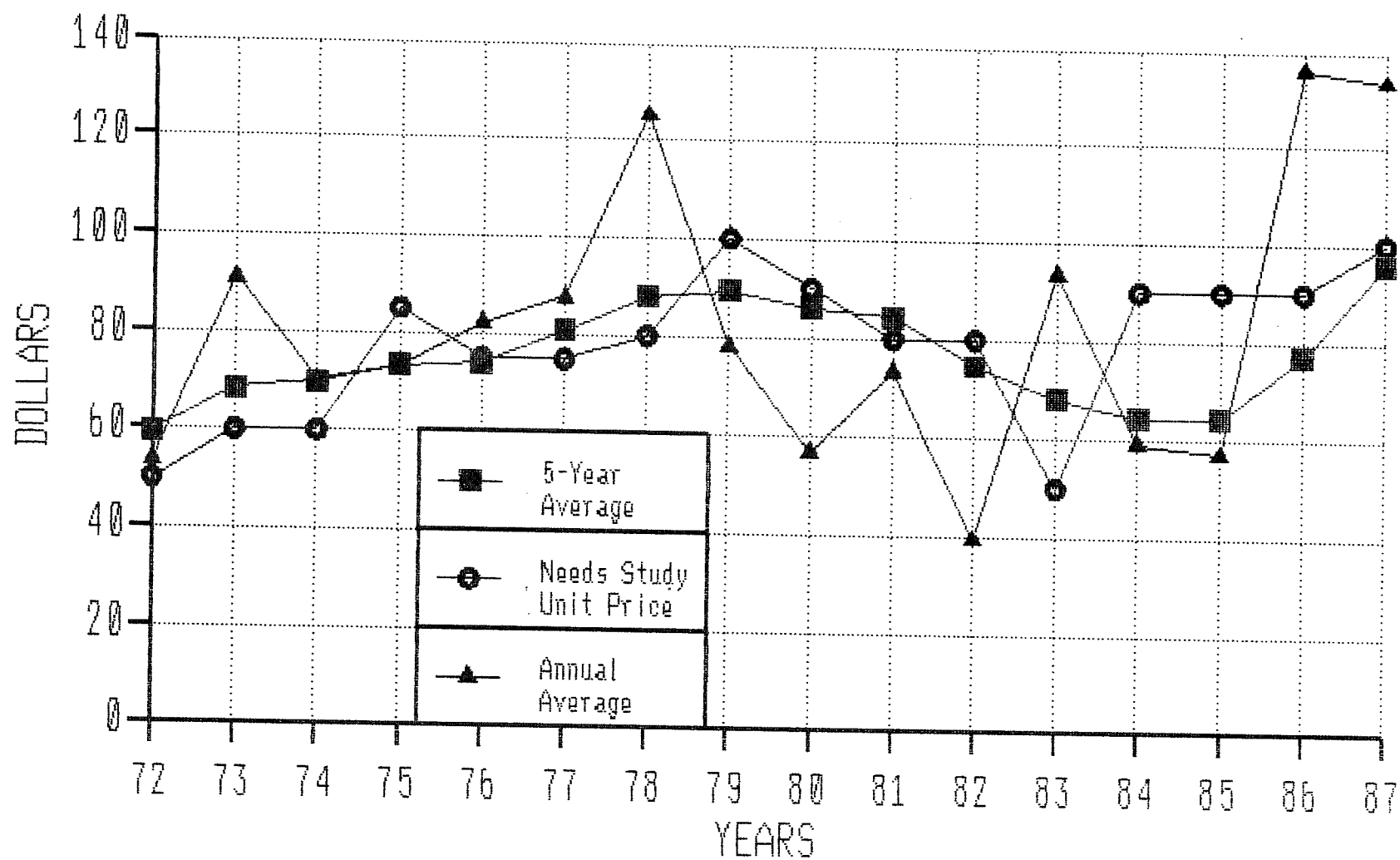
# M.S.A.S. UNIT PRICE STUDY

## CONCRETE PAVEMENT REMOVAL #2106

Year	No. of Cities	Quantity	Cost	Cost Per Sq. Yd.	5-Year Average	Needs Study Unit Price
1966	7	30,405	\$51,572	\$1.70	--	\$ --
1967	13	21,386	30,668	1.43	--	--
1968	20	59,026	83,708	1.42	--	--
1969	8	9,196	16,821	1.83	--	--
1970	25	110,940	173,446	1.56	1.59	--
1971	14	56,559	81,979	1.45	1.54	--
1972	11	187,366	408,919	2.18	1.69	1.90
1973	12	188,588	379,940	2.01	1.81	1.95
1974	11	40,506	103,569	2.56	1.95	2.00
1975	12	21,211	57,984	2.73	2.19	2.20
1976	9	62,379	127,199	2.04	2.31	2.50
1977	9	15,279	47,801	3.13	2.49	2.75
1978	11	35,176	108,531	3.09	2.71	3.00
1979	9	65,081	292,769	4.50	3.10	3.25
1980	8	42,322	139,785	3.30	3.21	4.50
1981	16	83,263	345,180	4.15	3.63	4.00
1982	23	229,468	533,404	2.32	3.47	4.00
1983	18	119,864	541,569	4.52	3.76	3.50
1984	16	81,645	301,726	3.70	3.60	4.50
1985	28	134,698	494,572	3.67	3.67	3.75
1986	15	132,405	440,715	3.33	3.51	3.75
1987	25	106,550	493,029	4.63	3.97	3.75

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

# M.S.A.S. UNIT PRICE STUDY TREE REMOVAL #2101



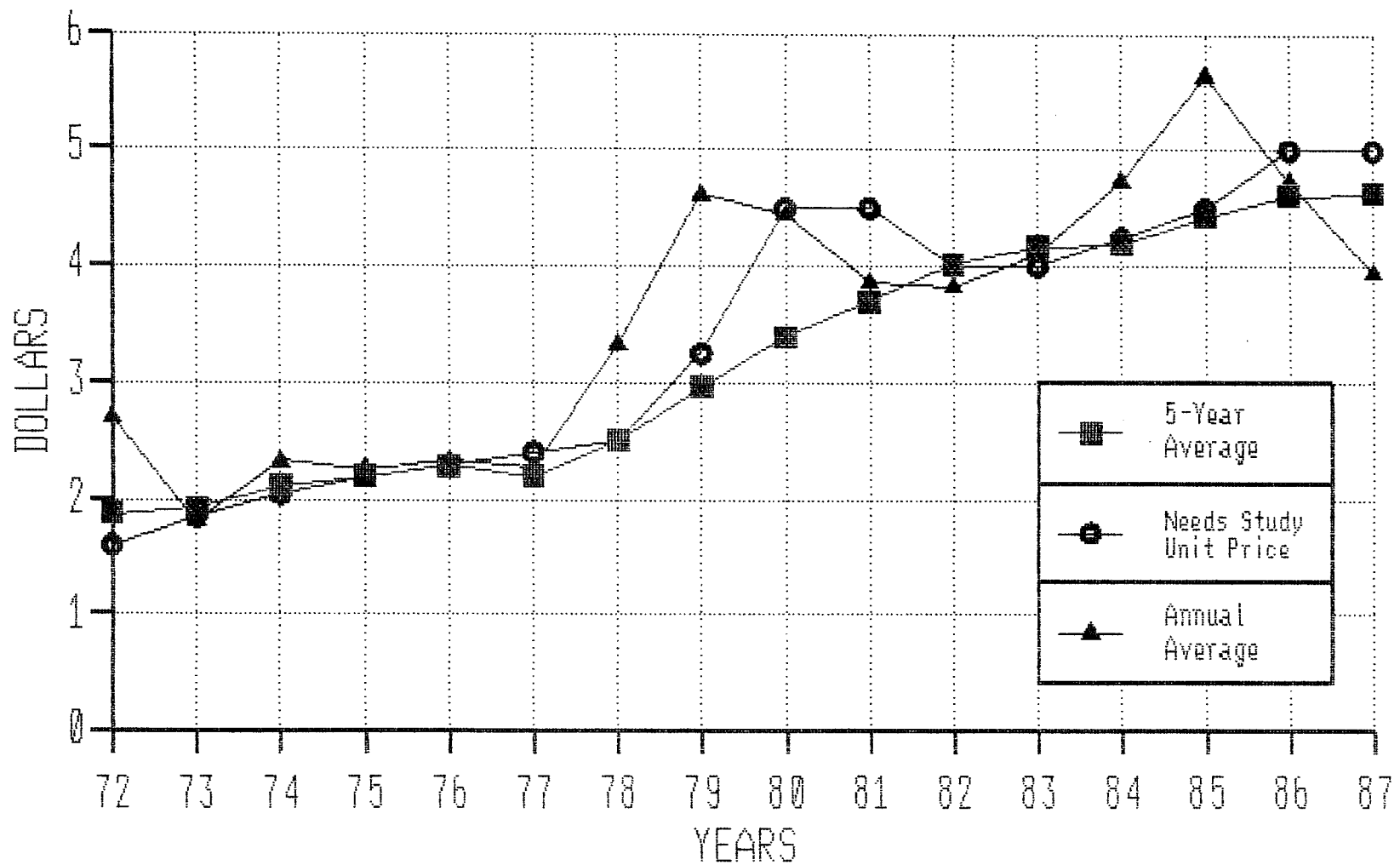
# M.S.A.S. UNIT PRICE STUDY

## TREE REMOVAL #2101

Year	No. of Cities	Quantity	Cost	Cost Per Tree	5-Year Average	Needs Study Unit Price
----	-----	-----	----	-----	-----	-----
1966	23	811	\$51,020	\$62.91	--	\$ --
1967	16	600	34,743	57.91	--	--
1968	31	1,398	64,848	46.39	--	--
1969	13	308	19,502	63.32	--	--
1970	36	2,172	122,015	56.18	57.34	--
1971	10	245	19,184	78.30	60.42	--
1972	13	324	17,380	53.64	59.56	50.00
1973	29	925	84,043	90.86	68.46	60.00
1974	27	1,150	81,001	70.44	69.88	60.00
1975	24	802	58,836	73.36	73.32	85.00
1976	18	819	67,463	82.37	74.13	75.00
1977	16	492	43,110	87.62	80.93	75.00
1978	19	485	60,745	125.25	87.81	80.00
1979	20	1,171	91,659	78.27	89.38	100.00
1980	23	2,338	133,306	57.02	86.11	90.00
1981	20	1,362	100,003	73.42	84.32	80.00
1982	31	3,122	123,015	39.40	74.67	80.00
1983	17	841	78,574	93.43	68.31	50.00
1984	34	3,743	221,765	59.25	64.50	90.00
1985	30	1,442	82,586	57.27	64.56	90.00
1986	18	311	42,365	136.22	77.11	90.00
1987	19	535	71,490	133.63	95.96	100.00

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

M.S.A.S. UNIT PRICE STUDY  
CLASS 4 - SUBBASE #2211



# M.S.A.S. UNIT PRICE STUDY

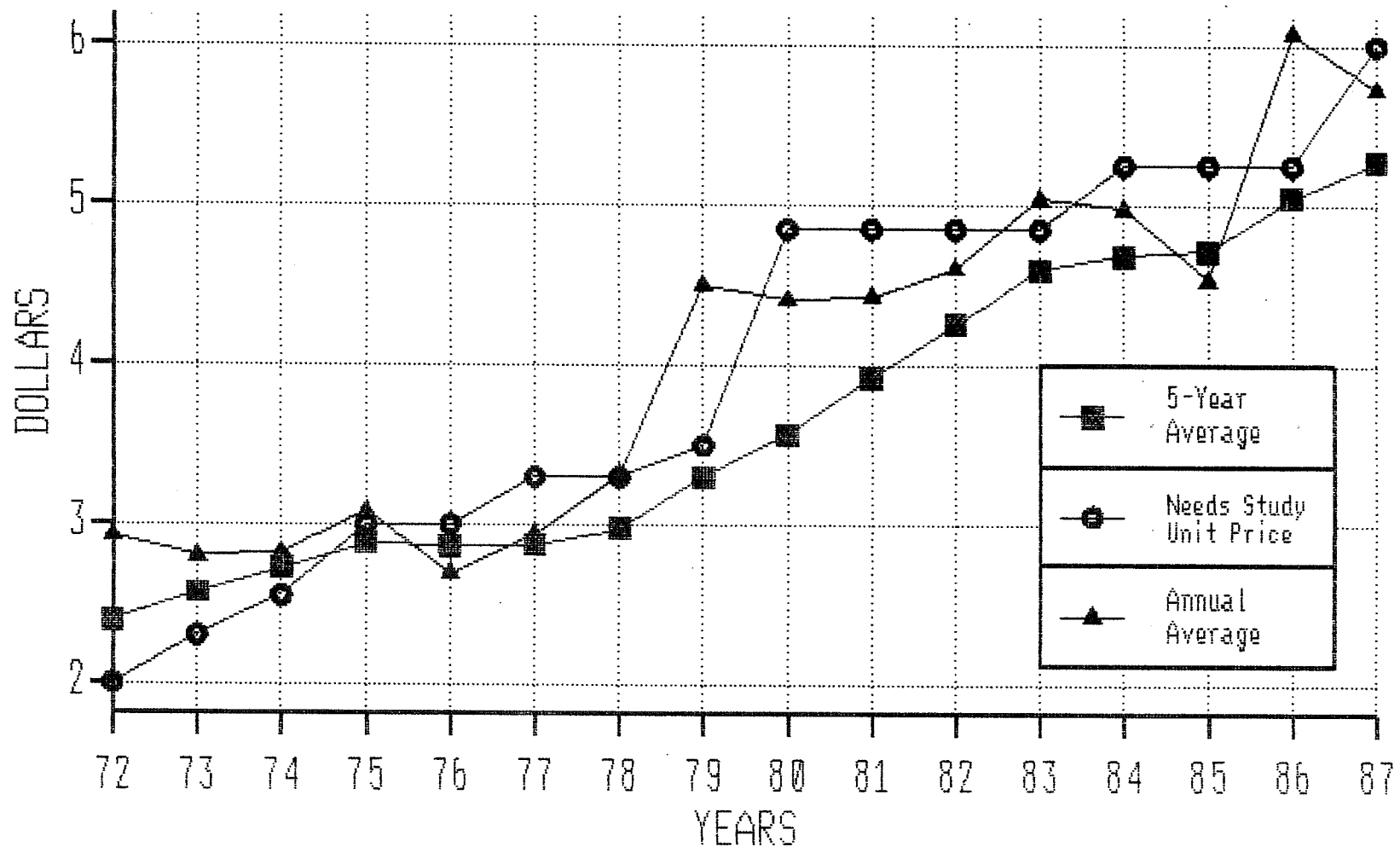
## CLASS 4 -SUBBASE #2211

Year	No. of Cities	Quantity	Cost	Cost Per Ton	5-Year Average	Needs Study Unit Price
-----	-----	-----	-----	-----	-----	-----
1966	19	162,227	\$244,388	\$1.51	--	\$ --
1967	20	146,505	217,241	1.48	--	--
1968	18	168,867	264,211	1.56	--	--
1969	6	118,431	160,615	1.36	--	--
1970	22	306,697	568,987	1.86	1.55	--
1971	13	64,690	123,445	1.91	1.63	--
1972	21	127,852	345,571	2.70	1.88	1.60
1973	12	170,461	308,583	1.81	1.93	1.85
1974	14	65,447	152,247	2.33	2.12	2.05
1975	8	34,597	78,175	2.26	2.20	2.20
1976	6	56,428	131,657	2.33	2.29	2.30
1977	6	48,481	109,817	2.27	2.20	2.40
1978	14	101,757	338,832	3.33	2.50	2.50
1979	5	44,710	206,741	4.62	2.96	3.25
1980	4	15,662	69,469	4.44	3.40	4.50
1981	5	68,562	264,587	3.86	3.70	4.50
1982	7	29,887	114,531	3.83	4.02	4.00
1983	6	30,625	125,717	4.11	4.17	4.00
1984	13	146,141	691,052	4.73	4.19	4.25
1985	4	21,968	123,871	5.64	4.43	4.50
1986	6	52,643	248,938	4.73	4.61	5.00
1987	8	60,793	239,623	3.94	4.63	5.00

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.



# M.S.A.S. UNIT PRICE STUDY CLASS 5 - GRAVEL BASE #2211



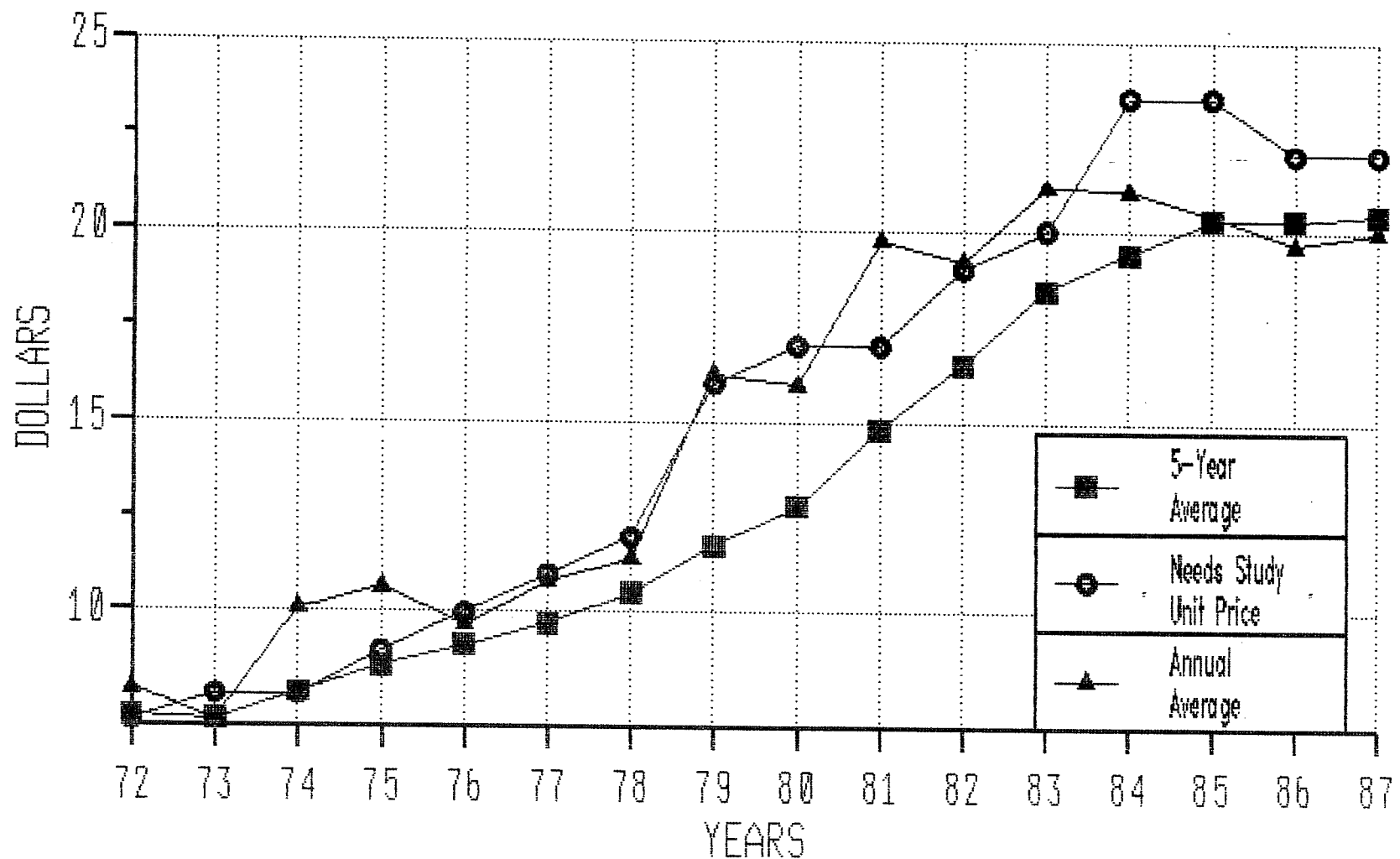
M.S.A.S. UNIT PRICE STUDY  
CLASS 5 - GRAVEL BASE #2211

Year -----	No. of Cities -----	Quantity -----	Cost -----	Cost Per Ton -----	5-Year Average -----	Needs Study Unit Price -----
1966	28	141,595	\$272,406	\$1.92	--	\$ --
1967	34	177,601	325,300	1.83	--	--
1968	36	220,664	419,319	1.90	--	--
1969	19	81,525	170,982	2.10	--	--
1970	47	335,261	749,335	2.24	2.00	--
1971	21	86,534	241,303	2.79	2.17	--
1972	31	155,513	457,010	2.94	2.39	2.00
1973	38	258,756	724,450	2.80	2.57	2.30
1974	38	163,212	459,956	2.82	2.72	2.55
1975	34	166,600	513,641	3.08	2.89	3.00
1976	32	237,857	641,603	2.70	2.87	3.00
1977	30	157,357	462,151	2.94	2.87	3.30
1978	37	294,730	975,587	3.31	2.97	3.30
1979	38	288,809	1,300,553	4.50	3.31	3.50
1980	42	397,897	1,753,637	4.41	3.57	4.85
1981	43	307,088	1,360,272	4.43	3.92	4.85
1982	48	431,148	1,984,392	4.60	4.25	4.85
1983	46	335,849	1,694,167	5.04	4.60	4.85
1984	50	444,073	2,210,475	4.98	4.69	5.25
1985	63	584,097	2,651,362	4.54	4.72	5.25
1986	61	455,259	2,768,438	6.08	5.05	5.25
1987	51	381,898	2,185,112	5.72	5.27	6.00

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

# M.S.A.S. UNIT PRICE STUDY BITUMINUS BASE OR SURFACE #2331

Page 40



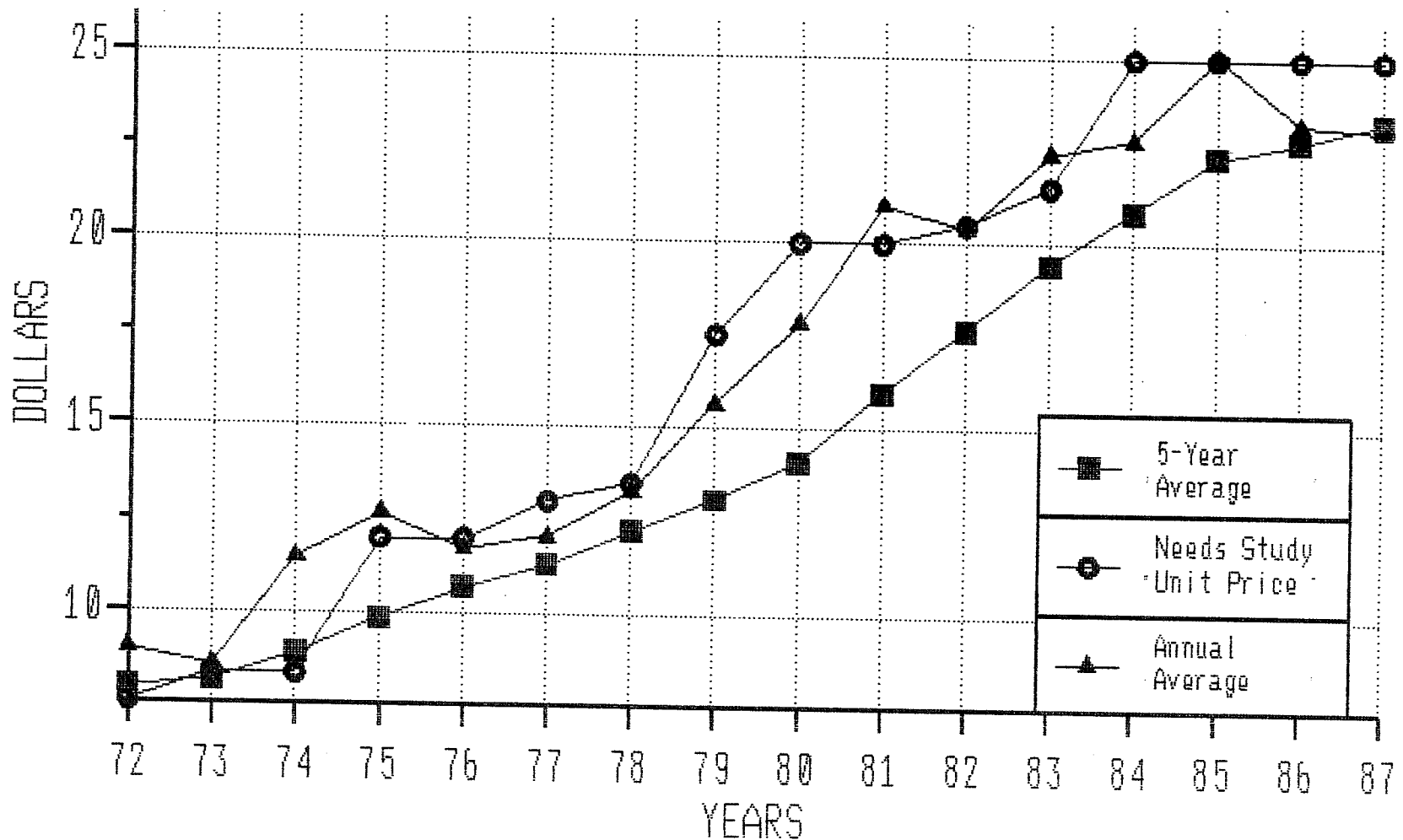
# M.S.A.S. UNIT PRICE STUDY

## BITUMINOUS BASE OR SURFACE #2331

Year	No. of Cities	Quantity	Cost	Cost Per Ton	5-Year Average	Needs Study Unit Price
----	-----	-----	-----	-----	-----	-----
1966	14	25,029	\$171,625	\$6.86	\$ --	\$--
1967	12	18,472	135,910	7.36	--	--
1968	21	63,156	479,784	7.60	--	--
1969	11	34,627	228,695	6.60	--	--
1970	29	138,590	991,585	7.15	7.11	--
1971	21	84,866	603,153	7.11	7.16	--
1972	33	246,781	1,979,516	8.02	7.30	7.20
1973	38	401,085	2,886,763	7.20	7.22	7.87
1974	40	257,613	2,606,149	10.12	7.92	7.87
1975	31	138,117	1,473,830	10.67	8.62	9.00
1976	28	158,260	1,533,606	9.69	9.14	10.00
1977	32	135,287	1,461,919	10.81	9.70	11.00
1978	38	164,748	1,881,493	11.42	10.54	12.00
1979	42	229,249	3,723,054	16.24	11.77	16.00
1980	39	220,016	3,513,820	15.97	12.83	17.00
1981	44	211,045	4,164,825	19.73	14.83	17.00
1982	55	211,326	4,062,409	19.22	16.52	19.00
1983	44	159,242	3,363,455	21.12	18.46	20.00
1984	54	376,525	7,922,674	21.04	19.42	23.50
1985	62	294,318	6,000,326	20.39	20.30	23.50
1986	63	261,043	5,130,552	19.65	20.29	22.00
1987	50	176,177	3,515,861	19.96	20.43	22.00

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

# M.S.A.S. UNIT PRICE STUDY BITUMINUS SURFACE #2341



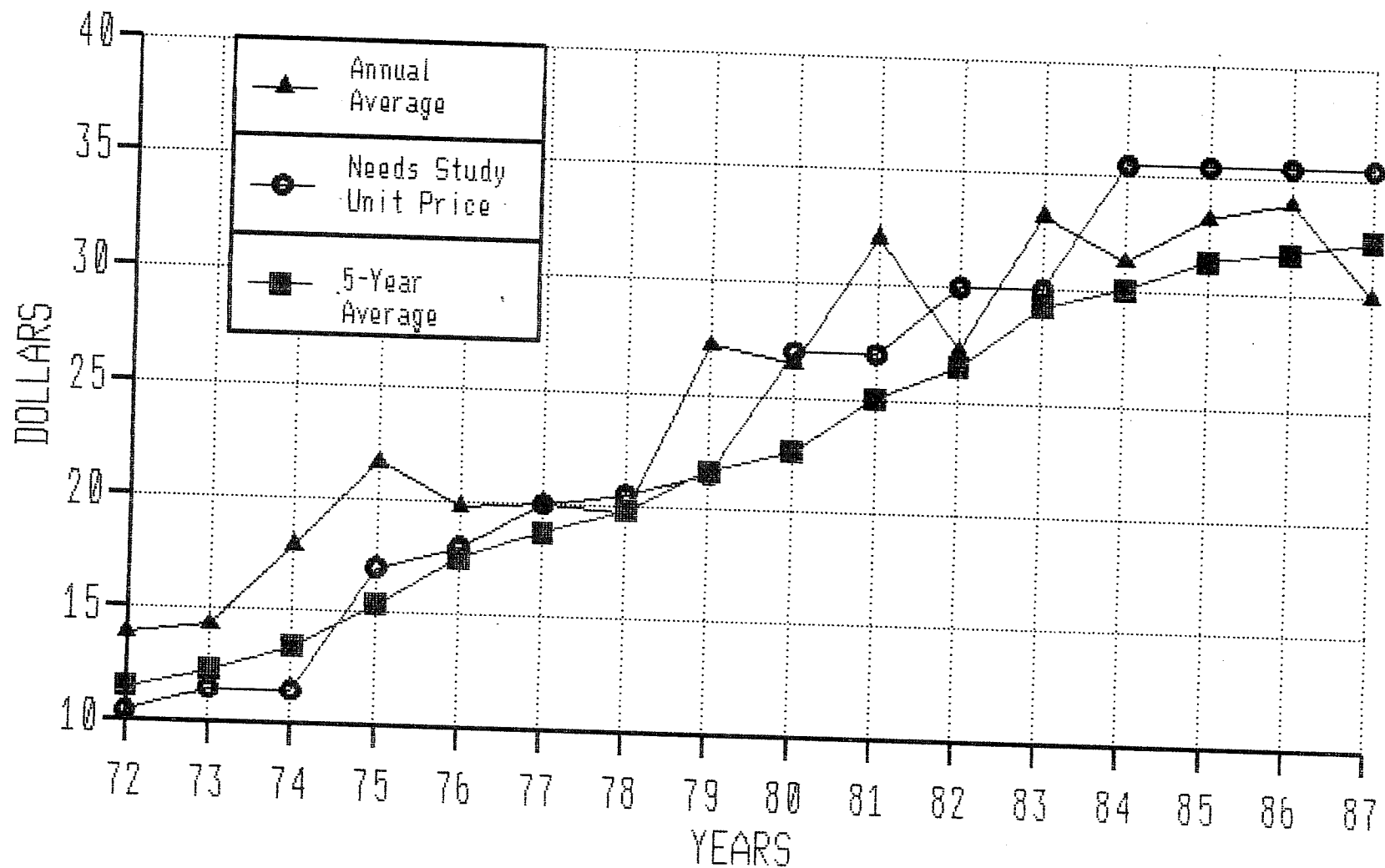
# M.S.A.S. UNIT PRICE STUDY

## BITUMINOUS SURFACE #2341

Year	No. of Cities	Quantity	Cost	Cost Per Ton	5-Year Average	Needs Study Unit Price
----	-----	-----	-----	-----	-----	-----
1966	20	58,504	\$442,817	\$7.57	\$ --	\$ --
1967	21	66,918	474,309	7.09	--	--
1968	21	62,920	480,045	7.63	--	--
1969	12	31,532	248,437	7.88	--	--
1970	36	162,736	1,274,195	7.83	7.60	--
1971	24	74,558	563,358	7.56	7.60	--
1972	38	143,523	1,294,668	9.02	7.98	7.60
1973	39	241,907	2,078,158	8.59	8.18	8.40
1974	37	148,666	1,705,930	11.47	8.89	8.36
1975	31	147,041	1,863,333	12.67	9.86	12.00
1976	31	72,803	854,492	11.74	10.70	12.00
1977	26	63,007	760,571	12.07	11.31	13.00
1978	32	102,935	1,368,723	13.30	12.25	13.50
1979	37	126,977	1,989,710	15.67	13.09	17.50
1980	39	164,346	2,928,915	17.82	14.12	20.00
1981	38	123,479	2,595,032	21.02	15.98	20.00
1982	43	139,280	2,846,138	20.43	17.65	20.50
1983	42	113,894	2,551,729	22.40	19.47	21.50
1984	47	144,567	3,295,718	22.80	20.89	25.00
1985	50	154,773	3,876,447	25.05	22.34	25.00
1986	55	122,701	2,851,035	23.24	22.78	25.00
1987	47	101,894	2,352,539	23.09	23.31	25.00

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

# M.S.A.S. UNIT PRICE STUDY BITUMINUS SURFACE #2351 & 2361



# M.S.A.S. UNIT PRICE STUDY

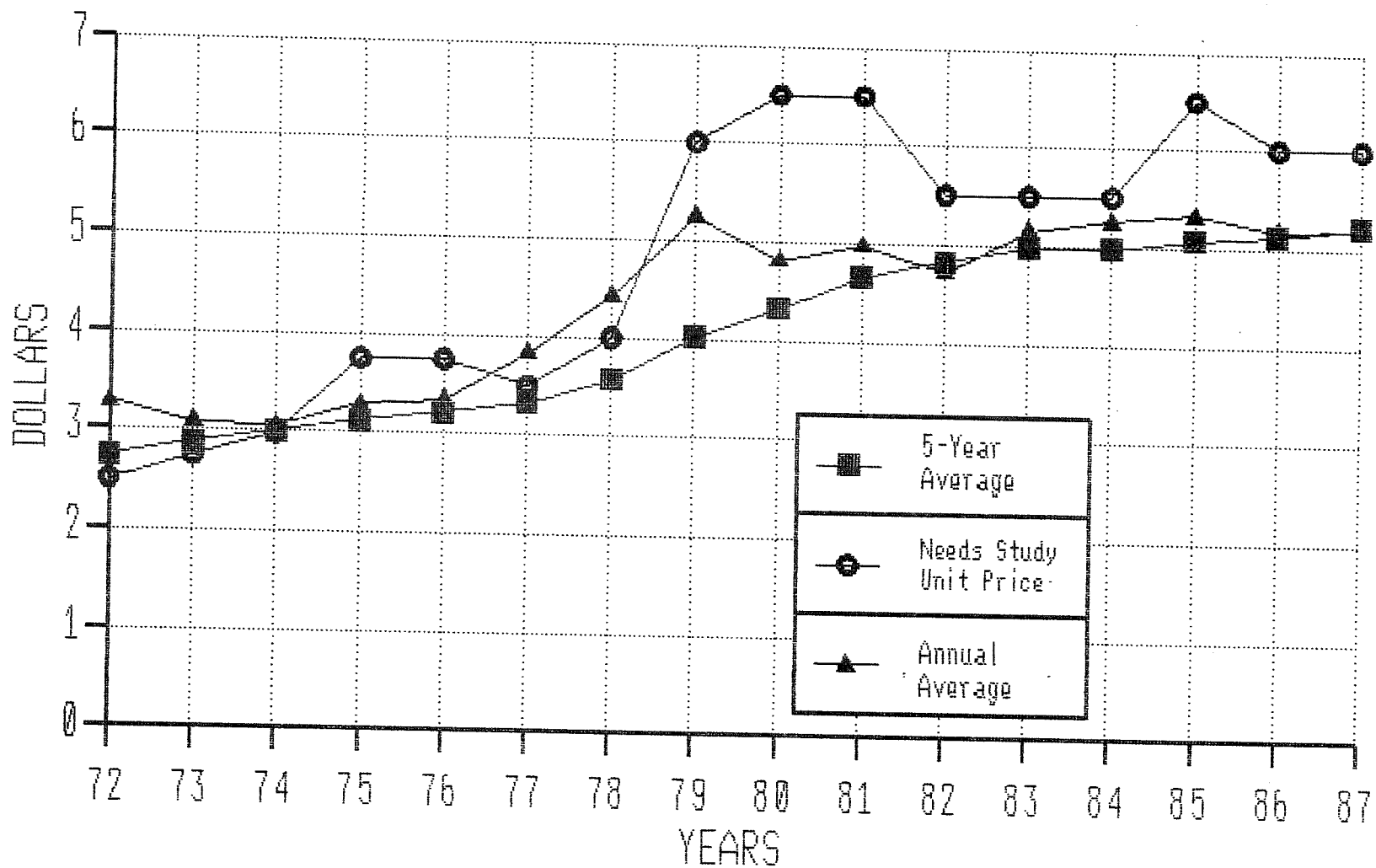
## BITUMINOUS SURFACE #2351 & 2361

Year	No. of Cities	Quantity	Cost	Cost Per Ton	5-Year Average	Needs Study Unit Price
----	-----	-----	-----	-----	-----	-----
1966	4	13,958	\$136,537	\$9.78	\$ --	\$ --
1967	3	10,532	101,892	9.67	--	--
1968	6	15,890	165,736	10.43	--	--
1969	3	5,603	67,839	12.11	--	--
1970	5	7,500	91,604	12.21	10.84	--
1971	7	43,399	395,433	9.11	10.71	--
1972	11	25,950	361,721	13.94	11.56	10.50
1973	9	25,777	369,207	14.32	12.34	11.55
1974	9	18,308	327,581	17.89	13.50	11.55
1975	9	22,256	481,927	21.65	15.38	17.00
1976	10	18,759	371,123	19.78	17.52	18.00
1977	10	13,038	259,918	19.94	18.72	20.00
1978	14	14,080	277,452	19.71	19.79	20.50
1979	19	20,158	548,208	27.20	21.65	21.50
1980	16	17,695	469,842	26.55	22.63	27.00
1981	17	24,336	780,247	32.06	25.09	27.00
1982	18	26,628	725,878	27.26	26.55	30.00
1983	17	21,339	707,320	33.15	29.24	30.00
1984	16	38,723	1,212,779	31.32	30.07	35.50
1985	18	36,507	1,213,006	33.23	31.40	35.50
1986	14	25,213	855,500	33.93	31.78	35.50
1987	11	23,776	713,311	30.00	32.33	35.50

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.



# M.S.A.S. UNIT PRICE STUDY CURB & GUTTER CONST. #2531



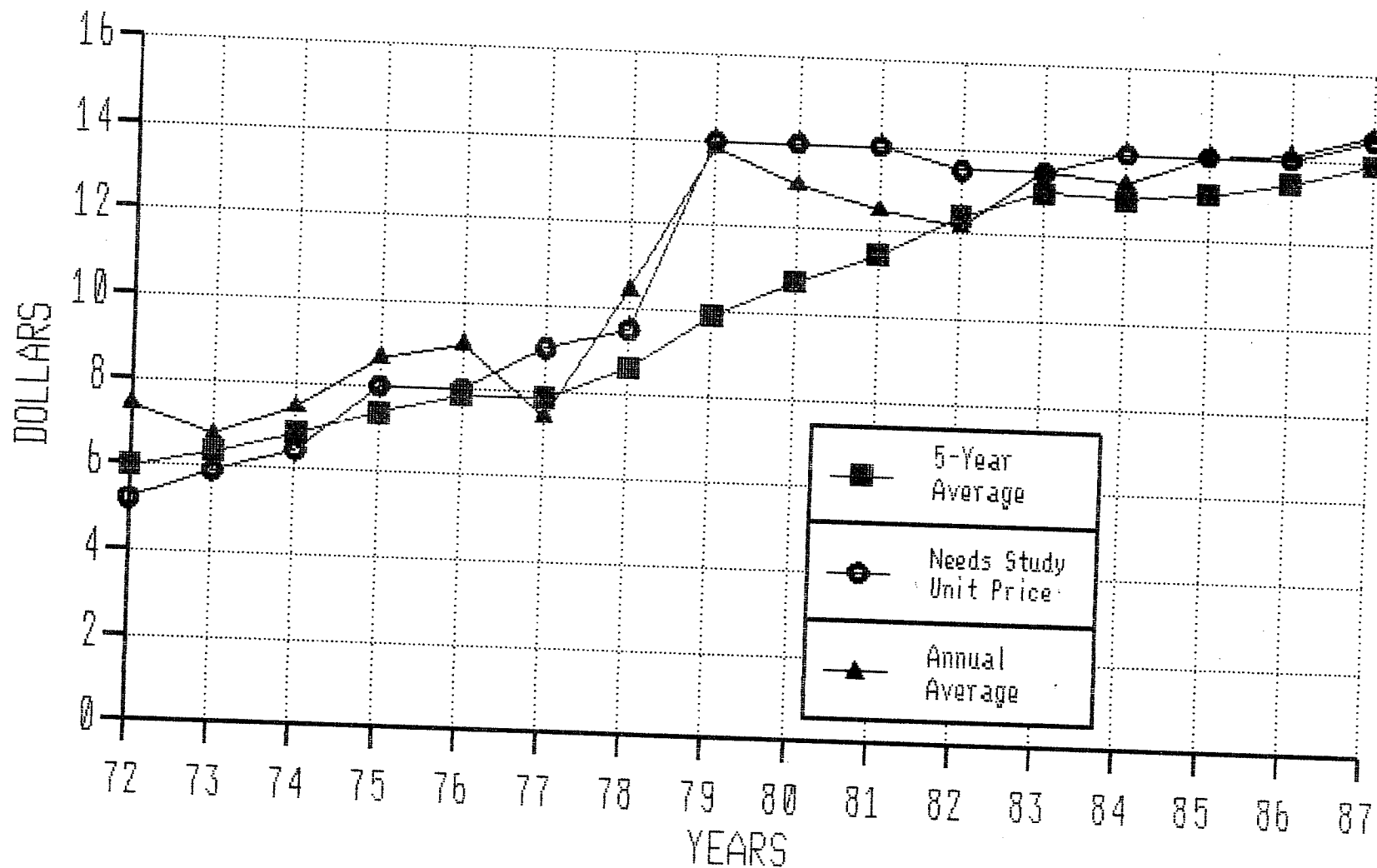
# M.S.A.S. UNIT PRICE STUDY

## CURB & GUTTER CONSTRUCTION #2531

Year -----	No. of Cities -----	Quantity -----	Cost -----	Cost Per Lin. Ft. -----	5-Year Average -----	Needs Study Unit Price -----
1966	32	193,479	\$449,022	\$2.32	\$ --	\$ --
1967	32	257,915	580,506	2.25	--	--
1968	33	340,092	801,016	2.36	--	--
1969	22	137,210	338,159	2.46	--	--
1970	48	611,958	1,641,158	2.68	2.41	--
1971	21	156,083	454,436	2.91	2.53	--
1972	29	235,760	773,022	3.28	2.74	2.50
1973	42	605,809	1,866,455	3.08	2.88	2.75
1974	43	454,315	1,387,797	3.05	3.00	2.98
1975	40	328,669	1,078,802	3.28	3.12	3.75
1976	39	314,645	1,050,777	3.34	3.21	3.75
1977	33	178,206	681,953	3.83	3.32	3.50
1978	41	298,122	1,317,943	4.42	3.58	4.00
1979	42	336,428	1,764,138	5.24	4.02	6.00
1980	41	433,513	2,085,243	4.81	4.33	6.50
1981	48	332,455	1,651,673	4.97	4.65	6.50
1982	58	450,590	2,124,634	4.72	4.83	5.50
1983	47	354,529	1,826,990	5.15	4.98	5.50
1984	58	554,327	2,907,985	5.25	4.98	5.50
1985	61	469,258	2,498,655	5.32	5.08	6.50
1986	67	434,124	2,243,498	5.17	5.12	6.00
1987	51	359,952	1,868,721	5.19	5.22	6.00

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

# M.S.A.S. UNIT PRICE STUDY SIDEWALK CONSTRUCTION #2521



**M.S.A.S. UNIT PRICE STUDY**  
**SIDEWALK CONSTRUCTION #2521**

Year	No. of Cities	Quantity	Cost	Cost Per Sq. Yd.	5-Year Average	Needs Study Unit Price
----	-----	-----	----	-----	-----	-----
1966	22	35,725	\$161,851	\$4.53	\$ --	\$ --
1967	26	41,798	199,193	4.77	--	--
1968	38	58,058	278,247	4.79	--	--
1969	17	18,871	95,808	5.08	--	--
1970	38	113,416	662,759	5.84	5.00	--
1971	8	9,548	64,052	6.71	5.44	--
1972	27	43,194	321,089	7.43	5.97	5.20
1973	33	85,944	579,410	6.74	6.36	5.90
1974	29	46,901	350,067	7.46	6.84	6.44
1975	32	46,139	399,470	8.66	7.40	8.00
1976	27	48,343	436,681	9.03	7.87	8.00
1977	24	42,666	317,200	7.43	7.87	9.00
1978	23	37,875	395,539	10.44	8.61	9.50
1979	26	43,738	604,904	13.83	9.88	14.00
1980	32	71,946	937,803	13.03	10.76	14.00
1981	31	46,222	577,293	12.49	11.45	14.00
1982	44	91,266	1,112,414	12.19	12.40	13.50
1983	35	69,630	940,122	13.50	13.01	13.50
1984	44	96,059	1,277,135	13.30	12.90	14.00
1985	48	103,377	1,446,980	14.00	13.09	14.00
1986	51	79,756	1,126,616	14.13	13.42	14.00
1987	40	94,423	1,376,749	14.58	13.90	14.50

Subcommittee recommended price for 1988 Needs Study \$ \_\_\_\_\_  
Based upon 1987 construction costs.

DEPARTMENT : TRANSPORTATION - Room 718  
Hydraulics Division

STATE OF MINNESOTA

## Office Memorandum

DATE : February 5, 1988

TO : K. G. Straus  
State Aid Needs Unit

FROM : D. V. Halvorson *DVH*  
Hydraulics Engineer

PHONE : 296-0822

SUBJECT : State Aid Storm Sewer Construction  
Costs for 1988

We have analyzed the State aid storm sewer construction costs for 1988 and find that, for planning purposes, a figure of \$196,000 per mile can again be used. For storm sewer adjustments we suggest \$62,000 per mile.

If we can be of further assistance please advise.

cc:  
D. V. Halvorson  
E. H. Aswegan

DVH:st  
(E.H. Aswegan)

# COSTS FOR 1987 BRIDGE CONSTRUCTION

## Bridges 0-149 Feet

NUMBER BRIDGE	PROJECT NUMBER	DECK AREA	BR COST	COST Sq. Ft.	LENGTH
25543	156-080-03	3,105	174,525.50	56.21	90.90
45536	45-597-02	5,284	239,033.00	45.24	105.69
20534	20-613-07	3,147	107,624.07	34.20	80.00
50567	50-599-31	3,119	134,771.02	43.21	99.54
51519	51-599-09	2,640	91,863.00	34.80	88.00
40513	40-605-02	5,677	221,201.55	38.96	144.33
22571	22-599-44	2,520	90,500.00	35.91	84.00
72529	72-608-19	3,648	112,423.00	30.82	96.00
42537	42-598-19	4,535	153,761.80	33.91	140.27
45540	45-598-06	4,522	198,918.00	43.99	145.67
76516	76-599-13	3,593	133,269.28	37.09	112.29
37534	37-598-04	2,261	89,761.00	39.70	70.64
37535	37-598-05	2,261	135,310.00	59.85	70.64
78505	78-706-01	2,979	216,888.00	72.81	61.00
79537	79-608-08	4,643	161,807.00	34.85	131.42
19525	130-080-01	1,771	101,711.00	57.43	56.67
33526	33-610-11	2,839	118,874.77	41.87	94.62
25563	25-630-01	2,399	98,041.30	40.87	67.25
43515	43-598-04	3,923	141,374.24	36.04	112.08
83527	83-599-29	1,983	71,259.51	35.94	61.33
74533	74-599-10	2,496	96,667.45	38.73	78.00
87557	87-604-09	4,338	168,297.00	38.80	122.77
<hr/>					
Total	22	73,683	3,057,881	\$41.50	Average

## Bridges 150-499 Feet

NUMBER BRIDGE	PROJECT NUMBER	DECK AREA	BR COST	COST Sq. Ft.	LENGTH
55544	55-598-25	4,932	213,861.13	43.36	157.42
25547	156-128-02	6,811	331,940.00	48.74	157.17
54536	54-604-04	13,812	791,387.60	57.30	390.92
22577	22-599-52	4,932	232,971.00	47.24	157.38
76515	76-598-04	4,936	198,634.75	40.24	157.54
76517	76-598-05	6,479	231,298.85	35.70	184.71
62543	62-668-18	14,304	707,483.00	49.46	188.42
07555	07-608-06	8,401	352,249.50	41.93	237.75
77517	77-599-04	5,340	220,391.25	41.27	170.36
69565	131-010-01	13,202	652,512.00	49.43	250.67
<hr/>					
Total	10	83,149	3,932,729	\$47.30	Average

## Bridges 500 Feet and Over

NUMBER BRIDGE	PROJECT NUMBER	DECK AREA	BR COST	COST Sq. Ft.	LENGTH
08527	08-613-09 & 52-635-01	25,942	1,453,693.57	\$56.04	598.67

## Bridge widening

NUMBER BRIDGE	PROJECT NUMBER	DECK AREA	BR COST	COST Sq. Ft.	LENGTH
3433	75-613-09	1,353	199,515.05	\$147.46	23.00

## Railroad Bridge

NUMBER BRIDGE	PROJECT NUMBER	DECK AREA	BR COST	COST Lin. Ft.	LENGTH
27637	27-652-10	5,399	1,450,698	13,988	103.71

## Price per sq. ft.

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STATE OF MINNESOTA  
OFFICE MEMORANDUM

DEPARTMENT OF TRANSPORTATION  
Railroads and Waterways  
Room 810

TO: Kenneth Straus  
Highway Needs Unit

Date: February 26, 1988

FROM: Robert G. Swanson, Director  
Railroad Administration

PHONE: 296-2472

SUBJECT: Projected Railroad Grade Crossing  
Improvements - Cost for 1988

We have projected 1988 costs for railroad-highway work at grade crossing improvements. They are expected to be as follows:

Railroad Grade Crossings:

Signals (Single Track - Low Speed)* (Average Price)	Unit    \$65,000.00
--	---------------------

Signals and Gates: (Multiple Track - High & Low Speed) ** (Average Price)	Unit    \$95,000.00
---	---------------------

Signs Only	Unit    \$300.00
------------	------------------

\* 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.



1988 COUNTY SCREENING BOARD DATA

JUNE, 1988

C.S.A.H. Roadway Unit Price Report

Construction Item	1987 CSAH Needs Study Average	1983-1987 CSAH 5-Year Average	1987 CSAH Average	1988 CSAH Unit Price Recommended by CSAH Subcommittee
<u>Rural &amp; Urban Design</u>				
Grav. Base Cl 5 & 6/Ton	\$3.82 (C)	\$3.94 (C) 3.78 (R) 5.21 (U)	\$3.88 (C) 3.70 (R) 5.16 (U)	*
<u>Rural Design</u>				
Subbase Cl 3 & 4/Ton	\$3.54	\$3.65	\$3.75	G.B. - \$ 0.13
Bit.Base & Surf. 2331/Ton	16.71	18.02	15.51	G.B. + 11.63
Bit.Surf. 2341/Ton	17.95	19.94	17.64	G.B. + 13.76
Con.Surf. 2301/Sq.Yd.	11.71	---	11.77 (Mn/DOT)	11.80
Gravel Surf. 2118/Ton	3.68	3.76	3.80	G.B. - 0.08
Gravel Shldr. 2221/Ton	4.02	4.19	4.02	G.B. + 0.14
<u>Urban Design</u>				
Grading/Cu.Yd.	\$3.25	---	---	\$3.25
Subbase Cl 3 & 4/Ton	4.47	5.22	5.60	G.B.
Bit.Base & Surf. 2331/Ton	18.48	20.16	17.68	G.B. + 13.80
Bit.Surf. 2341/Ton	25.41	26.66	24.90	G.B. + 21.02
Con.Surf. 2301/Sq.Yd.	14.84	---	14.84 (Mn/DOT)	14.89

(C) Combined  
(R) Rural  
(U) Urban

\* The Recommended Gravel Base Unit Price for each individual county is shown on the state map foldout (Fig. A).

G.B. - The gravel base price as shown on the state map.

1988 MUNICIPAL SCREENING BOARD DATA  
UNIT PRICE RECOMMENDATION TO THE 1988 SCREENING BOARD

	Pay Item	1987 Prices	Subcommittee Suggested Prices For 1988	Screening Board Recommended Prices For 1988
Right of Way	Mile	\$10,000.00	\$10,000.00	-----
Grading	Cu. Yd.	3.00	3.00	-----
Removal Items				-----
Curb and Gutter	Lin. Ft.	1.75	1.75	-----
Sidewalk	Sq. Yd.	4.00	4.00	-----
Concrete Pavement	Sq. Yd.	3.75	4.00	-----
Tree Removal	Unit	100.00	135.00	-----
Base				-----
Class 4 Spec. #2211	Ton	5.00	4.75	-----
Class 5 Spec. #2211	Ton	6.00	6.00	-----
Bituminous Spec. #2331	Ton	22.00	21.00	-----
Surface				-----
Bituminous Spec. #2331	Ton	22.00	21.00	-----
Bituminous Spec. #2341	Ton	25.00	24.00	-----
Bituminous Spec. #2361	Ton	35.50	34.00	-----
Gravel Shldrs Spec. #2221	Ton	4.25	4.25	-----
Miscellaneous				-----
Traffic Signals	Mi.	12,000.00	15,000.00	-----
Street Lighting	Mi.	2,000.00	2,000.00 *	-----
Curb and Gutter	Lin. Ft.	6.00	6.00	-----
Sidewalk	Sq. Yd.	14.50	14.50	-----
Storm Sewer Adjustment	Mi.	62,000.00	62,000.00	-----
Storm Sewer	Mi.	196,000.00	196,000.00	-----
Structures				-----
Bridges 0 to 149 Ft.	Sq. Ft.	37.00	41.50	-----
Bridges 150 to 499 Ft.	Sq. Ft.	40.00	47.00	-----
Bridges 500 and over	Sq. Ft.	54.00	56.00	-----
Bridge Widening	Sq. Ft.	100.00	120.00	-----
Railroad over Highway				-----
Number of Tracks - 1	Lin. Ft.	2,250.00	2,250.00	-----
Additional Track (each)	Lin. Ft.	1,750.00	1,750.00	-----
Railroad Grade Crossing				-----
Signals (Single Track- Low Speed)	Unit	65,000.00	65,000.00	-----
Signals and Gate (Multiple Track = High & Low Speed)	Unit	95,000.00	95,000.00	-----
Signs Only	Unit	300.00	300.00	-----

\* Assumes one "accident prone" intersection per mile. The Subcommittee recommends consideration of \$16,000/mile which assumes street lights at all intersections.

ANNUAL MAINTENANCE COST  
FOR MUNICIPAL STATE AID STREET NEEDS

These are the current maintenance prices used in the M.S.A.S. maintenance needs study. It is interesting to note that no adjustments to these amounts have been made since 1958. Therefore, it is recommended that the Needs Subcommittee review these amounts and make their recommendation to the Screening Committee.

Existing Facilities Only  
-----

	Under 1000 VPD	Over 1000 VPD	Subcommittee Suggested Prices	Screening Board Recommended Prices
-----				
Traffic				
Lanes    ___miles x ___no. x	\$300	or	\$500 \$600 or \$1000	\$ _____
-----				
Median				
Strip    ___miles	x \$100	or	\$200 \$200 or \$400	\$ _____
-----				
Parking				
Lanes    ___miles x ___no. x	\$100		\$200	\$ _____
-----				
Storm				
Sewer    ___miles x	\$100		\$200	\$ _____
-----				
Traffic				
Signals	___no. x	\$100	\$200	\$ _____
-----				
TOTAL Estimated Maintenance Cost for Segment \$ _____				\$ _____
OR				
Unlimited Segments				
Minimum Allowance for Maintenance				
\$1000 per mile x _____length = \$ 2000/Mi				
\$ _____				
Limited Segments				
Minimum Allowance for Maintenance				
\$500 per mile x _____length = \$ 1000/Mi				
\$ _____				

The Subcommittee recommendation would increase the total maintenance apportionment needs approximately \$2.6 million.

1987 MSAS NEEDS STUDY FOR MAPLE GROVE  
 IDENTIFICATION - CONTROL SECTION 104 SEGMENT 020 COUNTY: HENNEPIN DISTRICT 5  
 TERMINI: 89TH AVE N - LAWDALE LANE TO DUNKIRK LANE  
 CLASSIFICATION - NON-FEDERAL INC. URBAN MINOR SYSTEM: NONE COST AREA 1  
 DESCRIPTION - FUNCTIONAL CLASSIFICATION: LOCAL STRUCTURAL CAPACITY TON  
 GRADED TO 36 FT IN 1900 SURFACED IN 1900 WITH 28 FT OF GRAVEL  
 RURAL DESIGN LENGTH .50 MILES 2 LANES NOT DIVIDED NO PARKING LANES  
 NO EXISTING STORM SEWER NO SETS OF TRAFFIC SIGNALS RIGHT OF WAY WIDTH = 66 FT  
 TERRAIN IS ROLLING SUBGRADE FACTOR = 100%  
 CONDITION - GRADE LINE ESTABLISHED DEFICIENT IN CROSS SECTION, DESIGN SPEED AND STRUCTURE  
 TRAFFIC - 1985 TRAFFIC 970 ADT PROJECTION FACTOR 1.5 PROJECTED TRAFFIC 1,455 ADT  
 PROPOSED DATA - 9 TON URBAN DESIGN 44 FEET WIDE 2 LANES NOT DIVIDED 2 PARKING LANES  
 RIGHT OF WAY WIDTH = 66 FEET

CONSTRUCTION ITEMS	QUANTITY	UNIT PRICE	ESTIMATED NEEDS COST	APPORTIONMENT COST
ITEMS FOR COMPLETE GRADING				
GRADING	11,193 CUBIC YD	3.00	33,579	33,579
STORM SEWER CONSTRUCTION	4.50 MILES	196,000.00	98,000	0
		GRADING ITEMS TOTAL	\$131,579	\$33,579
ITEMS FOR COMPLETE BASE				
GRAVEL SUBBASE #2211 CL 4	5,743 TONS	5.50	31,587	31,587
GRAVEL BASE #2211 CL 5	2,895 TONS	6.00	17,370	17,370
BITUMINOUS BASE #2331	968 TONS	22.00	21,296	21,296
		BASE ITEMS TOTAL	\$70,253	\$70,253
ITEMS FOR INITIAL SURFACE				
BITUMINOUS SURFACE #2341	1,936 TONS	25.00	48,400	48,400
		SURFACE ITEMS TOTAL	\$48,400	\$48,400
MISCELLANEOUS CONSTRUCTION				
CURB AND GUTTER	5,280 LIN FEET	6.00	31,680	31,680
TRAFFIC SIGNALS	.50 MILES	12,000.00	6,000	6,000
STREET LIGHTS	.50 MILES	2,000.00	1,000	1,000
		MISCELLANEOUS CONSTRUCTION ITEMS TOTAL	\$38,680	\$38,680
		ALL ROADWAY ITEMS TOTAL	\$288,912	\$190,912
		ALL CONSTRUCTION ITEMS TOTAL	\$288,912	\$190,912
		ENGINEERING & CONTINGENCIES	\$28,891	\$500
		MAINTENANCE TOTAL		\$191,412
SEGMENT 020 - LENGTH .50 MILES - GRAND TOTAL ALL ITEMS			\$317,803	

1988 MUNICIPAL SCREEMING BOARD DATA

Status of Municipal Traffic Counting

1. Seven County Metropolitan Traffic Area

Cities in the seven county metropolitan area count cooperatively with Mn/DOT. All cities, except Minneapolis and St. Paul, are scheduled to count on the odd numbered years. Minneapolis and St. Paul will count their individual municipalities over the 1987-1988 cycle.

2. Out-State Municipalities

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

A. Municipalities that have a count annually

Duluth counts 1/4 of the city each year.

B. Traffic to be counted in 1988 by state forces

Detroit Lakes      International Falls      Montevideo

C. Traffic to be counted in 1988 by individual municipalities

Austin

D. Traffic to be counted in 1989 by state forces

Albert Lea	Faribault	Moorhead
Brainerd	Grand Rapids	Morris
Crookston	Little Falls	New Ulm
East Grand Forks	Mankato	Northfield
Fairmont	Marshall	

E. Traffic to be counted in 1990 by state forces

Alexandria	Rochester	Worthington
Cloquet	Willmar	

F. Traffic to be counted in 1991 by state forces

Bemidji	Hermantown	Owatonna	Sauk Rapids
Chisholm	Hibbing	Red Wing	Thief River Falls
Elk River	Hutchinson	Redwood Falls	Virginia
Eleveth	Litchfield	St. Cloud	Waseca
Fergus Falls	North Mankato	St. Peter	Winona



Minnesota Department of Transportation

Transportation Building, St. Paul, MN 55155

Phone 296-1662

In reply refer to:  
Status of Construction Fund Balance

Dear Mr.

The present Screening Directive states that whenever a municipality's construction fund balance available as of June 30th of the current year, not including the current years allotment, exceeds \$300,000 or two times their annual construction allotment (whichever is greater), the Unencumbered Construction Fund Subcommittee will review and allow the city in question to explain the reason for the large balance.

Our records show that as of February 1, 1988 you have \$ \_\_\_\_\_ available for construction, not including the 1988 allotment.

Your city should work toward reducing this amount by \$ \_\_\_\_\_ to a balance of \$ \_\_\_\_\_ to avoid a possible adjustment recommendation by the Unencumbered Construction Fund Subcommittee.

If the balance is not reduced by June 30, the city will be asked to supply the subcommittee a status report of progress made toward awarding a construction project that would reduce the fund balance within the limits of the Screening Committee Resolution.

In 1989 Communities exceeding the guidelines set by the Screening Committee Resolution will be notified that they are exceeding the balance limit as of June 30, and will given the opportunity to appear before the Unencumbered Subcommittee. An adjustment will be made if the Report of State Aid Contract, which would reduce the fund balance to comply with the Screening Committee Resolution, is not filed with the District State Aid Engineer by September 1.

The Subcommittee will make recommendation on adjustment to the Screening Committee. The Screening Committee will determine whether to grant an exception to the community.

If there questions regarding your fund balance, please feel free to call me at the above number.

Sincerely,

Kenneth Straus  
Municipal State Aid Needs Manager

UNENCUMBERED CONSTRUCTION FUNDS  
SUMMARY OF THE THIRTY-NINE CITIES WHICH EXCEED THE LIMITATIONS  
OF THE SCREENING COMMITTEE DIRECTIVES

Municipality	Balance As Of 2-1-88	A	B	C	D	Column B ----- Column A
		1988 Construction Allotment	Amount Available 2-1-88	Allowable Balance	Excess Balance	
Albert Lea	\$1,214,289	\$361,518	\$852,771	\$723,036 **	\$129,735	2.36
Apple Valley	1,824,359	503,847	1,320,512	1,007,694 **	312,818	2.62
Bemidji	819,272	227,843	591,429	455,686 **	135,743	2.60
Brooklyn Center	2,099,349	581,019	1,518,330	1,162,038 **	356,292	2.61
Champlin	604,891	173,088	431,803	346,176 **	85,627	2.49
Chaska	795,638	186,971	608,667	373,942 **	234,725	3.26
Columbia Heights	865,605	218,884	646,721	437,768 **	208,954	2.95
East Grand Forks	594,063	193,870	400,193	387,740 **	12,453	2.06
Edina	2,063,062	669,521	1,393,541	1,339,042 **	54,499	2.08
Elk River	777,768	241,915	535,853	483,830 **	52,023	2.22
Fairmont	768,767	239,436	529,331	478,872 **	50,459	2.21
Fergus Falls	711,030	181,178	529,852	362,356 **	167,496	2.92
Fridley	1,854,053	379,717	1,474,336	759,434 **	714,903	3.88
Golden Valley	2,026,104	560,491	1,465,613	1,120,982 **	344,631	2.61
Hermantown	1,146,528	245,097	901,431	490,194 **	411,237	3.68
Hopkins	1,235,443	211,703	1,023,740	423,406 **	600,334	4.84
Hutchinson	691,031	194,042	496,989	388,084 **	108,905	2.56
International Falls	652,468	143,446	509,022	300,000 *	209,022	3.55
Lake Elmo	625,822	106,958	518,864	300,000 *	218,864	4.85
Litchfield	523,672	165,727	357,945	331,454 **	26,491	2.16
Little Falls	584,751	182,483	402,268	364,966 **	37,302	2.20
Maplewood	3,070,004	585,022	2,484,982	1,170,044 **	1,314,938	4.25
Mendota Heights	662,211	190,014	472,197	380,028 **	92,169	2.49
New Brighton	1,201,316	264,335	936,981	528,671 **	408,310	3.54
New Hope	825,793	242,335	583,458	484,670 **	98,789	2.41
New Ulm	1,501,988	272,439	1,229,549	544,878 **	684,671	4.51
Northfield	1,005,080	275,757	729,323	551,514 **	177,809	2.64
North St. Paul	800,818	218,341	582,477	436,682 **	145,795	2.67
Orono	461,001	143,645	317,356	300,000 *	17,356	2.21
Prior Lake	855,293	242,943	612,350	485,886 **	126,464	2.52
Richfield	1,665,292	468,281	1,197,011	936,562 **	260,449	2.56
Rochester	3,828,790	1,187,774	2,641,016	2,375,548 **	265,468	2.22
Rosemount	884,198	253,026	631,172	506,052 **	125,120	2.49
St. Peter	552,837	149,114	403,723	300,000 *	103,723	2.71
Sauk Rapids	522,649	158,334	364,315	316,668 **	47,647	2.30
Shakopee	887,915	160,663	727,252	321,326 **	405,926	4.53
South St. Paul	897,272	271,662	625,610	543,324 **	82,286	2.30
Vadnais Heights	407,163	92,246	314,917	300,000 *	14,917	3.41
West St. Paul	1,157,666	196,844	960,822	393,688 **	567,134	4.88

\* Includes allowable \$300,000

\*\* 2 x 1988 construction allotment

ADDITIONAL REVENUE FOR CITIES  
 BASED ON 1988 APPORTIONMENT  
 (Amounts include a 25% increase in motor vehicle  
 excise tax and a 3 cent gas tax increase and  
 5% from General Fund)

Municipalities	1988 Apportionment Distribution Percentage	1989 Effect
<hr style="border-top: 1px dashed black;"/>		
Albert Lea	0.6634%	\$69,658
Alexandria	0.3251%	34,130
Andover	0.5711%	59,962
 Anoka	 0.5516%	 57,914
Apple Valley	0.8985%	94,344
Arden Hills	0.2545%	26,722
 Austin	 0.9351%	 98,185
Bemidji	0.4276%	44,901
Blaine	1.1405%	119,750
 Bloomington	 2.9918%	 314,141
Brainerd	0.5737%	60,244
Brooklyn Center	1.0497%	110,217
 Brooklyn Park	 1.4482%	 152,064
Burnsville	1.5031%	157,828
Champlin	0.3188%	33,472
 Chanhasen	 0.4428%	 46,497
Chaska	0.3423%	35,945
Chisholm	0.2564%	26,922
 Cloquet	 0.7797%	 81,865
Columbia Heights	0.4999%	52,489
Coon Rapids	1.2681%	133,146
 Cottage Grove	 0.7883%	 82,769
Crookston	0.4592%	48,218
Crystal	1.0748%	112,854
 Detroit Lakes	 0.2759%	 28,974
Duluth	4.4336%	465,527
Eagan	1.2957%	136,053
 East Bethel	 0.3772%	 39,607
East Grand Forks	0.3580%	37,590
Eden Prairie	1.2261%	128,740
 Edina	 1.4209%	 149,192
Elk River	0.4546%	47,737
Eveleth	0.1912%	20,079



Municipalities	1988 Apportionment Distribution Percentage	1989 Effect
Fairmont	0.4534%	47,609
Falcon Heights	0.1373%	14,419
Faribault	0.7257%	76,198
Farmington	0.1751%	18,381
Fergus Falls	0.4138%	43,447
Fridley	0.8672%	91,058
Golden Valley	1.0175%	106,833
Grand Rapids	0.3208%	33,684
Ham Lake	0.3551%	37,286
Hastings	0.4580%	48,089
Hermantown	0.4532%	47,586
Hibbing	1.1930%	125,269
Hopkins	0.3857%	40,501
Hutchinson	0.3570%	37,486
International Falls	0.2579%	27,078
Inver Grove Heights	0.7922%	83,185
Lake Elmo	0.2443%	25,649
Lakeville	0.9107%	95,626
Lino Lakes	0.4756%	49,941
Litchfield	0.3040%	31,919
Little Canada	0.2692%	28,266
Little Falls	0.3474%	36,481
Mankato	0.9084%	95,379
Maple Grove	1.7027%	178,779
Maplewood	1.0332%	108,490
Marshall	0.4064%	42,675
Mendota Heights	0.3501%	36,756
Minneapolis	14.4597%	1,518,273
Minnetonka	1.3697%	143,821
Montevideo	0.2730%	28,660
Moorhead	1.1969%	125,673
Morris	0.2824%	29,649
Mound	0.3272%	34,356
Mounds View	0.3524%	36,998
New Brighton	0.6037%	63,389
New Hope	0.5535%	58,113
New Ulm	0.4994%	52,436
Northfield	0.5713%	59,991
North Mankato	0.3504%	36,796

Municipalities	1988 Apportionment Distribution Percentage	1989 Effect
North St. Paul	0.3903%	40,980
Oakdale	0.4963%	52,115
Orono	0.3281%	34,447
Owatonna	0.7701%	80,858
Plymouth	1.3540%	142,167
Prior Lake	0.4324%	45,402
Ramsey	0.6684%	70,182
Red Wing	0.8971%	94,191
Redwood Falls	0.2260%	23,727
Richfield	1.0695%	112,296
Robbinsdale	0.3362%	35,306
Rochester	2.1290%	223,550
Rosemount	0.4501%	47,258
Roseville	1.7319%	181,854
St. Anthony	0.1818%	19,091
St. Cloud	1.8864%	198,071
St. Louis Park	1.3126%	137,823
St. Paul	11.2225%	1,178,362
St. Peter	0.2763%	29,009
Sauk Rapids	0.2902%	30,471
Savage	0.3843%	40,350
Shakopee	0.3024%	31,755
Shoreview	0.4844%	50,858
South St. Paul	0.6204%	65,146
Spring Lake Park	0.1907%	20,019
Stillwater	0.5390%	56,590
Thief River Falls	0.3904%	40,996
Vadnais Heights	0.1665%	17,478
Virginia	0.3817%	40,080
Waseca	0.2389%	25,087
West St. Paul	0.3670%	38,538
White Bear Lake	0.9294%	97,588
Willmar	0.5529%	58,057
Winona	0.8575%	90,036
Woodbury	1.0262%	107,752
Worthington	0.3672%	38,551
TOTAL	100.0000%	\$10,500,000

## M.S.A.S. UNIT PRICE STUDY

PAGE 6

		EXCAVATION		CU. YD.			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	27,090	46,707	6,474	11,162	4.18	.58
DULUTH	TOT	744,123	347,721	174,697	81,634	4.26	2.14
EVELETH	TOT	3,930	4,735	1,310	1,578	3.00	.83
HIBBING	TOT	52,542	37,001	17,632	12,417	2.98	1.42
DISTRICT 1	TOT	827,685	166,536	200,113	40,264	4.14	4.97
THIEF RIVER FALLS	TOT	63,417	86,873	37,304	51,101	1.70	.73
DISTRICT 2	TOT	63,417	86,873	37,304	51,101	1.70	.73
LITTLE FALLS	TOT	25,134	66,142	8,696	22,884	2.89	.38
ST CLOUD	TOT	84,862	54,052	35,845	22,831	2.37	1.57
ELK RIVER	TOT	20,121	43,741	21,300	46,304	.94	.46
DISTRICT 3	TOT	130,117	53,990	65,841	27,320	1.98	2.41
DETROIT LAKES	TOT	10,550	26,375	5,024	12,560	2.10	.40
FERGUS FALLS	TOT	22,550	55,000	11,000	26,829	2.05	.41
MORRIS	TOT	27,228	42,544	9,650	15,078	2.82	.64
DISTRICT 4	TOT	60,328	41,606	25,674	17,706	2.35	1.45
BLAINE	TOT	34,185	103,591	21,500	65,152	1.59	.33
BLOOMINGTON	TOT	119,445	52,159	21,799	9,519	5.48	2.29
BROOKLYN CENTER	TOT	13,758	42,994	2,293	7,166	6.00	.32
BROOKLYN PARK	TOT	131,185	72,478	58,392	32,261	2.25	1.81
COON RAPIDS	TOT	82,611	73,107	53,067	46,962	1.56	1.13
EDINA	TOT	86,748	157,724	24,785	45,064	3.50	.55
GOLDEN VALLEY	TOT	15,290	80,474	5,825	30,658	2.62	.19
MINNEAPOLIS	TOT	87,128	55,851	12,292	7,879	7.09	1.56
MINNETONKA	TOT	14,511	27,379	4,465	8,425	3.25	.53
PLYMOUTH	TOT	53,188	84,425	37,750	59,921	1.41	.63
ROBBINSDALE	TOT	34,125	53,320	5,250	8,203	6.50	.64
SHAKOPEE	TOT	14,487	30,823	14,783	31,453	.98	.47
NEW HOPE	TOT	11,152	14,297	3,280	4,205	3.40	.78
MAPLE GROVE	TOT	15,981	18,801	10,577	12,444	1.51	.85
ANDOVER	TOT	5,750	17,424	2,800	8,485	2.05	.33
RAMSEY	TOT	26,746	40,524	15,485	23,462	1.73	.66
PRIOR LAKE	TOT	984	4,920	246	1,230	4.00	.20
EAST BETHEL	TOT	44,377	55,471	22,300	27,875	1.99	.80
SAVAGE	TOT	136,133	77,790	51,150	29,229	2.66	1.75
DISTRICT 5	TOT	927,784	58,646	368,039	23,264	2.52	15.82
ALBERT LEA	TOT	11,326	28,315	7,233	18,083	1.57	.40
AUSTIN	TOT	18,351	30,585	5,035	8,392	3.64	.60
FARIBAULT	TOT	19,016	48,759	4,354	11,164	4.37	.39
NORTHFIELD	TOT	1,799	2,856	782	1,241	2.30	.63
RED WING	TOT	5,906		2,758		2.14	
WINONA	TOT	22,965	41,755	7,655	13,918	3.00	.55
DISTRICT 6	TOT	79,363	30,881	27,817	10,824	2.85	2.57
MANKATO	TOT	52,417	134,403	3,956	10,144	13.25	.39
WORTHINGTON	TOT	2,644	10,169	661	2,542	4.00	.26
DISTRICT 7	TOT	55,061	84,709	4,617	7,103	11.93	.65
MONTEVIDEO	TOT	30,261	47,283	12,104	18,913	2.50	.64

## M.S.A.S. UNIT PRICE STUDY

PAGE 7

		EXCAVATION		CU. YD.			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
REDWOOD FALLS	TOT	2,529	42,150	1,920	32,000	1.32	.06
DISTRICT 8	TOT	32,790	46,843	14,024	20,034	2.34	.70
HASTINGS	TOT	150	395	50	132	3.00	.38
NEW BRIGHTON	TOT	40,007	41,674	12,310	12,823	3.25	.96
NORTH ST PAUL	TOT	17,538	116,920	5,532	36,880	3.17	.15
ST PAUL	TOT	24,039	55,905	8,013	18,635	3.00	.43
STILLWATER	TOT	52,800	38,540	22,000	16,058	2.40	1.37
WEST ST PAUL	TOT	10,300	36,786	2,822	10,079	3.65	.28
INVER GROVE HEIGHTS	TOT	8,500	8,252	1,700	1,650	5.00	1.03
BURNSVILLE	TOT	84,108	44,267	69,308	36,478	1.21	1.90
WOODBURY	TOT	3,500	8,333	1,000	2,381	3.50	.42
LITTLE CANADA	TOT	38,070	48,190	21,754	27,537	1.75	.79
ROSEMOUNT	TOT	18,900	30,000	4,550	7,222	4.15	.63
DISTRICT 9	TOT	297,912	35,721	149,039	17,870	2.00	8.34
STATE TOTAL		2,474,457	65,740	892,468	23,711	2.77	37.64

## M.S.A.S. UNIT PRICE STUDY

PAGE 8

TOTALS		EXCAVATION		CU. YD.			
		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	827,685	166,536	200,113	40,264	4.14	4.97
DISTRICT 2	TOT	63,417	86,873	37,304	51,101	1.70	.73
DISTRICT 3	TOT	130,117	53,990	65,841	27,320	1.98	2.41
DISTRICT 4	TOT	60,328	41,606	25,674	17,706	2.35	1.45
DISTRICT 5	TOT	927,784	58,646	368,039	23,264	2.52	15.82
DISTRICT 6	TOT	79,363	30,881	27,817	10,824	2.85	2.57
DISTRICT 7	TOT	55,061	84,709	4,617	7,103	11.93	.65
DISTRICT 8	TOT	32,790	46,843	14,024	20,034	2.34	.70
DISTRICT 9	TOT	297,912	35,721	149,039	17,870	2.00	8.34
STATE TOTAL		2,474,457	65,740	892,468	23,711	2.77	37.64

## M.S.A.S. UNIT PRICE STUDY

PAGE 111

## CURB &amp; GUTTER REM. LIN. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	8,600	14,828	5,801	10,002	1.48	.58
DULUTH	TOT	1,142	4,392	571	2,196	2.00	.26
EVELETH	TOT	1,912	2,304	1,912	2,304	1.00	.83
HIBBING	TOT	4,048	4,353	3,335	3,586	1.21	.93
DISTRICT 1	TOT	15,702	6,039	11,619	4,469	1.35	2.60
BEMIDJI	TOT	125	36	83	24	1.51	3.50
EAST GRAND FORKS	TOT	187	445	622	1,481	.30	.42
THIEF RIVER FALLS	TOT	760	1,407	240	444	3.17	.54
DISTRICT 2	TOT	1,072	240	945	212	1.13	4.46
LITTLE FALLS	TOT	99	261	50	132	1.98	.38
DISTRICT 3	TOT	99	261	50	132	1.98	.38
DETROIT LAKES	TOT	3,564	8,910	1,980	4,950	1.80	.40
MOORHEAD	TOT	8,415	14,763	2,550	4,474	3.30	.57
MORRIS	TOT	6,065	9,477	4,135	6,461	1.47	.64
DISTRICT 4	TOT	18,044	11,207	8,665	5,382	2.08	1.61
BLOOMINGTON	TOT	17,177	7,501	7,724	3,373	2.22	2.29
BROOKLYN CENTER	TOT	200	625	50	156	4.00	.32
BROOKLYN PARK	TOT	1,338	836	654	409	2.05	1.60
EDINA	TOT	2,202	4,004	2,560	4,655	.86	.55
MINNEAPOLIS	TOT	18,895	15,746	10,827	9,023	1.75	1.20
PLYMOUTH	TOT	180	286	80	127	2.25	.63
ROBBINSDALE	TOT	10,200	15,938	6,800	10,625	1.50	.64
NEW HOPE	TOT	15,590	3,248	6,645	1,384	2.35	4.80
PRIOR LAKE	TOT	250	1,250	100	500	2.50	.20
SAVAGE	TOT	1,350	1,646	510	622	2.65	.82
DISTRICT 5	TOT	67,382	5,163	35,950	2,755	1.87	13.05
ALBERT LEA	TOT	2,910	6,614	1,940	4,409	1.50	.44
AUSTIN	TOT	3,331	5,552	6,404	10,673	.52	.60
FARIBAULT	TOT	846	3,678	282	1,226	3.00	.23
WINONA	TOT	5,004	9,098	2,502	4,549	2.00	.55
DISTRICT 6	TOT	12,091	6,643	11,128	6,114	1.09	1.82
FAIRMONT	TOT	3,104	7,760	1,552	3,880	2.00	.40
LIVERNE	TOT	804	766	402	383	2.00	1.05
DISTRICT 7	TOT	3,908	2,695	1,954	1,348	2.00	1.45
MONTEVIDEO	TOT	495	773	495	773	1.00	.64
DISTRICT 8	TOT	495	773	495	773	1.00	.64
NEW BRIGHTON	TOT	2,244	2,338	1,496	1,558	1.50	.96
NORTH ST PAUL	TOT	94	627	85	567	1.11	.15
ST PAUL	TOT	773	1,798	515	1,198	1.50	.43
SOUTH ST PAUL	TOT	450	4,091	90	818	5.00	.11
STILLWATER	TOT	12,225	8,923	8,150	5,949	1.50	1.37
INVER GROVE HEIGHTS	TOT	450	1,500	90	300	5.00	.30
BURNSVILLE	TOT	4,000	2,685	2,000	1,342	2.00	1.49
DISTRICT 9	TOT	20,236	4,207	12,426	2,583	1.63	4.81

M.S.A.S. UNIT PRICE STUDY

PAGE 112

CURB & GUTTER REM. LIN. FT.

TOTALS	TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
STATE TOTAL	139,029	4,511	83,232	2,701	1.67	30.82

## M.S.A.S. UNIT PRICE STUDY

PAGE 113

## CURB &amp; GUTTER REM. LIN. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	15,702	6,039	11,619	4,469	1.35	2.60
DISTRICT 2	TOT	1,072	240	945	212	1.13	4.46
DISTRICT 3	TOT	99	261	50	132	1.98	.38
DISTRICT 4	TOT	18,044	11,207	8,665	5,382	2.08	1.61
DISTRICT 5	TOT	67,382	5,163	35,950	2,755	1.87	13.05
DISTRICT 6	TOT	12,091	6,643	11,128	6,114	1.09	1.82
DISTRICT 7	TOT	3,908	2,695	1,954	1,348	2.00	1.45
DISTRICT 8	TOT	495	773	495	773	1.00	.64
DISTRICT 9	TOT	20,236	4,207	12,426	2,583	1.63	4.81
STATE TOTAL		139,029	4,511	83,232	2,701	1.67	30.82



## M.S.A.S. UNIT PRICE STUDY

PAGE 117

## SIDEWALK REMOVAL SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	10,625	18,319	33,493	57,747	.32	.58
DULUTH	TOT	13,760	8,654	50,205	31,575	.27	1.59
EVELETH	TOT	1,175	1,416	4,701	5,664	.25	.83
HIBBING	TOT	3,578	3,847	12,500	13,441	.29	.93
DISTRICT 1	TOT	29,138	7,414	100,899	25,674	.29	3.93
BEMIDJI	TOT	9,317	2,662	12,422	3,549	.75	3.50
THIEF RIVER FALLS	TOT	230	426	430	796	.53	.54
DISTRICT 2	TOT	9,547	2,363	12,852	3,181	.74	4.04
MOORHEAD	TOT	9,075	15,921	16,500	28,947	.55	.57
MORRIS	TOT	422	659	2,014	3,147	.21	.64
DISTRICT 4	TOT	9,497	7,849	18,514	15,301	.51	1.21
BLOOMINGTON	TOT	6,782	3,569	21,793	11,470	.31	1.90
EDINA	TOT	3,050	5,545	2,593	4,715	1.18	.55
MINNEAPOLIS	TOT	27,609	23,008	54,601	45,501	.51	1.20
ROBBINSDALE	TOT	1,320	2,063	4,400	6,875	.30	.64
SAVAGE	TOT	2,260	2,756	2,260	2,756	1.00	.82
DISTRICT 5	TOT	41,021	8,028	85,647	16,761	.48	5.11
AUSTIN	TOT	6,524	10,873	11,940	19,900	.55	.60
FARIBAULT	TOT	1,456	6,330	1,638	7,122	.89	.23
WINONA	TOT	4,119	7,489	16,474	29,953	.25	.55
DISTRICT 6	TOT	12,099	8,767	30,052	21,777	.40	1.38
FAIRMONT	TOT	1,283	3,208	1,283	3,208	1.00	.40
MANKATO	TOT	3,288	8,431	5,480	14,051	.60	.39
WORTHINGTON	TOT	374	1,438	832	3,200	.45	.26
LUVERNE	TOT	1,723	1,641	1,273	1,212	1.35	1.05
DISTRICT 7	TOT	6,668	3,175	8,868	4,223	.75	2.10
MONTEVIDEO	TOT	1,388	4,082	2,775	8,162	.50	.34
DISTRICT 8	TOT	1,388	4,082	2,775	8,162	.50	.34
NEW BRIGHTON	TOT	581	605	1,290	1,344	.45	.96
NORTH ST PAUL	TOT	268	1,787	315	2,100	.85	.15
ST PAUL	TOT	272	633	680	1,581	.40	.43
SOUTH ST PAUL	TOT	30	273	15	136	2.00	.11
STILLWATER	TOT	19,500	14,234	48,750	35,584	.40	1.37
BURNSVILLE	TOT	11,540	3,771	12,340	4,033	.94	3.06
DISTRICT 9	TOT	32,191	5,295	63,390	10,426	.51	6.08
STATE TOTAL		141,549	5,852	322,997	13,353	.44	24.19

$$141,549/322,997 = 4382 \times 9 = 3.94 \text{ sq. yd.}$$

## M.S.A.S. UNIT PRICE STUDY

PAGE 118

## SIDEWALK REMOVAL SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	29,138	7,414	100,899	25,674	.29	3.93
DISTRICT 2	TOT	9,547	2,363	12,852	3,181	.74	4.04
DISTRICT 4	TOT	9,497	7,849	18,514	15,301	.51	1.21
DISTRICT 5	TOT	41,021	8,028	85,647	16,761	.48	5.11
DISTRICT 6	TOT	12,099	8,767	30,052	21,777	.40	1.38
DISTRICT 7	TOT	6,668	3,175	8,868	4,223	.75	2.10
DISTRICT 8	TOT	1,388	4,082	2,775	8,162	.50	.34
DISTRICT 9	TOT	32,191	5,295	63,390	10,426	.51	6.08
STATE TOTAL		141,549	5,852	322,997	13,353	.44	24.19

$$141,549 \div 322,997 = 4382 \times 9 = 3.94 \text{ Sq. Yd.}$$

## M.S.A.S. UNIT PRICE STUDY

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CONC. PAVEM. REM. SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	31,530	54,362	89,280	153,931	.35	.58
DULUTH	TOT	49,238	30,967	167,565	105,387	.29	1.59
EVELETH	TOT	1,208	1,455	345	416	3.50	.83
HIBBING	TOT	4,603	4,949	3,102	3,335	1.48	.93
DISTRICT 1	TOT	86,579	22,030	260,292	66,232	.33	3.93
EAST GRAND FORKS	TOT	11,633	27,698	61,587	146,636	.19	.42
DISTRICT 2	TOT	11,633	27,698	61,587	146,636	.19	.42
ST CLOUD	TOT	33,543	39,932	65,628	78,129	.51	.84
ELK RIVER	TOT	330	3,300	1,188	11,880	.28	.10
DISTRICT 3	TOT	33,873	36,035	66,816	71,081	.51	.94
DETROIT LAKES	TOT	1,829	4,573	2,790	6,975	.66	.40
MOORHEAD	TOT	8,597	15,631	13,455	24,464	.64	.55
MORRIS	TOT	1,768	4,653	3,744	9,853	.47	.38
DISTRICT 4	TOT	12,194	9,168	19,989	15,029	.61	1.33
BROOKLYN CENTER	TOT	700	2,188	630	1,969	1.11	.32
BROOKLYN PARK	TOT	100	167	25	42	4.00	.60
EDINA	TOT	39,715	72,209	105,750	192,273	.38	.55
MINNEAPOLIS	TOT	155,932	98,070	213,534	134,298	.73	1.59
ROBBINSDALE	TOT	1,050	1,641	945	1,477	1.11	.64
NEW HOPE	TOT	3,750	933	7,500	1,866	.50	4.02
DISTRICT 5	TOT	201,247	26,068	328,384	42,537	.61	7.72
AUSTIN	TOT	32,758	54,597	39,108	65,180	.84	.60
FARIBAULT	TOT	496	2,157	558	2,426	.89	.23
DISTRICT 6	TOT	33,254	40,065	39,666	47,790	.84	.83
FAIRMONT	TOT	35,600	89,000	54,472	136,180	.65	.40
WORTHINGTON	TOT	28,708	110,415	89,820	345,462	.32	.26
DISTRICT 7	TOT	64,308	97,436	144,292	218,624	.45	.66
MONTEVIDEO	TOT	20,118	59,171	9,580	28,176	2.10	.34
DISTRICT 8	TOT	20,118	59,171	9,580	28,176	2.10	.34
NEW BRIGHTON	TOT	965	1,005	257	268	3.75	.96
ST PAUL	TOT	658	1,530	188	437	3.50	.43
INVER GROVE HEIGHTS	TOT	1,200	1,165	900	874	1.33	1.03
BURNSVILLE	TOT	27,000	17,197	27,000	17,197	1.00	1.57
DISTRICT 9	TOT	29,823	7,474	28,345	7,104	1.05	3.99
STATE TOTAL		493,029	24,456	958,951	47,567	.51	20.16

$$493,029/958,951 = .514 \times 9 = 4.63$$

## M.S.A.S. UNIT PRICE STUDY

PAGE 123

CONC. PAVEM. REM. SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	86,579	22,030	260,292	66,232	.33	3.93
DISTRICT 2	TOT	11,633	27,698	61,587	146,636	.19	.42
DISTRICT 3	TOT	33,873	36,035	66,816	71,081	.51	.94
DISTRICT 4	TOT	12,194	9,168	19,989	15,029	.61	1.33
DISTRICT 5	TOT	201,247	26,068	328,384	42,537	.61	7.72
DISTRICT 6	TOT	33,254	40,065	39,666	47,790	.84	.83
DISTRICT 7	TOT	64,308	97,436	144,292	218,624	.45	.66
DISTRICT 8	TOT	20,118	59,171	9,580	28,176	2.10	.34
DISTRICT 9	TOT	29,823	7,474	28,345	7,104	1.05	3.99
STATE TOTAL		493,029	24,456	958,951	47,567	.51	20.16

$$493,029/958,951 = .514 \times 9 = 4.63$$

## M.S.A.S. UNIT PRICE STUDY

PAGE 126

		CLEARING 2101		NUMBER			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	3,675	6,336	41	71	89.63	.58
DULUTH	TOT	5,485	4,124	98	74	55.97	1.33
EVELETH	TOT	1,100	1,325	11	13	100.00	.83
DISTRICT 1	TOT	10,260	3,745	150	55	68.40	2.74
ST CLOUD	TOT	1,370	1,202	29	25	47.24	1.14
DISTRICT 3	TOT	1,370	1,202	29	25	47.24	1.14
FERGUS FALLS	TOT	2,950	7,195	59	144	50.00	.41
MORRIS	TOT	1,125	1,758	16	25	70.31	.64
DISTRICT 4	TOT	4,075	3,881	75	71	54.33	1.05
BROOKLYN CENTER	TOT	900	2,813	9	28	100.00	.32
EDINA	TOT	1,764	3,207	36	65	49.00	.55
MINNEAPOLIS	TOT	3,600	4,800	22	29	163.64	.75
MINNETONKA	TOT	140	264	4	8	35.00	.53
ROBBINSDALE	TOT	150	234	1	2	150.00	.64
ANDOVER	TOT	2,100	6,364	30	91	70.00	.33
RAMSEY	TOT	650	2,955	10	45	65.00	.22
SAVAGE	TOT	6,200	4,000	65	42	95.38	1.55
DISTRICT 5	TOT	15,504	3,171	177	36	87.59	4.89
AUSTIN	TOT	450	9,000	6	120	75.00	.05
FARIBAULT	TOT	1,500	6,522	6	26	250.00	.23
WINONA	TOT	720	1,309	9	16	80.00	.55
DISTRICT 6	TOT	2,670	3,217	21	25	127.14	.83
MONTEVIDEO	TOT	300	882	3	9	100.00	.34
DISTRICT 8	TOT	300	882	3	9	100.00	.34
NEW BRIGHTON	TOT	2,295	2,391	38	40	60.39	.96
INVER GROVE HEIGHTS	TOT	198	660	9	30	22.00	.30
DISTRICT 9	TOT	2,493	1,979	47	37	53.04	1.26
STATE TOTAL		36,672	2,994	502	41	73.05	12.25

Tree removal

$$\begin{array}{r}
 36,672 \quad 502 \text{ Clearing} \\
 34,818 \quad 568 \text{ Grubbing} \\
 \hline
 71,490 \div (1070) = 133.63 \\
 \quad \quad \quad 2
 \end{array}$$

## M.S.A.S. UNIT PRICE STUDY

PAGE 127

		CLEARING	2101	NUMBER			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	10,260	3,745	150	55	68.40	2.74
DISTRICT 3	TOT	1,370	1,202	29	25	47.24	1.14
DISTRICT 4	TOT	4,075	3,881	75	71	54.33	1.05
DISTRICT 5	TOT	15,504	3,171	177	36	87.59	4.89
DISTRICT 6	TOT	2,670	3,217	21	25	127.14	.83
DISTRICT 8	TOT	300	882	3	9	100.00	.34
DISTRICT 9	TOT	2,493	1,979	47	37	53.04	1.26
STATE TOTAL		36,672	2,994	502	41	73.05	12.25

Tree removal

36,672	502	Clearing
<u>34,818</u>	<u>568</u>	Grubbing
$71,490 \div (1070) =$		133.63
2		

## M.S.A.S. UNIT PRICE STUDY

PAGE 130

## GRUBBING 2101

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	5,420	9,345	61	105	88.85	.58
DULUTH	TOT	6,855	5,154	133	100	51.54	1.33
EVELETH	TOT	1,100	1,325	11	13	100.00	.83
DISTRICT 1	TOT	13,375	4,881	205	75	65.24	2.74
ST CLOUD	TOT	1,750	1,535	35	31	50.00	1.14
DISTRICT 3	TOT	1,750	1,535	35	31	50.00	1.14
FERGUS FALLS	TOT	2,950	7,195	59	144	50.00	.41
MORRIS	TOT	1,125	1,758	16	25	70.31	.64
DISTRICT 4	TOT	4,075	3,881	75	71	54.33	1.05
BROOKLYN CENTER	TOT	450	1,406	9	28	50.00	.32
EDINA	TOT	1,813	3,296	37	67	49.00	.55
MINNEAPOLIS	TOT	3,600	4,800	22	29	163.64	.75
MINNETONKA	TOT	130	245	2	4	65.00	.53
ROBBINSDALE	TOT	150	234	1	2	150.00	.64
ANDOVER	TOT	1,500	4,545	30	91	50.00	.33
RAMSEY	TOT	300	1,364	10	45	30.00	.22
SAVAGE	TOT	3,250	2,097	65	42	50.00	1.55
DISTRICT 5	TOT	11,193	2,289	176	36	63.60	4.89
AUSTIN	TOT	420	8,400	6	120	70.00	.05
FARIBAULT	TOT	700	3,043	6	26	116.67	.23
WINONA	TOT	1,520	2,764	19	35	80.00	.55
DISTRICT 6	TOT	2,640	3,181	31	37	85.16	.83
NEW BRIGHTON	TOT	1,470	1,531	37	39	39.73	.96
INVER GROVE HEIGHTS	TOT	315	1,050	9	30	35.00	.30
DISTRICT 9	TOT	1,785	1,417	46	37	38.80	1.26
STATE TOTAL		34,818	2,923	568	48	61.30	11.91

## Tree removal

$$\begin{array}{r}
 36,672 \\
 34,818 \\
 \hline
 71,490
 \end{array}
 \div
 \begin{array}{r}
 502 \text{ Clearing} \\
 568 \text{ Grubbing} \\
 \hline
 (1070) \\
 2
 \end{array}
 = 133.63$$

## GRUBBING 2101

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	13,375	4,881	205	75	65.24	2.74
DISTRICT 3	TOT	1,750	1,535	35	31	50.00	1.14
DISTRICT 4	TOT	4,075	3,881	75	71	54.33	1.05
DISTRICT 5	TOT	11,193	2,289	176	36	63.60	4.89
DISTRICT 6	TOT	2,640	3,181	31	37	85.16	.83
DISTRICT 9	TOT	1,785	1,417	46	37	38.80	1.26
STATE TOTAL		34,818	2,923	568	48	61.30	11.91

## Tree Removal

36,672	502	Clearing
34,818	568	Grubbing
71,490	$\frac{1070}{2}$	= 133.63



## M.S.A.S. UNIT PRICE STUDY

PAGE 18

TOTALS		GRAVEL SUBBASE 2211		TONS		QUANTITY PER MILE	UNIT PRICE	LENGTH
		TOTAL COST	COST PER MILE	TOTAL QUANTITY				
THIEF RIVER FALLS	TOT	107,555	147,336	30,730	42,096	3.50		.73
DISTRICT 2	TOT	107,555	147,336	30,730	42,096	3.50		.73
LITTLE FALLS	TOT	14,380	37,842	2,905	7,645	4.95		.38
DISTRICT 3	TOT	14,380	37,842	2,905	7,645	4.95		.38
GOLDEN VALLEY	TOT	14,780	77,789	2,956	15,558	5.00		.19
PLYMOUTH	TOT	34,160	54,222	7,000	11,111	4.88		.63
DISTRICT 5	TOT	48,940	59,683	9,956	12,141	4.92		.82
REDWOOD FALLS	TOT	1,800	30,000	560	9,333	3.21		.06
DISTRICT 8	TOT	1,800	30,000	560	9,333	3.21		.06
NEW BRIGHTON	TOT	5,565	5,797	1,124	1,171	4.95		.96
ST PAUL	TOT	41,223	95,867	10,718	24,926	3.85		.43
WOODBURY	TOT	20,160	48,000	4,800	11,429	4.20		.42
DISTRICT 9	TOT	66,948	36,988	16,642	9,194	4.02		1.81
STATE TOTAL		239,623	63,059	60,793	15,998	3.94		3.80

## M.S.A.S. UNIT PRICE STUDY

PAGE 19

TOTALS		GRAVEL SUBBASE 2211		TONS			
		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 2	TOT	107,555	147,336	30,730	42,096	3.50	.73
DISTRICT 3	TOT	14,380	37,842	2,905	7,645	4.95	.38
DISTRICT 5	TOT	48,940	59,683	9,956	12,141	4.92	.82
DISTRICT 8	TOT	1,800	30,000	560	9,333	3.21	.06
DISTRICT 9	TOT	66,948	36,988	16,642	9,194	4.02	1.81
STATE TOTAL		239,623	63,059	60,793	15,998	3.94	3.80

## M.S.A.S. UNIT PRICE STUDY

PAGE 25

		GRAVEL BASE 2211		TONS			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	41,135	70,922	5,265	9,078	7.81	.58
DULUTH	TOT	253,907	109,443	37,070	15,978	6.85	2.32
EVELETH	TOT	2,300	2,771	435	524	5.29	.83
HIBBING	TOT	111,944	78,834	20,518	14,449	5.46	1.42
DISTRICT 1	TOT	409,286	79,473	63,288	12,289	6.47	5.15
BEMIDJI	TOT	293	84	56	16	5.23	3.50
THIEF RIVER FALLS	TOT	16,530	22,644	4,165	5,705	3.97	.73
DISTRICT 2	TOT	16,823	3,977	4,221	998	3.99	4.23
LITTLE FALLS	TOT	8,839	23,261	1,488	3,916	5.94	.38
ST CLOUD	TOT	102,886	65,532	20,269	12,910	5.08	1.57
ELK RIVER	TOT	22,302	48,483	5,085	11,054	4.39	.46
DISTRICT 3	TOT	134,027	55,613	26,842	11,138	4.99	2.41
DETROIT LAKES	TOT	5,400	13,500	900	2,250	6.00	.40
FERGUS FALLS	TOT	32,564	79,424	6,728	16,410	4.84	.41
MORRIS	TOT	45,500	71,094	12,644	19,756	3.60	.64
DISTRICT 4	TOT	83,464	57,561	20,272	13,981	4.12	1.45
BLAINE	TOT	55,680	168,727	6,000	18,182	9.28	.33
BLOOMINGTON	TOT	116,395	50,828	17,467	7,628	6.66	2.29
BROOKLYN CENTER	TOT	13,010	40,656	1,770	5,531	7.35	.32
BROOKLYN PARK	TOT	88,439	48,861	16,059	8,872	5.51	1.81
COON RAPIDS	TOT	53,774	47,588	9,104	8,057	5.91	1.13
EDINA	TOT	127,393	231,624	21,592	39,258	5.90	.55
GOLDEN VALLEY	TOT	7,602	40,011	905	4,763	8.40	.19
MINNEAPOLIS	TOT	27,605	153,361	2,449	13,606	11.27	.18
PLYMOUTH	TOT	57,819	91,776	7,975	12,659	7.25	.63
SHAKOPEE	TOT	34,542	73,494	5,935	12,628	5.82	.47
NEW HOPE	TOT	22,400	4,667	3,200	667	7.00	4.80
MAPLE GROVE	TOT	66,187	77,867	13,548	15,939	4.89	.85
ANDOVER	TOT	15,505	46,985	2,530	7,667	6.13	.33
RAMSEY	TOT	18,764	28,430	3,265	4,947	5.75	.66
PRIOR LAKE	TOT	10,280	51,400	1,285	6,425	8.00	.20
EAST BETHEL	TOT	37,746	47,183	5,400	6,750	6.99	.80
SAVAGE	TOT	100,045	57,169	15,400	8,800	6.50	1.75
DISTRICT 5	TOT	853,186	49,346	133,884	7,743	6.37	17.29
ALBERT LEA	TOT	3,848	18,324	810	3,857	4.75	.21
AUSTIN	TOT	35,470	59,117	5,110	8,517	6.94	.60
FARIBAULT	TOT	25,663	65,803	3,108	7,969	8.26	.39
NORTHFIELD	TOT	12,198	19,362	2,600	4,127	4.69	.63
RED WING	TOT	7,009		1,136		6.17	
WINONA	TOT	40,129	72,962	7,543	13,715	5.32	.55
DISTRICT 6	TOT	124,317	52,234	20,307	8,532	6.12	2.38
FAIRMONT	TOT	14,096	35,240	2,294	5,735	6.14	.40
MANKATO	TOT	39,410	101,051	5,630	14,436	7.00	.39
WORTHINGTON	TOT	11,857	45,604	1,949	7,496	6.08	.26
DISTRICT 7	TOT	65,363	62,250	9,873	9,403	6.62	1.05
MONTEVIDEO	TOT	10,866	16,978	1,850	2,891	5.87	.64

		GRAVEL BASE 2211		TONS			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
WILLMAR	TOT	4,323	2,001	1,235	572	3.50	2.16
REDWOOD FALLS	TOT	2,925	48,750	650	10,833	4.50	.06
DISTRICT 8	TOT	18,114	6,334	3,735	1,306	4.85	2.86
HASTINGS	TOT	172	453	35	92	4.91	.38
NEW BRIGHTON	TOT	32,200	33,542	4,472	4,658	7.20	.96
NORTH ST PAUL	TOT	10,200	68,000	1,200	8,000	8.50	.15
ST PAUL	TOT	15,444	35,916	2,245	5,221	6.88	.43
STILLWATER	TOT	98,700	72,044	25,200	18,394	3.92	1.37
WEST ST PAUL	TOT	18,586	66,379	2,560	9,143	7.26	.28
BURNSVILLE	TOT	138,637	39,953	35,090	10,112	3.95	3.47
WOODBURY	TOT	47,114	112,176	9,615	22,893	4.90	.42
LITTLE CANADA	TOT	95,900	121,392	14,000	17,722	6.85	.79
ROSEMOUNT	TOT	23,579	57,510	5,059	12,339	4.66	.41
DISTRICT 9	TOT	480,532	55,489	99,476	11,487	4.83	8.66
STATE TOTAL		2,185,112	48,046	381,898	8,397	5.72	45.48

## M.S.A.S. UNIT PRICE STUDY

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TOTALS		GRAVEL BASE 2211		TONS			
		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	409,286	79,473	63,288	12,289	6.47	5.15
DISTRICT 2	TOT	16,823	3,977	4,221	998	3.99	4.23
DISTRICT 3	TOT	134,027	55,613	26,842	11,138	4.99	2.41
DISTRICT 4	TOT	83,464	57,561	20,272	13,981	4.12	1.45
DISTRICT 5	TOT	853,186	49,346	133,884	7,743	6.37	17.29
DISTRICT 6	TOT	124,317	52,234	20,307	8,532	6.12	2.38
DISTRICT 7	TOT	65,363	62,250	9,873	9,403	6.62	1.05
DISTRICT 8	TOT	18,114	6,334	3,735	1,306	4.85	2.86
DISTRICT 9	TOT	480,532	55,489	99,476	11,487	4.83	8.66
STATE TOTAL		2,185,112	48,046	381,898	8,397	5.72	45.48

## BIT. SURF. 2331 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	86,746	96,384	3,454	3,838	25.11	.90
DULUTH	TOT	356,314	153,584	15,885	6,847	22.43	2.32
HIBBING	TOT	122,717	86,420	5,284	3,721	23.22	1.42
DISTRICT 1	TOT	565,777	121,935	24,623	5,307	22.98	4.64
BEMIDJI	TOT	5,521	1,577	271	77	20.37	3.50
THIEF RIVER FALLS	TOT	99,605	76,619	5,792	4,455	17.20	1.30
DISTRICT 2	TOT	105,126	21,901	6,063	1,263	17.34	4.80
LITTLE FALLS	TOT	22,605	59,487	1,105	2,908	20.46	.38
ST CLOUD	TOT	160,687	102,348	12,826	8,169	12.53	1.57
ELK RIVER	TOT	28,913	62,854	1,310	2,848	22.07	.46
DISTRICT 3	TOT	212,205	88,052	15,241	6,324	13.92	2.41
DETROIT LAKES	TOT	24,171	60,428	606	1,515	39.89	.40
FERGUS FALLS	TOT	27,183	66,300	1,310	3,195	20.75	.41
MOORHEAD	TOT	38,460	67,474	2,016	3,537	19.08	.57
MORRIS	TOT	61,626	96,291	2,377	3,714	25.93	.64
DISTRICT 4	TOT	151,440	74,970	6,309	3,123	24.00	2.02
BLAINE	TOT	32,005	96,985	1,610	4,879	19.88	.33
BLOOMINGTON	TOT	135,735	63,133	6,254	2,909	21.70	2.15
BROOKLYN CENTER	TOT	15,432	48,225	542	1,694	28.47	.32
BROOKLYN PARK	TOT	179,318	99,071	8,604	4,754	20.84	1.81
COON RAPIDS	TOT	64,999	57,521	3,233	2,861	20.10	1.13
EDINA	TOT	134,405	244,373	6,972	12,676	19.28	.55
GOLDEN VALLEY	TOT	42,846	225,505	1,919	10,100	22.33	.19
MINNEAPOLIS	TOT	319,982	189,338	12,925	7,648	24.76	1.69
MINNETONKA	TOT	73,367	138,428	3,484	6,574	21.06	.53
PLYMOUTH	TOT	70,880	112,508	4,000	6,349	17.72	.63
ROBBINSDALE	TOT	77,910	121,734	3,870	6,047	20.13	.64
SHAKOPEE	TOT	25,285	53,798	1,327	2,823	19.05	.47
NEW HOPE	TOT	15,570	19,962	800	1,026	19.46	.78
MAPLE GROVE	TOT	73,819	95,869	3,694	4,797	19.98	.77
ANDOVER	TOT	10,227	30,991	525	1,591	19.48	.33
RAMSEY	TOT	24,619	37,302	1,225	1,856	20.10	.66
PRIOR LAKE	TOT	18,428	92,140	930	4,650	19.82	.20
SAVAGE	TOT	86,466	57,644	5,340	3,560	16.19	1.50
DISTRICT 5	TOT	1,401,293	95,456	67,254	4,581	20.84	14.68
ALBERT LEA	TOT	75,904	189,760	3,360	8,400	22.59	.40
AUSTIN	TOT	95,472	272,777	4,299	12,283	22.21	.35
FARIBAULT	TOT	42,953	110,136	1,880	4,821	22.85	.39
NORTHFIELD	TOT	30,477	48,376	1,800	2,857	16.93	.63
RED WING	TOT	7,544		330		22.86	
WINONA	TOT	110,433	107,217	3,965	3,850	27.85	1.03
DISTRICT 6	TOT	362,783	129,565	15,634	5,584	23.20	2.80
MANKATO	TOT	24,004	61,549	1,920	4,923	12.50	.39
WASECA	TOT	7,878	49,238	371	2,319	21.23	.16
LUVERNE	TOT	50,243	47,850	2,829	2,694	17.76	1.05
DISTRICT 7	TOT	82,125	51,328	5,120	3,200	16.04	1.60

## M.S.A.S. UNIT PRICE STUDY

PAGE 34

BIT. SURF. 2331 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
MONTEVIDEO	TOT	153,115	239,242	7,710	12,047	19.86	.64
REDWOOD FALLS	TOT	6,847	114,117	280	4,667	24.45	.06
DISTRICT 8	TOT	159,962	228,517	7,990	11,414	20.02	.70
HASTINGS	TOT	2,099	11,661	37	206	56.73	.18
NEW BRIGHTON	TOT	47,662	49,648	2,702	2,815	17.64	.96
NORTH ST PAUL	TOT	9,000	60,000	366	2,440	24.59	.15
ST PAUL	TOT	51,537	71,579	3,003	4,171	17.16	.72
STILLWATER	TOT	141,100	102,993	8,300	6,058	17.00	1.37
WEST ST PAUL	TOT	40,805	145,732	1,995	7,125	20.45	.28
BURNSVILLE	TOT	87,216	45,903	5,535	2,913	15.76	1.90
WOODBURY	TOT	54,355	129,417	3,580	8,524	15.18	.42
ROSEMOUNT	TOT	41,376	65,676	2,425	3,849	17.06	.63
DISTRICT 9	TOT	475,150	71,884	27,943	4,227	17.00	6.61
STATE TOTAL		3,515,861	87,329	176,177	4,376	19.96	40.26

## M.S.A.S. UNIT PRICE STUDY

PAGE 35

BIT. SURF. 2331 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	565,777	121,935	24,623	5,307	22.98	4.64
DISTRICT 2	TOT	105,126	21,901	6,063	1,263	17.34	4.80
DISTRICT 3	TOT	212,205	88,052	15,241	6,324	13.92	2.41
DISTRICT 4	TOT	151,440	74,970	6,309	3,123	24.00	2.02
DISTRICT 5	TOT	1,401,293	95,456	67,254	4,581	20.84	14.68
DISTRICT 6	TOT	362,783	129,565	15,634	5,584	23.20	2.80
DISTRICT 7	TOT	82,125	51,328	5,120	3,200	16.04	1.60
DISTRICT 8	TOT	159,962	228,517	7,990	11,414	20.02	.70
DISTRICT 9	TOT	475,150	71,884	27,943	4,227	17.00	6.61
STATE TOTAL		3,515,861	87,329	176,177	4,376	19.96	40.26



## M.S.A.S. UNIT PRICE STUDY

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BIT. SURF. 2341 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	64,816	72,018	2,327	2,586	27.85	.90
DULUTH	TOT	143,985	57,365	5,812	2,316	24.77	2.51
EVELETH	TOT	12,760	13,292	1,250	1,302	10.21	.96
DISTRICT 1	TOT	221,561	50,700	9,389	2,149	23.60	4.37
BEMIDJI	TOT	7,494	2,141	379	108	19.77	3.50
THIEF RIVER FALLS	TOT	12,493	59,490	615	2,929	20.31	.21
DISTRICT 2	TOT	19,987	5,387	994	268	20.11	3.71
LITTLE FALLS	TOT	18,780	49,421	830	2,184	22.63	.38
ST CLOUD	TOT	62,094	39,550	3,551	2,262	17.49	1.57
ELK RIVER	TOT	25,033	54,420	995	2,163	25.16	.46
DISTRICT 3	TOT	105,907	43,945	5,376	2,231	19.70	2.41
DETROIT LAKES	TOT	20,129	50,323	660	1,650	30.50	.40
FERGUS FALLS	TOT	15,961	38,929	655	1,598	24.37	.41
MOORHEAD	TOT	84	4,200	4	200	21.00	.02
DISTRICT 4	TOT	36,174	43,583	1,319	1,589	27.43	.83
BLAINE	TOT	48,365	146,561	2,463	7,464	19.64	.33
BLOOMINGTON	TOT	187,680	133,106	7,375	5,230	25.45	1.41
BROOKLYN PARK	TOT	108,650	60,028	4,629	2,557	23.47	1.81
COON RAPIDS	TOT	55,855	49,429	2,426	2,147	23.02	1.13
EDINA	TOT	72,558	131,924	2,256	4,102	32.16	.55
GOLDEN VALLEY	TOT	27,684	145,705	1,076	5,663	25.73	.19
MINNEAPOLIS	TOT	208,674	101,792	6,323	3,084	33.00	2.05
PLYMOUTH	TOT	73,940	117,365	3,200	5,079	23.11	.63
ROBBINSDALE	TOT	48,558	75,872	1,980	3,094	24.52	.64
SHAKOPEE	TOT	23,159	49,274	985	2,096	23.51	.47
NEW HOPE	TOT	4,500	938	200	42	22.50	4.80
MAPLE GROVE	TOT	43,044	50,640	3,339	3,928	12.89	.85
ANDOVER	TOT	14,854	45,012	525	1,591	28.29	.33
RAMSEY	TOT	31,152	47,200	1,350	2,045	23.08	.66
PRIOR LAKE	TOT	10,804	54,020	465	2,325	23.23	.20
EAST BETHEL	TOT	36,526	45,658	1,400	1,750	26.09	.80
SAVAGE	TOT	135,294	90,196	7,190	4,793	18.82	1.50
DISTRICT 5	TOT	1,131,297	61,651	47,182	2,571	23.98	18.35
ALBERT LEA	TOT	42,245	96,011	1,330	3,023	31.76	.44
AUSTIN	TOT	27,048	77,280	1,079	3,083	25.07	.35
FARIBAULT	TOT	23,015	59,013	836	2,144	27.53	.39
NORTHFIELD	TOT	28,103	44,608	1,450	2,302	19.38	.63
DISTRICT 6	TOT	120,411	66,525	4,695	2,594	25.65	1.81
MANKATO	TOT	38,356	98,349	820	2,103	46.78	.39
WORTHINGTON	TOT	894	3,438	14	54	63.86	.26
DISTRICT 7	TOT	39,250	60,385	834	1,283	47.06	.65
MONTEVIDEO	TOT	37,758	58,997	1,490	2,328	25.34	.64
REDWOOD FALLS	TOT	3,873	64,550	145	2,417	26.71	.06
DISTRICT 8	TOT	41,631	59,473	1,635	2,336	25.46	.70
HASTINGS	TOT	23,226	61,121	1,280	3,368	18.15	.38

## M.S.A.S. UNIT PRICE STUDY

PAGE 42

BIT. SURF. 2341 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
NORTH ST PAUL	TOT	7,424	49,493	275	1,833	27.00	.15
ST PAUL	TOT	61,717	70,939	2,162	2,485	28.55	.87
SOUTH ST PAUL	TOT	27,046	65,966	1,180	2,878	22.92	.41
STILLWATER	TOT	67,796	49,486	3,300	2,409	20.54	1.37
WEST ST PAUL	TOT	19,598	69,993	993	3,546	19.74	.28
INVER GROVE HEIGHTS	TOT	1,424	1,383	42	41	33.90	1.03
BURNSVILLE	TOT	187,877	98,883	10,008	5,267	18.77	1.90
WOODBURY	TOT	59,123	140,769	3,080	7,333	19.20	.42
LITTLE CANADA	TOT	120,912	153,053	5,170	6,544	23.39	.79
ROSEMOUNT	TOT	60,178	95,521	2,980	4,730	20.19	.63
DISTRICT 9	TOT	636,321	77,317	30,470	3,702	20.88	8.23
STATE TOTAL		2,352,539	57,295	101,894	2,482	23.09	41.06

## M.S.A.S. UNIT PRICE STUDY

PAGE 43

BIT. SURF. 2341 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	221,561	50,700	9,389	2,149	23.60	4.37
DISTRICT 2	TOT	19,987	5,387	994	268	20.11	3.71
DISTRICT 3	TOT	105,907	43,945	5,376	2,231	19.70	2.41
DISTRICT 4	TOT	36,174	43,583	1,319	1,589	27.43	.83
DISTRICT 5	TOT	1,131,297	61,651	47,182	2,571	23.98	18.35
DISTRICT 6	TOT	120,411	66,525	4,695	2,594	25.65	1.81
DISTRICT 7	TOT	39,250	60,385	834	1,283	47.06	.65
DISTRICT 8	TOT	41,631	59,473	1,635	2,336	25.46	.70
DISTRICT 9	TOT	636,321	77,317	30,470	3,702	20.88	8.23
STATE TOTAL		2,352,539	57,295	101,894	2,482	23.09	41.06

## M.S.A.S. UNIT PRICE STUDY

PAGE 46

BIT. SURF. 2361 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DULUTH	TOT	99,273	38,182	3,145	1,210	31.57	2.60
EVELETH	TOT	33,470	34,865	1,250	1,302	26.78	.96
HIBBING	TOT	47,720	33,606	1,523	1,073	31.33	1.42
DISTRICT 1	TOT	180,463	36,238	5,918	1,188	30.49	4.98
ST CLOUD	TOT	62,002	45,927	2,720	2,015	22.79	1.35
DISTRICT 3	TOT	62,002	45,927	2,720	2,015	22.79	1.35
MOORHEAD	TOT	48,381	87,965	1,100	2,000	43.98	.55
DISTRICT 4	TOT	48,381	87,965	1,100	2,000	43.98	.55
BROOKLYN CENTER	TOT	20,920	65,375	560	1,750	37.36	.32
MINNEAPOLIS	TOT	176,898	104,673	5,293	3,132	33.42	1.69
MINNETONKA	TOT	10,649	20,092	332	626	32.08	.53
NEW HOPE	TOT	171,258	35,679	6,470	1,348	26.47	4.80
DISTRICT 5	TOT	379,725	51,734	12,655	1,724	30.01	7.34
NEW BRIGHTON	TOT	9,830	10,240	350	365	28.09	.96
ST PAUL	TOT	32,910	29,384	1,033	922	31.86	1.12
DISTRICT 9	TOT	42,740	20,548	1,383	665	30.90	2.08
STATE TOTAL		713,311	43,761	23,776	1,459	30.00	16.30

## M.S.A.S. UNIT PRICE STUDY

PAGE 47

BIT. SURF. 2361 TONS

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	180,463	36,238	5,918	1,188	30.49	4.98
DISTRICT 3	TOT	62,002	45,927	2,720	2,015	22.79	1.35
DISTRICT 4	TOT	48,381	87,965	1,100	2,000	43.98	.55
DISTRICT 5	TOT	379,725	51,734	12,655	1,724	30.01	7.34
DISTRICT 9	TOT	42,740	20,548	1,383	665	30.90	2.08
STATE TOTAL		713,311	43,761	23,776	1,459	30.00	16.30

		CURB & GUTTER 2531		LIN. FT.			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	38,322	66,072	6,036	10,407	6.35	.58
DULUTH	TOT	170,047	90,934	29,453	15,750	5.77	1.87
EVELETH	TOT	6,062	7,304	997	1,201	6.08	.83
HIBBING	TOT	57,546	61,877	9,642	10,368	5.97	.93
DISTRICT 1	TOT	271,977	64,603	46,128	10,957	5.90	4.21
BEMIDJI	TOT	582	166	83	24	7.01	3.50
EAST GRAND FORKS	TOT	5,362	12,767	766	1,824	7.00	.42
THIEF RIVER FALLS	TOT	44,080	29,192	8,140	5,391	5.42	1.51
DISTRICT 2	TOT	50,024	9,213	8,989	1,655	5.57	5.43
LITTLE FALLS	TOT	16,341	43,003	3,836	10,095	4.26	.38
ST CLOUD	TOT	72,236	46,010	15,461	9,848	4.67	1.57
ELK RIVER	TOT	26,237	57,037	5,579	12,128	4.70	.46
DISTRICT 3	TOT	114,814	47,641	24,876	10,322	4.62	2.41
DETROIT LAKES	TOT	11,880	29,700	1,980	4,950	6.00	.40
FERGUS FALLS	TOT	26,140	63,756	3,997	9,749	6.54	.41
MOORHEAD	TOT	14,765	25,904	2,550	4,474	5.79	.57
MORRIS	TOT	35,894	56,084	6,142	9,597	5.84	.64
DISTRICT 4	TOT	88,679	43,900	14,669	7,262	6.05	2.02
BLAINE	TOT	31,620	95,818	6,200	18,788	5.10	.33
BLOOMINGTON	TOT	132,614	61,681	31,355	14,584	4.23	2.15
BROOKLYN CENTER	TOT	21,938	68,556	4,002	12,506	5.48	.32
BROOKLYN PARK	TOT	80,081	44,244	18,961	10,476	4.22	1.81
COON RAPIDS	TOT	57,292	50,701	11,584	10,251	4.95	1.13
EDINA	TOT	46,031	83,693	9,070	16,491	5.08	.55
GOLDEN VALLEY	TOT	12,832	58,327	2,192	9,964	5.85	.22
MINNEAPOLIS	TOT	126,255	74,707	16,887	9,992	7.48	1.69
MINNETONKA	TOT	12,528	23,638	2,562	4,834	4.89	.53
PLYMOUTH	TOT	26,465	42,008	6,700	10,635	3.95	.63
ROBBINSDALE	TOT	31,280	48,875	6,800	10,625	4.60	.64
SHAKOPEE	TOT	17,766	37,800	4,200	8,936	4.23	.47
NEW HOPE	TOT	46,390	9,665	6,580	1,371	7.05	4.80
MAPLE GROVE	TOT	39,840	46,871	9,050	10,647	4.40	.85
ANDOVER	TOT	15,116	45,806	3,475	10,530	4.35	.33
RAMSEY	TOT	22,375	50,852	4,475	10,170	5.00	.44
PRIOR LAKE	TOT	10,351	51,755	2,226	11,130	4.65	.20
SAVAGE	TOT	69,900	46,600	16,200	10,800	4.31	1.50
DISTRICT 5	TOT	800,674	43,070	162,519	8,742	4.93	18.59
ALBERT LEA	TOT	9,932	52,274	1,910	10,053	5.20	.19
AUSTIN	TOT	42,692	92,809	4,947	10,754	8.63	.46
FARIBAULT	TOT	23,166	59,400	3,990	10,231	5.81	.39
NORTHFIELD	TOT	32,443	51,497	6,830	10,841	4.75	.63
WINONA	TOT	35,086	63,793	5,316	9,665	6.60	.55
DISTRICT 6	TOT	143,319	64,558	22,993	10,357	6.23	2.22
LUVERNE	TOT	3,160	3,010	395	376	8.00	1.05
DISTRICT 7	TOT	3,160	3,010	395	376	8.00	1.05
MONTEVIDEO	TOT	26,622	41,597	4,905	7,664	5.43	.64

## M.S.A.S. UNIT PRICE STUDY

PAGE 54

		CURB & GUTTER 2531		LIN. FT.			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
REDWOOD FALLS	TOT	3,730	62,167	680	11,333	5.49	.06
DISTRICT 8	TOT	30,352	43,360	5,585	7,979	5.43	.70
MOUNDS VIEW	TOT	51,141	45,662	9,159	8,178	5.58	1.12
NORTH ST PAUL	TOT	8,952	59,680	1,775	11,833	5.04	.15
ST PAUL	TOT	32,043	44,504	4,770	6,625	6.72	.72
SOUTH ST PAUL	TOT	1,080	9,818	90	818	12.00	.11
STILLWATER	TOT	66,691	48,680	11,400	8,321	5.85	1.37
WEST ST PAUL	TOT	14,090	50,321	3,145	11,232	4.48	.28
INVER GROVE HEIGHTS	TOT	507	492	65	63	7.80	1.03
BURNSVILLE	TOT	90,548	29,591	21,674	7,083	4.18	3.06
WOODBURY	TOT	36,309	86,450	7,410	17,643	4.90	.42
LITTLE CANADA	TOT	37,485	47,449	8,330	10,544	4.50	.79
ROSEMOUNT	TOT	26,876	42,660	5,980	9,492	4.49	.63
DISTRICT 9	TOT	365,722	37,781	73,798	7,624	4.96	9.68
STATE TOTAL		1,868,721	40,352	359,952	7,773	5.19	46.31

		CURB & GUTTER 2531		LIN. FT.			
TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	271,977	64,603	46,128	10,957	5.90	4.21
DISTRICT 2	TOT	50,024	9,213	8,989	1,655	5.57	5.43
DISTRICT 3	TOT	114,814	47,641	24,876	10,322	4.62	2.41
DISTRICT 4	TOT	88,679	43,900	14,669	7,262	6.05	2.02
DISTRICT 5	TOT	800,674	43,070	162,519	8,742	4.93	18.59
DISTRICT 6	TOT	143,319	64,558	22,993	10,357	6.23	2.22
DISTRICT 7	TOT	3,160	3,010	395	376	8.00	1.05
DISTRICT 8	TOT	30,352	43,360	5,585	7,979	5.43	.70
DISTRICT 9	TOT	365,722	37,781	73,798	7,624	4.96	9.68
STATE TOTAL		1,868,721	40,352	359,952	7,773	5.19	46.31



## M.S.A.S. UNIT PRICE STUDY

PAGE 104

## SIDEWALK CONSTR. SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
CHISHOLM	TOT	43,511	75,019	22,926	39,528	1.90	.58
DULUTH	TOT	141,098	75,453	74,135	39,644	1.90	1.87
EVELETH	TOT	7,992	9,629	4,701	5,664	1.70	.83
HIBBING	TOT	43,824	47,123	23,200	24,946	1.89	.93
DISTRICT 1	TOT	236,425	56,158	124,962	29,682	1.89	4.21
BEMIDJI	TOT	43,128	12,322	25,158	7,188	1.71	3.50
EAST GRAND FORKS	TOT	9,684	23,057	8,070	19,214	1.20	.42
THIEF RIVER FALLS	TOT	1,609	2,063	625	801	2.57	.78
DISTRICT 2	TOT	54,421	11,579	33,853	7,203	1.61	4.70
LITTLE FALLS	TOT	14,142	37,216	8,676	22,832	1.63	.38
ST CLOUD	TOT	32,369	63,469	28,300	55,490	1.14	.51
ELK RIVER	TOT	8,349	83,490	4,705	47,050	1.77	.10
DISTRICT 3	TOT	54,860	55,414	41,681	42,102	1.32	.99
FERGUS FALLS	TOT	915	2,232	500	1,220	1.83	.41
MOORHEAD	TOT	32,089	56,296	19,160	33,614	1.67	.57
MORRIS	TOT	4,059	6,342	2,518	3,934	1.61	.64
DISTRICT 4	TOT	37,063	22,878	22,178	13,690	1.67	1.62
BLAINE	TOT	30,366	92,018	10,130	30,697	3.00	.33
BLOOMINGTON	TOT	58,861	30,979	43,306	22,793	1.36	1.90
BROOKLYN CENTER	TOT	30,600	95,625	18,000	56,250	1.70	.32
BROOKLYN PARK	TOT	41,861	51,680	33,185	40,969	1.26	.81
EDINA	TOT	37,398	67,996	27,100	49,273	1.38	.55
GOLDEN VALLEY	TOT	14,584	66,291	10,504	47,745	1.39	.22
MINNEAPOLIS	TOT	159,044	132,537	72,807	60,673	2.18	1.20
ROBBINSDALE	TOT	7,040	11,000	4,400	6,875	1.60	.64
NEW HOPE	TOT	12,000	2,985	7,500	1,866	1.60	4.02
PRIOR LAKE	TOT	5,760	28,800	3,840	19,200	1.50	.20
SAVAGE	TOT	28,135	22,154	19,300	15,197	1.46	1.27
DISTRICT 5	TOT	425,649	37,142	250,072	21,821	1.70	11.46
ALBERT LEA	TOT	35,600	77,391	17,800	38,696	2.00	.46
AUSTIN	TOT	30,880	51,467	18,910	31,517	1.63	.60
FARIBAULT	TOT	2,564	11,148	1,198	5,209	2.14	.23
WINONA	TOT	38,887	70,704	23,330	42,418	1.67	.55
DISTRICT 6	TOT	107,931	58,658	61,238	33,282	1.76	1.84
MANKATO	TOT	25,699	28,875	14,311	16,080	1.80	.89
WORTHINGTON	TOT	1,456	5,600	832	3,200	1.75	.26
LIVERNE	TOT	6,452	6,145	1,613	1,536	4.00	1.05
DISTRICT 7	TOT	33,607	15,276	16,756	7,616	2.01	2.20
MONTEVIDEO	TOT	8,052	23,682	6,710	19,735	1.20	.34
WILLMAR	TOT	111,422	42,205	74,779	28,325	1.49	2.64
DISTRICT 8	TOT	119,474	40,092	81,489	27,345	1.47	2.98
MOUNDS VIEW	TOT	49,985	44,629	41,654	37,191	1.20	1.12
NEW BRIGHTON	TOT	39,326	40,965	21,848	22,758	1.80	.96
SOUTH ST PAUL	TOT	90	818	15	136	6.00	.11

## M.S.A.S. UNIT PRICE STUDY

PAGE 105

## SIDEWALK CONSTR. SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
STILLWATER	TOT	75,600	55,182	42,000	30,657	1.80	1.37
INVER GROVE HEIGHTS	TOT	37,467	36,376	26,260	25,495	1.43	1.03
BURNSVILLE	TOT	91,135	29,783	73,100	23,889	1.25	3.06
WOODBURY	TOT	13,716	32,657	12,700	30,238	1.08	.42
DISTRICT 9	TOT	307,319	38,082	217,577	26,961	1.41	8.07
STATE TOTAL		1,376,749	36,164	849,806	22,322	1.62	38.07
						<u>9</u>	
						14.58	Sq. Yd.

## M.S.A.S. UNIT PRICE STUDY

PAGE 106

## SIDEWALK CONSTR. SQ. FT.

TOTALS		TOTAL COST	COST PER MILE	TOTAL QUANTITY	QUANTITY PER MILE	UNIT PRICE	LENGTH
DISTRICT 1	TOT	236,425	56,158	124,962	29,682	1.89	4.21
DISTRICT 2	TOT	54,421	11,579	33,853	7,203	1.61	4.70
DISTRICT 3	TOT	54,860	55,414	41,681	42,102	1.32	.99
DISTRICT 4	TOT	37,063	22,878	22,178	13,690	1.67	1.62
DISTRICT 5	TOT	425,649	37,142	250,072	21,821	1.70	11.46
DISTRICT 6	TOT	107,931	58,658	61,238	33,282	1.76	1.84
DISTRICT 7	TOT	33,607	15,276	16,756	7,616	2.01	2.20
DISTRICT 8	TOT	119,474	40,092	81,489	27,345	1.47	2.98
DISTRICT 9	TOT	307,319	38,082	217,577	26,961	1.41	8.07
STATE TOTAL		1,376,749	36,164	849,806	22,322	1.62	38.07

9  
 14.58 Sq. Yd.

CURRENT RESOLUTIONS  
OF THE  
MUNICIPAL SCREENING BOARD

JUNE 1987

BE IT RESOLVED:

ADMINISTRATION

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.

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.

Appointment to the Needs Study Subcommittee - June 1987

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 after the annual Spring meeting of the Municipal Screening Board. The appointed subcommittee person shall serve as chairman of the subcommittee in the third year of the appointment.

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 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 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.

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.

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.

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. 1965 (Revised June 1987)

That when a Municipal State Aid Street is constructed to State Aid standards with State Aid funds, said construction shall be considered to be 100 percent accomplishment of total needs with the exception of additional surfacing. 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 are permitted in subsequent needs.

The money needs for all streets and bridges constructed with State Aid funds with the exception of additional surfacing, shall be removed from the Needs Study until such time as a reconstruction project is awarded. At that time, a money needs adjustment shall be made by annually adding the total amount of the street or bridge cost that is eligible for State Aid reimbursement for a 15-year period (except for preliminary engineering). This cost to exclude any federal or State Aid grants and to be effective on all reconstruction projects awarded after January 1, 1983.

In the event that an MSAS route earning "after the fact" needs is removed from the MSAS system, then the reconstruction and/or "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.

Each city will be responsible for reporting their qualified reconstruction projects with the annual needs update, beginning December 31, 1983.

That in order to be consistent with the previous resolution, the Office of State of State Aid is instructed to remove all needs except additional surface for streets that have been improved with the use of State Aid funds or are reported adequate.

MILEAGE

(Feb. 1959)

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 and County State Aid Highways.

(Nov. 1965 - Revised 1972)

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.

(Nov. 1965 - Revised 1969)

However, the maximum mileage for State Aid designation may be exceeded to the extent necessary to designate trunk highway turnbacks, only if sufficient mileage is not available as determined by the Annual Certification of Mileage.

(Jan. 1969)

Any mileage for designation prior to the trunk highway turnback shall be used for the turnback before exceeding the maximum mileage.

In the event the maximum mileage is exceeded by a trunk highway turnback, no additional designation other than trunk highway turnbacks can be considered until allowed by the computations of the Annual Certification of Mileage within which the maximum mileage for State Aid designation is determined.

Construction Cut Off Date - Oct. 1961 (Revised May 1980, Oct. 1982 and Oct. 1983)

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. The District State Aid Engineer will forward the request to the State Aid Engineer for review. A City Council resolution of approved mileage and the Needs Study reporting data must be received by the State Aid Engineer 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)

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.

A one-way street will be treated as one-half of a full four-lane width divided street of either 56 feet or 72 feet (72 feet when the projected ADT is over 8,000) for needs, and that the roadway system must be operating as one-way streets prior to the time of designation.

## COST

### Construction Item Unit Prices - (Revised Annually)

Right of Way:			\$ 10,000.00 Mile
Grading:			\$ 3.00 Cu. Yd.
Base:	Class 4	Spec. #2211	\$ 5.00 Ton
	Class 5	Spec. #2211	\$ 6.00 Ton
	Bituminous	Spec. #2331	22.00 Ton
Surface:	Bituminous	Spec. #2331	\$ 22.00 Ton
	Bituminous	Spec. #2341	25.00 Ton
	Bituminous	Spec. #2361	35.50 Ton
Shoulders:			
	Gravel	Spec. #2221	\$ 4.25 Ton
Miscellaneous:			
	Storm Sewer Construction		0 Mile
	Storm Sewer Adjustment		\$ 62,000.00 Mile
	Traffic Signals		12,000.00 Mile
	Street Lighting		2,000.00 Mile
	Curb & Gutter		6.00 Lin. Ft.
	Sidewalk		14.50 Sq. Yd.
Removal Items:			
	Curb & Gutter		\$ 1.75 Lin. Ft.
	Sidewalk		4.00 Sq. Yd.
	Concrete Pavement		3.75 Sq. Yd.
	Tree Removal		100.00 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.	\$37.00 Sq. Ft.
Bridges 150 to 499 Ft.	\$40.00 Sq. Ft.
Bridges 500 & Over	\$54.00 Sq. Ft.
Bridge Widening	\$100.00 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	\$2,250 Lin. Ft.
Each Additional Track	\$1,750 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)	\$65,000 Unit
Signals and Gates(Multiple Track - high	\$95,000 Unit
Signs Only & low speed)	\$ 300 Unit

#### 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.

#### Storm Sewer - June 1986

The money needs for all complete storm sewers shall be removed from the Needs Study until such time that adjustment shall be made by annually adding the amount of the Storm Sewer Construction project cost that is eligible for State Aid participation for a 15-year period. Adjust storm sewer will continue to be included as a needs item.

On all complete Storm Sewer Construction projects let in 1984 and subsequent years where State Aid Funds have participated in the cost, the complete Storm Sewer Needs will be determined by the Office of State Aid using the participating plan quantities, the participating percentage and the contract or force account prices.

In order to receive needs for qualifying Storm Sewer Construction projects funded with local funds let in 1984 and subsequent years, a plan and an Abstract of Bids or Construction Proceed Order must be submitted

to the Office of State Aid by the City Engineers. The Hydraulics Section of the Office of Design Services will determine the eligible percentage of participating storm sewer and the Office of State Aid will determine the complete Storm Sewer Needs.

Adjustments to the complete Storm Sewer Needs will be acceptable but the responsibility of reporting final costs will rest with the City Engineer.

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 (c