



PROPERTY OF  
MN/DOT LIBRARY  
Minnesota Department  
of Transportation

1996

*municipal*  
*screening board*  
*data*



MNDOT  
HE  
356  
.M6  
M53a  
1996

June 1996

May 1996

(612) 296-1662

TO: Municipal Engineers  
City Clerks

SUBJECT : Municipal Screening Board Data

Enclosed is a copy of the June 1996 Municipal Screening Board Data Booklet.

The data included in this report will be used by the Municipal Screening Board at its June 4 and 5, 1996 meeting near Brainerd to establish unit prices for the 1996 Needs Study and the 1997 apportionment. The Board will also review other recommendations of the Needs Study Subcommittee outlined in their minutes. The Needs Study Subcommittee minutes are found on pages 14-17.

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.

The distribution of this report is sent to all Municipal Engineers and when a consulting engineer is engaged by the municipality, a copy is also sent to the municipal clerk.

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

Sincerely,



Kenneth Straus  
Municipal Needs Manager

Enclosures:  
1996 Municipal State Aid Screening Board Data Booklet.

# 1996 MUNICIPAL SCREENING BOARD DATA

## TABLE OF CONTENTS

Map of Highway Districts and Urban Municipalities.....	1
1996 Municipal Screening Board.....	2
Subcommittees Appointed by the Commissioner.....	3
Minutes of Screening Board Meeting - October 24 & 25, 1995.....	4-13
Minutes of Needs Study Subcommittee Meeting - April 19, 1996.....	14-17
Unit Price Recommendation to the 1995 Screening Board.....	18

## MUNICIPAL STATE AID STREET UNIT PRICES AND GRAPHS

Unit Price Study.....	19
Excavation.....	20-22
Aggregate Shouldering.....	23-24
Curb & Gutter Removal #2104.....	25-27
Sidewalk Removal #2105.....	28-30
Concrete Pavement Removal #2106.....	31-33
Tree Removal #2101.....	34-37
Class 4- Subbase #2211.....	38-39
Class 5- Gravel Base #2211.....	40-42
Bituminous Base or Surface- Type 2331.....	43-45
Bituminous Surface- Type 2341.....	46-48
Bituminous Surface- Type 2361.....	49-50
Curb & Gutter Construction #2531.....	51-53
Sidewalk Construction #2521.....	54-56
Previous St. Sewer, Lighting, Signals, Railroad Costs.....	57
1995 Storm Sewer Costs Mn/DOT Hydraulics Section.....	58
Railroad Crossing Costs Mn/DOT Railroad Operations.....	59
1995 Bridge Construction Costs.....	60-65
Maintenance Needs.....	66-67
Relationship of the 25-Year Needs to Individual Construction Items.....	68

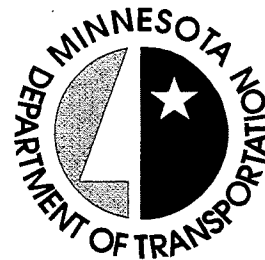
## OTHER TOPICS

Unit Price Review.....	69-70
Bituminous Overlay and Concrete Joint Repair Needs Adjustment.....	71
Money Needs Terminology.....	72-73
Screening Board Representative Term of Service.....	74
County Road Turnbacks.....	75-82
General Fund Advances.....	83
Relationship of Construction Balance to Construction Allotment.....	84
Apportionment Rankings.....	85-87
Vehicles per Mile per Day.....	88-90
Traffic Counts.....	91
Current Resolutions of the Municipal Screening Board.....	92-102



# STATE OF MINNESOTA

HIGHWAY DISTRICTS AND  
URBAN MUNICIPALITIES  
(population over 5000)



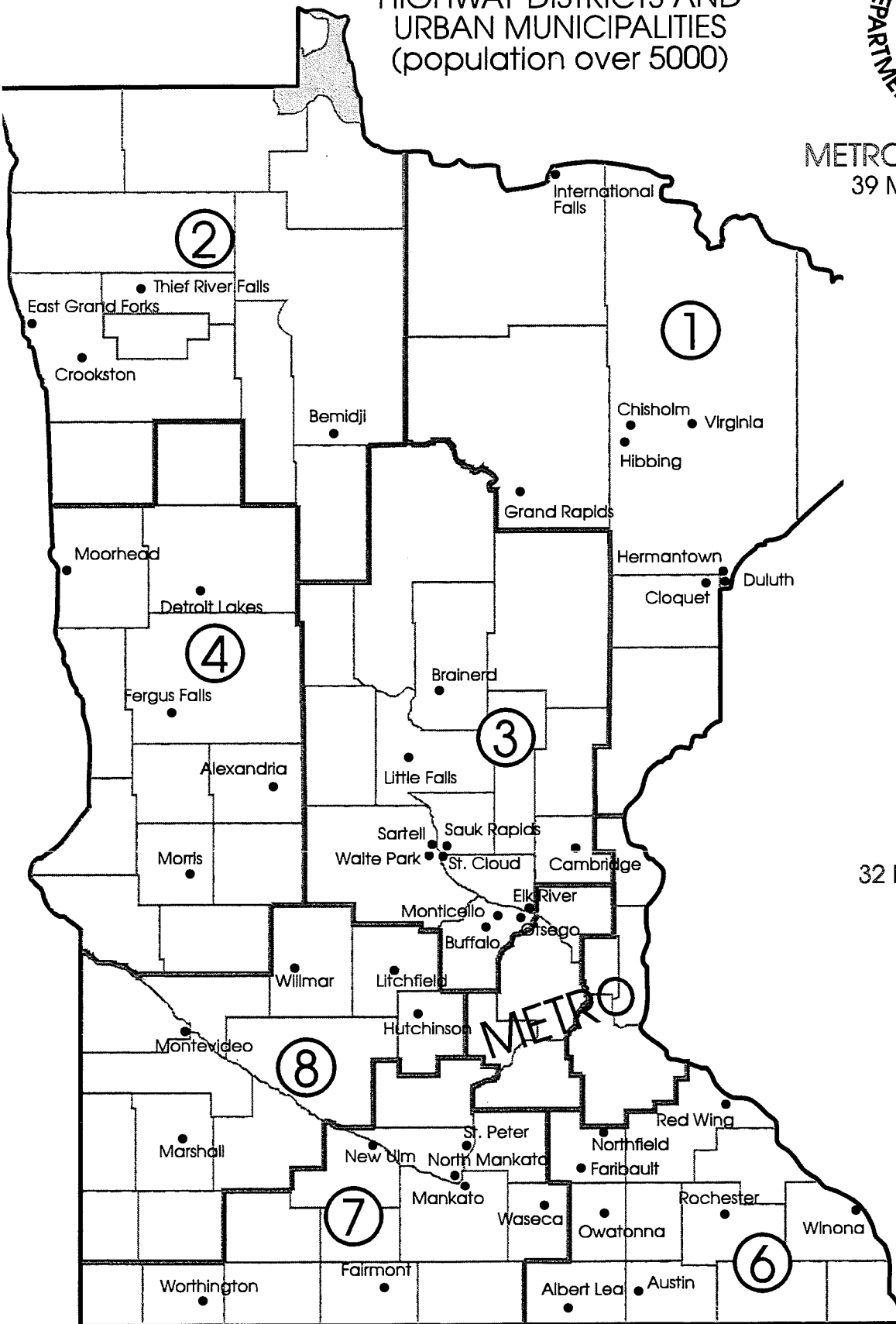
## METRO MUNICIPALITIES

### 39 Metro West Cities

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

### 32 Metro East Cities

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



## 1996 MUNICIPAL SCREENING BOARD

### OFFICERS

Chairman	Dave Sonnenberg	Minneapolis	(612) 673-2443
Vice Chairman	Brian Bachmeier	Oakdale	(612) 739-5086
Secretary	John Rodeberg	Hutchinson	(612) 234-4208

### MEMBERS

<u>District</u>	<u>Served</u>	<u>Representative</u>		
1	2	Dave Halter	Grand Rapids	(218) 326-7602
2	3	Gary Sanders	East Grand Forks	(218) 773-1185
3	3	Curt Kreklau	Buffalo	(612) 682-1181
4	2	Gary Nansen	Detroit Lakes	(218) 847-5607
Metro-West	1	Jack Bittle	Champlin	(612) 421-1955
6	2	William Malin	Winona	(507) 457-8269
7	1	Larry Read	Fairmont	(507) 238-9461
8	3	John Rodeberg	Hutchinson	(612) 234-4208
Metro-East	1	Dave Jessup	Woodbury	(612) 731-5784
(Three Cities		Kenneth Larson	Duluth	(218) 723-3278
of the		Ramankutty Kannankutty	Minneapolis	(612) 673-2476
First Class)		Paul St. Martin	St. Paul	(612) 266-6118
<u>District</u>		<u>Alternates</u>		
1		David Salo	Hermantown	(218) 727-8796
2		David Kildahl	Crookston	(218) 281-6545
3		Terry Wotzka	Waite Park, Sauk Rapids	(612) 253-1000
4		Tim Schoonhoven	Alexandria	(612) 762-8149
Metro-West		Lee Gustafson	Minnetonka	(612) 939-8200
6		David Olson	Albert Lea	(507) 377-4325
7		Steven P. Koehler	New Ulm	(507) 359-8245
8		Daniel Sarff	Litchfield	(612) 231-3956
Metro-East		Mark Burch	White Bear Lake	(612) 429-8531

### **1996 SUBCOMMITTEES**

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

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

<b>NEEDS STUDY SUBCOMMITTEE</b>	<b>UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE</b>
Bill Ottensmann - Chairman Coon Rapids (612) 755-2880 Expires in 1996	Alan Gray - Chairman Eden Prairie (612) 949-8300 Expires in 1996
Herb Reimer Moorhead (218) 299-5390 Expires in 1997	Kenneth Larson Duluth (218) 723-3278 Expires in 1997
Ken Saffert Mankato (507) 387-8631 Expires in 1998	David Sonnenberg Minneapolis (612) 673-2443 Expires in 1998

<b>ALLOCATION STUDY SUBCOMMITTEE</b>	
Larry Anderson - Prior Lake (Chair)	(612) 447-4230
Gerald Butcher - Maple Grove	(612) 420-4000
Tom Drake - Red Wing	(612) 227-6220
John Flora - Fridley	(612) 571-3450
Ramankutty Kannankutty - Minneapolis	(612) 673-2456
Ken Larson - Duluth	(218) 723-3278
Bill Ottensmann - Coon Rapids	(612) 755-2880
Herb Reimer - Moorhead	(218) 299-5390

**MINUTES**  
**FALL MUNICIPAL STATE AID SCREENING COMMITTEE**  
**OCTOBER 24 and 25, 1995**

**I      A.      CALL TO ORDER**

The 1995 Spring Meeting of the Municipal Screening Board was called to order by Chairman David Sonnenberg at 1:08 p.m., Tuesday, October 24, 1995, at Breezy Point Resort near Brainerd, Minnesota. Chairman Sonnenberg introduced Vice-Chairman Dale Swanson of Willmar; Side Williamson, Chairman of the Needs Study Subcommittee; Dan Edwards, Chairman of the Unencumbered Construction Fund Subcommittee and Secretary Brian Bachmeier of Oakdale.

**Announcements**

Chair Sonnenberg announced the payment for the stay at Breezy Point would be done by master billing, and that non-reimbursable costs, such as personal phone calls, would need to be paid individually. He also noted an employee expense form must be used for all other expenses. He provided an overview of the agenda to be followed for the 1:00 p.m. Tuesday meeting.

**CALL OF ROLL**

Secretary Bachmeier called the roll. The following were present:

**Screening Board Members:**

District 1	Dave Halter	Grand Rapids
District 2	Gary Sanders	East Grand Forks
District 3	Curt Kreklau	Buffalo
District 4	Gary Nansen	Detroit Lakes
Metro-West	Larry Anderson	Prior Lake
District 6	William Malin	Winona
District 7	Ken Saffert	Mankato
District 8	John Rodeberg	Hutchinson
Metro-East	Brian Bachmeier	Oakdale
Duluth	Ken Larson	
Minneapolis	Ramankutty Kannankutty	
St.Paul	Paul St.Martin	

**Recognize Screening Board Alternates:**

Metro-West	Jack Bittle	Champlin
District 7	Larry Read	Fairmont
Metro-East	David Jessup	Woodbury

### **Recognize Department of Transportation Personnel:**

Patrick Murphy	-	State Aid Engineer
Julie Skallman	-	Assistant State Aid Engineer
Ken Straus	-	Manager, Municipal State Aid Needs
Ken Hoeschen	-	Manager, County State Aid Needs
Luane Tasa	-	District 2 State Aid Engineer
Mike Tardy	-	District 3 State Aid Engineer
Tallack Johnson	-	District 4 State Aid Engineer
Mike Pinsonneault	-	District 6 State Aid Engineer
Doug Haeder	-	District 7 State Aid Engineer
Tom Behm	-	District 8 State Aid Engineer
Bob Brown	-	Metro Division State Aid Engineer
Larry Erb	-	Metro Division State Aid

### **Recognize others in attendance**

Dave Kreager	-	Duluth
Dan Sabin	-	Minneapolis
Larry Veek	-	Minneapolis
Marshall Johnson	-	Municipal State Aid Needs

## **II REVIEW OF NEEDS REPORT**

### **A) JUNE SCREENING BOARD MINUTES**

The June 13, 1995 Spring Meeting of the Municipal State Aid Screening Committee minutes were submitted for approval.

*Motion by Larry Anderson, seconded by John Rodeberg. Motion approved unanimously.*

### **B) NEEDS, MILEAGE AND APPORTIONMENT**

Ken Straus noted the addition of the City of North Branch and potentially Glencoe, and also noted St.Cloud Township's annexation to St. Cloud will affect the population and needs allocations. He stated the addition of mileage of turnbacks of Fergus Falls, and that Redwood Falls may have an annexation next year. He stated a total of 80 miles were added to the MSA system, due to growth, turnbacks, additional cities and one-way mileage changes.

### **C) POPULATION APPORTIONMENT**

It was noted the Population Apportionment change will reflect estimated populations or the 1990 census. The population will be as of April 1, 1994, and will be approximately \$13.77 per person, which is down .14 from last year. There is an additional 148,830 persons. He has not received any negative comments on using population estimates.



#### **D) NEEDS UPDATE**

Ken Straus reported on traffic updates which have an effect on allocation. Railroad needs missed last year will be added to this year's needs, making a \$64,834,000 net change. It was noted the reviewed needs tabulation is a "paperwork shuffle" and the "after the fact" needs are not included in the tabulation. The overall need of \$1,705,619,040 is a 1% increase over 1994. The Apple Valley bond adjustment and overlay adjustment was omitted last year, therefore will be added to the needs this year. The allocation is \$25.00 per \$1,000 of need, which is down from last year due to the additional miles diluting the value of needs. Apple Valley and North Mankato should not have Unencumbered adjustments due to reports of state aid contracts being submitted prior to September 1, 1995. It was noted the balance of the construction account has been trending downward since 1992 and that since several cities have high unencumbered ratios exceeding six, the Unencumbered Construction Committee should review this situation.

Dan Edwards indicated the committee has not met since the trend has been downward and with the recent laxing of spending rules, asked the Screening Board is there is a need to investigate? Jule Skallman questioned if reallocating the surpluses was a legislative issue? Pat Murphy indicated it would be an adjustment, not a reallocation. Larry Anderson stated the metro members indicated no action was necessary at this time, and to allow the new rules to have an impact prior to taking any type of action.

Pat Murphy said a letter could be sent when forwarding the new rule guidelines, alerting cities they can advance funds, instead of accumulating them. It would be stressed to avoid "encouraging" spending, but would advise them of the legislative concerns regarding the balances. The new rules can be applied to projects which are still open, which may encourage improvements. It was stated these letters would be addressed to the City Engineer, allowing them the opportunity to discuss the issue with their Councils.

#### **E) BOND ACCOUNT ADJUSTMENT**

Bond Account Adjustment was added to the needs as a positive adjustment. Eden Prairie is currently receiving a negative adjustment, since they have not applied for a state aid project for the bonds they have sold. Ken Straus predicted fewer bonds would be sold due to advance funding.

#### **F) NONEXISTING BRIDGES**

The cities of Lakeville, Minneapolis and Woodbury built bridges last year that will be added to the needs. Ken Straus noted it is the city's responsibility to notify State Aid of the additional bridge needs. Pat Murphy also noted the resolution states "when the contract is awarded".

#### **G) RAILROAD ADJUSTMENTS**

Page 48 lists the crossings omitted in 1995 that will be added to the 1996 needs.

## **H) ESTIMATED TOTAL 1996 APPORTIONMENT**

### **I) ADMINISTRATIVE ACCOUNT**

Unused funds are put back in the allocation and spread. The Metro group questioned if new computers could be financed out of this account, however, there was no discussion by the Board.

*Motion by Larson, seconded by Anderson, adding the following language regarding the research account: Be it resolved that an amount of \$408,594 shall be set aside (not to exceed 1/2 of 1%) from the 1996 Apportionment Fund and be credited to the research account. Approved unanimously.*

### **J) TURNBACK MILEAGE ISSUES**

CSAH turnbacks to cities cannot be above the 20%, as there is no legislative authority for County roads designed as MSA routes. The Subcommittee recommended it be counted as a turnback, above the 20%, with the excess trunk highway mileage exchanged for a CSAH. State Aid felt this could be done as an equal exchange and could be discussed at the Spring Meeting. Ken Straus would like action of MSA designation over County roads that are being turned back, and if turnbacks on borders should be considered a 1/2 mileage (Items B and C on the agenda).

Pat Murphy recommended no action be taken on full mileage credit for County roads, with Ken Straus suggesting the committee wait until next spring to act on Item A. Dave Kreuger asked why we can't require recertification of mileage when dealing with turnbacks.

Ken Straus felt this could be accomplished by modifying the maximum mileage resolution to allow supplementary certification during the year, as requested by State Aid due to pending turnbacks.

### **K) COMBINATION ROUTES**

The recommendation is to eliminate combination routes. Mr. Straus stated he had asked a number of cities and counties to eliminate routes and a number of them have. However, there are some cities resisting this effort and the Screening Board does not have the authority to eliminate needs on these routes. Mr. Straus stated he felt it would not be too long until all combination routes will be eliminated after the route is reconstructed. There was no action from the Board on this item.

### **L) NEEDS ADJUSTMENTS**

Needs adjustments from Apple Valley and railroad crossing needs were missed last year. Oakdale and Oak Grove needs were switched around last year, so an adjustment should be made this year. All modifications will be addressed in final resolution approving the needs.

**M) PAID ATTENDANCE OF ALTERNATES AND PAST PRESIDENTS**

*Motion by John Rodeberg, seconded by Ken Larson, to eliminate existing resolution regarding alternates attendance, allowing the Board to direct the State Aid Engineer to invite alternates to attend the meeting of the last term of the representative and the two (2) past Presidents, to attend the screening board meetings at State Aid reimbursement. Approved unanimously.*

**N) BOND ADJUSTMENT**

Ken Straus discussed the present and proposed method of bond account adjustments, indicating the Subcommittee is recommending a straight line ten percent (10%) annual deduction. Dale Swanson questioned why cities that are bonding should be rewarded with bond adjustment needs. John Rodeberg responded there may be less of this due to the advance funding option. Ken Larson indicated it may be viewed as an incentive. Larry Anderson calculated there is no financial incentive to bond, since the bond payments exceed the increase in needs. David Jessup indicated that while it is not an incentive, it is another tool available for use.

*Motion by Curt Kreklau, seconded by Ramankutty Kannankutty, to adopt Option No. 1. Approved unanimously.*

**O) POPULATION APPORTIONMENT**

*Motion by Dave Halter, seconded by Ramankutty Kannankutty, to amend the Resolution to read: ..."and no city will be added, to, except by consolidation, or dropped from, the MSA eligibility list, based on population estimated". Approved unanimously.*

**P) GUIDELINE FOR ADVANCEMENT OF MUNICIPAL FUNDS**

Pat Murphy reviewed the draft discussion guidelines, noting the \$50,000,000 floor, with funds above this available.

**III ADJOURNMENT**

*The meeting was recessed at 4:45 p .m. with the meeting called back to order Wednesday, October 25, 1995 at 8:35 a.m.*

**IV OCTOBER 25, 1995 FORMAL ACTION** - Call to order

**A) NEEDS APPORTIONMENT**

Approval of the needs apportionment, as amended by state aid:

*Motion by Larry Anderson, seconded by Gary Nansen, to approve railroad, Apple Valley, Oakdale-Oak Grove and Cambridge amendments. Approved unanimously.*

**B) RESEARCH ACCOUNT**

*Motion by Ramankutty Kannankutty, seconded by Paul St.Martin, to set aside an amount of \$408,594 (not to exceed 1/2 of 1%) from the 1996 Apportionment Fund and be credited to the research account. Approved unanimously.*

**C) NEEDS STUDY SUBCOMMITTEE**

A number of motions were made at the October 24, 1995 meeting. Consensus was to review the advance guidelines and wait for Pat Murphy to forward the new rule guidelines. He indicated he would alert cities they can advance funds instead of accumulating them. He reiterated with combination routes, no action will allow State Aid to continue discouragement.

**D) ADMINISTRATIVE ACCOUNTS**

Julie Skallman handed out a summary sheet of expenditures as requested at the last Screening Board. The summary contained the following information: \$3,891,115 from cities; \$3,200,000 to State Aid salaries and expenses; \$30,000 for Screening Board and other short term committees; \$75,000 available to technician certification reimbursement (recommended cities should request reimbursement by December 31, 1995, when the cooperative reimbursement agreements expire). She discussed the purchase of traffic counters, computer modems or other upgrades, indicating in the future, State Aid would like to discuss major purchases with the Screening board for Items over \$100,000 that come out of this account.

Larry Anderson commented this should be at the discretion of the State Aid Engineer. Ken Larson stated Pat Murphy has discussed major issues with the President of the Board.

Julie Skallman asked Board members what training areas on the list provided should be pursued? The Board responded technical training and employee development would be desirable, with Ken Larson adding he had heard many good comments on the SDIC training.

Larry Anderson indicated operations training should be conducted by individual cities. Pat Murphy stated these courses are heavily subsidized, therefore, the fees would increase without the State Aid subsidy. Larry Read supported a partial support to maintain reasonable fees. Dave Halter, supported by Ken Larson, stated he was uncomfortable with gas taxes being utilized for these types of training, however, he would support the employee development subsidy.

Julie Skallman indicated a recent survey at the training indicated the employee development courses rated higher satisfaction than the operations training sessions. Pat

Murphy summarized the priorities as State Aid mandated, employee development, technical development and then operations training. Ramankutty Kannankutty stated he felt the technical edge (especially computers) and metrification should be priorities. Pat Murphy indicated metrification would become a State Aid mandated type training. R. Kannankutty said he felt State Aid staff had sufficient direction to carry out the training program, with the State Aid Advance guidelines. He added Pat Murphy would like to leave the meeting with an understanding on how to proceed.

#### **E) GUIDELINES FOR ADVANCEMENT OF MUNICIPAL FUNDS**

Dave Sonnenberg summarized three issues regarding the current \$90,000,000 balance. He indicated the trend has been downward and he is comfortable with \$50,000,000, especially since this is a short-term borrowing program with no interest. The issues are as follows: a) maximum amount limit or percentage, 2) amounts available for borrowing from individual cities; and 3) the process involving council resolution not guaranteeing funds. He indicated the maximum amount would be available. Gary Nansen stated he would like to see a floor. Mr. Larson clarified further by stating the amount available would be the difference between the end of the year balance and the floor. Pat Murphy confirmed this, and stated the reality is that the balance could be much less, due to spending.

*Motion by Ken Larson, seconded by Larry Anderson, to set the floor at \$50,000,000 and allotment of no more than three (3) years allotment if annual allocation is less than \$500,000, or; one year allocation if over \$500,000; and that advances repaid by deductions be made from the next available allocations (Items 1 and 2 from draft). Approved unanimously.*

Pat Murphy then described the need for Items 3 and 4 on the discussion draft, particularly the resolution requesting advance funding without being project specific. This allows flexibility in the event a project doesn't go and you have another one ready to proceed.

*Motion by Dave Halter, seconded by Ramankutty Kannankutty, to approve items 3 and 4 provided that Item 4 is for all contracts and not just construction contracts. Approved unanimously.*

Pat Murphy indicated there will be future reports on the balances and uses of this fund.

#### **F) TURNBACKS**

Dave Sonnenberg indicated Item A (excess mileage created by turnbacks) is on hold and may be discussed at the Spring Meeting.

Ken Straus discussed the draft resolution pertaining to mid-year certification, due to turnbacks.

***Motion by Ramankutty, seconded by William Malin, to amend maximum mileage resolution to include language "the Division of State Aid will recompute available mileage, as necessary, to accomplish turnbacks". Approved unanimously.***

Pat Murphy will consider the issue of county roads being designated as MSA's be considered turnbacks above the 20%, for six months, as this will be discussed again in June. John Rodeberg asked if this is a prevalent situation. Ken Straus responded he did not know specifically, due to the inability to predict which ones may be turned back.

Ken Larson asked if it is being managed by another agency, and does it meet MSA criteria? Dave Krueger thinks allowing above the 20% would be manipulating the system, since the needs have been drawn, and not having to maintain it. Larry Anderson would be in favor of allowing it above 20%.

Dale Swanson commented if there have been expenditures and then it is revoked, they have to pay it back. He questioned if a city would be required to pay back an expenditure they are forced to revoke, if they become over designated?

R.Kannankutty felt they should not be above 20%. Gary Nansen feels they should not be above 20%. Sid Williamson stated if it is designated MSA, it must be more important than other county roads, and if therefore, it is more important - why would it not be above 20%?

***Motion by Ramankutty Kannankutty, seconded by Larry Anderson, to have turnbacks that are already designated as MSA routes, not be above the 20%. Approved unanimously.***

If the mileage of CSAH is revoked and redesignated as MSAS on boundary, should it be 1/2 turnback for the route within the city? Dave Halter asked if an annexation incorporated a redesignated route, what would happen? Ken Straus indicated they would lose the 1/2 turnback.

***Motion by Ramankutty Kannankutty, seconded by Curt Kreklau, to give 1/2 turnback mileage credit. Approved unanimously.***

#### **G) CHANGE TERM "NEEDS" TO "SYSTEM ALLOCATION"**

Dave Halter indicated the use of needs is misunderstood. Larry Anderson recommended State Aid research the ramifications of making the change and address this issue next June.

Ken Larson commented on the use of system deficiency instead of allocation. Pat Murphy indicated he has a grasp of the issue and will come back in the spring, and would report to the Committee.

R. Kannankutty referred to the charts where the term "needs" would have to be exchanged.



Pat Murphy was comfortable with direction from the Chair to address this issue, therefore no motion was necessary.

**H) MIKE MARTY FROM BRAUN TO DISCUSS LOCAL ROAD RESEARCH BOARD**

Mike Marty introduced a video regarding the purpose of the Board and Research they do. Larry Read and Dale Swanson have participated on the LRRB Board.

Mike Marty commented on 10 to 15 projects initiated a year. Larry Anderson used to serve on the board, and felt there were few ideas submitted by city engineers, and strongly encouraged engineers to take the time to really think of subjects.

David Sonnenberg suggested a study on how the minds of legislatures work, and indicated videos are available to cities above 5,000 population.

**I) OTHER ISSUES**

Paul St. Martin asked if stated aid has considered what affect the rule changes will have on additional items in the needs report. Ken indicated they have started to look at this issue, and indicated the committee is open to further suggestions. Ken discussed the two (2) speed designs the cities can build to and that the speed may need to be reflected in needs, due to the additional width requirements.

**J) PAT MURPHY COMMENTS**

Rules will be adopted within the next week and published, copies will be mailed along with a summary sheet. The SALT strategic plan was reviewed, and nay comments should be forwarded to Pat Murphy.

**K) THANK YOU'S**

The Committee's sincere appreciated and form "thank you" was extended to Dan Edwards for his work on the Committee, and to Sid Williamson for serving as Chair of the Needs Study Subcommittee. In addition, the Screening Board was thanked, especially the three Representatives who will be leaving the Board:

Metro-West	Larry Anderson	Prior Lake
District 7	Ken Saffert	Mankato
Metro-East	Brian Bachmeier	Oakdale

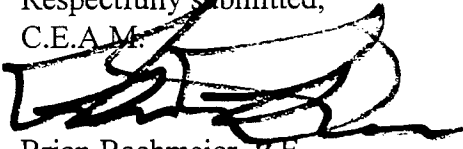
David Sonnenberg was formally thanked for his outstanding service as President for the past year. He expressed his appreciation to the Board for allowing him to serve as President and stated he had thoroughly enjoyed the opportunity.

The Board recognized Ken Larson for his continued contributions with regard to the planning sessions.

**L) CLOSING/ADJOURNMENT**

Motion by Ramankutty Kannankutty, seconded by Ken Larson, to adjourn the October 25, 1995 Fall Municipal State Aid Screening Committee meeting at 11:02 a.m.  
Approved unanimously.

Respectfully submitted,  
C.E.A.M.

A handwritten signature in black ink, appearing to be 'Brian Bachmeier', written over the printed name.

Brian Bachmeier, P.E.  
SECRETARY/TREASURER

BJB/tal/STATE1

**MINUTES OF THE  
NEEDS SUBCOMMITTEE  
MUNICIPAL STATE AID SCREENING BOARD**

The meeting of the Needs Study Subcommittee was called to order by Chairman Bill Ottensmann at 10:40 a.m. Friday, April 19, 1996 at the MnDOT St. Cloud Maintenance Office.

Other Members Present:      Mr. Herb Reimer, City of Moorhead, MN  
                                         Mr. Ken Saffert, City of Mankato, MN

Also present was Mr. Ken Straus, Manager - Municipal State Aid Needs.

**I. Unit Prices:**

Unit prices were reviewed by the Needs Study Subcommittee and several changes were recommended. Several factors were used in determining the subcommittee recommendations to be used in the 1996 Needs Study.

The yearly average contract unit price for each MnDOT District and the 5 year average contract prices are compared to the price used in the previous years needs study to determine this year's needs unit price.

The committee discussed the Needs prices for special drainage (rural) and for street lighting and decided to recommend no change for 1996. The committee requested that Ken Straus provide the committee with more background information as to where and how the needs prices are determined for these two items. The committee also reviewed the annual maintenance needs cost (page 62 in the booklet) and decided to recommend no changes for 1996. The committee requested that Ken Straus provide the committee with information as to how the costs are determined for each of the items for next year's update.

Motion made by Ken Saffert, seconded by Herb Reimer to recommend unit prices for 1996 as indicated in the attached summary. Ayes all, motion carried.

The committee also discussed methods of how the unit price update could be determined in the future to save a great deal of time and effort for the State Aid Office. As per the unit price review charts in this year's booklet the average change per unit per year on most contract items is small. It appears that unit prices for the needs study could be determined for most items every other year without going to all the work of tabulating each item from each city separately. It was suggested that when Ken Straus holds his annual visit with cities in each MnDOT District Office prior to the Screening Board Meeting that this subject be discussed.

**II. Change the use of the term "money needs" to a more understandable term such as "construction needs" or "system allocation":**

The committee reviews Statute 162.13, FORMULA FOR APPORTIONMENT TO CITIES and found that the term "money needs" is used several times in defining how a city's annual

apportionment is to be determined. The committee felt the most practical way to effectively change the use of the term "money needs" is for the screening board to pass a resolution calling for the change.

Motion made by Ottensmann, seconded by Reimer, that the screening board pass a resolution which would state that hereafter "money needs" as referred to in State Statute 162.13 shall be synonymous with and have the same meaning as "construction needs" which shall be used in all future needs studies updates. Ayes all, motion carried.

### **III. Term Limits:**

Discussion took place regarding screening board term limits. The committee felt that the experience and knowledge gained by being on the screening board is worth the additional costs of providing for 2 year terms versus the existing 3 year term limits.

A motion was made by Ken Saffert and seconded by Herb Reimer to recommend that screening board members serve a 2-year term and that the alternate to the two year screening board member be invited to attend both the spring and fall screening board meetings at State Aid expense. Ayes all, motion carried.

### **IV. County Road Turnbacks:**

The Committee discussed the letter written by Patrick Murphy (dated April 10, 1996) regarding the turnback of County Highways to the cities. The focus of the discussion was on the intent of the Statute and how the mileage is to be handled on the cities' MSA systems. The consensus of the committee is to recommend not to accept either Option #1 or Option #2 as provided in the letter. The Committee felt that the Statute as written is quite clear and there should not be any tampering with the MSA mileage limitations.

A motion was made by Ken Saffert and seconded by Bill Ottensmann to recommend that no changes be made in the current screening board resolution dated October 1994. This is the resolution regarding increases of State Aid mileage caused by turnbacks or jurisdictional exchanges, including County Highways, after May 11, 1994. The committee felt that the current resolution is quite clear and it reflects the intent of the screening board on this matter. Ayes all, motion carried.

### **V. 1996 Needs Review - Present**

A number of items were reviewed by the committee.

#### **A. Review of Needs Quantity Tables**

Gravel Equivalency (GE): The needs GE in some cases does not reflect what is required

for street construction. Committee felt that the needs quantity tables should be modified to reflect what is required in the design of the roadway. Ken Straus offered to recalculate the quantities to correspond to the required design GE's. This information will be available for review by the needs committee prior to the fall screening board meeting.

Additional thickness of flexible pavements for low speed traffic conditions - (Geotechnical and Pavement Manual): According to the pavement manual, thicker bituminous sections are required when there is low speed traffic and where there are high shear stresses due to stopping and turning movements, such as bus stops, intersections, etc. - should this be included in the needs?

B. Items which should be included in bridge costs:

The following items were discussed as to whether they should be included in the needs study for bridges.

1. **MOBILIZATION:** Costs for mobilization are presently included in the needs and the committee recommends that this should continue.
2. **FIELD OFFICE, LAB:** Costs are presently included in the needs study and the committee recommends that this be continued.
3. **APPROACH PANELS:** Approach panels are not included now, however, the committee recommends that costs for bridge approach panels be included.
4. **TRAFFIC CONTROL:** Traffic control for bridge property is presently included for the needs study and the committee recommends that this be continued.

C. Non-Existing Bridge Costs: The committee recommends that needs for "after the fact" bridges should be calculated the same as what is used for existing bridges including engineering costs. The committee recommends that 18% engineering be applied to the cost.

D. New State Aid Rules allow cities to rebuild a street within the present right-of-way limits. Should needs be determined by in place widths? Committee recommends that needs do not have to be determined on the street width in place.

E. Should widening needs be restricted?

Committee felt that we should be consistent in allowing for widening needs not be restrictive on streets less than 20 years old.

F. Needs for 4-lane roadways based on traffic:

Committee felt that needs determination should remain as is and be based on traffic of 7,000 or more vehicles per day.

G. Needs adjustment for bituminous overlay:

Often a bituminous overlay is necessary during the period the street is receiving complete needs. The committee felt that the needs adjustment for bituminous overlay done during this period should be eliminated. Further, the committee thinks this would be a good item to discuss at each of the District pre-screening meetings.

**VI. New Needs Program**

A number of items were reviewed by the Committee which may be desirable in the new program being developed by the State Aid Office for determining needs. The needs committee will be working on these items at future meetings and took no formal action at this time.

Life Cycle: Should this be used in computing needs? The Committee requests that State Aid staff review the Strgar-Roscoe-Fausch, Inc. (SRF) study to see what can be used from that study. Ken Straus said he would review the SRF, Inc. Study and provide information to the committee at the next meeting.

30 to 40 mph and over 40 mph design: The Committee felt highway design speed should be a factor in determining needs and should be a factor incorporated in the new needs program.

Additional items to be considered to be included in needs:

- Turn Lanes
- Mobilization, Field Office, Traffic Control
- Different Curb and Gutter
- Bridge Approaches
- Bridge Removal
- Guard Rails
- Pedestrian Ramp
- Bike Paths
- Different types of excavation - muck, rock, etc.

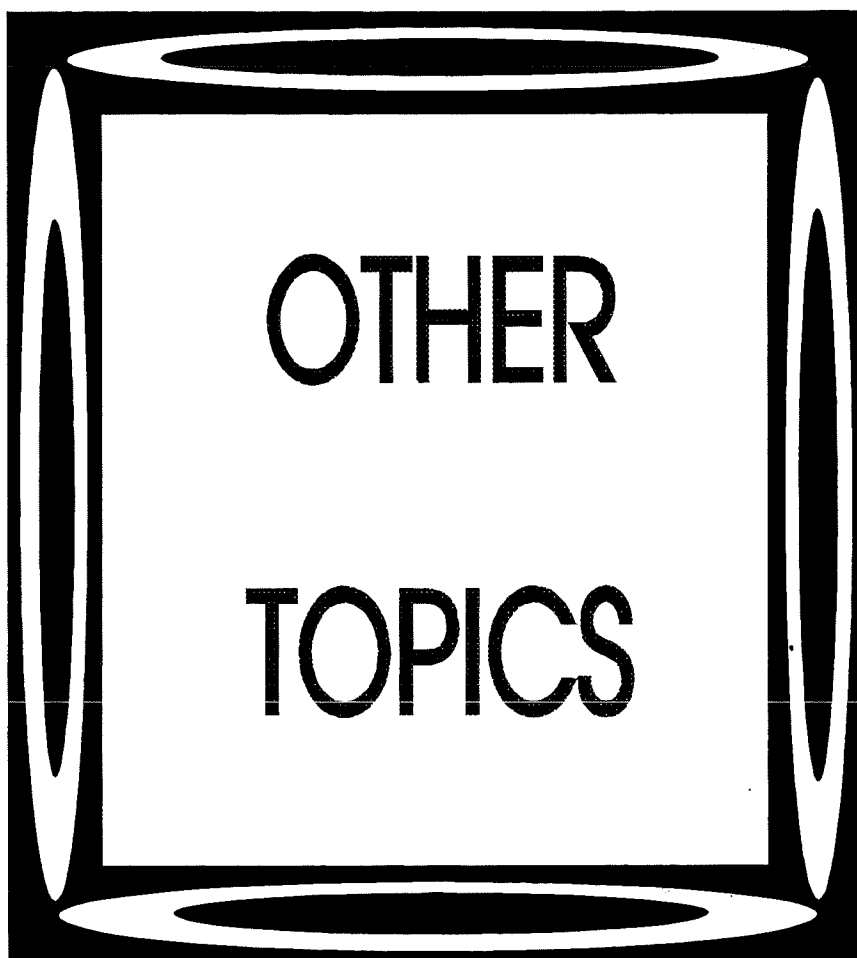
**VII. Adjournment:**

Motion made by Ottensmann, seconded by Reimer to adjourn the meeting. Meeting was adjourned at 2:00 p.m.



# 1996 UNIT PRICE RECOMMENDATIONS

Needs Item			1995 Need Prices	Sub- committee Suggested Prices For 1996	Screening Board Recommended Prices For 1996
Grading (Excavation)	Cu. Yd.		\$3.00	\$3.00	
Aggregate Shoulders #2221	Ton		8.00	8.50	
Curb and Gutter Removal	Lin.Ft.		1.70	1.80	
Sidewalk Removal	Sq. Yd.		4.70	4.75	
Concrete Pavement Removal	Sq. Yd.		4.10	4.20	
Tree Removal	Unit		175.00	175.00	
Class 4 Subbase #2211	Ton		4.70	4.70	
Class 5 Base #2211	Ton		6.00	6.20	
Bituminous Base #2331	Ton		20.00	20.50	
Bituminous Surface #2331	Ton		20.00	20.50	
Bituminous Surface #2341	Ton		23.50	23.60	
Bituminous Surface #2361	Ton		30.00	30.10	
Curb and Gutter Construction	Lin.Ft.		5.75	6.00	
Sidewalk Construction	Sq. Yd.		16.00	16.50	
Storm Sewer Adjustment	Mile		69,100	71,200	
Storm Sewer	Mile		223,000	229,700	
Special Drainage - Rural	Mile		26,000	26,000	
Street Lighting	Mile		20,000	20,000	
Traffic Signals	Per Sig		80,000	80,000	
<b>Signal Needs Based On Projected Traffic</b>					
Projected Traffic	Percentage	X	Unit Price	=	Needs Per Mile
0 - 4,999	.25		\$80,000	=	\$20,000
5,000 - 9,999	.50		80,000	=	40,000
10,000 & Over	1.00		80,000	=	80,000
<b>Right of Way (Needs Only)</b>	Acre		60,000	60,000	
<b>Engineering</b>	Percent		18	18	
<b>Railroad Grade Crossing</b>					
Signs	Unit		800	800	
Pavement Marking	Unit		750	750	
Signals (Single Track-Low Speed)	Unit		80,000	80,000	
Signals & Gate (Multiple Track - High & Low Speed)	Unit		110,000	110,000	
Rubberized Material(Per Track)	Lin.Ft.		750	750	
<b>Bridges</b>					
0 to 149 Ft.	Sq. Ft.		55.00	55.00	
150 to 499 Ft.	Sq. Ft.		55.00	55.00	
500 Ft. and over	Sq. Ft.		55.00	55.00	
<b>Railroad Bridges over Highways</b>					
Number of Tracks - 1	Lin.Ft.		5,000	5,000	
Additional Track (each)	Lin.Ft.		4,000	4,000	



# NOTES

## **UNIT PRICE STUDY**

**The Unit Price Study is done annually by the State Aid Needs Unit by compiling the quantities and unit prices of items from the prior years urban municipalities' Abstract of Bids received in the State Aid Office. The results obtained from the 1995 bids are found next to the applicable graphs. These averages and past averages are used by the Needs Study Subcommittee and the Municipal Screening Board to determine the prices to be used in the 1996 Needs Study. These prices are then applied against the quantity table located in the State Aid Manual Fig. D & F 5-892.810 to compute the needs of each segment. The needs eventually will be used to compute the 1997 construction (money) needs allocation.**

**Both MN/DOT and State Aid bridges are used so that more bridges determine the unit price. Generally, State Aid contracts do not include many bridges 150 feet long or over. The bridge costs do not include bridge removal and approach panels.**

**MN/DOT's hydraulic office furnished a recommendation of costs for storm sewer construction and adjustment based on 1995 construction costs.**

**MN/DOT railroad office furnished a letter detailing railroad cost from 1995 construction projects.**

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

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

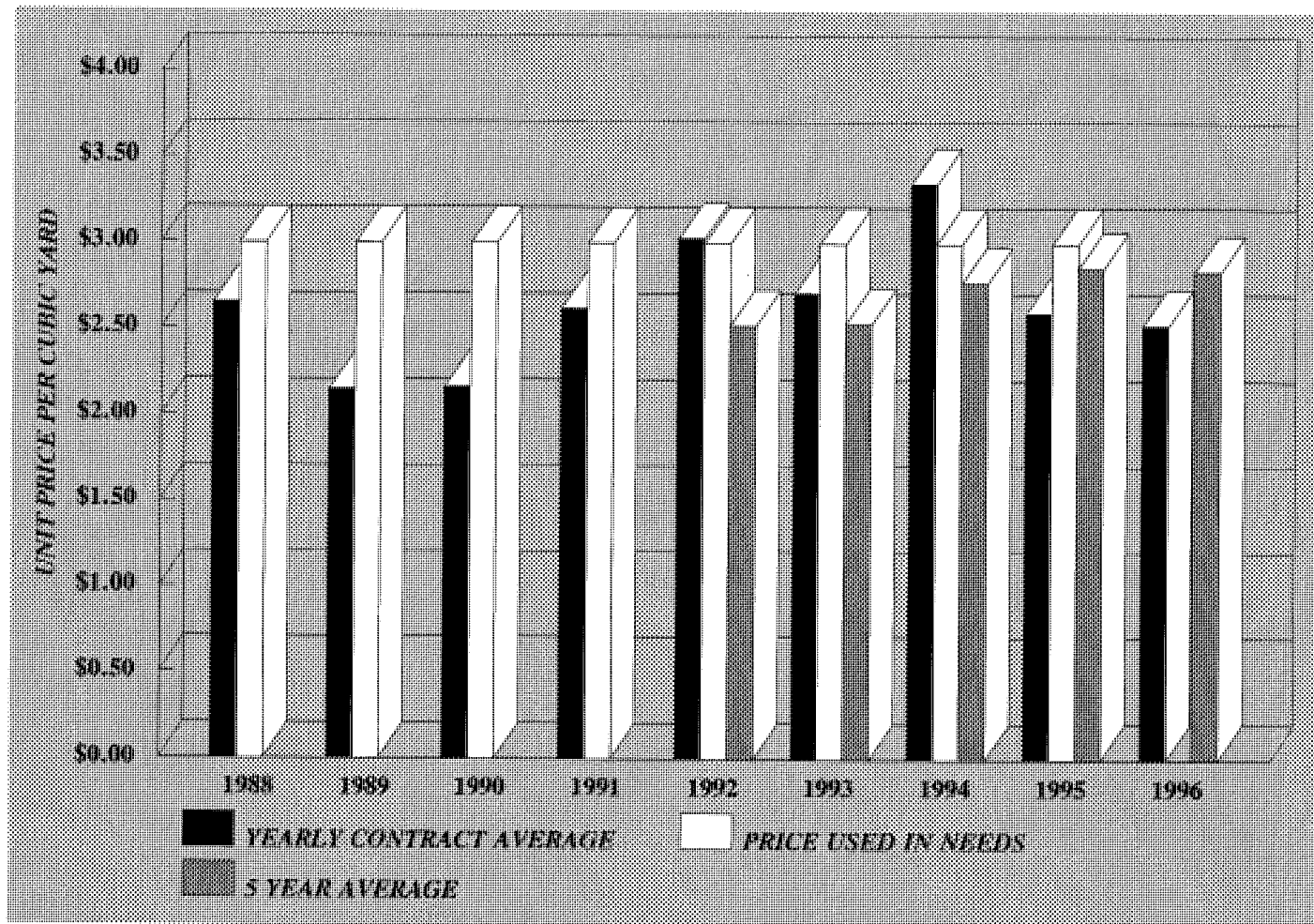
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	6,060	\$32,724	\$5.40
DULUTH	5	19,499	101,148	5.19
GRAND RAPIDS	2	42,309	135,431	3.20
HIBBING	2	4,832	18,466	3.82
VIRGINIA	1	12,818	38,454	3.00
<b>DISTRICT TOTAL</b>	<b>11</b>	<b>85,518</b>	<b>\$326,223</b>	<b>\$3.81</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	2	2,410	\$13,253	\$5.50
CROOKSTON	5	16,505	72,594	4.40
THIEF RIVER FALLS	2	10,817	36,778	3.40
<b>DISTRICT TOTAL</b>	<b>9</b>	<b>29,732</b>	<b>\$122,625</b>	<b>\$4.12</b>
<b><u>DISTRICT 3</u></b>				
CAMBRIDGE	1	7,500	\$12,375	\$1.65
MONTICELLO	1	8,600	25,800	3.00
OTSEGO	1	5,671	10,208	1.80
ST. CLOUD	2	7,541	54,195	7.19
SAUK RAPIDS	2	21,765	99,986	4.59
WAITE PARK	1	19,471	90,760	4.66
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>70,548</b>	<b>\$293,324</b>	<b>\$4.16</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	2	1,992	\$11,952	\$6.00
DETROIT LAKES	1	12,597	39,681	3.15
MOORHEAD	1	2,335	11,675	5.00
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>16,924</b>	<b>\$63,308</b>	<b>\$3.74</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	1	7,858	\$34,720	\$4.42
BROOKLYN PARK	1	9,837	42,102	4.28
CHAMPLIN	2	15,237	70,992	4.66
CHANHASSEN	2	5,898	8,847	1.50
CHASKA	3	49,277	63,352	1.29
COLUMBIA HEIGHTS	1	600	4,200	7.00
CRYSTAL	1	8,386	43,468	5.18
EDEN PRAIRIE	2	2,350	23,500	10.00
EDINA	2	6,495	35,381	5.45
HAM LAKE	1	6,700	22,580	3.37
MAPLE GROVE	1	110,738	303,385	2.74
MINNEAPOLIS	5	13,789	111,714	8.10
MINNETONKA	2	62,682	187,785	3.00
NEW HOPE	1	497	2,577	5.19
OAK GROVE	1	54,460	92,582	1.70
ORONO	1	2,800	15,250	5.45
PLYMOUTH	3	352,074	559,709	1.59
PRIOR LAKE	1	29,806	44,709	1.50
RICHFIELD	1	5,932	23,728	4.00
ST. LOUIS PARK	5	13,729	57,070	4.16
SHAKOPEE	1	8,200	16,400	2.00
SPRING LAKE PARK	2	11,500	57,365	4.99
<b>DISTRICT TOTAL</b>	<b>40</b>	<b>778,845</b>	<b>\$1,821,417</b>	<b>\$2.34</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	1,300	\$5,330	\$4.10
AUSTIN	2	1,600	4,800	3.00
FAIRBAULT	4	32,011	80,507	2.51
NORTHFIELD	1	13,327	46,511	3.49
OWATONNA	5	12,872	51,601	4.01
RED WING	2	7,820	7,820	1.00
ROCHESTER	2	4,300	19,295	4.49
WINONA	2	8,019	11,742	1.46
<b>DISTRICT TOTAL</b>	<b>19</b>	<b>81,249</b>	<b>\$227,606</b>	<b>\$2.80</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	3,857	\$16,392	\$4.25
NORTH MANKATO	1	14,879	52,856	3.55
WORTHINGTON	1	1,049	5,453	5.20
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>19,785</b>	<b>\$74,701</b>	<b>\$3.78</b>
<b><u>DISTRICT 8</u></b>				
MARSHALL	1	2,493	\$8,296	\$3.33
MONTEVIDEO	1	15,593	34,305	2.20
WILLMAR	1	4,500	20,025	4.45
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>22,586</b>	<b>\$62,626</b>	<b>\$2.77</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	2	7,318	\$13,465	\$1.84
BURNSVILLE	2	50,149	64,113	1.28
COTTAGE GROVE	1	6,445	10,523	1.63
EAGAN	2	125,318	249,373	1.99
FOREST LAKE	2	17,989	98,940	5.50
HASTINGS	1	18,425	55,275	3.00
LAKEVILLE	1	262,749	367,849	1.40
LITTLE CANADA	1	7,525	29,100	3.87
MENDOTA HEIGHTS	1	463	2,315	5.00
NEW BRIGHTON	1	10,000	70,000	7.00
ST. PAUL	4	19,846	74,334	3.75
STILLWATER	1	2,070	5,175	2.50
VADNAIS HEIGHTS	1	9,200	40,388	4.39
WHITE BEAR LAKE	1	11,147	89,176	8.00
WOODBURY	2	37,205	110,685	2.98
<b>DISTRICT TOTAL</b>	<b>23</b>	<b>585,849</b>	<b>\$1,280,709</b>	<b>\$2.19</b>
<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	11	85,518	\$326,223	\$3.81
DISTRICT 2	9	29,732	122,625	4.12
DISTRICT 3	8	70,548	293,324	4.16
DISTRICT 4	4	16,924	63,308	3.74
METRO WEST	40	778,845	1,821,417	2.34
DISTRICT 6	19	81,249	227,606	2.80
DISTRICT 7	3	19,785	74,701	3.78
DISTRICT 8	3	22,586	62,626	2.77
METRO EAST	23	585,849	1,280,709	2.19
<b>STATE TOTAL</b>	<b>120</b>	<b>1,691,036</b>	<b>\$4,272,539</b>	<b>\$2.53</b>



# EXCAVATION



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5 YEAR AVERAGE CONTRACT PRICE
1988	62	796,486	\$2,113,700	\$2.65	\$3.00	
1989	70	1,406,108	3,024,233	2.15	3.00	
1990	65	1,263,652	2,733,063	2.16	3.00	
1991	67	1,260,768	3,303,493	2.62	3.00	
1992	70	1,243,656	3,764,822	3.03	3.00	\$2.52
1993	64	1,105,710	2,994,010	2.71	3.00	2.53
1994	65	1,484,328	4,965,339	3.35	3.00	2.77
1995	59	1,317,807	3,419,869	2.60	3.00	2.86
1996	68	1,691,036	4,272,539	2.53		2.84

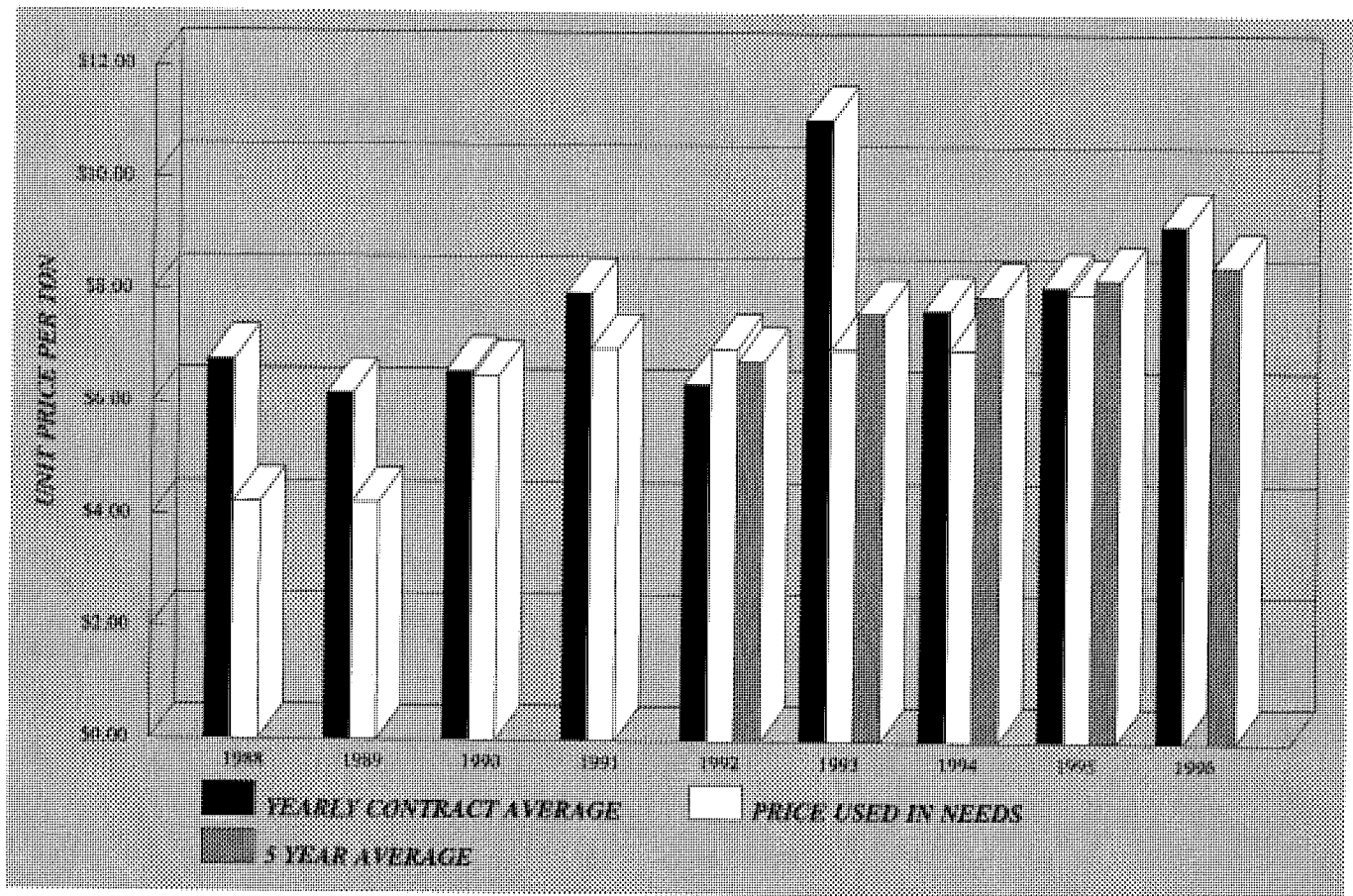
SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS \$3.00 PER CU. YD.

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	1	2,698	\$23,124	\$8.57
VIRGINIA	1	23	240	10.43
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>2,721</b>	<b>\$23,364</b>	<b>\$8.59</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	120	\$1,200	\$10.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>120</b>	<b>\$1,200</b>	<b>\$10.00</b>
<b><u>METRO-WEST</u></b>				
CHANHASSEN	1	17	\$153	\$9.00
ORONO	1	100	2,000	20.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>117</b>	<b>\$2,153</b>	<b>\$18.40</b>
<b><u>DISTRICT 7</u></b>				
WORTHINGTON	2	109	\$1,560	\$14.31
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>109</b>	<b>\$1,560</b>	<b>\$14.31</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	2	2,721	\$23,364	\$8.59
DISTRICT 2	0	0	0	0.00
DISTRICT 3	0	0	0	0.00
DISTRICT 4	1	120	1,200	10.00
METRO-WEST	2	117	2,153	18.40
DISTRICT 6	0	0	0	0.00
DISTRICT 7	2	109	1560	14.31
DISTRICT 8	0	0	0	0.00
METRO-EAST	0	0	0	0.00
<b>STATE TOTAL</b>	<b>7</b>	<b>3,067</b>	<b>\$28,277</b>	<b>\$9.22</b>

# AGGREGATE SHOULDERING



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5 YEAR AVERAGE CONTRACT PRICE
1988	4	1,247	\$8,437	\$6.77	\$4.25	
1989	7	3,485	21,554	6.18	4.25	
1990	6	3,714	24,444	6.58	6.50	
1991	3	2,334	18,624	7.98	7.00	
1992	7	6,285	39,992	6.36	7.00	\$6.77
1993	7	803	9,423	11.09	7.00	7.64
1994	4	999	7,691	7.70	7.00	7.94
1995	8	4,923	40,009	8.13	8.00	8.25
1996	6	3,067	28,277	9.22		8.50

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER TON.

\$8.50

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

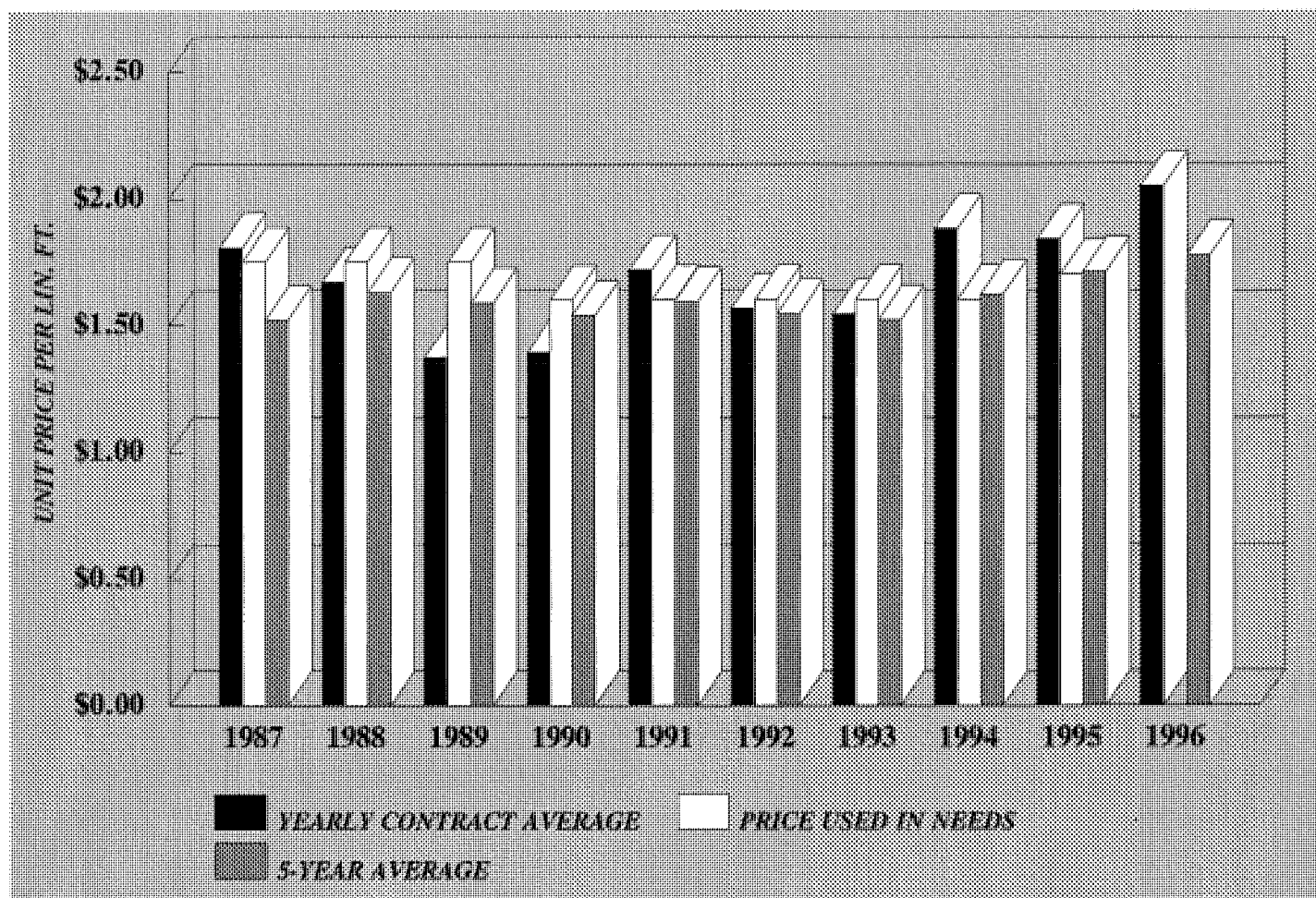
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	696	\$1,044	\$1.50
DULUTH	7	3,338	7,695	2.31
GRAND RAPIDS	2	8,044	10,055	1.25
HIBBING	2	123	370	3.01
VIRGINIA	1	2,680	4,020	1.50
<b>DISTRICT TOTAL</b>	<b>13</b>	<b>14,881</b>	<b>\$23,184</b>	<b>\$1.56</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	5	2,187	\$5,249	\$2.40
CROOKSTON	4	1,978	3,853	1.95
EAST GRAND FORKS	2	8,078	14,478	1.79
<b>DISTRICT TOTAL</b>	<b>11</b>	<b>12,243</b>	<b>\$23,580</b>	<b>\$1.93</b>
<b><u>DISTRICT 3</u></b>				
SAUK RAPIDS	1	82	\$164	\$2.00
WAITE PARK	1	196	752	3.84
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>278</b>	<b>\$916</b>	<b>\$3.29</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	2	715	\$1,788	\$2.50
DETROIT LAKES	1	3,705	5,558	1.50
MOORHEAD	1	1,050	3,150	3.00
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>5,470</b>	<b>\$10,496</b>	<b>\$1.92</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	2	3,450	\$9,958	\$2.89
BROOKLYN PARK	1	30	66	2.19
CHAMPLIN	1	30	66	2.19
COLUMBIA HEIGHTS	1	2,432	6,080	2.50
COON RAPIDS	2	1,025	4,142	4.04
CRYSTAL	1	1,468	1,468	1.00
EDEN PRAIRIE	2	1,080	4,320	4.00
EDINA	2	916	2,748	3.00
HAM LAKE	1	10	30	3.00
MINNEAPOLIS	5	16,015	32,030	2.00
MINNETONKA	1	570	855	1.50
NEW HOPE	1	240	240	1.00
ORONO	1	70	210	3.00
PLYMOUTH	2	220	940	4.27
PRIOR LAKE	1	50	100	2.00
RICHFIELD	1	5,737	11,474	2.00
ST. LOUIS PARK	3	2,408	6,106	2.54
SHAKOPEE	1	960	1,920	2.00
SPRING LAKE PARK	2	740	1,480	2.00
<b>DISTRICT TOTAL</b>	<b>31</b>	<b>37,451</b>	<b>\$84,233</b>	<b>\$2.25</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	1,770	\$1,770	\$1.00
AUSTIN	1	280	460	1.64
FARIBAULT	2	480	1,300	2.71
NORTHFIELD	1	234	293	1.25
OWATONNA	6	15,754	25,067	1.59
RED WING	1	495	1,485	3.00
ROCHESTER	1	1,300	1,885	1.45
WINONA	1	534	828	1.55
<b>DISTRICT TOTAL</b>	<b>14</b>	<b>20,847</b>	<b>\$33,088</b>	<b>\$1.59</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	3,892	\$7,395	\$1.90
MANKATO	3	565	1,130	2.00
NORTH MANKATO	1	7,741	9,676	1.25
WORTHINGTON	1	57	91	1.59
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>12,255</b>	<b>\$18,292</b>	<b>\$1.49</b>
<b><u>DISTRICT 8</u></b>				
MARSHALL	1	75	\$222	\$2.96
MONTEVIDEO	1	20	60	3.00
WILLMAR	1	4,620	16,170	3.50
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>4,715</b>	<b>\$16,452</b>	<b>\$3.49</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	2	510	\$1,275	\$2.50
BURNSVILLE	1	990	3,119	3.15
COTTAGE GROVE	1	100	300	3.00
EAGAN	2	4,076	10,554	2.59
FOREST LAKE	1	1,820	7,280	4.00
HASTINGS	1	250	750	3.00
LAKEVILLE	1	2,400	5,040	2.10
MENDOTA HEIGHTS	1	50	100	2.00
NEW BRIGHTON	1	195	585	3.00
OAKDALE	1	80	400	5.00
ROSEVILLE	2	599	2,499	4.17
ST. PAUL	5	19,931	47,005	2.36
VADNAIS HEIGHTS	1	481	722	1.50
WHITE BEAR LAKE	1	2,700	2,025	0.75
WOODBURY	1	40	40	1.00
<b>DISTRICT TOTAL</b>	<b>22</b>	<b>34,222</b>	<b>\$81,694</b>	<b>\$2.39</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	13	14,881	\$23,184	\$1.56
DISTRICT 2	11	12,243	23,580	1.93
DISTRICT 3	2	278	916	3.29
DISTRICT 4	4	5,470	10,496	1.92
METRO WEST	31	37,451	84,233	2.25
DISTRICT 6	14	20,847	33,088	1.59
DISTRICT 7	6	12,255	18,292	1.49
DISTRICT 8	3	4,715	16,452	3.49
METRO EAST	22	34,222	81,694	2.39
<b>STATE TOTAL</b>	<b>106</b>	<b>142,362</b>	<b>\$291,935</b>	<b>\$2.05</b>

# CURB & GUTTER REMOVAL #2104



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	46	119,913	\$216,648	\$1.81	\$1.75	\$1.52
1988	35	83,232	139,029	1.67	1.75	1.63
1989	64	211,446	290,721	1.37	1.75	1.59
1990	38	215,935	301,389	1.40	1.60	1.54
1991	59	207,105	355,996	1.72	1.60	1.59
1992	58	152,992	239,845	1.57	1.60	1.55
1993	56	118,793	183,378	1.54	1.60	1.52
1994	59	309,891	581,256	1.88	1.60	1.62
1995	51	209,177	384,029	1.84	1.70	1.71
1996	62	142,362	291,935	2.05		1.78

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER LIN. FT.

\$1.80



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

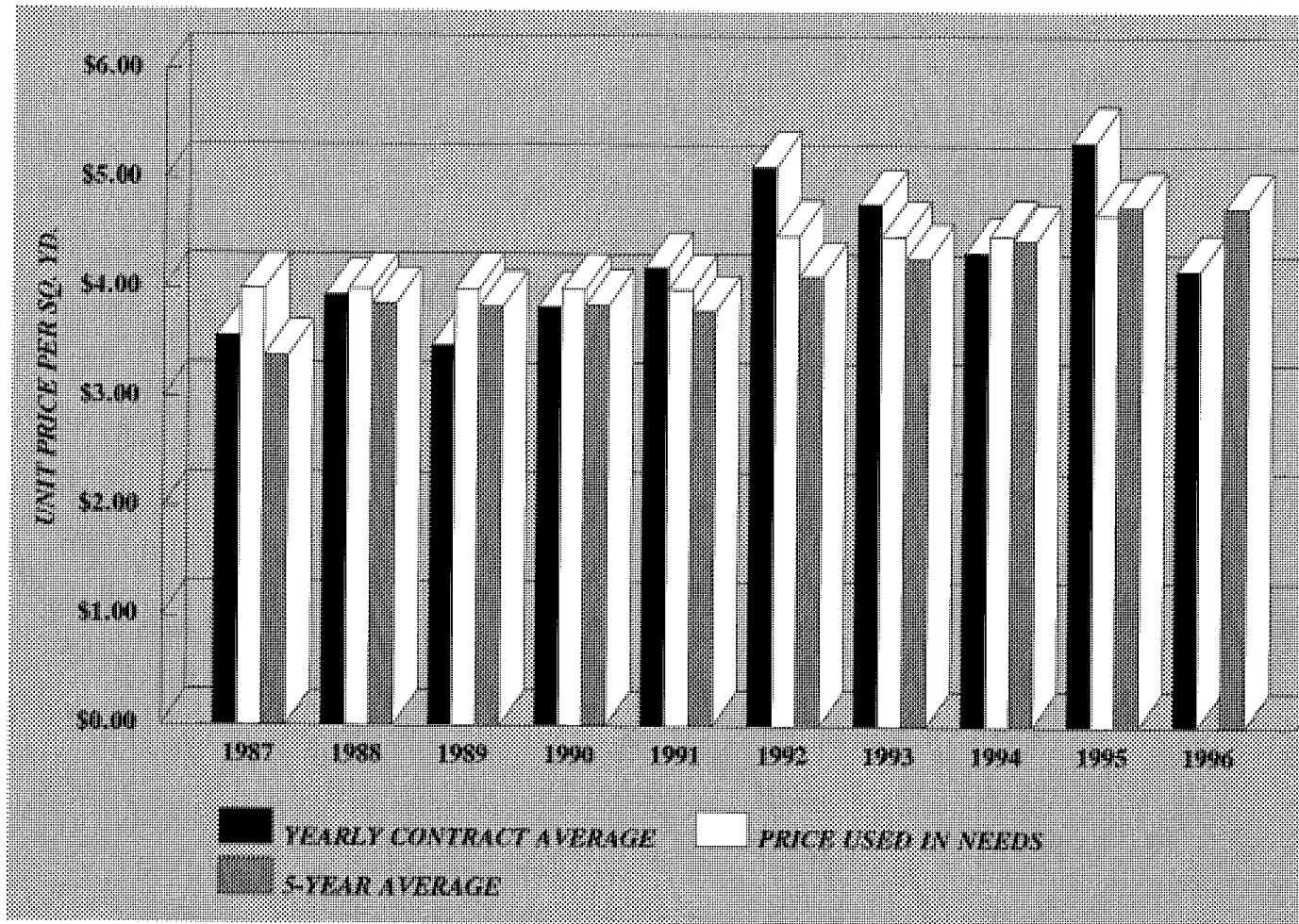
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	813	\$2,561	\$3.15
DULUTH	4	9,276	4,555	0.49
GRAND RAPIDS	2	3,909	8,795	2.25
HIBBING	1	8	144	18.00
VIRGINIA	1	215	645	3.00
<b>DISTRICT TOTAL</b>	<b>9</b>	<b>14,221</b>	<b>\$16,700</b>	<b>\$1.17</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	3	603	\$4,083	\$6.78
CROOKSTON	4	2,480	24,556	9.90
EAST GRAND FORKS	1	830	5,227	6.30
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>3,913</b>	<b>\$33,866</b>	<b>\$8.66</b>
<b><u>DISTRICT 3</u></b>				
WAITE PARK	1	19	\$168	\$9.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>19</b>	<b>\$168</b>	<b>\$9.00</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	215	\$1,159	\$5.40
DETROIT LAKES	1	1,879	11,678	6.21
MOORHEAD	1	139	1,250	9.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>2,233</b>	<b>\$14,087</b>	<b>\$6.31</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	3	895	\$4,047	\$4.52
BROOKLYN PARK	1	65	214	3.29
COLUMBIA HEIGHTS	1	356	2,240	6.30
COON RAPIDS	1	605	1,240	2.05
CRYSTAL	1	18	80	4.50
EDEN PRAIRIE	1	42	750	18.00
EDINA	1	15	69	4.50
MINNEAPOLIS	5	3,856	22,363	5.80
ST. LOUIS PARK	3	1,546	8,874	5.74
SHAKOPEE	1	75	169	2.25
SPRING LAKE PARK	3	715	2,214	3.10
<b>DISTRICT TOTAL</b>	<b>21</b>	<b>8,188</b>	<b>\$42,260</b>	<b>\$5.16</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	1,160	\$5,220	\$4.50
AUSTIN	2	150	540	3.60
FARIBAULT	1	30	180	6.00
NORTHFIELD	1	5	25	5.00
OWATONNA	4	6,333	19,813	3.13
RED WING	2	228	1,230	5.40
ROCHESTER	2	457	1,710	3.74
WINONA	1	248	892	3.60
<b>DISTRICT TOTAL</b>	<b>14</b>	<b>8,611</b>	<b>\$29,610</b>	<b>\$3.44</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	2,124	\$19,115	\$9.00
MANKATO	3	122	1,100	9.00
NORTH MANKATO	1	4,826	15,201	3.15
WORTHINGTON	1	119	823	6.93
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>7,191</b>	<b>\$36,239</b>	<b>\$5.04</b>
<b><u>DISTRICT 8</u></b>				
WILLMAR	1	333	\$2,250	\$6.75
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>333</b>	<b>\$2,250</b>	<b>\$6.75</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	1	33	\$150	\$4.50
EAGAN	1	280	1,334	4.77
FOREST LAKE	1	527	11,850	22.50
LAKEVILLE	1	228	1,128	4.95
NEW BRIGHTON	1	379	1,705	4.50
ROSEVILLE	2	18	322	18.00
ST. PAUL	5	2,479	8,357	3.37
SOUTH ST. PAUL	1	156	3,150	20.25
STILLWATER	3	927	5,006	5.40
WHITE BEAR LAKE	1	25	123	4.96
<b>DISTRICT TOTAL</b>	<b>17</b>	<b>5,051</b>	<b>\$33,125</b>	<b>\$6.56</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	9	14,221	\$16,700	\$1.17
DISTRICT 2	8	3,913	33,866	8.66
DISTRICT 3	1	19	168	9.00
DISTRICT 4	3	2,233	14,087	6.31
METRO WEST	21	8,188	42,260	5.16
DISTRICT 6	14	8,611	29,610	3.44
DISTRICT 7	6	7,191	36,239	5.04
DISTRICT 8	1	333	2,250	6.75
METRO EAST	17	5,051	33,125	6.56
<b>STATE TOTAL</b>	<b>80</b>	<b>49,759</b>	<b>\$208,305</b>	<b>\$4.19</b>

# SIDEWALK REMOVAL #2105



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	38	44,695	\$159,347	\$3.57	\$4.00	\$3.57
1988	25	35,889	141,549	3.94	4.00	3.94
1989	46	77,633	270,831	3.49	4.00	3.49
1990	41	50,017	192,021	3.84	4.00	3.84
1991	43	71,868	301,912	4.20	4.00	4.20
1992	45	57,606	295,735	5.13	4.50	5.13
1993	40	43,017	206,147	4.79	4.50	4.79
1994	39	54,206	235,995	4.35	4.50	4.35
1995	34	73,172	392,401	5.36	4.70	5.36
1996	46	49,759	208,305	4.19		4.19

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER SQ. YD.

\$4.

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

## CONCRETE PAVEMENT REMOVAL - SQUARE YARD

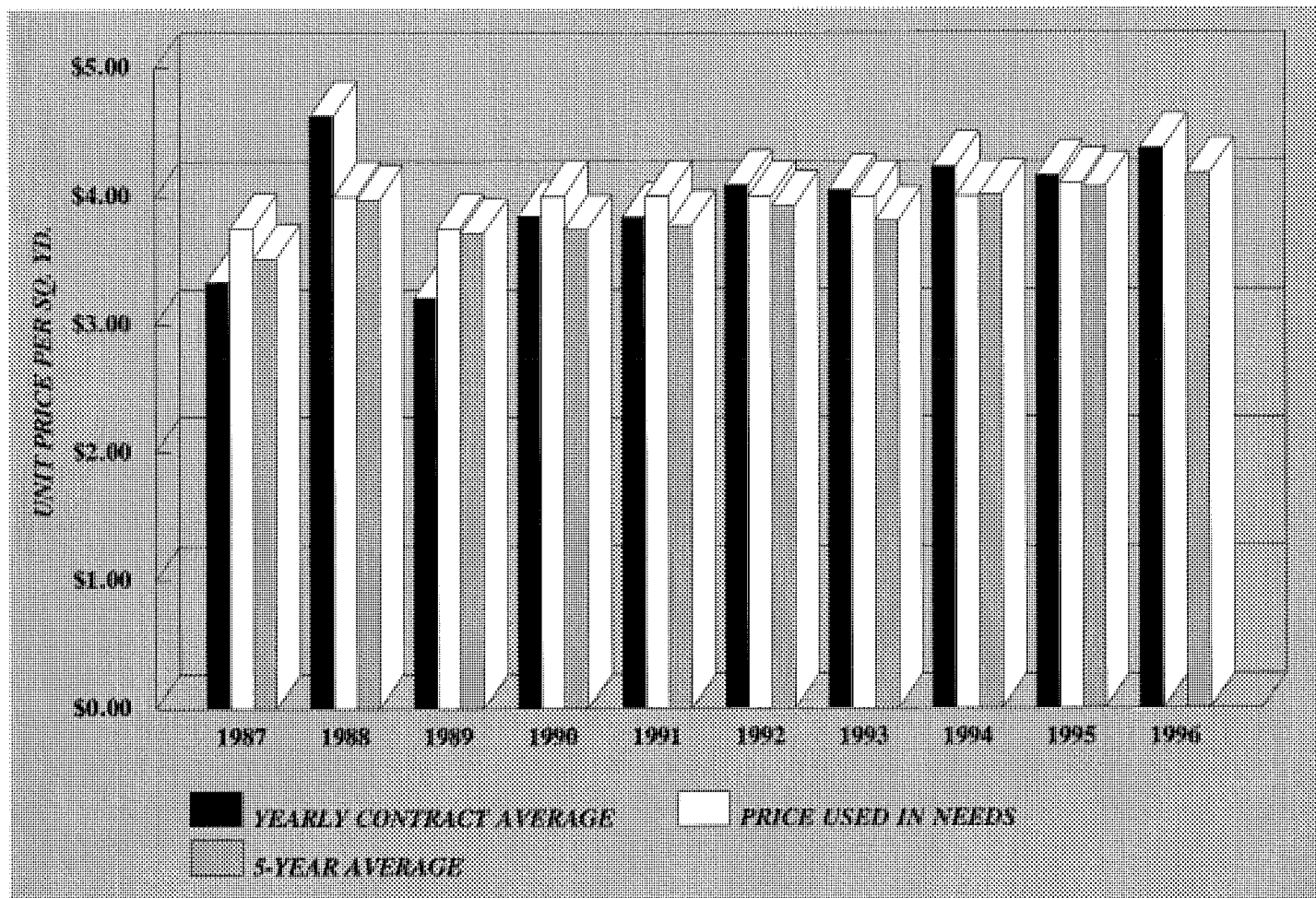
MUNICIPALITY	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	2,254	\$6,762	\$3.00
DULUTH	3	1,219	3,816	3.13
GRAND RAPIDS	2	3331	15,109	4.54
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>6,804</b>	<b>\$25,687</b>	<b>\$3.78</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	2	713	\$1,426	\$2.00
CROOKSTON	4	1199	7,814	6.52
EAST GRAND FORKS	2	2,442	9,794	4.01
THIEF RIVER FALLS	2	369	2,214	6.00
<b>DISTRICT TOTAL</b>	<b>10</b>	<b>4,723</b>	<b>\$21,248</b>	<b>\$4.50</b>
<b><u>DISTRICT 3</u></b>				
WAITE PARK	1	216	\$240	\$1.11
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>216</b>	<b>\$240</b>	<b>\$1.11</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	20	\$100	\$5.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>20</b>	<b>\$100</b>	<b>\$5.00</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	1	1,065	\$1,768	\$1.66
COLUMBIA HEIGHTS	1	6,000	6,000	1.00
COON RAPIDS	1	48	886	18.46
CRYSTAL	1	568	2,556	4.50
HAM LAKE	1	27	81	3.00
MINNEAPOLIS	4	8,347	65,695	7.87
NEW HOPE	1	30	135	4.50
RICHFIELD	1	1,313	3,939	3.00
ST. LOUIS PARK	2	6040	24,095	3.99
<b>DISTRICT TOTAL</b>	<b>13</b>	<b>23,438</b>	<b>\$105,155</b>	<b>\$4.49</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	3,200	\$14,400	\$4.50
AUSTIN	2	6,960	20,880	3.00
FARIBAULT	2	250	1,138	4.55
OWATONNA	4	673	3,915	5.82
ROCHESTER	2	2,443	23,487	9.61
<b>DISTRICT TOTAL</b>	<b>11</b>	<b>13,526</b>	<b>\$63,820</b>	<b>\$4.72</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	2,761	\$13,805	\$5.00
MANKATO	1	5,287	20,091	3.80
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>8,048</b>	<b>\$33,896</b>	<b>\$4.21</b>

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

MUNICIPALITY	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<u>DISTRICT 8</u>				
MARSHALL	1	9	\$35	\$3.89
WILLMAR	1	120	720	6.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>129</b>	<b>\$755</b>	<b>\$5.85</b>
<u>METRO EAST</u>				
ST. PAUL	3	21,218	\$90,484	\$4.26
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>21,218</b>	<b>\$90,484</b>	<b>\$4.26</b>

<u>DISTRICT TOTALS</u>				
DISTRICT 1	6	6,804	\$25,687	\$3.78
DISTRICT 2	10	4,723	21,248	4.50
DISTRICT 3	1	216	240	1.11
DISTRICT 4	1	20	100	5.00
METRO WEST	13	23,438	105,155	4.49
DISTRICT 6	11	13,526	63,820	4.72
DISTRICT 7	2	8,048	33,896	4.21
DISTRICT 8	2	129	755	5.85
METRO EAST	3	21,218	90,484	4.26
<b>STATE TOTAL</b>	<b>49</b>	<b>78,122</b>	<b>\$341,385</b>	<b>\$4.37</b>

# CONCRETE PAVEMENT REMOVAL #2106



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	15	132,405	\$440,715	\$3.33	\$3.75	\$3.51
1988	25	106,550	493,029	4.63	4.00	3.97
1989	44	276,630	886,757	3.21	3.75	3.71
1990	27	88,278	339,571	3.85	4.00	3.74
1991	27	108,995	418,053	3.84	4.00	3.77
1992	23	98,752	403,278	4.08	4.00	3.92
1993	26	190,259	770,477	4.05	4.00	3.80
1994	26	185,066	782,965	4.23	4.00	4.01
1995	27	81,258	337,753	4.16	4.10	4.07
1996	28	78,122	341,385	4.37		4.18

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER SQ. YD.

\$4.20

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	5	26	\$2,164	\$83.22
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>26</b>	<b>\$2,164</b>	<b>\$83.22</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	2	50	\$2,550	\$51.00
CROOKSTON	1	2	500	250.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>52</b>	<b>\$3,050</b>	<b>\$58.65</b>
<b><u>DISTRICT 3</u></b>				
MONTICELLO	1	13	\$1,950	\$150.00
OTSEGO	1	8	280	35.00
SAUK RAPIDS	2	45	3,600	80.00
ST. CLOUD	1	3	450	150.00
WAITE PARK	1	1	40	40.00
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>70</b>	<b>\$6,320</b>	<b>\$90.29</b>
<b><u>DISTRICT 4</u></b>				
DETROIT LAKES	1	23	\$460	\$20.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>23</b>	<b>\$460</b>	<b>\$20.00</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	1	5	\$300	\$60.00
BROOKLYN PARK	1	3	494	164.55
CHAMPLIN	2	30	7,581	252.71
EDINA	1	5	750	150.00
MINNEAPOLIS	2	21	4,500	214.29
MINNETONKA	1	290	29,000	100.00
ORONO	1	11	715	65.00
PLYMOUTH	1	6	600	100.00
RICHFIELD	1	35	5,250	150.00
ST. LOUIS PARK	1	10	1,600	160.00
SPRING LAKE PARK	1	6	480	80.00
<b>DISTRICT TOTAL</b>	<b>13</b>	<b>422</b>	<b>\$51,270</b>	<b>\$121.49</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	7	\$1,400	\$200.00
FARIBAULT	1	2	500	250.00
OWATONNA	2	2	300	150.00
ROCHESTER	1	1	145	145.00
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>12</b>	<b>\$2,345</b>	<b>\$195.42</b>
<b><u>DISTRICT 7</u></b>				
NORTH MANKATO	1	55	\$11,550	\$210.00
WORTHINGTON	1	1	52	52.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>56</b>	<b>\$11,602</b>	<b>\$207.18</b>
<b><u>DISTRICT 8</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>METRO EAST</u></b>				
BURNSVILLE	1	10	\$1,500	\$150.00
EAGAN	2	62	3,109	50.15
FOREST LAKE	1	8	1,200	150.00
HASTINGS	1	5	1,020	204.00
ST. PAUL	1	1	250	250.00
STILLWATER	1	3	300	100.00
WHITE BEAR LAKE	1	8	800	100.00
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>97</b>	<b>\$8,179</b>	<b>\$84.32</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	5	49	\$4,668	\$95.27
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>49</b>	<b>\$4,668</b>	<b>\$95.27</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	2	58	\$3,000	\$51.72
CROOKSTON	1	2	700	350.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>60</b>	<b>\$3,700</b>	<b>\$61.67</b>
<b><u>DISTRICT 3</u></b>				
MONTICELLO	1	13	\$1,950	\$150.00
OTSEGO	1	8	280	35.00
ST. CLOUD	1	3	450	150.00
SAUK RAPIDS	2	56	4,480	80.00
WAITE PARK	1	1	40	40.00
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>81</b>	<b>\$7,200</b>	<b>\$88.89</b>
<b><u>DISTRICT 4</u></b>				
DETROIT LAKES	1	23	\$2,070	\$90.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>23</b>	<b>\$2,070</b>	<b>\$90.00</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	1	5	\$300	\$60.00
BROOKLYN PARK	1	3	165	54.85
CHAMPLIN	2	30	2,291	76.36
EDINA	1	5	375	75.00
MINNEAPOLIS	2	25	5700	228.00
MINNETONKA	1	290	29,000	100.00
ORONO	1	11	715	65.00
PLYMOUTH	1	6	510	85.00
RICHFIELD	1	35	5,250	150.00
ST. LOUIS PARK	1	10	550	55.00
SPRING LAKE PARK	1	6	300	50.00
<b>DISTRICT TOTAL</b>	<b>13</b>	<b>426</b>	<b>\$45,155</b>	<b>\$106.00</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	7	\$350	\$50.00
FARIBAULT	1	2	200	100.00
OWATONNA	3	4	500	125.00
ROCHESTER	1	1	85	85.00
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>14</b>	<b>\$1,135</b>	<b>\$81.07</b>
<b><u>DISTRICT 7</u></b>				
NORTH MANKATO	1	55	\$4,400	\$80.00
WORTHINGTON	1	1	52	52.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>56</b>	<b>\$4,452</b>	<b>\$79.50</b>
<b><u>DISTRICT 8</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>METRO EAST</u></b>				
BURNSVILLE	1	10	\$1,500	\$150.00
EAGAN	2	66	2,934	44.46
FOREST LAKE	1	2	200	100.00
HASTINGS	1	9	230	25.56
ST. PAUL	1	1	150	150.00
STILLWATER	1	3	300	100.00
WHITE BEAR LAKE	1	8	800	100.00
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>99</b>	<b>\$6,114</b>	<b>\$61.76</b>



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

DISTRICT	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<b>DISTRICT TOTALS</b>				
DISTRICT 1	5	26	\$2,164	\$83.22
DISTRICT 2	3	52	3,050	58.65
DISTRICT 3	6	70	6,320	90.29
DISTRICT 4	1	23	460	20.00
METRO WEST	13	422	51,270	121.49
DISTRICT 6	5	12	2,345	195.42
DISTRICT 7	2	56	11,602	207.18
DISTRICT 8	0	0	0	0.00
METRO EAST	8	97	8,179	84.32
<b>STATE TOTAL</b>	<b>43</b>	<b>758</b>	<b>\$85,390</b>	<b>\$112.65</b>

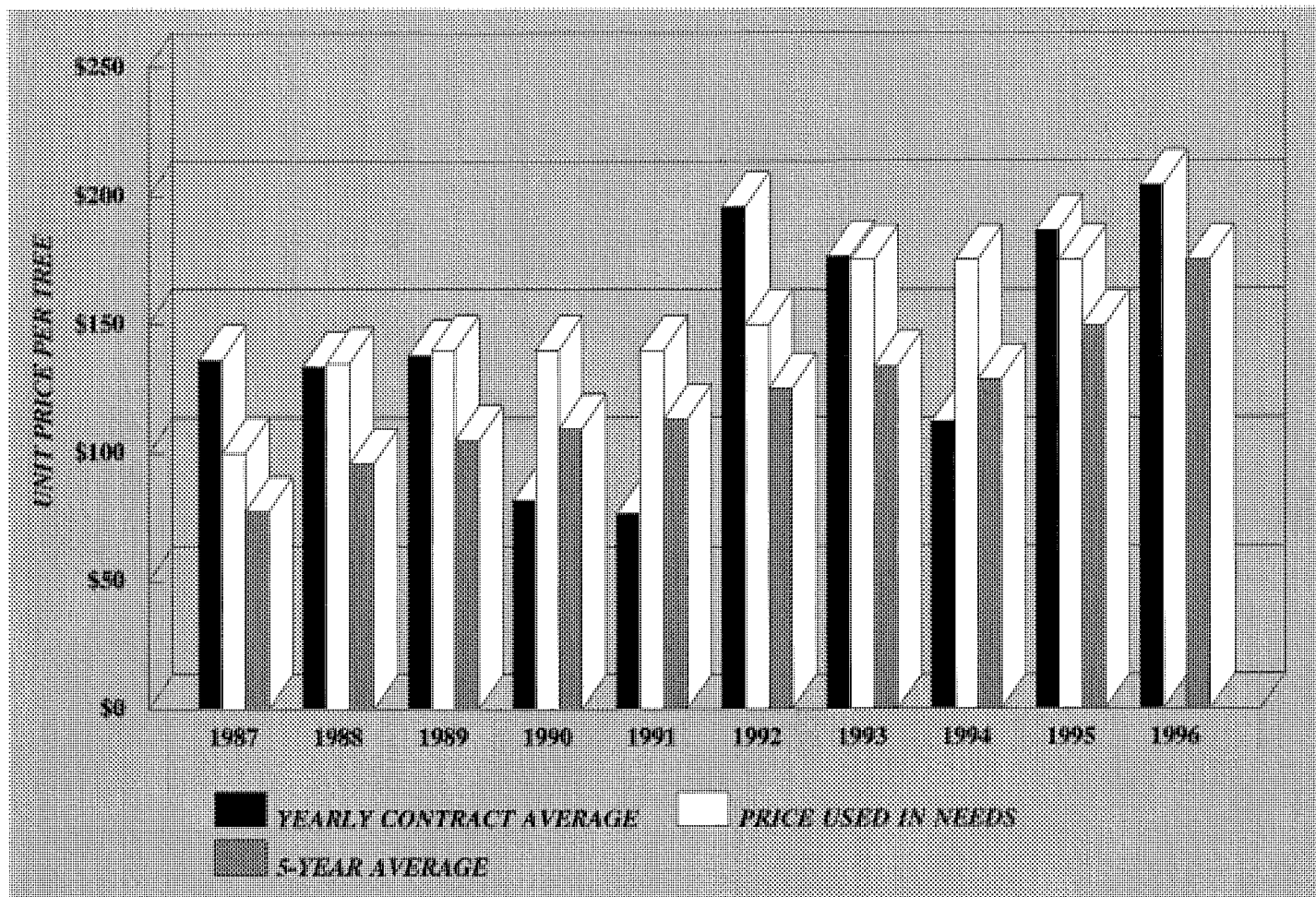
### M.S.A.S UNIT PRICE STUDY TREE REMOVAL - GRUBBING

DISTRICT	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<b>DISTRICT TOTALS</b>				
DISTRICT 1	5	49	\$4,668	\$95.27
DISTRICT 2	3	60	3,700	61.67
DISTRICT 3	6	81	7,200	88.89
DISTRICT 4	1	23	2,070	90.00
METRO WEST	13	426	45,155	106.00
DISTRICT 6	6	14	1,135	81.07
DISTRICT 7	2	56	4,452	79.50
DISTRICT 8	0	0	0	0.00
METRO EAST	8	99	6,114	61.76
<b>STATE TOTAL</b>	<b>44</b>	<b>808</b>	<b>\$74,494</b>	<b>\$92.20</b>

### CLEARING AND GRUBBING ARE COMBINED TO COMPUTE TREE REMOVAL

	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
TOTAL CLEARING	43	758	\$85,390	\$112.65
TOTAL GRUBBING	44	808	74,494	92.20
<b>TOTAL</b>		<b>1,566</b>	<b>\$159,884</b>	<b>\$102.10</b>
$1,566/2 = 783 \text{ TREES}$ $\text{AVERAGE COST PER TREE} = \$159,884/783 = \$204.19$				

# TREE REMOVAL #2101



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	18	311	\$42,365	\$136.22	\$100.00	\$77.11
1988	19	535	71,490	133.63	135.00	95.96
1989	40	884	122,030	138.04	140.00	104.88
1990	37	1,659	135,381	81.60	140.00	109.35
1991	35	1,869	142,888	76.45	140.00	113.19
1992	39	867	169,797	195.84	150.00	125.11
1993	34	853	150,442	176.47	175.00	133.68
1994	35	1,876	210,444	112.15	175.00	128.50
1995	41	1,136	211,912	186.54	175.00	149.49
1996	33	783	159,884	204.19		175.04

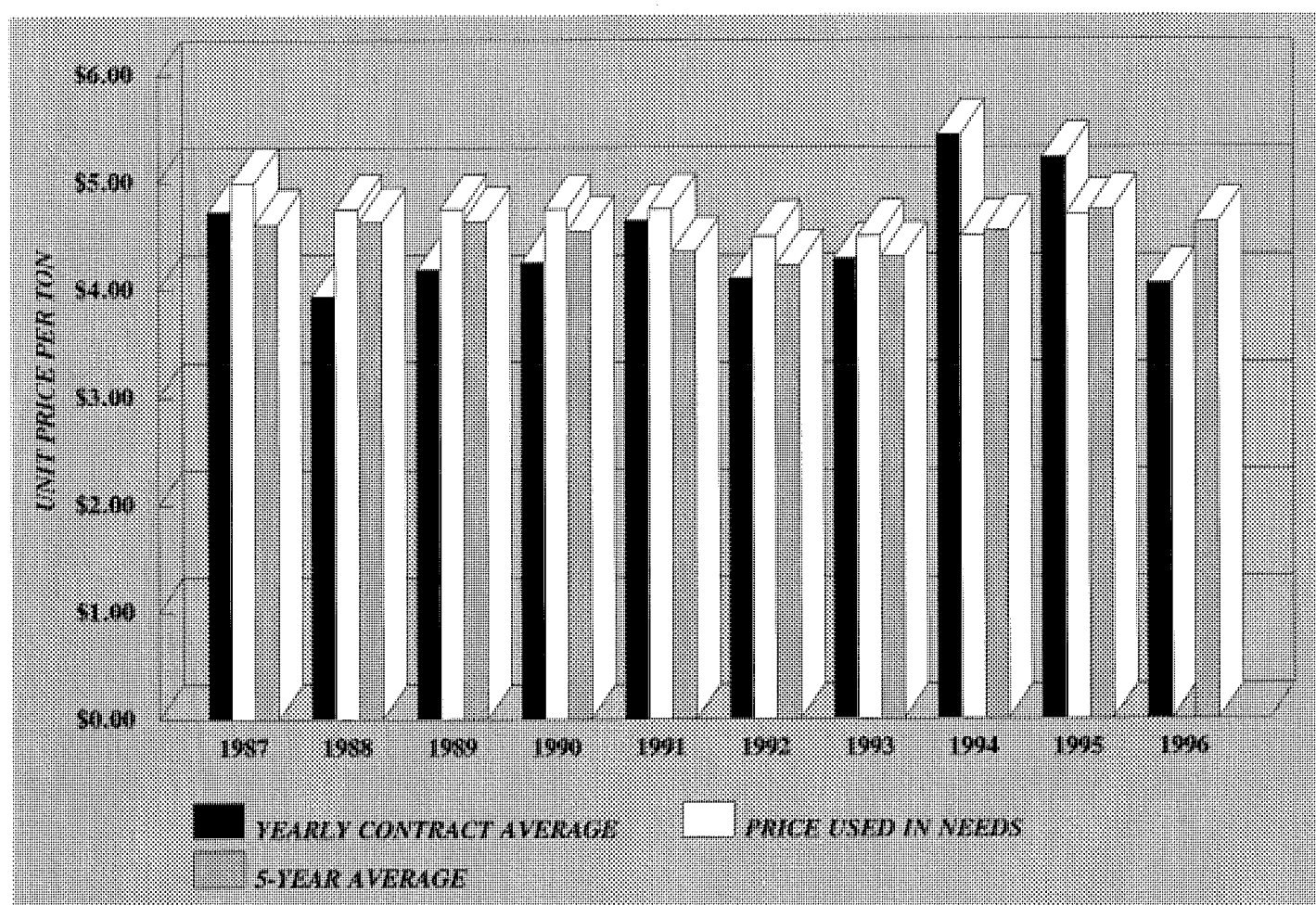
SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS \$175.00 PER TREE.

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<u><b>DISTRICT 1</b></u>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<u><b>DISTRICT 2</b></u>				
THIEF RIVER FALLS	2	15,090	\$60,360	\$4.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>15,090</b>	<b>\$60,360</b>	<b>\$4.00</b>
<u><b>DISTRICT 3</b></u>				
SAUK RAPIDS	2	11,921	\$57,885	\$4.86
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>11,921</b>	<b>\$57,885</b>	<b>\$4.86</b>
<u><b>DISTRICT 4</b></u>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<u><b>METRO WEST</b></u>				
CHASKA	1	9,000	\$25,200	\$2.80
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>9,000</b>	<b>\$25,200</b>	<b>\$2.80</b>
<u><b>DISTRICT 6</b></u>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<u><b>DISTRICT 7</b></u>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<u><b>DISTRICT 8</b></u>				
MARSHALL	1	1,756	\$13,872	\$7.90
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>1,756</b>	<b>\$13,872</b>	<b>\$7.90</b>
<u><b>METRO EAST</b></u>				
FOREST LAKE	2	27,300	\$104,250	\$3.82
SOUTH ST. PAUL	1	1,400	8,400	\$6.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>28,700</b>	<b>\$112,650</b>	<b>\$3.93</b>

<u><b>DISTRICT TOTALS</b></u>				
DISTRICT 1	0	0	\$0	\$0.00
DISTRICT 2	2	15,090	60,360	4.00
DISTRICT 3	2	11,921	57,885	4.86
DISTRICT 4	0	0	0	0.00
METRO WEST	1	9,000	25,200	2.80
DISTRICT 6	0	0	0	0.00
DISTRICT 7	0	0	0	0.00
DISTRICT 8	1	1,756	13,872	7.90
METRO EAST	3	28,700	112,650	3.93
<b>STATE TOTAL</b>	<b>9</b>	<b>66,467</b>	<b>\$269,967</b>	<b>\$4.06</b>

# CLASS 4 SUBBASE #2211



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	6	52,643	\$248,938	\$4.73	\$5.00	\$4.61
1988	8	60,793	239,623	3.94	4.75	4.63
1989	10	68,406	286,398	4.19	4.75	4.64
1990	5	56,590	240,949	4.26	4.75	4.55
1991	7	30,594	142,157	4.65	4.75	4.35
1992	7	69,260	284,485	4.11	4.50	4.23
1993	3	25,634	109,928	4.29	4.50	4.30
1994	2	5,140	27,970	5.44	4.50	4.55
1995	7	36,095	188,875	5.23	4.70	4.74
1996	9	66,467	269,967	4.06		4.63

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER TON.

\$4.70

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

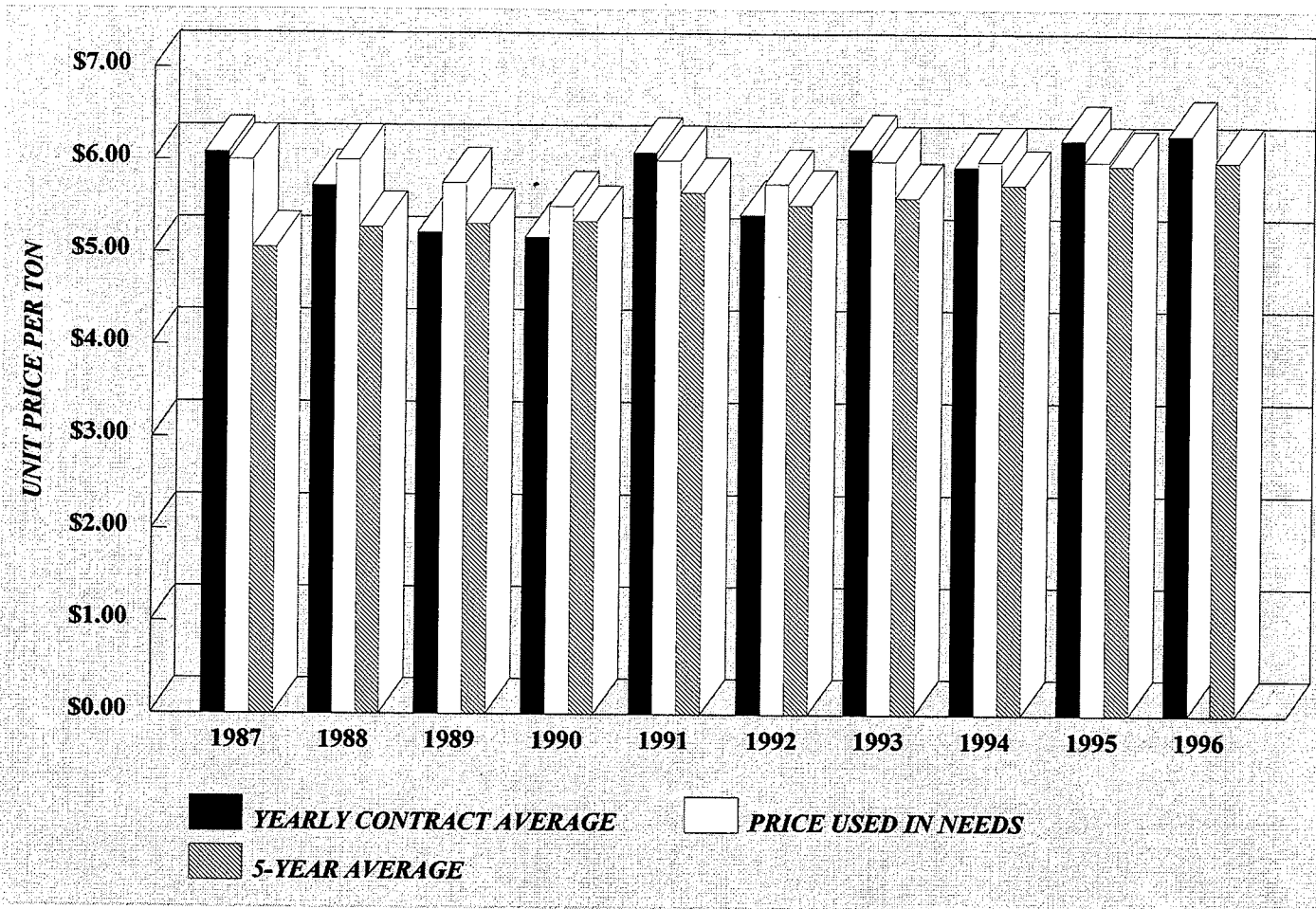
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	5,067	\$26,006	\$5.13
DULUTH	6	6,728	54,656	8.12
GRAND RAPIDS	2	13,023	82,784	6.36
HIBBING	2	4,559	25,253	5.54
VIRGINIA	1	6,235	36,289	5.82
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>35,612</b>	<b>\$224,988</b>	<b>\$6.32</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	5	5,423	\$30,364	\$5.60
CROOKSTON	5	12,768	88,979	6.97
THIEF RIVER FALLS	2	1,840	10,714	5.82
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>20,031</b>	<b>\$130,057</b>	<b>\$6.49</b>
<b><u>DISTRICT 3</u></b>				
CAMBRIDGE	1	3,510	\$19,832	\$5.65
MONTICELLO	1	7,100	32,731	4.61
OTSEGO	1	1,366	8,196	6.00
ST. CLOUD	2	8,191	74,332	9.07
SAUK RAPIDS	2	5,623	31,952	5.68
WAITE PARK	1	7,805	48,564	6.22
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>33,595</b>	<b>\$215,607</b>	<b>\$6.42</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	2	3,400	\$19,890	\$5.85
DETROIT LAKES	1	2,200	10,978	4.99
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>5,600</b>	<b>\$30,868</b>	<b>\$5.51</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	1	3,170	\$28,352	\$8.94
BROOKLYN PARK	1	4,541	28,745	6.33
CHAMPLIN	2	9,053	63,632	7.03
CHANHASSEN	2	4,607	30,867	6.70
CHASKA	3	19,228	139,182	7.24
COLUMBIA HEIGHTS	1	1,200	7,800	6.50
CRYSTAL	1	4,710	26,055	5.53
EDEN PRAIRIE	2	1,049	8,325	7.94
EDINA	2	8,380	56,818	6.78
HAM LAKE	1	5,650	40,398	7.15
MAPLE GROVE	1	22,302	128,502	5.76
MINNEAPOLIS	6	8,941	87,802	9.82
MINNETONKA	2	17,205	108,586	6.31
NEW HOPE	1	220	1,210	5.50
OAK GROVE	1	14,900	78,970	5.30
ORONO	1	1,300	19,500	15.00
PLYMOUTH	2	18,539	138,749	7.48
PRIOR LAKE	1	10,344	64,650	6.25
RAMSEY	1	730	4,745	6.50
RICHFIELD	1	1,444	8,879	6.15
ST. LOUIS PARK	5	8,055	59,306	7.36
SPRING LAKE PARK	2	8,300	69,305	8.35
<b>DISTRICT TOTAL</b>	<b>40</b>	<b>173,868</b>	<b>\$1,200,378</b>	<b>\$6.90</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	2,500	\$16,875	\$6.75
AUSTIN	2	1,970	12,135	6.16
FARIBAULT	4	10,380	62,982	6.07
NORTHFIELD	1	15,006	83,433	5.56
OWATONNA	6	12,274	73,492	5.99
RED WING	2	8,729	53,556	6.14
ROCHESTER	3	1,670	13,902	8.32
WINONA	2	6,748	55,924	8.29
<b>DISTRICT TOTAL</b>	<b>21</b>	<b>59,277</b>	<b>\$372,299</b>	<b>\$6.28</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	2,590	\$20,350	\$7.86
NORTH MANKATO	1	13,396	77,968	5.82
WORTHINGTON	1	599	5,193	8.67
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>16,585</b>	<b>\$103,511</b>	<b>\$6.24</b>
<b><u>DISTRICT 8</u></b>				
MARSHALL	1	1,821	\$15,296	\$8.40
MONTEVIDEO	1	4,300	23,908	5.56
WILLMAR	1	11,000	69,300	6.30
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>17,121</b>	<b>\$108,504</b>	<b>\$6.34</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	2	5,984	\$32,792	\$5.48
BURNSVILLE	2	5,191	24,875	4.79
COTTAGE GROVE	1	10,006	21,239	2.12
EAGAN	2	76,165	445,362	5.85
FOREST LAKE	2	6,500	51,675	7.95
HASTINGS	1	17,540	105,415	6.01
LAKEVILLE	1	42,998	239,455	5.57
LITTLE CANADA	1	400	2,660	6.65
MENDOTA HEIGHTS	1	2,950	20,296	6.88
NEW BRIGHTON	1	12,700	101,600	8.00
ST. PAUL	5	11,701	82,172	7.02
SOUTH ST. PAUL	1	950	7,600	8.00
STILLWATER	2	10,138	55,060	5.43
VADNAIS HEIGHTS	1	1,570	13,267	8.45
WHITE BEAR LAKE	1	15,371	88,383	5.75
WOODBURY	2	11,461	55,368	4.83
<b>DISTRICT TOTAL</b>	<b>26</b>	<b>231,625</b>	<b>\$1,347,219</b>	<b>\$5.82</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	12	35,612	\$224,988	\$6.32
DISTRICT 2	12	20,031	130,057	6.49
DISTRICT 3	8	33,595	215,607	6.42
DISTRICT 4	3	5,600	30,868	5.51
METRO WEST	40	173,868	1,200,378	6.90
DISTRICT 6	20	59,277	372,299	6.28
DISTRICT 7	3	16,585	103,511	6.24
DISTRICT 8	3	17,121	108,504	6.34
METRO EAST	26	231,625	1,347,219	5.82
<b>STATE TOTAL</b>	<b>128</b>	<b>593,314</b>	<b>\$3,733,431</b>	<b>\$6.29</b>

# CLASS 5 AGGREGATE BASE #2211



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	61	455,259	\$2,768,438	\$6.08	\$6.00	\$5.00
1988	51	381,898	2,185,112	5.72	6.00	5.27
1989	70	648,988	3,385,938	5.22	5.75	5.31
1990	68	715,922	3,696,421	5.16	5.50	5.34
1991	70	553,874	3,368,664	6.08	6.00	5.65
1992	69	650,835	3,525,629	5.42	5.75	5.52
1993	60	621,247	3,807,092	6.13	6.00	5.60
1994	70	660,174	3,921,230	5.94	6.00	5.75
1995	61	491,608	3,060,585	6.23	6.00	5.96
1996	68	593,314	3,733,431	6.29		6.00

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS PER TON.

\$6.20

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b>DISTRICT 1</b>				
CLOQUET	1	1,395	\$36,270	\$26.00
DULUTH	6	8,151	199,186	24.44
GRAND RAPIDS	2	3,574	88,219	24.68
HIBBING	2	912	19,592	21.48
VIRGINIA	1	2,863	74,438	26.00
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>16,895</b>	<b>\$417,705</b>	<b>\$24.72</b>
<b>DISTRICT 2</b>				
BEMIDJI	5	4,942	\$107,660	\$21.78
CROOKSTON	5	1,677	56,675	33.80
THIEF RIVER FALLS	2	2,090	55,917	26.75
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>8,709</b>	<b>\$220,252</b>	<b>\$25.29</b>
<b>DISTRICT 3</b>				
CAMBRIDGE	1	905	\$18,172	\$20.08
MONTICELLO	1	1,580	29,499	18.67
OTSEGO	1	393	8,057	20.50
ST. CLOUD	2	2,191	50,615	23.10
SAUK RAPIDS	2	2,330	51,260	22.00
WAITE PARK	1	2,013	50,320	25.00
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>9,412</b>	<b>\$207,923</b>	<b>\$22.09</b>
<b>DISTRICT 4</b>				
ALEXANDRIA	3	794	\$16,249	\$20.47
DETROIT LAKES	1	1,050	13,072	12.45
MOORHEAD	1	4,625	107,156	23.17
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>6,469</b>	<b>\$136,477</b>	<b>\$21.10</b>
<b>METRO WEST</b>				
BROOKLYN CENTER	2	1,904	\$44,742	\$23.50
BROOKLYN PARK	1	909	19,953	21.95
CHAMPLIN	2	1,742	35,713	20.50
CHANHASSEN	2	1,631	34,740	21.30
CHASKA	3	4,714	92,404	19.60
COLUMBIA HEIGHTS	1	2,669	58,718	22.00
COON RAPIDS	2	45	2,280	50.67
CRYSTAL	1	1,280	27,622	21.58
EDEN PRAIRIE	2	360	10,800	30.00
EDINA	2	1,713	38,881	22.70
HAM LAKE	1	1,896	42,470	22.40
MAPLE GROVE	1	5,230	97,958	18.73
MINNEAPOLIS	1	457	11,390	24.92
MINNETONKA	2	4,880	104,294	21.37
NEW HOPE	1	60	1,295	21.58
OAK GROVE	1	3,110	53,834	17.31
ORONO	1	925	26,825	29.00
PLYMOUTH	2	6,500	124,937	19.22
PRIOR LAKE	1	2,136	44,856	21.00
RAMSEY	1	375	9,094	24.25
RICHFIELD	1	1,059	26,475	25.00
ST. LOUIS PARK	4	4,727	102,126	21.60
SHAKOPEE	1	2,475	55,260	22.33
SPRING LAKE PARK	2	5,583	81,027	14.51
<b>DISTRICT TOTAL</b>	<b>38</b>	<b>56,380</b>	<b>\$1,147,694</b>	<b>\$20.36</b>

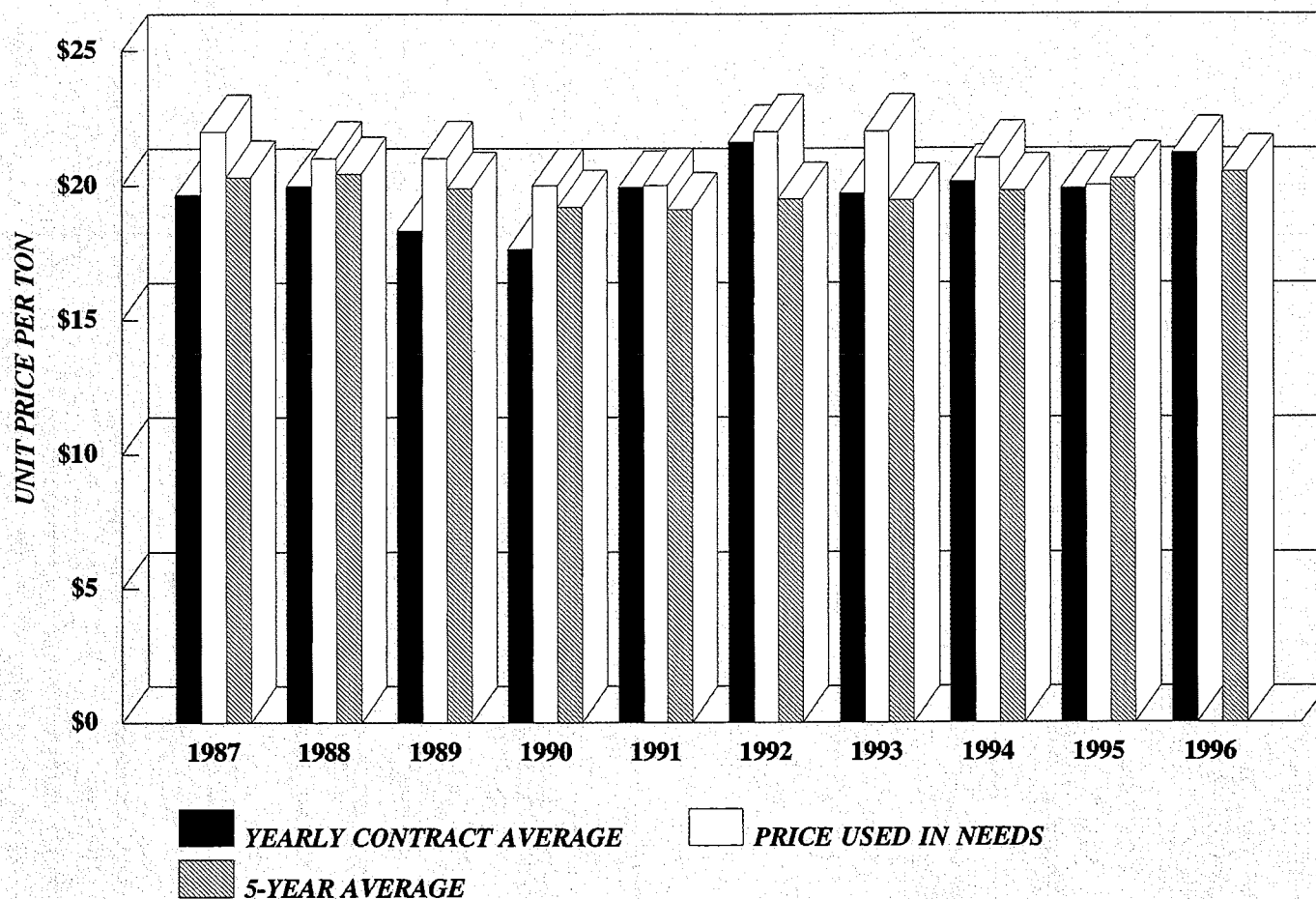


**M.S.A.S. UNIT PRICE STUDY  
BIT. BASE & SURF. 2331 - TONS**

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	1,130	\$28,250	\$25.00
FARIBAULT	4	8,020	175,730	21.91
NORTHFIELD	1	1,202	26,444	22.00
OWATONNA	5	4,532	105,419	23.26
ROCHESTER	2	1,378	35,170	25.52
WINONA	1	271	9,267	34.20
<b>DISTRICT TOTAL</b>	<b>14</b>	<b>16,533</b>	<b>\$380,280</b>	<b>\$23.00</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	111	\$4,884	\$44.00
NORTH MANKATO	1	4,479	98,538	22.00
WORTHINGTON	1	14	681	48.63
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>4,604</b>	<b>\$104,103</b>	<b>\$22.61</b>
<b><u>DISTRICT 8</u></b>				
MARSHALL	1	552	\$15,456	\$28.00
MONTEVIDEO	1	6,900	152,490	22.10
WILLMAR	1	2,740	70,555	25.75
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>10,192</b>	<b>\$238,501</b>	<b>\$23.40</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	2	1,482	\$30,372	\$20.49
BURNSVILLE	2	1,168	23,055	19.74
COTTAGE GROVE	1	5,435	98,917	18.20
HASTINGS	1	5,300	98,951	18.67
LAKEVILLE	1	17,970	327,953	18.25
LITTLE CANADA	1	480	9,840	20.50
MENDOTA HEIGHTS	1	1,000	20,050	20.05
NEW BRIGHTON	1	6,200	127,875	20.63
OAKDALE	1	30	1,350	45.00
ST. PAUL	4	13,545	258,555	19.09
SOUTH ST. PAUL	1	920	20,645	22.44
STILLWATER	2	3,445	71,242	20.68
VADNAIS HEIGHTS	1	589	12,958	22.00
WOODBURY	2	2,140	45,470	21.25
<b>DISTRICT TOTAL</b>	<b>21</b>	<b>59,704</b>	<b>\$1,147,233</b>	<b>\$19.22</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	12	16,895	\$417,705	\$24.72
DISTRICT 2	12	8,709	220,252	25.29
DISTRICT 3	8	9,412	207,923	22.09
DISTRICT 4	5	6,469	136,477	21.10
METRO WEST	38	56,380	1,147,694	20.36
DISTRICT 6	14	16,533	380,280	23.00
DISTRICT 7	3	4,604	104,103	22.61
DISTRICT 8	3	10,192	238,501	23.40
METRO EAST	21	59,704	1,147,233	19.22
<b>STATE TOTAL</b>	<b>116</b>	<b>188,898</b>	<b>\$4,000,168</b>	<b>\$21.18</b>

# BITUMINOUS BASE OR SURFACE #2331



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT AMOUNT	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT AMOUNT
1987	63	261,043	\$5,130,552	\$19.65	\$22.00	\$20.29
1988	50	176,177	3,515,861	19.96	21.00	20.43
1989	71	316,333	5,793,245	18.31	21.00	19.87
1990	61	313,022	5,517,034	17.63	20.00	19.19
1991	70	349,058	6,952,316	19.92	20.00	19.09
1992	67	358,244	7,739,246	21.60	22.00	19.48
1993	58	243,491	4,791,236	19.68	22.00	19.43
1994	68	265,414	5,339,712	20.12	21.00	19.79
1995	59	190,763	3,791,009	19.87	20.00	20.24
1996	67	188,898	4,000,168	21.18		20.49

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS PER TON.

\$20.50

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

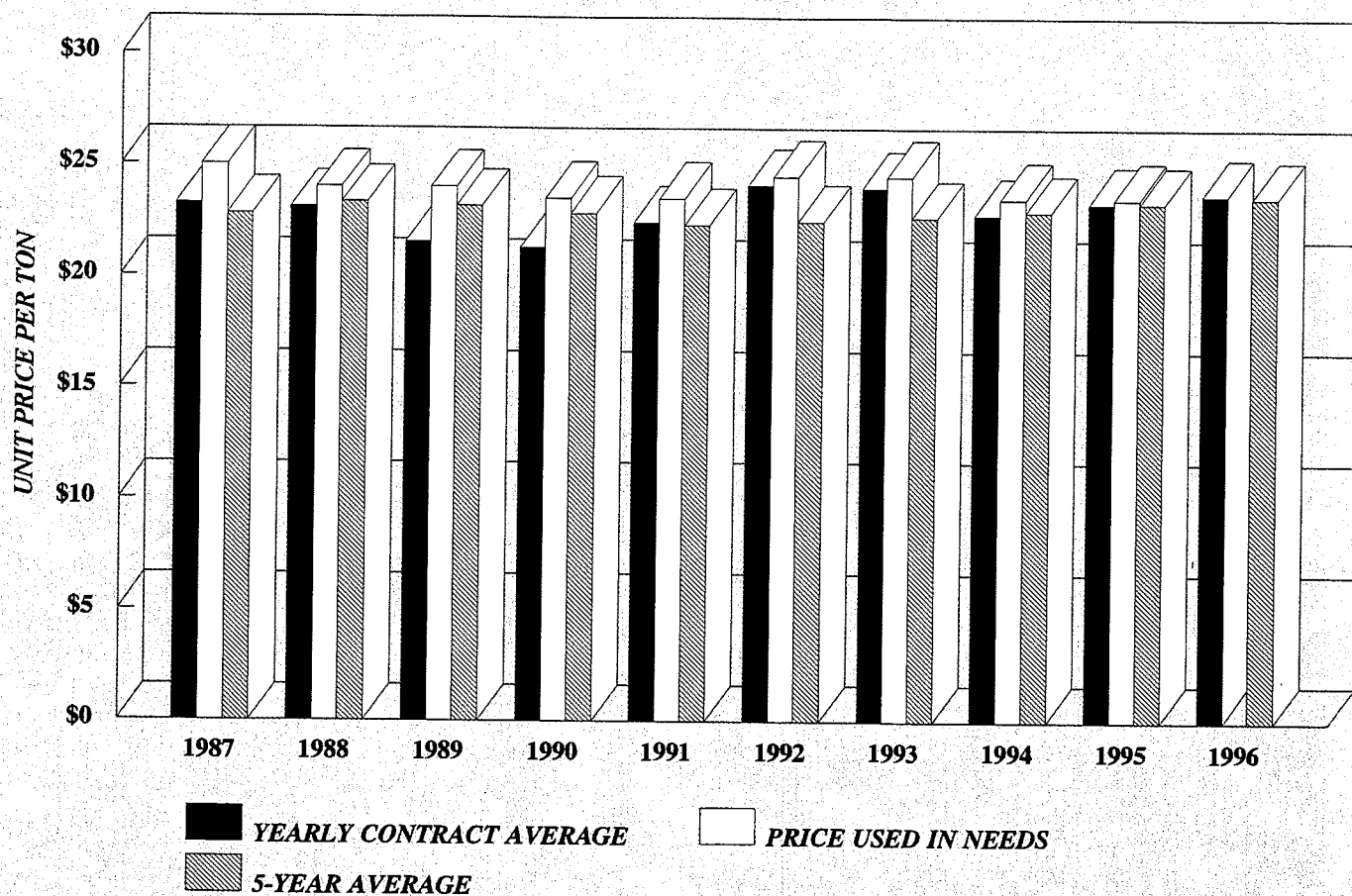
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	528	\$15,227	\$28.84
DULUTH	6	13,731	352,620	25.68
GRAND RAPIDS	2	2,859	72,059	25.20
VIRGINIA	1	873	25,607	29.33
<b>DISTRICT TOTAL</b>	<b>10</b>	<b>17,991</b>	<b>\$465,513</b>	<b>\$25.87</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	2	598	\$13,393	\$22.40
CROOKSTON	5	1,540	53,217	34.56
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>2,138</b>	<b>\$66,610</b>	<b>\$31.16</b>
<b><u>DISTRICT 3</u></b>				
CAMBRIDGE	1	905	\$23,838	\$26.34
MONTICELLO	1	1,580	32,000	20.25
OTSEGO	1	294	7,085	24.10
ST. CLOUD	2	2,131	55,680	26.13
SAUK RAPIDS	2	1,515	35,780	23.62
WAITE PARK	1	3,077	83,443	27.12
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>9,502</b>	<b>\$237,826</b>	<b>\$25.03</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	3	2,418	\$49,347	\$20.41
DETROIT LAKES	1	1,037	23,839	22.99
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>3,455</b>	<b>\$73,186</b>	<b>\$21.18</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	3	4,873	\$139,841	\$28.70
BROOKLYN PARK	1	744	18,933	25.45
CHAMPLIN	2	1,161	28,498	24.55
CHANHASSEN	2	789	19,386	24.57
CHASKA	3	3,574	79,043	22.12
COLUMBIA HEIGHTS	1	890	24,152	27.14
COON RAPIDS	2	4,510	110,350	24.47
CRYSTAL	1	896	25,582	28.55
EDEN PRAIRIE	2	210	7,914	37.69
EDINA	2	1,937	50,466	26.05
HAM LAKE	1	1,264	32,352	25.60
MAPLE GROVE	1	5,800	118,022	20.35
MINNEAPOLIS	5	18,571	495,611	26.69
MINNETONKA	2	7,028	166,476	23.69
NEW HOPE	1	38	954	25.11
OAK GROVE	1	3,440	64,953	18.88
ORONO	1	260	9,600	36.92
PLYMOUTH	2	4,574	94,583	20.68
PRIOR LAKE	1	1,123	23,356	20.80
RAMSEY	1	305	8,520	27.94
RICHFIELD	1	729	20,841	28.59
ST. LOUIS PARK	4	2,393	68,498	28.62
SHAKOPEE	1	1,980	50,958	25.74
SPRING LAKE PARK	2	1,750	40,466	23.12
<b>DISTRICT TOTAL</b>	<b>43</b>	<b>68,839</b>	<b>\$1,699,355</b>	<b>\$24.69</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	380	\$10,590	\$27.87
NORTHFIELD	1	902	21,296	23.61
OWATONNA	5	1,267	33,903	26.76
RED WING	2	3,900	81,056	20.78
WINONA	1	75	2,786	37.15
<b>DISTRICT TOTAL</b>	<b>10</b>	<b>6,524</b>	<b>\$149,631</b>	<b>\$22.94</b>
<b><u>DISTRICT 7</u></b>				
NORTH MANKATO	1	1,479	\$40,496	\$27.38
WORTHINGTON	3	754	27,726	36.77
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>2,233</b>	<b>\$68,222</b>	<b>\$30.55</b>
<b><u>DISTRICT 8</u></b>				
MARSHALL	1	184	\$5,467	\$29.71
MONTEVIDEO	1	1,090	29,429	27.00
WILLMAR	1	1,370	39,803	29.05
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>2,644</b>	<b>\$74,699</b>	<b>\$28.25</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	2	1,388	\$31,214	\$22.49
COTTAGE GROVE	1	2,008	41,332	20.58
BURNSVILLE	2	1,171	23,955	20.46
EAGAN	2	12,043	237,577	19.73
HASTINGS	1	3,800	78,574	20.68
LAKEVILLE	1	15,950	319,269	20.02
LITTLE CANADA	1	160	3,760	23.50
MENDOTA HEIGHTS	1	920	22,077	24.00
NEW BRIGHTON	1	1,570	40,625	25.88
OAKDALE	1	475	11,006	23.17
ROSEVILLE	2	702	16,008	22.80
ST. PAUL	4	3,139	70,966	22.61
SOUTH ST. PAUL	1	550	12,622	22.95
STILLWATER	2	1,512	37,003	24.47
VADNAIS HEIGHTS	1	464	10,942	23.58
WHITE BEAR LAKE	1	9,077	193,128	21.28
WOODBURY	2	1,656	38,093	23.00
<b>DISTRICT TOTAL</b>	<b>26</b>	<b>56,585</b>	<b>\$1,188,151</b>	<b>\$21.00</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	10	17,991	\$465,513	\$25.87
DISTRICT 2	7	2,138	66,610	31.16
DISTRICT 3	8	9,502	237,826	25.03
DISTRICT 4	4	3,455	73,186	21.18
METRO WEST	29	68,839	1,699,355	24.69
DISTRICT 6	10	6,524	149,631	22.94
DISTRICT 7	4	2,233	68,222	30.55
DISTRICT 8	3	2,644	74,699	28.25
METRO EAST	26	56,585	1,188,151	21.00
<b>STATE TOTAL</b>	<b>101</b>	<b>169,911</b>	<b>\$4,023,193</b>	<b>\$23.68</b>

# BITUMINOUS SURFACE #2341



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	55	122,701	\$2,851,035	\$23.24	\$25.00	\$22.78
1988	47	101,894	2,352,539	23.09	24.00	23.31
1989	58	144,986	3,119,592	21.52	24.00	23.14
1990	44	127,267	2,707,906	21.28	23.50	22.83
1991	48	125,102	2,804,228	22.42	23.50	22.31
1992	31	77,735	1,873,836	24.11	24.50	22.48
1993	66	124,623	2,988,543	23.98	24.50	22.66
1994	52	201,120	4,584,015	22.79	23.50	22.91
1995	58	190,983	4,448,398	23.29	23.50	23.32
1996	65	169,911	4,023,193	23.68		23.57

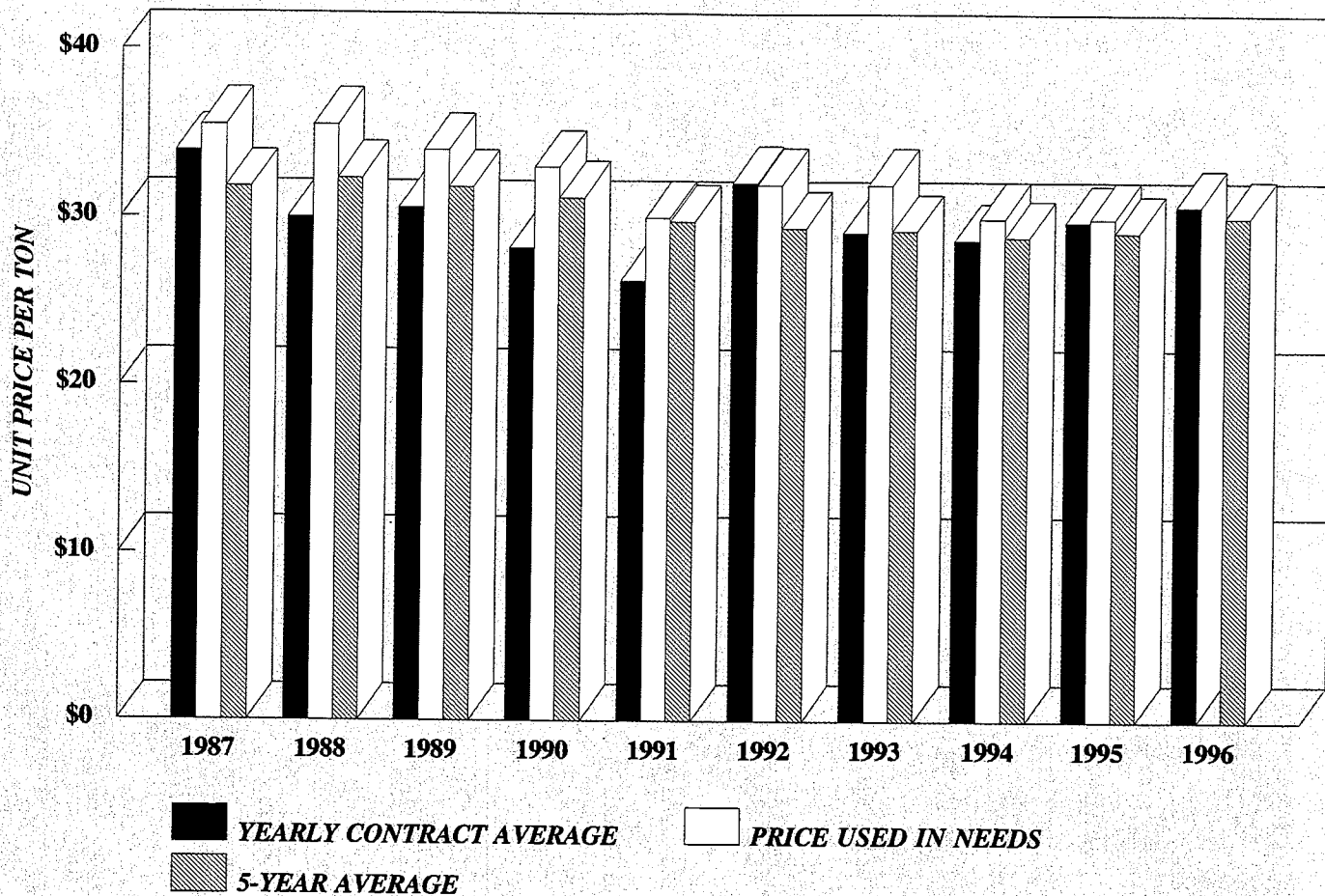
SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS PER TON.

\$23.60

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	2	45	\$2,025	\$45.00
GRAND RAPIDS	2	1,829	62,232	34.03
HIBBING	2	720	20,260	28.14
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>2,594</b>	<b>\$84,517</b>	<b>\$32.58</b>
<b><u>DISTRICT 2</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>DISTRICT 3</u></b>				
ST. CLOUD	6	2,605	\$62,554	\$24.01
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>2,605</b>	<b>\$62,554</b>	<b>\$24.01</b>
<b><u>DISTRICT 4</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>METRO WEST</u></b>				
MINNEAPOLIS	6	5,506	\$183,613	\$33.35
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>5,506</b>	<b>\$183,613</b>	<b>\$33.35</b>
<b><u>DISTRICT 6</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	25	\$1,376	\$55.04
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>25</b>	<b>\$1,376</b>	<b>\$55.04</b>
<b><u>DISTRICT 8</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>METRO EAST</u></b>				
WOODBURY	2	1,410	\$41,188	\$29.21
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>1,410</b>	<b>\$41,188</b>	<b>\$29.21</b>
<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	6	2,594	\$84,517	\$32.58
DISTRICT 2	0	0	0	0
DISTRICT 3	6	2,605	62,554	24.01
DISTRICT 4	0	0	0	0.00
METRO WEST	6	5,506	183,613	33.35
DISTRICT 6	0	0	0	0.00
DISTRICT 7	1	25	1,376	55.04
DISTRICT 8	0	0	0	0.00
METRO EAST	2	1,410	41,188	29.21
<b>STATE TOTAL</b>	<b>21</b>	<b>12,140</b>	<b>\$373,248</b>	<b>\$30.75</b>

# BITUMINOUS SURFACE #2361



NEEDS	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	14	25,213	\$855,500	\$33.93	\$35.50	\$31.7
1988	11	23,776	713,311	30.00	35.50	32.3
1989	17	25,201	770,369	30.57	34.00	31.8
1990	14	31,527	888,370	28.18	33.00	31.1
1991	13	13,901	364,419	26.22	30.00	29.7
1992	3	6,186	198,585	32.10	32.00	29.4
1993	13	33,901	991,209	29.14	32.00	29.2
1994	11	24,412	700,939	28.71	30.00	28.8
1995	8	28,444	847,581	29.80	30.00	29.1
1996	7	12,140	373,248	30.75		30.1

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS PER TON.

\$30.1

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL AMOUNT</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	2,303	\$17,042	\$7.40
DULUTH	7	3,896	33,465	8.59
GRAND RAPIDS	2	7,752	57,954	7.48
HIBBING	1	1,458	9,987	6.85
VIRGINIA	1	4,132	32,436	7.85
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>19,541</b>	<b>\$150,884</b>	<b>\$7.72</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	5	3,202	\$30,893	\$9.65
CROOKSTON	5	5,634	52,002	9.23
EAST GRAND FORKS	2	7962	62,652	7.87
THIEF RIVER FALLS	2	4,034	26,624	6.60
<b>DISTRICT TOTAL</b>	<b>14</b>	<b>20,832</b>	<b>\$172,171</b>	<b>\$8.26</b>
<b><u>DISTRICT 3</u></b>				
CAMBRIDGE	1	2,900	\$16,675	\$5.75
MONTICELLO	1	5,645	29,636	5.25
OTSEGO	1	1,166	6,063	5.20
ST. CLOUD	2	8,230	44,860	5.45
SAUK RAPIDS	2	5,150	30,900	6.00
WAITE PARK	1	5,024	32,744	6.52
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>28,115</b>	<b>\$160,878</b>	<b>\$5.72</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	2	615	\$5,627	\$9.15
DETROIT LAKES	1	3,705	28,899	7.80
MOORHEAD	1	1,050	12,600	12.00
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>5,370</b>	<b>\$47,126</b>	<b>\$8.78</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	3	6,879	\$59,507	\$8.65
BROOKLYN PARK	1	2,539	13,304	5.24
CHAMPLIN	2	5,239	26,615	5.08
CHANHASSEN	1	2,244	12,118	5.40
CHASKA	3	15,255	84,484	5.54
COLUMBIA HEIGHTS	1	1,200	8,340	6.95
COON RAPIDS	2	960	16,223	16.90
CRYSTAL	1	5,140	29,144	5.67
EDINA	2	9,758	74,282	7.61
EDEN PRAIRIE	2	1,010	7,323	7.25
MAPLE GROVE	1	6,200	43,400	7.00
MINNEAPOLIS	6	18,006	141,124	7.84
MINNETONKA	2	18,337	95,093	5.19
NEW HOPE	1	250	1,418	5.67
ORONO	1	750	11,250	15.00
PLYMOUTH	2	15,460	94,056	6.08
PRIOR LAKE	1	9,608	51,883	5.40
RAMSEY	1	1,540	9,009	5.85
RICHFIELD	1	2,521	14,924	5.92
ST. LOUIS PARK	5	9,219	69,388	7.53
SHAKOPEE	1	7,200	41,112	5.71
SPRING LAKE PARK	2	10,400	54,050	5.20
<b>DISTRICT TOTAL</b>	<b>42</b>	<b>149,715</b>	<b>\$958,047</b>	<b>\$6.40</b>

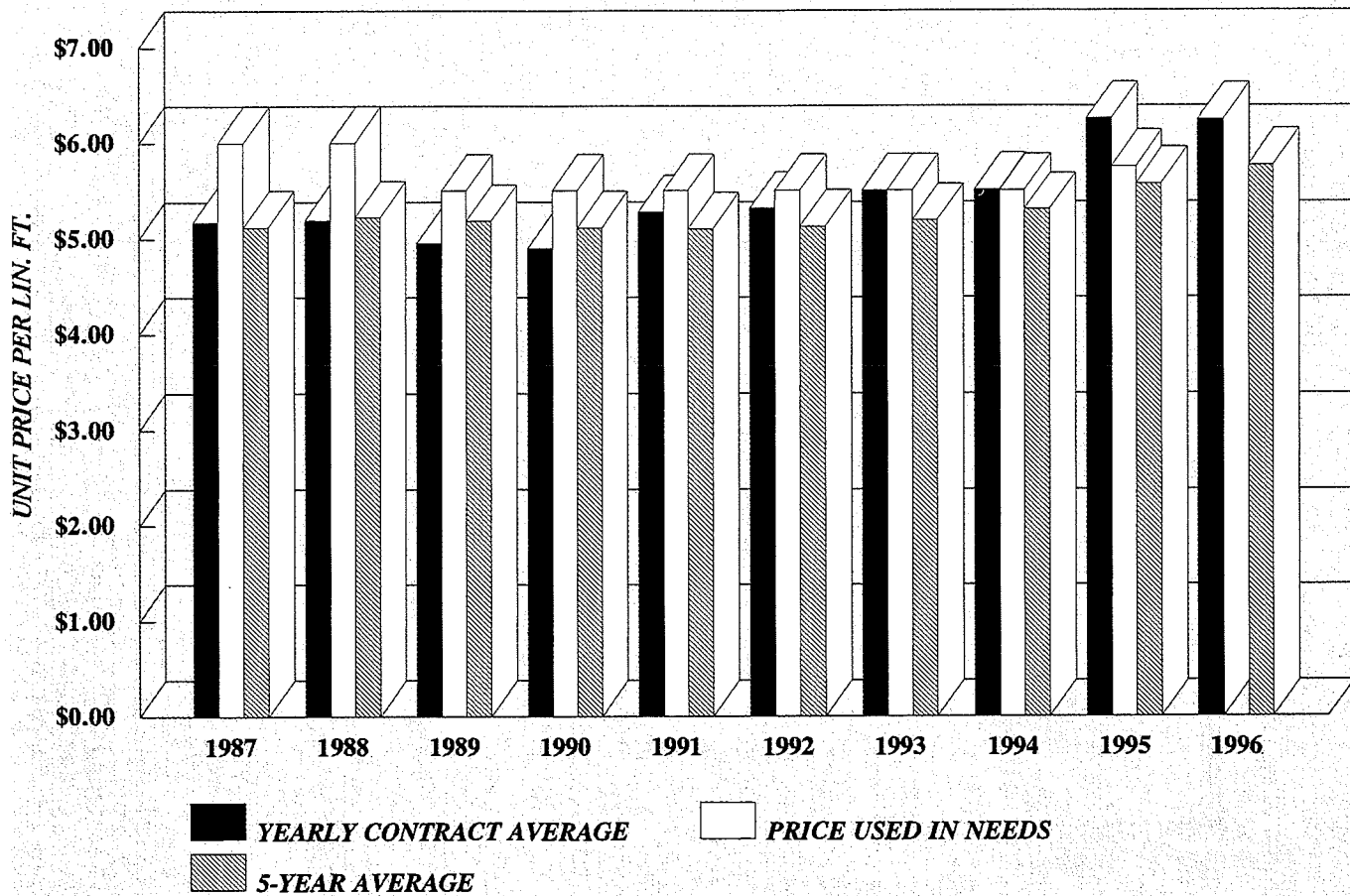


**M.S.A.S. UNIT PRICE STUDY  
CURB AND GUTTER CONSTRUCTION**

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL AMOUNT</b>	<b>AVERAGE UNIT PRICE</b>
<b>DISTRICT 6</b>				
ALBERT LEA	1	1,810	\$12,218	\$6.75
AUSTIN	1	130	2,170	16.69
FARIBAULT	3	5,443	39,735	7.30
NORTHFIELD	1	5,084	28,674	5.64
OWATONNA	6	13,839	100,664	7.27
RED WING	2	3,766	21,277	5.65
ROCHESTER	2	5,486	42,317	7.71
WINONA	1	535	9,282	17.35
<b>DISTRICT TOTAL</b>	<b>17</b>	<b>36,093</b>	<b>\$256,337</b>	<b>\$7.10</b>
<b>DISTRICT 7</b>				
FAIRMONT	1	3,845	\$25,377	\$6.60
MANKATO	3	565	6,215	11.00
NORTH MANKATO	1	7,875	41,738	5.30
WORTHINGTON	1	99	869	8.78
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>12,384</b>	<b>\$74,199</b>	<b>\$5.99</b>
<b>DISTRICT 8</b>				
MARSHALL	1	996	\$6,773	\$6.80
MONTEVIDEO	1	5,100	33,558	6.58
WILLMAR	1	4,620	31,416	6.80
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>10,716</b>	<b>\$71,747</b>	<b>\$6.70</b>
<b>METRO EAST</b>				
APPLE VALLEY	2	5,344	\$30,988	\$5.80
BURNSVILLE	2	4,489	28,504	6.35
COTTAGE GROVE	1	5,985	35,312	5.90
EAGAN	2	43,397	216,849	5.00
FOREST LAKE	1	2,600	13,000	5.00
HASTINGS	1	13,150	67,065	5.10
LAKEVILLE	1	34,950	192,484	5.51
MENDOTA HEIGHTS	1	3,563	18,421	5.17
NEW BRIGHTON	1	9,650	57,900	6.00
OAKDALE	1	80	1,200	15.00
ROSEVILLE	2	599	5,105	8.52
ST. PAUL	4	21,427	136,688	6.38
SOUTH ST. PAUL	1	610	3,642	5.97
STILLWATER	3	10,685	53,250	4.98
VADNAIS HEIGHTS	1	1,937	11,235	5.80
WHITE BEAR LAKE	1	6,000	33,780	5.63
WOODBURY	2	5,790	31,753	5.48
<b>DISTRICT TOTAL</b>	<b>27</b>	<b>170,256</b>	<b>\$937,176</b>	<b>\$5.50</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	12	19,541	\$150,884	\$7.72
DISTRICT 2	14	20,832	172,171	8.26
DISTRICT 3	8	28,115	160,878	5.72
DISTRICT 4	4	5,370	47,126	8.78
METRO-WEST	42	149,715	958,047	6.40
DISTRICT 6	17	36,093	256,337	7.10
DISTRICT 7	6	12,384	74,199	5.99
DISTRICT 8	3	10,716	71,747	6.70
METRO-EAST	27	170,256	937,176	5.50
<b>TOTAL</b>	<b>133</b>	<b>453,022</b>	<b>\$2,828,565</b>	<b>\$6.24</b>

# ***CURB & GUTTER CONSTRUCTION #2531***



<i>NEEDS YEAR</i>	<i>NO. OF CITIES</i>	<i>QUANTITY</i>	<i>TOTAL COST</i>	<i>YEARLY AVERAGE CONTRACT PRICE</i>	<i>PRICE USED IN NEEDS</i>	<i>5-YEAR AVERAGE CONTRACT PRICE</i>
1987	67	434,124	\$2,243,498	\$5.17	\$6.00	\$5.12
1988	51	359,952	1,868,721	5.19	6.00	5.22
1989	73	606,413	3,002,995	4.95	5.50	5.18
1990	57	603,356	2,954,409	4.90	5.50	5.11
1991	67	559,342	2,952,849	5.28	5.50	5.10
1992	68	523,717	2,783,163	5.31	5.50	5.13
1993	69	515,687	2,836,644	5.50	5.50	5.19
1994	70	460,898	2,538,790	5.51	5.50	5.30
1995	64	528,679	3,303,027	6.25	5.75	5.57
1996	72	453,022	2,828,565	6.24		5.76

**SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER LIN. FT.**

**\$6.00**

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

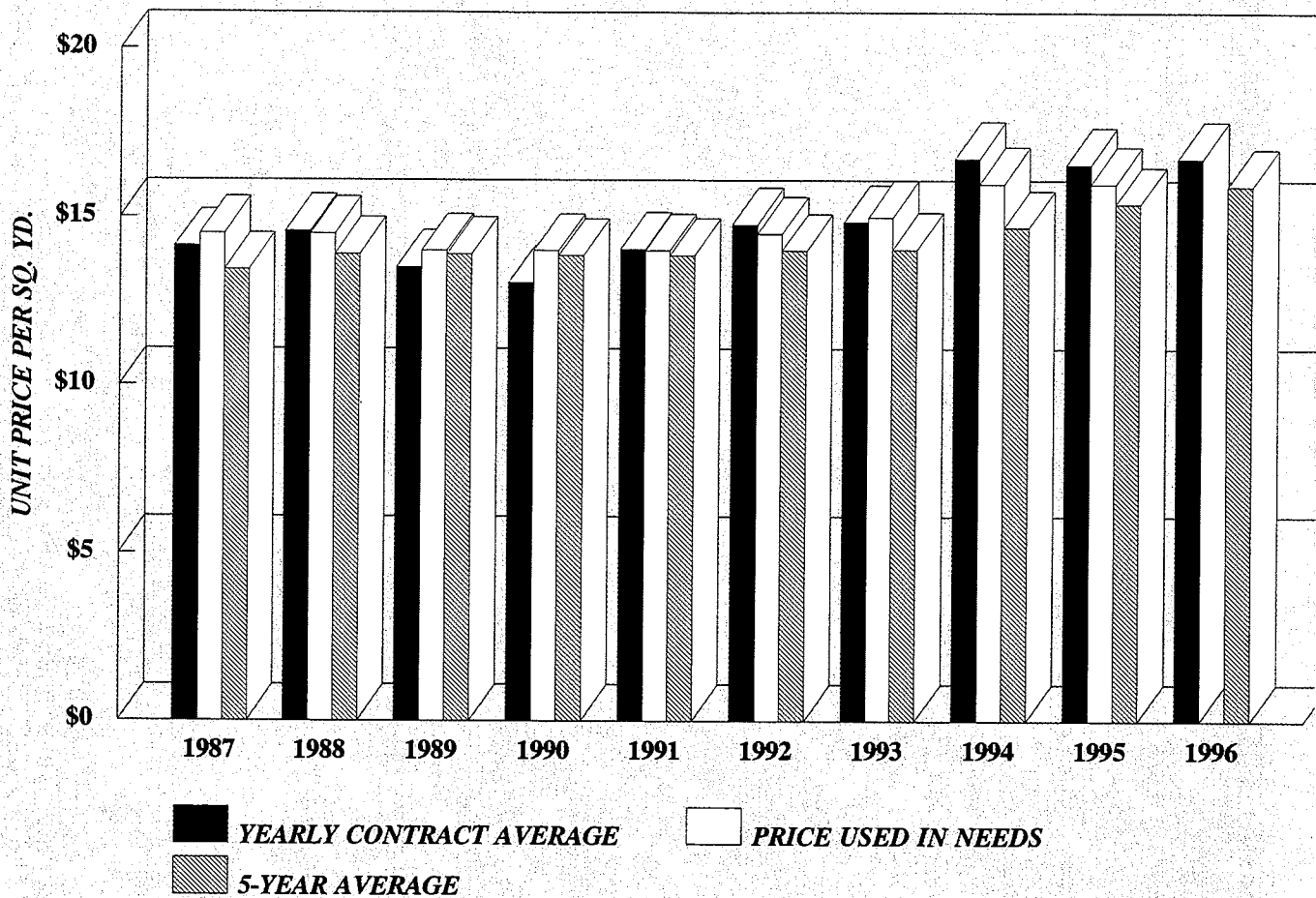
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
CLOQUET	1	1,004	\$22,133	\$22.05
DULUTH	6	2,135	39,624	18.56
GRAND RAPIDS	2	3,978	82,338	20.70
HIBBING	2	913	16,590	18.16
VIRGINIA	1	706	13,341	18.90
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>8,736</b>	<b>\$174,026</b>	<b>\$19.92</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	5	1,190	\$27,138	\$22.81
CROOKSTON	4	2,155	44,605	20.70
EAST GRAND FORKS	1	1,559	26,651	17.10
<b>DISTRICT TOTAL</b>	<b>10</b>	<b>4,904</b>	<b>\$98,394</b>	<b>\$20.06</b>
<b><u>DISTRICT 3</u></b>				
CAMBRIDGE	1	1,278	\$18,975	\$14.85
MONTICELLO	1	175	2,284	13.05
ST. CLOUD	3	5,535	83,505	15.09
SAUK RAPIDS	1	1,278	18,975	14.85
WAITE PARK	1	2,476	37,876	15.30
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>10,742</b>	<b>\$161,615</b>	<b>\$15.04</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	216	\$4,365	\$20.25
DETROIT LAKES	1	2,094	35,985	17.18
MOORHEAD	1	101	3,640	36.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>2,411</b>	<b>\$43,990</b>	<b>\$18.24</b>
<b><u>METRO WEST</u></b>				
BROOKLYN CENTER	3	585	\$13,906	\$23.79
BROOKLYN PARK	1	1,434	21,556	15.03
CHAMPLIN	2	2,173	32,063	14.75
CHASKA	2	1,784	26,116	14.64
COLUMBIA HEIGHTS	1	300	6,737	22.46
COON RAPIDS	1	528	11,163	21.15
CRYSTAL	1	18	480	27.00
EDEN PRAIRIE	2	84	1,900	22.50
EDINA	2	2,419	38,814	16.05
MINNEAPOLIS	7	5,057	86,101	17.03
MINNETONKA	1	3,606	48,675	13.50
PLYMOUTH	1	783	9,870	12.60
PRIOR LAKE	1	1,416	19,118	13.50
RAMSEY	1	411	7,215	17.55
RICHFIELD	1	453	8,160	18.00
ST. LOUIS PARK	4	2,511	47,340	18.85
SHAKOPEE	1	1,900	32,319	17.01
SPRING LAKE PARK	2	2,844	39,650	13.94
<b>DISTRICT TOTAL</b>	<b>34</b>	<b>28,306</b>	<b>\$451,183</b>	<b>\$15.94</b>

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

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	967	\$18,270	\$18.90
AUSTIN	2	186	4,895	26.30
FARIBAULT	2	2,366	44,912	18.98
NORTHFIELD	1	2,760	43,465	15.75
OWATONNA	5	2,427	52,208	21.51
RED WING	1	239	4,128	17.28
ROCHESTER	2	612	12,574	20.54
WINONA	1	175	4,986	28.49
<b>DISTRICT TOTAL</b>	<b>15</b>	<b>9,732</b>	<b>\$185,438</b>	<b>\$19.05</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	1,806	\$32,580	\$18.04
MANKATO	3	122	4,400	36.00
WORTHINGTON	1	170	2,799	16.47
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>2,098</b>	<b>\$39,779</b>	<b>\$18.96</b>
<b><u>DISTRICT 8</u></b>				
MARSHALL	1	249	\$4,032	\$16.20
MONTEVIDEO	1	722	9,100	12.60
WILLMAR	1	333	7,950	23.85
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>1,304</b>	<b>\$21,082</b>	<b>\$16.16</b>
<b><u>METRO EAST</u></b>				
APPLE VALLEY	1	222	\$3,460	\$15.57
BURNSVILLE	2	1,517	21,385	14.10
EAGAN	1	3,884	44,049	11.34
FOREST LAKE	1	889	14,400	16.20
HASTINGS	1	1,756	27,966	15.93
LAKEVILLE	1	11,744	182,435	15.53
NEW BRIGHTON	1	378	7,990	21.15
ROSEVILLE	2	43	782	18.00
ST. PAUL	5	1,101	30,473	27.68
SOUTH ST. PAUL	1	109	2,009	18.36
STILLWATER	4	4,019	61,884	15.40
WHITE BEAR LAKE	1	245	4,695	19.14
<b>DISTRICT TOTAL</b>	<b>21</b>	<b>25,907</b>	<b>\$401,528</b>	<b>\$15.50</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	12	8,736	\$174,026	\$19.92
DISTRICT 2	10	4,904	98,394	20.06
DISTRICT 3	7	10,742	161,615	15.04
DISTRICT 4	3	2,411	43,990	18.24
METRO-WEST	34	28,306	451,183	15.94
DISTRICT 6	15	9,732	185,438	19.05
DISTRICT 7	5	2,098	39,779	18.96
DISTRICT 8	3	1,304	21,082	16.16
METRO-EAST	21	25,907	401,528	15.50
<b>STATE TOTALS</b>	<b>110</b>	<b>94,140</b>	<b>\$1,577,035</b>	<b>\$16.75</b>

# SIDEWALK CONSTRUCTION #2521



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	51	79,756	\$1,126,616	\$14.13	\$14.50	\$13.50
1988	40	94,423	1,376,749	14.58	14.50	13.50
1989	62	159,205	2,150,360	13.51	14.00	13.50
1990	54	125,748	1,639,735	13.04	14.00	13.50
1991	60	179,115	2,514,996	14.04	14.00	13.50
1992	62	141,946	2,097,863	14.78	14.50	13.50
1993	55	119,082	1,767,834	14.85	15.00	14.00
1994	56	89,662	1,501,608	16.75	16.00	14.00
1995	49	134,724	2,230,974	16.56	16.00	15.00
1996	60	94,140	1,577,035	16.75		15.00

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER SQ. YD.

\$16.

**STORM SEWER, LIGHTING AND SIGNAL NEEDS COSTS**

NEEDS YEAR	STORM SEWER ADJUSTMENT (Per Mile)	STORM SEWER CONSTRUCTION (Per Mile)	LIGHTING (Per Mile)	SIGNALS (Per Mile)
1984	\$62,000	\$98,000 *	\$2,000	\$10,000
1985	62,000	0 *	2,000	10,000
1986	62,000	196,000 *	2,000	10,000
1987	62,000	196,000 *	2,000	12,000
1988	62,000	196,000 *	16,000	15,000
1989	62,000	196,000 *	16,000	15,000-45,000
1990	62,000	196,000	16,000	15,000-45,000
1991	62,000	196,000	16,000	18,750-75,000
1992	62,000	199,500	20,000	20,000-80,000
1993	64,000	206,000	20,000	20,000-80,000
1994	67,100	216,500	20,000	20,000-80,000
1995	69,100	223,000	20,000	20,000-80,000
1996				

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

**MN\DOT'S HYDRAULIC OFFICE RECOMMENDED PRICES FOR 1996:**

	Storm Sewer. Adjustment	Storm Sewer Construction
1996	\$71,200	\$229,700

**SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1996:**

	Storm Sewer. Adjustment	Storm Sewer Construction	Lighting	Signals
1996	<u>\$71,200</u>	<u>\$229,700</u>	<u>\$20,000</u>	<u>\$80,000</u>

**RAILROAD CROSSINGS NEEDS COSTS**

NEEDS YEAR	SIGNS (Per Unit)	PAVEMENT MARKING	SIGNALS (Low Speed) (Per Unit)	SIGNALS & GATES (High Speed) (Per Unit)	RUBBERIZED MATERIAL (Per Ft.)
1984	\$300		\$65,000	\$95,000	
1985	300		65,000	95,000	
1986	300		65,000	95,000	
1987	300		65,000	95,000	
1988	300		65,000	95,000	\$700
1989	300		70,000	99,000	700
1990	400		75,000	110,000	750
1991	500		80,000	110,000	850
1992	600	\$750	80,000	110,000	900
1993	600	750	80,000	110,000	900
1994	800	750	80,000	110,000	750
1995	800	750	80,000	110,000	750
1996					

**MN\DOT'S RAILROAD OFFICE RECOMMENDED PRICES FOR 1996:**

	Signs	Pavement Marking	Signals	Sig. & Gates	Rub. Mat.
1996	\$800	\$750	\$80,000	\$110,000	\$750

**SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1996:**

1996	<u>\$800</u>	<u>\$750</u>	<u>\$80,000</u>	<u>\$110,000</u>	<u>\$750</u>
------	--------------	--------------	-----------------	------------------	--------------

**DEPARTMENT : TRANSPORTATION**

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

**STATE OF MINNESOTA  
Office Memorandum**



**DATE : February 8, 1996**

**TO : K. E. Straus  
State Aid Needs Unit**

**FROM : Yvonne Crocker**  
Hydraulic Design Engineer

**SUBJECT : State Aid Storm Sewer Construction Costs for 1995**

We have analyzed the State Aid storm sewer construction costs for 1995 and find that for planning and needs purposes, a figure of approximately \$229,700 per mile can be used. For Storm sewer adjustments, we suggest approximately \$71,200 per mile.

## Office Memorandum

TO: Kenneth Straus  
Highway Needs Unit

DATE: March 26, 1996

FROM: Robert G. Swanson, Director  
Railroad Administration

PHONE: 296-2472

SUBJECT: Projected Railroad Grade Crossing  
Improvements - Cost for 1996

We have projected 1996 costs for railroad-highway work at grade crossing improvements. For planning purposes, we recommend using the following figures:

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

\* Modern signals with motion sensors - signals are activated when train enters electrical circuit - deactivated if train stops before reaching crossing.

\*\* Modern signals with grade crossing predictors - has capabilities in (\*) above, plus ability to gauge speed and distance of train from crossing to give constant 20-25 second warning of approaching trains traveling from 5 to 80 MPH.

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

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



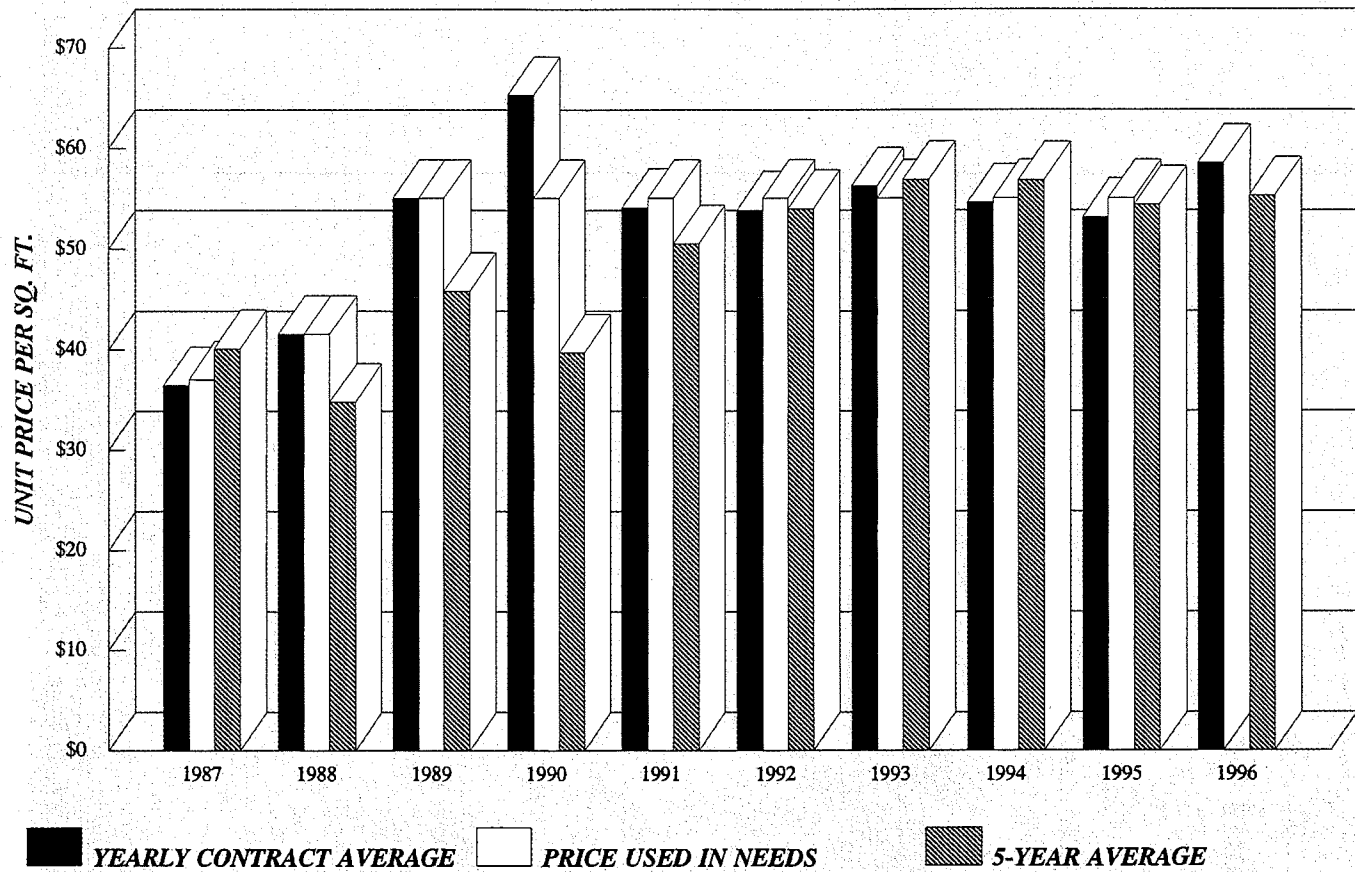
# 1995 BRIDGE CONSTRUCTION COSTS

<b>Bridges 0-149 Feet</b>					
<b>BRIDGE NUMBER</b>	<b>AGENCY</b>	<b>DECK AREA</b>	<b>BRIDGE COST</b>	<b>COST SQ. FT.</b>	<b>LENGTH</b>
01518	CO	2,784	\$130,305	\$46.80	77.33
02536	CO	4,196	302,058	71.99	69.17
05015	TH	7,120	347,837	48.85	138.71
18521	CO	2,615	164,317	62.84	66.48
25011	TH	6,650	442,338	66.52	114.00
25575	CO	5,489	270,765	49.33	126.67
31532	CO	5,588	315,002	56.37	127.00
33528	CO	4,559	290,794	63.78	145.50
33531	CO	3,192	205,488	64.38	84.00
33532	CO	3,166	154,209	48.71	80.50
35524	CO	3,653	183,224	50.16	114.17
42544	CO	5,664	293,420	51.80	144.00
42545	CO	2,778	172,954	62.26	88.67
42550	CO	2,968	140,069	47.19	84.00
42551	CO	1,771	102,377	57.81	55.00
43529	CO	5,427	239,158	44.07	114.67
45554	CO	3,845	196,291	51.05	120.17
45557	CO	4,901	259,166	52.88	136.08
50576	CO	4,467	206,238	46.17	103.08
59524	CO	3,427	197,709	57.69	97.00
61509	CO	2,270	129,749	57.16	64.25
63511	CO	4,836	266,348	55.08	136.89
64548	CO	4,841	213,494	44.10	137.00
67532	CO	3,330	157,457	47.28	94.25
67533	CO	3,063	159,113	51.95	85.08
69596	CO	4,263	769,102	180.41	92.33
72533	CO	1,958	123,399	63.02	65.25
73549	CO	5,186	233,178	44.96	119.67
74825	TH	5,345	303,950	56.87	121.00
74826	TH	5,345	294,072	55.02	121.00
74827	TH	5,398	392,762	72.76	120.60
74828	TH	5,398	426,131	78.94	120.60
76520	CO	4,134	216,794	52.44	117.00
85022	TH	6,153	285,300	46.37	142.00
86512	CO	6,325	315,611	49.90	133.64
<b>STATE AID PROJECTS</b>		<b>110,696</b>	<b>\$6,407,787</b>	<b>\$57.89</b>	<b>Average</b>
<b>TRUNK HWY. PROJECTS</b>		<b>41,409</b>	<b>\$2,492,390</b>	<b>\$60.19</b>	<b>Average</b>
<b>TOTAL</b>		<b>152,105</b>	<b>\$8,900,177</b>	<b>\$58.51 AVERAGE</b>	

<b>Railroad Bridges</b>					
<b>BRIDGE NUMBER</b>	<b>AGENCY</b>	<b>No of Tracks</b>	<b>BRIDGE COST</b>	<b>COST LIN. FT.</b>	<b>LENGTH</b>
27A04	City	1	\$1,048,011	\$12,966	80.83

# BRIDGE COST

## O-149 FEET



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	41	145,094	\$5,281,503	\$36.40	\$37.00	\$40.08
1988	22	73,683	3,057,881	41.50	41.50	34.78
1989	11	35,733	1,966,077	55.02	55.00	45.78
1990	42	214,557	14,003,285	65.27	55.00	39.64
1991	37	136,770	7,472,265	54.09	55.00	50.46
1992	39	147,313	7,929,250	53.83	55.00	53.94
1993	38	190,400	10,709,785	56.25	55.00	56.89
1994	49	208,289	11,362,703	54.55	55.00	56.80
1995	32	124,726	6,627,018	53.13	55.00	54.37
1996	35	152,105	8,900,177	58.51		55.25

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER SQ. FT.

\$55.00

## RAILROAD BRIDGES OVER HIGHWAYS

Needs Year	Number of Projects	Number of Tracks	Bridge Length	Bridge Cost per Lin. Ft. (Actual)	Cost per Lin. Ft. of 1st Track (Unit Price Study)	Cost per Lin. Ft. of Additional Tracks (Unit Price Study)
1986	0	0			\$2,250	\$1,750
1987	0	0			2,250	1,750
1988	1	3	103.71	\$13,988	2,250	1,750
1989	2	1	161.51	8,499	2,250	1,750
		1	317.19	5,423	2,250	1,750
1990	1	2	433.38	8,536	4,000	3,000
1991	0	0			4,000	3,000
1992	1	1	114.19	7,619	4,000	3,000
1993	1	1	181.83	7,307	5,000	4,000
1994	0	0			5,000	4,000
1995	0	0			5,000	4,000
1996	1	1	80.83	12,966	5,000	4,000

## 1995 BRIDGE CONSTRUCTION COSTS

### Bridges 150-499 Feet

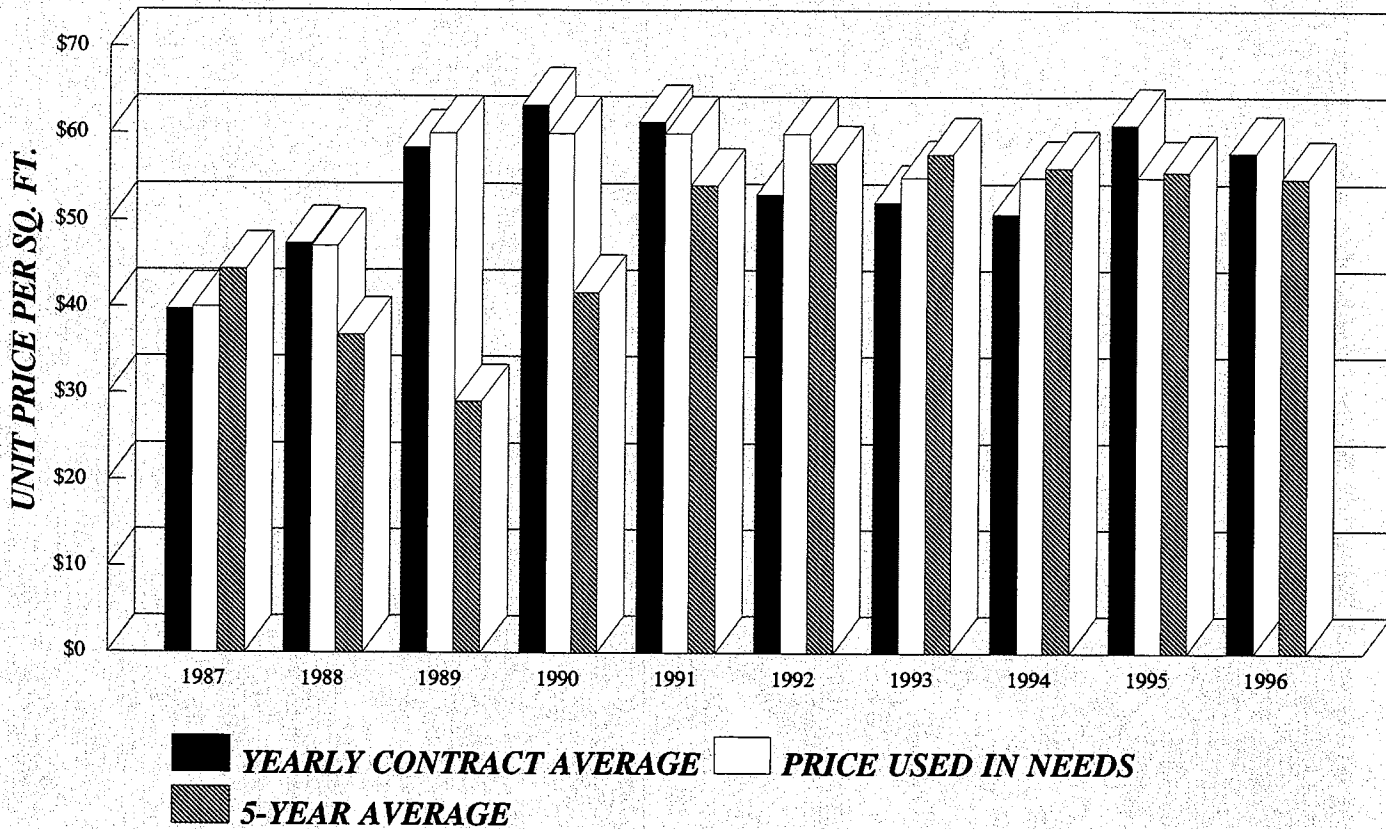
<b>BRIDGE NUMBER</b>	<b>AGENCY</b>	<b>DECK AREA</b>	<b>BRIDGE COST</b>	<b>COST SQ. FT.</b>	<b>LENGTH</b>
05007	TH	16,071	\$825,326	\$51.35	225.29
07002	TH	17,100	618,542	36.17	317.36
09517	CO	10,582	705,218	66.64	199.67
14011	TH	13,352	1,007,771	75.48	282.08
19531	CO	27,863	1,297,334	46.56	241.17
21825	TH	11,780	767,938	65.19	229.50
25012	TH	15,430	980,956	63.57	292.15
27063	TH	12,710	792,747	62.37	166.40
27071	TH	22,237	1,406,114	63.23	258.93
27A17	CO	18,515	826,027	44.61	433.08
27A18	CO	18,730	899,412	48.02	433.08
27A22	CO	16,720	1,492,322	89.25	211.90
27A23	CO	13,360	1,164,097	87.13	160.90
28520	CO	6,777	382,711	56.47	156.40
30511	TH	17,560	951,013	54.16	277.27
36522	CO	7,693	411,655	53.51	195.58
55038	TH	13,242	868,561	65.59	260.50
55042	TH	8,082	400,715	49.58	159.00
60021	TH	11,076	898,833	81.15	234.00
64009	TH	16,175	1,070,422	66.18	315.10
64010	TH	21,482	1,083,357	50.43	371.50
69544	CO	6,076	393,130	64.70	193.92
70011	TH	24,486	1,127,411	46.04	242.03
70012	TH	9,649	470,497	48.76	209.00
70013	TH	9,958	481,723	48.38	215.70
76011	TH	9,655	571,360	59.18	158.71
85021	TH	8,869	407,775	45.98	204.67
<b>STATE AID PROJECTS</b>		<b>126,316</b>	<b>\$7,571,906</b>	<b>\$59.94</b>	<b>AVERAGE</b>
<b>TRUNK HWY. PROJECTS</b>		<b>258,914</b>	<b>\$14,731,061</b>	<b>\$56.90</b>	<b>AVERAGE</b>
<b>TOTAL</b>		<b>385,230</b>	<b>\$22,302,967</b>	<b>\$57.90</b>	<b>AVERAGE</b>

### Bridges 500 Feet and Over

<b>BRIDGE NUMBER</b>	<b>AGENCY</b>	<b>DECK AREA</b>	<b>BRIDGE COST</b>	<b>COST SQ. FT.</b>	<b>LENGTH</b>
27A15	CO	28,725	\$1,247,658	\$43.43	671.92
27A16	CO	28,725	1,199,887	41.77	671.92
07569	CO	49,678	2,777,124	55.90	706.73
09008	TH	50,623	2,651,263	52.37	536.02
<b>STATE AID PROJECTS</b>		<b>107,128</b>	<b>\$5,224,669</b>	<b>\$48.77</b>	<b>AVERAGE</b>
<b>TRUNK HWY. PROJECTS</b>		<b>50,623</b>	<b>\$2,651,263</b>	<b>\$52.37</b>	<b>AVERAGE</b>
<b>TOTAL</b>		<b>157,751</b>	<b>\$7,875,932</b>	<b>\$49.93</b>	<b>AVERAGE</b>

# BRIDGE COST

## 150-499 FEET



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	6	49,899	\$1,979,192	\$39.66	\$40.00	\$44.33
1988	10	83,149	3,932,729	47.30	47.00	36.79
1989	11	116,378	6,796,566	58.40	60.00	29.07
1990	25	418,376	26,483,631	63.30	60.00	41.73
1991	27	368,709	22,167,571	61.33	60.00	54.00
1992	24	331,976	17,582,542	52.96	60.00	56.66
1993	31	421,583	21,987,208	52.15	55.00	57.63
1994	29	307,611	15,619,506	50.78	55.00	56.10
1995	28	381,968	23,310,410	61.03	55.00	55.65
1996	27	385,230	22,302,967	57.90		54.96

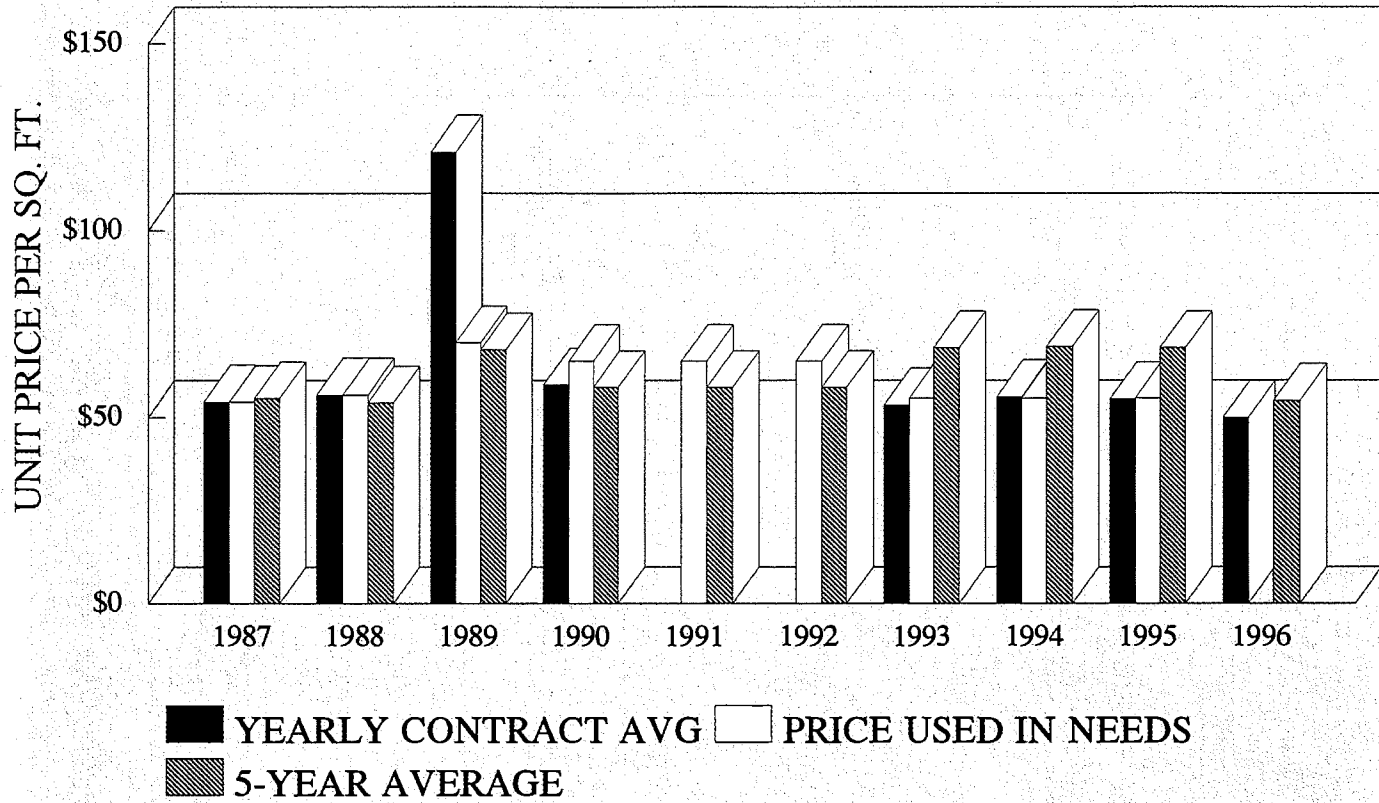
SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER SQ. FT.

\$55.00



# BRIDGE COST

## 500 FEET AND OVER



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1987	1	29,800	\$1,612,847	\$54.12	\$54.00	\$55.02
1988	1	25,942	1,453,694	56.04	56.00	53.83
1989	8	335,830	40,615,626	120.94	70.00	68.02
1990	13	684,812	40,178,274	58.67	65.00	57.95
1991	0	0	0	0	65.00	57.95
1992	0	0	0	0	65.00	57.95
1993	6	245,572	13,068,106	53.21	55.00	68.60
1994	3	75,425	3,959,504	55.53	55.00	68.88
1995	2	174,991	9,595,341	54.83	55.00	68.64
1996	4	157,751	7,875,932	49.93		54.43

The five year average only includes years in which bridges were constructed.

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1996 NEEDS STUDY IS  
PER SQ. FT.

\$55.00

## ANNUAL MAINTENANCE NEEDS COST

The prices below are used to compute the maintenance needs on each segment. Each street, based on its existing data, receives a maintenance need. This amount is added to the segment's street needs. The total statewide maintenance needs based on these costs in 1995 was \$16,334,550.

For example, An urban road segment with 2 traffic lanes, 2 parking lanes, over 1,000 traffic, storm sewer and one traffic signal would receive \$7920 in maintenance needs per mile.

### EXISTING FACILITIES ONLY

	<b>1995 NEEDS PRICES</b>		<b>SUBCOMMITTEE SUGGESTED PRICES</b>		<b>SCREENING BOARD RECOMMENDED PRICES</b>	
	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT
<b>Traffic Lane Per Mile</b>	\$1,320	\$2,200	\$1,320	\$2,200		
<b>Parking Lane Per Mile</b>	1,320	1,320	1,320	1,320		
<b>Median Strip Per Mile</b>	440	800	440	800		
<b>Storm Sewer Per Mile</b>	440	440	440	440		
<b>Per Traffic Signal</b>	440	440	440	440		
<b>Normal M.S.A.S. Streets Minimum Allowance Per Mile</b>						
<b>Unlimited Segments:</b>	4,400	4,400	4,400	4,400		
<b>Combination Routes Minimum Allowance Per Mile</b>						
<b>Limited Segments:</b>	2,200	2,200	2,200	2,200		

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

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

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

# **A TEN YEAR HISTORY OF THE ANNUAL MAINTENANCE NEEDS COSTS**

(COMPUTED ON EXISTING MILEAGE ONLY)

Year	Traffic Lane Per Mile		Parking Lane Per Mile		Medlan Strip Per Mile		Storm Sewer Per Mile		Per Traffic Signal		Minimum Maintenance Allowance Per Mile	
	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT
1986	\$300	\$500	\$100	\$100	\$100	\$200	\$100	\$100	\$100	\$100	\$1,000	\$1,000
1987	300	500	100	100	100	200	100	100	100	100	1,000	1,000
1988	600	1,000	200	200	200	400	200	200	400	400	2,000	2,000
1989	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1990	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1991	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1992	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1993	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1994	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1995	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1996												

THESE MAINTENANCE COSTS ARE USED IN COMPUTING NEEDS .

MAINTENANCE COSTS FOR COMBINATION ROUTES ARE COMPUTED FOR THE WIDTH OUTSIDE THE TRAFFIC LANES.

ALL MAINTENANCE COSTS FOR COMMON BOUNDARY DESIGNATIONS AND APPROVED ONE WAY STREETS ARE COMPUTED USING THE LENGTH REPORTED IN THE NEEDS STUDY.



# 25 YEAR CONSTRUCTION NEEDS FOR EACH INDIVIDUAL CONSTRUCTION ITEM

ITEM	1994 APPORTIONMENT NEEDS COST	1995 APPORTIONMENT NEEDS COST	DIFFERENCE	1995 % OF TOTAL
Grading	\$109,007,200	\$113,463,163	\$4,455,963	6.0
Special Drainage	3,746,113	4,058,482	312,369	0.0
Storm Sewer Adjustment	28,447,716	31,759,051	3,311,335	1.0
Storm Sewer Construction	175,756,865	188,281,130	12,524,265	11.0
Curb & Gutter Removal	13,877,889	15,231,163	1,353,274	0.0
Sidewalk Removal	13,418,921	14,398,787	979,866	0.0
Pavement Removal	35,159,117	36,672,515	1,513,398	2.0
Tree removal	6,636,175	6,644,050	7,875	0.0
<b>SUBTOTAL GRADING</b>	<b>\$386,049,996</b>	<b>\$410,508,341</b>	<b>\$24,458,345</b>	<b>24.0</b>

Gravel Subbase #2211	\$67,401,341	\$73,540,962	\$6,139,621	4.0
Gravel Base #2211	59,345,150	61,807,734	2,462,584	3.0
Bituminous Base #2331	98,150,407	97,301,289	(849,118)	5.0
<b>SUBTOTAL BASE</b>	<b>\$224,896,898</b>	<b>\$232,649,985</b>	<b>\$7,753,087</b>	<b>14.0</b>

Bituminous Surface #2331	\$2,788,569	\$2,769,820	(\$18,749)	0.0
Bituminous Surface #2341	194,124,647	201,147,278	7,022,631	12.0
Bituminous Surface #2361	49,595,895	50,735,236	1,139,341	3.0
Surface Widening	2,539,954	2,420,548	(119,406)	0.0
<b>SUBTOTAL SURFACE</b>	<b>\$249,049,065</b>	<b>\$257,072,882</b>	<b>\$8,023,817</b>	<b>15.0</b>

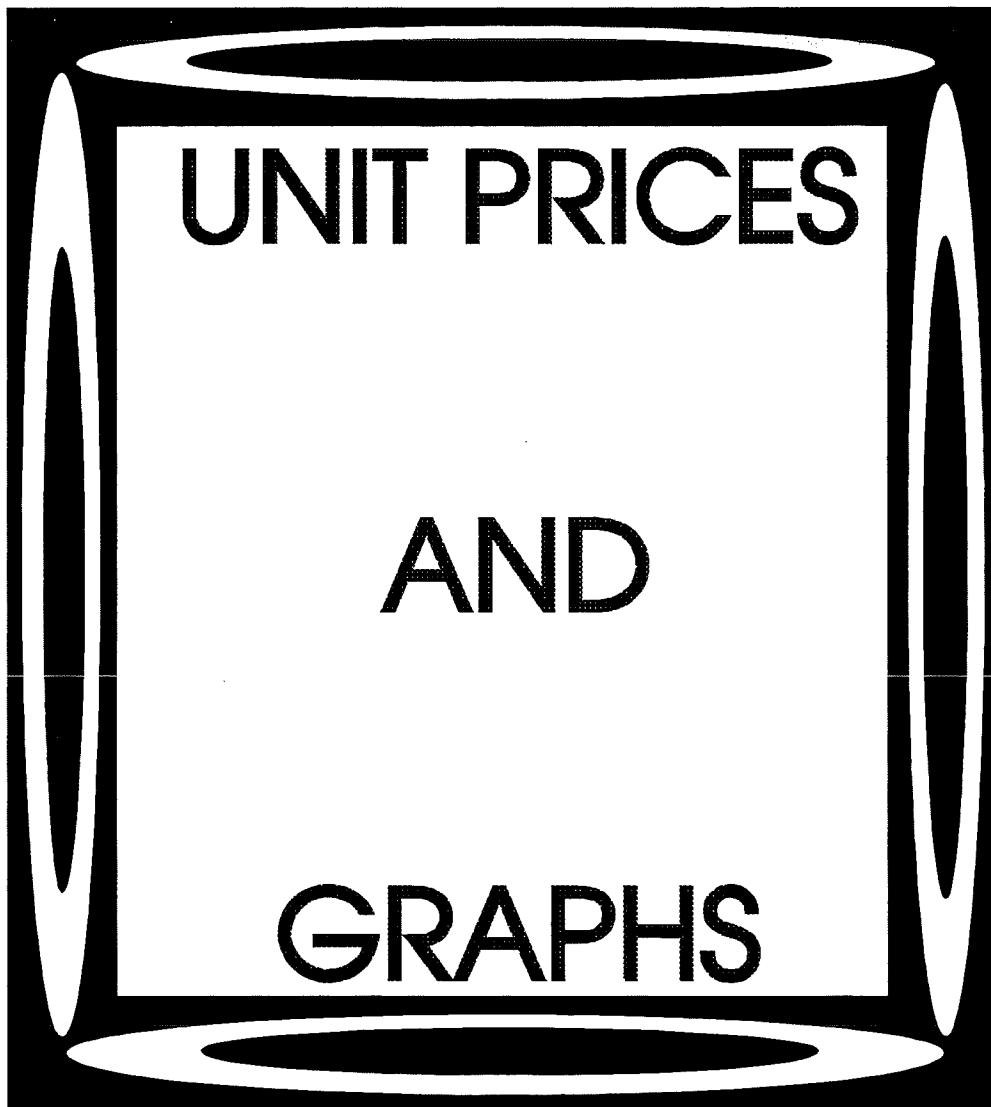
Gravel Shoulders #2221	\$882,903	\$970,392	\$87,489	0.0
<b>SUBTOTAL SHOULDERS</b>	<b>\$882,903</b>	<b>\$970,392</b>	<b>\$87,489</b>	<b>0.0</b>

Curb and Gutter	\$82,093,943	\$89,578,254	\$7,484,311	5.0
Sidewalk	111,256,592	115,442,208	4,185,616	6.0
Traffic Signals	93,773,400	96,567,000	2,793,600	5.0
Street Lighting	50,374,200	52,068,200	1,694,000	3.0
Retaining Walls	15,041,958	13,346,871	(1,695,087)	0.0
<b>SUBTOTAL MISCELLANEOUS</b>	<b>\$352,540,093</b>	<b>\$367,002,533</b>	<b>\$14,462,440</b>	<b>22.0</b>

<b>TOTAL ROADWAY</b>	<b>\$1,213,418,955</b>	<b>\$1,268,204,133</b>	<b>\$54,785,178</b>	<b>76.7</b>
----------------------	------------------------	------------------------	---------------------	-------------

Bridge	\$84,310,734	\$82,754,804	(\$1,555,930)	5.0
Railroad Crossings	30,009,700	35,503,675	5,493,975	2.0
Maintenance	15,758,786	16,334,550	575,764	0.0
Engineering	238,993,105	249,563,246	10,570,141	15.0
<b>SUBTOTAL OTHERS</b>	<b>\$369,072,325</b>	<b>\$384,156,275</b>	<b>\$15,083,950</b>	<b>23.0</b>

<b>TOTAL</b>	<b>\$1,582,491,280</b>	<b>\$1,652,360,408</b>	<b>\$69,869,128</b>	<b>100.0</b>
--------------	------------------------	------------------------	---------------------	--------------



## NOTES

[illegible]

## UNIT PRICE REVIEW

The average change per unit per year was computed by taking the differences in the Average Contract Price between the following year and dividing the total sum by the total number of differences.

Excavation			Aggregate Shouldering		Curb & Gutter Removal		Aggregate Base	
Average Needs	Contract		Average Contract		Average Contract		Average Contract	
Year	Price	Difference	Price	Difference	Price	Difference	Price	Difference
1986					1.44		4.54	
1987					1.81	0.37	6.08	1.54
1988	2.65		6.77		1.67	-0.14	5.72	-0.36
1989	2.15	-0.50	6.18	-0.59	1.37	-0.30	5.22	-0.5
1990	2.16	0.01	6.58	0.40	1.40	0.03	5.16	-0.06
1991	2.62	0.46	7.98	1.40	1.72	0.32	6.08	0.92
1992	3.03	0.41	6.36	-1.62	1.57	-0.15	5.42	-0.66
1993	2.71	-0.32	11.09	4.73	1.54	-0.03	6.13	0.71
1994	3.35	0.64	7.70	-3.39	1.88	0.34	5.94	-0.19
1995	2.60	-0.75	8.13	0.43	1.84	-0.04	6.23	0.29
		-0.0071		0.1943		0.0444		0.1878
This is an average change of -\$0.007 per cu. yd. per year			This is an average change of \$0.194 per ton per year		This is an average change of \$0.044 per lin. ft. per year		This is an average change of \$0.188 per ton per year	

Sidewalk Removal			Concrete Pavement Removal		Class 4 Subbase		#2331 Bituminous Base or Surface	
Average Needs	Contract		Average Contract		Average Contract		Average Contract	
Year	Price	Difference	Price	Difference	Price	Difference	Price	Difference
1986	4.47		3.67		5.64		20.39	
1987	3.57	-0.90	3.33	-0.34	4.73	-0.91	19.65	-0.74
1988	3.94	0.37	4.63	1.30	3.94	-0.79	19.96	0.31
1989	3.49	-0.45	3.21	-1.42	4.19	0.25	18.31	-1.65
1990	3.84	0.35	3.85	0.64	4.26	0.07	17.63	-0.68
1991	4.20	0.36	3.84	-0.01	4.65	0.39	19.92	2.29
1992	5.13	0.93	4.08	0.24	4.11	-0.54	21.60	1.68
1993	4.79	-0.34	4.05	-0.03	4.29	0.18	19.68	-1.92
1994	4.35	-0.44	4.23	0.18	5.44	1.15	20.12	0.44
1995	5.36	1.01	4.16	-0.07	5.23	-0.21	19.87	-0.25
		0.0989		0.0544		-0.0456		-0.0578
This is an average change of \$0.099 per sq. yd. per year			This is an average change of \$0.054 per sq. yd. per year		This is an average change of -\$0.046 per ton per year		This is an average change of -\$0.058 per ton per year	

#2341 Bituminous Surface			#2361 Bituminous Surface		Tree Removal		Curb & Gutter Construction	
Average Needs Contract			Average Contract		Average Contract		Average Contract	
Year	Price	Difference	Price	Difference	Price	Difference	Price	Difference
1986	25.05		33.23		57.27		5.32	
1987	23.24	-1.81	33.93	0.70	136.22	78.95	5.17	-0.15
1988	23.09	-0.15	30.00	-3.93	133.63	-2.59	5.19	0.02
1989	21.52	-1.57	30.57	0.57	138.04	4.41	4.95	-0.24
1990	21.28	-0.24	28.18	-2.39	81.60	-56.44	4.90	-0.05
1991	22.42	1.14	26.22	-1.96	76.45	-5.15	5.28	0.38
1992	24.11	1.69	32.10	5.88	195.84	119.39	5.31	0.03
1993	23.98	-0.13	29.14	-2.96	176.47	-19.37	5.50	0.19
1994	22.79	-1.19	28.71	-0.43	112.15	-64.32	5.51	0.01
1995	23.29	0.50	29.80	1.09	186.54	74.39	6.25	0.74
		-0.1956		-0.3811		14.3633		0.1033
This is an average change of -\$0.196 per ton per year			This is an average change of -\$0.381 per ton per year		This is an average change of \$14.363 per tree per year		This is an average change of \$0.103 per lin. ft. per year	

Sidewalk Construction			Bridges 0-149 feet long		Bridges 150-499 feet long		Bridges 500 ft long and over	
Average Needs Contract			Average Contract		Average Contract		Average Contract	
Year	Price	Difference	Price	Difference	Price	Difference	Price	Difference
1986	14.00		51.00		46.00		61.00	
1987	14.13	0.13	36.40	-14.60	39.66	-6.34	54.12	-6.88
1988	14.58	0.45	41.50	5.10	47.30	7.64	56.04	1.92
1989	13.51	-1.07	55.02	13.52	58.40	11.10	120.94	64.90
1990	13.04	-0.47	65.27	10.25	63.30	4.90	58.67	-62.27
1991	14.04	1.00	54.09	-11.18	61.33	-1.97	0.00	-58.67
1992	14.78	0.74	53.83	-0.26	52.96	-8.37	0.00	0.00
1993	14.85	0.07	56.25	2.42	52.15	-0.81	53.21	53.21
1994	16.75	1.90	54.55	-1.70	50.78	-1.37	55.53	2.32
1995	16.56	-0.19	53.13	-1.42	61.03	10.25	54.83	-0.70
		0.2844		0.2367		1.6700		-0.6856
This is an average change of \$0.284 per sq. ft. per year			This is an average change of \$0.237 per sq. ft. per year		This is an average change of \$1.670 per sq. ft. per year		This is an average change of -\$0.686 per sq. ft. per year	

**This review indicates that the average unit price has not changed drastically over the last ten years. Should the Unit Price Study only be done every two years?**

***SHOULD THE PRESENT NEGATIVE NEEDS ADJUSTMENT BE MADE FOR BITUMINOUS OVERLAYS AND CONCRETE JOINT REPAIRS?***

A city receives a 10 year negative needs adjustment to its total construction needs for the cost of the overlay or joint repair project when a street receiving complete needs is improved with a bituminous overlay or concrete joint repair.

During the first 20 years after construction, the street is considered adequate and receives additional surfacing needs. After the 20th year, the needs are changed to complete until it is constructed again. Presently, no adjustment is made for the cost of the overlay project during the 20 year period the segment is receiving additional surfacing needs. A 10 year needs adjustment is made for the cost of the overlay if the overlay project is let after the 20th year and the segment is receiving complete construction needs.

**EXAMPLE:**

No adjustment is made to the city's needs when a city improves a street with an overlay project in the 19th year after it was originally constructed but would be if the project is let in the 21st year.

The construction needs allow for a segment to receive additional surfacing needs for 20 years for the overlay, but the timing of the construction may determine if a negative adjustment is made to the needs.

- \* Are overlays necessary for streets to last 40 years?
- \* Should a 10 year negative adjustment for the cost of the overlay be made on a segment that received additional surfacing needs for 20 years and constructed in the early stage of reinstatement of complete needs?
- \* Should consideration be given to eliminate the adjustment? The main purpose of the adjustment is to offset the gain a city receives by applying a overlay to extend the life of a street while receiving complete needs. This may apply when the street is in the latter stage of its life.

definton

## **CHANGE THE TERM "MONEY NEEDS"**

**THE SCREENING BOARD IS SUGGESTING THAT THE TERM "MONEY NEEDS" BE CHANGED TO SOMETHING MORE UNDERSTANDABLE.**

**SOME WORDS SUGGESTED BY THE SCREENING BOARD:**

- \* SYSTEM ALLOCATION - I BELIEVE THE USE OF ALLOCATION WOULD BE CONFUSED WITH THE ACTUAL ALLOCATION INSTEAD OF NEEDS.**
- \* SYSTEM DEFICIENCY**
- \* SYSTEM NEEDS OR SYSTEM CONSTRUCTION NEEDS**

**WOULD "CONSTRUCTION NEEDS" BE BETTER UNDERSTOOD THAN "MONEY NEEDS"?**

**WOULD IT BE NECESSARY TO CHANGE THE STATUTE IF A ANOTHER WORD IS USED TO DEFINE MONEY NEEDS? SEE THE ENCLOSED STATUTE ON THE FOLLOWING PAGE.**

1974 c 172 s 2; 1976 c 166 s 7; 1985 c 248 s 70; 1986 c 444; 1Sp1986 c 1 art 8 s 3; 1991 c 339 s 5

162.13 MS 1949 [Repealed, 1951 c 192 s 1]

### 162.13 FORMULA FOR APPORTIONMENT TO CITIES.

Subdivision 1. **Factors in formula.** After deducting for administrative costs and for the disaster fund and research account as heretofore provided, the remainder of the total sum provided for in subdivision 1 of section 162.12 shall be identified as the apportionment sum, and shall be apportioned by the commissioner to the cities having a population of 5,000 or more, in accordance with the following formula:

(1) An amount equal to 50 percent of such apportionment sum shall be apportioned among the cities having a population of 5,000 or more so that each such city shall receive of such amount the percentage that its money needs bears to the total money needs of all such cities.

(2) An amount equal to 50 percent of such apportionment sum shall be apportioned among the cities having a population of 5,000 or more so that each such city shall receive of such amount the percentage that its population bears to the total population of all such cities.

Subd. 2. **Money needs defined.** For the purpose of this section money needs of each city having a population of 5,000 or more are defined as the estimated cost of constructing and maintaining over a period of 25 years the municipal state-aid street system in such city. Right-of-way costs and drainage shall be included in money needs. Lighting costs and other costs incidental to construction and maintenance, or a specified portion of such costs, as set forth in the commissioner's rules, may be included in determining money needs. When a county locates a county state-aid highway over a portion of a street in any such city and the remaining portion is designated as a municipal state-aid street only the construction and maintenance costs of the portion of the street other than the portions taken over by the county shall be included in the money needs of the city. To avoid variances in costs due to differences in construction and maintenance policy, construction and maintenance costs shall be estimated on the basis of the engineering standards developed cooperatively by the commissioner and the engineers, or a committee thereof, of the cities. Any variance granted pursuant to section 162.09, subdivision 3a shall be reflected in the estimated construction and maintenance costs in determining money needs.

Subd. 3. **Screening committee.** On or before September 1 of each year, the engineer of each city having a population of 5,000 or more shall forward to the commissioner on forms prepared by the commissioner, all information relating to the money needs of the city that the commissioner deems necessary in order to apportion the municipal state-aid street fund in accordance with the apportionment formula heretofore set forth. Upon receipt of the information the commissioner shall appoint a board of city engineers. The board shall be composed of one engineer from each state highway construction district, and in addition thereto, one engineer from each city of the first class. The board shall investigate and review the information submitted by each city. On or before November 1 of each year, the board shall submit its findings and recommendations in writing as to each city's money needs to the commissioner on a form prepared by the commissioner. Final determination of the money needs of each city shall be made by the commissioner. In the event that any city shall fail to submit the information provided for herein, the commissioner shall estimate the money needs of the city. The estimate shall be used in solving the apportionment formula. The commissioner may withhold payment of the amount apportioned to the city until the information is submitted.

**History:** 1959 c 500 art 3 s 13; 1973 c 123 art 5 s 7; 1979 c 167 s 5; 1985 c 248 s 70

162.14 MS 1949 [Repealed, 1951 c 192 s 1]



## SCREENING BOARD TERMS

The recent Screening Board's suggestion that more opportunities be provided for training along with the Metro-District concern that more metro engineers should have the opportunity to serve on the Screening Board brings up the length of term issue.

- A. Should the term of all or metro Screening Board members be changed from 3 years to 2 years?
- \* The alternates prior to serving on the Board attend both Screening Board meetings.  
The 2 year term would increase the number of alternates attending the Screening Board meetings.
  - \* The 2 year term would provide more engineers with the experience of serving on the Board.
  - \* Would educate and involve more engineers in the State Aid process.
- B. Should a alternate that fills a vacant seat on the present Screening Board serve 1 or 2 years in filing the vacancy plus a regular 3 year term?
- C. Cities of the First class have permanent members and would not be affected by a change.

THE CHART BELOW SHOWS THE ROTATION AFFECT IF ONLY METRO EAST AND WEST WOULD SERVE A TWO YEAR TERM IN ALTERNATING YEARS.

YEAR	1996	1997	1998	1999	2000	2001	2002	2003
DISTRICT	TERM SERVED							
1	2	3	1	2	3	1	2	3
2	3	1	2	3	1	2	3	1
3	3	1	2	3	1	2	3	1
4	2	3	1	2	3	1	2	3
5	1	2	1	2	1	2	1	2
6	2	3	1	2	3	1	2	3
7	1	2	3	1	2	3	1	2
8	3	1	2	3	1	2	3	1
9	1	2	3	1	2	1	2	1
NUMBER OF MEMBERS - NUMBER OF YEARS SERVED								
	3-1	3-1	4-1	2-1	4-1	4-1	2-1	4-1
	3-2	3-2	3-2	4-2	2-2	4-2	4-2	2-2
	3-3	3-3	2-3	3-3	3-3	1-3	3-3	3-3
TOTAL YEARS EXPERIENCE	18	18	16	19	17	15	19	17

## COUNTY HIGHWAY TURNBACKS

MUNICIPALITY	EFFECTIVE DATE OF TURNBACK	TERMINI	MSAS SEGMENT NUMBER	FORMER CSAH NUMBER	FORMER COUNTY RD NUMBER	MILEAGE OF TURNBACK	MILEAGE CONSIDERED AS EXCHANGE	NET GAIN OR LOSS OF MSAS MILEAGE	NET TOTAL MILEAGE
Arden Hills	1-9-95	County Rd "F" - 35W to CSAH 12 (Snelling Ave.)	108	12		0.92		0.92	0.92
Arden Hills	6-19-95	Stowe Ave. - New Brighton Road to Lake Johanna Blvd	107		163	0.26		0.26	0.26
Columbia Heights	12-16-94	W. Upland Crest, Innsbruck Parkway	121		104	0.90		0.90	0.90
East Grand Forks	3-25-95	23rd st. nw - CSAH 64 to TH 220	121	19		1.01		1.01	1.01
Hutchinson	1-96	5th Ave. NW -	128		93	0.56		0.56	
		Main ST. to Golf Course Rd.			93	1.24		1.24	
		Golf Course Rd. to CSAH 12			93				1.80
		12th Ave NW - Golf Course Rd to CSAH 12	129		76				
		Jefferson St. - Century Ave. to 2nd Ave. SE	103	25		0.25 1.00		0.25 1.00	0.25 1.00
Inver Grove Heights	1-96	2nd Ave. SE - Jefferson to Main	127	25		0.12		0.12	0.12
		College Trail - TH 103 frontage rd to Cahill	114	75		0.54		0.54	0.54
		Cahill - College Trail to Upper 55th St.	112	75		2.96		2.96	2.96
Lakeville	5-31-94	Holyoke Ave. - 202nd st. - Dodd Blvd.	105 & 107		15	2.31		2.31	2.31
Lakeville	5-31-94	Holyoke Ave. - 210th st. - CR. 70	105		15	0.50		0.50	0.50
Lakeville	5-31-94	Kenrick Ave CSAH 70 - new CSAH 50	118	5		0.51		0.51	0.51
Lakeville	5-31-94	205th st W., Icalee Path Dodd rd - Scott Co. Line	102	64		3.40	*	3.18	0.22
Lakeville	5-31-94	Klamath Trail West Kenwood Trail	122		44	1.54		1.54	1.54
Lakeville	5-31-94	Hamburg & 200th st. w. CR. 64 - CSAH 23 (Cedar)	103 & 126		64B	0.75		0.75	0.75

Little Canada		Arcade St. - Labore RD. to Cr. "D"	111		142	0.47		0.47	0.47
Little Canada sh with maplewood		Arcade St. - TH 36 to County East city limits	111	60		0.11		0.11	0.11
Little Canada sh with maplewood		Arcade St. - Keller Pkwy Labore RD.	111	60		0.13		0.13	0.13
Little Canada sh with maplewood		Arcade St. - East citry limits to County Rd C	111	22		0.15		0.15	0.15
Maplewood shared with NSP		Beam Ave. to Lydia (CSAH 19)		70		0.13		0.13	0.13
Maplewood shared with Little Can		Arcade St. - Keller Parkway to north city limits	125	60		0.07		0.07	0.07
Maplewood shared with Little Can		Arcade St. - TH 36 to Keller Pkwy	125	60		0.20		0.20	0.20
Maplewood shared with Little Can		Arcade St. - Keller Pkwy to County Rd C	125	22		0.28		0.28	0.28
Maplewood	4-15-96	Linwood Ave. - Mcknight Ave. to Century Ave.	127		123	1.00		1.00	1.00
Moundsview		CR I - Pleasant View Dr. to Silver Lake Rd.	237		82	0.44		0.44	0.44
Moundsview		Pleasant View Dr. - Co. Rd. H2 to CR. I	242		124	0.45		0.45	0.45
Moundsview	3-8-96	Co. Rd. H2 - Pleasant View Drive to TH 10	5		234	1.26		1.26	1.26
New Brighton	7-1-95	10th St. nw - 5th ave. nw to East city limits	121	12		0.33		0.33	0.33
New Brighton	4-26-96	8th Ave. NW - CSAH 77 to 10st.	124	45		0.40		0.40	0.40
No. St. Paul sh with Mplewood		Helen St. 12th Ave. to Lydia (CSAH 19)	262	70		0.94		0.94	0.94
No. St. Paul		11th ave./Castle - Mcknight to Helen	255	24		0.50		0.50	0.50
No. St. Paul		N St Paul Rd(7th ave) - Mcknight to Century	263	29		1.23		1.23	1.23
Red Wing	7-11-94	Sturgen Lake Rd - CSAH 18 to Larson Lane	133	18		0.50		0.50	0.50
Roseville		Roselawn Ave. - Hameline to Victoria St.	243		114	0.84		0.84	0.84
Roseville		Roselawn Ave. - Dale St. to McCarron's Blvd.	249		115	0.23	* 1.25 miles	0.00	0.00

Roseville		McCarron's Blvd. No. -	249		116	0.88	* in exchange	0.00	0.00
Roseville		McCarron's So. to Rice St.	250		117	0.84	*	0.70	0.70
Roseville		McCarron's Blvd. So. -							
Roseville		McCarron's No. to Rice St.	251	52		1.16		1.16	1.16
Roseville		Victoria St. - Larpenteur Ave.							
Roseville		to CR B	252	53		0.47		0.47	0.47
Roseville		Dale St. - Co. Rd. C to							
Roseville		Owasso Blvd.	222	20		1.30		1.30	1.30
Roseville		So. Owasso - Dale St to	252						
Roseville		Rice	253		104	0.25		0.25	0.25
Roseville		CR "D" - Lexington to							
Roseville		Victoria	254		133	0.68		0.68	0.68
Roseville		West Owasso Blvd. - Victoria							
Roseville		to Roseville/Shoreview border	255		106	0.42		0.42	0.42
Roseville		Josphine Rd. - Hameline to							
Roseville		Lexington							
Rosemount	8-2-94	140th st. - CSAH71 to			38	3.30		3.30	3.30
Rosemount		CSAH 42							
St. Anthony	3-8-96	Silver Lane - Stinson to Silver	108		100	0.48		0.48	0.48
St. Anthony		Lake Rd.							
St. Louis Park	10-14-94	Cedar Lake Rd -		16		3.15		3.15	3.15
St. Louis Park		TH 169 - Quentin Ave.							
Shakopee		Fuller St. - Vierling Drive to	117	77		0.25		0.25	0.25
Shakopee		.25 Mi. No.							
Shoreview		Victoria St. - Lexinton to	263	52		1.10		1.10	1.10
Shoreview		County Rd. "F"							
Thief River Falls		Pennington Ave. - .5 Mi. N	121	17		1.07	1.26 miles of	0.44	0.44
Thief River Falls		of CR 61 to 1st St.	111	17		0.22	CSAH was	0.22	0.22
Thief River Falls		1st St. - Main Ave. to	105	17		0.25	redesignated	0.25	0.25
Thief River Falls		Pennington Ave.					on boundry		
Thief River Falls		13th St. to .25 Mi. W. Of Main	109	30		0.53	1.26/2 = 0.63	0.53	0.53
Thief River Falls		St					deduction		
Thief River Falls		6th St - Barzen Ave. to							
Thief River Falls		Arnold Ave. W.							
White Bear Lake	12-29-95	Bellaire Ave - County "E"	124	70		0.95		0.95	0.95
White Bear Lake		to County Road "D"	124	19		0.45		0.45	0.45
White Bear Lake		County Road "D" - Bellaire							
White Bear Lake		to Century							
Total						46.18	5.06	41.12	41.12



## Memo

State Aid for Local Transportation Division  
Mail Stop 500, Room 420  
395 John Ireland Boulevard  
St. Paul, MN 55155

Office tel: 612/296-3013  
Fax: 612/282-2727

April 10, 1996

TO: Municipal Screening Board

FROM: Patrick B. Murphy *Patrick B. Murphy*  
State Aid Engineer

SUBJECT: County Road Turnbacks to Cities

The discussions on how the mileage of County Road turnbacks is handled when they are placed on the MSAS system has been discussed at the last three Screening Board meetings. The discussion has focused mainly on the historic method of computing the 20% mileage eligible to be on the MSAS system. This has resulted in discussions on specific calculation methodology for mileage certification. I would like to shift the Screening Board to a policy oriented discussion centered on legislative intent of the 1994 amendments related to CR turnbacks to cities. For that purpose, this memo sets forth two options as to how MSAS mileage is affected by CR turnbacks.

Attached is a copy of Minn Statute 162.09 Subd. 1 prior to 1994 and a copy of 162.09 Subd. 1 as changed in 1994.

It seems to me the intent of the 1994 legislation was two fold:

- Eliminate the overall system cap of 2500 miles and substitute with a cap as to the size of the system in each state-aid city.
- Add a provision that treats county highway (CSAH and CR) turnbacks the same as TH turnbacks, by allowing them to be in addition to the individual city's basic 20% limitation.

### OPTION #1

I believe the legislative purpose of this second bullet was that the turnback of county highways to cities and their subsequent designation on the MSAS system should not affect the basic mileage that a city is eligible to have on the system (under the 20% provision) without the turnback. In other words, a city should not have to reduce its existing MSAS system because of accepting a TH, CSAH or CR turnback and designating it as a MSAS.

If the Screening Board accepts this as the legislative intent, the SALT Division will present a resolution and mileage certification form which will accommodate this.

The previous Screening Board discussions focused on how the 20 percent basic mileage eligibility is calculated. Until the 1994 legislative amendment, this was not included in either statute or rule. It only showed up as a Screening Board resolution. The Statute simply borrows from the original Screening Board resolution (which did not consider CR turnbacks) as the description of the 20% calculation. If you accept the legislative intent described earlier, this provision can be interpreted that current county roads and those turned back after May 11, 1994, should be included in the 20% calculation.

#### OPTION #2

You may, on the other hand, believe that there should be a tempering effect when a CR reverts to city jurisdiction and is placed on the MSAS system by reducing the basic mileage eligibility 0.2 miles for every 1.0 miles of CR added to the MSAS system. If that is the case, you could consider the reference to CR's in the 20% basic mileage language in the statute as being a deliberate act of the legislature to temper the impact of a CR turnback differently from a TH or CSAH turnback.

If the Screening Board accepts this tempering as the legislative intent, the SALT Division will present a resolution and mileage certification form which will accommodate this.

#### ACTION AT SPRING SCREENING BOARD MEETING

This will be an agenda item for the spring Screening Board meeting, for the purpose of resolving how CR turnbacks will be handled. I will ask that the Screening Board select either Option 1 or Option 2. We will then present any necessary resolution changes to implement the Option selected and will also review a revised mileage certification form depending on the Option selected.

Ken Straus will be reviewing these Options with the Needs Study Sub-committee for the purpose of obtaining a recommendation to the Screening Board.

These Options will also be discussed at each District pre-screening meeting.

Attachments

## MUNICIPALITIES

162.09 MS 1957 [Repealed, 1959 c 500 art 6 s 13]

## 162.09 MUNICIPAL STATE-AID STREET SYSTEM.

1994

Subdivision 1. **Creation; mileage limitation; rules.** There is created a municipal state-aid street system within statutory and home rule charter cities having a population of 5,000 or more. The extent of the municipal state-aid street system for a city shall not exceed: (1) 20 percent of the total miles of city streets and county roads within the jurisdiction of that city, plus (2) the mileage of all trunk highways reverted or turned back to the jurisdiction of the city pursuant to law on and after July 1, 1965, plus (3) the mileage of county highways reverted or turned back to the jurisdiction of the city pursuant to law on or after the effective date of Laws 1994, chapter 635. The system shall be established, located, constructed, reconstructed, improved, and maintained as public highways within such cities under rules, not inconsistent with this section, made and promulgated by the commissioner as hereinafter provided.

162.09 MS 1957 [Repealed, 1959 c 500 art 6 s 13]

## 162.09 MUNICIPAL STATE-AID STREET SYSTEM.

PRIOR  
TO  
1994

Subdivision 1. **Creation.** There is created a municipal state-aid street system within cities having a population of 5,000 or more. The extent of the municipal state-aid street system shall not exceed 2,500 miles, plus the mileage of all trunk highways reverted or turned back to the jurisdiction of cities pursuant to law on and after July 1, 1965. The system shall be established, located, constructed, reconstructed, improved, and maintained as public highways within such cities under rules, not inconsistent with this section, made and promulgated by the commissioner as hereinafter provided.

PROPOSED CHANGES  
April 16, 1996

OPTION #1 Included in basic mileage

## **MILEAGE**

***Delete all resolutions currently covering mileage up to the section on One Way Street Mileage and replace with:***

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

No municipality shall have its basic mileage reduced by accepting a trunk highway, county state aid highway or county road turnback. Therefore, when a municipality accepts a county road turnback after May 11, 1994 and designates it as an MSA street, the mileage of that county road turnback will continue to be included in the calculation of basic mileage for purposes of determining allowable mileage.

Excess mileage on the MSAS system shall accrue needs in accordance with current rules and resolutions.

All requests for additional mileage or revisions to the Municipal State Aid Street system must be received by the District State Aid Engineer by March 1 and a City Council resolution of approved mileage must be received by May 1 to be included in the current year's Needs Study. Any requests for additional mileage of revisions to the Municipal State Aid Systems received by the District State Aid Engineer after March 1 will be included in the following year's Needs Study.



PROPOSED CHANGES  
April 16, 1996

OPTION #2 Not included in basic mileage

### **MILEAGE**

***Delete all resolutions currently covering mileage up to the section on One Way Street Mileage and replace with:***

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

A municipality which accepts a county road turnback after May 11, 1994 and designates it as an MSA Street will no longer have that mileage considered as basic mileage for purposes of determining allowable mileage. This will result in a reduction in allowable mileage of 20% of that county road turnback which partially offsets the effect of adding the county road turnback to the MSA system.

Excess mileage on the MSAS system shall accrue needs in accordance with current rules and resolutions.

All requests for additional mileage or revisions to the Municipal State Aid Street system must be received by the District State Aid Engineer by March 1 and a City Council resolution of approved mileage must be received by May 1 to be included in the current year's Needs Study. Any requests for additional mileage of revisions to the Municipal State Aid Systems received by the District State Aid Engineer after March 1 will be included in the following year's Needs Study.

## GENERAL FUND ADVANCE

<b>Municipality</b>	<b>Resolution Amount</b>	<b>Year</b>	<b>Advance Amount</b>	<b>Repaid Amount</b>	<b>Balance</b>
Buffalo	\$500,000	1996	\$0	\$0	\$0
Burnsville	750,000	1996	0	0	0
Corcoran	495,717	1996	304,500	0	304,500
Cottage Grove	359,860	1995	359,860	359,860	0
Crookston	150,000	1995	60,190	60,190	0
Eagan	1,312,053	1995	945,482	945,482	0
Farmington	500,000	1996	0	0	0
Fridley	140,000	1996	0	0	0
Golden Valley	884,000	1996	0	0	0
Lakeville	1,319,952	1996	0	0	0
Little Falls	500,000	1996	0	0	0
Mahtomedi	382,380	1995	373,134	139,428	233,706
North Mankato	120,000	1996	0	0	0
Oak Grove	80,825	1995	0	0	0
Savage	500,000	1996	0	0	0
Spring Lake Park	116,178	1995	116,178	116,178	0
St. Cloud	1,000,000	1996	0	0	0
St. Louis Park	1,000,000	1996	0	0	0
Waite Park	234,085	1995	234,085	158,276	75,809
Woodbury	1,010,000	1996	0	0	0
	<b>\$11,355,049</b>		<b>\$2,393,428</b>	<b>\$1,779,413</b>	<b>\$614,015</b>

## RELATIONSHIP OF CONSTRUCTION BALANCE TO CONSTRUCTION ALLOTMENT

The amount spend on construction projects was computed by the difference between the previous year's unencumbered construction balance plus the years construction apportionment.

App. Year	No. of Municipalities	Needs Mileage	Unencumbered Construction Balance (As of September 1)	Construction Allotment	Amount Spent on Construction Projects	Ratio of Construction Balance to Construction Allotment	Ratio of Amount spent to Amount Received
1973	94	1557.31	\$26,333,918	\$15,164,273	\$12,855,250	1.7366	0.847
1974	95	1574.52	29,760,552	18,052,386	14,625,752	1.6486	0.810
1975	99	1629.30	33,239,840	19,014,171	15,534,883	1.7482	0.817
1976	101	1696.56	37,478,614	18,971,282	14,732,508	1.9755	0.776
1977	101	1748.55	43,817,240	23,350,429	17,011,803	1.8765	0.728
1978	104	1768.90	45,254,560	23,517,393	22,080,073	1.9243	0.938
1979	106	1839.51	48,960,135	26,196,935	22,491,360	1.8689	0.858
1980	106	1889.03	51,499,922	29,082,865	26,543,078	1.7708	0.912
1981	106	1913.57	55,191,785	30,160,696	26,468,833	1.8299	0.877
1982	109	1995.74	57,550,334	36,255,443	33,896,894	1.5874	0.934
1983	110	2041.94	68,596,586	39,660,963	28,614,711	1.7296	0.721
1984	110	2066.80	76,739,685	41,962,145	33,819,046	1.8288	0.805
1985	111	2121.49	77,761,378	49,151,218	48,129,525	1.5821	0.979
1986*	107	2139.42	78,311,767	50,809,002	50,258,613	1.5413	0.989
1987	107	2148.07	83,574,312	46,716,190	41,453,645	1.7890	0.887
1988	108	2164.99	85,635,991	49,093,724	47,032,045	1.7443	0.958
1989	109	2205.05	105,147,959	65,374,509	45,862,541	1.6084	0.701
1990	112	2265.64	119,384,013	68,906,409	54,670,355	1.7326	0.793
1991	113	2330.30	120,663,647	66,677,426	65,397,792	1.8097	0.980
1992	116	2376.79	129,836,670	66,694,378	57,521,355	1.9467	0.862
1993	116	2410.53	109,010,201	64,077,980	84,904,449	1.7012	1.325
1994	117	2471.04	102,263,355	62,220,930	68,967,776	1.6436	1.108
1995	118	2526.39	89,545,533	62,994,481	75,712,303	1.4215	1.201
1996	119	2614.71		70,289,831			

\* The date for the unencumbered balance deduction was changed from June 30 to September 1 in 1986.



Municipality	1995 Total Needs Mileage	1995 Population Apportionment Per Need Mile	Municipality	1995 Total Needs Mileage	1995 Const. Needs Apportionment Per Need Mile	Municipality	1995 Total Needs Mileage	1995 Total Apportionment Per Need Mile
Inver Grove Heights	19.95	\$19,292	St. Peter	10.59	\$16,510	Anoka	11.98	\$34,948
Spring Lake Park	5.24	19,286	Otsego	13.08	16,379	Mounds View	8.44	34,874
Apple Valley	31.23	19,132	Bemidji	14.31	16,348	Shoreview	13.69	34,824
Champlin	15.22	19,064	Richfield	26.21	16,342	Coon Rapids	39.03	34,730
Burnsville	43.67	19,037	Oakdale	16.72	16,330	Farmington	8.72	34,403
Eagan	44.31	18,911	Rosemount	21.34	16,329	Duluth	90.34	34,124
Plymouth	46.56	18,794	St. Anthony	5.18	16,297	Winona	19.62	34,058
Stillwater	12.80	18,285	Prior Lake	13.08	16,169	Fairmont	19.38	33,978
Mound	8.05	18,247	North Mankato	11.86	16,134	Blaine	32.78	33,872
Edina	39.36	18,145	Virginia	12.33	16,077	Waseca	6.31	33,744
Bloomington	73.73	17,926	Eden Prairie	42.40	15,999	Robbinsdale	10.33	33,700
Moorhead	28.67	17,879	Litchfield	7.83	15,970	Eagan	44.31	33,387
Owatonna	17.51	17,659	Apple Valley	31.23	15,915	South St. Paul	14.33	32,678
Hastings	14.45	17,094	Maplewood	19.18	15,902	Inver Grove Heights	19.95	32,654
Fridley	25.34	17,049	Golden Valley	23.55	15,877	Lakeville	40.62	32,495
Maple Grove	39.60	16,765	Grand Rapids	11.36	15,868	Faribault	21.46	32,463
Hutchinson	11.16	16,633	Monticello	5.99	15,831	North St. Paul	9.08	32,409
Eden Prairie	42.40	15,891	Roseville	23.45	15,719	Mahtomedi	4.55	31,946
Worthington	9.81	15,853	St. Louis Park	28.72	15,488	Burnsville	43.67	31,934
International Falls	8.06	15,703	Arden Hills	6.33	14,940	Eden Prairie	42.40	31,890
Buffalo	7.58	15,533	International Falls	8.06	14,836	Plymouth	46.56	31,802
Minnetonka	49.68	15,520	Shorewood	9.29	14,774	Brooklyn Park	45.33	31,009
Mankato	31.68	15,359	New Ulm	14.13	14,636	Hutchinson	11.16	31,002
Marshall	12.39	15,256	Sauk Rapids	9.03	14,630	Prior Lake	13.08	30,809
Chaska	13.85	15,105	Minnetonka	49.68	14,621	St. Peter	10.59	30,594
Sauk Rapids	9.03	15,105	Blaine	32.78	14,495	International Falls	8.06	30,539
Cambridge	5.28	15,080	Eagan	44.31	14,476	Cottage Grove	29.41	30,511
Albert Lea	18.65	14,992	Hutchinson	11.16	14,369	North Mankato	11.86	30,511
Prior Lake	13.08	14,640	Worthington	9.81	14,269	Stillwater	12.80	30,388
New Ulm	14.13	14,543	White Bear Lake	18.34	14,136	Austin	26.73	30,298
Duluth	90.34	14,472	Hugo	15.21	14,080	Edina	39.36	30,287
North Mankato	11.86	14,377	Winona	19.62	14,004	Minnetonka	49.68	30,141
Savage	14.69	14,223	Columbia Heights	11.65	13,920	Worthington	9.81	30,122
St. Peter	10.59	14,084	Little Falls	13.77	13,909	Monticello	5.99	29,900
Monticello	5.99	14,069	Alexandria	12.39	13,885	Thief River Falls	13.56	29,855
Mendota Heights	11.68	13,884	Albert Lea	18.65	13,848	Spring Lake Park	5.24	29,809
Cottage Grove	29.41	13,829	Montevideo	7.89	13,767	Red Wing	22.07	29,784
Golden Valley	23.55	13,577	Fergus Falls	19.71	13,664	Sauk Rapids	9.03	29,735
Brainerd	14.25	13,397	North Branch	15.64	13,576	Golden Valley	23.55	29,454
Faribault	21.46	13,138	Waseca	6.31	13,483	Hastings	14.45	29,250
Morris	6.66	12,928	New Brighton	13.42	13,395	New Ulm	14.13	29,179

1995			1995			1995		
Total			Total			Total		
Needs			Needs			Needs		
Population			Const. Needs			Total		
Apportionment			Apportionment			Apportionment		
Municipality	Mileage	Per Need Mile	Municipality	Mileage	Per Need Mile	Municipality	Mileage	Per Need Mile
Austin	26.73	\$12,584	Lino Lakes	17.24	\$13,008	Cloquet	18.05	\$28,854
Woodbury	34.80	12,543	Plymouth	46.56	13,008	Albert Lea	18.65	28,840
Lakeville	40.62	12,490	Burnsville	43.67	12,897	Bemidji	14.31	28,595
Shakopee	16.17	12,297	Marshall	12.39	12,890	Orono	12.07	28,307
Bemidji	14.31	12,247	Shakopee	16.17	12,884	Chanhassen	20.10	28,241
Willmar	23.30	12,135	Anoka	11.98	12,664	Marshall	12.39	28,146
Farmington	8.72	12,012	Chisholm	7.68	12,621	Mound	8.05	28,093
Litchfield	7.83	11,952	Willmar	23.30	12,613	Litchfield	7.83	27,922
Detroit Lakes	9.54	11,669	Corcoran	13.60	12,524	Virginia	12.33	27,739
Virginia	12.33	11,662	Robbinsdale	10.33	12,451	Grand Rapids	11.36	26,824
Crookston	10.91	11,408	Hibbing	50.74	12,366	Elk River	24.01	25,842
Grand Rapids	11.36	10,956	West St. Paul	12.12	12,216	East Bethel	23.66	25,807
Chanhassen	20.10	10,860	Mounds View	8.44	12,198	Shorewood	9.29	25,628
Shorewood	9.29	10,854	Hastings	14.45	12,156	Fridley	25.34	25,598
Lino Lakes	17.24	10,848	Edina	39.36	12,142	Shakopee	16.17	25,181
Red Wing	22.07	10,808	Stillwater	12.80	12,103	Mendota Heights	11.68	24,902
Montevideo	7.89	10,665	Coon Rapids	39.03	11,685	Willmar	23.30	24,748
Chisholm	7.68	10,502	East Grand Forks	10.82	11,467	Montevideo	7.89	24,432
Alexandria	12.39	10,154	Detroit Lakes	9.54	11,460	Rosemount	21.34	24,250
Fergus Falls	19.71	9,744	Brooklyn Park	45.33	11,342	East Grand Forks	10.82	24,075
Lake Elmo	9.53	9,715	Andover	30.83	11,110	Alexandria	12.39	24,039
Andover	30.83	9,627	Mendota Heights	11.68	11,018	Lino Lakes	17.24	23,856
Orono	12.07	9,403	South St. Paul	14.33	10,977	Morris	6.66	23,411
Cloquet	18.05	9,351	North St. Paul	9.08	10,900	Fergus Falls	19.71	23,408
Thief River Falls	13.56	9,044	Mahtomedi	4.55	10,657	Otsego	13.08	23,393
Fairmont	19.38	8,930	Spring Lake Park	5.24	10,523	Brainerd	14.25	23,141
Hermantown	12.99	8,495	Oak Grove	18.47	10,504	Detroit Lakes	9.54	23,129
Little Falls	13.77	8,410	Morris	6.66	10,483	Chisholm	7.68	23,123
Elk River	24.01	8,135	Ham Lake	22.85	10,362	Little Falls	13.77	22,319
Rosemount	21.34	7,921	Champlin	15.22	10,090	Andover	30.83	20,737
Ramsey	29.01	7,835	Ramsey	29.01	9,936	Hugo	15.21	19,316
Otsego	13.08	7,014	Mound	8.05	9,846	Corcoran	13.60	18,699
Ham Lake	22.85	6,556	Brainerd	14.25	9,744	North Branch	15.64	18,587
Corcoran	13.60	6,175	Vadnais Heights	6.77	9,159	Hibbing	50.74	17,789
East Bethel	23.66	5,608	Hermantown	12.99	8,590	Ramsey	29.01	17,771
Hibbing	50.74	5,423	Fridley	25.34	8,549	Lake Elmo	9.53	17,386
Hugo	15.21	5,236	Lake Elmo	9.53	7,671	Hermantown	12.99	17,085
North Branch	15.64	5,011	Shoreview	13.69	5,915	Ham Lake	22.85	16,918
Oak Grove	18.47	4,951	Falcon Heights	2.54	3,335	Oak Grove	18.47	15,455
Average								
\$16,167			\$15,481			\$31,648		

# **AVERAGE NUMBER OF VEHICLES PER MILE PER DAY**

<b>Municipality</b>	<b>Existing ADT Times Existing Mileage With ADT</b>	<b>Existing Mileage With 0 ADT *</b>	<b>Total Existing Mileage With ADT</b>	<b>Total Existing Mileage</b>	<b>Average Traffic Per Mile Per Day</b>	<b>Estimated Total ADT Times Total Existing Mileage</b>
ALBERT LEA	52,285	0.00	18.65	18.65	2,803	52,285
ALEXANDRIA	37,316	0.84	10.52	11.36	3,547	40,299
ANDOVER	20,561	4.22	19.10	23.32	1,077	25,100
ANOKA	24,279	0.00	11.52	11.52	2,108	24,279
APPLE VALLEY	91,284	5.82	18.25	24.07	5,002	120,390
ARDEN HILLS	20,227	0.69	3.72	4.41	5,437	23,970
AUSTIN	97,451	0.56	22.28	22.84	4,374	99,900
BEMIDJI	48,533	0.58	13.78	14.36	3,522	50,570
BLAINE	60,645	1.44	18.96	20.40	3,199	65,250
BLOOMINGTON	442,447	0.46	72.33	72.79	6,117	445,260
BRAINERD	26,982	0.00	14.13	14.13	1,910	26,982
BROOKLYN CENTER	118,431	0.00	21.30	21.30	5,560	118,431
BROOKLYN PARK	148,098	1.27	28.52	29.79	5,193	154,690
BUFFALO	9,314	0.58	5.09	5.67	1,830	10,370
BURNSVILLE	246,176	3.14	39.66	42.80	6,207	265,660
CAMBRIDGE	2,128	2.43	2.19	4.62	972	4,490
CHAMPLIN	20,584	2.33	10.84	13.17	1,899	25,000
CHANHASSEN	18,624	0.93	10.27	11.20	1,813	20,310
CHASKA	17,616	4.61	6.80	11.41	2,591	29,550
CHISHOLM	5,939	0.00	6.93	6.93	857	5,939
CLOQUET	23,147	0.00	17.90	17.90	1,293	23,147
COLUMBIA HEIGHTS	38,440	0.00	11.65	11.65	3,300	38,440
COON RAPIDS	199,336	4.09	29.13	33.22	6,843	227,320
CORCORAN	5,617	0.70	12.13	12.83	463	5,940
COTTAGE GROVE	67,922	1.68	23.25	24.93	2,921	72,830
CROOKSTON	20,948	0.52	10.32	10.84	2,030	22,000
CRYSTAL	29,462	8.28	9.50	17.78	3,101	55,140
DETROIT LAKES	20,109	0.00	9.01	9.01	2,232	20,109
DULUTH	341,393	0.70	88.04	88.74	3,878	344,100
EAGAN	207,339	1.62	36.36	37.98	5,702	216,570
EAST BETHEL	9,839	1.58	18.31	19.89	537	10,680
EAST GRAND FORKS	20,711	1.78	8.79	10.57	2,356	24,900
EDEN PRAIRIE	175,112	1.48	32.19	33.67	5,440	183,160
EDINA	209,011	0.00	38.76	38.76	5,392	209,011
ELK RIVER	44,739	1.61	16.80	18.41	2,663	49,020
FAIRMONT	60,006	0.00	17.15	17.15	3,499	60,006
FALCON HEIGHTS	3,813	0.00	2.54	2.54	1,501	3,813
FARIBAULT	65,949	0.59	18.02	18.61	3,660	68,100
FARMINGTON	3,201	0.00	5.51	5.51	581	3,201
FERGUS FALLS	36,125	1.20	12.16	13.36	2,971	39,690
FOREST LAKE	1,206	2.91	0.37	3.28	3,258	10,680
FRIDLEY	58,348	1.74	23.22	24.96	2,513	62,720
GOLDEN VALLEY	85,114	0.00	23.30	23.30	3,653	85,114
GRAND RAPIDS	27,102	0.00	10.10	10.10	2,683	27,102

<b>Municipality</b>	<b>Existing ADT Times Existing Mileage With ADT</b>	<b>Existing Mileage With 0 ADT *</b>	<b>Total Existing Mileage With ADT</b>	<b>Total Existing Mileage</b>	<b>Average Traffic Per Mile Per Day</b>	<b>Estimated Total ADT Times Total Existing Mileage</b>
HAM LAKE	7,370	1.76	16.00	17.76	461	8,181
HASTINGS	34,164	0.88	13.01	13.89	2,626	36,475
HERMANTOWN	21,528	0.00	12.99	12.99	1,657	21,528
HIBBING	75,459	1.25	47.53	48.78	1,588	77,444
HOPKINS	48,956	0.00	9.28	9.28	5,275	48,956
HUTCHINSON	29,487	0.00	10.81	10.81	2,728	29,487
INTERNATIONAL FALLS	6,255	2.72	5.16	7.88	1,212	9,552
INVER GROVE HEIGHTS	39,017	0.59	17.16	17.75	2,274	40,359
LAKE ELMO	6,621	0.00	9.53	9.53	695	6,621
LAKEVILLE	63,771	3.96	28.13	32.09	2,267	72,748
LINO LAKES	4,291	1.74	8.70	10.44	493	5,150
LITCHFIELD	7,823	0.00	7.83	7.83	999	7,823
LITTLE CANADA	12,803	0.92	4.38	5.30	2,923	15,492
LITTLE FALLS	26,994	0.92	12.70	13.62	2,126	28,950
MAHTOMEDI	2,531	0.11	4.07	4.18	622	2,599
MANKATO	213,095	0.00	25.26	25.26	8,436	213,095
MAPLE GROVE	81,590	3.58	27.59	31.17	2,957	92,176
MAPLEWOOD	30,304	3.74	12.03	15.77	2,519	39,726
MARSHALL	23,965	0.99	9.23	10.22	2,596	26,536
MENDOTA HEIGHTS	20,129	0.55	10.47	11.02	1,923	21,186
MINNEAPOLIS	1,110,831	0.55	186.28	186.83	5,963	1,114,111
MINNETONKA	140,459	2.16	43.66	45.82	3,217	147,408
MONTEVIDEO	14,872	0.00	7.53	7.53	1,975	14,872
MONTICELLO	3,079	1.44	2.40	3.84	1,283	4,926
MOORHEAD	92,064	0.15	24.07	24.22	3,825	92,637
MORRIS	6,659	0.00	6.45	6.45	1,032	6,659
MOUND	14,397	0.00	7.74	7.74	1,860	14,397
MOUNDS VIEW	9,124	0.50	6.46	6.96	1,412	9,831
NEW BRIGHTON	26,913	0.00	10.83	10.83	2,485	26,913
NEW HOPE	76,589	0.48	11.83	12.31	6,474	79,697
NEW ULM	33,673	0.37	13.76	14.13	2,447	34,578
NORTH MANKATO	42,446	0.00	9.43	9.43	4,501	42,446
NORTH ST PAUL	20,963	0.38	9.77	10.15	2,146	21,778
NORTHFIELD	24,768	0.56	6.90	7.46	3,590	26,778
OAK GROVE	5,965	0.00	13.78	13.78	433	5,965
OAKDALE	36,002	0.00	14.17	14.17	2,541	36,002
ORONO	15,175	0.50	10.94	11.44	1,387	15,868
OTSEGO	3,876	7.27	2.26	9.53	1,715	16,346
OWATONNA	43,755	0.54	16.70	17.24	2,620	45,170
PLYMOUTH	133,031	2.10	33.08	35.18	4,021	141,476
PRIOR LAKE	7,369	1.55	6.72	8.27	1,097	9,069
RAMSEY	11,769	1.20	15.69	16.89	750	12,670
RED WING	51,413	0.06	18.99	19.05	2,707	51,575
RICHFIELD	104,815	1.77	23.71	25.48	4,421	112,640
ROBBINSDALE	65,977	0.00	10.30	10.30	6,406	65,977
ROCHESTER	284,372	3.66	41.18	44.84	6,906	309,647
ROSEMOUNT	28,416	0.41	14.26	14.67	1,993	29,233
ROSEVILLE	45,986	0.49	20.08	20.57	2,290	47,108



Municipality	Existing ADT Times Existing Mileage With ADT	Existing Mileage With 0 ADT *	Total Existing Mileage With ADT	Total Existing Mileage	Average Traffic Per Mile Per Day	Estimated Total ADT Times Total Existing Mileage
ST ANTHONY	22,957	0.00	5.18	5.18	4,432	22,957
ST CLOUD	296,638	1.16	33.44	34.60	8,871	306,92
ST LOUIS PARK	128,041	0.18	23.41	23.59	5,469	129,02
ST PAUL	1,177,435	0.00	156.26	156.26	7,535	1,177,43
ST PETER	21,858	0.00	9.59	9.59	2,279	21,85
SARTELL	2,166	0.00	3.42	3.42	633	2,16
SAUK RAPIDS	24,823	0.00	8.73	8.73	2,843	24,82
SAVAGE	8,998	2.36	5.68	8.04	1,584	12,73
SHAKOPEE	20,090	2.45	11.40	13.85	1,762	24,40
SHOREVIEW	22,909	0.00	11.01	11.01	2,081	22,90
SHOREWOOD	14,139	0.00	9.29	9.29	1,522	14,13
SOUTH ST PAUL	32,555	0.00	13.58	13.58	2,397	32,55
SPRING LAKE PARK	19,227	0.00	4.98	4.98	3,861	19,22
STILLWATER	33,419	0.54	11.73	12.27	2,849	34,95
THIEF RIVER FALLS	19,219	0.00	10.92	10.92	1,760	19,21
VADNAIS HEIGHTS	9,192	0.07	5.10	5.17	1,802	9,31
VIRGINIA	42,328	0.59	11.46	12.05	3,694	44,50
WAITE PARK	18,801	0.89	3.57	4.46	5,266	23,48
WASECA	12,127	0.00	6.31	6.31	1,922	12,12
WEST ST PAUL	31,329	0.00	11.62	11.62	2,696	31,32
WHITE BEAR LAKE	49,343	0.00	17.84	17.84	2,766	49,34
WILLMAR	97,932	0.11	23.19	23.30	4,223	98,39
WINONA	103,756	0.61	18.08	18.69	5,739	107,25
WOODBURY	59,980	4.14	16.33	20.47	3,673	75,18
WORTHINGTON	22,235	0.00	9.80	9.80	2,269	22,23
<b>TOTAL</b>	<b>8,765,313</b>	<b>123.33</b>	<b>2152.10</b>	<b>2275.43</b>	<b>4,073</b>	<b>9,150,01</b>

\* Some cities have existing segments, but have no traffic counts for them.

## STATUS OF MUNICIPAL TRAFFIC COUNTING

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

### 1. Seven County Metropolitan Traffic Area

Cities in the seven county metropolitan area count cooperatively with Mn/Dot on a two year cycle and are scheduled to be counted in 1997. Minneapolis and St. Paul count one half each year.

### 2. Out-State Municipalities

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

### 3. Municipalities that have a count annually

Duluth counts 1/4 of the city each year.

#### **TRAFFIC TO BE COUNTED IN 1996**

Austin	International Falls	Otsego
Buffalo	Montevideo	
Detroit Lakes	Monticello	

#### **TRAFFIC TO BE COUNTED IN 1997**

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

#### **TRAFFIC TO BE COUNTED IN 1998**

Alexandria	Rochester	Worthington
Cloquet	Willmar	

#### **TRAFFIC TO BE COUNTED IN 1999**

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

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

CURRENT RESOLUTIONS  
OF THE  
MUNICIPAL SCREENING BOARD

October 1995

BE IT RESOLVED:

ADMINISTRATION

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

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

Screening Board Chairman and Vice Chairman - June 1987

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

Screening Board Secretary - Oct. 1961

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

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

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

Appointment to Unencumbered Construction Funds Subcommittee - Revised June 1979

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

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

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

Research Account - Oct. 1961

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

Be it resolved that an amount of \$408,594 (not to exceed 1/2 of 1% of the 1995 MSAS Apportionment sum of \$81,718,700) shall be set aside from the 1996 Apportionment fund and be credited to the research account.

Soil Type - Oct. 1961

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

Improper Needs Report - Oct. 1961

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

New Cities Needs - Oct. 1983

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

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

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

Construction Accomplishments - Oct. 1988 (Revised June 1993)

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

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

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

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

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

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

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

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

## POPULATION APPORTIONMENT - October 1994

Be it resolved that beginning with calendar year 1996, the MSA population apportionment shall be determined using the latest available federal census or population estimates of the State Demographer and/or the Metropolitan Council. However, no population shall be decreased below that of the latest available federal census, and no city will be added to, except by consolidation, or dropped from the MSA eligible list based on population estimates.

## DESIGN

### Design Limitation on Non-Existing Streets - Oct. 1965

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

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

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

### Greater Than Minimum Width (Revised June 1993)

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

### Miscellaneous Limitations - Oct. 1961

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

## MILEAGE

Feb. 1959 (Revised Oct. 1994)

The maximum mileage for Municipal State Aid Street designation shall be 20 percent of the municipality's basic mileage - which is comprised of the total improved streets less Trunk Highway, County State Aid Highways, and any Trunk Highway and/or County Road Turnback designated as excess Municipal State Aid mileage.

Nov. 1965 (Revised 1972, Oct. 1993, 1995)

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 except the Division of State Aid will recompute available mileage, as necessary, to accomplish turnbacks. Frontage roads which are not designated trunk highway, trunk highway turnback or County State Aid Highway system shall be considered in the computation of the basic street mileage. The total mileage of county roads and local streets on corporate limits shall be included in the municipality's basic street mileage. Mileage which is on the boundary of two adjoining urban municipalities shall be considered as one-half mileage.

(Nov. 1965 - Revised 1969, October 1993, October, 1994)

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

Any net increase in mileage which is caused by turnbacks or jurisdictional exchanges, including County Highways after May 11, 1994, and designated on the Municipal State Aid Street System in accordance with MSA rules and approved by the Office of State Aid, shall be allowed above the municipality's 20% mileage cap. Exchanges which result in net decreases in mileage shall result in the municipality's mileage in excess of 20% being reduced by a like amount. The amount of excess MSA mileage allowed shall be accumulative of all turnbacks and jurisdictional exchanges, including County Highways after May 11, 1994, but shall never be negative. Excess mileage on the MSA system shall accrue needs in accordance with current rules and resolutions.

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

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

One Way Street Mileage - June 1983 (Revised Oct. 1984, Oct. 1993, June 1994)

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

Treat all one-way streets between 26 feet and 49 feet wide as one-half of the mileage as outlined in Rule 8820.9940 and allow complete needs, except that no more than one parking lane will be eligible to accrue needs. When Trunk Highway or County Highway Turnback is used as part of a one way pair, mileage for certification shall only be included as trunk Highway or County Turnback mileage and not as provided for in the preceding paragraph.

## NEEDS COST

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

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

Grading (Excavation) \$ 3.00 Cu. Yd.

Base:

Class 4	Spec. #2211	\$ 4.70 Ton
Class 5	Spec. #2211	6.00 Ton
Bituminous	Spec. #2331	20.00 Ton

Surface:

Bituminous	Spec. #2331	\$ 20.00 Ton
Bituminous	Spec. #2341	23.50 Ton
Bituminous	Spec. #2361	30.00 Ton

Shoulders:

Gravel	Spec. #2221	\$ 8.00 Ton
--------	-------------	-------------

Miscellaneous:

Storm Sewer Construction	\$223,000.00 Mile
Storm Sewer Adjustment	69,100.00 Mile
Special Drainage-Rural	26,000.00 Mile
Traffic Signals	20,000 to 80,000.00 Mile

### Signal Needs Based On Projected Traffic

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

Street Lighting	20,000.00 Mile
Curb & Gutter Construction	5.75 Lin. Ft.
Sidewalk Construction	16.00 Sq. Yd.
Engineering	18%

Removal Items:

Curb & Gutter	\$ 1.70 Lin. Ft.
Sidewalk	4.70 Sq. Yd.
Concrete Pavement	4.10 Sq. Yd.
Tree Removal	175.00 Unit



## STRUCTURES

### Bridge Costs - Oct. 1961 (Revised Annually)

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

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

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

### Bridge Width & Costs - (Revised Annually)

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

#### Railroad Over Highway

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

## RAILROAD CROSSINGS

### Railroad Crossing Costs - (Revised Annually)

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

#### Railroad Grade Crossings

Signals - (Single track - low speed)	\$ 80,000 Unit
Signals and Gates(Multiple Track - high	\$110,000 Unit
Signs Only & (low speed)	\$ 800 Unit
Rubberized Railroad Crossings (Per Track)	\$ 750 Lin. Ft.
Pavement Marking	\$ 750 Unit

Maintenance Needs Costs - June 1992 (Revised 1993)

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

	Cost For Under 1000 Vehicles Per Day -----	Cost For Over 1000 Vehicles Per Day -----
Traffic Lanes: Segment length times number of traffic lanes times cost per mile.	\$1,320 (Per Mile)	\$2,200 (Per Mile)
Parking Lanes: Segment length times number of parking lanes times cost per mile.	\$1,320 (Per Mile)	\$1,320 (Per Mile)
Median Strip: \$ 440 Segment length times cost per mile.	\$ 880 (Per Mile)	(Per Mile)
Storm Sewer: Segment length times cost per mile.	\$ 440 (Per Mile)	\$ 440 (Per Mile)
Traffic Signals: Number of traffic signals times cost for each signal.	\$ 440 (Per Each)	\$ 440 (Per Each)
Unlimited Segments: Normal M.S.A.S. Streets. -----		
Minimum allowance for mile is determined by segment length times cost per mile.	\$4,400 (Per Mile)	\$4,400 (Per Mile)
Limited Segments: Combination Routes. -----		
Minimum allowance for mile is determined by segment length times cost per mile.	\$2,200 (Per Mile)	\$2,200 (Per Mile)

## NEEDS ADJUSTMENTS

### Bond Adjustment - Oct. 1961 (Revised 1976, 1979, 1995)

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

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

For the purpose of this adjustment, the net unamortized bonded debt (remaining principal) shall be the total unamortized bonded indebtedness (deducted from the amount of projects applied against the bond) less the unexpended bond amount (less the amount of projects not encumbered) as of December 31st of the preceding year. The charges for selling the bond issue shall be deducted from the amount that projects are applied against.

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

### **Effective January 1, 1996**

The money needs shall be annually reduced by 10% of the total bond issue amount. The computation of needs shall be started in the year that bond principal payments are made to the city.

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

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

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

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

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

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

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

Initial Turnback Maintenance Adjustment - Fractional Year Reimbursement:

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

To provide an advance payment for the coming year's additional maintenance obligation, a needs adjustment per mile shall be added to the annual money needs. This needs adjustment per mile shall produce sufficient apportionment funds so that at least \$7,200 in apportionment shall be earned for each mile of trunk highway turnback on Municipal State Aid Street System.

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

TRAFFIC - June 1971

Traffic Limitation on Non-Existing Streets - Oct. 1965

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

Traffic Manual - Oct. 1962

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

Traffic Counting - Sept. 1973 (Revised June 1987)

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

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