

MN DEPT OF TRANSPORTATION  
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# 1998 Municipal Screening Board

## Data

### UNIT PRICE STUDY

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of Transportation

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1998

April, 1998

**TO: Municipal Engineers  
City Clerks**

**SUBJECT : Municipal Screening Board Data**

**Enclosed is a copy of the June 1998 Municipal Screening Board Data Booklet.**

**The data included in this report will be used by the Municipal Screening Board at its June 9 and 10, 1998 meeting near Brainerd to establish unit prices for the 1998 Needs Study and the 1999 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 15-16.**

**The annual unit price study was not done in 1997. This allowed the State Aid Needs Unit to concentrate on other projects such as the review of the needs quantity tables and work on the life cycle concept.**

**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 me at (612) 296-1662 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:  
1998 Municipal State Aid Screening Board Data Booklet.**

# **1998 MUNICIPAL SCREENING BOARD DATA**

## **TABLE OF CONTENTS**

Map of Highway Districts and Urban Municipalities.....	1
1998 Municipal Screening Board.....	2
Subcommittees Appointed by the Commissioner.....	3
Minutes of Screening Board Meeting - October 28 & 29, 1997.....	4-14
Minutes of Needs Study Subcommittee Meeting - April 28, 1998.....	15-16
Unit Price Recommendation to the 1998 Screening Board.....	17

## **MUNICIPAL STATE AID STREET UNIT PRICES AND GRAPHS**

Unit Price Study.....	18
Relationship of the 25-Year Needs to Individual Construction Items.....	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 5- Gravel Base #2211.....	38-40
Bituminous Base or Surface- Type 2331.....	41-43
Bituminous Surface- Type 2341.....	44-46
Bituminous Surface- Type 2361.....	47-48
Curb & Gutter Construction #2531.....	49-51
Sidewalk Construction #2521.....	52-54
Previous St. Sewer, Lighting, Signals, Railroad Costs.....	55
1997 Storm Sewer Costs Mn/DOT Hydraulics Section.....	56
Railroad Crossing Costs Mn/DOT Railroad Operations.....	57
1997 Special Drainage Costs Mn/DOT Estimating Unit.....	58-59
1995 Bridge Construction Costs.....	60-65
Maintenance Needs.....	66-67

## **OTHER TOPICS**

Unit Price Review.....	68-71
General Fund Advances.....	72-73
Relationship of Construction Balance to Construction Allotment.....	74-75
Apportionment Rankings.....	76-78
Vehicles per Mile per Day.....	79-81
Traffic Counts.....	82
Current Resolutions of the Municipal Screening Board.....	83-93



# STATE OF MINNESOTA

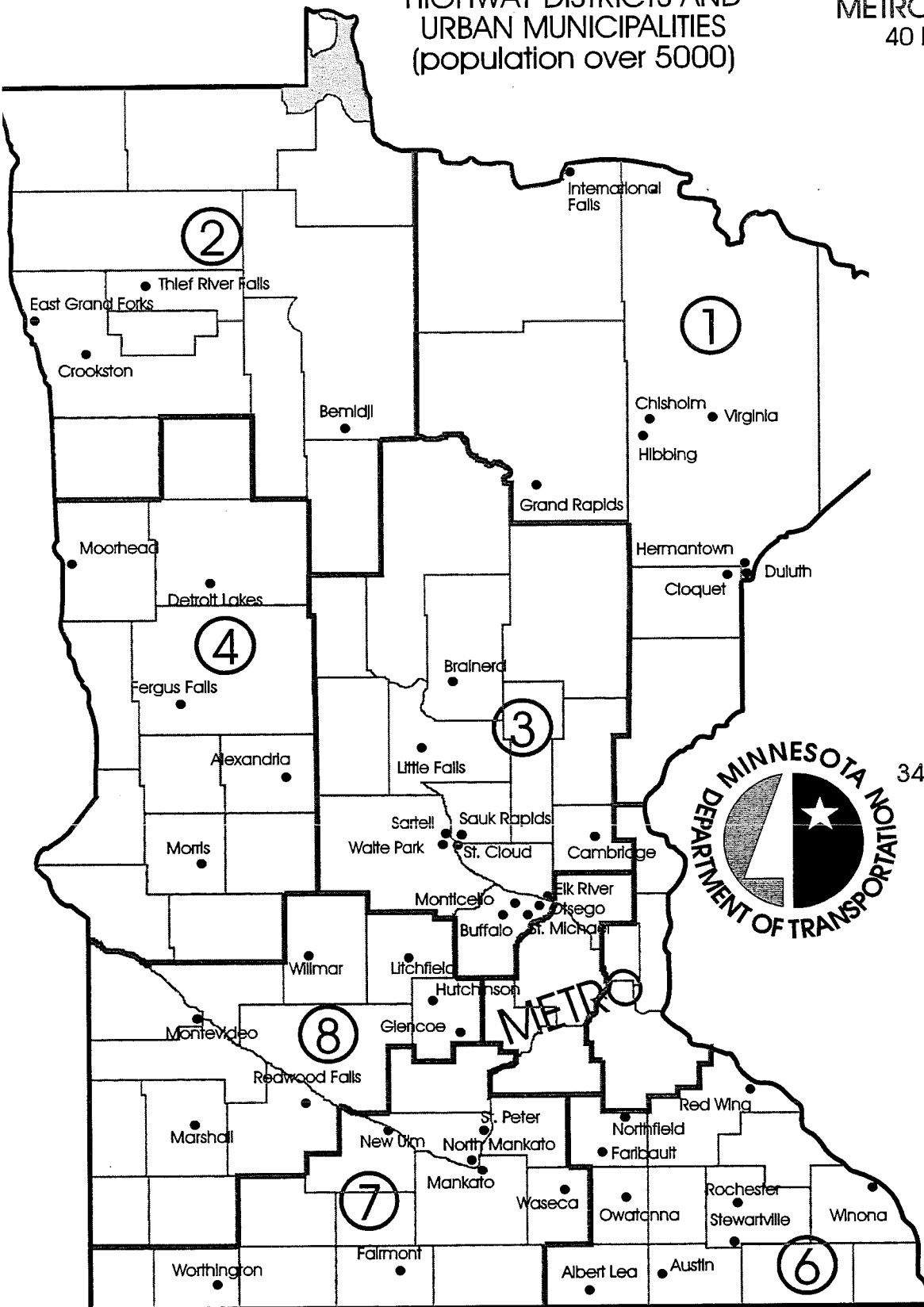
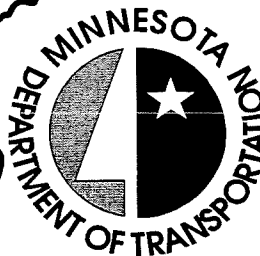
HIGHWAY DISTRICTS AND  
URBAN MUNICIPALITIES  
(population over 5000)

## METRO MUNICIPALITIES 40 Metro West Cities

Andover  
Anoka  
Blaine  
Bloomington  
Brooklyn Center  
Brooklyn Park  
Champlin  
Chanhassen  
Chaska  
Columbia Heights  
Coon Rapids  
Corcoran  
Crystal  
Dayton  
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

## 34 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  
Oak Grove  
Oakdale  
Rosemount  
Roseville  
St. Paul  
St. Paul Park  
Shoreview  
South St. Paul  
Stillwater  
Vadnais Heights  
West St. Paul  
White Bear Lake  
Woodbury



January, 1998

**1998 MUNICIPAL SCREENING BOARD****OFFICERS**

<b>Chairman</b>	<b>John Rodeberg</b>	<b>Hutchinson</b>	<b>(320) 234-4208</b>
<b>Vice Chairman</b>	<b>Ken Ashfeld</b>	<b>Maple Grove</b>	<b>(612) 494-6420</b>
<b>Secretary</b>	<b>Dave Halter</b>	<b>Grand Rapids</b>	<b>(218) 326-7602</b>

**MEMBERS**

<b><u>District</u></b>	<b><u>Served</u></b>	<b><u>Representative</u></b>	
<b>1</b>	<b>1</b>	<b>David Salo</b>	<b>Hermantown (218) 727-8796</b>
<b>2</b>	<b>2</b>	<b>David Kildahl</b>	<b>Crookston (218) 281-6545</b>
<b>3</b>	<b>2</b>	<b>Terry Wotzka</b>	<b>Waite Park (612) 253-1000</b>
<b>4</b>	<b>1</b>	<b>Tim Schoonhoven</b>	<b>Sauk Rapids Alexandria (320) 762-8149</b>
<b>Metro-West</b>	<b>3</b>	<b>Jack Bittle</b>	<b>Champlin (612) 421-1955</b>
<b>6</b>	<b>1</b>	<b>David Olson</b>	<b>Albert Lea (507) 377-4325</b>
<b>7</b>	<b>3</b>	<b>Larry Read</b>	<b>Fairmont (507) 238-9461</b>
<b>8</b>	<b>2</b>	<b>Daniel Sarff</b>	<b>Litchfield (612) 231-3956</b>
<b>Metro-East</b>	<b>3</b>	<b>Dave Jessup</b>	<b>Woodbury (612) 714-3593</b>
<b>(Three Cities</b>		<b>Mark Winson</b>	<b>Duluth (218) 723-3278</b>
<b>of the</b>		<b>Ramankutty Kannankutty</b>	<b>Minneapolis (612) 673-2476</b>
<b>First Class)</b>		<b>Ed Warn</b>	<b>St. Paul (612) 266-6142</b>
<b><u>District</u></b>		<b><u>Alternates</u></b>	
<b>1</b>		<b>David Mattei</b>	<b>Chisholm (218) 254-5793</b>
<b>2</b>		<b>Michael Metso</b>	<b>Bemidji (218) 759-3576</b>
<b>3</b>		<b>Larry Koshak</b>	<b>Otsego (612) 427-5860</b>
<b>4</b>		<b>Steve Windish</b>	<b>Morris (320) 762-8149</b>
<b>Metro-West</b>		<b>Lee Gustafson</b>	<b>Minnetonka (612) 939-8200</b>
<b>6</b>		<b>Tim Murray</b>	<b>Faribault (507) 334-2222</b>
<b>7</b>		<b>Steven P. Koehler</b>	<b>New Ulm (507) 359-8245</b>
<b>8</b>		<b>Keith Nelson</b>	<b>Marshall (507) 537-6774</b>
<b>Metro-East</b>		<b>Mark Burch</b>	<b>White Bear Lake (612) 429-8531</b>

## **1998 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>
Ken Saffert - Chairman Mankato (507) 387-8631 Expires in 1998	Dan Edwards - Chairman Fergus Falls (218) 739-2251 Expires in 1998
Curt Kreklau Buffalo (612) 682-1181 Expires in 1999	David Sonnenberg Minneapolis (612) 673-2443 Expires in 1999
Dave Halter Grand Rapids (218) 326-7602 Expires in 2000	Brian Bachmeier Oakdale (612) 739-5086 Expires in 2000

## **ALLOCATION STUDY SUBCOMMITTEE**

Ramankutty Kannankutty - Minneapolis (Chair)	(612) 673-2456
Gerald Butcher - Maple Grove	(612) 420-4000
Tom Drake - Red Wing	(612) 227-6220
John Flora - Fridley	(612) 571-3450
Jim Prusak - Cloquet	(218) 879-6758
Herb Reimer - Moorhead	(218) 299-5390
Mike Rardin - St. Louis Park	(612) 924-2551
Ed Warn - St. Paul	(612) 266-6142

**1997 Municipal Screening Board Fall Meeting Minutes**  
October 28 and 29, 1997, at Breezy Point Resort, Near Brainerd, Minnesota

**I. Opening by Chairman Bachmeier**

The 1997 Municipal Screening Board Fall Meeting was called to order at 1:00 p.m., October 28, 1997.

**A. Chairman Bachmeier Introduced:**

Herb Reimer	Chair, Needs Study Subcommittee
Ramankutty Kannankutty	Chair, Allocation Study Subcommittee
John Rodeberg	Vice Chair, Municipal Screening Board
Ken Ashfeld	Secretary, Municipal Screening Board
Dave Sonnenberg	Past Chair, Municipal Screening Board

The Secretary conducted the roll call of the members:

District 1	Dave Halter	Grand Rapids
District 2	Dave Kildahl	Crookston
District 3	Terry Wotzka	Waite Park, Sauk Rapids
District 4	Gary Nansen	Detroit Lakes
Metro-West	Jack Bittle	Champlin
District 6	William Malin	Winona
District 7	Larry Read	Fairmont
District 8	Dan Sarff	Litchfield
Metro-East	Dave Jessup	Woodbury
Duluth	Mark Winson	
Minneapolis	Ramankutty Kannankutty	
St. Paul	Ed Warn	

**Screening Board Alternates:**

<b>District 1</b>	<b>Dave Salo</b>	<b>Hermantown</b>
<b>District 4</b>	<b>Tim Schoonhoven</b>	<b>Alexandria</b>
<b>District 6</b>	<b>David Olson</b>	<b>Albert Lea</b>

**B. The Chair recognized Department of Transportation personnel:**

<b>Pat Murphy</b>	<b>State Aid Engineer</b>
<b>Ken Straus</b>	<b>Manager, Municipal State Aid Needs</b>
<b>Julie Skallman</b>	<b>Assistant State Aid Engineer</b>
<b>Ken Hoeschen</b>	<b>Manager, County State Aid Needs</b>
<b>Mike Tardy</b>	<b>District 1 State Aid Engineer</b>
<b>Luane Tasa</b>	<b>District 2 State Aid Engineer</b>
<b>Bob Busch</b>	<b>Acting District 3 State Aid Engineer</b>
<b>Tallack Johnson</b>	<b>District 4 State Aid Engineer</b>
<b>Mike Pinsonneault</b>	<b>District 6 State Aid Engineer</b>
<b>Doug Haeder</b>	<b>District 7 State Aid Engineer</b>
<b>Tom Behm</b>	<b>District 8 State Aid Engineer</b>
<b>Bob Brown</b>	<b>Metro Division State Aid Engineer</b>



C. The Chair recognized others in attendance:

Don Haak	St. Paul
Dave Kreager	Duluth
Dan Sabin	Minneapolis
Larry Veek	Minneapolis
Ani Mehra	Minneapolis
Greg Coughlin	Ass't. Metro Dist State Aid Eng.
Greg Felt	Ass't. Metro Dist. State Aid Eng.
Marshall Johnston	Municipal State Aid Needs
Khani Sahebjam	State Aid

II. Municipal Needs Report presented by Ken Straus

A. Consideration of 1997 Spring Municipal Screening Board Minutes

The 1997 Spring Municipal Screening Board Minutes were presented for approval.

*Motion by Halter/seconded by Malin to approve minutes.*

*Approved unanimous.*

B. Screening Board and Subcommittee Members

Ken Straus pointed out the members of the 1997 Municipal Screening Board and Subcommittees.

C. Mileage, Needs and Apportionment

Ken Straus reviewed the 1997 mileage, needs and apportionment. He stated that the estimated 1998 allocation is \$90,608,066 which is similar to the 1997 apportionment. The mileage increased by approximately 78 miles as a result of new designations, trunk and County turnbacks and the inclusion of three new cities in the State Aid Program, those being Dayton, Stewartville and St. Paul Park. The needs do not reflect trunk highway turnbacks eligible for turnback funding.

**D. Theoretical Population Apportionment:**

Ken Straus reviewed the basis of apportionment allocation with 50% based on population. The population estimate is always one year behind, therefore the 1998 population allocation is based on 1996 population. The per capita apportionment for 1998 will be approximately \$14.70 which reflects a decrease of approximately \$0.25 per person. Therefore, an increase in population could result in a decrease of population apportionment.

**E. 1997 Needs Study Update:**

Ken reviewed the 1997 Needs Study Update which included design quantity table revisions, system revisions and traffic count data. The 1997 construction needs dropped approximately \$17 million as a result of system revisions and design table changes.

**F. Itemized Tabulation of Needs**

Ken Straus reviewed the 1997 Itemized Tabulation of Construction Needs, with the exception of "after-the-fact needs", used in the Municipal State-Aid Needs Study. The cost per mile of needs does not include bridges and associated 18% of engineering costs applied to the bridges. The overall average cost per mile is \$544,457. Vadnais Heights has the lowest cost per mile with \$266,771 while Fairmont has the highest cost with \$892,114 per mile.

**G. 1996 to 1997 Needs Comparison:**

Comparison of needs between 1997 and 1996 reflects a decrease in surface needs due to the change in design tables. The overall apportionment needs dropped approximately \$13 million.

**H. Tentative 1998 Construction Needs Apportionment and Adjustments:**

Ken Straus reviewed the tentative 1998 construction needs apportionment which accounts for 50% of the total allocation. Each City's allocation is pro-rated based on their adjusted construction needs. The September 1, 1997 unencumbered construction fund balance was used for estimating purposes. The unencumbered balance as of December 31, 1997 will be used for the actual 1998 January apportionment.

In general, \$1.00 in construction needs equaled approximately .02652 dollars in apportionment. The construction needs for Stewartville and St. Paul Park were based on the lowest per mile construction needs of \$266,771 per mile.

The unencumbered amount available as of December 31, 1997 will be used as a deduction from each City's total needs adjustment for the 1998 apportionment. The unencumbered amount available as of September 1, 1997 is \$88,583,965, which will undoubtedly decrease substantially by the December 31, 1997 date.

Construction needs adjustments reflected on Pages 40 – 49 of the 1997 Municipal State-Aid Needs Report are generally the result of Screening Board Resolutions. Needs adjustments consisted of the following:

- Unencumbered Construction Fund balance adjustment
- Unamortized Bond Account Balance adjustments
- Non-existing Bridge Construction adjustments
- Right-of-way acquisition adjustments

**I. Trunk Highway Turnback Maintenance Allowance**

Ken Straus reviewed the allowance for trunk highway turnback maintenance consisting of 32.43 miles eligible for turnback maintenance with a total allocation of \$233,496.

**J. Tentative Apportionment Data**

Ken Straus reviewed the tentative apportionment data included in Pages 51 – 59 of the 1997 Municipal State-Aid Needs Report. Ken indicated that the total estimated apportionment for a City normally goes up when mileage is added to the system and alternately goes down as a result of projects being completed. Ken also reviewed the apportionment rankings based on population apportionment per mile, construction needs apportionment per mile and total apportionment per mile.

**K. General Fund Advances:**

Ken Straus reviewed the guidelines for advancement of Municipal State-Aid Construction Funds from the General MSAS Construction Account. The 1997 Spring Screening Board by motion reduced the amount that must remain in the construction balance to \$40 million. With that change, the balance available to advance is \$9,188,156.

**L. Revised Needs Study Design Quantity Tables:**

Ken Straus reviewed the Municipal State-Aid Street Needs Study Design Quantity Tables as revised and approved by the June, 1997 Municipal Screening Board.

**M. Administrative Account:**

Julie Skallman reviewed the past history of the Administrative Account which consists of 1.5% of the total funds available as administrative expenses by the State-Aid Division.

**N. Research Account:**

Julie Skallman reviewed the Research Account and where dollars are spent. Julie provided a handout of programmed projects by the local Road Research Board. The municipalities have representation on the Board by Larry Read and Dave Hutton.

**III. Allocation and Needs Study Subcommittee**

**A. Life Cycle Study**

Ken Straus and Ramankutty Kannankutty reviewed the life cycle concept and presented the Allocation Study Subcommittee's recommendation. The recommendation of the Subcommittee is not to pursue the life cycle concept any further study. The Committee in studying the draft copy of a life cycle is recommending three changes to be made to the other construction needs.

1. Remove storm sewer from other construction items and compute a separate life cycle.
2. Include other construction items and needs such as street lighting, traffic signals, sidewalk construction, concrete pavement removal, retaining walls and railroad crossing improvements.
3. Relative to major maintenance, use 2 mil and overlay costs plus 30% for traffic control instead of 1 sealcoat, 1 mil and 2 overlays.

**IV. Needs Study Subcommittee Meeting of September 3, 1997**

**A. Maximum Proposed Needs Widths:**

Ken Straus presented the maximum widths of streets with various projected traffic volumes used to calculate needs.

**B. Needs for Non-Existing Bridges Construction**

Ken Straus presented a proposed resolution revision as recommended by the Needs Study Subcommittee. Essentially, the resolution would provide for after-the-fact needs for bridges and grade separations including project development costs. The after-the-fact needs would consist of local costs including the local match if Federally funded, engineering and project development costs.

**C. Population Apportionment Resolution Revision:**

Ken Straus brought forth for discussion a proposed amendment to the October, 1994 Population Apportionment Resolution as recommended by the Needs Study Subcommittee.

**D. One-Way Street Mileage Resolution Revision:**

Ken Straus discussed revisions to the One-Way Street Mileage Resolution as recommended by the Needs Study Subcommittee. The Subcommittee evaluated various Cities and is making a recommendation that needs be computed as one-half the mileage without regard to width.

**V. Other Business**

- A.** Terry Wotzka brought forth an issue relative to St. Michael regarding the designation of MSA routes. Pat Murphy addressed this issue from Mn/DOT State Aid perspective.



- B. Brian Bachmeier and Pat Murphy addressed the Transportation Revolving Loan Fund and the fact that this fund is not available to Cities and Counties. There is an effort by the Counties to amend the Legislation whereby the Counties will be eligible to use the fund. The issue brought forth is whether the Cities should join the Counties in that effort so that Cities can also use the fund.

VI. Motion to Adjourn

The Screening Board considered for Adjournment until 8:00 A.M. Wednesday morning, when formal action will be taken on the items before the Board.

Meeting adjourned at 4:00 P.M.

**WEDNESDAY MORNING SESSION:**

- VII. The Committee reconvened at 8:00 a.m. Wednesday morning.

VIII. Formal Actions by Screening Board

A. Needs and Apportionment Data

A brief discussion of the Boards acceptance of the mileage and needs data as shown in the 1997 Municipal State-Aid Needs Report.

*Motion by Nansen/seconded by Kannankutty to approve the Mileage and Needs data as reflected in the 1997 Municipal State-Aid Needs Report. Approved Unanimously.*

B. Research Account

*Motion by Winson/seconded by Read for the Board to resolve that an amount of \$453,040 (not to exceed one-half of 1% of the 1997 MSAS Apportionment sum of \$90,608,066) shall be set aside from the 1998 Apportionment Fund and be credited to the Research Account. Approved Unanimously.*

C. Life Cycle Study

The Screening Board reviewed the recommendation of the Needs Study and Allocation Study Subcommittees. The recommendation of the Subcommittees is not to pursue the life cycle concept for any further study, however, the Committees recommended the following revisions be incorporated into the final copy.

1. Remove storm sewer from other construction items and compute a separate life cycle.
2. Include other construction items and needs such as street lighting, traffic signals, sidewalk construction, concrete pavement removal, retaining walls and railroad crossing improvements.
3. Relative to major maintenance, use 2 mil and overlay costs plus 30% for traffic control instead of 1 sealcoat, 1 mil and 2 overlays.

*Motion by Kannankutty/seconded by Read to adopt the Allocation Study Subcommittee recommendation of discontinuing the Life Cycle Study. Approved unanimously.*

D. Maximum Proposed Needs Width

*Motion by Sarff/seconded by Bittle to adopt the Needs Study Subcommittee recommendation for Maximum Proposed Needs Width pursuant to the width chart provided by State-Aid. Approved Unanimously.*

E. Construction Needs for Non-Existing Bridges

The Needs Study Subcommittee has made a recommendation that the October, 1961 Resolution relative to bridge costs be revised to read “the money needs for all “non-existing” bridges and grade separations be removed from the 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 structural cost, project development costs and construction engineering cost that is eligible for State-Aid reimbursement for a 15-year period excluding all Federal or State grants.”

*Motion by Warn/seconded by Halter to adopt the Resolution revision.*

*After considerable discussion, Motion by Jessup/seconded by Winson to amend the motion to make the Resolution change retroactive to existing bridges listed on Page 45 of the 1997 Municipal State-Aid Needs Report by adding 18% project development costs over a 15-year period. On a roll-call vote of the amendment to the motion, seven members were in favor and 5 opposed. Amendment to the motion passed. On a vote of the initial motion as amended, motion approved unanimously.*

**F. Population Apportionment Resolution Revision**

The Needs Study Subcommittee recommended that the October, 1994 Population Apportionment Resolution be revised to delete “will be added to, except by consolidation, or”.

*Motion by Kannankutty/seconded by Halter to adopt a Resolution revision as recommended by the Needs Study Subcommittee. Approved unanimously.*

**G. One-Way Street Mileage Resolution Revision**

The Needs Study Subcommittee has recommended a revision of the One-Way Street Mileage Resolution second paragraph to read “Treat all one-way streets as one-half of the mileage and allow one-half 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.”

*Motion by Halter/seconded by Read to adopt the Resolution revision as recommended by Needs Study Subcommittee. Approved unanimously.*

**IX. Other Issue**

**Continuing discussion of the Transportation Revolving Loan Fund.**

*Motion by Kannankutty/seconded by Read to work with the Counties to pursue the removal of limitations on Cities and Counties relative to the use of the Transportation Revolving Loan Fund. Approved Unanimously.*

**X. Closing Comments**

**Pat Murphy had a few closing comments and Chair Bachmeier thanked the various subcommittee members, Herb Reimer as Chair of the Needs Subcommittee, Alan Gray as Chair of the Unencumbered Construction Fund Subcommittee, and particularly the three representatives who will be leaving the Board, those being Dave Halter, Gary Nansen, and Bill Malin.**

**XI. Entertain Motion for Adjournment**

***Motion by Kannankutty/seconded by Malin to adjourn. Approved Unanimously.***

**The meeting was adjourned at 9:05 a.m.**

**After the Screening Board Adjourned, the Officers and Board Members participated in a joint meeting with the County Engineers Executive Committee**

**Submitted by,**



**Ken Ashfeld, P.E.  
MSA Screening Board Secretary  
(Maple Grove City Engineer)**

**MNDOT MUNICIPAL STATE AID SCREENING BOARD**

**NEEDS STUDY SUBCOMMITTEE MNDOT WATERS EDGE BUILDING, ST. PAUL**

**APRIL 28, 1998 MINUTES**

Called to order by Ken Saffert, Chairman, at 9:30 AM. Members in attendance were Ken Saffert, P.E., Mankato City Engineer, Dave Halter, P.E., Grand Rapids City Engineer, and Curt Kreklau, P.E., Buffalo City Engineer

Marshall Johnston – MNDOT Staff Member

Ken Straus – MNDOT Staff Member

Agreed to consider changes in unit price by consensus and to vote on the entire group of prices to present to the screening board. The adjusted unit prices are attached as approved.

Agreed to the recommendations of the MNDOT Hydraulics Unit for storm sewer adjustment and construction.

Discussed need to have additional data analysis for lighting costs and stay at present cost until next year.

Decided to leave right-of-way at \$60,000 and Engineering at 18%. Generally agreed that engineering costs were rising.

Agreed to continue maintenance cost at present rates as no data available to indicate that a change was needed.

Other items:

Combination Routes – Cities with combination routes will be given needs for 1998 and 1999 needs but effective January 1, 2000 combination routes will not receive needs. The affected cities were notified of the need to eliminate these routes four years ago.

Mileage for county road turn backs will be added to line 8 or 9 on the Mileage Certification Sheet

Discussed traffic counts being done by Cities at two-year intervals at their expense. Letter to be sent out by State Aid and requesting cities to indicate preference.

Discussed need for sending microfiche of MSAS needs to Cities. State Aid keeps a file. Will bring this to the district meetings for input.



Discussed needs for streets that are just widened or added to. Recommendation that if plans indicate reconstruction, then streets would be considered adequate, and needs removed.

Ken Straus and Marshall Johnston will develop a point paper on things they feel will have to be considered in the needs reprogramming process. Needs study subcommittee will meet again in the fall to develop recommendations.

Needs for MSA bridges to be applied only if City is responsible for replacement of the structure.

Curt Kreklau moved to adjourn, Dave Halter seconded, meeting adjourned at 12:02 PM

Respectfully submitted,

A handwritten signature in cursive script, reading "Curt Kreklau", followed by a horizontal line.

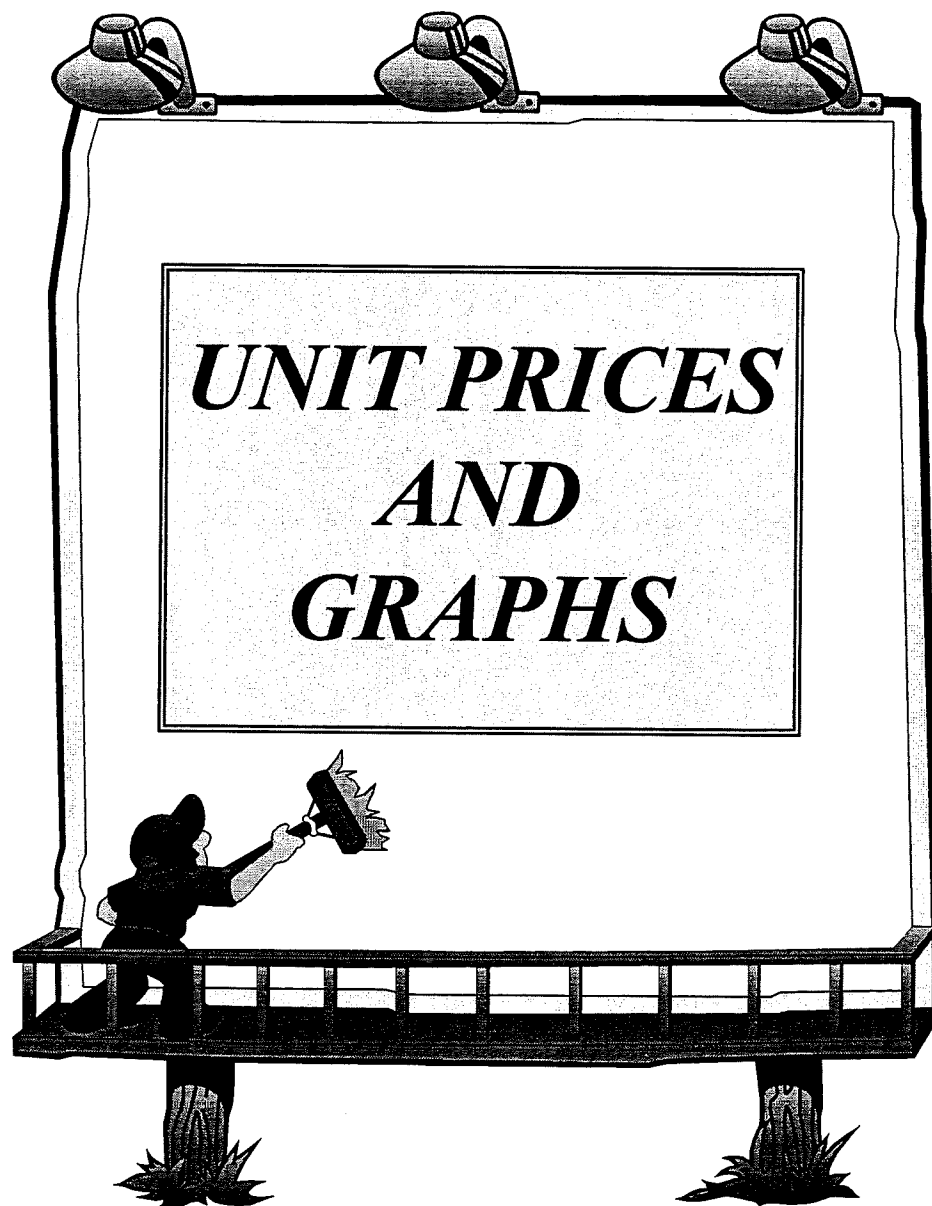
Curt Kreklau, P.E.  
Recording Secretary

Cc: Mr. Ken Saffert, P.E., Mankato  
Mr. Dave Halter, P.E., Grand Rapids  
Mr. Ken Straus, MNDOT, St. Paul

CK/mp

## 1998 UNIT PRICE RECOMMENDATIONS

Needs Item		1996 Need Prices	Sub- committee Suggested Prices For 1998	Screening Board Recommended Prices For 1998
Grading (Excavation)	Cu. Yd.	\$3.00	\$3.20	
Aggregate Shoulders #2221	Ton	8.50	10.00	
Curb and Gutter Removal	Lin.Ft.	1.80	2.00	
Sidewalk Removal	Sq. Yd.	4.75	5.00	
Concrete Pavement Removal	Sq. Yd.	4.20	4.50	
Tree Removal	Unit	175.00	175.00	
Class 5 Base #2211	Ton	6.20	6.50	
Bituminous Base #2331	Ton	20.50	21.50	
Bituminous Surface #2331	Ton	20.50	21.50	
Bituminous Surface #2341	Ton	23.60	24.50	
Bituminous Surface #2361	Ton	30.10	30.50	
Curb and Gutter Construction	Lin.Ft.	6.00	7.50	
Sidewalk Construction	Sq. Yd.	16.50	20.00	
Storm Sewer Adjustment	Mile	71,200	76,000	
Storm Sewer	Mile	229,700	245,000	
Special Drainage - Rural	Mile	28,490	31,790	
Street Lighting	Mile	20,000	20,000	
Traffic Signals	Per Sig	80,000	100,000	
<b>Signal Needs Based On Projected Traffic</b>				
Projected Traffic	Percentage	X Unit Price =	Needs Per Mile	
0 - 4,999	.25	\$100,000	= \$25,000	
5,000 - 9,999	.50	100,000	= 50,000	
10,000 & Over	1.00	100,000	= 100,000	
Right of Way (Needs Only)	Acre	60,000	60,000	
Engineering	Percent	18	18	
<b>Railroad Grade Crossing</b>				
Signs	Unit	800	1,000	
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	130,000	
Rubberized Material(Per Track)	Lin.Ft.	750	800	
<b>Bridges</b>				
0 to 149 Ft.	Sq. Ft.	55.00	60.00	
150 to 499 Ft.	Sq. Ft.	55.00	60.00	
500 Ft. and over	Sq. Ft.	55.00	60.00	
<b>Railroad Bridges over Highways</b>				
Number of Tracks - 1	Lin.Ft.	5,000	8,000	
Additional Track (each)	Lin.Ft.	4,000	6,500	



## NOTES

[illegible]

## **UNIT PRICE STUDY**

**The Unit Price Study is done annually with the exception of 1996 by the State Aid Needs Unit. The quantities and unit prices of items are compiled from the prior years urban municipalities' Abstract of Bids received in the State Aid Office. The results obtained from the 1997 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 1998 Needs Study. These prices are then applied against the quantity tables 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 1999 construction (money) needs apportionment.**

**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 include bridge removal, proration of mobilization, field office and traffic control when included in the contract. Approach panels are not included in the bridge costs nor is any approach grading.**

**MN/DOT's hydraulic office furnished a recommendation of costs for storm sewer construction and adjustment based on 1997 construction costs. Special drainage costs are computed by the MN/DOT estimating unit based on the length and number of culverts per mile detailed by the Screening Board.**

**MN/DOT railroad office furnished a letter detailing railroad costs from 1997 construction projects.**

**Due to the lack of data, a study is not done for traffic signals, maintenance, lighting and engineering. Every segment, except those eligible for Turnback Funding, receive needs for traffic signals, lighting, engineering, and maintenance. The unit prices used in the 1997 needs study are found in the Screening Board's resolutions included in this booklet.**



# **25 YEAR CONSTRUCTION NEEDS FOR EACH INDIVIDUAL CONSTRUCTION ITEM**

ITEM	1996 APPORTIONMENT NEEDS COST	1997 APPORTIONMENT NEEDS COST	DIFFERENCE	1997 % OF THE TOTAL
Grading	\$117,154,861	\$126,083,659	\$8,928,798	7.39%
Special Drainage	5,453,275	5,320,551	(132,724)	0.31%
Storm Sewer Adjustment	39,506,744	41,925,408	2,418,664	2.46%
Storm Sewer Construction	186,084,564	189,344,007	3,259,443	11.10%
Curb & Gutter Removal	16,603,366	17,316,619	713,253	1.02%
Sidewalk Removal	14,862,333	15,495,144	632,811	0.91%
Pavement Removal	37,431,785	38,150,313	718,528	2.24%
Tree removal	6,878,725	7,308,700	429,975	0.43%
<b>SUBTOTAL GRADING</b>	<b>\$423,975,653</b>	<b>\$440,944,401</b>	<b>\$16,968,748</b>	<b>25.86%</b>

Gravel Subbase #2211	\$78,804,535	\$0	(\$78,804,535)	0.00%
Gravel Base #2211	66,536,423	225,967,990	159,431,567	13.25%
Bituminous Base #2331	101,484,012	88,614,530	(12,869,482)	5.20%
<b>SUBTOTAL BASE</b>	<b>\$246,824,970</b>	<b>\$314,582,520</b>	<b>\$67,757,550</b>	<b>18.45%</b>

Bituminous Surface #2331	\$2,922,506	\$2,435,460	(\$487,046)	0.14%
Bituminous Surface #2341	207,831,767	133,352,001	(74,479,766)	7.82%
Bituminous Surface #2361	53,081,748	23,233,196	(29,848,552)	1.36%
Surface Widening	2,687,875	1,444,980	(1,242,895)	0.08%
<b>SUBTOTAL SURFACE</b>	<b>\$266,523,896</b>	<b>\$160,465,637</b>	<b>(\$106,058,259)</b>	<b>9.41%</b>

Gravel Shoulders #2221	\$1,113,583	\$1,243,403	\$129,820	0.07%
<b>SUBTOTAL SHOULDERS</b>	<b>\$1,113,583</b>	<b>\$1,243,403</b>	<b>\$129,820</b>	<b>0.07%</b>

Curb and Gutter	\$96,614,532	\$99,352,680	\$2,738,148	5.83%
Sidewalk	123,605,795	129,561,227	5,955,432	7.60%
Traffic Signals	100,519,200	102,004,000	1,484,800	5.98%
Street Lighting	54,216,600	55,761,200	1,544,600	3.27%
Retaining Walls	13,194,138	13,187,102	(7,036)	0.77%
<b>SUBTOTAL MISCELLANEOUS</b>	<b>\$388,150,265</b>	<b>\$399,866,209</b>	<b>\$11,715,944</b>	<b>23.45%</b>

<b>TOTAL ROADWAY</b>	<b>\$1,326,588,367</b>	<b>\$1,317,102,170</b>	<b>(\$9,486,197)</b>	<b>77.23%</b>
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Bridge	\$83,795,638	\$76,783,757	(\$7,011,881)	4.50%
Railroad Crossings	35,324,950	36,257,550	932,600	2.13%
Maintenance	17,036,616	17,502,592	465,976	1.03%
Engineering	260,227,687	257,765,007	(2,462,680)	15.11%
<b>SUBTOTAL OTHERS</b>	<b>\$396,384,891</b>	<b>\$388,308,906</b>	<b>(\$8,075,985)</b>	<b>22.77%</b>

<b>TOTAL</b>	<b>\$1,722,973,258</b>	<b>\$1,705,411,076</b>	<b>(\$17,562,182)</b>	<b>100.00%</b>
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**M.S.A.S. UNIT PRICE STUDY  
EXCAVATION - CUBIC YARD**

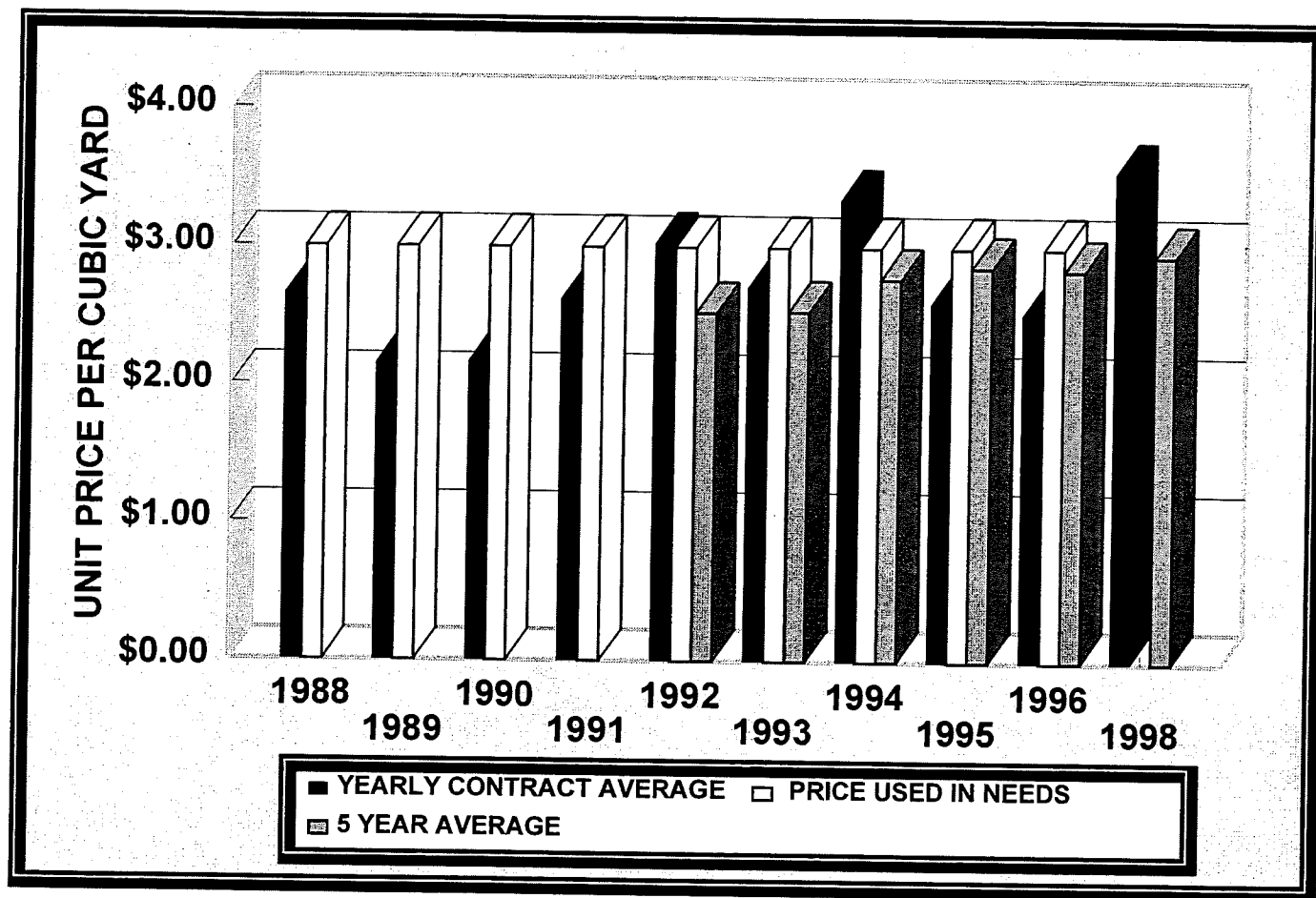
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b>DISTRICT 1</b>				
DULUTH	1	5,253	\$49,904	\$9.50
GRAND RAPIDS	1	5,563	22,252	4.00
HIBBING	1	28,560	113,547	3.98
VIRGINIA	1	12,666	53,663	4.24
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>52,042</b>	<b>\$239,366</b>	<b>\$4.60</b>
<b>DISTRICT 2</b>				
BEMIDJI	1	4,178	\$18,801	\$4.50
THIEF RIVER FALLS	1	310	3,100	10.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>4,488</b>	<b>\$21,901</b>	<b>\$4.88</b>
<b>DISTRICT 3</b>				
BRAINERD	1	882	\$6,253	\$7.09
LITTLE FALLS	2	135	1,030	7.63
ST. CLOUD	1	11,650	48,930	4.20
SARTELL	1	12,664	38,668	3.05
SAUK RAPIDS	1	21,406	52,371	2.45
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>46,737</b>	<b>\$147,252</b>	<b>\$3.15</b>
<b>DISTRICT 4</b>				
ALEXANDRIA	1	4,590	\$12,164	\$2.65
MOORHEAD	1	26,271	194,955	7.42
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>30,861</b>	<b>\$207,119</b>	<b>\$6.71</b>
<b>METRO WEST</b>				
ANDOVER	2	10,917	\$43,471	\$3.98
BLOOMINGTON	11	64,011	302,230	4.72
BROOKLYN CENTER	1	3,215	12,860	4.00
BROOKLYN PARK	1	4,311	13,824	3.21
CHAMPLIN	1	4,311	13,824	3.21
CRYSTAL	2	25,350	146,487	5.78
EDEN PRAIRIE	1	6,977	45,271	6.49
FRIDLEY	3	1,900	11,400	6.00
HAM LAKE	1	5,500	24,750	4.50
HOPKINS	2	3,558	22,341	6.28
MINNEAPOLIS	5	7,221	41,939	5.81
MINNETONKA	1	28,126	70,315	2.50
NEW HOPE	4	19,380	72,310	3.73
OAK GROVE	1	27,544	50,956	1.85
PLYMOUTH	4	297,557	648,424	2.18
ROBBINSDALE	2	2,341	23,059	9.85
ST. LOUIS PARK	1	27,378	80,765	2.95
SAVAGE	1	5,669	17,631	3.11
SHAKOPEE	1	3,080	17,797	5.78
SPRING LAKE PARK	1	140	1,330	9.50
<b>DISTRICT TOTAL</b>	<b>46</b>	<b>548,486</b>	<b>\$1,660,984</b>	<b>\$3.03</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>DISTRICT 6</b>				
ALBERT LEA	1	4,847	\$23,125	\$4.77
AUSTIN	2	3,900	14,800	3.79
FAIRBAULT	1	1,178	5,289	4.49
NORTHFIELD	1	7,555	15,866	2.10
RED WING	2	39,606	112,301	2.84
ROCHESTER	2	18,201	55,331	3.04
<b>DISTRICT TOTAL</b>	<b>9</b>	<b>75,287</b>	<b>\$226,712</b>	<b>\$3.01</b>
<b>DISTRICT 7</b>				
FAIRMONT	1	3,160	\$21,560	\$6.82
NEW ULM	2	5,645	36,128	6.40
WASECA	1	2,096	6,480	3.09
WORTHINGTON	1	791	3,171	4.01
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>11,692</b>	<b>\$67,339</b>	<b>\$5.76</b>
<b>DISTRICT 8</b>				
HUTCHINSON	1	4,789	\$20,547	\$4.29
LITCHFIELD	3	13,398	47,099	3.52
MARSHALL	2	17,531	49,308	2.81
MONTEVIDEO	1	7,477	36,787	4.92
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>43,195</b>	<b>\$153,741</b>	<b>\$3.56</b>
<b>METRO EAST</b>				
BURNSVILLE	3	5,611	\$37,973	\$6.77
HASTINGS	1	1,000	3,130	3.13
LITTLE CANADA	1	17,000	68,000	4.00
MAPLEWOOD	5	7,201	32,136	4.46
NORTH ST. PAUL	1	5,207	15,623	3.00
OAKDALE	1	7,791	46,692	5.99
ROSEVILLE	1	9,260	64,195	6.93
ST. PAUL	1	10,140	47,837	4.72
SOUTH ST. PAUL	1	1,120	11,032	9.85
STILLWATER	1	7,656	41,342	5.40
WEST ST. PAUL	1	15,881	110,845	6.98
WHITE BEAR LAKE	2	15,164	60,690	4.00
WOODBURY	1	3,560	9,680	2.72
<b>DISTRICT TOTAL</b>	<b>20</b>	<b>106,591</b>	<b>\$549,175</b>	<b>\$5.15</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	4	52,042	\$239,366	\$4.60
DISTRICT 2	2	4,488	21,901	4.88
DISTRICT 3	6	46,737	147,252	3.15
DISTRICT 4	2	30,861	207,119	6.71
METRO WEST	46	548,486	1,660,984	3.03
DISTRICT 6	9	75,287	226,712	3.01
DISTRICT 7	5	11,692	67,339	5.76
DISTRICT 8	7	43,195	153,741	3.56
METRO EAST	20	106,591	549,175	5.15
<b>STATE TOTAL</b>	<b>101</b>	<b>919,379</b>	<b>\$3,273,588</b>	<b>\$3.56</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	3.00	2.84
1998	60	919,379	3,273,588	3.56		2.95

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS \$3.20 PER CU. YD.

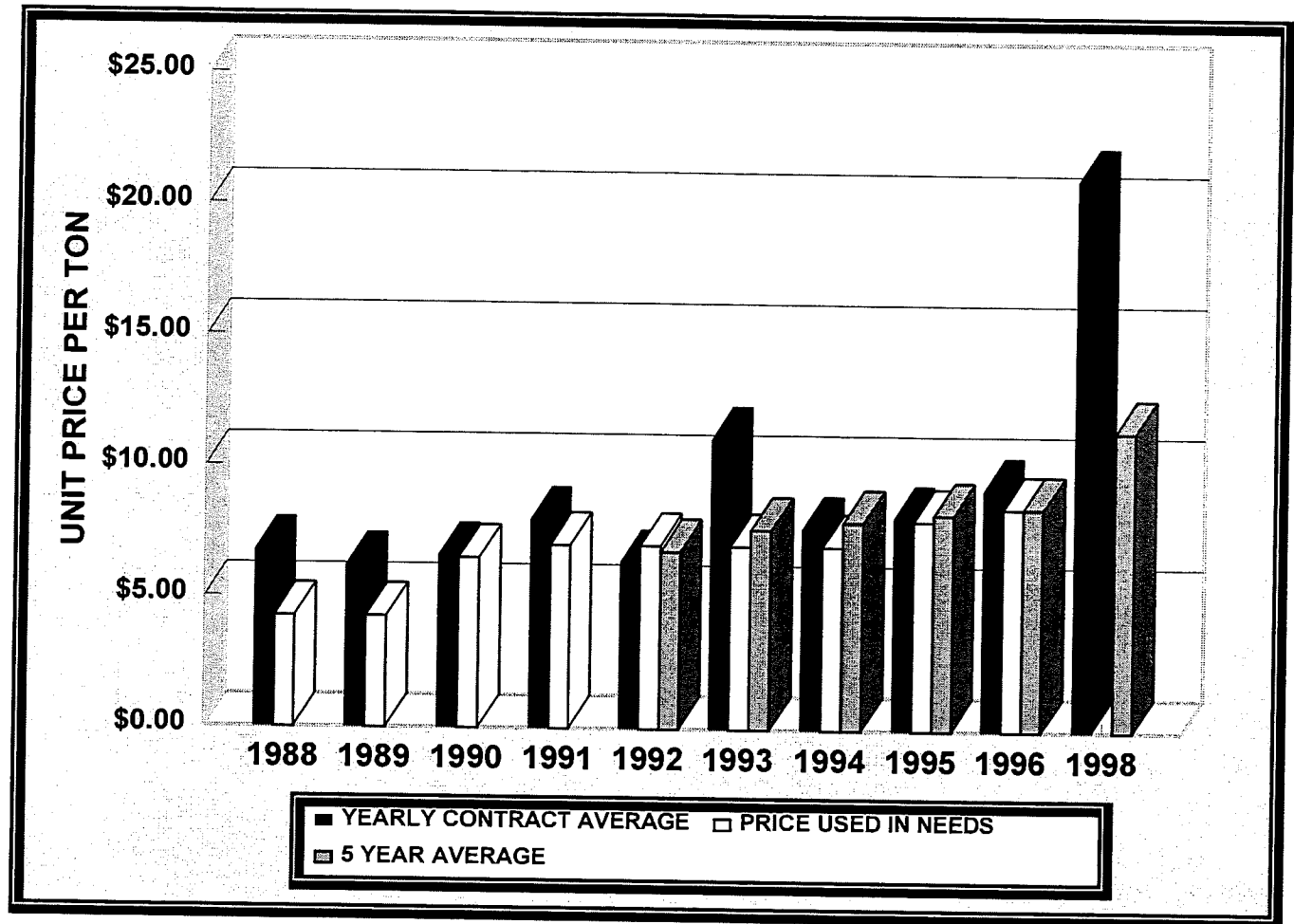
**M.S.A.S. UNIT PRICE STUDY  
AGGREGATE SHOULDERS - TON**

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>METRO-WEST</u></b>				
EDEN PRAIRIE	1	25	\$500	\$20.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>25</b>	<b>\$500</b>	<b>\$20.00</b>
<b><u>METRO EAST</u></b>				
ROSEVILLE	1	35	\$763	\$21.80
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>35</b>	<b>\$763</b>	<b>\$21.80</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	0	0	\$0	\$0.00
DISTRICT 2	0	0	0	0.00
DISTRICT 3	0	0	0	0.00
DISTRICT 4	0	0	0	0.00
METRO-WEST	1	25	500	20.00
DISTRICT 6	0	0	0	0.00
DISTRICT 7	0	0	0	0.00
DISTRICT 8	0	0	0	0.00
METRO-EAST	1	35	763	21.80
<b>STATE TOTAL</b>	<b>2</b>	<b>60</b>	<b>\$1,263</b>	<b>\$21.05</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	8.50
1998	2	60	1,263	21.05		11.44

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS \$10.00 PER TON.

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

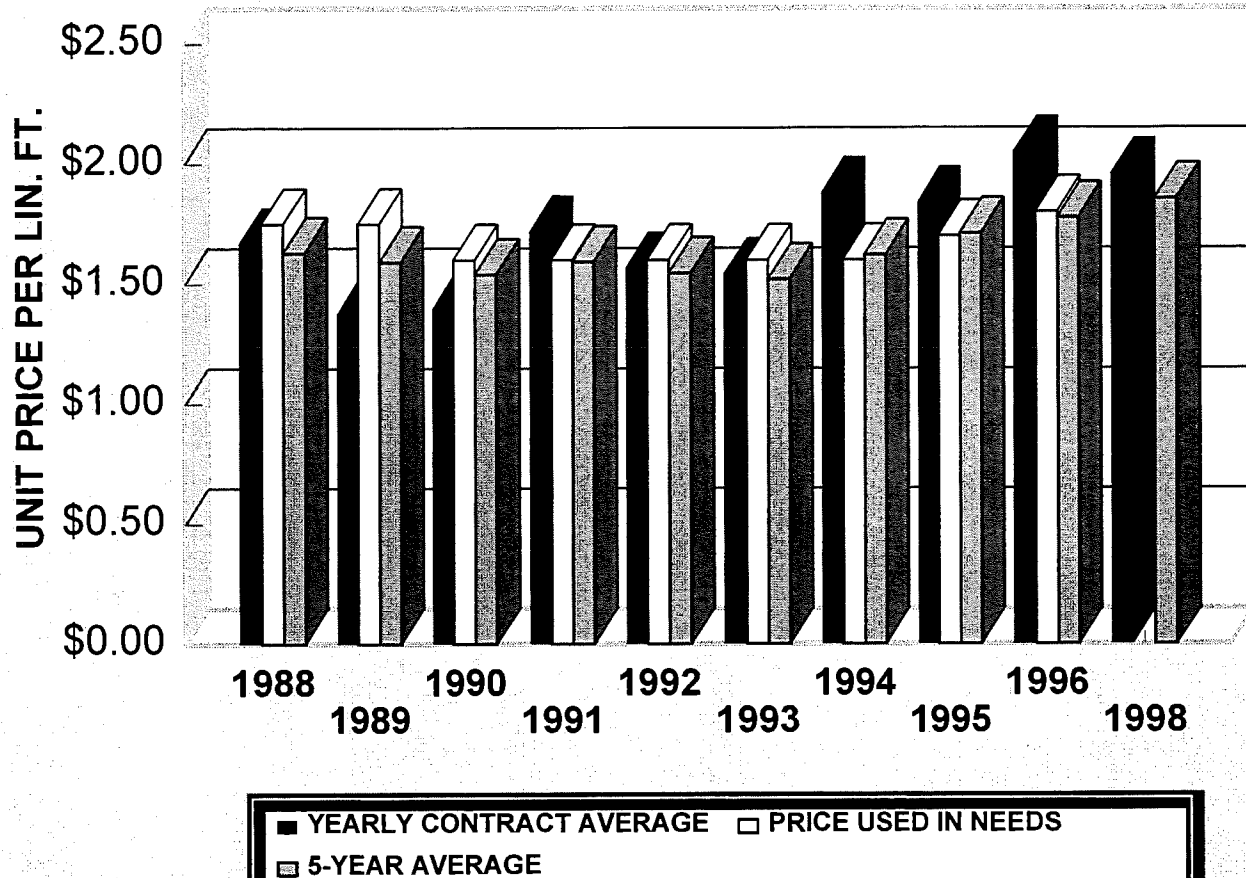
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	1	206	\$721	\$3.50
GRAND RAPIDS	1	1,076	3,228	3.00
HIBBING	1	328	250	0.76
VIRGINIA	1	3,809	11,436	3.00
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>5,419</b>	<b>\$15,635</b>	<b>\$2.89</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	111	\$555	\$5.00
CROOKSTON	1	12	120	10.00
THIEF RIVER FALLS	4	1,363	2,726	2.00
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>1,486</b>	<b>\$3,401</b>	<b>\$2.29</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	1,459	\$2,843	\$1.95
ST. CLOUD	1	1,656	1,242	\$0.75
ST. MICHAEL	1	94	187	\$1.99
SARTELL	1	148	158	\$1.07
SAUK RAPIDS	1	100	350	3.50
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>3,457</b>	<b>\$4,780</b>	<b>\$1.38</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	112	\$168	\$1.50
MOORHEAD	1	2,080	7,280	3.50
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>2,192</b>	<b>\$7,448</b>	<b>\$3.40</b>
<b><u>METRO WEST</u></b>				
ANDOVER	2	880	\$2,113	\$2.40
ANOKA	1	3,444	5,166	1.50
BLOOMINGTON	15	24,213	44,024	1.82
BROOKLYN PARK	1	30	123	4.10
CHAMPLIN	1	92	377	4.10
COLUMBIA HEIGHTS	1	50	300	6.00
COON RAPIDS	2	680	3,245	4.77
CRYSTAL	2	1,930	2,296	1.19
EDEN PRAIRIE	1	1,785	3,536	1.98
FRIDLEY	2	359	539	1.50
MAPLE GROVE	2	186	387	2.08
MINNEAPOLIS	4	5,379	9,616	1.79
MINNETONKA	1	300	1,200	4.00
NEW HOPE	3	3,680	7,760	2.11
PLYMOUTH	1	375	825	2.20
RICHFIELD	1	239	765	3.20
ROBBINSDALE	2	5,231	14,385	2.75
ST. LOUIS PARK	1	3,170	4,914	1.55
SAVAGE	1	20	70	3.50
SPRING LAKE PARK	1	545	872	1.60
<b>DISTRICT TOTAL</b>	<b>45</b>	<b>52,588</b>	<b>\$102,513</b>	<b>\$1.95</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>DISTRICT 6</b>				
ALBERT LEA	1	2,671	\$3,257	\$1.22
AUSTIN	2	90	45	0.50
FARIBAULT	1	374	627	1.68
NORTHFIELD	1	1,970	2,955	1.50
RED WING	1	65	260	4.00
ROCHESTER	1	1,083	1,624	1.50
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>6,253</b>	<b>\$8,768</b>	<b>\$1.40</b>
<b>DISTRICT 7</b>				
FAIRMONT	1	6,542	\$18,318	\$2.80
NEW ULM	2	1,975	5,925	3.00
WASECA	1	164	325	1.98
WORTHINGTON	1	134	271	2.02
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>8,815</b>	<b>\$24,839</b>	<b>\$2.82</b>
<b>DISTRICT 8</b>				
HUTCHINSON	1	403	\$1,353	\$3.36
LITCHFIELD	3	6,710	11,407	1.70
MARSHALL	2	1,671	3,760	2.25
MONTEVIDEO	1	4,245	10,613	2.50
GLENCOE	1	36	126	3.50
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>13,065</b>	<b>\$27,259</b>	<b>\$2.09</b>
<b>METRO EAST</b>				
BURNSVILLE	5	24,586	\$37,346	\$1.52
COTTAGE GROVE	2	3,900	7,090	1.82
HASTINGS	1	10	20	2.00
LITTLE CANADA	1	160	480	3.00
MAPLEWOOD	7	5,520	17,508	3.17
NEW BRIGHTON	3	750	3,750	5.00
NORTH ST. PAUL	1	50	150	3.00
OAKDALE	1	3,280	5,000	1.52
ROSEVILLE	3	399	1,151	2.88
ST. PAUL	1	3,694	5,541	1.50
SOUTH ST. PAUL	1	1,750	3,500	2.00
STILLWATER	1	2,382	6,550	2.75
WEST ST. PAUL	1	9,900	10,890	1.10
WHITE BEAR LAKE	2	427	427	1.00
<b>DISTRICT TOTAL</b>	<b>30</b>	<b>56,808</b>	<b>\$99,403</b>	<b>\$1.75</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	4	5,419	\$15,635	\$2.89
DISTRICT 2	6	1,486	3,401	2.29
DISTRICT 3	6	3,457	4,780	1.38
DISTRICT 4	2	2,192	7,448	3.40
METRO WEST	45	52,588	102,513	1.95
DISTRICT 6	7	6,253	8,768	1.40
DISTRICT 7	5	8,815	24,839	2.82
DISTRICT 8	8	13,065	27,259	2.09
METRO EAST	30	56,808	99,403	1.75
<b>STATE TOTAL</b>	<b>113</b>	<b>150,083</b>	<b>\$294,046</b>	<b>\$1.96</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
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	1.80	1.78
1998	63	150,083	294,046	1.96		1.85

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS \$2.00 PER LIN. FT.

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

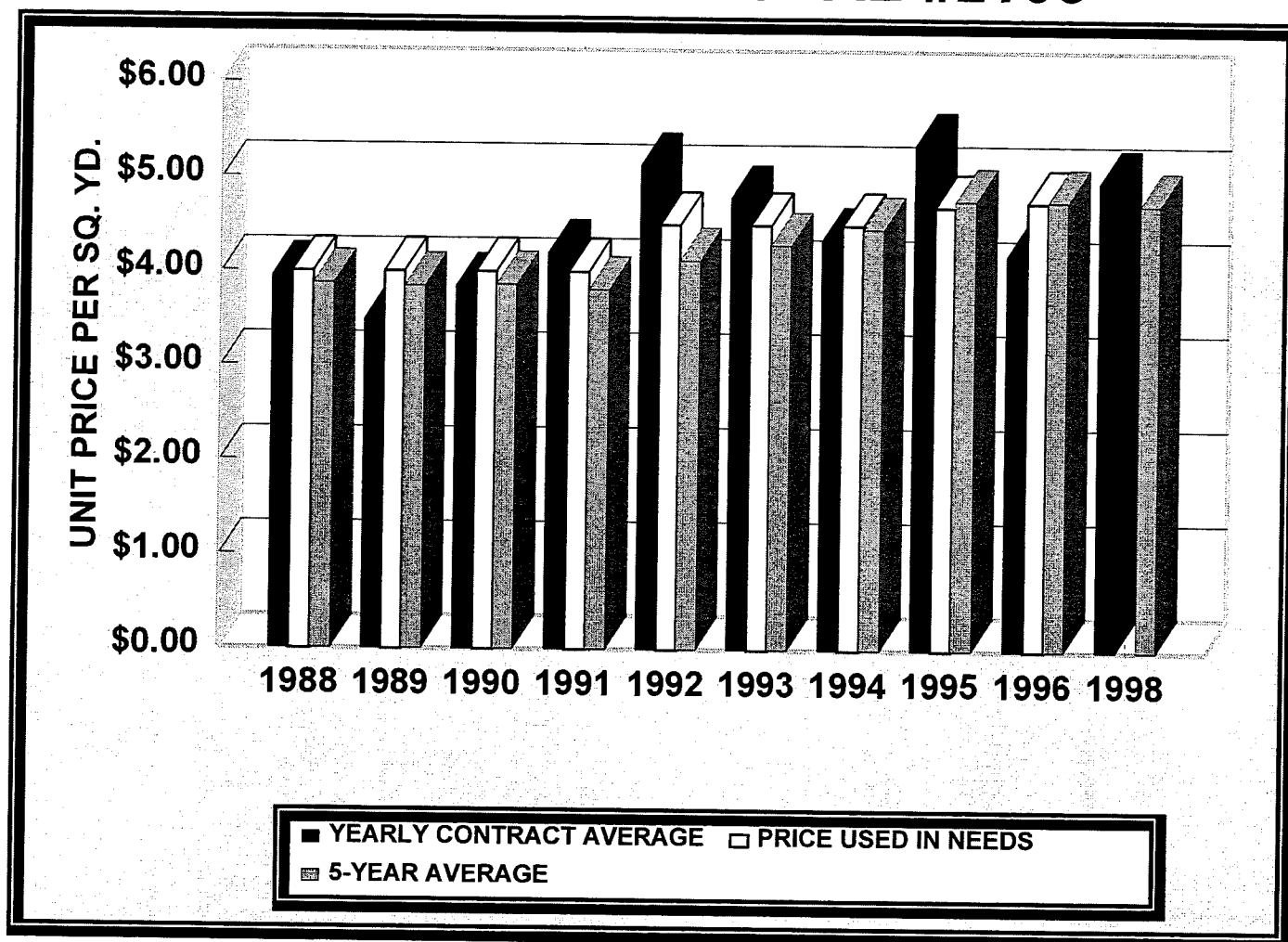
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	1	856	\$5,136	\$6.00
GRAND RAPIDS	1	11	33	3.00
HIBBING	1	5	20	4.19
VIRGINIA	1	1,827	8,221	4.50
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>2,699</b>	<b>\$13,410</b>	<b>\$4.97</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	32	\$580	\$18.00
THIEF RIVER FALLS	2	654	5,882	9.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>686</b>	<b>\$6,462</b>	<b>\$9.42</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	759	\$5,703	\$7.52
LITTLE FALLS	1	184	924	5.02
ST. CLOUD	1	218	1568	7.20
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>1,160</b>	<b>8,195</b>	<b>\$7.06</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>				
ANOKA	1	464	\$2,088	\$4.50
BLOOMINGTON	14	7,488	21,682	2.90
BROOKLYN CENTER	1	350	1,260	3.60
BROOKLYN PARK	1	273	1,596	5.86
COON RAPIDS	2	137	887	6.47
CRYSTAL	2	165	289	1.75
HOPKINS	2	1,273	1,869	1.47
MINNEAPOLIS	6	3,966	13,401	3.38
MINNETONKA	1	80	157	1.96
NEW HOPE	3	789	4,300	5.45
RICHFIELD	1	217	1,365	6.30
ROBBINSDALE	2	3,632	18,160	5.00
ST. LOUIS PARK	1	1,694	2,033	1.20
SAVAGE	1	6	125	22.50
<b>DISTRICT TOTAL</b>	<b>38</b>	<b>20,532</b>	<b>\$69,212</b>	<b>\$3.37</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	1,032	\$6,038	\$5.85
AUSTIN	2	711	2,760	3.88
NORTHFIELD	1	622	1,680	2.70
ROCHESTER	1	980	3,528	3.60
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>3,345</b>	<b>\$14,006</b>	<b>\$4.19</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	25	\$338	\$13.52
NEW ULM	2	2,792	42,745	15.31
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>2,817</b>	<b>\$43,083</b>	<b>\$15.30</b>
<b><u>DISTRICT 8</u></b>				
LITCHFIELD	3	1,096	\$6,757	\$6.17
MARSHALL	2	425	2,294	5.40
MONTEVIDEO	1	559	2,518	4.50
GLENCOE	1	11	75	6.75
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>2,091</b>	<b>\$11,644</b>	<b>\$5.57</b>
<b><u>METRO EAST</u></b>				
BURNSVILLE	6	1,470	\$7,626	\$5.19
HASTINGS	1	50	188	3.76
MAPLEWOOD	3	112	517	4.63
ROSEVILLE	1	7	48	7.20
ST. PAUL	1	540	2,894	5.36
STILLWATER	1	111	1,000	9.00
WEST ST. PAUL	1	1,148	4,707	4.10
WHITE BEAR LAKE	2	200	902	4.52
<b>DISTRICT TOTAL</b>	<b>16</b>	<b>3,637</b>	<b>\$17,882</b>	<b>\$4.92</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	4	2,699	\$13,410	\$4.97
DISTRICT 2	3	686	6,462	9.42
DISTRICT 3	4	1,160	8,195	7.06
DISTRICT 4	0	0	0	0.00
METRO WEST	38	20,532	69,212	3.37
DISTRICT 6	5	3,345	14,006	4.19
DISTRICT 7	3	2,817	43,083	15.30
DISTRICT 8	7	2,091	11,644	5.57
METRO EAST	16	3,637	17,882	4.92
<b>STATE TOTAL</b>	<b>80</b>	<b>36,967</b>	<b>\$183,894</b>	<b>\$4.97</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
1988	25	35,889	\$141,549	\$3.94	\$4.00	\$3.87
1989	46	77,633	270,831	3.49	4.00	3.84
1990	41	50,017	192,021	3.84	4.00	3.86
1991	43	71,868	301,912	4.20	4.00	3.81
1992	45	57,606	295,735	5.13	4.50	4.12
1993	40	43,017	206,147	4.79	4.50	4.29
1994	39	54,206	235,995	4.35	4.50	4.46
1995	34	73,172	392,401	5.36	4.70	4.77
1996	46	49,759	208,305	4.19	4.75	4.76
1998	41	36,967	183,894	4.97		4.73

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS PER SQ. YD.

\$5.00

**M.S.A.S. UNIT PRICE STUDY**  
**CONCRETE PAVEMENT 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>				
DULUTH	1	14,978	\$76,388	\$5.10
GRAND RAPIDS	1	2,705	2,705	1.00
VIRGINIA	1	9,390	42,238	4.50
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>27,073</b>	<b>\$121,331</b>	<b>\$4.48</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>				
BRAINERD	1	2426	\$8,491	\$3.50
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>2,426</b>	<b>\$8,491</b>	<b>\$3.50</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	36	\$180	\$5.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>36</b>	<b>\$180</b>	<b>\$5.00</b>
<b><u>METRO WEST</u></b>				
BLOOMINGTON	1	1,474	\$11,792	\$8.00
CRYSTAL	1	283	496	1.75
FRIDLEY	2	415	3,320	8.00
MINNEAPOLIS	5	16,639	94,882	5.70
RICHFIELD	1	65	367	5.65
ROBBINSDALE	2	2,868	11,472	4.00
<b>DISTRICT TOTAL</b>	<b>12</b>	<b>21,744</b>	<b>\$122,329</b>	<b>\$5.63</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	6,195	\$20,650	\$3.33
AUSTIN	2	21,220	66,206	3.12
RED WING	1	820	4,426	5.40
ROCHESTER	1	6,185	26,286	4.25
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>34,420</b>	<b>\$117,568</b>	<b>\$3.42</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	15,203	\$88,938	\$5.85
NEW ULM	2	5,600	37,240	6.65
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>20,803</b>	<b>\$126,178</b>	<b>\$6.07</b>

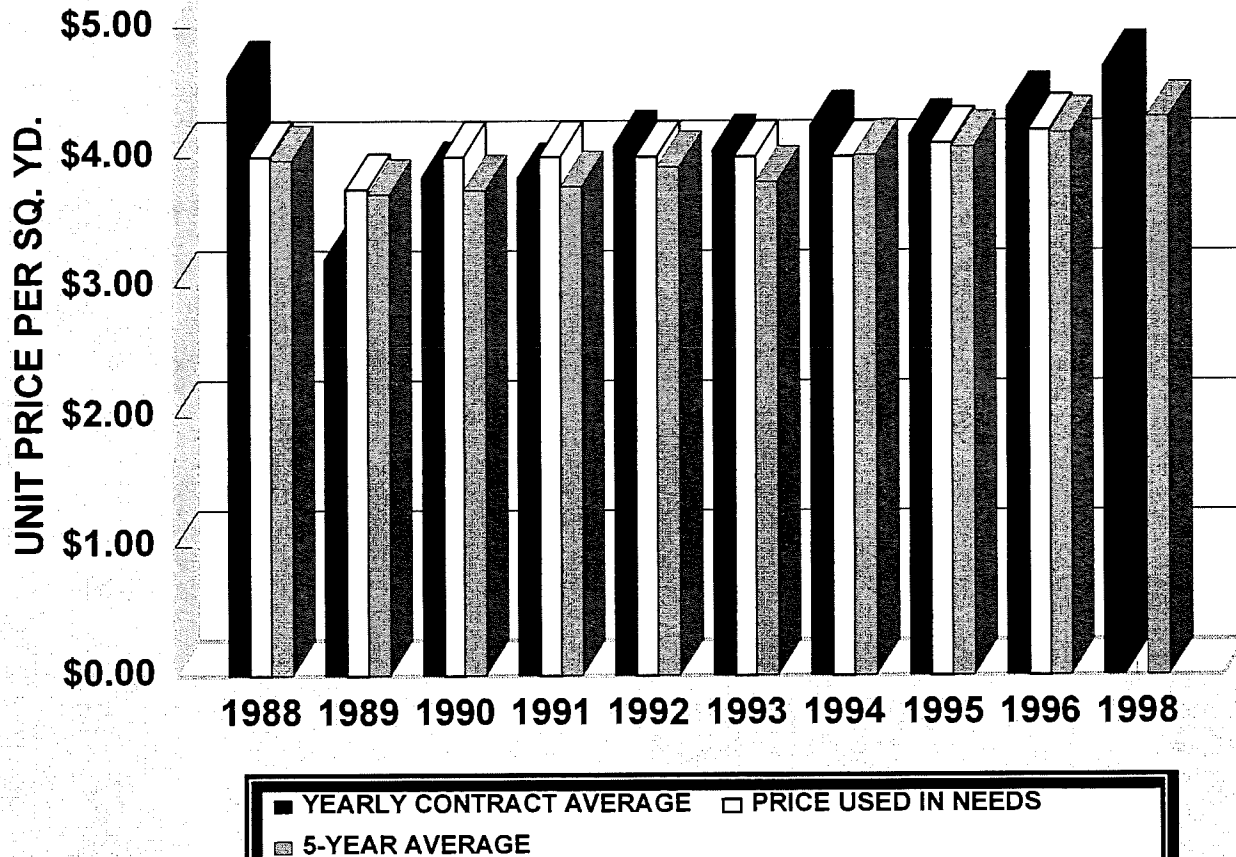


**M.S.A.S. UNIT PRICE STUDY  
CONCRETE PAVEMENT REMOVAL - SQUARE YARD**

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b>DISTRICT 8</b>				
LITCHFIELD	1	82	\$951	\$11.60
MARSHALL	2	137	1,096	8.00
MONTEVIDEO	1	60	300	5.00
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>197</b>	<b>\$1,396</b>	<b>\$7.09</b>
<b>METRO EAST</b>				
MAPLEWOOD	4	640	\$2,807	\$4.39
OAKDALE	1	396	990	2.50
ST. PAUL	1	98	392	4.00
WHITE BEAR LAKE	1	3,108	18,596	5.98
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>4,242</b>	<b>\$22,785</b>	<b>\$5.37</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	3	27,073	\$121,331	\$4.48
DISTRICT 2	0	0	0	0.00
DISTRICT 3	1	2,426	8,491	3.50
DISTRICT 4	1	36	180	5.00
METRO WEST	12	21,744	122,329	5.63
DISTRICT 6	6	34,420	117,568	3.42
DISTRICT 7	3	20,803	126,178	6.07
DISTRICT 8	4	197	1,396	7.09
METRO EAST	7	4,242	22,785	5.37
<b>STATE TOTAL</b>	<b>37</b>	<b>110,941</b>	<b>\$520,259</b>	<b>\$4.69</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
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	4.20	4.18
1998	24	110,941	520,259	4.69		4.30

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS \$4.50 PER SQ. YD.

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

MUNICIPALITY	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<b><u>DISTRICT 1</u></b>				
DISTRICT TOTAL	0	0	\$0	\$0.00
<b><u>DISTRICT 2</u></b>				
DISTRICT TOTAL	0	0	\$0	\$0.00
<b><u>DISTRICT 3</u></b>				
SARTELL	1	5	\$250	\$50.00
SAUK RAPIDS	1	7	525	75.00
DISTRICT TOTAL	2	12	\$775	\$64.58
<b><u>DISTRICT 4</u></b>				
MOORHEAD	1	16	\$640	\$40.00
DISTRICT TOTAL	1	16	\$640	\$40.00
<b><u>METRO WEST</u></b>				
ANDOVER	1	2	\$206	\$103.00
ANOKA	1	87	10,527	121.00
BLOOMINGTON	5	107	14,225	132.94
BROOKLYN CENTER	1	23	4,600	200.00
COON RAPIDS	1	12	1,980	165.00
EDEN PRAIRIE	1	3	990	330.00
HOPKINS	1	1	175	175.00
MAPLE GROVE	1	15	945	63.00
MINNEAPOLIS	1	3	600	200.00
MINNETONKA	1	216	14,449	66.89
NEW HOPE	1	7	2,100	300.00
PLYMOUTH	1	75	4,500	60.00
ROBBINSDALE	1	1	825	825.00
ST. LOUIS PARK	1	10	1,100	110.00
DISTRICT TOTAL	18	562	\$57,222	\$101.82
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	2	\$2	\$1.00
NORTHFIELD	1	2	300	150.00
RED WING	1	5	1,350	270.00
ROCHESTER	1	36	9,599	266.64
DISTRICT TOTAL	4	45	\$11,251	\$250.02
<b><u>DISTRICT 7</u></b>				
DISTRICT TOTAL	0	0	\$0	\$0.00
<b><u>DISTRICT 8</u></b>				
HUTCHINSON	1	11	\$1,578	\$143.45
LITCHFIELD	2	8	2780	347.50
DISTRICT TOTAL	3	19	\$3,080	\$162.11
<b><u>METRO EAST</u></b>				
BURNSVILLE	1	40	\$4,000	\$100.00
LITTLE CANADA	1	18	3,150	175.00
NORTH ST. PAUL	1	5	825	165.00
ROSEVILLE	1	25	3750	150.00
ST. PAUL	1	8	1,600	200.00
WHITE BEAR LAKE	2	26	1170	45.00
DISTRICT TOTAL	7	122	\$14,495	\$118.81

**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>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</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>				
SARTELL	1	5	\$250	\$50.00
SAUK RAPIDS	1	7	700	100.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>12</b>	<b>\$950</b>	<b>\$79.17</b>
<b><u>DISTRICT 4</u></b>				
MOORHEAD	1	16	\$640	\$40.00
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>16</b>	<b>\$640</b>	<b>\$40.00</b>
<b><u>METRO WEST</u></b>				
ANDOVER	1	2	\$206	\$103.00
ANOKA	1	86	2,838	33.00
BLOOMINGTON	5	109	11,290	103.58
BROOKLYN CENTER	1	23	4,600	200.00
COON RAPIDS	1	16	880	55.00
EDEN PRAIRIE	1	3	330	110.00
MAPLE GROVE	1	15	900	60.00
MINNEAPOLIS	2	4	950	237.50
MINNETONKA	1	216	4,777	22.12
NEW HOPE	1	7	1,400	200.00
PLYMOUTH	1	75	1,875	25.00
ROBBINSDALE	1	1	825	825.00
ST. LOUIS PARK	1	10	550	55.00
<b>DISTRICT TOTAL</b>	<b>18</b>	<b>567</b>	<b>\$31,421</b>	<b>\$55.42</b>
<b><u>DISTRICT 6</u></b>				
ALBERT LEA	1	2	\$400	\$200.00
NORTHFIELD	1	2	300	150.00
RED WING	1	5	1,250	250.00
ROCHESTER	1	37	1,850	50.00
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>46</b>	<b>\$3,800</b>	<b>\$82.61</b>
<b><u>DISTRICT 7</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>DISTRICT 8</u></b>				
HUTCHINSON	1	11	\$1,100	\$100.00
LITCHFIELD	2	8	1600	200.00
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>19</b>	<b>\$2,700</b>	<b>\$142.11</b>
<b><u>METRO EAST</u></b>				
BURNSVILLE	1	40	\$4,000	\$100.00
LITTLE CANADA	1	18	1,575	87.50
NORTH ST. PAUL	1	5	275	55.00
ROSEVILLE	1	25	1250	50.00
ST. PAUL	1	8	800	100.00
WHITE BEAR LAKE	2	26	1170	45.00
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>122</b>	<b>\$9,070</b>	<b>\$74.34</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	0	0	\$0	\$0.00
DISTRICT 2	0	0	0	0.00
DISTRICT 3	2	12	775	64.58
DISTRICT 4	1	16	640	40.00
METRO WEST	18	562	57,222	101.82
DISTRICT 6	4	45	11,251	250.02
DISTRICT 7	0	0	0	0.00
DISTRICT 8	3	19	3,080	162.11
METRO EAST	7	122	14,495	118.81
<b>STATE TOTAL</b>	<b>35</b>	<b>776</b>	<b>\$87,463</b>	<b>\$112.71</b>

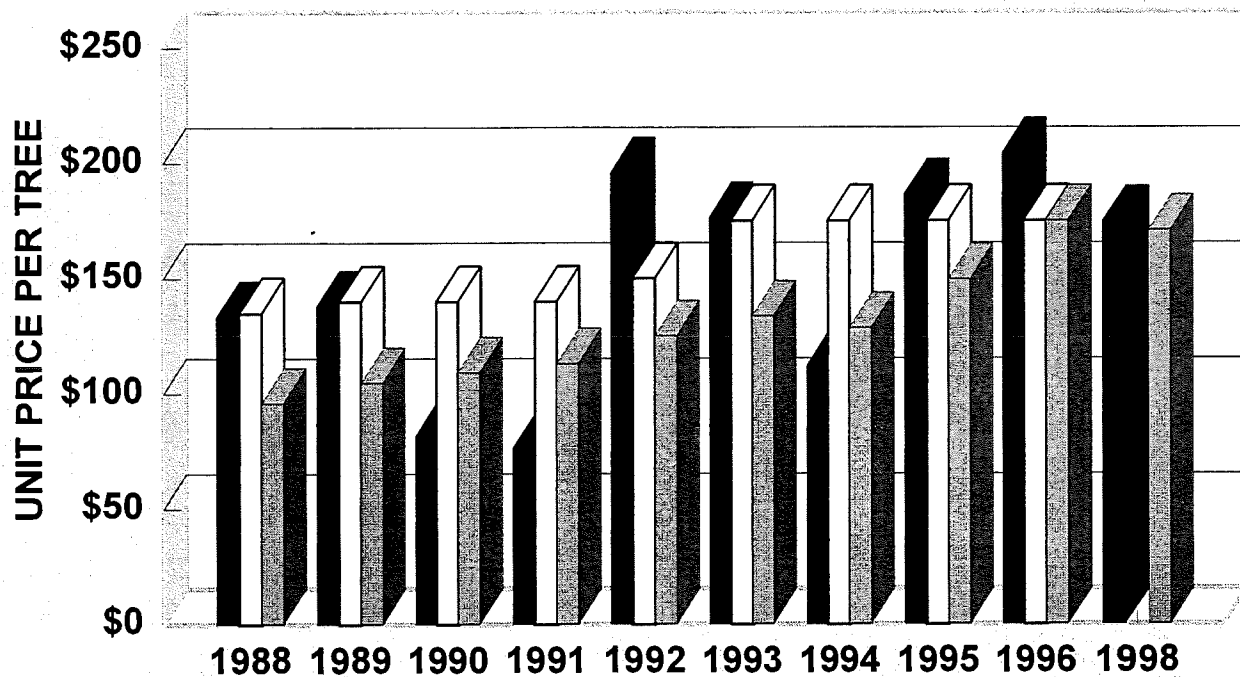
**M.S.A.S UNIT PRICE STUDY  
TREE REMOVAL - GRUBBING**

DISTRICT	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
<b>DISTRICT TOTALS</b>				
DISTRICT 1	0	0	\$0	\$0.00
DISTRICT 2	0	0	0	0.00
DISTRICT 3	2	12	950	79.17
DISTRICT 4	1	16	640	40.00
METRO WEST	18	567	31,421	55.42
DISTRICT 6	4	46	3,800	82.61
DISTRICT 7	0	0	0	0.00
DISTRICT 8	3	19	2,700	142.11
METRO EAST	7	122	9,070	74.34
<b>STATE TOTAL</b>	<b>35</b>	<b>782</b>	<b>\$48,581</b>	<b>\$62.12</b>

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

	NO. OF PROJECTS	TOTAL QUANTITY	TOTAL COST	AVERAGE UNIT PRICE
TOTAL CLEARING	35	776	\$87,463	\$112.71
TOTAL GRUBBING	35	782	48,581	62.12
<b>TOTAL</b>		<b>1,558</b>	<b>\$136,044</b>	<b>\$87.32</b>
<b>1,558/2 = 779 TREES</b>				
<b>AVERAGE COST PER TREE = \$136,044/779 = \$174.64</b>				

# **TREE REMOVAL #2101**



■ YEARLY CONTRACT AVERAGE    □ PRICE USED IN NEEDS  
 ■ 5-YEAR AVERAGE

NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
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	175.00	175.04
1998	28	779	136,044	174.64		170.80

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS \$175.00 PER TREE.

**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>				
DULUTH	1	3,198	\$32,662	\$10.21
GRAND RAPIDS	1	1,441	12,220	8.48
HIBBING	1	23,608	152,800	6.47
VIRGINIA	1	9,512	65,314	6.87
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>37,759</b>	<b>\$262,996</b>	<b>\$6.97</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	13,166	\$35,073	\$2.66
THIEF RIVER FALLS	1	523	4,440	8.49
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>13,689</b>	<b>\$39,513</b>	<b>\$2.89</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	777	\$5,870	\$7.55
LITTLE FALLS	2	168	1,224	7.29
ST. CLOUD	1	9,176	45,880	5.00
ST. MICHAEL	1	14,685	43,900	2.99
SARTELL	1	6,198	43,836	7.07
SAUK RAPIDS	1	4,521	27,390	6.06
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>35,525</b>	<b>\$168,100</b>	<b>\$4.73</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	4,729	\$24,570	\$5.20
MOORHEAD	1	6,316	40,104	6.35
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>11,045</b>	<b>\$64,674</b>	<b>\$5.86</b>
<b><u>METRO WEST</u></b>				
ANDOVER	2	6,771	\$46,207	\$6.82
ANOKA	1	2,598	15,588	6.00
BLOOMINGTON	11	29,439	156,215	5.31
BROOKLYN CENTER	1	3,414	18,777	5.50
BROOKLYN PARK	1	4,175	38,619	9.25
COON RAPIDS	2	105	1,450	13.81
CHAMPLIN	1	4,175	38,619	9.25
CRYSTAL	2	15,831	139,602	8.82
EDEN PRAIRIE	1	4,085	33,000	8.08
FRIDLEY	3	6,533	48,671	7.45
HAM LAKE	1	5,470	35,008	6.40
HOPKINS	3	4,479	27,636	6.17
MAPLE GROVE	2	22,601	148,440	6.57
MINNEAPOLIS	5	7,030	57,822	8.23
MINNETONKA	1	9,305	81,884	8.80
NEW HOPE	4	3,564	29,436	8.26
OAK GROVE	1	13,650	83,265	6.10
PLYMOUTH	3	22,616	203,716	9.01
RICHFIELD	1	55	1,224	22.25
ROBBINSDALE	2	2,419	27,230	11.26
ST. LOUIS PARK	1	13,115	85,248	6.50
SAVAGE	1	17,000	112,710	6.63
SHAKOPEE	1	1,525	13,444	8.82
SPRING LAKE PARK	1	110	880	8.00
<b>DISTRICT TOTAL</b>	<b>52</b>	<b>200,065</b>	<b>\$1,444,691</b>	<b>\$7.22</b>

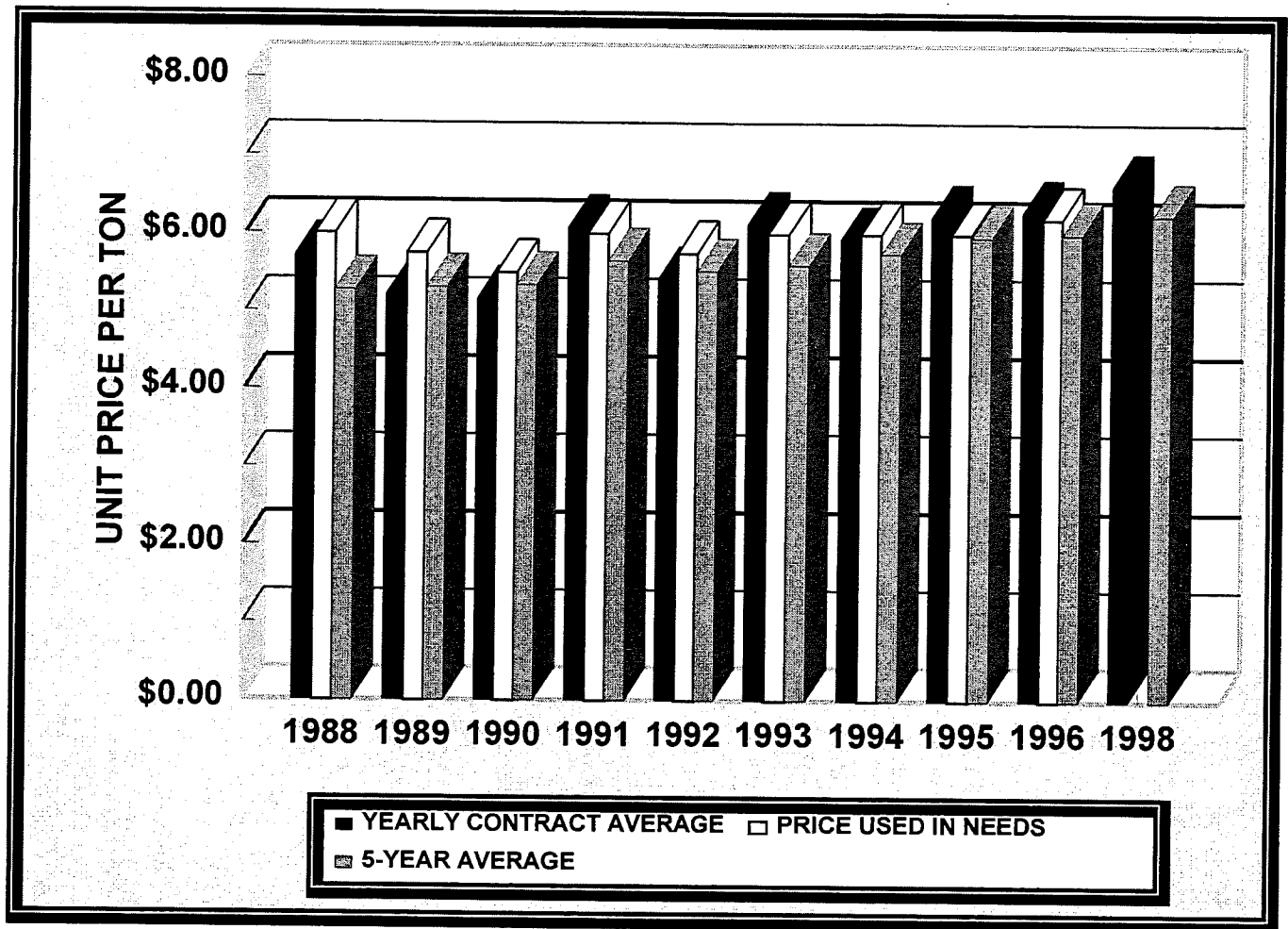
**M.S.A.S. UNIT PRICE STUDY  
AGGREGATE BASE 2211-TONS**

<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b>DISTRICT 6</b>				
ALBERT LEA	1	3,153	\$23,595	\$7.48
AUSTIN	2	5,700	45,250	7.94
FARIBAULT	1	1,845	11,175	6.06
NORTHFIELD	1	950	5,450	5.74
RED WING	2	23,254	153,384	6.60
ROCHESTER	2	8,033	54,680	6.81
<b>DISTRICT TOTAL</b>	<b>9</b>	<b>42,935</b>	<b>\$293,534</b>	<b>\$6.84</b>
<b>DISTRICT 7</b>				
FAIRMONT	1	4,707	\$31,730	\$6.74
NEW ULM	2	9,030	63,210	7.00
WASECA	1	1,020	7,323	7.18
WORTHINGTON	1	581	5,435	9.35
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>15,338</b>	<b>\$107,698</b>	<b>\$7.02</b>
<b>DISTRICT 8</b>				
HUTCHINSON	1	10,238	\$58,924	\$5.76
LITCHFIELD	3	9,491	60,565	6.38
MARSHALL	2	9,174	64,218	7.00
MONTEVIDEO	1	5,500	37,180	6.76
GLENCOE	1	10	110	11.00
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>34,413</b>	<b>\$220,997</b>	<b>\$6.42</b>
<b>METRO EAST</b>				
BURNSVILLE	5	3,771	\$30,628	\$8.12
COTTAGE GROVE	2	7,230	46,832	6.48
HASTINGS	1	475	3,026	6.37
LITTLE CANADA	1	6,820	57,970	8.50
MAPLEWOOD	8	5,924	40,457	6.83
NORTH ST. PAUL	1	1,540	9,163	5.95
OAKDALE	1	5,182	12,670	2.45
ROSEVILLE	3	3,266	29,554	9.05
ST. PAUL	1	4,799	31,738	6.61
SOUTH ST. PAUL	1	1,115	9,635	8.64
STILLWATER	1	5,775	29,453	5.10
WEST ST. PAUL	1	17,454	103,851	5.95
WHITE BEAR LAKE	2	12,263	81,435	6.64
WOODBURY	1	4,250	29,750	7.00
<b>DISTRICT TOTAL</b>	<b>29</b>	<b>79,864</b>	<b>\$516,162</b>	<b>\$6.46</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	4	37,759	\$262,996	\$6.97
DISTRICT 2	2	13,689	39,513	2.89
DISTRICT 3	7	35,525	168,100	4.73
DISTRICT 4	3	11,045	64,674	5.86
METRO WEST	52	200,065	1,444,691	7.22
DISTRICT 6	9	42,935	293,534	6.84
DISTRICT 7	5	15,338	107,698	7.02
DISTRICT 8	8	34,413	220,997	6.42
METRO EAST	29	79,864	516,162	6.46
<b>STATE TOTAL</b>	<b>119</b>	<b>470,633</b>	<b>\$3,118,365</b>	<b>\$6.63</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
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	6.20	6.00
1998	67	470,633	3,118,365	6.63		6.24

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS PER TON.

\$6.50

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

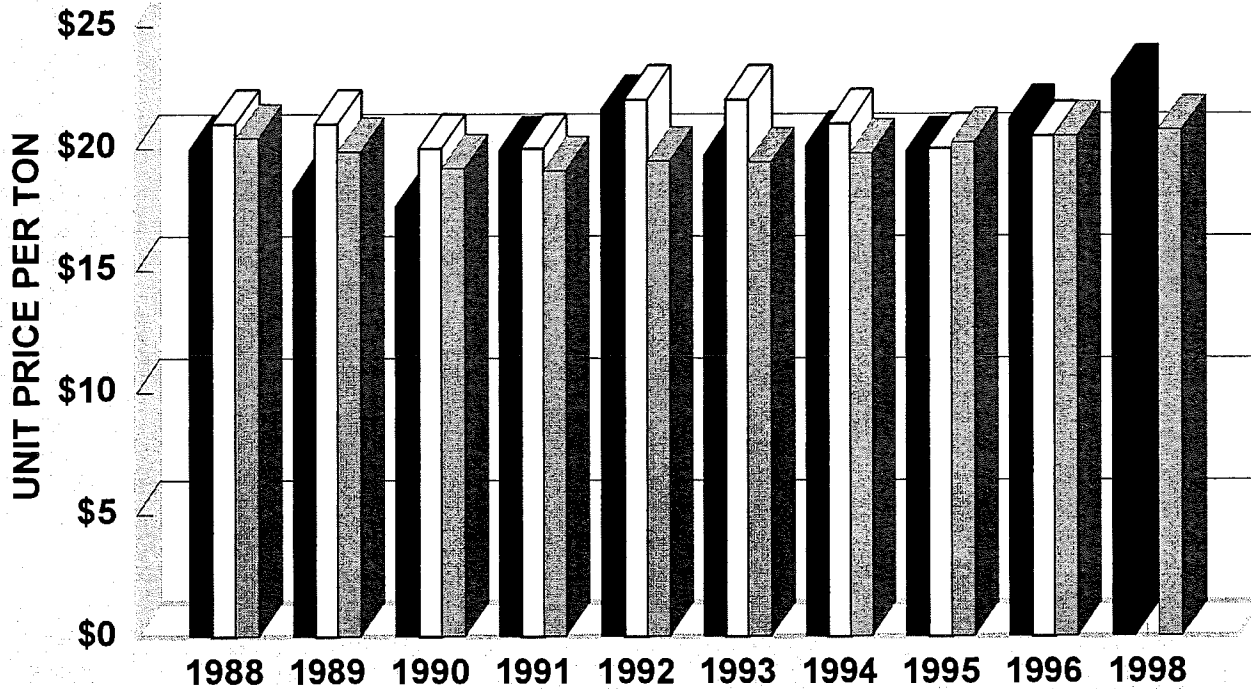
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	1	365	\$16,635	\$45.58
GRAND RAPIDS	1	526	15,254	29.00
HIBBING	1	5,172	117,300	22.68
VIRGINIA	1	2,389	67,177	28.12
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>8,452</b>	<b>\$216,366</b>	<b>\$25.60</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	4,532	\$90,640	\$20.00
CROOKSTON	1	265	7,420	28.00
THIEF RIVER FALLS	6	4,570	93,005	20.35
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>9,367</b>	<b>\$191,065</b>	<b>\$20.40</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	426	\$10,464	\$24.56
LITTLE FALLS	3	204	4,092	20.06
ST. CLOUD	1	3,495	59,066	16.90
ST. MICHAEL	1	1,810	39,820	22.00
SAUK RAPIDS	1	1,828	43,108	23.58
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>7,763</b>	<b>\$156,550</b>	<b>\$20.17</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	1,665	\$52,516	\$31.54
MOORHEAD	1	3,540	95,580	27.00
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>5,205</b>	<b>\$148,096</b>	<b>\$28.45</b>
<b><u>METRO WEST</u></b>				
ANDOVER	2	1,674	\$40,936	\$24.45
ANOKA	1	887	17,654	19.90
BLOOMINGTON	9	21,129	451,048	21.35
BROOKLYN CENTER	1	1,390	30,660	22.06
BROOKLYN PARK	1	988	24,342	24.64
CHAMPLIN	1	988	24,342	24.64
COON RAPIDS	1	1,100	28,906	26.28
CRYSTAL	2	4,507	109,467	24.29
EDEN PRAIRIE	1	1,207	33,353	27.63
FRIDLEY	3	2,715	63,416	23.36
HAM LAKE	1	1,561	34,342	22.00
HOPKINS	2	1,082	26,842	24.81
MAPLE GROVE	2	8,978	200,955	22.38
MINNEAPOLIS	3	2,113	36,269	17.16
MINNETONKA	1	5,618	132,444	23.57
NEW HOPE	3	1,855	51,134	27.57
OAK GROVE	1	2,260	40,635	17.98
PLYMOUTH	3	5,510	143,045	25.96
ST. LOUIS PARK	1	9,028	181,914	20.15
SAVAGE	1	2,680	53,895	20.11
SHAKOPEE	2	2,744	61,699	22.49
SPRING LAKE PARK	1	30	1,050	35.00
<b>DISTRICT TOTAL</b>	<b>43</b>	<b>80,044</b>	<b>\$1,788,347</b>	<b>\$22.34</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	717	\$19,500	\$27.20
FARIBAULT	1	628	17,670	28.14
NORTHFIELD	1	670	16,080	24.00
RED WING	1	10,230	217,090	21.22
ROCHESTER	2	2,229	56,186	25.21
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>14,474</b>	<b>\$326,526</b>	<b>\$22.56</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	429	\$23,955	\$55.84
NEW ULM	2	1,490	46,190	31.00
WASECA	1	728	19,800	27.20
WORTHINGTON	1	1,418	42,438	29.93
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>4,065</b>	<b>\$132,383</b>	<b>\$32.57</b>
<b><u>DISTRICT 8</u></b>				
HUTCHINSON	1	2,952	\$79,000	\$26.76
LITCHFIELD	3	2,166	39,247	18.12
MARSHALL	2	3,773	161,879	42.90
MONTEVIDEO	1	6,285	148,075	23.56
GLENCOE	1	840	18,480	22.00
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>16,016</b>	<b>\$446,681</b>	<b>\$27.89</b>
<b><u>METRO EAST</u></b>				
BURNSVILLE	5	5,386	\$113,766	\$21.12
COTTAGE GROVE	2	3,850	94,100	24.44
HASTINGS	1	160	3,336	20.85
LITTLE CANADA	1	1,655	37,238	22.50
MAPLEWOOD	6	4,277	106,914	25.00
NEW BRIGHTON	3	740	21,386	28.90
NORTH ST. PAUL	1	357	8,938	25.04
OAKDALE	1	1,345	31,110	23.13
ROSEVILLE	1	780	20,904	26.80
ST. PAUL	1	2,508	53,922	21.50
SOUTH ST. PAUL	1	620	14,700	23.71
STILLWATER	1	2,400	45,600	19.00
WEST ST. PAUL	1	8,375	110,140	13.15
WHITE BEAR LAKE	2	4,683	95,049	20.30
WOODBURY	1	1,440	34,560	24.00
<b>DISTRICT TOTAL</b>	<b>28</b>	<b>38,576</b>	<b>\$791,663</b>	<b>\$20.52</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	4	8,452	\$216,366	\$25.60
DISTRICT 2	8	9,367	191,065	20.40
DISTRICT 3	8	7,763	156,550	20.17
DISTRICT 4	2	5,205	148,096	28.45
METRO WEST	43	80,044	1,788,347	22.34
DISTRICT 6	6	14,474	326,526	22.56
DISTRICT 7	5	4,065	132,383	32.57
DISTRICT 8	8	16,016	446,681	27.89
METRO EAST	28	38,576	791,663	20.52
<b>STATE TOTAL</b>	<b>112</b>	<b>183,962</b>	<b>\$4,197,677</b>	<b>\$22.82</b>

# BITUMINOUS BASE OR SURFACE #2331



YEARLY CONTRACT AVERAGE
  PRICE USED IN NEEDS
  5-YEAR AVERAGE

NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT AMOUNT	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT AMOUNT
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	20.50	20.49
1998	65	183,962	4,197,677	22.82		20.73

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
 PER TON.

**\$21.50**

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

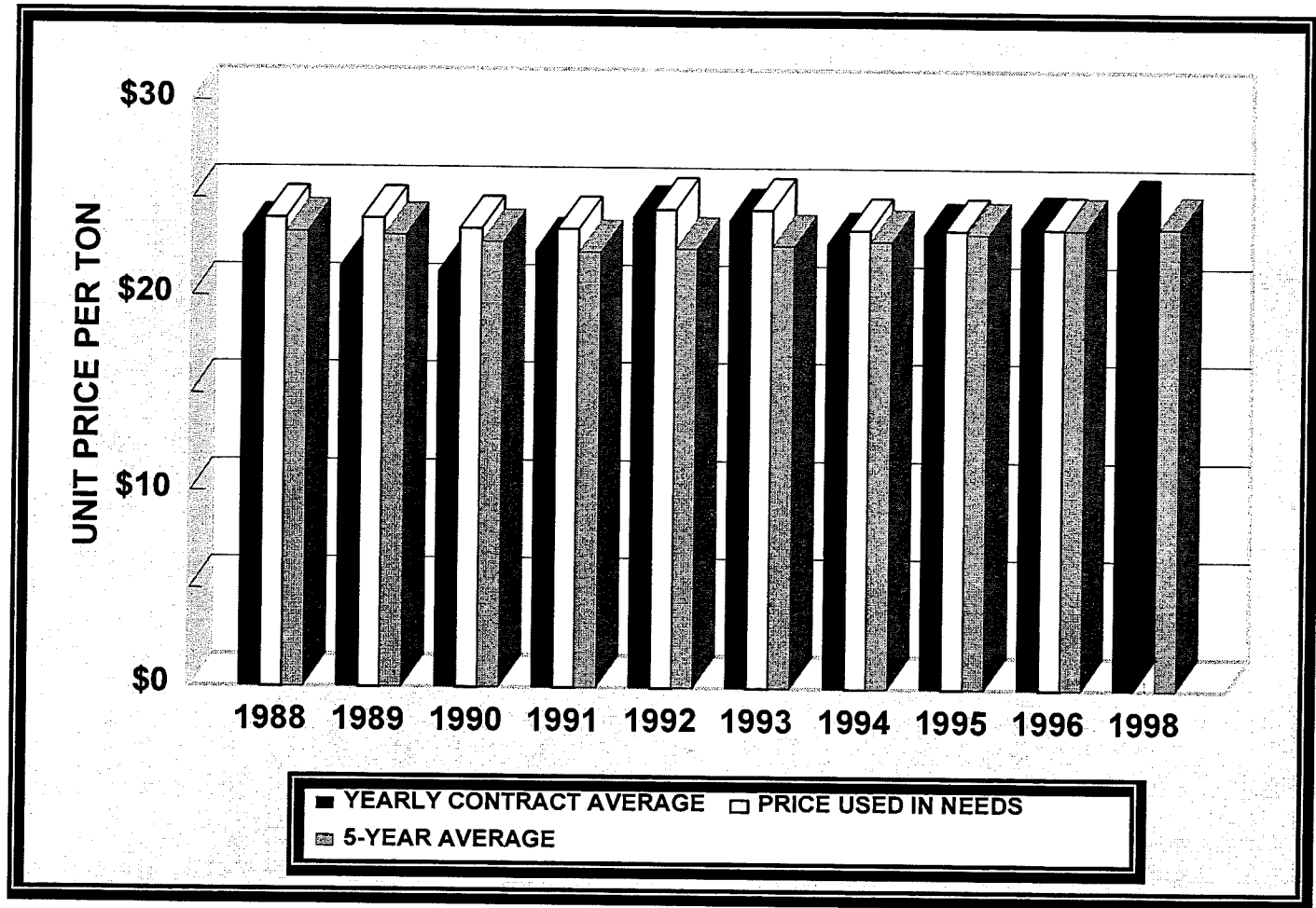
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	3021	\$62,409	\$20.66
CROOKSTON	1	394	12,060	30.61
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>3,415</b>	<b>\$74,469</b>	<b>\$21.81</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	949	\$23,235	\$24.48
LITTLE FALLS	3	5,482	112,613	20.54
ST. CLOUD	1	6,116	127,422	20.83
ST. MICHAEL	1	1,210	30,175	24.94
SARTELL	1	2,704	68,684	25.40
SAUK RAPIDS	1	1,202	30,617	25.47
<b>DISTRICT TOTAL</b>	<b>9</b>	<b>17,663</b>	<b>\$392,746</b>	<b>\$22.24</b>
<b><u>DISTRICT 4</u></b>				
MOORHEAD	1	2,645	\$93,212	\$35.24
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>2,645</b>	<b>\$93,212</b>	<b>\$35.24</b>
<b><u>METRO WEST</u></b>				
ANDOVER	2	1,329	\$36,335	\$27.34
ANOKA	1	628	14,764	23.51
BLOOMINGTON	17	34,146	805,778	23.60
BROOKLYN CENTER	1	926	23,844	25.75
BROOKLYN PARK	1	600	15,915	26.53
CHAMPLIN	1	600	15,915	26.53
CHANHASSEN	1	2,350	52,700	22.43
COON RAPIDS	2	2,400	68,097	28.37
CRYSTAL	2	2,550	68,176	26.74
FRIDLEY	3	2,280	60,632	26.59
HOPKINS	2	749	20,570	27.46
HAM LAKE	1	1,171	27,998	23.91
MAPLE GROVE	2	6,181	144,375	23.36
MINNEAPOLIS	5	3,769	97,848	25.96
MINNETONKA	1	2,809	72,279	25.73
NEW HOPE	3	782	21,875	27.97
OAK GROVE	1	2,615	53,069	20.29
PLYMOUTH	3	5,885	158,276	26.89
ROBBINSDALE	2	1,569	48,140	30.68
ST. LOUIS PARK	1	2,739	63,022	23.01
SAVAGE	1	2,200	48,120	21.87
SHAKOPEE	2	1,705	43,404	25.46
SPRING LAKE PARK	1	10	410	41.00
<b>DISTRICT TOTAL</b>	<b>56</b>	<b>79,993</b>	<b>\$1,961,543</b>	<b>\$24.52</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>DISTRICT 6</b>				
ALBERT LEA	1	717	\$20,800	\$29.01
FARIBAULT	1	276	\$8,292	30.04
NORTHFIELD	1	500	12,961	25.92
RED WING	2	1,714	46,208	26.96
ROCHESTER	1	1,040	26,562	25.54
WINONA	1	14,123	358,527	25.39
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>18,370</b>	<b>\$473,350</b>	<b>\$25.77</b>
<b>DISTRICT 7</b>				
NEW ULM	2	735	\$25,708	\$34.98
WASECA	1	276	9,609	34.82
WORTHINGTON	1	113	4,106	36.34
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>848</b>	<b>\$29,814</b>	<b>\$35.16</b>
<b>DISTRICT 8</b>				
LITCHFIELD	3	1,647	\$43,587	\$26.46
MARSHALL	2	2,170	72,293	33.31
MONTEVIDEO	1	1,100	29,772	27.07
GLENCOE	1	860	20,275	23.58
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>4,130</b>	<b>\$122,341</b>	<b>\$29.62</b>
<b>METRO EAST</b>				
COTTAGE GROVE	2	3,100	\$81,000	\$26.13
BURNSVILLE	5	6,345	148,243	23.36
HASTINGS	1	160	3,415	21.34
LITTLE CANADA	1	1,250	29,605	23.68
MAPLEWOOD	8	6,338	166,076	26.20
NEW BRIGHTON	3	1,310	39,114	29.86
NORTH ST. PAUL	1	293	8195	27.97
OAKDALE	1	1,345	32,927	24.48
ROSEVILLE	3	1,976	46,067	23.31
ST. PAUL	1	1,255	32,443	25.85
SOUTH ST. PAUL	1	415	10,939	26.36
STILLWATER	1	1,212	25,815	21.30
WEST ST. PAUL	1	3,196	55,015	17.21
WHITE BEAR LAKE	2	2,341	51,429	21.97
WOODBURY	1	720	17,280	24.00
<b>DISTRICT TOTAL</b>	<b>32</b>	<b>31,256</b>	<b>\$747,563</b>	<b>\$23.92</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	0	0	\$0	\$0.00
DISTRICT 2	2	3,415	74,469	21.81
DISTRICT 3	9	17,663	392,746	22.24
DISTRICT 4	1	2,645	93,212	35.24
METRO WEST	56	79,993	1,961,543	24.52
DISTRICT 6	7	18,370	473,350	25.77
DISTRICT 7	4	848	29,814	35.16
DISTRICT 8	7	4,130	122,341	29.62
METRO EAST	32	31,256	747,563	23.92
<b>STATE TOTAL</b>	<b>118</b>	<b>158,320</b>	<b>\$3,895,038</b>	<b>\$24.60</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
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	23.60	23.57
1998	60	158,320	3,895,038	24.60		23.67

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS PER TON.

**\$24.50**

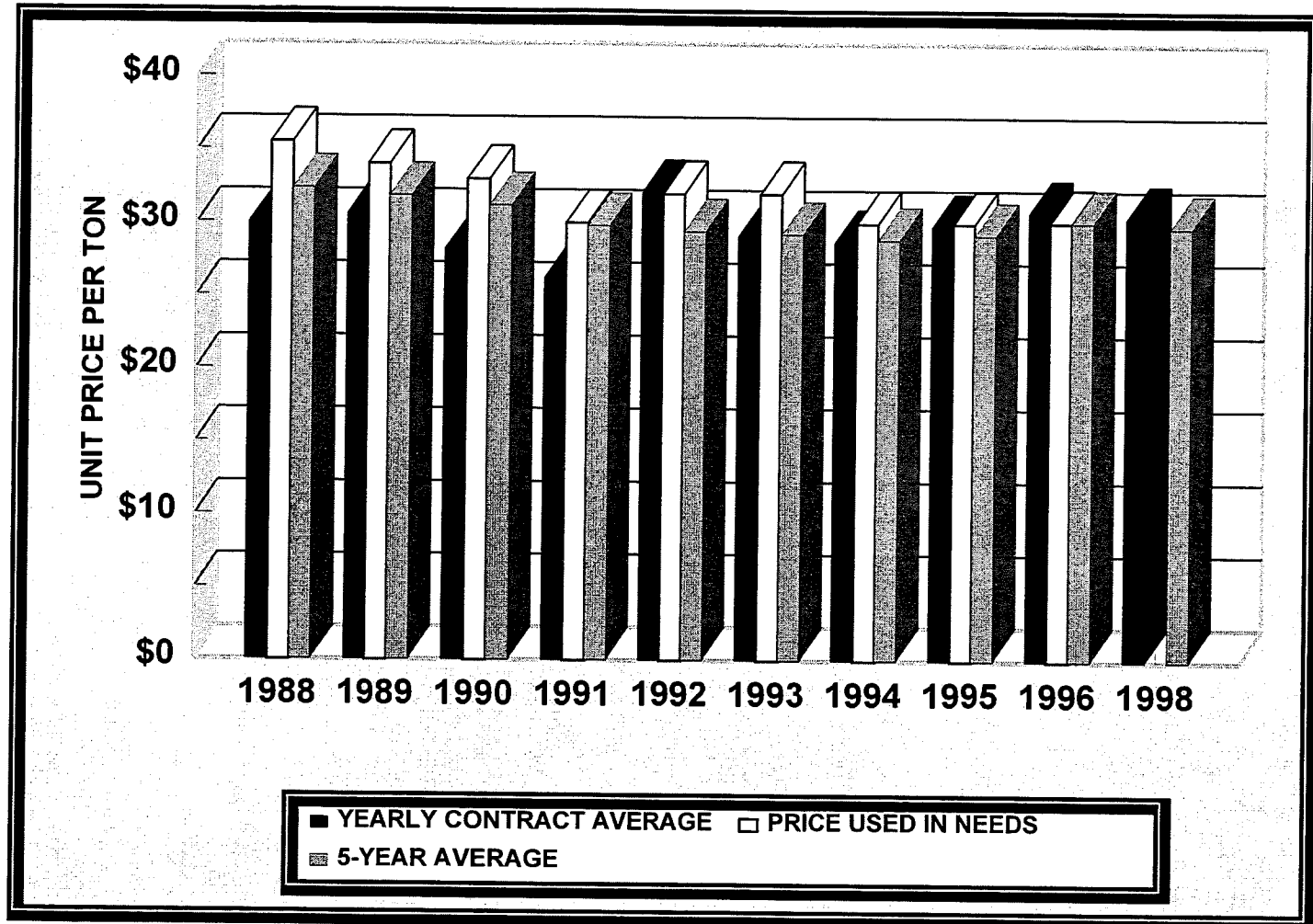
**M.S.A.S. UNIT PRICE STUDY  
BIT. SURF. 2361 - TONS**

<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>				
GRAND RAPIDS	1	206	\$7,579	\$36.79
HIBBING	1	2,190	54,924	25.08
VIRGINIA	1	865	26,973	31.18
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>3,261</b>	<b>\$89,476</b>	<b>\$27.44</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>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</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	2	1,369	\$46,534	\$33.99
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>1,369</b>	<b>\$46,534</b>	<b>\$33.99</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	140	\$9,138	\$65.27
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>140</b>	<b>\$9,138</b>	<b>\$65.27</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>				
<b>DISTRICT TOTAL</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>\$0.00</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	3	3,261	\$89,476	\$27.44
DISTRICT 2	0	0	0	0.00
DISTRICT 3	0	0	0	0.00
DISTRICT 4	0	0	0	0.00
METRO WEST	2	1,369	46,534	33.99
DISTRICT 6	0	0	0	0.00
DISTRICT 7	1	140	9,138	65.27
DISTRICT 8	0	0	0	0.00
METRO EAST	0	0	0	0.00
<b>STATE TOTAL</b>	<b>6</b>	<b>4,770</b>	<b>\$145,148</b>	<b>\$30.43</b>



# BITUMINOUS SURFACE #2361



NEEDS	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	11	23,776	\$713,311	\$30.00	\$35.50	\$32.33
1989	17	25,201	770,369	30.57	34.00	31.81
1990	14	31,527	888,370	28.18	33.00	31.18
1991	13	13,901	364,419	26.22	30.00	29.79
1992	3	6,186	198,585	32.10	32.00	29.41
1993	13	33,901	991,209	29.14	32.00	29.24
1994	11	24,412	700,939	28.71	30.00	28.87
1995	8	28,444	847,581	29.80	30.00	29.19
1996	7	12,140	373,248	30.75	30.10	30.10
1998	5	4,770	145,148	30.43		29.77

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS PER TON.

\$30.50

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

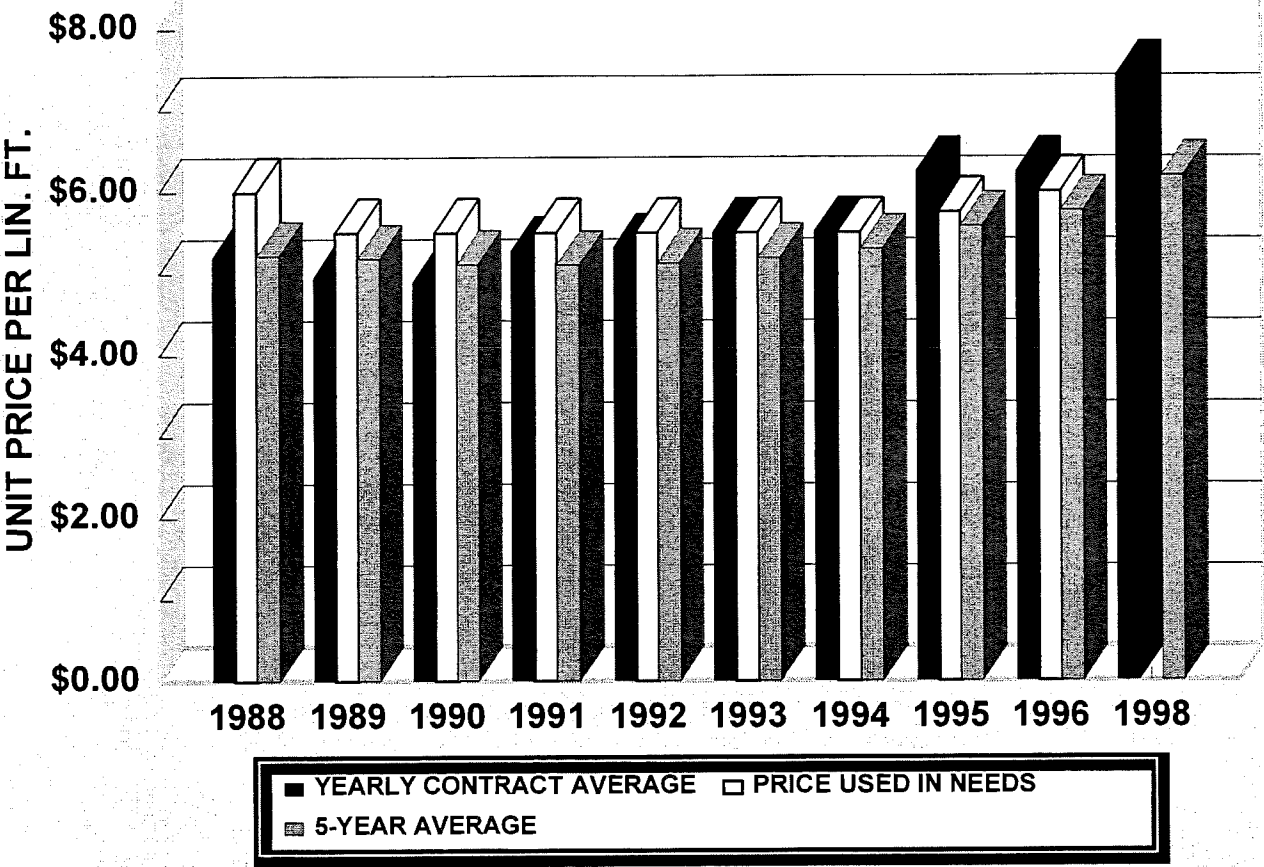
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL AMOUNT</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	1	5,914	\$56,183	\$9.50
GRAND RAPIDS	1	1,075	8,600	8.00
HIBBING	1	9,846	72,024	7.32
VIRGINIA	1	3,883	33,034	8.51
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>20,718</b>	<b>\$169,841</b>	<b>\$8.20</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	104	\$1,144	\$11.00
THIEF RIVER FALLS	4	1,113	8,793	7.90
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>1,217</b>	<b>\$9,937</b>	<b>\$8.17</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	1,559	\$15,241	\$9.78
LITTLE FALLS	3	695	11,385	16.38
ST. CLOUD	1	2,437	24,857	10.20
ST. MICHAEL	1	2,270	16,458	7.25
SARTELL	1	5,012	34,151	6.81
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>11,973</b>	<b>\$102,092</b>	<b>\$8.53</b>
<b><u>DISTRICT 4</u></b>				
ALEXANDRIA	1	2,562	\$17,165	\$6.70
MOORHEAD	1	7,435	57,621	7.75
<b>DISTRICT TOTAL</b>	<b>2</b>	<b>9,997</b>	<b>\$74,786</b>	<b>\$7.48</b>
<b><u>METRO WEST</u></b>				
ANDOVER	1	623	\$5,603	\$8.99
ANOKA	1	3,630	27,225	7.50
BLOOMINGTON	15	43,003	337,832	7.86
BROOKLYN CENTER	1	3,838	24,371	6.35
BROOKLYN PARK	1	1,040	10,086	9.70
CHAMPLIN	1	1,640	10,086	6.15
COON RAPIDS	2	780	19,582	25.11
CRYSTAL	2	7,877	50,434	6.40
FRIDLEY	2	5,029	46,769	9.30
EDEN PRAIRIE	1	2,955	27,751	9.39
HOPKINS	2	3,687	31,556	8.56
MAPLE GROVE	2	22,135	144,379	6.52
MINNEAPOLIS	6	8,555	63,981	7.48
MINNETONKA	1	14,786	92,127	6.23
NEW HOPE	3	3,677	23,662	6.44
PLYMOUTH	1	6,990	42,639	6.10
RICHFIELD	1	230	4,140	18.00
ROBBINSDALE	2	2,535	20,077	7.92
ST. LOUIS PARK	1	12,661	77,865	6.15
SHAKOPEE	2	8060	45886	5.69
SPRING LAKE PARK	1	830	7,055	8.50
<b>DISTRICT TOTAL</b>	<b>49</b>	<b>154,561</b>	<b>\$1,113,107</b>	<b>\$7.20</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	2,671	\$21,576	\$8.08
AUSTIN	2	80	1,200	15.00
FARIBAULT	1	1,178	12,077	10.25
NORTHFIELD	1	2,080	12,480	6.00
RED WING	2	15,176	118,421	7.80
ROCHESTER	2	5,742	47,935	8.35
<b>DISTRICT TOTAL</b>	<b>9</b>	<b>26,927</b>	<b>\$213,689</b>	<b>\$7.94</b>
<b>DISTRICT 7</b>				
FAIRMONT	1	6,600	\$50,328	\$7.63
NEW ULM	2	3,294	44,302	13.45
WASECA	1	1,246	9,784	7.85
WORTHINGTON	1	3,372	28,784	8.54
<b>DISTRICT TOTAL</b>	<b>5</b>	<b>14,512</b>	<b>\$133,198</b>	<b>\$9.18</b>
<b>DISTRICT 8</b>				
HUTCHINSON	1	3,254	\$26,784	\$8.23
LITCHFIELD	3	8,304	51,236	6.17
MARSHALL	2	3,712	31,702	8.54
MONTEVIDEO	1	4,320	32,400	7.50
GLENCOE	1	36	612	17.00
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>19,626</b>	<b>\$142,734</b>	<b>\$7.27</b>
<b>METRO EAST</b>				
BURNSVILLE	6	24,574	\$156,469	\$6.37
COTTAGE GROVE	1	10,300	66,435	6.45
HASTINGS	1	715	4,376	6.12
LITTLE CANADA	1	385	2,214	5.75
MAPLEWOOD	7	9,170	83,479	9.10
NEW BRIGHTON	3	750	13,200	17.60
NORTH ST. PAUL	1	1,600	10,304	6.44
OAKDALE	1	3,378	26,223	7.76
ROSEVILLE	3	1,624	12,549	7.73
ST. PAUL	1	7,144	53,680	7.51
SOUTH ST. PAUL	1	1,750	12,775	7.30
STILLWATER	1	5,400	34,290	6.35
WEST ST. PAUL	1	9,700	69,646	7.18
WHITE BEAR LAKE	2	9,302	57,287	6.16
WOODBURY	1	2,650	19,212	7.25
<b>DISTRICT TOTAL</b>	<b>31</b>	<b>88,442</b>	<b>\$622,139</b>	<b>\$7.03</b>

<b>DISTRICT TOTALS</b>				
DISTRICT 1	4	20,718	\$169,841	\$8.20
DISTRICT 2	5	1,217	9,937	8.17
DISTRICT 3	8	11,973	102,092	8.53
DISTRICT 4	2	9,997	74,786	7.48
METRO-WEST	49	154,561	1,113,107	7.20
DISTRICT 6	9	26,927	213,689	7.94
DISTRICT 7	5	14,512	133,198	9.18
DISTRICT 8	8	19,626	142,734	7.27
METRO-EAST	31	88,442	622,139	7.03
<b>TOTAL</b>	<b>121</b>	<b>347,973</b>	<b>\$2,581,523</b>	<b>\$7.42</b>

# CURB & GUTTER CONSTRUCTION #2531



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
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	6.00	5.76
1998	64	347,973	2,581,523	7.42		6.18

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS \$7.50 PER LIN. FT.

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

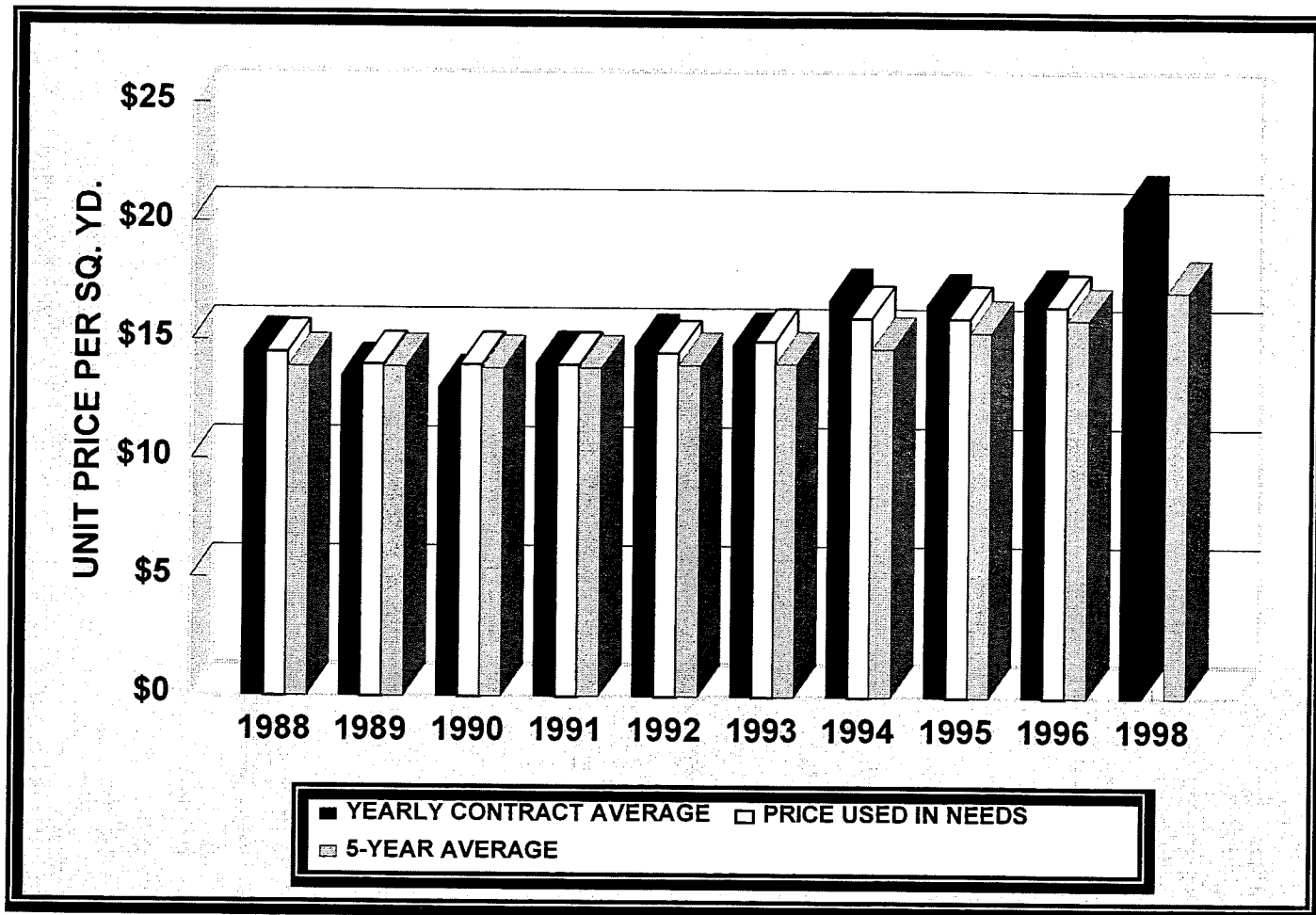
<b>MUNICIPALITY</b>	<b>NO. OF PROJECTS</b>	<b>TOTAL QUANTITY</b>	<b>TOTAL COST</b>	<b>AVERAGE UNIT PRICE</b>
<b><u>DISTRICT 1</u></b>				
DULUTH	1	2,176	\$66,897	\$30.74
GRAND RAPIDS	1	38	780	20.71
HIBBING	1	12	350	29.17
VIRGINIA	1	2,576	45,255	17.56
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>4,802</b>	<b>\$113,282</b>	<b>\$23.59</b>
<b><u>DISTRICT 2</u></b>				
BEMIDJI	1	32	\$580	\$18.00
THIEF RIVER FALLS	2	548	10,210	18.63
<b>DISTRICT TOTAL</b>	<b>3</b>	<b>580</b>	<b>\$10,790</b>	<b>\$18.59</b>
<b><u>DISTRICT 3</u></b>				
BRAINERD	2	764	\$20,801	\$27.21
LITTLE FALLS	2	312	10,440	33.45
ST. CLOUD	1	198	4,998	25.20
ST. MICHAEL	1	1,276	24,338	19.08
<b>DISTRICT TOTAL</b>	<b>6</b>	<b>2,550</b>	<b>\$60,577</b>	<b>\$23.75</b>
<b><u>DISTRICT 4</u></b>				
MOORHEAD	1	3,468	\$70,234	\$20.25
<b>DISTRICT TOTAL</b>	<b>1</b>	<b>3,468</b>	<b>\$70,234</b>	<b>\$20.25</b>
<b><u>METRO WEST</u></b>				
ANDOVER	1	16	\$420	\$27.00
ANOKA	1	1,563	24,272	15.53
BLOOMINGTON	14	15,331	317,026	20.68
BROOKLYN CENTER	1	369	11,638	31.50
BROOKLYN PARK	1	819	13,696	16.73
CHAMPLIN	1	1,518	27,320	18.00
COLUMBIA HEIGHTS	1	1,357	26,869	19.80
COON RAPIDS	2	772	24,015	31.10
CRYSTAL	2	1,069	22,708	21.25
FRIDLEY	1	5	284	59.44
HOPKINS	2	1,566	24,963	15.94
MAPLE GROVE	1	1,324	24,365	18.40
MINNEAPOLIS	6	3,978	72,898	18.33
NEW HOPE	2	744	13,100	17.60
PLYMOUTH	2	1,829	33,811	18.49
RICHFIELD	1	559	12,575	22.50
ROBBINSDALE	2	3,455	91,727	26.55
ST. LOUIS PARK	1	2,745	49,416	18.00
SAVAGE	1	1,903	27,914	14.67
SHAKOPEE	1	1,628	27,103	16.65
SPRING LAKE PARK	1	167	5,250	31.50
<b>DISTRICT TOTAL</b>	<b>45</b>	<b>42,717</b>	<b>\$851,370</b>	<b>\$19.93</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	651	\$14,679	\$22.54
AUSTIN	2	628	13,663	21.76
NORTHFIELD	1	1,014	16,425	16.20
RED WING	2	813	18,259	22.46
ROCHESTER	1	1,070	24,410	22.82
<b>DISTRICT TOTAL</b>	<b>7</b>	<b>4,176</b>	<b>\$87,436</b>	<b>\$20.94</b>
<b><u>DISTRICT 7</u></b>				
FAIRMONT	1	593	\$13,602	\$22.95
NEW ULM	2	2,447	74,879	30.60
WASECA	1	329	963	2.93
<b>DISTRICT TOTAL</b>	<b>4</b>	<b>3,369</b>	<b>\$89,444</b>	<b>\$26.55</b>
<b><u>DISTRICT 8</u></b>				
HUTCHINSON	1	837	\$21,000	\$25.09
LITCHFIELD	3	772	14,313	18.54
MARSHALL	2	885	19,835	22.40
MONTEVIDEO	1	540	10,206	18.90
GLENCOE	1	13	420	31.50
<b>DISTRICT TOTAL</b>	<b>8</b>	<b>3,048</b>	<b>\$65,774</b>	<b>\$21.58</b>
<b><u>METRO EAST</u></b>				
BURNSVILLE	4	1,406	\$27,018	\$19.21
HASTINGS	1	244	4,708	19.26
MAPLEWOOD	1	106	1,996	18.85
OAKDALE	1	12	308	25.67
ROSEVILLE	1	440	6,336	14.40
ST. PAUL	1	761	20,943	27.51
STILLWATER	1	1,248	20,785	16.65
WEST ST. PAUL	1	2,144	45,755	21.34
WHITE BEAR LAKE	2	506	9,345	18.48
<b>DISTRICT TOTAL</b>	<b>13</b>	<b>6,868</b>	<b>\$137,194</b>	<b>\$19.97</b>

<b><u>DISTRICT TOTALS</u></b>				
DISTRICT 1	4	4,802	\$113,282	\$23.59
DISTRICT 2	3	580	10,790	18.59
DISTRICT 3	6	2,550	60,577	23.75
DISTRICT 4	1	3,468	70,234	20.25
METRO-WEST	45	42,717	851,370	19.93
DISTRICT 6	7	4,176	87,436	20.94
DISTRICT 7	4	3,369	89,444	26.55
DISTRICT 8	8	3,048	65,774	21.58
METRO-EAST	13	6,868	137,194	19.97
<b>STATE TOTALS</b>	<b>91</b>	<b>71,578</b>	<b>\$1,486,101</b>	<b>\$20.76</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
1988	40	94,423	\$1,376,749	\$14.58	\$14.50	\$13.90
1989	62	159,205	2,150,360	13.51	14.00	13.90
1990	54	125,748	1,639,735	13.04	14.00	13.85
1991	60	179,115	2,514,996	14.04	14.00	13.86
1992	62	141,946	2,097,863	14.78	14.50	13.99
1993	55	119,082	1,767,834	14.85	15.00	14.04
1994	56	89,662	1,501,608	16.75	16.00	14.69
1995	49	134,724	2,230,974	16.56	16.00	15.40
1996	60	94,140	1,577,035	16.75	16.50	15.94
1998	54	71,578	1,486,101	20.76		17.13

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
PER SQ. YD.

\$20.00

**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)
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	71,200	229,700	20,000	20,000-80,000
1998				

\* 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 1998:**

	Storm Sewer. Adjustment	Storm Sewer Construction
1998	\$76,000	\$245,000

**SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1998:**

	Storm Sewer. Adjustment	Storm Sewer Construction	Lighting	Signals
1998	<u>\$76,000</u>	<u>\$245,000</u>	<u>\$20,000</u>	<u>\$100,000</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.)
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	800	750	80,000	110,000	750
1998					

**MN\DOT'S RAILROAD OFFICE RECOMMENDED PRICES FOR 1998:**

	Signs	Pavement Marking	Signals	Sig. & Gates	Rub. Mat.
1998	\$1,000	\$750	\$80,000	\$150,000	\$800

**SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1998:**

1998	<u>\$1,000</u>	<u>\$750</u>	<u>\$80,000</u>	<u>\$130,000</u>	<u>\$800</u>
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## Memo

Office of Bridges and Structures  
Waters Edge Building  
1500 West County Road B2, Suite 200  
Roseville, MN 55113-3105

Date: April 14, 1998

To: Kenneth Straus  
Manager, Municipal State Aid Street Needs Section

From: Mike Leuer  
State Aid Hydraulic Technician

Phone: 582-1184

Subject: State Aid Storm Sewer  
Construction Costs for 1997

We have completed our analysis of storm sewer construction costs incurred for 1997 and the following assumptions can be utilized for planning purposes per roadway mile:

- approximately \$245,000 for new construction, and
- approximately \$ 76,000 for adjustment of existing systems

CC: J.L. Boynton (file)

STATE OF MINNESOTA

DEPARTMENT OF TRANSPORTATION  
MS 470, Transportation Building

# Office Memorandum

TO: Kenneth Straus/~~Diane Gould~~  
Needs Unit

DATE: January 6, 1998

FROM: Robert G. Swanson, Director  
Railroad Administration

PHONE: 296-2472

SUBJECT: Projected Railroad Grade Crossing  
Improvements - Cost for 1998

We have projected 1998 costs for railroad-highway work at grade crossing improvements. For planning purposes, we recommend using the following figures:

Railroad Grade Crossings:		
Flashing Light Signals (Single Track - Low Speed)*		
(Average Price)	per system	\$80,000.00
Flashing Light Signals and Gates:		
(Multiple Track - High & Low Speed)** (Average Price)	per System	\$100-150,000.00
Signs (Advance warning signs & crossbucks Pavement Markings)	per Crossing	\$1000.00
(Tape)	per Crossing	\$5,500.00
(Paint)	per Crossing	\$750.00
Crossing Surfaces: (High Type Crossing Surface) Complete reconstruction of the crossing. Labor and Materials	per track ft	\$800.00

\* 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.

### **Special Drainage Costs for Rural Segments**

On April 19, 1996, the Needs Study Subcommittee requested background information on how this unit price is determined. The following minutes are taken from the Needs Study Subcommittee meeting of March 19, 1990:

*Rural section drainage needs: some cities have a certain amount of rural section streets or roads which are unlikely to ever require curb and gutter section and storm sewers, that is, urban section needs. It would seem that they should draw some needs however for ditching, driveway culverts, centerline culverts, rip-rap, etc. There are two ways to handle this inequity, come up with an average cost per mile, or have cities submit special drainage needs. After considerable discussion it was decided to recommend cost of \$25,000 per mile - based on an average of 25 driveways per mile and four centerline pipes per mile. If cities feel this does not represent their needs or if they have out of the ordinary drainage needs they have the option of submitting special drainage needs. These would be subject to approval by the District State Aid Engineer.*

At the April 19, 1994 meeting of the Needs Study Subcommittee, the unit price for special drainage was changed to \$26,000 per mile. There is no indication in the minutes as to why this change was made.

After consulting with the MN/DOT estimating unit and research in the State Aid manual and the Drainage manual, the following determinations have been made:

#### ***For Entrance Culverts:***

- 1) The recommended residential driveway width onto a state aid roadway is 16 feet. (State Aid Manual Fig. D(2) 5-892.210).
- 2) The minimum pipe diameter of Side Culverts shall be 18 inches. The minimum cover shall be one foot, however, it is desirable to have 1.25 feet or more of cover on side roads. (Drainage Manual 5-294.302).
- 3) The MN/DOT estimating unit recommends using a 18-inch Galvanized Steel Pipe and two aprons as the standard for an entrance culvert to a rural segment on the Municipal State Aid Street system.
- 4) For construction needs purposes the MN/DOT estimating unit recommends using \$17.00 per foot as a cost for 18" GSP and \$88.00 per apron.
- 5) Using a 3:1 inslope for the driveway with a 4' deep ditch (the culvert would have 2.5 feet of cover), the length of the pipe would be 31 feet plus two aprons.
- 6) Therefore, the estimated construction needs cost per entrance would be \$734.00.

Using the 1990 Needs Study Subcommittee recommended number of 25 entrances per mile, the cost of Side Culverts per mile would be \$18,350.

***For 42 Culverts:***

- 1) The minimum pipe diameter of 42 culverts shall be 24 inches. The minimum cover shall be 1.25 feet to the top of rigid pavement and 1.75 feet to the top of flexible pavement. (Drainage Manual 5-294.302).
- 2) The MN/DOT estimating unit recommends using a 30-inch Reinforced Concrete Pipe and two aprons as the standard for a centerline culvert on a rural segment of the Municipal State Aid Street system.
- 3) For construction needs purposes the MN/DOT estimating unit recommends using \$45.00 per foot as a cost for 30" RCP and \$500 per apron.
- 4) Using a 40' roadbed width, a 4:1 inslope and a 4' ditch depth (the culvert would have 1.5 feet of cover), the length of the culvert would be 52' plus two aprons.
- 5) Therefore, the estimated construction needs cost per 42 culvert would be \$3,340.

Using the 1990 Needs Study Subcommittee recommended number of four 42 culverts per mile, the cost of centerline culverts per mile would be \$13,360.

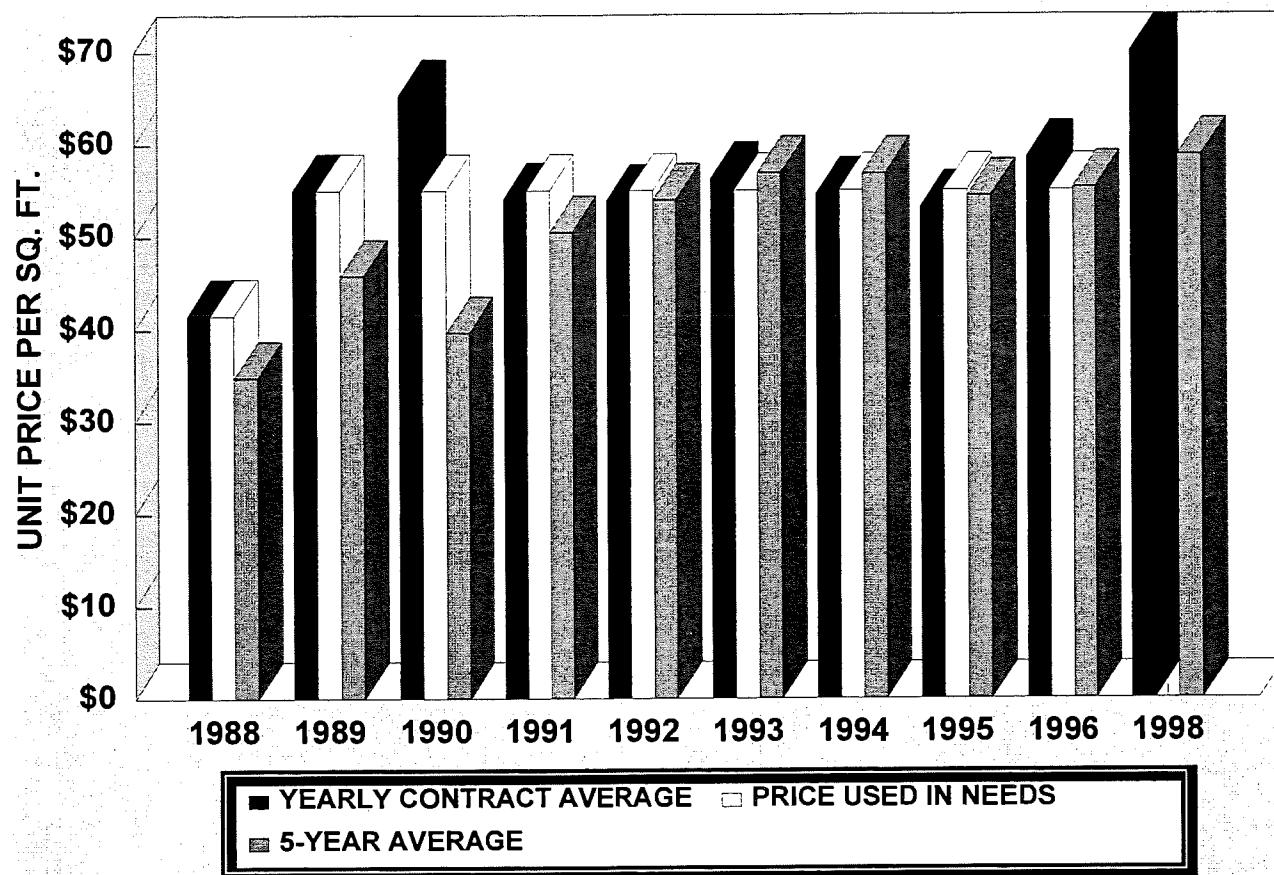
By adding the cost of the 25 Side Culverts and the 4 42 culverts, the 1998 estimated construction needs cost per mile for Special Drainage is **\$31,710**.

**1997 BRIDGE CONSTRUCTION COSTS**

Bridges 0-149 Feet					
BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST SQ. FT.	LENGTH
04518	SP 04-599-39	3,233	\$199,693	\$61.77	91.50
05530	SP 05-598-09	3,559	206,763	58.10	90.48
07043	SAP 07-690-03	8,520	1,320,847	155.03	149.73
07044	SAP 07-690-03	6,529	856,621	131.20	124.88
12545	SP 12-599-35	3,213	168,049	52.30	93.87
17528	SP 17-599-34	2,847	170,245	59.80	90.88
20549	SP 20-615-10	3,523	175,129	49.71	89.58
25578	SP 25-598-06	3,153	183,389	58.16	89.25
31538	SAP 31-599-06	2,534	201,196	79.40	81.30
32550	SP 32-609-33	5,766	315,342	54.69	133.06
32553	SP 32-629-26	3,200	196,785	61.50	80.00
33529	SP 33-615-02	2,350	209,770	89.26	61.83
40518	SP 40-599-08	3,436	200,545	58.37	97.25
46566	SP 46-599-50	3,720	334,649	89.96	124.00
52511	SP 52-621-17	3,173	370,138	116.65	83.48
57514	SP 57-598-15	1,823	149,640	82.08	51.58
58522	SP 58-598-05	3,860	183,047	47.42	98.13
59518	SP 59-599-33	2,522	158,402	62.81	80.50
59532	SP 59-599-35	3,891	203,388	52.27	108.08
65542	SAP 65-598-08	2,535	145,797	57.51	71.75
65553	SP 65-615-07	2,341	124,994	53.39	59.52
67536	SP 67-599-86	3,319	233,574	70.37	105.94
68527	SP 68-598-28	2,736	199,424	72.89	76.00
71518	SAP 71-609-07	5,176	305,816	59.08	131.59
76524	SP 76-599-32	2,917	175,264	60.08	96.03
76525	SP 76-620-14	4,962	208,302	41.98	125.96
83517	SP 83-599-15	2,791	195,084	69.90	93.03
84518	SP 84-597-02	3,552	244,644	68.88	95.25
16516	SP 16-612-53	3,663	411,747	112.41	93.00
22592	SAP 22-616-12	2,438	135,002	55.37	56.00
22593	SAP 22-599-66	1,731	125,710	72.62	55.00
23554	SP 23-613-02	4,096	413,668	100.99	128.00
23557	SP 23-612-24	5,067	235,163	46.41	89.00
25577	SAP 25-599-57	2,178	176,048	80.83	62.00
25579	SAP 25-599-35	3,011	191,540	63.61	85.00
29506	SAP 29-645-08	2,056	87,250	42.44	54.00
31536	SP 31-640-03	2,400	216,289	90.12	81.30
32539	SAP 32-599-28	2,335	157,254	67.35	75.00
45555	SP 45-599-117	4,833	292,245	60.47	123.00
52516	SAP 52-603-06	3,787	258,754	68.33	98.00
63512	SAP 63-611-06	6,045	406,915	67.31	140.00
76526	SAP 76-599-28	3,195	196,101	61.38	90.00
76527	SAP 76-606-36	3,524	210,307	59.68	85.00
86514	SP 86-598-02	3,680	305,003	82.88	85.00
87564	SAP 87-599-43	3,053	185,294	60.69	87.00
87574	SAP 87-599-98	2,319	163,056	70.31	74.00
14007	TH	4,231	273,399	64.62	93.33
55039	TH	6,028	378,732	62.83	118.07
64003	TH	4,559	247,820	54.36	88.23
76012	TH	5,879	368,537	62.69	135.67
80005	TH	5,048	296,370	58.71	98.33
87018	TH	5,048	282,468	55.96	110.07
STATE AID PROJECTS		160,592	\$11,803,883	\$73.50 Average	
TRUNK HWY. PROJECTS		30,793	\$1,847,326	\$59.99 Average	
TOTAL		191,385	\$13,651,209	\$71.33 Average	

# BRIDGE COST

## O-149 FEET



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
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	55.00	55.25
1998	52	191,385	13,651,209	71.33		58.75

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
PER SQ. FT.

\$60.00

# 1997 BRIDGE CONSTRUCTION COSTS

## Bridges 150-499 Feet

BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST SQ. FT.	LENGTH
02550	SAP 02-617-11	32,434	\$1,689,343	\$52.09	288.00
02562	SP 114-120-04	14,072	862,966	61.33	200.80
09521	SAP 09-645-01	18,496	879,467	47.55	263.00
27A32	SP 141-211-07	11,545	1,104,302	95.65	200.60
31533	SP 31-640-03	8,598	448,574	52.17	218.58
31534	SP 31-629-10	10,824	528,523	48.83	225.50
36523	SAP 36-618-07	7,546	476,710	63.17	192.00
43532	SP 133-108-05	24,574	1,111,672	45.24	462.60
55556	SP 55-598-36	8,946	532,756	59.55	227.17
80526	SP 80-621-08	6,274	358,402	57.12	159.50
02031	TH	13,157	855,202	65.00	199.67
02035	TH	45,451	3,718,815	81.82	450.89
02039	TH	11,646	619,206	53.17	165.17
02040	TH	14,696	719,270	48.94	167.02
02041	TH	14,465	715,559	49.47	224.61
02042	TH	18,400	849,499	46.17	222.00
27V03	TH	15,220	721,823	47.43	246.82
27V04	TH	12,357	644,268	52.14	246.82
27059	TH	27,071	1,397,956	51.64	290.68
27075	TH	8,708	620,012	71.20	168.53
27076	TH	8,051	527,455	65.51	168.53
27221	TH	24,682	1,461,277	59.20	219.61
27222	TH	13,466	655,796	48.70	238.33
28004	TH	15,811	1,170,138	74.01	308.00
28019	TH	23,220	1,124,069	48.41	452.33
28021	TH	15,286	856,991	56.06	249.23
58005	TH	17,624	1,157,122	65.66	372.33
80004	TH	8,522	526,220	61.75	166.00
82006	TH	23,207	1,682,973	72.52	225.18
86003	TH	8,966	625,665	69.78	174.67
STATE AID PROJECTS		143,309	\$7,992,715	\$55.77	Average
TRUNK HWY. PROJECTS		340,006	\$20,649,316	\$60.73	Average
TOTAL		483,315	\$28,642,031	\$59.26	Average

## Bridges 500 Feet and Over

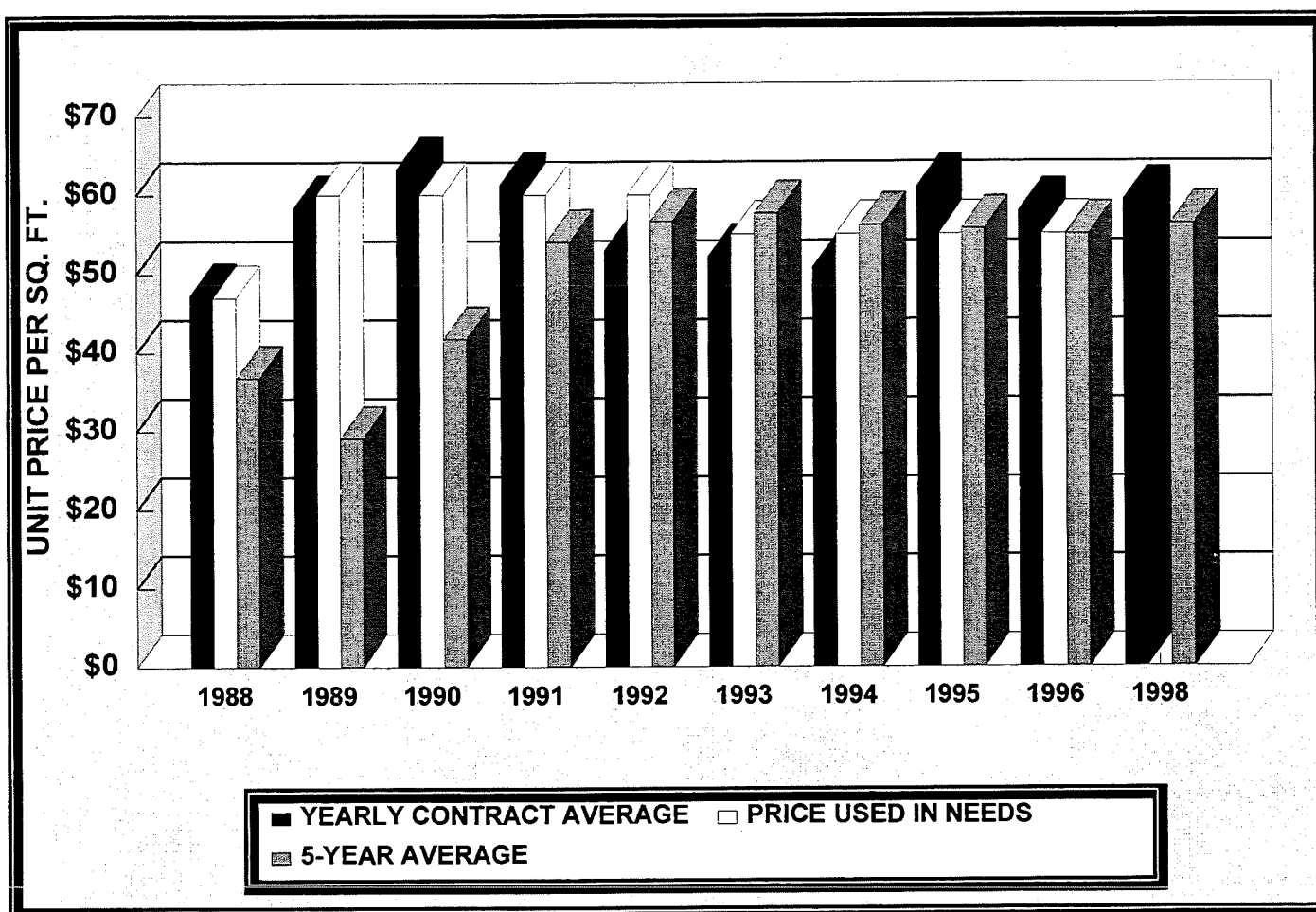
BRIDGE NUMBER	PROJECT NUMBER	DECK AREA	BRIDGE COST	COST SQ. FT.	LENGTH
14531	SP 144-135-02	81,625	\$4,867,831	\$59.64	1020.02
02037	TH	54,250	4,168,061	76.83	598.00
09009	TH	46,254	2,966,890	64.14	1011.55
STATE AID PROJECTS		81,625	\$4,867,831	\$59.64	Average
TRUNK HWY. PROJECTS		100,504	\$7,134,951	\$70.99	Average
TOTAL		182,129	\$12,002,782	\$65.90	Average

## Railroad Bridges

BRIDGE NUMBER	No of Tracks	BRIDGE COST	COST LIN. FT.	LENGTH
86011	1	\$2,270,370	\$8,698.07	261.02

# 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
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	55.00	54.96
1998	30	483,315	28,642,031	59.26	60.00	56.22

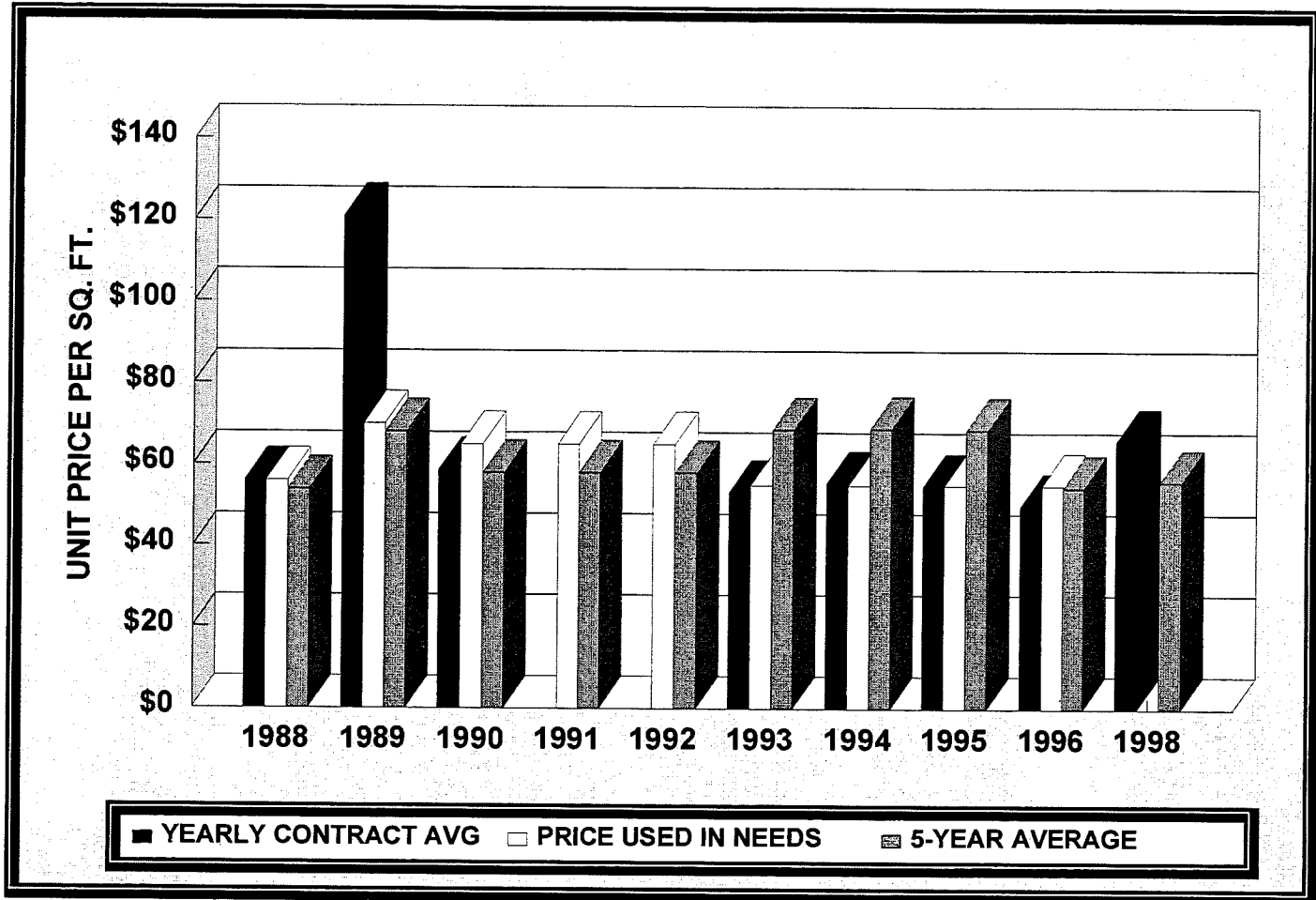
SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
PER SQ. FT.

\$60.00



# 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
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	55.00	54.43
1998	3	182,129	12,002,782	65.90		55.88

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

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
PER SQ. FT.

\$60.00

## 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
1998	1	1	261.02	8,698		

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
PER LINEAL FOOT FOR THE FIRST TRACK

\$8,000

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS  
PER LIN. FT. FOR ADDITIONAL TRACKS

\$6,500

## 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 1997 was \$17,036,616.

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

	1997 NEEDS PRICES		SUBCOMMITTEE SUGGESTED PRICES		SCREENING BOARD RECOMMENDED PRICES	
	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	880	440	880		
<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.

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

## A HISTORY OF THE ANNUAL MAINTENANCE NEEDS COSTS

(COMPUTED ON EXISTING MILEAGE ONLY)

Year	Traffic Lane Per Mile		Parking Lane Per Mile		Median 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
<b>1986</b>	\$300	\$500	\$100	\$100	\$100	\$200	\$100	\$100	\$100	\$100	\$1,000	\$1,000
<b>1987</b>	300	500	100	100	100	200	100	100	100	100	1,000	1,000
<b>1988</b>	600	1,000	200	200	200	400	200	200	400	400	2,000	2,000
<b>1989</b>	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
<b>1990</b>	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
<b>1991</b>	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
<b>1992</b>	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
<b>1993</b>	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
<b>1994</b>	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
<b>1995</b>	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
<b>1996</b>	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
<b>1998</b>												

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.



## NOTES

[illegible]

## **UNIT PRICE REVIEW** **Through 1995**

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.

<b>Excavation</b>			<b>Aggregate Shouldering</b>		<b>Curb &amp; Gutter Removal</b>		<b>Aggregate Base</b>	
Needs Year	Average Contract Price	Difference	Average Contract Price	Difference	Average Contract Price	Difference	Average Contract 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
<b>This is an average change of -\$0.007 per cu. yd. per year</b>			<b>This is an average change of \$0.194 per ton per year</b>		<b>This is an average change of \$0.044 per lin. ft. per year</b>		<b>This is an average change of \$0.188 per ton per year</b>	

<b>Sidewalk Removal</b>			<b>Concrete Pavement Removal</b>		<b>Class 4 Subbase</b>		<b>#2331 Bituminous Base or Surface</b>	
Needs Year	Average Contract Price	Difference	Average Contract Price	Difference	Average Contract Price	Difference	Average Contract 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
<b>This is an average change of \$0.099 per sq. yd. per year</b>			<b>This is an average change of \$0.054 per sq. yd. per year</b>		<b>This is an average change of -\$0.046 per ton per year</b>		<b>This is an average change of -\$0.058 per ton per year</b>	

#2341 Bituminous Surface			#2361 Bituminous Surface		Tree Removal		Curb & Gutter Construction	
Needs	Average 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	
Needs	Average 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?**



## **UNIT PRICE REVIEW** **Through 1998**

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.

<b>Excavation</b>			<b>Aggregate Shouldering</b>		<b>Curb &amp; Gutter Removal</b>		<b>Aggregate Base</b>	
Needs	Average 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
1996	2.53	-0.07	9.22	1.09	2.05	0.21	6.29	0.06
1998	3.56	1.03	21.05	11.83	1.96	-0.09	6.63	0.34
		0.1011		1.5867		0.0473		0.1900
This is an average change of \$0.1011 per cu. yd. per study			This is an average change of \$1.5867 per ton per study		This is an average change of \$0.0473 per lin. ft. per study		This is an average change of \$0.1900 per ton per study	

<b>Sidewalk Removal</b>			<b>Concrete Pavement Removal</b>		<b>Class 4 Subbase</b>		<b>#2331 Bituminous Base or Surface</b>	
Needs	Average 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
1996	4.19	-1.17	4.37	0.21			21.18	1.31
1998	4.97	0.78	4.69	0.32			22.82	1.64
		0.0455		0.0927		-0.0456		0.2209
This is an average change of \$0.0455 per sq. yd. per study			This is an average change of \$0.0927 per sq. yd. per study		This is an average change of -\$0.0456 per ton per study		This is an average change of \$0.2209 per ton per study	

#2341 Bituminous Surface			#2361 Bituminous Surface		Tree Removal		Curb & Gutter Construction	
Average Contract			Average Contract		Average Contract		Average Contract	
Needs 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
1996	23.68	0.39	30.75	0.95	204.19	17.65	6.24	-0.01
1998	24.60	0.92	30.43	-0.32	174.64	-29.55	7.42	1.18
		-0.0409		-0.2545		10.6700		0.1909
This is an average change of -\$0.0409 per ton per study			This is an average change of -\$0.2545 per ton per study		This is an average change of \$10.6700 per tree per study		This is an average change of \$0.1909 per lin. ft. per study	

Sidewalk Construction			Bridges 0-149 feet long		Bridges 150-499 feet long		Bridges 500 ft long and over	
Average Contract			Average Contract		Average Contract		Average Contract	
Needs 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
1996	16.75	0.19	58.51	5.38	57.90	-3.13	49.93	-4.90
1998	20.76	4.01	71.33	12.82	59.26	1.36	65.90	15.97
		0.6145		1.8482		1.2055		0.4455
This is an average change of \$0.6145 per sq. ft. per study			This is an average change of \$1.848 per sq. ft. per year		This is an average change of \$1.206 per sq. ft. per year		This is an average change of \$0.446 per sq. ft. per year	

GUIDELINES FOR ADVANCEMENT OF MUNICIPAL STATE AID CONSTRUCTION  
FROM THE GENERAL MSAS CONSTRUCTION ACCOUNT

The following guidelines which have been recommended by the Municipal Screening Board will be used when Cities request an advance of funds from the General MSAS Construction Account. Such advances shall be repaid from the following year's construction apportionment.

- (1) The maximum Municipal State Aid construction dollars which can be advanced in any one year shall be the difference between the Municipal State Aid construction fund balance at the end of the preceding calendar year and \$40 million. Advanced funding will be granted on a first come-first served basis.
- (2) Municipalities with a total annual MSAS allotment of \$500,000 or more can advance up to the previous year's MSAS allotment with a maximum amount of \$3,000,000. Municipalities with a total annual MSAS allotment of less than \$500,000 can advance up to three times the previous years MSAS allotment, or \$500,000, whichever is less. In either case, the maximum advance must be reduced by any schedule bond principal and interest obligations and advance encumbrance repayments. Any advances made must be repaid by deductions made from the next available allocations.
- (3) Advanced State Aid funding must be requested by City Council Resolution. This resolution need not be project specific, but describes the maximum amount of advances the City Council authorizes for financing of approved Municipal State Aid Street projects in that year. This resolution must be submitted with, or prior to, the first project specific request. Once this resolution is received by SALT Division and the City's construction account balance has reached zero, payments will be made to the City for approved Municipal State Aid Street projects up to the amount requested on the resolution, and subject to the other provisions of these guidelines. The resolution does not reserve funds nor establish the "first come-first served" basis. First come-first served is established by payment requests and/or by the process described in (4).
- (4) Prior to entering into a contract where advanced funding will be required, the City Engineer must submit a Request to Reserve Advanced Funding form. SALT will reserve the funds and return the approved form to the City Engineer provided that:
  - a) the amount requested is within the amount authorized by the City Council Resolution,
  - b) the amount requested is consistent with the other provisions of this guideline, and
  - c) the City intends to approve the contract within the next several weeks; or in the case of a construction project, a completed plan has been submitted for State-Aid approval.

Upon receiving the approved Request to Reserve Advanced Funding, the City Engineer knows that funds have been reserved for the project.

# CITY GENERAL FUND ADVANCES

## Fund 250

1997 MSAS YEAR END CONSTRUCTION BALANCE AVAILABLE	\$ 48,694,919.25
LESS: AMOUNT REQUIRED IN ACCOUNT	\$ (40,000,000.00)
MAXIMUM AMOUNT FOR ADVANCE IN THE 1998	\$ 8,694,919.25
AMOUNT ADVANCE TO DATE (LISTED BELOW)	\$ 5,408,371.67
BALANCE AVAILABLE TO ADVANCE	\$ 3,286,547.58
Less Requests to Reserve Advance Funding-Not Advanced Yet	\$ -
BALANCE AVAILABLE TO ADVANCE (if all requests to reserve are advanced)	\$ 3,286,547.58

CITY NAME	RESOLUTION AMOUNT	YEAR	REQUEST TO RESERVE ADV FUNDING	ADVANCE AMOUNT	REPAID AMOUNT	BALANCE	COMMENTS
Corcoran	\$ 495,716.67	1996		495,716.67	289,620.00	206,096.67	
Eden Prairie	\$ 1,233,783.00 *	1998		373,931.00		373,931.00	Resolution Limit
Hastings	\$ 500,000.00	1997	500,000.00	500,000.00	304,604.00	195,396.00	
Lakeville	\$ 1,290,224.00	1998		1,290,224.00		1,290,224.00	
Little Falls	\$ 500,000.00	1997	326,500.00	500,000.00	327,046.00	172,954.00	
Mahtomedi	\$ 344,000.00	1998		344,000.00		344,000.00	
Minnetonka	\$ 1,400,000.00	1997		1,400,000.00	1,362,793.00	37,207.00	
Minnetonka	\$ 1,300,000.00	1998	1,300,000.00	1,300,000.00		1,300,000.00	
Red Wing	\$ 671,000.00	1998		671,000.00		671,000.00	
Spring Lake Park	\$ 200,109.00	1996		141,147.00	130,373.00	10,774.00	
St. Cloud	\$ 1,000,000.00	1998				-	
St. Louis Park	\$ 700,000.00	1998	700,000.00	700,000.00		700,000.00	
White Bear Lake	\$ 450,000.00	1998					
Woodbury	\$ 1,300,000.00	1997	962,672.00	962,672.00	855,883.00	106,789.00	
Woodbury	\$ 1,320,000.00	1998				-	
TOTAL	\$ 12,704,832.67			\$ 8,678,690.67	\$ 3,270,319.00	\$ 5,408,371.67	

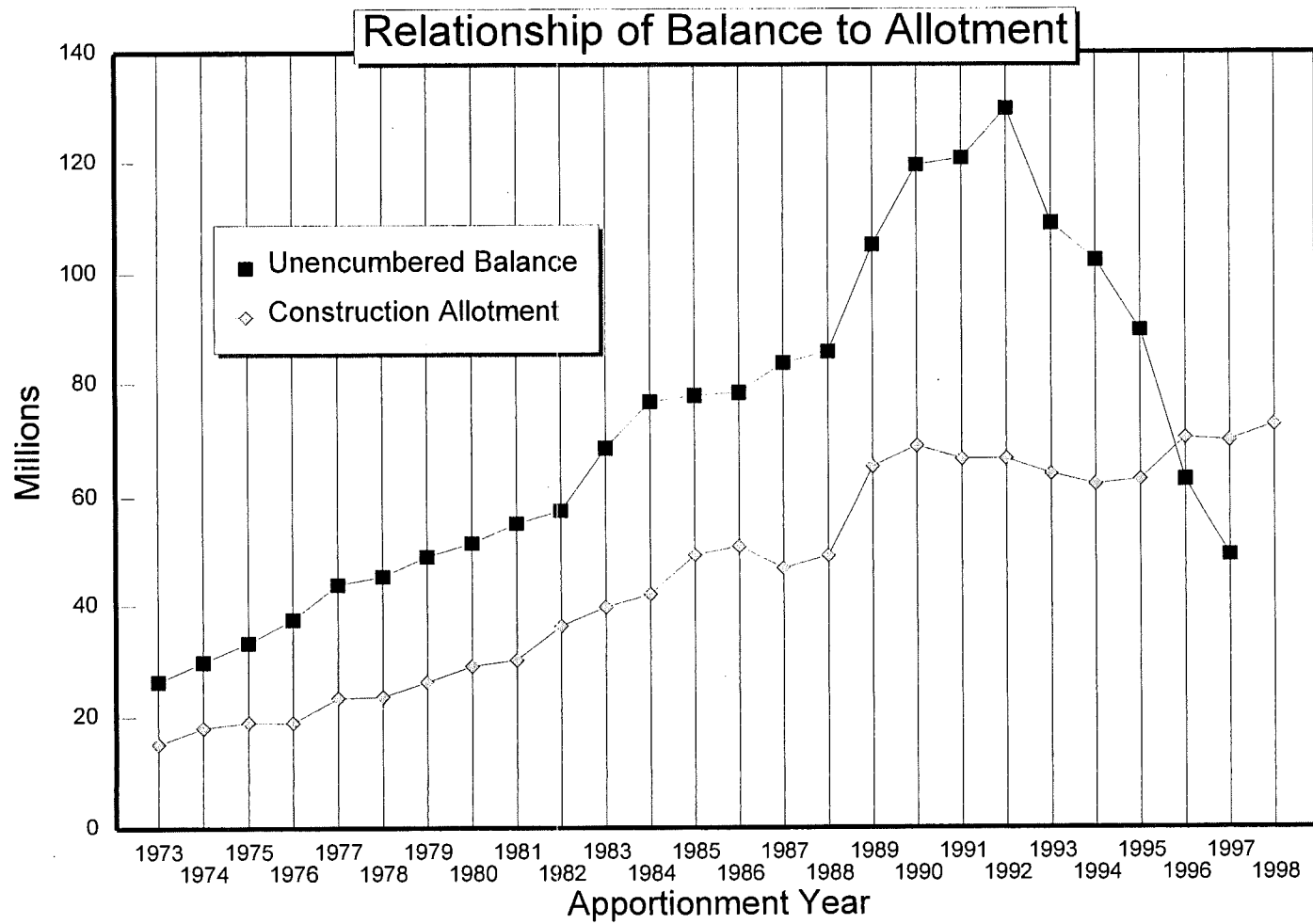
## RELATIONSHIP OF CONSTRUCTION BALANCE TO CONSTRUCTION ALLOTMENT

The amount spent on construction projects is computed by the difference between the previous year's and current years unencumbered construction balances plus the current years construction apportionment.

App. Year		No. of Municipalities	Needs Mileage	Unencumbered Construction Balance	Construction Allotment	Amount Spent on Construction Projects	Ratio of Construction Balance to Construction Allotment	Ratio of Amount spent to Amount Received
1973		94	1580.45	\$26,333,918	\$15,164,273	\$12,855,250	1.7366	0.8477
1974		95	1608.06	29,760,552	18,052,386	14,625,752	1.6486	0.8102
1975		99	1629.30	33,239,840	19,014,171	15,534,883	1.7482	0.8170
1976		101	1718.92	37,478,614	18,971,282	14,732,508	1.9755	0.7766
1977		101	1748.55	43,817,240	23,350,429	17,011,803	1.8765	0.7285
1978		104	1807.94	45,254,560	23,517,393	22,080,073	1.9243	0.9389
1979		106	1853.71	48,960,135	26,196,935	22,491,360	1.8689	0.8585
1980		106	1889.03	51,499,922	29,082,865	26,543,078	1.7708	0.9127
1981		106	1933.64	55,191,785	30,160,696	26,468,833	1.8299	0.8776
1982		105	1976.17	57,550,334	36,255,443	33,896,894	1.5874	0.9349
1983		106	2022.37	68,596,586	39,660,963	28,614,711	1.7296	0.7215
1984		106	2047.23	76,739,685	41,962,145	33,819,046	1.8288	0.8059
1985		107	2110.52	77,761,378	49,151,218	48,129,525	1.5821	0.9792
1986		107	2139.42	78,311,767	50,809,002	50,258,613	1.5413	0.9892
1987	*	107	2148.07	83,574,312	46,716,190	41,453,645	1.7890	0.8874
1988		108	2171.89	85,635,991	49,093,724	47,032,045	1.7443	0.9580
1989		109	2205.05	105,147,959	65,374,509	45,862,541	1.6084	0.7015
1990		112	2265.64	119,384,013	68,906,409	54,670,355	1.7326	0.7934
1991		113	2330.30	120,663,647	66,677,426	65,397,792	1.8097	0.9808
1992		116	2376.79	129,836,670	66,694,378	57,521,355	1.9467	0.8625
1993		116	2410.53	109,010,201	64,077,980	84,904,449	1.7012	1.3250
1994		117	2471.04	102,263,355	62,220,930	68,967,776	1.6436	1.1084
1995		118	2526.39	89,545,533	62,994,481	75,712,303	1.4215	1.2019
1996		119	2614.71	62,993,508	70,289,831	96,841,856	0.8962	1.3778
1997	**	122	2740.46	49,110,546	69,856,915	83,739,877	0.7030	1.1987
1998		125	2815.99		72,626,164		0.0000	0.0000

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

\*\* The date for the unencumbered balance deduction was changed from September 1 to December 31. Effective December 31, 1996.



## APPORTIONMENT RANKINGS

20-Apr-98

Municipality	1997 Total Needs Mileage	1997 Population Apportionment Per Need Mile	Municipality	1997 Total Needs Mileage	1997 Const. Needs Apportionment Per Need Mile	Municipality	1997 Total Needs Mileage	1997 Total Apportionment Per Need Mile
Falcon Heights	2.54	\$32,269	Crookston	11.46	\$28,930	Minneapolis	201.07	\$55,322
Vadnais Heights	6.86	28,616	Minneapolis	201.07	27,431	St. Paul	159.02	50,186
Minneapolis	201.07	27,891	Bloomington	75.34	25,617	Hopkins	9.41	48,386
Hopkins	9.41	26,960	Fairmont	19.38	24,568	New Hope	12.70	45,706
New Hope	12.70	26,195	St. Paul	159.02	24,124	Bloomington	75.34	43,255
St. Paul	159.02	26,062	Crystal	17.88	22,533	Crystal	17.88	42,787
Shoreview	15.51	25,635	Woodbury	38.18	22,274	Stewartville	3.54	40,170
Coon Rapids	37.67	24,532	Thief River Falls	13.99	21,984	Crookston	11.46	39,759
New Brighton	14.57	23,597	Hopkins	9.41	21,426	St. Louis Park	28.92	39,546
St. Louis Park	28.92	23,144	Farmington	10.65	20,755	St. Anthony	5.63	38,950
Maplewood	22.44	23,071	Cambridge	7.12	20,338	Brooklyn Center	21.67	38,934
Columbia Heights	12.53	22,975	Savage	16.36	20,338	Rochester	60.05	38,203
St. Anthony	5.63	22,713	Little Canada	8.09	19,741	Maplewood	22.44	37,907
Oakdale	16.72	22,637	New Hope	12.70	19,511	Little Canada	8.09	37,559
West St. Paul	13.10	22,603	Mankato	31.67	19,429	Oakdale	16.72	37,539
Anoka	11.98	22,483	Red Wing	22.59	19,246	Falcon Heights	2.54	37,288
Stewartville	3.54	21,640	Moorhead	30.09	19,156	Columbia Heights	12.53	37,267
Arden Hills	6.93	21,260	Maple Grove	41.35	19,096	Richfield	26.21	37,007
Robbinsdale	10.33	21,215	Glencoe	6.94	19,089	Northfield	12.06	36,481
Richfield	26.21	20,741	Brooklyn Center	21.67	18,641	Arden Hills	6.93	36,432
Waseca	6.31	20,348	Rochester	60.05	18,627	Forest Lake	5.53	36,300
Brooklyn Center	21.67	20,293	Stewartville	3.54	18,530	New Brighton	14.57	36,292
Crystal	17.88	20,254	Orono	12.58	18,201	Moorhead	30.09	36,256
Northfield	12.06	20,019	Forest Lake	5.53	18,018	Vadnais Heights	6.86	35,747
Brooklyn Park	46.70	19,982	Duluth	105.89	17,953	Shoreview	15.51	35,746
Apple Valley	31.74	19,942	Faribault	21.40	17,869	Maple Grove	41.35	35,662
Blaine	32.86	19,934	Hutchinson	14.73	17,808	Woodbury	38.18	35,602
Burnsville	43.69	19,844	Dayton	9.28	17,711	Coon Rapids	37.67	35,327
Mounds View	9.82	19,826	St. Peter	10.59	17,706	Anoka	11.98	35,304
White Bear Lake	20.03	19,774	Buffalo	9.10	17,529	Robbinsdale	10.33	34,996
Rochester	60.05	19,576	Lakeville	42.58	17,430	Mankato	31.67	34,811
Spring Lake Park	5.25	19,550	Austin	26.96	17,294	West St. Paul	13.10	34,564
Eagan	46.36	18,966	St. Paul Park	5.30	17,268	Owatonna	17.56	34,558
Stillwater	12.80	18,917	North Mankato	12.42	17,223	Burnsville	43.69	34,497
South St. Paul	16.32	18,853	Litchfield	8.06	17,037	Savage	16.36	34,437
Plymouth	48.91	18,782	St. Cloud	52.22	16,927	Roseville	28.70	34,170
Winona	21.75	18,626	Lino Lakes	18.67	16,909	Apple Valley	31.74	34,029
Mound	8.05	18,334	Waite Park	6.45	16,844	St. Cloud	52.22	34,024
Forest Lake	5.53	18,282	Owatonna	17.56	16,719	White Bear Lake	20.03	33,858
North St. Paul	10.68	18,194	Chaska	13.58	16,617	Blaine	32.86	33,590
Edina	39.36	18,189	Northfield	12.06	16,462	Fairmont	19.38	33,473

1997			1997			1997		
Total			Total			Total		
Needs			Needs			Needs		
Population			Const. Needs			Population		
Apportionment			Apportionment			Apportionment		
Per Need Mile			Per Need Mile			Per Need Mile		
Municipality	Mileage		Municipality	Mileage		Municipality	Mileage	
Roseville	28.70	\$18,042	St. Louis Park	28.92	\$16,402	Waseca	6.31	\$33,409
Owatonna	17.56	17,839	New Ulm	14.16	16,320	Farmington	10.65	33,291
Little Canada	8.09	17,818	Richfield	26.21	16,266	Plymouth	48.91	33,042
Sartell	6.46	17,768	St. Anthony	5.63	16,237	Mound	8.05	32,904
Champlin	17.01	17,754	Redwood Falls	7.87	16,218	Buffalo	9.10	32,776
Bloomington	75.34	17,638	Roseville	28.70	16,128	Chaska	13.58	32,726
Inver Grove Heights	23.86	17,215	Virginia	12.33	16,029	Sartell	6.46	32,655
Moorhead	30.09	17,100	Cottage Grove	29.32	15,980	Winona	21.75	32,499
St. Cloud	52.22	17,097	Cloquet	19.78	15,635	Mounds View	9.82	32,136
Fridley	25.24	17,090	Otsego	13.61	15,482	Cambridge	7.12	31,790
Eden Prairie	42.66	17,072	Grand Rapids	11.40	15,426	St. Peter	10.59	31,778
Maple Grove	41.35	16,566	Elk River	25.78	15,322	St. Paul Park	5.30	31,699
Worthington	9.81	16,156	Golden Valley	23.55	15,192	Edina	39.36	31,455
Chaska	13.58	16,109	Arden Hills	6.93	15,172	North Mankato	12.42	31,400
Monticello	5.99	16,098	Rosemount	22.32	15,164	North St. Paul	10.68	31,376
Hastings	16.09	16,009	Oakdale	16.72	14,902	Brooklyn Park	46.70	31,291
Mahtomedi	6.58	15,883	Sartell	6.46	14,887	Faribault	21.40	31,270
Minnetonka	49.93	15,735	Maplewood	22.44	14,836	Eden Prairie	42.66	31,266
International Falls	8.06	15,679	St. Michael	14.77	14,823	New Ulm	14.16	31,243
Mankato	31.67	15,382	Little Falls	15.67	14,781	Eagan	46.36	31,139
Buffalo	9.10	15,247	Burnsville	43.69	14,653	Cottage Grove	29.32	31,053
Cottage Grove	29.32	15,073	Prior Lake	15.16	14,648	Thief River Falls	13.99	30,999
Albert Lea	18.65	14,947	Fergus Falls	21.86	14,593	Waite Park	6.45	30,934
New Ulm	14.16	14,923	Mound	8.05	14,570	Hutchinson	14.73	30,817
St. Paul Park	5.30	14,431	Marshall	14.88	14,555	Stillwater	12.80	30,539
North Mankato	12.42	14,177	Albert Lea	18.65	14,430	Glencoe	6.94	30,487
Savage	16.36	14,099	Bemidji	14.40	14,386	Lakeville	42.58	30,302
Waite Park	6.45	14,090	Columbia Heights	12.53	14,292	Duluth	105.89	30,247
St. Peter	10.59	14,072	Plymouth	48.91	14,260	Inver Grove Heights	23.86	29,981
Sauk Rapids	10.17	13,948	Eden Prairie	42.66	14,194	Red Wing	22.59	29,873
Prior Lake	15.16	13,578	International Falls	8.06	14,179	International Falls	8.06	29,858
Golden Valley	23.55	13,556	Apple Valley	31.74	14,087	Austin	26.96	29,763
Brainerd	14.25	13,451	White Bear Lake	20.03	14,084	Worthington	9.81	29,544
Faribault	21.40	13,401	Alexandria	14.12	14,080	Albert Lea	18.65	29,377
Woodbury	38.18	13,328	Winona	21.75	13,873	Monticello	5.99	29,222
Hutchinson	14.73	13,009	Robbinsdale	10.33	13,781	South St. Paul	16.32	29,184
Morris	6.66	12,944	Blaine	32.86	13,656	Golden Valley	23.55	28,748
Lakeville	42.58	12,872	Chanhassen	21.57	13,478	Minnetonka	49.93	28,693
Shorewood	8.24	12,727	Chisholm	7.99	13,475	Litchfield	8.06	28,630
Marshall	14.88	12,633	Worthington	9.81	13,388	Prior Lake	15.16	28,226
Farmington	10.65	12,536	Edina	39.36	13,266	Lino Lakes	18.67	28,125
Austin	26.96	12,469	Hugo	14.69	13,255	Spring Lake Park	5.25	27,909
Duluth	105.89	12,294	Sauk Rapids	10.17	13,245	Champlin	17.01	27,730
Mendota Heights	13.51	12,233	North St. Paul	10.68	13,182	Virginia	12.33	27,673



Municipality	1997 Total Needs Mileage	1997 Population Apportionment Per Need Mile	Municipality	1997 Total Needs Mileage	1997 Const. Needs Apportionment Per Need Mile	Municipality	1997 Total Needs Mileage	1997 Total Apportionment Per Need Mile
Bemidji	14.40	\$12,167	Monticello	5.99	\$13,124	Orono	12.58	\$27,370
Willmar	23.90	11,884	Shorewood	8.24	13,105	Sauk Rapids	10.17	27,193
Detroit Lakes	9.54	11,687	Waseca	6.31	13,061	Marshall	14.88	27,188
Virginia	12.33	11,644	Shakopee	19.38	13,001	Mahtomedi	6.58	26,886
East Grand Forks	11.82	11,595	Minnetonka	49.93	12,958	Grand Rapids	11.40	26,598
Litchfield	8.06	11,593	Anoka	11.98	12,821	Bemidji	14.40	26,553
Cambridge	7.12	11,452	Inver Grove Heights	23.86	12,766	Redwood Falls	7.87	26,207
Chanhausen	21.57	11,433	New Brighton	14.57	12,695	Dayton	9.28	26,008
Glencoe	6.94	11,398	Hibbing	50.74	12,484	Shorewood	8.24	25,832
Shakopee	19.38	11,227	Montevideo	8.08	12,454	Hastings	16.09	25,242
Lino Lakes	18.67	11,216	North Branch	20.88	12,448	Chanhausen	21.57	24,911
Grand Rapids	11.40	11,172	Mounds View	9.82	12,310	Brainerd	14.25	24,677
Crookston	11.46	10,829	Willmar	23.90	12,225	Fridley	25.24	24,641
Red Wing	22.59	10,627	Eagan	46.36	12,173	Shakopee	19.38	24,228
Montevideo	8.08	10,408	West St. Paul	13.10	11,961	Cloquet	19.78	24,227
Chisholm	7.99	10,079	Ramsey	29.18	11,924	Willmar	23.90	24,109
Redwood Falls	7.87	9,989	Andover	34.06	11,868	Fergus Falls	21.86	23,701
Lake Elmo	9.53	9,891	Stillwater	12.80	11,622	Elk River	25.78	23,600
Andover	34.06	9,607	Brooklyn Park	46.70	11,309	Chisholm	7.99	23,554
Orono	12.58	9,169	Brainerd	14.25	11,226	Rosemount	22.32	23,534
Fergus Falls	21.86	9,108	Mahtomedi	6.58	11,003	Alexandria	14.12	23,080
Thief River Falls	13.99	9,015	East Grand Forks	11.82	10,962	Mendota Heights	13.51	23,077
Alexandria	14.12	9,000	Mendota Heights	13.51	10,844	Montevideo	8.08	22,862
Fairmont	19.38	8,905	Coon Rapids	37.67	10,795	Otsego	13.61	22,631
Cloquet	19.78	8,592	South St. Paul	16.32	10,331	East Grand Forks	11.82	22,557
Ramsey	29.18	8,572	Corcoran	14.18	10,276	Morris	6.66	22,380
Rosemount	22.32	8,370	Shoreview	15.51	10,111	Little Falls	15.67	22,210
Hermantown	12.99	8,359	Detroit Lakes	9.54	9,976	St. Michael	14.77	21,909
Dayton	9.28	8,297	Champlin	17.01	9,976	Detroit Lakes	9.54	21,663
Elk River	25.78	8,278	Oak Grove	19.50	9,967	Andover	34.06	21,475
Little Falls	15.67	7,429	Morris	6.66	9,436	Ramsey	29.18	20,496
Otsego	13.61	7,149	Hastings	16.09	9,233	Hugo	14.69	19,084
Ham Lake	23.55	7,130	Ham Lake	23.55	9,192	Hibbing	50.74	17,898
St. Michael	14.77	7,086	Hermantown	12.99	8,967	Hermantown	12.99	17,326
Corcoran	14.18	6,028	Spring Lake Park	5.25	8,359	Lake Elmo	9.53	16,942
Hugo	14.69	5,829	East Bethel	25.48	7,986	North Branch	20.88	16,623
East Bethel	25.48	5,480	Fridley	25.24	7,551	Ham Lake	23.55	16,322
Hibbing	50.74	5,414	Vadnais Heights	6.86	7,131	Corcoran	14.18	16,304
Oak Grove	19.50	4,882	Lake Elmo	9.53	7,051	Oak Grove	19.50	14,849
North Branch	20.88	4,175	Falcon Heights	2.54	5,019	East Bethel	25.48	13,466
<b>Average</b>		<b>\$15,368</b>			<b>\$15,035</b>			<b>\$30,403</b>

# **AVERAGE ADT PER MILE ON EXISTING ROADWAYS REPORTED IN NEEDS WITH ADT**

The column in this report "ADT per Mile for Existing Mileage with ADT" does not include nonexisting mileage or existing mileage reported in the Needs only having projected traffic.

Municipality	Existing ADT Times Existing Mileage With ADT	Existing Mileage With 0 ADT *	Total Existing Mileage With ADT	Total Existing Mileage	ADT per Mile for Existing Mileage with ADT	Estimated Total ADT Times Total Existing Mileage
ALBERT LEA	49,803	0.00	18.65	18.65	2,670	49,803
ALEXANDRIA	47,400	1.36	12.50	13.86	3,792	52,557
ANDOVER	16,384	6.05	19.04	25.09	861	21,590
ANOKA	26,509	0.45	11.16	11.61	2,375	27,577
APPLE VALLEY	156,329	0.79	25.16	25.95	6,213	161,238
ARDEN HILLS	13,683	0.64	5.29	5.93	2,587	15,339
AUSTIN	87,035	4.53	22.43	26.96	3,880	104,612
BEMIDJI	52,051	0.63	13.77	14.40	3,780	54,432
BLAINE	75,007	0.65	21.05	21.70	3,563	77,323
BLOOMINGTON	458,698	2.72	71.53	74.25	6,413	476,140
BRAINERD	29,496	0.00	14.09	14.09	2,093	29,496
BROOKLYN CENTER	119,826	0.00	21.67	21.67	5,530	119,826
BROOKLYN PARK	180,281	1.70	33.67	35.37	5,354	189,384
BUFFALO	13,524	0.64	7.58	8.22	1,784	14,666
BURNSVILLE	269,873	0.37	42.86	43.23	6,297	272,203
CAMBRIDGE	4,860	3.11	3.77	6.88	1,289	8,870
CHAMPLIN	26,671	2.11	12.19	14.30	2,188	31,288
CHANHASSEN	37,950	4.10	12.42	16.52	3,056	50,478
CHASKA	27,875	1.27	11.78	13.05	2,366	30,880
CHISHOLM	9,672	0.31	7.68	7.99	1,259	10,063
CLOQUET	30,100	0.15	19.51	19.66	1,543	30,332
COLUMBIA HEIGHTS	36,516	0.00	12.53	12.53	2,914	36,516
COON RAPIDS	160,742	3.67	32.22	35.89	4,989	179,051
CORCORAN	4,693	0.00	14.18	14.18	331	4,693
COTTAGE GROVE	91,674	2.86	23.90	26.76	3,836	102,645
CROOKSTON	18,313	0.62	10.84	11.46	1,689	19,361
CRYSTAL	38,331	0.00	17.78	17.78	2,156	38,331
DAYTON	0	8.65	0.00	8.65	0	0
DETROIT LAKES	21,087	0.00	9.54	9.54	2,210	21,087
DULUTH	435,484	0.42	104.54	104.96	4,166	437,234
EAGAN	220,972	4.08	39.45	43.53	5,601	243,825
EAST BETHEL	11,115	1.22	20.41	21.63	545	11,780
EAST GRAND FORKS	26,108	0.78	10.79	11.57	2,420	27,995
EDEN PRAIRIE	269,029	1.73	39.17	40.90	6,868	280,911
EDINA	247,185	0.56	38.80	39.36	6,371	250,752
ELK RIVER	37,901	2.07	17.49	19.56	2,167	42,387
FAIRMONT	58,674	0.59	17.96	18.55	3,267	60,601
FALCON HEIGHTS	3,923	0.00	2.54	2.54	1,545	3,923
FARIBAULT	68,137	2.55	18.85	21.40	3,615	77,354
FARMINGTON	4,111	0.00	7.22	7.22	569	4,111
FERGUS FALLS	96,096	1.62	19.42	21.04	4,948	104,112
FOREST LAKE	7,077	3.62	1.50	5.12	4,718	24,155
FRIDLEY	70,802	1.22	24.00	25.22	2,950	74,401
GLENCOE	9,802	2.29	3.88	6.17	2,526	15,587

Municipality	Existing ADT Times Existing Mileage With ADT	Existing Mileage With 0 ADT *	Total Existing Mileage With ADT	Total Existing Mileage	ADT per Mile for Existing Mileage with ADT	Estimated Total ADT Times Total Existing Mileage
GOLDEN VALLEY	84,044	0.00	23.01	23.01	3,653	84,044
GRAND RAPIDS	36,305	1.00	10.14	11.14	3,580	39,886
HAM LAKE	10,012	1.59	20.61	22.20	486	10,785
HASTINGS	44,894	2.89	13.02	15.91	3,448	54,859
HERMANTOWN	32,348	0.00	12.99	12.99	2,490	32,348
HIBBING	73,484	0.86	48.42	49.28	1,518	74,789
HOPKINS	49,198	0.00	9.34	9.34	5,267	49,198
HUGO	0	13.25	0.00	13.25	0	0
HUTCHINSON	42,179	0.73	13.65	14.38	3,090	44,435
INTERNATIONAL FALLS	10,594	0.28	7.78	8.06	1,362	10,975
INVER GROVE HEIGHTS	61,099	0.30	21.22	21.52	2,879	61,963
LAKE ELMO	8,531	0.00	9.53	9.53	895	8,531
LAKEVILLE	103,805	1.47	37.89	39.36	2,740	107,833
LINO LAKES	7,489	0.29	9.53	9.82	786	7,717
LITCHFIELD	7,921	1.57	6.49	8.06	1,220	9,837
LITTLE CANADA	17,063	1.84	6.25	8.09	2,730	22,086
LITTLE FALLS	25,388	1.15	12.84	13.99	1,977	27,662
MAHTOMEDI	5,154	2.08	4.44	6.52	1,161	7,568
MANKATO	204,486	0.43	29.52	29.95	6,927	207,465
MAPLE GROVE	100,230	2.29	29.78	32.07	3,366	107,937
MAPLEWOOD	53,556	5.15	17.29	22.44	3,098	69,508
MARSHALL	38,016	0.24	13.48	13.72	2,820	38,692
MENDOTA HEIGHTS	26,603	0.55	12.32	12.87	2,159	27,791
MINNEAPOLIS	1,134,432	0.22	198.45	198.67	5,716	1,135,690
MINNETONKA	160,627	0.00	46.55	46.55	3,451	160,627
MONTEVIDEO	16,779	0.43	7.65	8.08	2,193	17,722
MONTECELLO	5,150	1.13	3.20	4.33	1,609	6,968
MOORHEAD	134,839	1.52	27.59	29.11	4,887	142,267
MORRIS	7,161	0.00	6.66	6.66	1,075	7,161
MOUND	16,305	0.00	7.82	7.82	2,085	16,305
MOUNDS VIEW	18,949	0.00	9.82	9.82	1,930	18,949
NEW BRIGHTON	26,580	1.02	11.16	12.18	2,382	29,009
NEW HOPE	57,179	0.35	12.29	12.64	4,652	58,808
NEW ULM	35,478	0.00	14.16	14.16	2,506	35,478
NORTH BRANCH	8,973	4.23	16.16	20.39	555	11,322
NORTH MANKATO	49,695	2.58	9.84	12.42	5,050	62,724
NORTH ST PAUL	26,390	0.00	10.00	10.00	2,639	26,390
NORTHFIELD	23,655	2.04	8.87	10.91	2,667	29,096
OAK GROVE	7,677	0.76	15.13	15.89	507	5,965
OAKDALE	56,707	0.00	16.07	16.07	3,529	56,707
ORONO	20,014	1.16	11.42	12.58	1,753	22,047
OTSEGO	8,152	0.08	9.44	9.52	864	8,221
OWATONNA	49,738	0.50	17.01	17.51	2,924	51,200
PLYMOUTH	153,522	6.64	35.68	42.32	4,303	182,092
PRIOR LAKE	10,412	1.01	8.78	9.79	1,186	11,609
RAMSEY	12,218	2.14	16.77	18.91	729	13,777
RED WING	66,814	0.20	20.33	20.53	3,286	67,471
REDWOOD FALLS	4,894	2.80	3.81	6.61	1,285	8,491
RICHFIELD	105,703	0.00	25.39	25.39	4,163	105,703
ROBBINSDALE	64,240	0.00	10.29	10.29	6,243	64,240
ROCHESTER	365,052	2.88	53.44	56.32	6,831	384,726
ROSEMOUNT	33,009	0.41	18.19	18.60	1,815	33,753
ROSEVILLE	53,198	0.14	26.77	26.91	1,987	53,476

Municipality	Existing ADT Times Existing Mileage With ADT	Existing Mileage With 0 ADT *	Total Existing Mileage With ADT	Total Existing Mileage	ADT per Mile for Existing Mileage with ADT	Estimated Total ADT Times Total Existing Mileage
ST ANTHONY	26,730	0.00	5.63	5.63	4,748	26,730
ST CLOUD	318,597	3.40	45.77	49.17	6,961	342,264
ST LOUIS PARK	166,183	0.01	26.91	26.92	6,176	166,245
ST. MICHAEL	1,032	7.40	2.15	9.55	480	4,584
ST PAUL	1,101,483	5.86	152.11	157.97	7,241	1,143,917
ST. PAUL PARK	10,096	0.98	4.32	5.30	2,337	12,386
ST PETER	20,916	1.31	9.28	10.59	2,254	23,868
SARTELL	1,020	3.71	1.56	5.27	654	3,446
SAUK RAPIDS	31,395	0.84	8.81	9.65	3,564	34,388
SAVAGE	18,150	2.18	7.08	9.26	2,564	23,739
SHAKOPEE	35,277	3.21	13.27	16.48	2,658	43,810
SHOREVIEW	27,997	0.76	11.83	12.59	2,367	29,796
SHOREWOOD	2,070	7.55	0.69	8.24	3,000	24,720
SOUTH ST PAUL	41,679	0.19	15.38	15.57	2,710	42,194
SPRING LAKE PARK	17,611	0.33	4.92	5.25	3,579	18,792
STEWARTVILLE	850	2.72	0.82	3.54	1,037	3,670
STILLWATER	46,674	0.47	12.10	12.57	3,857	48,487
THIEF RIVER FALLS	33,270	0.16	13.46	13.62	2,472	33,665
VADNAIS HEIGHTS	13,042	0.07	5.85	5.92	2,229	13,198
VIRGINIA	39,421	0.00	12.05	12.05	3,271	39,421
WAITE PARK	19,079	2.73	3.57	6.30	5,344	33,668
WASECA	11,679	0.00	6.31	6.31	1,851	11,679
WEST ST PAUL	47,898	0.25	12.85	13.10	3,727	48,830
WHITE BEAR LAKE	59,541	0.00	19.53	19.53	3,049	59,541
WILLMAR	92,981	0.11	23.79	23.90	3,908	93,411
WINONA	118,695	2.29	19.09	21.38	6,218	132,933
WOODBURY	75,121	10.02	18.43	28.45	4,076	115,962
WORTHINGTON	21,523	0.00	9.81	9.81	2,194	21,523
<b>TOTAL</b>	<b>9,846,748</b>	<b>196.88</b>	<b>2410.46</b>	<b>2607.34</b>	<b>4,085</b>	<b>10,419,679</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**

Municipalities in the metropolitan area count cooperatively with Mn/Dot on a two year or four year cycle at the discretion of the city. Municipalities counting on the normal two year cycle are scheduled to be counted in 1999. Minneapolis and St. Paul count one half each year.

### **2. Out-State Municipalities**

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. Any city may count traffic every two years, at their discretion.

### **3. Municipalities that have a count annually**

Duluth counts 1/4 of the city each year.

<b>TRAFFIC TO BE COUNTED IN 1998</b>		
Alexandria	Rochester	Worthington
Cloquet	Willmar	

<b>TRAFFIC TO BE COUNTED IN 1999</b>		
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

<b>TRAFFIC TO BE COUNTED IN 2000</b>		
Austin	International Falls	Otsego
Buffalo	Montevideo	
Detroit Lakes	Monticello	

<b>TRAFFIC TO BE COUNTED IN 2001</b>		
Albert Lea	Faribault	Moorhead
Brainerd	Grand Rapids	Morris
Crookston	Little Falls	New Ulm
East Grand Forks	Mankato	Northfield
Fairmont	Marshall	

CURRENT RESOLUTIONS  
OF THE  
MUNICIPAL SCREENING BOARD

October 1997

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.

Screening Board Meeting Dates and Locations - June 1996

That the Screening Board Chairman, with the assistance of State Aid personnel, determine the dates and locations for that year's Screening Board meetings.

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 \$453,040 (not to exceed 1/2 of 1% of the 1997 MSAS Apportionment sum of \$90,608,066) shall be set aside from the 1998 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.

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 1994,1996

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 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, June 1996)

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.

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 affect of adding the county road turnback to the MSA system.

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, Oct. 1997)

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 as one-half of the mileage and allow one-half complete 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	6.20 Ton
Bituminous	Spec. #2331	20.50 Ton

Surface:

Bituminous	Spec. #2331	\$ 20.50 Ton
Bituminous	Spec. #2341	23.60 Ton
Bituminous	Spec. #2361	30.10 Ton

Shoulders:

Gravel	Spec. #2221	\$ 8.50 Ton
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Miscellaneous:

Storm Sewer Construction	\$229,700.00 Mile
Storm Sewer Adjustment	71,200.00 Mile
Special Drainage-Rural	28,490.00 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	6.00 Lin. Ft.
Sidewalk Construction	16.50 Sq. Yd.
Engineering	18%

Removal Items:

Curb & Gutter	\$ 1.80 Lin. Ft.
Sidewalk	4.75 Sq. Yd.
Concrete Pavement	4.20 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.

### "Non-existing" bridge costs - Revised October 1997

"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, project development cost and construction engineering that is eligible for State Aid reimbursement for a 15-year period excluding all Federal or State grants. The addition of 18% project development costs shall be added to the present list of non-existing bridges.

### 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
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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: Segment length times cost per mile.	\$ 440 (Per Mile)	\$ 880 (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.		
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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.		
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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 1991,1996)

That for the determination of Apportionment Needs, the amount of the unencumbered construction fund balance as of December 31st of the current year shall be deducted from the 25-year total Needs of each individual municipality.

Funding Requests that have been received before December 31st 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 1987,1997)

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 or four years at the discretion of the city.
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. Any city may count traffic every two years, at their discretion.



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Municipal Screening Board  
data