

2000 Municipal Screening Board Data

UNIT PRICE STUDY

MNDOT HE 356 .M6 M53a 2000

JUNE, 2000



State Aid for Local Transportation 395 John Ireland Boulevard Mail Stop 500 St. Paul, MN 55155-1899

Office Tel.: 651 296-3011 Fax: 651 282-2727

3 10 17

Date: April 21, 2000

To: Municipal Engineers City Clerks

From: R. Marshall Johnston Manager, Municipal State Aid Needs Unit

Subject: 2000 Municipal Screening Board Data booklet

Enclosed is a copy of the June 2000 Municipal Screening Board Data booklet.

The data included in this report will be used by the Municipal Board at its June 7 and 8, 2000 meeting to establish unit prices for the 2000 Needs Study and the 2001 apportionment. The Board will also review other recommendations of the Needs Study Subcommittee as outlined in their minutes. The Needs Study Subcommittee minutes are found on pages 11 and 12.

Should you have any suggestions or recommendations regarding the data in this publication, please refer them to your District Screening Board Representative or call me at (651) 296-6677.

The distribution of this report is mailed 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.

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2000 MUNICIPAL SCREENING BOARD DATA

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April, 2000

2000 MUNICIPAL SCREENING BOARD

OFFICERS

Chair Vice Chair Secretary		Ken Ashfeld David Jessup Tom Drake	Maple Grove Woodbury Red Wing	(612) 494-6000 (651) 714-3593 (651) 338-6734
MEMBERS				
District	<u>Served</u>	<u>Representative</u>		
1	3	David Salo	Hermantown	(218) 727-8796
2	1	Michael Metso	Bemidji	(218) 759-3576
3	1	Larry Koshak	Otsego	(612) 427-5860
4	3	Tim Schoonhoven	Alexandria	(320) 762-8149
Metro-West	2	Lee Gustafson	Minnetonka	(612) 939-8200
6	3	David Olson	Albert Lea	(507) 377-4325
7	2	Steven P. Koehler	New Ulm	(507) 359-8245
8	1	Keith Nelson	Marshall	(507) 537-6774
Metro-East	2	Mark Burch	White Bear Lake	(651) 429-8531
(Three Cities		Scott Brink	Duluth	(218) 723-3278
of the		Ramankutty Kannankutty	Minneapolis	(612) 673-2476
First Class)		Ed Warn	Saint Paul	(612) 266-6142
District		<u>Alternates</u>		
1		Jim Kosluchar	Chisholm	(218) 254-3257
2		Gary Sanders	East Grand Forks	(218) 773-1185
3		Brett Weiss	Monticello	(612) 541-4800
4		Tim Bayerl	Morris	(320) 762-8149
Metro-West		Shelly Pederson	Bloomington	(612) 948-3866
6		Tim Murray	Faribault	(507) 334-2222
7		Tim Loose	St. Peter	(507) 625-4171
8		Melvin Odens	Willmar	(320) 235-4202
Metro-East		Chuck Ahl	Burnsville	(612) 895-4400

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2000 SUBCOMMITTEES

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

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

	UNENCUMBERED CONSTRUCTION
NEEDS STUDY SUBCOMMITTEE	FUNDS SUBCOMMITTEE
Tom Drake, Acting Chair	Dave Sonnenberg - Chair
Red Wing	Minneapolis
(651) 227-6220	(612) 673-2443
Expires in 2000	Expires in 2000
Terry Wotzka	Brian Bachmeier
Waite Park, Sauk Rapids	Oakdale
(320) 253-1000	(612) 739-5086
Expires 2001	Expires in 2001
David Kildahl	John Rodeberg
Crookston	Hutchinson
(218) 281-6522	(320) 234-4208
Expires 2002	Expires in 2002

	ALLOCATION STUDY SUBCOMMITTEE	
-	Ramankutty Kannankutty - Minneapolis (Chair)	(612) 673-2456
	Gerald Butcher - Maple Grove	(612) 420-4000
	Tom Drake - Red Wing	(651) 338-6734
	John Flora - Fridley	(612) 571-3450
	Jim Prusak - Cloquet	(218) 879-6758
	Mike Rardin - St. Louis Park	(612) 924-2551
	Ed Warn - St. Paul	(612) 266-6142

1999 MUNICIPAL SCREENING BOARD FALL MEETING MINUTES OCTOBER 26 AND 27, 1999

I. Opening by Chairman Ashfeld

The 1999 Municipal Screening Board Fall Meeting was called to order at 1:06 p.m., October 26, 1999.

A. Chairman Ashfeld Introduced:

Marshall Johnston, Mn/DOT – Manager, Municipal State Aid Needs Unit

David Sonnenberg, - Chair of the Unencumbered Construction Fund Subcommittee

Brian Bachmeier, Oakdale - Past Past Chair of the Municipal Screening Board

Ramankutty Kannankutty, Minneapolis – Chair of the Allocation Study Subcommittee

John Rodeberg, Hutchinson – Past Chair, Municipal Screening Board

David Jessup, Woodbury – Secretary of the Screening Board

Tom Drake, Red Wing – Needs Study Subcommittee

Julie Skallman, Mn/DOT – Director, State Aid for Local Transportation

The Secretary conducted a roll of the members. All were present as follows:

<u>District 1</u>	<u>District 2</u>	<u>District 3</u>	<u>District 4</u>
Dave Salo	David Kildahl	Terry Wotzka	Tim Schoonoven
Hermantown	Crookston	St. Cloud	Alexandria
<u>Metro West</u>	<u>District 6</u>	<u>District 7</u>	<u>District 8</u>
Lee Gustafson	David Olson	Steve Koehler	Keith Nelson (Alternate)
Minnetonka	Albert Lea	New Ulm	Marshall
<u>Metro East</u> Mark Burch White Bear Lake	<u>Duluth</u> Dean Beeman	<u>Minneapolis</u> Ramankutty Kannankutty	<u>St. Paul</u> Ed Warn

B. The Chair recognized Department of Transportation personnel.

Mike Pinsonneault Assistant State Aid Engineer

Walter Leu District 1 State Aid Engineer

Kelvin Howieson District 3 State Aid Engineer

Greg Paulson District 6 State Aid Engineer

Tom Behm District 8 State Aid Engineer

Khani Sahebjam State Aid Pre-Letting Engineer

Patti Loken Assistant Metro District State Aid Engineer Lou Tasa District 2 State Aid Engineer

Tallack Johnson District 4 State Aid Engineer

Doug Haeder District 7 State Aid Engineer

Bob Brown Metro Division State Aid Engineer

Mark Channer Municipal State Aid Needs

Greg Felt Assistant Metro District State Aid Engineer

C. The Chair recognized others in attendance.

Mike Metso District 2 Alternate

David Kreager City of Duluth

Larry Veek City of Minneapolis Dan Sabin City of Minneapolis

Bruce Beese City of St. Paul

David Hutton City of Savage/Local Road Research Board

II. Fall 1999 Municipal State Aid Needs Report

A. The Spring1999 Screening Board minutes were presented for approval.

David Kildahl moved to approve the 1999 Spring Municipal Screening Board minutes. The motion was seconded by Lee Gustafson. Motion carried.

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B. Unencumbered Construction Fund Subcommittee Report

David Sonnenberg, Chairman of the Unencumbered Construction Fund Subcommittee, presented the Subcommittee report. The committee discussed the available funds in the Unencumbered Construction Fund balance and whether the minimum fund balance could be further reduced. The Screening Board recommended a minimum fund balance of \$25 million at its Spring 1999 meeting. Subsequently, the Mn/DOT State Aid Office determined a minimum fund balance of \$20 million would be acceptable and proceeded to advance funds on that basis. The Unencumbered Construction Fund Subcommittee reviewed the following three accounts to determine if additional funds could be made available for advancement.

ENCUMBERED BALANCE

The amount encumbered against existing projects represents 5% of the contract amounts. Because this 5% is already committed to projects for which contracts have been awarded, the Subcommittee does not recommend that this 5% be made available for advancement to cities.

DISASTER ACCOUNT

The disaster account represents up to 5% of the annual allotment to the Municipal State Aid System. The 5% is established by State statutes. The Subcommittee noted the disaster count for the County State Aid Highway System is 1% of the annual allotment. They further noted that the County State Aid Highway System has more miles than the Municipal State Aid System yet requires a lower disaster account balance. Because this is established by the legislature, it would require a change in State law for the disaster fund to be reduced. The Committee felt that such a change may be appropriate but only if it can be done as part of other transportation initiatives.

RESEARCH ACCOUNT

The research account has historically represented $\frac{1}{2}$ of 1% of the annual allotment. David Hutton, representing the Local Road Research Board, asked the Subcommittee to recommend that the $\frac{1}{2}$ of 1% allocated to the research account not be changed. Upon evaluation of the research account and the types of projects that have been funded, the Subcommittee recommends that $\frac{1}{2}$ of 1% continue to be allocated to the research account.

Julie Skallman indicated the minimum balance to be maintained in the Unencumbered Construction Fund is ultimately the decision of the Mn/DOT State Aid for Local Transportation Division in conjunction with the Finance Department. She indicated the minimum balance does not include the money set aside for the disaster account. She further indicated that the Mn/DOT State Aid for Local Transportation Division nor the Finance Department felt comfortable with lowering the fund balance below \$20 million. Ed Warn thanked the Committee for its evaluation. He indicated he felt legislation should be proposed which would reduce the 5% required for the disaster account.

C. Municipal Needs Report dated October 1999.

Marshall Johnston reviewed the Municipal Needs Report dated October 1999. He distributed a series of pages which updated the Needs Report and corrected several errors in the original report published prior to the meeting. Marshall Johnston indicated that one new city, Waconia, had been added in 1999. Overall there were 52.69 miles of additional roadways added to the Municipal State Aid System. There were additional 39,910 people added to the population total.

At its Spring 1999 meeting, the Screening Board increased the allowable engineering cost from 18% to 20%. Marshall Johnston requested that the 20% be reduced to 18% in computing the year 2000 allotment. The accuracy of the new data base that is being implemented for the year 2000 would be impossible to verify against the old 1999 data base if the engineering cost percentages were to increase at this time. The new computer mainframe should be available for use in determining the 2001 allocation. He recommended the engineering cost be increased from 18% to 20% again at that time.

Marshall Johnston summarized the research account which has historically been $\frac{1}{2}$ of 1% of the annual allotment. If a similar amount is used for the year 2000, the research account allocation would be \$487,286.00.

D. Needs Study Subcommittee.

Tom Drake, Chairman of the Needs Study Subcommittee, indicated the Needs Study Subcommittee did not have the opportunity to meet before the Fall Screening Board meeting. He indicated there was not adequate time to prepare and analyze the necessary background information because of personnel changes in the Mn/DOT State Aid for Local Transportation Division. He indicated the Needs Study Subcommittee should further analyze the following items prior to the Spring 2000 Screening Board meeting:

- 1. Street lighting costs
- 2. Reconditioning needs adjustment
- 3. Trunk highway turnback adjustment
- 4. Bridge needs

III. Other Matters

A. Mn/DOT Task Force for Cost Sharing Policies.

Julie Skallman indicated Mn/DOT wishes to receive six or seven volunteers from cities to participate in a series of committees analyzing Mn/DOT's Cost Participation Policies. Specifically there will be one work group dealing with the overall findings of a series of subcommittees. The subcommittees are:

- Roadway
- Interchange and Bridge '
- Multimodal
- Drainage
- Signals/Lighting
- Aesthetics

It is anticipated the work group and subcommittees will complete their work within the next eight months.

There being no more business brought forward, Lee Gustafson moved a motion to adjourn until 8:30 a.m. Wednesday. The motion was seconded by Ramankutty Kannankutty. Motion carried.

Meeting adjourned 2:55 p.m.

OCTOBER 27, 1999 MORNING SESSION

The Screening Board reconvened at 8:35 a.m., Wednesday, October 27, 1999.

- IV. Formal actions taken by the Screening Board.
 - A. Unencumbered Construction Fund Balance.

David Salo moved to approve the Unencumbered Construction Fund Subcommittee recommendations to not alter the 5% encumbered balance, disaster fund or research account as they relate to the Unencumbered Construction Fund and the funds which can be advanced to cities.

Motion was seconded by Keith Nelson. Motion carried.

B. Ed Warn indicated he wished to see a further evaluation of the disaster fund be presented at the Spring Screening Board meeting to determine if a legislative proposal should be introduced which would reduce the disaster account from 5% to 3% of the annual allotment. Ed Warn moved to request the Unencumbered

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Fund Committee to develop a legislative proposal to reduce the disaster fund account to 3% of the annual allotment.

The motion was seconded by Mark Burch. Motion carried with David Salo voting against it.

C. Minimum Balance for the Unencumbered Construction Fund balance.

Ed Warn moved to support the Mn/DOT State Aid for Local Transportation Office to maintain the \$20 million minimum fund balance in the Unencumbered Construction Fund.

The motion was seconded by Ramankutty Kannankutty. Motion carried.

D. Needs and Apportionment Data.

Ramankutty Kannankutty moved to accept the mileage and needs data as shown in the October 1999 Municipal State Aid Needs Report.

Motion was seconded by Lee Gustafson. Motion carried.

E. Research Account.

Ramankutty Kannankutty moved that an amount of \$487,285.00 (1/2 of 1%) of the 1999 Municipal State Aid System Apportionment shall be set aside from the 2000 apportionment fund and be credited to the research account.

The motion was seconded by Ed Warn. Motion carried.

F. Engineering Unit Price

Keith Nelson moved to approve the request to change back the engineering unit price to 18%. The motion was seconded by Lee Gustafson. Motion carried.

V. On behalf of the Screening Board, Chairman Ken Ashfeld thanked Tom Drake, Chair of the Needs Study Subcommittee, Dave Sonnenberg, Chair of the Unencumbered Construction Fund Subcommittee and Ramankutty Kannankutty, Chair of the Allocations Study Subcommittee for their time and commitment.

Chairman Ashfeld thanked the past Screening Board Chairmen; Dave Sonnenberg, Brian Bachmeier, and John Rodeberg for their participation at the Screening Board meeting.

Chairman Ashfeld thanked all members of the Screening Board, especially the three representatives who will be leaving the Board; Dave Kildahl, Terry Wotzka and Dan Sarff.

The following individuals were appointed to serve on the Mn/DOT Cost Participation Policy Task Force Committees:

Tom Drake, Redwing John Rodeberg, Hutchinson Lee Gustafson, Minnetonka Ramankutty Kannankutty, Minneapolis Dean Beeman, Duluth

VI. Adjournment

A motion was made by Lee Gustafson and seconded by Ramankutty Kannankutty to adjourn the October 27th Municipal Screening Board Meeting.

Motion carried.

Meeting adjourned 8:50 a.m.

Respectfully Submitted,

enny

David R. Jessup, PE MSA Screening Board Secretary Woodbury, City Engineer

J: CEAM MUNICIPAL SCREENING BOARD/MINUTES - 10-26 & 27-99 MEETING.DOC

2000 UNIT PRICE RECOMMENDATIONS									
		1999 Need	Sub- committee Suggested Prices For	Screening Board Recommended Prices					
	<u> </u>	Prices	2000	For 2000					
Grading (Excavation)	Cu. Yd.	\$3.30	\$3.30						
Aggregate Shoulders #2221	Ton	10.30	11.00						
Curb and Gutter Removal	Lin.Ft.	2.10	2.20						
Sidewalk Removal	Sq. Yd.	5.10	5.10						
Concrete Pavement Removal	Sa. Yd.	4.60	5.00						
Tree Removal	Unit	180.00	200.00						
Class 5 Base #2211	Ton	6.70	6.70						
Bituminous Base #2331	Ton	22.00	25.50	,					
Bituminous Surface #2331	Ton	22.00	25.50						
Bituminous Surface #2341	Ton	25.00	26.50						
Bituminous Surface #2361	Ton	31.50	31.50						
Curb and Gutter Construction	Lin Ft.	7 70	7.70						
Sidewalk Construction	Sa Yd	20.50	21.50						
Storm Sewer Adjustment	Mile	79 000	80,200						
Storm Sewer	Mile	246,000	248 500						
Special Drainage - Bural	Milo	33,000	35,000	······					
Street Lighting	Milo	35,000	78,000						
Traffic Signals	Por Sig	00,000	00,000						
Projected Traffic Percentage X 0 - 4,999 .25 5,000 - 9,999 .50 10,000 & Over 1.00	Unit Price = \$99,990 99,990 99,990	Needs Per Mile = \$24,998 = 49,995 = 99,990							
Bight of Way (Needs Only)	Acre	60,000	0						
	Percent	18	18						
Railroad Grade Crossing	reicent	10	10	н <u>, ,, , р.</u> , н.					
Signs	Unit	1,000	1,000						
Pavement Marking	Unit	750	750						
Signals (Single Track-Low Speed)	Unit	80,000	110,000						
Signals & Gate (Multiple									
Track - High & Low Speed)	Unit	135,000	150,000	- -					
Concrete Surface									
Crossing (Per Track)	Lin.Ft.	850	900						
Bridges									
0 to 149 Ft.	Sq. Ft.	63.50	65.00						
150 to 499 Ft.	Sa. Ft.	63.50	62.50						
500 Ft. and over	Sa. Ft.	63.50	60.00						
Railroad Bridges over Highways									
Number of Tracks - 1	Lin.Ft.	8,200	9,000						
Additional Track (each)	Lin.Ft.	6,700	7,500						
	1								

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April 17, 2000

To the members of the 2000 Municipal Screening Board

Re: Minutes of the Needs Study Subcommittee

The Needs Study Subcommittee met at the Mn/DOT district office in St. Cloud on Thursday, April 13. Members of the subcommittee present were Tom Drake, Acting Chairman in the absence of Jack Bittle who is recuperating from surgery, Terry Wotzka, and Dave Kildahl. Also present were Marshall Johnston and Mark Channer from the Division of State Aid. The meeting convened at 1:00 p. m.

The subcommittee first reviewed the unit price study. The subcommittee's recommended unit prices to be used in the 2000 needs computation are shown on the attached summary sheet.

Regarding Street Lighting, the subcommittee discussed this issue at length, and recognizes that our current unit price of \$35,000 per mile is low. We reviewed information Marshall Johnston had put together in his research with the FHWA. It was therefore decided that all streets should receive needs of **\$78,000 per mile**, based on a street light every 200 feet (26 per mile) for commercial streets as recommended by the FHWA at a unit cost of \$3,000 per light. A typical residential street should be lighted at the intersection and midblock. There is an average of 13 blocks per mile, therefore 26 lights are also needed for residential streets. The price of \$3,000 per light fixture is lower than that recommended by the State Lighting Engineer, but it is a 20 per cent increase in the cost used in 1999.

Regarding bridge reconditioning needs, the subcommittee did not have time to adequately discuss this issue. We ask that the state aid staff provide more background information before the subcommittee can make a recommendation. The first thing to discuss is what is the definition of bridge reconditioning? Therefore, no action was taken by the subcommittee.

Regarding railroad grade crossing needs, the Mn/DOT Railroad Office has provided information only for concrete crossing surfaces, not for rubberized crossing surfaces. Therefore, the subcommittee recommends that the Screening Board approve the price as recommended of \$900.00 per linear foot of track.

Resurfacing and Reconditioning Needs Adjustment

The subcommittee believes that reconditioning and special resurfacing projects as currently defined serve the same purpose to extend the life of the street pavement, and should be treated the same way for needs purposes. The resurfacing adjustment was recently eliminated by the screening board because of the unfairness of having an adjustment if the resurfacing took place

just after reinstatement of full needs, but having no adjustment when the segment was considered adequate and receiving only resurfacing needs.

It was the feeling of the subcommittee that there should be a negative adjustment to the full reconstruction needs because the expenditure for reconditioning or special resurfacing extends the life of the pavement by 10 years. Rather than delay the reinstatement of full needs for this 10 years following the reconditioning or special resurfacing, the subcommittee decided it was appropriate to deduct the state aid cost of the reconditioning or special resurfacing from the full reconstruction needs, but not until the segment is considered deficient and drawing full needs, and then lasting only until the reconditioning or special resurfacing project is 10 years old.

Example 1: Reconditioning or Special Resurfacing 10 years after last grading project: No adjustment because the 10 year anniversary of the reconditioning or special resurfacing project coincides with the reinstatement of full needs.

Example 2: Reconditioning or Special Resurfacing 15 years after last grading project: Negative adjustment starts 5 years later (assuming segment becomes deficient at 20 years) and continues for 5 years.

Example 3: Reconditioning or Special Resurfacing 23 years after last grading project: Negative adjustment starts the year after the reconditioning or special resurfacing project and continues for ten years.

There being no further items to discuss, the meeting adjourned at 4:15 p.m.

Respectfully submitted, OBJ.I.I.I

David B. Kildahl Needs Study Subcommittee Secretary

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 1999 was \$18,616,595.

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 \$8140 in maintenance needs per mile.

	1999 NEEDS PRICES				SCREENING	
			SUBCOMMITTEE SUGGESTED PRICES		RECOMMENDED PRICES	
	Under 1000 ADT	Over 1000 ADT	Under Over 1000 1000 ADT ADT		Under 1000 ADT	Over 1000 ADT
Traffic Lane Per Mile	\$1,360	\$2,260	\$1,400	\$1,400 \$2,300		
Parking Lane Per Mile	1,360	1,360 1,400 1,40		1,400		
Median Strip Per Mile	450	900	460	910		
Storm Sewer Per Mile	450	450	460	460		
Per Traffic Signal	450	450	460 460			
Normal M.S.A.S. Streets						
Minimum Allowance Per Mile	4 500	4 500	4 600	4 600		
Combination Routes	4,000	4,000	4,000	4,000		
Minimum Allowance Per Mile						
Limited Segments:	2,260	2,260	2,300	2,300		

EXISTING FACILITIES ONLY

"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
	less than 32'	0
2 Lanes	32' - 39'	1
	40' & over	2
	less than 56'	0
4 Lanes	56' - 63'	1
	64' & over	2

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A HISTORY OF THE ANNUAL MAINTENANCE NEEDS COSTS

(COMPUTED ON EXISTING MILEAGE ONLY)

				ant Ngana ang							Mini	mum
	Traffic	Lane	Parkin	g Lane	Media	n Strip	Storm Sewer		Per		Maintenance	
Year	Per	Mile	Per	Mile	Per	Mile	Per	Per Mile Traffic Signal		Signal	Allowance	
	•										Per	Mile
and the sum	Under	Over	Under	Over	Under	Over	Under	Over	Under	Over	Under	Over
	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT	1000 ADT
1986	\$300	\$500	\$100	\$100	\$100	\$200	\$100	\$100	\$100	\$100	\$1,000	\$1,000
1987	300	500	100	100	100	200	100	100	100	100	1,000	1,000
1988	600	1,000	200	200	200	400	200	200	400	400	2,000	2,000
1989	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1990	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	• 4,000
1991	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1992	1,200	2,000	1,200	1,200	400	800	400	400	400	400	4,000	4,000
1993	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1994	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1995	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1996	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1998	1,320	2,200	1,320	1,320	440	880	440	440	440	440	4,400	4,400
1999	1,360	2,260	1,360	1,360	450	900	450	450	450	450	4,500	4,500
2000	1,400	2,300	1,400	1,400	460	910	460	460	460	460	4,600	4,600

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.

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UNIT PRICE STUDY

The unit price study was done annually until 1997. In 1996, the Municipal Screening Board made a motion not to conduct the unit price study in 1997. There were no changes in the unit prices in 1997. The Screening Board made a motion not to do the unit price study in 1999 but to apply a construction cost index against the 1998 prices. In order to adjust the prices in 1999 due to increases, the Needs Unit arrived at a cost index based on 9 items used in the needs for the past 10 unit price studies.

The quantities and unit prices used in this unit price study are compiled from on system MSAS projects that were let and received by the State Aid Division in 1999. The state average of these prices and quantities are used by the Needs Study Subcommittee and the Municipal Screening Board to determine the prices to be used in the 2000 needs study. These prices will be applied against the quantity tables located in the State Aid Manual Figs. C & D 5-892.820 to compute the 2001 construction (money) needs apportionment.

Both MN/DOT and State Aid bridges are used so that more bridges determine the unit price. In addition to normal bridge materials and construction costs, prorated mobilization, bridge removal and riprap costs are included if these items are included in the contract. Traffic control, field office, and field lab costs are not included.

MN/DOT's hydraulic office furnished a recommendation of costs for storm sewer construction and adjustment based on 1999 construction costs. Special drainage costs are computed for rural roadways 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 1999 construction projects.

Due to lack of data, a study is not done for traffic signals, maintenance, and engineering. Every segment, except those eligible for THTB funding, receives needs for traffic signals, lighting, engineering, and maintenance. The unit prices used in the 1999 needs study are found in the Screening Board resolutions included in this booklet.

25 YEAR CONSTRUCTION NEEDS FOR EACH INDIVIDUAL CONSTRUCTION ITEM

	1998 APPORTIONMENT	1999 APPORTIONMENT		1999
	NEEDS	NEEDS		% OF THE
ITEM	COST	COST	DIFFERENCE	TOTAL
Grading	\$135,097,894	\$141,753,256	\$6,655,362	6.61%
Special Drainage	6,336,908	6.224.196	(112,712)	0.31%
Storm Sewer Adjustment	47 493 920	53,341,590	5.847.670	2 32%
Storm Sewer Construction	202 198 500	204,034,860	1,836,360	9.90%
Curb & Gutter Removal	19,454,264	21.055.349	1,601,085	0.95%
Sidewalk Removal	16,403,510	17 446 532	1,043,022	0.80%
Pavement Removal	41 438 505	43 685 625	2 247 120	2 03%
Tree removal	7 309 400	7 165 620	(143 780)	0.36%
SUBTOTAL GRADING	\$475,732,901	\$494,707,028	\$18,974,127	24.22%
		<u>in an an</u>		
Gravel Base #2211	238,899,685	251,801,945	12,902,260	12.33%
Bituminous Base #2331	95,165,902	99,263,037	4,097,135	4.86%
SUBTOTAL BASE	\$334,065,587	\$351,064,982	\$16,999,395	17.18%
Bituminous Surface #2331	\$2,427,026	\$2,559,744	\$132,718	0.13%
Bituminous Surface #2341	140,257,005	145,183,515	4,926,510	7.11%
Bituminous Surface #2361	23,665,635	24,676,385	1,010,750	1.21%
Surface Widening	1,389,804	1,228,475	(161,329)	0.06%
SUBTOTAL SURFACE	\$167,739,470	\$173,648,119	\$5,908,649	8.50%
Gravel Shoulders #2221	\$1.542.900	\$1,598,014	\$55.114	0.08%
SUBTOTAL SHOULDERS	\$1,542,900	\$1,598,014	\$55,114	0.08%
Curb and Gutter	\$125,160,484	\$130,454,032	\$5,293,548	6.39%
Sidewalk	158,386,040	165,490,100	7,104,060	8.10%
Traffic Signals	128,529,020	130,524,085	1,995,065	6.39%
Street Lighting	56,600,000	100,897,650	44,297,650	4.94%
Retaining Walls	13,666,874	15,333,579	1,666,705	0.75%
SUBTOTAL MISCELLANEOUS	\$482,342,418	\$542,699,446	\$60,357,028	26.56%
TOTAL BOADWAY	\$1 461 423 276	¢1 563 717 589	\$102 294 313	76 54%
TOTAL HOADWAT	\$1,401,423,270	\$1,505,717,50 5	\$102,254,313	70.54%
Bridge	\$116 580 486	\$116 779 206	\$198 720	5 72%
Bailroad Crossings	49 091 700	43 490 075	(5 601 625)	2 13%
Maintenance	17 835 688	18 616 595	780 907	0 01%
Engineering	282 877 295	300 317 856	17 440 561	14 70%
SUBTOTAL OTHERS	\$466.385.169	\$479.203.732	\$12.818.563	23.46%
	+	÷		
TOTAL	\$1.927.808.445	\$2.042.921.321	\$115.112.876	100.00%

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MSAS UNIT PRICE STUDY EXCAVATION - CUBIC YARD

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Cloquet	1	5,041	\$18,406	\$3.65
Duluth	3	1,667	9,832	5.90
Hibbing	1	12,360	49,613	4.01
International Falls	1	8,483	25,944	3.06
Virginia	1	3.787	13,255	3.50
District 1 Total	7	31,338	\$117,050	\$3.74
Lum				
		District 2		
Bemidji	2	23,839	\$44,093	\$1.85
Crookston	4	6,148	27,666	4.50
East Grand Forks	1	1,701	4,950	2.91
Thief River Falls	2	7,846	35,307	4.50
District 2 Total	9	39,534	\$112,016	\$2.83
	D	istrict 3 Total	•	
Elk River	1	2,210	\$14,111	\$6.39
Monticello	1	17,984	22,413	1.25
Otsego	4	97,125	163,529	1.68
Sartell	1	15,961	32,411	2.03
St. Cloud	. 1	9,821	43,552	4.43
St. Michael	1	23,030	68,671	2.98
District 3 Total	9	166,131	\$344,687	\$2.07
·				
		District 4		
Alexandria	2	26,391	\$65,903	\$2.50
Fergus Falls	2	41,166	144,023	3.50
Moorhead	3	123,414	301,624	2.44
Morris	2	9,247	32,803	3.55
District 4 Total	9	200,218	\$544,353	\$2.72
	an a	Metro West		an an taon an t
Bloomington	1	22,107	\$169,020	\$7.65
Brooklyn Center	2	15,330	58,884	3.84
Brooklyn Park	1	1,462	10,229	7.00
Champlin	1	576	5,434	9.43
East Bethel	1	10,027	34,497	3.44
Ham Lake	1	12,327	41,396	3.36
Maple Grove	2	10,816	85,614	7.92
Minneapolis	1	2,781	24,583	8.84
Minnetonka	1	13,500	54,000	4.00
Mound	1	2,900	5,788	2.00
Orono	1	9,810	60,000	6.12
Plymouth	1	7,848	48,000	6.12
Metro West Total	14	109,484	\$597,445	\$5.46

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MSAS UNIT PRICE STUDY EXCAVATION - CUBIC YARD

NAME Projects QTY. COST UNIT PRICE District 6	CITY	No. Of	TOTAL	TOTAL	AVERAGE				
District 6 Albert Lea 2 24,579 \$77,751 \$3.16 Austin 2 4,944 19,730 3.99 Farbault 2 779 2,980 3.83 Northfield 1 12,007 45,900 3.82 Owatonna 1 3,875 15,852 4.09 Rochester 5 255,799 424,386 1.66 District 6 Total 13 301,983 \$586,601 \$1.94 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.55 District 8 3.210 2.56 District 8 Total 2 19,647 \$89,884 \$4.57 Falcon Heights 1 3,200	NAME	Projects	QTY.	COST	UNIT PRICE				
Albert Lea 2 24,579 \$77,751 \$3.16 Austin 2 4,944 19,730 3.99 Faribault 2 7779 2,980 3.83 Northfield 1 12,007 45,900 3.82 Owatonna 1 3,875 15,552 4.09 Rochester 5 25,799 424,388 1.66 District 6 Total 13 301,983 \$586,601 \$1.94 North Mankato 3 74,625 138,100 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.55 District 7 Total 7 92,967 \$237,162 \$2.65 Marshall 1 7,647 \$26,764 \$3.50 Milmar 1 12,000 63,120 5.26 District 8 Total 2 19,647 \$89,884			District 6						
Austin 2 4,944 19,730 3,99 Faribault 2 779 2,980 3.83 Northfield 1 12,007 45,900 3.82 Qwatonna 1 3,875 15,852 4.09 Rochester 5 255,799 424,388 1.66 District 6 Total 13 301,983 \$586,601 \$1.94 District 7 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 2 19,647 \$26,764 \$3.50 Willmar 1 2,390 \$30,234 \$12.65 Falcon Heights 1 3,210 21,282 6.63 Forest Lake 1 6,445 3,544 5.50 Hastings 1 15,198	Albert Lea	2	24.579	\$77,751	\$3.16				
Faribault 2 779 2,980 3.83 NorthField 1 12,007 45,900 3.83 NorthField 1 3,875 15,852 4.09 Rochester 5 255,799 424,388 166 District 6 Total 13 301,983 \$586,601 \$1.94 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.55 Teagan 1 7,647 \$26,764 \$3.50 Wilmar 1 12,000 63,120 5.26 District 8 Total 2 19,647 \$89,884 \$4.57 Falcon Heights 1 3,210 21,282 6.63 Forest Lake 1 6,445 3,5.448 5.50	Austin	2	4,944	19,730	3.99				
Northfield 1 12,007 45,900 3.82 Owatonna 1 3,875 15,852 4.09 Rochester 5 255,799 424,388 1.66 District 6 Total 13 301,983 \$586,601 \$1.94 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.29 Waseca 1 1,707 5,977 3.50 District 8 Total 2 19,647 \$26,764 \$3.50 Willmar 1 2,000 63,120 5.26 District 8 Total 2 19,647 \$89,884 \$4.57 Eagan 1 2,390 \$30,234 \$12.65 Fairone Heights 1 3,210 5.64 5.05<	Faribault	2	779	2,980	3.83				
Owatonna 1 3,875 15,852 4.09 Rochester 5 255,799 424,388 1.66 District 6 Total 13 301,983 \$586,601 \$1.94 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$2337,162 \$2.55 Marshall 1 7,647 \$26,764 \$3.50 Willmar 1 1,647 \$26,764 \$3.50 District 8 Total 2 19,647 \$89,884 \$4.57 Falcon Heights 1 3,210 21,422 6.63 Forest Lake 1 6,445 35,448 5.50 Maunds View 1 2,819 18,210 6.43 North St, Paul 1 1,300 66,099 <t< td=""><td>Northfield</td><td>1</td><td>12.007</td><td>45,900</td><td>3.82</td></t<>	Northfield	1	12.007	45,900	3.82				
Rochester 5 255,799 424,388 1.66 District 6 Total 13 301,983 \$536,601 \$1.94 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$2237,162 \$255 Marshall 1 7,647 \$26,764 \$350 Willmar 1 2,000 63,120 5.26 District 8 Total 2 19,647 \$89,884 \$4.57 Eagan 1 2,390 \$30,234 \$12,65 Falcon Heights 1 3,210 21,822 6,633 Forest Lake 1 6,445 35,448 5.50 Mounds View 1 2,130 42,4283 3.57 Mounds View 1 2,826 90,950 2.0	Owatonna	1	3.875	15,852	4.09				
District 6 Total 13 301,983 \$586,601 \$1.94 District 7 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.55 Marshall 1 7,647 \$26,764 \$3.50 Willmar 1 12,000 63,120 5.26 District 8 Total 2 19,647 \$89,884 \$4.57 Eagan 1 2,390 \$30,234 \$12.65 Falcon Heights 1 3,210 21,282 6.63 Forest Lake 1 6,445 35,448 5.50 Mastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2	Bochester	5	255,799	424,388	1.66				
District 7 Fairmont 2 11,057 \$80,282 \$7,26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.55 Marshall 1 7,647 \$26,764 \$3.50 Willmar 1 12,000 63,120 5.26 District 8 Total 2 19,647 \$89,884 \$4.57 Eagan 1 2,390 \$30,234 \$12.65 Forest Lake 1 6,445 35,448 5.50 Hastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,09	District 6 Total	13	301,983	\$586,601	\$1.94				
District 7 Fairmont 2 11,057 \$80,282 \$7.26 North Mankato 3 74,625 138,108 1.85 St. Peter 1 5,578 12,795 2.29 Waseca 1 1,707 5,977 3.50 District 7 Total 7 92,967 \$237,162 \$2.55 Marshall 1 7,647 \$26,764 \$3.50 District 8 Total 2 19,647 \$89,884 \$44.57 Eagan 1 2,390 \$30,234 \$12.65 Fairon Heights 1 3,210 21,882 6.63 Forest Lake 1 6,445 35,448 5.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Okadale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 35,165 <td></td> <td></td> <td></td> <td></td> <td></td>									
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District 8 Marshall 1 7,647 \$26,764 \$3.50 Willmar 1 12,000 63,120 5.26 District 8 Total 2 19,647 \$89,884 \$4.57 Metro East Eagan 1 2,390 \$30,234 \$12.65 Falcon Heights 1 3,210 21,282 6.63 Forest Lake 1 6,445 35,448 5.50 Hastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 3,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 5 57,715 32,003 5.60 Stillwater 1 35,165 151,282 4.30 <th <="" district="" td="" total<=""><td>District / Total</td><td></td><td>92,907</td><td>\$237,102</td><td>φΖ.ΟΟ</td></th>	<td>District / Total</td> <td></td> <td>92,907</td> <td>\$237,102</td> <td>φΖ.ΟΟ</td>	District / Total		92,907	\$237,102	φ Ζ. ΟΟ			
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District of rotal 2 15,047 \$83,064 \$4.37 Eagan 1 2,390 \$30,234 \$12.65 Falcon Heights 1 3,210 21,282 6.63 Forest Lake 1 6,445 33,448 5.50 Hastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 Noth St. Paul 1 1,203 4,922 4,09 Oakdale 1 13,300 66,099 4,97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 District 1 Total 7 31,338 \$117,050 \$3.74	District 9 Total	2	12,000	60,120	5.20 ¢4 57				
Metro East Eagan 1 2,390 \$30,234 \$12.65 Falcon Heights 1 3,210 21,282 6.63 Forest Lake 1 6,445 35,448 5.50 Hastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 7 31,338 \$117,050 \$3,74 District 1 Total 7 31,338	District 8 Total	<u>∠</u>	19,047						
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Parcon Freights 1 3,210 21,222 6.63 Forest Lake 1 6,445 35,448 5.50 Hastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 Sotth St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353	Edgan Edgan Usishta	1 <u>.</u>	2,390	930,234 01.090	φ12.00 6.60				
Portest Lake 1 6,445 33,440 5.50 Hastings 1 15,198 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$439 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 3 Total 9 200,218 544,353			3,210	21,202	0.03				
naskings 1 15,196 54,283 3.57 Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District Totals District Totals District Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 Metro West Total 14 109,484 597,445 5.46 District 7 Total 7 92,967 237,162 2.55 District 8 Total 13 301,983 586		1	0,440	35,440	5.50				
Hugo 2 4,110 30,825 7.50 Mounds View 1 2,819 18,210 6.46 North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 Metro West Total 14 109,484 597,445 5.46 District 4 Total 9 200,218	Hastings	I	15,198	54,283	3.57				
INIOUNDS VIEW 1 2,819 18,210 6.4o North St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District T Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647	Hugo	2	4,110	30,825	7.50				
Norm St. Paul 1 1,203 4,922 4.09 Oakdale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District Totals District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55		1	2,819	18,210	6.46				
Daktale 1 13,300 66,099 4.97 Rosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 20	North St. Paul	1	1,203	4,922	4.09				
Hosemount 1 45,266 90,950 2.01 South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District Totals District Totals District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 7 Total 7 92,967 237,162 2.55 District 7 Total 7 92,967 237,162 2.55 District 8 Total 20 19,647 89,884 4.57 Metro East Total 20 <td>Oakdale</td> <td>1</td> <td>13,300</td> <td>66,099</td> <td>4.97</td>	Oakdale	1	13,300	66,099	4.97				
South St. Paul 1 2,835 8,717 3.07 St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 9	Rosemount	1	45,266	90,950	2.01				
St. Paul 5 57,715 323,003 5.60 Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District Totals 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	South St. Paul	1	2,835	8,717	3.07				
Stillwater 1 35,165 151,282 4.30 White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	St. Paul	5	57,715	323,003	5.60				
White Bear Lake 3 6,395 25,667 4.01 Metro East Total 20 196,051 \$860,922 \$4.39 District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	Stillwater	1	35,165	151,282	4.30				
Metro East Total 20 196,051 \$860,922 \$4.39 District Totals District Totals District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	White Bear Lake	<u> </u>	6,395	25,667	4.01				
District Totals District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 20 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39	Metro East Total	20	196,051	\$860,922	\$4.39				
District Totals District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 20 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39									
District 1 Total 7 31,338 \$117,050 \$3.74 District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39		n de la Constante de La Constan Constante de la Constante de La	istrict Totals		n na sana ang sana sana sana sana sana s				
District 2 Total 9 39,534 112,016 2.83 District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39	District 1 Total	7	31,338	\$117,050	\$3.74				
District 3 Total 9 166,131 344,687 2.07 District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39	District 2 Total	9	39,534	112,016	2.83				
District 4 Total 9 200,218 544,353 2.72 Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39	District 3 Total	9	166,131	344,687	2.07				
Metro West Total 14 109,484 597,445 5.46 District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39	District 4 Total	9	200,218	544,353	2.72				
District 6 Total 13 301,983 586,601 1.94 District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	Metro West Total	14	109,484	597,445	5.46				
District 7 Total 7 92,967 237,162 2.55 District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	District 6 Total	13	301,983	586,601	1.94				
District 8 Total 2 19,647 89,884 4.57 Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	District 7 Total	7	92,967	237,162	2.55				
Metro East Total 20 196,051 860,922 4.39 STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	District 8 Total	2	19,647	89,884	4.57				
STATE TOTAL 90 1,157,353 \$3,490,120 \$3.02	Metro East Total	20	196,051	860,922	4.39				
STATE TOTAL901,157,353\$3,490,120\$3.02									
	STATE TOTAL	90	1,157,353	\$3,490,120	\$3.02				

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS EXCAVATION

EXCAVATION



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEE	DS NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YE.	AR CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
19	89 70	1,406,108	\$3,024,233	\$2.15	\$3.00	-
19	90 65	1,263,652	2,733,063	2.16	3.00	-
19	91 67	1,260,768	3,303,493	2.62	3.00	-
19	92 70	1,243,656	3,764,822	3.03	3.00	\$2.52
19	93 64	1,105,710	2,994,010	2.71	3.00	2.53
19	94 65	1,484,328	4,965,339	3.35	3.00	2.77
19	95 59	1,317,807	3,419,869	2.60	3.00	2.86
19	96 68	1,691,036	4,272,539	2.53	3.00	2.84
19	98 60	919,379	3,273,588	3.56	3.20	2.95
19	99				3.30	
20	00 56	1,157,353	3,490,120	3.02		2.93

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

\$3.30 PER CU. YD.

21-Apr-00

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

MSAS UNIT PRICE STUDY AGGREGATE SHOULDERS - TON

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
	Distr	ict 4		
Alexandria	2	346	\$3,940	\$11.39
District 4 Total	2	346	\$3,940	\$11.39
	Distri	ict 6		
Rochester	1	114	\$1,495	\$13.11
District 6 Total	1	114	\$1,495	\$13.11
	Distri	ict 8		
Litchfield	1	36	\$559	\$15.53
District 8 Total	1	36	\$559	\$15.53
	Metro	East		
Hugo	2	125	\$1,563	\$12.50
Metro East Total	2	125	\$1,563	\$12.50

	Distr	rict Totals		
District 4 Total	2	346	\$3,940	\$11.39
District 6 Total	1	114	1,495	13.11
District 8 Total	1	36	559	15.53
Metro East Total	2	125	1,563	12.50
STATE TOTAL	6	621	\$7,557	\$12.17

AGGREGATE SHOULDERING \$22 \$20 \$18 UNIT PRICE PER TON \$16 \$14 \$12 \$10 \$8 \$6 \$4 \$2 1989 1990 2000 1991 1992 1993 1994 1995 1996 1998 1999 ■ 5 YEAR AVERAGE PRICE USED IN NEEDS SYEARLY CONTRACT AVERAGE

				· · ·	YEARLY		5 YEAR
					AVERAGE	PRICE	AVERAGE
	NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
	YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
	1989	7	3485	\$21,554	\$6.18	\$4.25	-
	1990	6	3714	24,444	6.58	6.50	-
ŀ	1991	3	2334	18,624	7.98	7.00	-
	1992	7	6285	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	4923	40,009	8.13	8.00	8.25
	1996	6	3067	28,277	9.22	8.50	8.50
	1998	2	60	1,263	21.05	10.00	11.44
	1999					10.30	
	2000	4	621	7,557	12.17		12.64
	1.1						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS ______ \$11.00 PER TON

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

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21-Apr-00

MSAS UNIT PRICE STUDY

CURB & GUTTER REMOVAL - LINEAR FEET

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Duluth	3	1,936	\$3,892	\$2.01
Hibbing	1	1,214	2,220	1.83
International Falls	1	92	280	3.04
Virginia	1	2,043	2,043	1.00
District 1 Total	6	5,285	\$8,435	\$1.60
		·		
		District 2		
Bemidji	4	725	\$1,675	\$2.31
Crookston	4	1,937	2,954	1.53
East Grand Forks	3	3,119	8,457	2.71
Thief River Falls	3 -	304	1,520	5.00
District 2 Total	14	6,085	\$14,606	\$2.40
		District 3 Total		a da
Elk River	1	2,287	\$5,715	\$2.50
Monticello	1	1,280	6,396	5.00
Otsego	1	66	330	5.00
Sartell	1	342	1,026	3.00
St. Cloud	1	564	860	1.52
St. Michael	1	66	1,000	15.15
District 3 Total	6	4,605	\$15,327	\$3.33
				· .
		District 4	· · · · ·	.
Alexandria	2	79	\$276	\$3.49
Moorhead	2	1,739	5,339	3.07
Morris	2	1,229	3,426	2.79
District 4 Total	6	3,047	\$9,041	\$2.97
	e and a commentation of the		Φ15 010	ф 1 .ОО
Brooklyn Contor	1	8,376	\$15,318	\$1.83
Brooklyn Denter	2	700	1,750	2.50
Champlin	2	2,296	13,651	5.95
Coop Bopido	 	6/3	2,235	3.32
Maple Grove	 	427	1,690	3.90
Minneenelie		420	1,305	3.20
Mound	I 	4,488	9,576	2.13
	 	200	450	2.25
Diumouth	 	256	780	3.05
Motec Mot	I 40	230		3.04
Metro west lota	12	18,072	\$47,515	\$2.63

MSAS UNIT PRICE STUDY

CURB & GUTTER REMOVAL - LINEAR FEET

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 6		
Albert Lea	2	3,005	\$3,459	\$1.15
Faribault	6	1,409	3,333	2.37
Northfield	1	4,347	8,480	1.95
Owatonna	1	151	782	5.18
Red Wing	1	2,787	5,574	2.00
Rochester	6	5,054	14,892	2.95
District 6 Total	17	16,753	\$36,520	\$2.18
F	· · · ·			
		District 7	#10.040	40 AA
Fairmont	2	3,794	\$13,649	\$3.60
North Mankato	3	2,652	5,148	1.94
St. Peter	1	148	297	2.01
Waseca	1	148	295	1.99
District 7 Total	7	6,742	\$19,389	\$2.88
n an		District 8		
Marshail	1	332	\$830	\$2.50
Willmar	1	6 200	18 600	φ <u>2.</u> 50 3.00
District 8 Total	2	6 532	\$10,000	\$2 07
District 6 Total	2	0,552	\$19,430	φ2.51
		Metro East		
Eagan	. 1	1,525	\$4,575	\$3.00
Falcon Heights	1	1,360	1,414	1.04
Forest Lake	1	832	2,496	3.00
Hastings	1	2.972	11.887	4.00
Hugo	2	400	1,400	3.50
Mounds View	1	476	1.479	3.11
North St. Paul	1	1.230	1.313	1.07
Oakdale	1	558	850	1.52
Bosemount	1	1.293	3.877	3.00
Shoreview	2	285	1,305	4.58
South St. Paul	2	2.715	2,258	0.83
St Paul	6	32 074	42 933	1.34
Stillwater	2	262	1 260	4.81
White Bear Lake	3	1.318	1 195	0.91
Metro East Total	25	47,300	\$78,242	\$1.65
		District Totals		
District 1 Total	6	5,285	\$8,435	\$1.60
District 2 Total	14	6,085	14,606	2.40
District 3 Total	6	4,605	15,327	3.33
District 4 Total	6	3,047	9,041	2.97
Metro West Total	12	18,072	47,515	2.63
District 6 Total	17	16,753	36,520	2.18
District 7 Total	7	6,742	19,389	2.88
District 8 Total	2	6,532	19,430	2.97
Metro East Total	25	47,300	78,242	1.65
STATE TOTAL	95	114,421	\$248,505	\$2.17

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21-Apr-00

CURB & GUTTER REMOVAL #2104



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF	 A state of the second seco	TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	1.77
1998	63	150,083	294,046	1.96	2.00	1.85
1999					2.10	
2000	53	114,421	248,505	2.17		2.00
						×

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS \$2.20

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Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

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	MSAS UNIT	PRICE ST	UDY	
SIDEV	VALK REMO	VAL - SQL	JARE YAF	RD
CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
	D	istrict 1		
Duluth	5	4,136	\$16,786	\$4.06
International Falls	1	628	1,313	2.09
Virginia	1	1,265	5,692	4.50
District 1 Total	77	6,028	\$23,791	\$3.95
[istrict 2		
Bemidii	4 1	341	\$2 673	\$7 85
Crookston	4	1 653	ψ <u>2</u> ,070 1/ 879	00 P
East Grand Forks	2	759	3 5 1 3	4.63
Thief River Falls	1	158	1 420	9.00
District 2 Total	11	2 910	\$22 485	\$7.73
District 2 Total		2,910	φ22,405	\$1.10
	Dist	rict 3 Total		······································
Elk River	1	35	\$96	\$2.77
District 3 Total	1	35	\$96	\$2.77
		•		
	D	istrict 4		
Moorhead	1	2,237	\$13,090	\$5.85
Morris	2	949	4,727	4.98
District 4 Total	3	3,185	\$17,817	\$5.59
n han an a	Me	tro West		in denie – r. r.
Bloomington	1	3.606	\$22.616	\$6.27
Brooklyn Center	2	629	2.546	4.05
Brooklyn Park	2	222	3,125	14.05
Coon Rapids	1	707	2,955	4.18
Minneapolis	1	1.845	10.801	5.85
Mound	1	161	653	4.05
Metro West Total	8	7,171	\$42,696	\$5.95
	·······			
	D	istrict 6		
Albert Lea	1	35	\$347	\$10.04
Austin	2	1,023	4,507	4.41
Faribault	6	2,099	15,356	7.32
Northfield	1	2,507	13,834	5.52
Owatonna	1	313	1,048	3.34
Red Wing	1	388	2,095	5.40
Rochester	2	1,732	8,188	4.73
District 6 Total	14	8,096	\$45,375	\$5.60

MSAS UNIT PRICE STUDY SIDEWALK REMOVAL - SQUARE YARD

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 7		
Fairmont	2	5,780	\$29,185	\$5.05
North Mankato	2	471	2,167	4.60
Waseca	1	299	1,345	4.50
District 7 Total	5	6,550	\$32,697	\$4.99
		District 8		
Marshall	1	11	\$200	\$18.00
Willmar	1	1,156	6,760	5.85
District 8 Total	2	1,167	\$6,960	\$5.97
				
		Metro East		
Eagan	1	300	\$1,350	\$4.50
Falcon Heights	1	6	275	45.00
Forest Lake	1	222	1,502	6.75
Hastings	1	1,100	1,104	1.00
North St. Paul	2	191	288	1.51
Rosemount	1	18	89	4.98
South St. Paul	2	465	577	1.24
St. Paul	7	5,848	26,183	4.48
White Bear Lake	3	849	782	0.92
Metro East Total	19	9,000	\$32,150	\$3.57
		District Totals		
District 1 Total		6 028	\$23 791	\$3.95
District 2 Total	11	2 910	22 485	7 73
District 3 Total	1	35	96	2 77
District 4 Total	3	3 185	17 817	5.59
Metro West Total	8	7 171	42,696	5.95
District 6 Total	14	8.096	45,375	5.60
District 7 Total	5	6.550	32.697	4.99
District 8 Total	2	1.167	6.960	5.97
Metro East Total	19	9,000	32,150	3.57
			·····	
STATE TOTAL	70	44,143	\$224,067	\$5.08

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS SIDEWALK REMOVAL





				YEARLY	· ·	5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	4.77
1998	41	36,967	183,894	4.97	5.00	4.73
1999					5.10	
2000	37	44,143	224,067	5.08		4.90

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS \$5.10 PER SQ.YD.

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS SIDEWALK REM. GRAPH

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21-Apr-00

MSAS UNIT PRICE STUDY								
CONCRETE P	AVEMEN	T REMOVAL	SQUAR	E YARD				
CITY	No. Of	TOTAL	TOTAL	AVERAGE				
NAME	Projects	QTY.	COST	UNIT PRICE				
		District 1						
Duluth	1	1,019	\$2,130	\$2.09				
International Falls	· 1	136	570	4.19				
District 1 Total	2	1,155	\$2,700	\$2.34				
		District 2	n agus an Chairtean an San Anna an San					
Crookston	3	261	\$1,827	\$7.00				
East Grand Forks	2	2,686	9,402	3.50				
District 2 Total	5	2,947	\$11,229	\$3.81				
		District 4						
Moorhead	1	209	\$1,400	\$6.70				
District 4 Total	1	209	\$1,400	\$6.70				
	N	letro West						
Minneapolis	1	8,134	\$62,569	\$7.69				
Metro West Total	1	8,134	\$62,569	\$7.69				
		District 6						
Albert Lea	1	140	\$1,404	\$10.03				
Austin	2	25,141	117,087	4.66				
Northfield	1	3,032	12,675	4.18				
Owatonna	1	91	1,520	16.70				
Rochester	4	11,311	78,196	6.91				
District 6 Total	9	39,715	\$210,882	\$5.31				
	· ·	District 7						
Fairmont	2	9,109	\$59,921	\$6.58				
District 7 Total	2	9,109	\$59,921	\$6.58				

MSAS UNIT PRICE STUDY

CONCRETE PAVEMENT REMOVAL - SQUARE YARD

CITY	No. Of	TOTAL	TOTAL	AVERAGE					
NAME	Projects	QTY.	COST	UNIT PRICE					
Metro East									
North St. Paul	1	155	\$234	\$1.51					
Oakdale	1	164	450	2.74					
St. Paul	3	7,172	50,374	7.02					
Metro East Total	5	7,491	\$51,058	\$6.82					
				· · ·					
	Di	strict Totals							
District 1 Total	2	1,155	\$2,700	\$2.34					
District 2 Total	5	2,947	11,229	3.81					
District 4 Total	1	209	1,400	6.70					
Metro West Total	1	8,134	62,569	7.69					
District 6 Total	9	39,715	210,882	5.31					
District 7 Total	2	9,109	59,921	6.58					
Metro East Total	5	7,491	51,058	6.82					
			No						
STATE TOTAL	25	68,760	\$399,759	\$5.81					

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS CONCRETE PAVEMANT REMOVAL
CONCRETE PAVEMENT REMOVAL #2106



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	4.50	4.30
1999					4.60	
2000	15	68,760	399,759	5.81		4.76

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS \$5.00 PER SQ. YD.

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS CON. PAV. REM. GRAPH

21-Apr-00

MSAS UNIT PRICE STUDY TREE REMOVAL - CLEARING

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
	Dist	rict 1		
Duluth	3	16	\$1,880	· \$117.50
Virginia	1	6	600	100.00
District 1 Total	4	22	\$2,480	\$112.73
	Dist	rict 2		
Crookston	1	1	\$500	\$500.00
District 2 Total	1	1	\$500	\$500.00
· · ·				
	District	3 Total		
Elk River	1	25	\$3,750	\$150.00
Otsego	1	128	6,400	50.00
Sartell	. 1	4	300	75.00
St. Cloud	1	32	5,600	175.00
District 3 Total	4	189	\$16,050	\$84.92
r			· · · · · · · · · · · · · · · · · · ·	
	Disti	rict 4	÷	· · · · · · · · · · · · · · · · · · ·
Alexandria	1	38	\$950	\$25.00
Moorhead	3	80	12,188	152.35
Morris	1	· 1	200	200.00
District 4 Total	5	119	\$13,338	\$112.08
<u></u>				
Plaamington		o west	¢0.775	¢115.00
Chomplin	1	10	φ9,775 1,500	φ115.00 150.00
Champin East Rothol	1	10	1,500	100.00
Last Dether	1	10	1,600	140.00
Minnotonko	1	10	1 575	140.00
Motro Woot Total	5	107	1,575 ¢14,020	6117 EE
Wello west Iotai	ə	127	\$14,930	\$117.50
	Diet	rict 6	- · · · ·	
Albert I ea	1	2	\$700	\$350.00
Faribault	1	40	4 000	100.00
Northfield	1	13	1,000	150.00
Red Wing	1	, 10	1,000	300.00
District 6 Total	3	61	\$8.450	\$138.52
District o Fotal	v		00,400	\$100.5 <u>2</u>
	Dist	rict 7		······································
Fairmont	2	27	\$8,100	\$300.00
District 7 Total	2	27	\$8,100	\$300.00
		· · ·		
	Metro	East		
Eagan	1	16	\$2,400	\$150.00
Rosemount	1	3	750	250.00
St. Paul	5	2	710	355.00
Stillwater	1	10	1,925	192.50
Metro East Total	8	31	\$5,785	\$186.61

MSAS UNIT PRICE STUDY TREE REMOVAL - GRUBBING

CITY	No. Of		TOTAL	
NAME	Rejecte		COST	
	FIOJECIS	QII		
 A second sec second second sec			#1 5 4 0	#00.0 5
	3	. 16	\$1,540	\$96.25
Virginia	1	9	900	100.00
District 1 Total	4	25	\$2,440	\$97.60
······································				
		District 2		
Crookston	1	· 1	\$500	\$500.00
District 2 Total	1	1	\$500	\$500.00
	Dis	strict 3 Total		
Elk River	1	25	\$625	\$25.00
Otsego	1	128	6,400	50.00
Sartell	1	4	300	75.00
St. Cloud	1	32	3,300	103.13
District 3 Total	4	189	\$10,625	\$56.22
		District 4		
Alexandria	1	38	\$950	\$25.00
Moorhead	3	80	12,188	152.35
Morris	1	1	100	100.00
District 4 Total	5	119	\$13,238	\$111.24
	a la	letro West		
Bloomington	1	85	\$9.775	\$115.00
Champlin	1	10	1.000	100.00
East Bethel	1	13	650	50.00
Maple Grove	1	2	330	165.00
Minnetonka	1	12	1.995	166.25
Metro West Total	5	122	\$13,750	\$112.70
			<i><i><i></i></i></i>	<i></i>
		District 6		
Albert Lea	1	2) 2	\$700	\$350.00
Faribault	1	40	2 000	φ050.00 50.00
Northfield	1	40	1 950	150.00
Rod Wing	1	10	1,950	200.00
District 6 Total	3	61	¢5 950	200.00 \$95.90
		01	\$3,000	\$33.30
		District 7		
Eairmant			¢7 900	¢000.00
Painton	1	39	\$7,000 \$7,000	\$200.00 ¢200.00
		3স	φ/,ουυ	\$∠00.00
T				
	N	netro Last		
l⊢agan	1	16	\$2,400	\$150.00
Rosemount	1	3	750	250.00
St. Paul	3	24	10,880	453.33
Stillwater	1	10	1,100	110.00
Metro East Total	6	53	\$15,130	\$285.47

MSAS UNIT PRICE STUDY TREE REMOVAL - CLEARING

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
	Dist	rict Totals		
District 1 Total	4	22	\$2,480	\$112.73
District 2 Total	1	1	500	500.00
District 3 Total	4	189	16,050	84.92
District 4 Total	5	119	13,338	112.08
Metro West Total	5	127	14,930	117.56
District 6 Total	3	61	8,450	138.52
District 7 Total	2	27	8,100	300.00
Metro East Total	8	31	5,785	186.61
TOTAL CLEARING	32	577	\$69,633	\$120.68

MSAS UNIT PRICE STUDY TREE REMOVAL - GRUBBING

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
	Distric	t Totals		
District 1 Total	4	25	\$2,440	\$97.60
District 2 Total	1	1	500	500.00
District 3 Total	4	189	10,625	56.22
District 4 Total	5	119	13,238	111.24
Metro West Total	5	122	13,750	112.70
District 6 Total	3	61	5,850	95.90
District 7 Total	1	39	7,800	200.00
Metro East Total	6	53	15,130	285.47
TOTAL GRUBBING	29	609	\$69,333	\$113.85

CLEARING AND GRUBBING ARE COMBINED TO COMPUTE TREE REMOVAL

CITY	No. Of	TÖTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
TOTAL CLEARING	32	577	\$69,633	\$120.68
TOTAL GRUBBING	29	609	\$69,333	\$113.85
TOTAL		1,186	\$138,966	\$117.17

1186/2=593 TREES				
AVERAGE COST	PER TREE = \$138,966/593 = \$234.34			

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS CLEARING & GRUBBING COMBINATION

TREE REMOVAL #2101



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	175.00	170.80
1999					180.00	
2000	24	593	138,966	234.34		199.93

\$200.00

PER TREE

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

will only use the past 4 Yearly Average Contract Price.

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS CLEARING & GRUBBING GRAPH

MSAS UNIT PRICE STUDY AGGREGATE BASE 2211 - TONS

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		•
Cloquet	1	2.523	\$15,660	\$6.21
Duluth	3	1.267	11.184	8.83
Hibbing	1	11.371	73.600	6.47
International Falls	1	7.577	42,910	5.66
Virginia	1	1.315	13.150	10.00
District 1 Total	7	24.053	\$156.504	\$6.51
			+ <u>-</u>	
		District 2		
Bemidii	4	15.041	\$94,332	\$6.27
Crookston	4	7,497	47,604	6.35
East Grand Forks	3	1.002	8.300	8.28
Thief River Falls	2	2.820	17.220	6.11
District 2 Total	13	26,360	\$167,456	\$6.35
			÷,	·····
	Di	strict 3 Total		
Elk River	1 · · · · · · · · · · · · · · · · · · ·	3.307	\$22,260	\$6.73
Monticello	1	8.652	34,125	3.94
Otsego	4	68,174	245,696	3.60
Sartell	1	15,449	73,975	4.79
St. Cloud	1	7 087	32 184	4.54
St Michael	3	32 619	210 644	6.46
District 3 Total	. 11	135,288	\$618,884	\$4.57
	••	,200	,,	÷
	······································	District 4		
Alexandria	2	35.095	\$177.053	\$5.04
Fergus Falls	3	7,128	50,960	7.15
Moorhead	3	26.182	187.643	7.17
Morris	2	13.072	59,838	4.58
District 4 Total	10	81.477	\$475,494	\$5.84
		Metro West	· · · · · · · · · · · · · · · · · · ·	-
Bloominaton		5.906	\$47,784	\$8.09
Brooklyn Center	2	17.527	156,922	8.95
Brooklyn Park	1	41	629	15.34
Champlin	1	470	6.508	13.85
East Bethel	1	11.299	107.625	9.53
Ham Lake	1	7.714	77.958	10.11
Maple Grove	2	5.513	42.880	7.78
Minneapolis	1	1.046	10.215	9.77
Minnetonka	1	6.600	58.800	8.91
Mound	1	2,400	24.000	10.00
Orono	1	13.211	127.620	9.66
Plymouth	1	8.885	85.312	9.60
Metro West Total	14	80,612	\$746,253	\$9.26

MSAS UNIT PRICE STUDY AGGREGATE BASE 2211 - TONS

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 6		
Albert I ea	2	16 213	\$175 913	\$10.85
Austin	2	5 401	48,755	9.03
Northfield	··	9 921	50,850	5.00
Owatonna	1	3,560	28 101	7 89
Red Wing	1	3,300	20,101	7.00
Bochostor	9	90 177	529,200	673
District 6 Total	15	110.052	\$872 795	\$7.33
District o rotar	15	113,002	<i>4012,135</i>	φ7.00
		District 7		and the strange of the
Fairmont	2) e 10 au 22 e 17 - 2 2	7 474	\$70 210	\$9.39
North Mankato	3	49 994	317 225	6.35
St Potor	1	/ 128	25 384	6.15
Wasoca	· · ·	4,120	20,004	8.40
District 7 Total	7	61 050	\$415 902	\$6 71
District / Total		01,555	\$71J,30Z	φ0./ Τ
State State State State	e da la sul e	District 8	- Andrea - Andrea	
Marshall	анскаралар торода. 1	5 660	\$62,260	\$11.00
Willmar	1	14 800	95 460	645
District 8 Total	2	20 460	\$157 720	\$7.71
District o rotar	_	20,400	<i><i><i>w</i>107,720</i></i>	\
		Metro East		
Fagan	1	1.181	\$14,375	\$12.17
Falcon Heights	1	1 945	17 310	8.90
Forest Lake	1	2 741	19 575	7.14
Hastings	1	9.088	59 583	6.56
Hugo	2	1,860	13 950	7 50
Mounds View	1	1,000	14 115	9.98
North St. Paul	2	7 962	15 047	1 89
Oakdale	1	11 600	70 925	6.11
Bosemount	1	9.805	73,562	7 50
Shoroview	2	32 747	221 217	6.76
South St. Daul	2	1 995	221,317	12.00
Soull St. Faul	2	1,000	20,370	6 72
St. Faul	3	33,207	223,339	0.73
Minimaler	2	4,247	77 555	9.40
Metro East Total	ູ ວ 	121 474	¢997 212	\$6.75
WELLO EAST TOTAL		131,474		\$0.75
	· · · · · · · · · · · · · · · · · · ·	District Totale		
District 1 Total	7	24 053	\$156 504	\$6.51
District 2 Total	, 13	27,000 26 260	167 /56	φ0.01 6 35
District 2 Total	13	125.000	619 99/	, 0.55 A 57
District 4 Total	10	Q1 /77	175 101	4.J7
Motro Woot Total	10	01,477 20 610	716 050	0.04
District & Total	14	110 050	140,200 970 705	3.20
District o Total	15	119,00Z	012,190	1.33
District / Total	/	60,400	415,902	0./1
Motro Fast Tatal	2	20,400	15/,/20	
wetro cast iotal	22	131,4/4	087,212	0./5
STATE TOTAL	101	680 735	\$4 498 220	\$6.61
STATE TOTAL		000,700	ψτ,τσ0,ΖΖΟ	φυ.υΙ

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CLASS 5 AGGREGATE BASE #2211



n - Carlor				YEARLY	-	5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	6.50	6.24
1999					6.70	
2000	58	680,735	4,498,220	6.61		6.44

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

\$6.70 PER TON

21-Apr-00

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS AGG. BASE - 2211 GRAPH

MSAS UNIT PRICE STUDY BIT. BASE & SURF. 2331 - TONS

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Cloquet	1 1	415	\$10,686	\$25.75
Duluth	3	1,078	34,664	32.16
Hibbing	1	2,866	80,600	28.12
International Falls	1	849	21,560	25.39
District 1 Total	6	5,208	\$147,510	\$28.32
		District 2		
Bemidji	4	4,226	\$132,037	\$31.24
Crookston	4	1,101	34,618	31.44
East Grand Forks	· 1	34	1,428	42.00
Thief River Falls	. 4	3,105	74,520	24.00
District 2 Total	13	8,466	\$242,603	\$28.66
		District 3 Total	an an an Araba. An Araba	an a
Elk River	1	882	\$21,016	\$23.83
Monticello	1	2,039	44,400	21.78
Otsego	4	11,984	276,449	23.07
St. Cloud	. 1	1,739	31,339	18.02
St. Michael	2	1,457	34,684	23.81
District 3 Total	9	18,101	\$407,888	\$22.53
F		Distant d		
Alexandria			Φ ΩΩΩ 1 70	
Alexanuna Eorguo Eollo	2	0,091	ΦZZ0,179	⊅20.44 01 75
Moorbood	ა ი	1,054	33,403 220 005	31.75
Morris	3	1 526	200,900	32.90
District 4 Total		1,000 21 785	43,340 ¢6/1 977	¢20.22
District 4 Total		21,705	ΨΟΨΤ,577	ψ23.41
	· · · · · · · · · · · · · · · · · · ·	Metro West		
Bloomington	1	9.230	\$196.766	\$21.32
Brooklyn Center	2	8.376	209,153	24.97
Brooklyn Park	2	71	6.109	86.04
Champlin	- 1	105	4.465	42.52
Coon Rapids	1	5.698	130.543	22.91
East Bethel	1	2.966	72.657	24.50
Ham Lake	1	2.151	63.680	29.60
Maple Grove	2	2.359	71,497	30.31
Minnetonka	1	3.600	75,600	21.00
Mound	1	600	16,800	28.00
Orono	1	1,990	48,735	24.49
Plymouth	1	1,317	32,265	24.50
Metro West Tota	al 15	38,463	\$928,270	\$24.13

MSAS UNIT PRICE STUDY BIT. BASE & SURF. 2331 - TONS

NAME Projects QTY. COST UNIT F District 6 Albert Lea 1 661 \$16,392 \$2	24.80 50.59 21.77
District 6 Albert Lea 1 661 \$16,392 \$2	24.80 50.59 21.77
Albert Lea 1 661 \$16,392 \$2	24.80 50.59 21.77
	50.59 21.77
Austin 1 198 10,017	21.77
Northfield 1 1,065 23,184	05 45
Owatonna 1 11 2,150 1	90.40 J
Rochester 1 140 6,720	48.00
District 6 Total 5 2,075 \$58,463 \$2	28.17
· · · · · · · · · · · · · · · · · · ·	
District 7	
Fairmont 1 980 \$53,900 \$	55.00
North Mankato 3 13,440 358,800	26.70
Waseca 1 852 28,972	34.00
District 7 Total 5 15,272 \$441,672 \$	28.92
Metro East	
Falcon Heights 1 380 \$7,980 \$7	21.00
Hastings 1 4,327 123,952	28.65
Hugo 2 865 25,085	29.00
North St. Paul 2 2,226 53,530	24.05
Oakdale 1 3,307 80,100	24.22
Rosemount 1 3,042 57,960	19.05
Shoreview 2 7,917 182,064	23.00
South St. Paul 2 1,110 25,310	22.80
St. Paul 1 15,740 419,975	26.68
Stillwater 2 720 17,650	24.51
White Bear Lake 3 3,922 92,134	23.49
Metro East Total 18 43,556 \$1,085,740 \$2	24.93
District Totals	
District 1 Total 6 5 208 \$1/7 510 \$	28 22
District 1 Total 0 5,206 \$147,510 \$	20.32
District 2 Total 15 0,400 242,005	20.00
District 3 Total 9 10,101 407,000 /	22.00
District 4 rotal 9 21,785 041,977	29.41
Interfor vvest Form Form	24.13
DISTRICT 6 TOTAL 5 2,075 58,463	28.17
DISTRICT / TOTAL 5 15,272 441,672	28.92
Metro East Total 18 43,556 1,085,740	24.93
STATE TOTAL 80 152.926 \$3.954.123 \$	25.86

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS BIT. BASE & SURF. - 2331

21-Apr-00

BITUMINOUS BASE OR SURFACE #2331



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
1989	70	316,333	\$5,793,245	\$18.31	\$21.00	\$19.87
1990	68	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	69	358,244	7,739,246	21.60	22.00	19.48
1993	60	243,491	4,791,236	19.68	22.00	19.43
1994	70	265,414	5,339,712	20.12	21.00	19.79
1995	61	190,763	3,791,009	19.87	20.00	20.24
1996	68	188,898	4,000,168	21.18	20.50	20.49
1998	67	183,962	4,197,677	22.82	21.50	20.73
1999					22.00	
2000	48	152,926	3,954,123	25.86		22.43

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

\$25.50 PER TON

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

MSAS UNIT PRICE STUDY

BIT. SURF. 2341 - TONS

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Cloauet	1	465	\$12.659	\$27.22
Duluth	3	278	10,527	37.87
International Falls	1	864	22,284	25.79
District 1 Total	5	1,607	\$45,470	\$28.29
		i		
		District 2	· · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Bemidji	4	4,226	\$133.141	\$31.51
Crookston	4	1,025	29,892	29.16
Thief River Falls	4	2,655	67,807	25.54
District 2 Total	12	7,906	\$230,840	\$29.20
	······································		· · ·	
	Dis	strict 3 Total	i se	
Elk River	1	1,080	\$27,443	\$25.41
Monticello	1	1,653	37,935	22.95
Otsego	4	12,155	297,321	24.46
St. Cloud	1	2,782	56,620	20.35
St. Michael	2	1,600	41,005	25.63
District 3 Total	9	19,270	\$460,324	\$23.89
•				
		District 4		· ·
Alexandria	1	2,993	\$82,790	\$27.66
Fergus Falls	3	9,171	246,673	26.90
Moorhead	1	7,170	311,199	43.40
Morris	1	1,080	40,743	37.73
District 4 Total	6	20,414	\$681,405	\$33.38
	1. N	letro West		
Bloomington	1	6,105	\$144,596	\$23.68
Brooklyn Center	· 1	4,839	126,324	26.11
Brooklyn Park	2	3,667	104,557	28.51
Champlin	1	83	4,163	50.16
Coon Rapids	1	5,875	147,664	25.13
East Bethel	1	2,403	65,753	27.36
Ham Lake	1	1,721	54,064	31.41
Maple Grove	1	876	23,864	27.24
Minneapolis	1	3,021	72,807	24.10
Minnetonka	1	1,650	44,200	26.79
Mound	1	430	13,485	31.36
Orono	1	1,615	45,090	27.92
Plymouth	1	1,119	31,570	28.21
Metro West Total	14	33,404	\$878.137	\$26.29

MSAS UNIT PRICE STUDY BIT. SURF. 2341 - TONS

District 2 Total District 2 Total District 3 Total District 4 Total Metro West Total District 6 Total District 7 Total District 8 Total Metro East Total	5 12 9 6 14 12 4 1 19	1,607 7,906 19,270 20,414 33,404 9,950 6,770 8,900 29,442	\$45,470 230,840 460,324 681,405 878,137 254,552 192,857 254,507 794,404	\$28.29 29.20 23.89 33.38 26.29 25.58 28.49 28.60 26.98
District 2 Total District 2 Total District 3 Total District 4 Total Metro West Total District 6 Total District 7 Total District 8 Total Metro East Total	5 12 9 6 14 12 4 1 19	1,607 7,906 19,270 20,414 33,404 9,950 6,770 8,900 29,442	\$45,470 230,840 460,324 681,405 878,137 254,552 192,857 254,507 794,404	\$28.29 29.20 23.89 33.38 26.29 25.58 28.49 28.60 26.98
District 2 Total District 2 Total District 3 Total District 4 Total Metro West Total District 6 Total District 7 Total District 8 Total	5 12 9 6 14 12 4 1	1,607 7,906 19,270 20,414 33,404 9,950 6,770 8,900	\$45,470 230,840 460,324 681,405 878,137 254,552 192,857 254,507	\$28.29 29.20 23.89 33.38 26.29 25.58 28.49 28.60
District 2 Total District 3 Total District 4 Total Metro West Total District 6 Total District 7 Total	5 12 9 6 14 12 4	1,607 7,906 19,270 20,414 33,404 9,950 6,770	\$45,470 230,840 460,324 681,405 878,137 254,552 192,857	\$28.29 29.20 23.89 33.38 26.29 25.58 28.49
District 2 Total District 3 Total District 4 Total Metro West Total District 6 Total	5 12 9 6 14 12	1,607 7,906 19,270 20,414 33,404 9,950	\$45,470 230,840 460,324 681,405 878,137 254,552	\$28.29 29.20 23.89 33.38 26.29 25.58
District 2 Total District 3 Total District 4 Total Metro West Total	5 12 9 6 14	1,607 7,906 19,270 20,414 33,404	\$45,470 230,840 460,324 681,405 878,137	\$28.29 29.20 23.89 33.38 26.29
District 2 Total District 3 Total District 4 Total	5 12 9 6	1,607 7,906 19,270 20,414	\$45,470 230,840 460,324 681,405	\$28.29 29.20 23.89 33.38
District 2 Total District 3 Total	5 12 9	1,607 7,906 19,270	\$45,470 230,840 460,324	\$28.29 29.20 23.89
District 2 Total	5 12	1,607 7,906	\$45,470 230,840	\$28.29 29.20
	5	1,607	\$45,470	\$28.29
District 1 Total			the second s	
	[District Totals		
<u> </u>				
Metro East Total	19	29,442	\$794,404	\$26.98
White Bear Lake	3	2.034	51.805	25.47
Stillwater	3	1.197	31.821	26.58
South St. Paul	2	683	17.535	25.67
Shoreview	2	11.592	324,905	28.03
Rosemount	1	4,756	99.347	20.89
Oakdale	-	2.375	61.018	25.69
North St. Paul	2	2.326	61,262	26.34
Mounds View	1	807	27 498	34 07
Hugo	2	2,304 433	13 813	31 90
Hastings	1	200	QR Q11	33 48
Falcon Heights	1	285	\$6 489	\$22 77
		Metro East		
	I	0,900	φ234,507	φ20.00
District 8 Total	. I . . 1	0,430 8 000	\$254 507	€7.70 ¢28 60
Millmar	ے ۱	1,100	40,000 179 000	33.20 27 70
	2	1,315	\$30,707 40,660	φ27.19 25.00
r an	0	District 8	ゆつこ フミブ	¢07 10
		District 0		
District 7 Iotal	4	6,770	\$192,857	\$28.49
	1	2,439	60,990	25.01
North Mankato	3	4,331	\$131,867	\$30.45
an a		District 7	,	
District 6 Total	12	9,950	\$254,552	\$25.58
Rochester	1	96	4,608	48.00
Red Wing	1	1,905	48,395	25.40
Owatonna	1	11	2,180	198.18
Northfield	1	1,359	31,219	22.97
Faribault	6	5,797	143,051	24.68
Austin	1	121	6,331	52.32
Albert Lea	1	661	\$18,768	\$28.39
		District 6		
NAME	Projects	QTY.	COST	UNIT PRICE
CITY	No. Of	TOTAL	TOTAL	AVERAGE

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS BIT. BASE & SURF. - 2341

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BITUMINOUS SURFACE #2341



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	160,587	3,825,967	23.82	24.50	22.63
1994	52	201,120	4,584,015	22.79	23.50	22.88
1995	58	190,983	4,448,398	23.29	23.50	23.29
1996	65	169,911	4,023,193	23.68	23.60	23.54
1998	60	158,320	3,895,038	24.60	24.50	23.64
1999					25.00	
2000	51	137,663	3,792,496	27.55		24.78

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS \$26.50

PER TON

21-Apr-00

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS BIT. BASE & SURF. - 2341 GRAPH

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MSAS UNIT PRICE STUDY BIT. SURF. 2361 - TONS

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Hibbing	1	4,137	\$142,670	\$34.49
District 1 Total	1	4,137	\$142,670	\$34.49
		District 4		
	n de fat Burein de F 1	739	\$27,196	\$36.80
District 4 Total	1	739	\$27,196	\$36.80
		Metro West		
Minneapolis	1	697	\$20,270	\$29.08
Metro West Total	. 1	697	\$20,270	\$29.08
		District 7		
Fairmont	1	180	\$10,570	\$58.72
District 7 Total	1	180	\$10,570	\$58.72
	D	istrict Totals		
District 1 Total	1	4,137	\$142,670	\$34.49
District 4 Total	1	739	27,196	36.80
Metro West Total	1	697	20,270	29.08
District 7 Total	1	180	10,570	58.72
STATE TOTAL	4	5,753	\$200,706	\$34.89

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS BIT. SURF. - 2361

BITUMINOUS SURFACE #2361



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	30.50	29.77
1999					31.50	
2000	4	5,753	200,706	34.89		31.47

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS \$31.50

PER TON

21-Apr-00

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS BIT. SURF. - 2361 GRAPH

MSAS UNIT PRICE STUDY CURB AND GUTTER CONSTRUCTION - LIN. FT.

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Cloquet	1	2,270	\$16,412	\$7.23
Duluth	4	2,248	32,763	14.57
Hibbing	1	4,236	60,677	14.32
International Falls	1	2,720	33,160	12.19
Virginia	· 1	2,253	18,362	8.15
District 1 Total	8	13,727	\$161,374	\$11.76
		District 2		en e
Bemidji	4	13,417	\$113,781	\$8.48
Crookston	4	4,132	29,751	7.20
East Grand Forks	3	3,017	39,324	13.03
Thief River Falls	4	5,118	46,062	9.00
District 2 Total	15	25,684	\$228,918	\$8.91
r				
		District 3 Total		
Elk River	1.	2,192	\$15,858	\$7.23
Monticello	1	5,706	35,460	.6.21
Otsego	3	12,670	68,823	5.43
Sartell	1	7,456	47,569	6.38
St. Cloud	1	4,429	27,000	6.10
St. Michael	3	20,663	143,732	6.96
District 3 Total	10	53,116	\$338,442	\$6.37
		B		
	at all and	District 4	••••	
Alexandria	1	3,642	\$22,089	\$6.07
Fergus Falls	2	4,534	38,639	8.52
Moorhead	3	20,244	172,762	8.53
Morris	2	5,515	42,149	7.64
District 4 Total	8	33,935	\$275,639	\$8.12
ſ		Motro Wort		
Bloomington	na fa fa sua sua sua. H		¢101.000	<u>ዮ</u> ግ ግር
Brooklyn Contor	ו ס	10,109	101,909	φ/./5 CE7
Brooklyn Dork	2	20,045	104,200	0.57
Champlin	2	2,224	22,713	10.21
	1	//	8,014	10.39
East Pathal	1	525	6,048 04 700	11.52
Minnoonalia	1	3,032	24,739	0.81
Minnetaplus	1	3,829	32,153	8.40
Ininnetonka	1	8,700	59,160	6.80
	1	1,720	14,820	8.62
Disessed	1	/,185	44,566	6.20
Plymouth	1	4,823	29,914	6.20
Metro West Total	13	74,613	\$528,332	\$7.08

	MSAS U	INIT PRICE S	TUDY	
CURB AN	ID GUTTE	R CONSTRU	ICTION - LIN	N. FT.
CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 6		
Faribault	6	1,409	\$18,843	\$13.37
Northfield	1	3,993	26,166	6.55
Owatonna	1	4,524	30,076	6.65
Red Wing	1	2,945	18,554	6.30
Rochester	8	53,885	423,225	7.85
District 6 Total	17	66,756	\$516,864	\$7.74
	·····	District 7		
Fairmont	ດ ເຊິ່ງ 2	6 465	\$67 682	\$10 <i>4</i> 7
North Mankato	1	10 787	\$1,526	φ10. 4 7 7.56
St Potor	1	.10,707	17 597	6 55
Masaaa	1	2,004	2 052	12.00
District 7 Total	5	246 20.182	2,955 \$169.748	\$8.41
	· · · · ·			
		District 8		
Marshall	1	332	\$5,976	\$18.00
Willmar	1	6,350	47,371	7.46
District 8 Total	2	6,682	\$53,347	\$7.98
[Notro Foot		
Fagan	. · · · · · · · · · · · · · · · · · · ·		\$10.950	\$7.30
Ealcon Heights	1	1,360	φ10,950 9.044	φ7.00 6.65
Forest Lake	1	1,668	14 595	8.75
Hastings	1	7 434	49 852	6.71
Hugo	2	1 410	13 747	9.75
Mounds View	1	1,410	15 502	8.28
North St. Paul	1	3 445	23 457	6.81
Oakdalo	1	8 530	55 302	6.48
Bosemount	1	11 / 21	73 650	6.45
Shoreview	2	18 300	125 455	6.82
South St. Paul	2	2 715	18 611	6.85
St Boul	2	2,713	277 047	7.00
Stillwatar	ວ ຈ	32,400	00 576	7.20 6.74
White Boar Lake	3	3,349 7 052	22,370	6.74
Metro Fast Total	25	123 516	\$861 236	\$6.97
Metro Last rotar	23	120,010		\0.07
		District Totals		
District 1 Total	8	13,727	\$161,374	\$11.76
District 2 Total	15	25,684	228,918	8.91
District 3 Total	10	53,116	338,442	6.37
District 4 Total	8	33,935	275,639	8.12
Metro West Total	13	74,613	528,332	7.08
District 6 Total	17	66,756	516,864	7.74
District 7 Total	5	20,182	169,748	8.41
District 8 Total	2	6,682	53,347	7.98
Metro East Total	25	123,516	861,236	6.97
STATE TOTAL	103	418,211	\$3,133,900	\$7.49

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS C & G CONST.

CURB AND GUTTER CONSTRUCTION



				YEARLY		5 YEAR
				AVERAGE	PRICE	AVERAGE
NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
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	7.50	6.18
1999					7.70	
2000	55	418,211	3,133,900	7.49		6.85

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

PER LIN. FT.

\$7.70

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

	MSAS U	NIT PRICE ST	UDY	
SIDEWA	LK CONS	TRUCTION - S	QUARE Y	ARD
CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 1		
Duluth	5	3,912	\$79,872	\$20.42
International Falls	. 1	797	26,640	33.44
Virginia	. 1	981	19,428	19.80
District 1 Total	7	5,690	\$125,940	\$22.13
		District 2		
Bemidji	4	640	\$12,460	\$19.48
Crookston	4	1,862	41,055	22.05
East Grand Forks	1	975	30,702	31.50
Thief River Falls	1	71	2,080	29.25
District 2 Total	10	3,547	\$86,297	\$24.33
		District 3 Total		
Elk River	1	1,555	\$31,083	\$19.99
Monticello	1	2,242	14,062	6.27
St. Cloud	1	1,856	27,936	15.05
St. Michael	2	1,315	23,109	17.58
District 3 Total	5	6,968	\$96,190	\$13.80
·····				
		District 4		
Moorhead	2	4,657	\$98,121	\$21.07
Morris	2	1,096	24,209	22.10
District 4 Total	4	5,753	\$122,330	\$21.26
	an a	Metro West		.
Bloomington	1	11,541	\$288,516	\$25.00
Brooklyn Center	2	2,500	33,528	13.41
Brooklyn Park	2	222	5,831	26.21
Champlin	1	670	14,968	22,35
Coon Rapids	1	627	17,360	27.70
Maple Grove	1	1,790	38,992	21.78
Minneapolis	1	2,019	39,441	19.54
Mound	1	67	1,350	20.25
Metro West Total	10	19,436	\$439,986	\$22.64
	i and a second	District 6		• • • • • •
Albert Lea	1	1,064	\$19,865	\$18.67
Austin	2	1,124	27,277	24.26
Faribault	6	3,612	63,987	17.72
Northfield	1	2,512	43,995	17.52
Owatonna	1	232	5,995	25.84
Red Wing	1	324	17,657	54.50
Kochester	3	4,135	118,614	28.69
District 6 Total	15	13.002	\$297.390	\$22.87

MSAS UNIT PRICE STUDY SIDEWALK CONSTRUCTION - SQUARE YARD

CITY	No. Of	TOTAL	TOTAL	AVERAGE
NAME	Projects	QTY.	COST	UNIT PRICE
		District 7		
Fairmont	2	3.903	\$129,433	\$33.16
North Mankato	1	8,408	154.660	18.39
St. Peter	1	1.657	27.712	16.72
District 7 Total	4	13,968	\$311,805	\$22.32
I				
		District 8		
Marshall	1	11	\$600	\$54.00
Willmar	1	1,500	29,025	19.35
District 8 Total	2	1,511	\$29,625	\$19.60
			······	
		Metro East		
Falcon Heights	1	6	\$550	\$90.00
Forest Lake	1	419	10,370	24.75
Hastings	1	3,153	58,234	18.47
Hugo	1	424	10,491	24.75
Mounds View	1	470	9,530	20.28
North St. Paul	2	275	6,153	22.37
Oakdale	1	24	431	18.04
Rosemount	1	1,316	21,252	16.15
Shoreview	2	4,167	89,527	21.49
South St. Paul	2	70	1,868	26.52
St. Paul	7	8,116	193,994	23.90
White Bear Lake	3	248	5,112	20.64
Metro East Total	23	18,687	\$407,512	\$21.81
			·	
	and a second second Second second	District Totals		
District 1 Total	7	5,690	\$125,940	\$22.13
District 2 Total	10	3,547	86,297	24.33
District 3 Total	5	6,968	96,190	13.80
District 4 Total	4	5,753	122,330	21.26
Metro West Total	10	19,436	439,986	22.64
District 6 Total	15	13,002	297,390	22.87
District 7 Total	4	13,968	311,805	22.32
District 8 Total	2	1,511	29,625	19.60
Metro East Total	23	18,687	407,512	21.81
			an a	
STATE TOTAL	80	88,562	\$1,917,075	\$21.65

N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS SIDEWALK CONST.

SIDEWALK CONSTRUCTION #2521



					YEARLY	· · · · ·	5 YEAR
					AVERAGE	PRICE	AVERAGE
	NEEDS	NO. OF		TOTAL	CONTRACT	USED IN	CONTRACT
	YEAR	CITIES	QUANTITY	COST	PRICE	NEEDS	PRICE
	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	20.00	17.13
ļ	1999					20.50	
ŀ	2000	45	88,562	1,917,075	21.65		18.93

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS ____

PER SQ. YD.

\$21.50

21-Apr-00

Note: There was no Unit Price Study in years 1997 and 1999, therefore the 2000 5-Year Average will only use the past 4 Yearly Average Contract Price.

1999 UNIT PRICES BY DISTRICT

	Dist.	Dist.	Dist.	Dist.	Metro	Dist.	Dist.	Dist.	Metro	State
	1	2	3	4	West	6	7	8	East	Average
Excavation	\$3.74	\$2.83	\$2.07	\$2.72	\$5.46	\$1.94	\$2.55	\$4.57	\$4.39	\$3.02
Aggregate Shoulders				\$11.39		\$13.11		\$15.53	\$12.50	\$12.17
C & G Removal	\$1.60	\$2.40	\$3.33	\$2.97	\$2.63	\$2.18	\$2.88	\$2.97	\$1.65	\$2.17
Sidewalk Removal	\$3.95	\$7.73	\$2.77	\$5.59	\$5.95	\$5.60	\$4.99	\$5.97	\$3.57	\$5.08
Conc. Pave. Removal	\$2.34	\$3.81		\$6.70	\$7.69	\$5.31	\$6.58		\$6.82	\$5.81
Tree Removal (Clear)	\$112.73	\$500.00	\$84.92	\$112.08	\$117.56	\$138.52	\$300.00		\$186.61	\$120.68
Tree Removal (Grub)	\$97.60	\$500.00	\$56.22	\$111.24	\$112.70	\$95.90	\$200.00		\$285.47	\$113.85
Agg. Base - 2211	\$6.51	\$6.35	\$4.57	\$5.84	\$9.26	\$7.33	\$6.71	\$7.71	\$6.75	\$6.61
Bit Base & Surf - 2331	\$28.32	\$28.66	\$22.53	\$29.47	\$24.13	\$28.17	\$28.92		\$24.93	\$25.86
Bit Surface 2341	\$28.29	\$29.20	\$23.89	\$33.38	\$26.29	\$25.58	\$28.49	\$28.60	\$26.98	\$27.55
Bit Surface 2361	\$34.49			\$36.80	\$29.08		\$58.72			\$34.89
C & G Const.	\$11.76	\$8.91	\$6.37	\$8.12	\$7.08	\$7.74	\$8.41	\$7.98	\$6.97	\$7.49
Sidewalk Const.	\$22.13	\$24.33	\$13.80	\$21.26	\$22.64	\$22.87	\$22.32	\$19.60	\$21.81	\$21.65

BOLD = Highest District Cost in That Category

ITALIC = Lowest District Cost in That Category



1999 UNIT PRICES BY DISTRICT

Graphs (Continued)





N:\MSAS\EXCEL\UNIT PRICE\UNIT PRICE BREAK OUT.XLS UP BY DISTRICT (& GRAPHS)

STORM SEWER, LIGHTING AND SIGNAL NEEDS COSTS

and an	STORM SEWER	STORM SEWER		
NEEDS	ADJUSTMENT	CONSTRUCTION	LIGHTING	SIGNALS
YEAR	(Per Mile)	(Per Mile)	(Per Mile)	(Per Mile)
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, 7 50-75,000
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	76,000	245,000	20,000	24,990-99,990
1999	79,000	246,000	35,000	24,990-99,990
2000				

* 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 2000:

	Storm Sewer.	Storm Sewer
	Adjustment	Construction
2000	\$80,200	\$248,500

SUBCOMMITTEE'S RECOMMENDED PRICES FOR 2000:

	Storm Sewer.	Storm Sewer	
	Adjustment	Construction Li	ighting Signals
2000	\$80,200	\$248,500 \$7	78,000 \$99,990

RAILROAD CROSSINGS NEEDS COSTS

				SIGNALS	
			SIGNALS	& GATES	RUBBERIZED
NEEDS	SIGNS	PAVEMENT	(Low Speed)	(High Speed)	MATERIAL
YEAR	(Per Unit)	MARKING	(Per Unit)	(Per Unit)	(Per Ft.)
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	1,000	750	80,000	130,000	750
1999	1,000	750	85,000	135,000	850
2000					

MN\DOT'S RAILROAD OFFICE RECOMMENDED PRICES FOR 2000:

		Pavement			Concrete
	Signs	Marking	Signals	Sig. & Gates	X-ing Surf.
2000	\$1,000	\$750	\$110,000	\$125-\$175,000	\$900
SUBCOMM	TTEE'S RECOM	MENDED PRICES	FOR 2000:		
2000	\$1,000	\$750	\$110,000	\$150,000	\$900

25-Apr-00



Minnesota Department of Transportation

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

Date:	March 20, 2000
To:	Marshall Johnston Manager, Municipal State Aid Street Needs Section
From:	Mike Leuer ML State Aid Hydraulic Technician
Phone:	(651) 582-1184
Subject:	State Aid Storm Sewer

Construction Costs for 1999

We have completed our analysis of storm sewer construction costs incurred for 1999 and the following assumptions can be utilized for planning purposes per roadway mile:

approximately \$248,500 for new construction, and
 approximately \$80,200 for adjustment of existing systems

CC: J. L. Boynton (file)

STATE OF MINNESOTA

SUBJECT:

DEPARTMENT OF TRANSPORTATION MS 470, Transportation Building

TO:	Marshall Johnston Needs Unit - State Aid		
FROM:	Robert G. Swanson, Director Railroad Administration		

Projected Railroad Grade Crossing Improvements - Cost for 2000

Office Memorandum

DATE: March 31, 2000

PHONE: 651-296-2472

We have projected 2000 costs for railroad-highway work at grade crossing improvements. For planning purposes, we recommend using the following figures:

Railroad Grade Crossings:				
Signals (Single Track - Low Speed)*	······································			
(Average Price)	per system	\$110,000.00		
Signals and Gates:				
(Multiple Track - High & Low Speed)** (Average Price)	per System	\$125-175,000.00		
Signs (Advance warning signs & crossbucks Pavement Markings	per Crossing	\$1000.00		
(Tape)	per Crossing	\$5,500.00		
(Paint)	per Crossing	\$750.00		
Crossing Surfaces:				
(Concrete Crossing Surface)				
Complete reconstruction of the crossing.				
Labor and Materials	per track ft	\$900.00		

- 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.

Please let me know if you have any questions, comments, or concerns.

cc: Rashmi Brewer Jerry Dempsey Tim Spencer

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Special Drainage Costs for Rural Segments 2000

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).
- 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 \$19.00 per foot as a cost for 18" GSP and \$110.00 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 \$809.00.

Using the 1990 Needs Study Subcommittee recommended number of 25 entrances per mile, the cost of Side Culverts per mile would be \$20,225.

For & Culverts:

- The minimum pipe diameter of & 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 \$50.00 per foot as a cost for 30" RCP) and \$625 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 \pounds culvert would be \$3,850.

Using the 1990 Needs Study Subcommittee recommended number of four & culverts per mile, the cost of centerline culverts per mile would be \$15,400.

By adding the cost of the 25 Side Culverts and the 4 \oplus culverts, the 2000 estimated construction needs cost per mile for Special Drainage would stay the same as last year at \$35,625 per mile.

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS <u>\$35,000</u> PER MILE

Bridges Let in Calendar Year 1999 Bridge Length 0-149 Feet

Bridge	Project	Deck	Bridge	Cost Per	Bridge
No.	Number	Area	Cost	Sq. Ft.	Length
2564 SAP	02-716-04	7,773	\$517,279	\$67	73.33
8539 SAP	08-599-33	3,423	207,110	61	111.50
20552 SAP	20-615-11	4,828	237,812	49	104.00
20553 SAP	20-599-79	1,561	154,359	99	50.85
22595 SAP	22-599-70	1,980	124,679	63	66.00
23563 SAP	23-599-87	2,085	138,132	66	60.24
23564 SAP	23-599-137	3,436	196,436	57	99.30
24533 SAP	24-599-15	2,623	241,014	92	75.80
25584 SAP	25-599-64	3,266	198,953	61	94.40
25585 SAP	25-599-66	4,174	250,168	60	120.60
25586 SAP	25-599-65	2,797	218,520	78	91.20
28522 SAP	28-625-15	5,048	263,615	52	116.50
28527 SAP	28-599-51	4,294	330,188	77	139.40
35532 SAP	35-599-61	2.563	165,191	64	83.50
37540 SP	37-640-05	4,404	229.657	52	114.40
37544 SP	37-999-02	3.959	215,422	54	102.70
38519 SP	38-661-04	6,323	670,566	106	129.30
43535 SAP	43-598-08	4.312	210.361	49	112.00
43538 SAP	43-599-20	3,225	164.343	51	93.20
45541 SAP	45-630-03	4,475	253 570	57	124.30
45560 SAP	45-599-118	2 643	161 105	61	75.98
50579 SAP	50-599-63	2 992	175 805	59	95.50
50580 SAP	50-599-73	3 924	219 946	56	127.90
57522 SAP	57-599-17	1 335	116 092	87	43.50
57523 SAP	57-599-18	1,005	117 951	88	43.50
63514 SAP	63-598-27	4 072	214 725	53	115 25
64561 SAP	64-599-52	1 507	100 813	67	49.10
64563 SAP	64-599-64	2 357	145 811	62	68 11
64564 SAP	64-599-63	2,007	155 671	64	79.90
64565 SAP	64-598-13	4 212	173 768	<u> </u>	109.25
66537 SAP	66-599-27	1 69/	125 004	7/	43.25
67538 SP	67-603-15	3 328	166 390	<u> </u>	78.30
67539 SAP	67-509-64	2 2 2 2 2	151 427	68	70.00
68529 SP	68-598-31	2,202	213 /39	61	101.70
74538 SAP	74-617-09	3,519	210,405	70	91.06
74550 SAI	76 602-00	4.567	244,374	<u> </u>	118.48
76529 SP	76-022-20	4,307	190 992	50	82.41
76529 SF	76-590-09	3,177	107,002	56	101.00
76530 SAF	<u></u> 94 611 00		109 901	50	110.00
04525 SF	84.622.06	3,003	071 700	<u> </u>	122.50
04524 SF	85 500 44	4,300	194 027	65	123.30
96501 CAD	00-099-44	2,040	002 012	<u></u>	104.00
00021 SAP	190 125 01	5,110	<u></u>		104.90
2/A49 SAP	109-133-01	6 500	007 501	100	03.00
07055	 	0,523	<u> </u>		57.00
2/200	<u> </u>	0,310	076 000	70	149.27
32005		3,800	2/0,200	<u>/3</u>	100.40
32000	<u> </u>	5,759	330,488	<u> </u>	129.40
54007	<u>IH</u>	4,241	352,415	83	99.90
00000	<u> H</u>	4,343	2/9,/82	64	92.17
60020	<u>_H</u>	5,060	250,227	49	110.00
62073	<u>IH</u>	7,244	6/6,8/6	93	112.86
62074	<u> </u>		/36,656	102	112.86
/0042	<u> </u>	3,498	228,622	65	69.55
8/016	<u> H</u>	4,252	244,316	57	/5.46
State Aid Projects	. · · ·	150,621	\$9,484,126	\$63	Average
Trunk Highway Projects		60,274	\$4,857,466	\$81	Average
			A ¹	. .	•
Total		210,895	\$14,341,592	\$68	Average



	NUMBER			YEARLY AVERAGE	PRICE	5-YEAR AVERAGE
NEEDS YEAR	OF PROJECTS	DECK AREA	TOTAL COST	CONTRACT PRICE	USED IN NEEDS	CONTRACT PRICE
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	54.63	55.00	50.46
1992	39	147,313	7,929,250	53.83	55.00	54.05
1993	38	190,400	10,709,785	56.25	55.00	57.00
1994	49	208,289	11,362,703	54.55	55.00	56.91
1995	32	124,726	6,627,018	53.13	55.00	54.48
1996	35	152,105	8,900,177	58.51	55.00	55.25
1998	52	191,385	13,651,209	71.33	60.00	58.76
1999	53	193,950	13,219,596	68.16	63.50	61.14
2000	54	210,895	14,341,592	68.00		63.83

\$65.00

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

PER SQ. FT.

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25-Apr-00

	Dilug	e Lengui	130-4331 661		
Bridge	Project	Deck	Bridge	Cost Per	Bridge
No.	Number	Area	Cost	Sq. Ft.	Length
28526 SP	28-612-06	6,465	\$291,057	\$45	167.00
42555 SP	42-607-17	7,809	364,739	47	155.06
54544 SP	54-598-23	6,448	435,202	67	182.50
55546 SP	55-598-24	14,453	701,093	49	294.06
57521 SAP	57-627-08	5,763	280,235	49	149.50
62590 SP	62-696-09	29,620	1,123,907	38	434.70
69618 SAP	69-714-01	10,103	600,426	59	292.00
69624 SAP	69-629-04	13,400	1,020,232	76	315.30
71521 SAP	71-620-01	6,599	388,829	59	171.40
73561 SAP	73-598-13	9,612	394,502	41	181.63
85541 SP	176-090-01	4,265	455,549	107	355.40
27V26 SP	155-020-07	2,574	318,923	124	212.00
20007	ТН	9,978	631,631	63	195.00
20011	TH	9,239	559,628	61	176.81
27138	ТН	27,889	1,621,392	58	269.90
27223	TH	25,802	1,215,134	47	219.98
27224	TH	12,270	714,298	58	219.33
31014	TH	14,068	998,313	71	258.71
78005	TH	6,620	409,439	62	171.72
27V09	TH	16,027	1,030,026	64	227.68
27V10	TH	16,189	1,049,365	65	230.10
27V11	ТН	19,881	2,692,486	135	154.80
State Aid Projects		117,111	\$6,374,694	\$54	Average
Trunk Highway Projects		157,963	\$10,921,712	\$69	Average
	•				
Total		275,074	\$17,296,406	\$63	Average

Bridges Let in Calendar Year 1999 Bridge Length 150-499 Feet

Bridges Let in Calendar Year 1999 Bridge Length 500 Feet and Over

Bridge	Project	Deck	Bridge	Cost Per	Bridge
No.	Number	Area	Cost	Sq. Ft.	Length
20009	TH	52,085	\$2,484,868	\$48	580.33
27252	TH	110,567	6,437,675	58	1295.50
Trunk Highway Projects		162,652	\$8,922,542	\$55	Average

Railroad Bridge							
Bridge No.	Project Number	Number of Tracks	Bridge Cost	Cost Per Lin. Ft.	Bridge Length		
40004	TH	1	\$1,315,150	\$12,112	108.58		
86010	ТН	1	1,374,770	10,569	130.08		
Total			\$2,689,920	\$11,271	238.66		

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	NUMBER			YEARLY AVEBAGE	PRICE	5-YEAR AVERAGE
NEEDS	OF	DECK	TOTAL	CONTRACT	USED IN	CONTRACT
ILAN	PHOJECIS				MEEDS	PRICE
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	60.12	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	57.39
1994	29	307,611	15,619,506	50.78	55.00	55.86
1995	28	381,968	23,310,410	61.03	55.00	55.41
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
1999	29	455,964	27,104,753	59.44	63.50	57.68
2000	22	275,074	17,296,406	62.88		60.10

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

\$62.50 PER SQ. FT. 25-Apr-00

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	NUMBER			YEARLY AVERAGE	PRICE	5-YEAR AVERAGE
NEEDS	OF	DECK	TOTAL	CONTRACT	USED IN	CONTRACT
YEAR	PROJECTS	AREA	COST	PRICE	NEEDS	PRICE
1989	8	335,830	\$40,615,626	\$120.94	\$70.00	\$68.02
1990	13	684,812	40,178,274	58.67	65.00	70.15
1991	0	0	0	0	65.00	72.44
1992	0	0	0	0	65.00	78.55
1993	6	245,572	13,068,106	53.21	55.00	77.61
1994	3	75,425	3,959,504	52.50	55.00	54.79
1995	2	174,991	9,595,341	54.83	55.00	53.51
1996	4	157,751	7,875,932	49.93	55.00	52.62
1998	3	182,129	12,002,782	65.90	60.00	55.27
1999	6	201,931	13,228,740	65.51	63.50	57.73
2000	2	162,652	8,922,542	54.86		58.21

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS

\$60.00 Per Sq. Ft.

25-Apr-00

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RAILROAD BRIDGES OVER HIGHWAYS

Needs	Number	Number	Bridge	Bridge Cost	Cost per Lin. Ft.	Cost per Lin. Ft.
Year	of	of 	Length	per Lin. Ft.	of 1st Track	of Additional
	Projects	Iracks		(Actual)	(Unit Price Study)	
			and a state of the second second			(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	8,000	6,500
1999	1	1	150.3	8,139	8,200	6,700
2000	2	1	108.58	12,112		
		1	130.08	10,569		

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS _____ PER LINEAL FOOT FOR THE FIRST TRACK

\$9,000

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 2000 NEEDS STUDY IS _____ PER LIN. FT. FOR ADDITIONAL TRACKS

\$7,500

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OTHER



TOPICS


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RECONDITIONING NEEDS ADJUSTMENT

Report for the Needs Study Subcommittee Spring, 2000 meeting 4/13/00

HISTORY

The MSAS Needs Study had a 10 year negative construction needs adjustment for bituminous overlays and concrete joint repair on deficient segments until 1995. The minutes of the April 19, 1996 meeting of the Needs Study Subcommittee state in part:

G. Needs adjustment for bituminous overlay:

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

Minutes of the June 4th and 5th, 1996 screening board meeting state in part:

1. <u>Bituminous Overlay Adjustment:</u> The question was raised whether cities should receive "negative" needs adjustments for bituminous overlays and concrete joint repairs. Consensus was to eliminate the negative adjustment. Will be put on the agenda for action tomorrow.

And

B. BITUMINOUS OVERLAY ADJUSTMENT

Motion to eliminate the negative adjustment for bituminous overlays immediately. Motion by Dave Jessup, second by R. Kannankutty to approve. Motion passed unanimously.

I could not find any other information on why this adjustment was rescinded.

The newest edition of the State Aid Operational Rules dated March 1999 has a new definition for Reconditioning. Section 8820.0100 Subp. 13b states:

"Reconditioning" includes replacement or rehabilitation of the pavement structure to extend the life of the roadway and effectively address critical safety and operations needs through minor improvements to the existing facility. Reconditioning projects generally utilize the existing horizontal and vertical alignment, may entail minor widening or geometric improvement, and normally require little or no additional right-of-way. Replacement or rehabilitation of the pavement structure does not include significant subgrade correction. Reconditioning may include changes in vertical or horizontal alignment involving no more than 20 percent of the length of the project. Work does not normally extend beyond the existing ditch bottom.

The Rules also have a definition of Special resurfacing project. Section 8820.0100 subp. 14a states:

"Special resurfacing project" means a bituminous or concrete resurfacing or concrete joint repair project that has been funded at least partially with money from the county or municipal state-aid account, and for which a needs adjustment has been made.

Should reconditioning be considered as part of the construction needs study? Currently, a street receives complete construction needs when the date it was last graded is twenty years or older. By definition, reconditioning does not include a significant subgrade correction but does extend the life of the roadway. In most cases the grading date would not be changed so the roadway would still be considered adequate or deficient based on the grading year, but the life of the roadway would be extended from the year it was reconditioned.

OPTIONS

1) No adjustment

Leave construction needs study as it is with no adjustment for bituminous overlays, concrete rehabilitation or reconditioning projects.

- 2) Combine the old bituminous overlay adjustment with a new reconditioning adjustment.
- 3) Have only a reconditioning adjustment.
- 4) Add a reconditioning date to construction needs study.

Affect of the above options on Adequate Segments

Option 1) No affect

Option 2) The old bit overlay adjustment only affected deficient segments. Adequate segments receive an additional surfacing need for overlays.

- Option 3) Do not reinstate the bit overlay adjustment, just have a reconditioning adjustment. The length of this adjustment could be for 10, 15 or 20 years. What happens to the adjustment when the 20 year needs are reinstated? Would the city continue to receive the negative adjustment while drawing complete needs?
- Option 4) According to the definition, reconditioning extends the life of the roadway. How long does it extend it? A separate reconditioning year could be added to the construction needs update, and the needs reinstatement would be based on that date for a certain period of time, rather than the grading date.

Affect of the above options on Deficient Segments

- Option 1) No affect
- Option 2) Include a reconditioning adjustment in with the old bituminous overlay adjustment. The bit overlay adjustment was for 10 years. How long should the new adjustment be for?
- Option 3) Only a reconditioning adjustment would be made to deficient segments for a period of 10, 15 or 20 years. This adjustment could be for the local and MSAS portion of the project.

Option 4) Same as adequate segments.

QUESTIONS

Should the bituminous overlay and concrete rehab adjustment be reinstated and included with a reconditioning needs adjustment?

Should whatever adjustment is decided on (if any) be applied to both adequate and deficient segments? Or only deficient segments.

Time length of adjustment? 10, 15, or 20 years?

If an adjustment is made to an adequate segment, what happens if the segment becomes deficient before the adjustment expires?

What if a deficient segment is reconstructed before the adjustment expires?

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At their April 13, 2000 meeting, the Needs Study Subcommittee recommended a Reconditioning and Special Resurfacing Needs adjustment be included in the MSAS Needs Study. The following is proposed wording for the Screening Board resolution:

Reconditioning and Special Resurfacing Needs Adjustment – June 2000

When a Municipal State Aid Street is improved by a Special Resurfacing project as defined in State Aid Rules 8820.0100 Subp. 14a or a Reconditioning project as defined in State Aid Rules 8820.0100 subp. 13b the city shall have the State Aid portion of such project annually deducted from its 25 year Municipal State Aid construction needs for a period of up to 10 years.

If the roadway is considered adequate for needs purposes, the adjustment will take effect after the 20th anniversary of the grading date when the roadway will be considered deficient for needs purposes. The length of the adjustment shall be the difference between the grading date and the reconditioning or special resurfacing date minus 10 years.

If the roadway is considered deficient for needs purposes, the adjustment shall start the year following construction and shall continue for a period of 10 years.

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UNIT COST FOR STREET LIGHTING

Report for the Needs Study Subcommittee Spring 2000 meeting 4/13/00

HISTORY

The following paragraph is from the minutes of the April 12, 1999 meeting of the Needs Study Subcommittee:

The Screening Committee directed the Needs Study Subcommittee to review the lighting costs. After much discussion the Subcommittee is recommending a price increase from \$20,000 a mile to \$35,000 per mile. An estimate of 14 poles with a cost of \$2500 per pole was used to determine the proposed cost.

The following is from the minutes of the June 3, 1999 Screening Board meeting:

Ed Warn moved to send the street lighting unit price analysis back to the Needs Subcommittee to look further at AASHTO standards, other standards if applicable, to recommend a per-mile street lighting cost and to consider the potential use of after-the-fact needs for street lighting. Ramankutty Kannankutty seconded the motion. Discussion regarding the motion included the following:

- Keep the street lighting cost unit price calculations as simple as possible.
- Determine what a realistic amount would be for cost of street lighting.
- Establish a standard roadway street lighting as the basis for the unit prices.
- Establish a minimal lighting standard and make it a requirement for actual construction requirements.

Upon vote, the motion carried. Mark Winson and David Salo voted against the motion.

Options & Questions

The Mn/DOT State Lighting Engineer made the following recommendations, which are based upon the AASHTO street lighting book entitled 'An Informational Guide for Roadway Lighting':

Local Commercial would have about 26 lights per mile. This is an average of 0.6 to 0.8 footcandles and is based on 200 foot staggered spacing. It does include intersections, but signalized intersections would reduce the number of light poles.

Local Residential would have intersection and midblock lighting. Assuming 10 blocks per mile, that would be 19 light figures. AASHTO recommends an average

or 0.3 footcandles, but this might or might not be achieved depending on the length of the blocks.

Mn/DOT estimates that a 40-foot pole with a standard cobra head costs \$4000 to install. This includes foundation, cables, conduit, etc.

So, for estimating and planning purposes, the Mn/DOT State Lighting Engineer recommends using \$104,000 per mile for Local Commercial and \$76,000 per mile for Local Residential lighting costs

Otter Tail Power, Northern States Power, and the FHWA were also contacted about costs per mile for street lighting. The only response was from NSP, who reviewed the numbers from the State Lighting Engineer, and agreed that they were realistic figures.

Currently, all segments receive street lighting needs. Rural and urban, adequate and deficient.

Should all deficient and adequate segments receive lighting needs? Should both urban and rural segments receive lighting needs?

Should lighting needs be based on projected traffic like traffic signal needs are? Example:

Projected	Percentage	Unit Price	Needs per
Traffic	Х	=	Mile
0 – 4,999	0.25	\$35,000	\$8,750
5,000 – 9,999	0.50	\$35,000	\$17,500
10,000 & over	1.00	\$35,000	\$35,000

Should there be an after the fact positive needs adjustment for street lighting based on the state aid portion of the actual construction cost? The city would have to submit documentation of any street lighting adjustment requested.

The Needs Study Subcommittee recommends a price of **\$78,000 per mile** for every segment on the Municipal State Aid Street system.

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General Fund Advances

At the Spring 1999 meeting of the Municipal Screening Board, the board passed a resolution affecting the amount which cities could advance from the general fund. This revision limited the maximum amount a city could advance from its total apportionment to its construction allotment. Starting with the 2000 apportionment, cities will be able to advance the following amounts:

Cities with a **construction allotment** of \$500,000 or less can now advance up to three times its previous years **construction allotment** or \$500,000, whichever is less.

Cities with a construction allotment of more than \$500,000 can now advance up to its previous years construction allotment up to a maximum of \$3,000,000.

The affects of these revisions are:

- 1) More cities will be able to advance funds because of the smaller amount individual cities can advance.
- 2) Cities with a total allotment of \$500,000 or less would be able to pay back the total advance in three years or less.
- 3) Cities with a total allotment of over \$500,000 would be able to pay back the total advance in one year instead of having to carry a balance over into the next year.

Clarification of Guidelines

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 20 million (12/14/99).

This \$20 million threshold was reviewed by State Aid Finance in August of 1999 and it was determined to continue using it as the minimum account balance to base the amount available for advanced funding.

A City Council Resolution is required to advance funds. The City Council Resolution can be passed at any time, but must be submitted with, or prior to, any payment requests. It need not be project specific, but must include the maximum amount of advance the City Council is authorizing for financing approved Municipal State Aid Street projects in that year. The resolution should be mailed directly to State Aid Finance. **The resolution does not reserve the funds.** The funds are paid on a first come first served basis established by payment requests. As payment requests are submitted by the city, the amount required to process the payment (up to the resolution/allowable amount) will be added to the city's account. The payment request is verified by the form 'Report of State Aid Contract'.

To "reserve" the funds, the City Engineer may submit a "Request to Reserve Advanced Funding" form (Fig. G 5-892.563) up to 8 weeks prior to anticipating or incurring an obligation where advanced funding is required. This form "reserves" the funds in the city's account. Once the request has been approved by State Aid and the funds added to the city's account, a copy of the approved request will be returned to the City Engineer. The "Request to Reserve Advanced Funding" form should be mailed to Diane McCabe in State Aid. This form is not required, but will allow the funds to be set aside up to eight weeks in advance of the payment request.

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Fund 250

\$ 47,855,392.65 \$ 80,334,284.00
\$128,189,676.65 \$93,991,112.28
\$ 34,198,564.37 \$ (25,000,000.00)
\$ 9,198,564.37 \$ 9,930,711.29 \$ (732,146.92)

			REQUEST TO				
	RESOLUTION		RESERVE	ADVANCE	REPAID		
CITY NAME	<u>AMOUNT</u>	<u>YEAR</u>	ADV FUNDING	<u>AMOUNT</u>	AMOUNT	BALANCE	COMMENTS
Alexandria	\$ 500,000.00	1999	500,000.00	500,000.00	258,238.00	241,762.00	
Buffalo	\$ 315,000.00	2000	315,000.00	315,000.00		315,000.00	
Buffalo	\$ 500,000.00	1999	347,051.00	347,051.00	166,461.00	180,590.00	Advanced Limit
Elk River	\$ 670,000.00	2000	670,000.00	670,000.00		670,000.00	
Glencoe	\$ 213,523.29	1999	213,523.29	213,523.29	104,472.00	109,051.29	
Ham Lake	\$ 85,000.00	2000	85,000.00	85,000.00		85,000.00	
Ham Lake	\$ 435,000.00	1999	350,000.00	350,000.00	336,432.00	13,568.00	
Hastings	\$ 500,000.00	1999	500,000.00	500,000.00	338,323.00	161,677.00	
Maplewood	\$ 996,732.00	2000	695,000.00	695,000.00		695,000.00	
Minnetonka	\$ 1,352,243.00	2000	1,300,000.00	1,300,000.00		1,300,000.00	
N. St. Paul	\$ 500,000.00	1999	500,000.00	500,000.00	267,164.00	232,836.00	
Oakdale	\$ 357,471.38	2000				-	
Orono	\$ 500,000.00	1999	419,510.00	419,510.00	288,109.00	131,401.00	
Owatonna	\$ 550,000.00	2000	550,000.00	550,000.00			
Rochester	\$ 1,375,000.00	2000	1,375,000.00	1,375,000.00		1,375,000.00	
Shoreview	\$ 567,681.00	2000	567,681.00	567,681.00		567,681.00	
Stewartville	\$ 250,000.00	2000				-	
St. Louis Park	\$ 720,000.00	2000	720,000.00	720,000.00		720,000.00	
St. Michael	\$ 500,000.00	1999	500,000.00	500,000.00	259,677.00	240,323.00	
St. Paul	\$ 3,000,000.00	2000	1,500,000.00	1,500,000.00		1,500,000.00	
Sartell	\$ 450,000.00	1999	450,000.00	450,000.00	270,085.00	179,915.00	
Virginia	\$ 160,000.00	2000				-	
White Bear Lake	\$ 500,000.00	2000	450,000.00	450,000.00		450,000.00	
Woodbury	\$ 900,000.00	2000	432,491.00	432,491.00		432,491.00	
Wopdbury	\$ 1,300,000.00	1999	426,845.00	426,845.00	97,429.00	329,416.00	Advanced Limit
TOTAL	\$ 17,197,650.67		12,867,101.29	\$12,867,101.29	\$ 2,386,390.00	\$ 9,930,711.29	

cc: Paul Stine, Diane McCabe Marshall Johnston

Local Road Research Board Projects for Calendar Year 1999

INV	TITLE	TOTAL	1998	1999	2000
645	Implementation of Research	Ongoing	\$150,000	\$150,000	\$150,000
668	Technology Transfer Center, U of M - Base	Ongoing	\$105,000	\$150,000	\$150,000
	Technology Transfer Center, U of M -				
	Continuing Projects				
	Circuit Training and Assistance Program				
	(CTAP)	Ongoing	\$127,500	\$127,500	\$127,500
	Minnesota Maintenance Research Expos	Ongoing	\$14,000	\$14,000	\$14,000
	Transportation Student Development	Ongoing	\$4,000	\$4,000	\$4,000
					·
	Preventive Bridge Maintenance Course Training			\$25,000	
676	Mn/ROAD	Ongoing	\$500,000	\$500,000	\$500,000
	MnROAD Supplement, Reconstruction of				
	Mn/ROAD Low Volume Road	\$160,000		\$160,000	
	MnROAD Supplement, Reconstruction of				
	Mn/ROAD Concrete Sections			\$100,000	
	Implications of New Traffic Calming Safety &				
721	Geom. Dsgn Stds	\$105,000	\$50,000	\$30,000	
726	Tire Pressure on Low Volume Roads, CRREL	\$30,000	\$15,000	\$30,000	
	Development of a Vehicle/Pedestrian Collision				
_733	Traffic Control	\$50,000	\$46,000	\$4,000	
	Field Measurement of Granular Base Drainage				
734	Characteristics	\$131,000	\$66,000	\$65,000	
	Impact of Inc Winter Load Limits to 100,000 lbs.				
738	GVW	\$85,000	\$50,000	\$35,000	
	Low Temperature Cracking of Asphalt Concrete				
739	Pavements	\$220,000	\$70,000	\$74,000	\$76,000
	Subgrade Stabilization Techniq Low Volume				
740	Roads Minnesota	\$130,000	\$75,000	\$40,000	\$15,000
742	Cold Inplace Recycle	\$120,000	\$60,000	\$60,000	
745	Library Services for Local Governments	Ongoing	\$50,000	\$50,000	\$50,000
	Improvement of Minnesota Low-Volume				
747	Design and Construction Practice	\$150,000		\$75,000	\$75, <u>000</u>
	Cost and Performance Evaluation of Ultrathin				
748	on High Volume Intersections	\$30,000		\$30,000	
749	Surface Treatment Proposal	\$25,000		\$20,000	\$2,500
750	Algorithms for Vehicle Classification, Phase II	\$62,000		\$10,000	\$52,000
	Evaluation of Micro-Surfacing on County Roads				
751	as a Preventive Maintenance Treatment			\$25,000	
999	Project Administration	Ongoing	\$160,000	\$160,000	\$160,000
	TOTALS			\$1,938,500	\$1,226,000

LRRB - Budget Summary

Funds allotted for 1999	\$1,936,695
Funds Carried over from 1998	\$189,242
Funds available for 1999	\$2,125,937
Present 1999 Commitment	\$1,938,500
Carryover Funds to 2000	\$187,437
Funds allotted for 2000	\$2,041,557
Total funds available for 2000	\$2,228,994
Carryover commitments -Current Projects	\$0
Approved Continuation Funding	\$0
CY 2000 funds available for new projects	\$2,228,994

Budget Approved for 2000

\$1,554,271	County
\$487,286	City
\$2,041,557	Total

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Local Road Research Board Projects for Calendar Year 2000

INV	TITLE	TOTAL	1999	2000	2001
645	Implementation of Research	Ongoing	\$150,000	\$150,000	\$150,000*
668	Technology Transfer Center, U of M - Base	Ongoing	\$150,000	\$150,000	\$150,000*
	Technology Transfer Center, U of M -				
	Continuing Projects			,	
	Circuit Training and Assistance Program				
	(CTAP)	Ongoing	\$127,500	\$77,500	\$77,500*
	Minnesota Maintenance Research Expos	Ongoing	\$14,000	\$14,000	\$14,000*
	Transportation Student Development	Ongoing	\$4,000	\$4,000	\$4,000*
	Preventive Bridge Maintenance Course Training			\$25,000	
676	Mn/ROAD	Ongoing	\$500,000	\$500,000	\$500,000*
711	Surface Stabilization on Low-Volume Roads	\$96,000		\$8,000	
	Low Temperature Cracking of Asphalt Concrete				
739	Pavements	\$290,000	\$70,000	\$74,000	\$76,000
	Subgrade Stabilization Techniq Low Volume	· • · • • • • • •		• • - - -	
740	Roads Minnesota	\$130,000	\$40,000	\$15,000	
745	Library Services for Local Governments	Ongoing	\$50,000	\$50,000	\$50,000*
	Improvement of Minnesota Low-Volume			*-------------	
747	Design and Construction Practice	\$150,000	\$75,000	\$75,000	
749	Surface Treatment Proposal	\$25,000	\$20,000	\$2,500	\$2,500
750	Algorithms for Vehicle Classification, Phase II	\$62,000	\$10,000	\$52,000	
	Response of Corrugated Polyethylene pipe with	*		***	***
752	shallow cover to known truck loadings	\$565,000		\$60,000	\$30,000
/53	Duration of Springload Limits on Gravel Roads	\$35,000		\$35,000	
754	Supplement to Low Volume Road Best Practices	AOF 000		#05 000	
754	Project	\$25,000		\$25,000	* 00 500
/55	Matheda to reduce Traffic an order in Link	\$50,000		\$22,500	\$22,500
756	Redestrian areas	¢C1 071		\$61 071	
750	Pedesilian areas	\$75,000		\$28,000	\$27,000
157	Designing Pavement drainage Systems	\$75,000		\$36,000	\$37,000
	Study of Dhysical Goological Minorological 8				
759	chemical properties of Coarse Taconite Tailings	\$126,000		\$63.000	\$63,000
- / 50	Impact of Roughness elementson reducing	\$120,000		\$03,000	\$03,000
750	Shear stress acting on soil Particles	\$27,000		\$27,000	
133	Beducing Crashes at Controlled Bural	Ψ27,000		\$27,000	
760	intersections	\$67 203		\$67 203	
/00		φ07,200		ΨΟΥ,200	
	Eliminating driver"Blind Spots" at Bural				
761	intersections: Effects of Signage & Vehicle velociv	\$41 750		\$41 750	
762	Twin Cities Begional Dynamics: Phase IV	\$80,000	<u> </u>	\$40,000	
763	Effectiveness of In-Lane Rumble Strips	\$15,000		\$15,000	
<u> </u>	Effect of Transverse Cracks on Stresses &	<i>,</i>		<i><i><i></i></i></i>	
764	Strains in Elexible Pavements	\$123,957		\$82,638	\$41.319
999	Project Administration	Ongoing	\$160.000	\$220,000	\$220.000*
	TOTALS	2.190.19	NA	\$1.995.362	\$1.437.819
L			<u> </u>		

* Anticipated

Budget Summary for Calendar Year 2000

Funds allotted for 2000	\$2,041,557
Funds Carried over from 1999	\$187,437
Funds available for 2000	\$2,228,994
Present 2000 Commitment	\$1,995,362
CY 2000 Funds not Committed to Date	\$233,632

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RELATIONSHIP OF CONSTRUCTION BALANCE TO CONSTRUCTION ALLOTMENT

26-Apr

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. Does not include State Aid Advances.

						Amount	Ratio of	Ratio of
				Unencumbered		Spent	Construction	Amoun
App.		No. of	Needs	Construction	Construction	on	Balance to	spent to
Year		Municipalities	Mileage	Balance	Allotment	Construction	Construction	Amount
	1.1					Projects	Allotment	Receive
1973		94	1,580.45	\$26,333,918	\$15,164,273	\$12,855,250	1.7366	0.847
1974		, 95	1,608.06	29,760,552	18,052,386	14,625,752	1.6486	0.810
1975		99	1,629.30	33,239,840	19,014,171	15,534,883	1.7482	0.817
1976		101	1,718.92	37,478,614	18,971,282	14,732,508	1.9755	0.776
1977		101	1,748.55	43,817,240	23,350,429	17,011,803	1.8765	0.728
1978		104	1,807.94	45,254,560	23,517,393	22,080,073	1.9243	0.9389
1979		106	1,853.71	48,960,135	26,196,935	22,491,360	1.8689	0.858
1980		106	1,889.03	51,499,922	29,082,865	26,543,078	1.7708	0.912
1981		106	1,933.64	55,191,785	30,160,696	26,468,833	1.8299	0.8776
1982		105	1,976.17	57,550,334	36,255,443	33,896,894	1.5874	0.9349
1983		106	2,022.37	68,596,586	39,660,963	28,614,711	1.7296	0.721
1984		106	2,047.23	76,739,685	41,962,145	33,819,046	1.8288	0.8059
1985		107	2,110.52	77,761,378	49,151,218	48,129,525	1.5821	0.9792
1986		107	2,139.42	78,311,767	50,809,002	50,258,613	1.5413	0.9892
1987	*	107	2,148.07	83,574,312	46,716,190	41,453,645	1.7890	0.8874
1988		108	2,171.89	85,635,991	49,093,724	47,032,045	1.7443	0.9580
1989		109	2,205.05	105,147,959	65,374,509	45,862,541	1.6084	0.7015
1990		112	2,265.64	119,384,013	68,906,409	54,670,355	1.7326	0.7934
1991		113	2,330.30	120,663,647	66,677,426	65,397,792	1.8097	0.9808
1992		116	2,376.79	129,836,670	66,694,378	57,521,355	1.9467	0.8625
1993		116	2,410.53	109,010,201	64,077,980	84,904,449	1.7012	1.3250
1994		117	2,471.04	102,263,355	62,220,930	68,967,776	1.6436	1.1084
1995		118	2,526.39	89,545,533	62,994,481	75,712,303	1.4215	1.2019
1996 .		119	2,614.71	62,993,508	70,289,831	96,841,856	0.8962	1.3778
1997	**	122	2,740.46	49,110,546	69,856,915	83,739,877	0.7030	1.1987
1998		125	2,815.99	44,845,521	72,626,164	76,891,189	0.6175	1.0587
1999		126	2,859.05	55,028,453	75,595,243	65,412,311	0.7279	0.8653
2000		127	2,910.87		80,189,255		0.0000	0.000

* 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.

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RELATIONSHIP OF CONSTRUCTION BALANCE TO CONSTRUCTION ALLOTMENT



83

APPORTIONMENT RANKINGS

					Construction				
	Total	Population		Total	Needs			Total	Total
	Needs	Apportionment		Needs	Apportionment			Needs	Apportionment
Municipality	Mileage	Per Need Mile	Municipality	Mileage	Per Need Mile		Municipality	Mileage	Per Need Mile
Falcon Heights	2.54	\$34,572	 Crookston	11.53	\$34,391		Minneapolis	202.12	\$57,990
Minneapolis	202.12	29,715	Minneapolis	202.12	28,275		St. Paul	164.13	54,696
Hopkins	9.33	29,509	St. Paul	164.13	27,654		Hopkins	9.33	51,888
New Hope	12.70	28,054	Bloomington	75.35	25,102		New Hope	12.70	51,311
St. Paul	164.13	27,042	Farmington	11.96	24,749		St. Louis Park	28.65	46,764
Vadnais Heights	8.32	26,031	Fairmont	19.41	24,430		Crookston	11.53	45,897
Shoreview	16.75	25,723	Moorhead	28.94	23,635		Bloomington	75.35	44,029
Oakdale	16.72	25,412	New Hope	12.70	23,257		St. Anthony	5.63	43,400
St. Louis Park	28.65	25,178	Thief River Falls	14.66	23,227		Moorhead	28.94	42,749
New Brighton	14.95	24,923	New Ulm	15.33	23,226		Falcon Heights	2.54	42,311
Coon Rapids	40.97	24,634	Hopkins	9.33	22,379		Stewartville	3.54	42,144
Columbia Heights	12.53	24,605	Woodbury	43.22	22,162		Crystal	17.88	41,833
St. Anthony	5.63	24,380	Austin	27.70	21,673		Rochester	60.48	40,809
West St. Paul	13.10	24,295	St. Louis Park	28.65	21,586		Oakdale	16.72	40,462
Stewartville	3.54	24,050	Faribault	22.22	21,165		Northfield	12.06	40,359
Robbinsdale	10.10	23,238	Orono	12.58	20,554		Columbia Heights	12.53	39,841
Anoka	12.64	23,171	Crystal	17.88	20,142		Waseca	6.42	39,795
Richfield	25.49	22,841	North Mankato	13.06	19,985		Richfield	25.49	39,649
Maplewood	25.48	22,622	Grand Rapids	11.40	19,715		Coon Rapids	40.97	39,232
Waseca	6.42	22,388	Owatonna	17.56	19,519	ļ	Owatonna	17.56	39,189
Brooklyn Park	46.62	22,361	Maple Grove	45.09	19,491		Farmington	11.96	39,148
White Bear Lake	19.60	22,031	Lakeville	47.64	19,431		Maplewood	25.48	39,118
Northfield	12.06	21,909	Little Canada	10.94	19,359		Brooklyn Center	21.56	39,046
Burnsville	43.70	21,902	Rochester	60.48	19,188		Forest Lake	5.53	38,918
Brooklyn Center	21.56	21,844	Waite Park	6.48	19,073		Anoka	12.64	38,747
Spring Lake Park	5.34	21,717	St. Anthony	5.63	19,020		Vadnais Heights	8.32	38,261
Crystal	17.88	21,691	Virginia	13.67	19,016		New Ulm	15.33	38,126
Rochester	60.48	21,621	Duluth	111.31	18,959	1	Mound	8.05	38.045
Arden Hills	7.41	21,424	Worthington	9.81	18,867		Arden Hills	7.41	37,993
Blaine	34.22	21,369	Forest Lake	5.53	18,846		New Brighton	14.95	37,324
Mounds View	9.82	21,349	St. Peter	12.53	18,718		Bobbinsdale	10.10	37,209
Fagan	46.13	21,232	Red Wing	22.93	18,602		Apple Valley	33 38	37 199
Apple Valley	33.38	21,231	Mankato	29.32	18,575		Burnsville	43 70	36 856
South St. Paul	16.32	20,248	Northfield	12.06	18,450		Woodbury	43.22	36,815
Forest Lake	5.53	20.072	Baxter	12.70	18,336		Maple Grove	45.09	36,545
Winona	21.75	19,932	Mound	8.05	18.242		Shoreview	16.75	36,499
Inver Grove Heights	23.86	19,919	Stewartville	3.54	18.094		Mankato	29.32	36,406
Plymouth	51.66	19,876	Otsego	13.61	17,764		Worthington	9,81	35,992
Mound	8.05	19,803	Buffalo	9.86	17.728		White Bear Lake	19.60	35,781
Owatonna	17.56	19,670	Hutchinson	14.73	17,638		Roseville	28.60	35,688

						Construction				
and the second second	Total	Population			Total	Needs		and the second part	Total	Total
	Needs	Apportionment			Needs	Apportionment	а. 1.1 1.1.1 1.1.1		Needs	Apportionment
Municipality	Mileage	Per Need Mile	1.1	Municipality	Mileage	Per Need Mile		Municipality	Mileage	Per Need Mile
Edina	39.36	\$19,566		Elk River	25.78	\$17,519		St. Cloud	51.97	\$35,562
Roseville	28.60	19,556		Waseca	6.42	17,407		Mounds View	9.82	35,533
North St. Paul	10.68	19,542	[St. Paul Park	5.30	17,348		Blaine	34.22	35,418
Champlin	17.01	19,539		Brooklyn Center	21.56	17,202		Faribault	22.22	35,236
Eden Prairie	42.66	19,369		Savage	16.36	17,158		West St. Paul	13.10	35,122
Moorhead	28.94	19,114		Redwood Falls	7.87	16,963		Inver Grove Heights	23.86	35,120
Bloomington	75.35	18,927		St. Cloud	51.97	16,864		Eden Prairie	42.66	35,115
Stillwater	14.02	18,761		Richfield	25.49	16,808		Brooklyn Park	46.62	34,854
St. Cloud	51.97	18,698		Glencoe	7.02	16,617		Plymouth	51.66	34,822
Fridley	25.02	18,653		International Falls	8.06	16,608		North Mankato	13.06	34,671
Hastings	16.09	17,860		Arden Hills	7.41	16,569		Waite Park	6.48	34,647
Mankato	29.32	17,831		Litchfield	8.58	16,533		Austin	27.70	34,638
Minnetonka	49.89	17,219		Sartell	8.46	16,513		Winona	21.75	34,299
Worthington	9.81	17,125		Lino Lakes	18.67	16,506		Savage	16.36	34,139
Maple Grove	45.09	17,054		Maplewood	25.48	16,496		Eagan	46.13	34,062
Savage	16.36	16,981		Albert Lea	18.74	16,319		Fairmont	19.41	33,935
International Falls	8.06	16,791		Dayton	9.28	16,136		Buffalo	9.86	33,726
Cottage Grove	30.24	16,514		Roseville	28.60	16,132		Little Canada	10.94	. 33,704
Sartell	8.46	16,483		Chaska	15.30	15,972		International Falls	8.06	33,399
Chaska	15.30	16,369		Apple Valley	33.38	15,968		North St. Paul	10.68	33,354
Buffalo	9.86	15,998		Little Falls	15.67	15,876		South St. Paul	16.32	33,147
Albert Lea	18,74	15,932		Eden Prairie	42.66	15,746		Sartell	8.46	32,996
Prior Lake	15.14	15,816		Cloquet	20.14	15,714		St. Paul Park	5.30	32,870
Waconia	5.53	15,652		Anoka	12.64	15,576		Stillwater	14.02	32,835
Waite Park	• 6.48	15,574		Fergus Falls	24.34	15,515		Lakeville	47.64	32,609
St. Paul Park	5.30	15,522		Cottage Grove	30.24	15,369		Thief River Falls	14.66	32,507
Sauk Bapids	10.17	15.380		Columbia Heights	· 12.53	15.236		Chaska	15.30	32,341
Brainerd	14.25	15,083		Monticello	7.80	15,219		Edina	39.36	32,295
New Ulm	15.33	14,900		Inver Grove Heights	23.86	15,201		Albert Lea	18.74	32,251
Monticello	7.80	14,797		Waconia	5.53	15,057		Hutchinson	14.73	32,015
North Mankato	13.06	14,686		Golden Valley	23.55	15,054		Cottage Grove	30.24	31,883
Woodbury	43.22	14.653		Oakdale	16.72	15.050		Grand Rapids	11.40	31,864
Golden Vallev	23.55	14,539		Cambridge	10.74	15,027		Duluth	111.31	31,481
Farmington	11.96	14.399		St. Michael	14.77	15,005		St. Peter	12.53	31,466
Hutchinson	14.73	14.377		Burnsville	43,70	14,954		Minnetonka	49.89	30,981
Little Canada	10.94	14.345		Rosemount	21.45	14,949		Spring Lake Park	5.34	30,969
Mahtomedi	8.33	14.253		Plymouth	51.66	14,946		Waconia	5.53	30,709
Faribault	22.22	14,071		Coon Rapids	40.97	14,598		Orono	12.58	30,536
Marshall	14.88	13,900		Winona	21.75	14,367		Virginia	13.67	30,264
Shorewood	8.24	13.866		Chisholm	7.99	14,340		Champlin	17.01	30,199
Chanhassen	20.87	13.578		Prior Lake	15.14	14.227		Prior Lake	15.14	30,043
Bemidii	14.56	13,542		Alexandria	14.39	14.185		Monticello	7.80	30.016
Lakeville	47 64	13 178		Mounds View	9.82	14.184		Red Wing	22.93	29.875
Lino Lakes	18 67	13,145		Bemidii	14.56	14.123		Lino Lakes	18,67	29.651

	the second second				Construction			
	Total	Population		Total	Needs	전 동안에 가지 않는 것	Total	Total
	Needs	Apportionment		Needs	Apportionment		Needs	Apportionment
Municipality	Mileage	Per Need Mile	Municipality	Mileage	Per Need Mile	Municipality	Mileage	Per Need Mile
Shakopee	19.98	\$13,091	Stillwater	14.02	\$14,074	Golden Valley	23.55	\$29,59
Austin	27.70	12,965	Blaine	34.22	14,049	Glencoe	7.02	28,9
Willmar	23.90	12,885	Robbinsdale	10.10	13,971	Sauk Rapids	10.17	28,6
St. Peter	12.53	12,748	North St. Paul	10.68	13,812	Litchfield	8.58	28,4
Duluth	111.31	12,522	Willmar	23.90	13,771	Hastings	16.09	28,0
Mendota Heights	13.51	12,421	Minnetonka	49.89	13,762	Redwood Falls	7.87	27,8
Glencoe	7.02	12,323	White Bear Lake	19.60	13,750	Bemidji	14.56	27,6
Grand Rapids	11.40	12,149	East Grand Forks	`	13,686	Elk River	25.78	27,4
Morris	7.74	11,977	Hibbing	51.31	13,576	Brainerd	14.25	27,4
Litchfield	8.58	11,926	Chanhassen	20.87	13,457	Shorewood	8.24	27,2
Crookston	11.53	11,506	Shorewood	8.24	13,388	Fridley	25.02	27,1
East Grand Forks	12.48	11,311	Sauk Rapids	10.17	13,284	Chanhassen	20.87	27,0
Red Wing	22.93	11,273	Montevideo	8.58	13,112	Marshall	14.88	26,6
Virginia	13.67	11,248	Detroit Lakes	12.41	13,112	Willmar	23.90	26,6
Andover	33.80	11,197	South St. Paul	16.32	12,899	Otsego	13.61	25,6
Redwood Fails	7.87	10,837	Eagan	46.13	12,830	Shakopee	19.98	25,6
Chisholm	7.99	10.794	Marshall	14.88	12.762	Mahtomedi	8.33	25.3
Montevideo	8.58	10.449	Edina	39.36	12,729	Davton	9.28	25.1
Bamsev	29.18	10,101	Shakopee	19.98	12,520	Chisholm	7.99	25.1
Rosemount	21.45	9,992	Brooklyn Park	46.62	12.493	East Grand Forks	12.48	24.9
Orono	12.58	9,982	New Brighton	14.95	12,401	Baxter	12.70	24.9
Flk River	25.78	9,938	Hugo	15.97	12.393	Bosemount	21.45	24.9
Alexandria	14.39	9,743	Brainerd	14.25	12,355	Cloquet	20.14	24.7
Detroit Lakes	12.41	9,682	North Branch	20.89	12,295	Fergus Falls	24.34	24.3
Fairmont	19.41	9,505	Andover	33.80	12,294	Alexandria	14:39	23.9
Thief River Falls	14 66	9 280	Vadnais Heights	8 32	12 230	l ittle Falls	15.67	23.8
Hermantown	12.99	9.051	Bamsey	29.18	12 050	Mendota Heights	13 51	23.7
Davton	0.28	9,037	Mendota Heights	13.51	11 295	Montevideo	8 58	20,7
Cloquet	20.14	9,007	Mahtomedi	8.33	11 141	Andover	33.80	20,0
Lake Elmo	11.87	8,023	Fast Bethel	26.58	10.867	St Michael	14 77	20,7
Forgue Falle	24.34	8,910	West St. Paul	13.10	10,807	Cambridge	10.74	20,7
St Michael	14.77	8 4 3 7	Shoreview	16.75	10,327	Detroit Lakes	12 41	20,1
Cambridge	10.74	8,007	Champlin	17.01	10,660	Morris	774	22,7
	15.67	7 079	Morris	7.74	10,000	Ramsey	20.19	22,5
	15.07	7,978	Hactinge	16.09	10,576	Hibbing	25.10	10.3
Oteogo	13.61	7,930	Corcoran	14.72	10,170	Hermantown	12.00	19,0
Disego	13.01	7,070		14.72	10,137	Hugo	12.99	10,0
Corooran	14.70	0,001	Oak Grove	24.07	0,071	Ham Lako :	10.87	10,0
Concoran East Bathal	14.72	0,011	Hormantown	19.00	5,709	l ako Elmo	24.07	10,0
Casi Deinei	20.08	0,108	Spring Lake Park	. E 34	9,000	North Branch	20 90	17,0
Hugo Llibbing	10.97	5,990	John Elmo	5.34 11 07	9,202	Fact Bethol	20.09	17,4
	51.31	5,734		11.0/	0,903	Corcoran	20.08	17,0
Marth Dranah	19.50	0,495	Fildley Ealaon Hoighta	25.02	0,400	Oak Grovo	19.72	10,4
North Branch	20.89	4,951	Faicon rieignis	2.04	7,739		19.50	15,2

STATUS OF MUNICIPAL TRAFFIC COUNTING

The current Municipal State Aid Traffic Counting resolution reads:

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 and maps prepared by State forces every four years, or may elect to continue the present procedure of taking their own counts and have state forces prepare the maps.
- 3. Any city may count traffic with their own forces every two years at their discretion and expense, unless the municipality has made arrangements with the Mn/DOT district to do the count.

In 1998, cities were given the option of counting on a 2 or 4 year cycle. The following traffic counting schedules are in effect:

Metro District

Two year traffic counting schedule -counted in 1999 and updated in the needs in 2000

Andover Anoka Apple Valley Blaine Bloomington Brooklyn Center **Brooklyn** Park Burnsville Champlin Chanhassen Chaska Coon Rapids Corcoran Cottage Grove Dayton Eagan

East Bethel Eden Prairie Farmington Forest Lake Ham Lake Hastings Hugo Inver Grove Heights Lake Elmo Lakeville Lino Lakes Little Canada Maple Grove Mendota Heights Minneapolis Minnetonka

Mounds View North Branch Oakdale Plymouth Prior Lake Ramsey Rosemount St. Anthony St. Paul Park Savage Shakopee South St. Paul Shoreview Vadnais Heights Woodbury

Metro District

Four year traffic counting schedule - to be counted in 2001 and updated in the needs in 2002

Arden Hills	Maplewood	Roseville
Columbia Heights	Mound	Shorewood
Crystal	New Brighton	Spring Lake Park
Edina	New Hope	Stillwater
Falcon Heights	North St. Paul	St. Louis Park
Fridley	Oak Grove	St. Paul
Golden Valley	Orono	West St. Paul
Hopkins	Richfield	White Bear Lake
Mahtomedi	Robbinsdale	

Outstate

Two year traffic counting schedule - to be counted in 1999 and updated in the needs in 2000

Northfield (begin in 2001)	Sartell
St. Cloud	Virginia

Outstate

Two year traffic counting schedule - to be counted in 2000 and updated in the needs in 2001

Rochester

Outstate

Two year traffic counting schedule - to be counted in 2001 and updated in the needs in 2002

Brainerd

Outstate

Four year traffic counting schedule - to be counted in 1999 and updated in the needs in 2000

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

Outstate

Four year traffic counting schedule - to be counted in 2000 and updated in the needs in 2001

Austin Buffalo Detroit Lakes International Falls Montevideo Monticello Otsego

Outstate

Four year traffic counting schedule - to be counted in 2001 and updated in the needs in 2002

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

Outstate

Four year traffic counting schedule - to be counted in 2002 and be updated in the needs in 2003

Alexandria Cloquet Stewartville Willmar Worthington

Duluth counts 1/4 of the city each year.

Waconia has not yet set up a traffic counting schedule.

N:\MSAS\Word Documents\2000\Spring 2000 Book\Traffic Counting Schedules.doc

COUNTY HIGHWAY TURNBACK POLICY.doc December 14, 1999

<u>COUNTY HIGHWAY TURNBACK</u> <u>POLICY</u>

Definitions:

County Highway - Either a County State Aid Highway or a County Road

County Highway Turnback- A CSAH or a County Road which has been released by the county and designated as an MSAS roadway. A designation request must be approved and a Commissioner's Order written. A County Highway Turnback may be either County Road (CR) Turnback or a County State Aid (CSAH) Turnback. (See Minnesota Statute 162.09 Subdivision 1). A County Highway Turnback designation has to stay with the County Highway turned back and is not transferable to any other roadways.

Basic Mileage- Total improved mileage of local streets, county roads and county road turnbacks. Frontage roads which are not designated trunk highway, trunk highway turnback or on the County State Aid Highway System shall be considered in the computation of the basic street mileage. A city is allowed to designate 20% of this mileage as MSAS. (See Screening Board Resolutions in the back of the most current booklet).

MILEAGE CONSIDERATIONS

County State Aid Highway Turnbacks

A CSAH Turnback **is not** included in a city's basic mileage, which means it **is not** included in the computation for a city's 20% allowable mileage. However, a city may draw Construction Needs and generate allocation on 100% of the length of the CSAH Turnback

County Road Turnbacks

A County Road Turnback is included in a city's basic mileage, so it is included in the computation for a city's 20% allowable mileage. A city may also draw Construction Needs and generate allocation on 100% of the length of the County Road Turnback.

Jurisdictional Exchanges

County Road for MSAS

Only the **extra** mileage a city receives in an exchange between a County Road and an MSAS route **will be** considered as a County Road Turnback.

If the mileage of a jurisdictional exchange is **even**, the County Road **will not be** considered as a County Road Turnback.

If a city receives **less** mileage in a jurisdictional exchange, the County Road **will not be** considered as a County Road Turnback.

CSAH for MSAS

Only the **extra** mileage a city receives in an exchange between a CSAH and an MSAS route **will be** considered as a CSAH Turnback.

If the mileage of a jurisdictional exchange is **even**, the CSAH **will not be** considered as a CSAH Turnback.

If a city receives **less** mileage in a jurisdictional exchange, the CSAH **will not be** considered as a CSAH Turnback

NOTE:

When a city receives **less** mileage in a CSAH exchange it will have less mileage to designate within its 20% mileage limitation and may have to revoke mileage the following year when it computes its allowable mileage.

Explanation: After this exchange is completed, a city will have more CSAH mileage and less MSAS mileage than before the exchange. The new CSAH mileage was included in the city's basic mileage when it was MSAS (before the exchange) but is not included when it is CSAH (after the exchange). So, after the jurisdictional exchange the city will have less basic mileage and 20% of that mileage will be a smaller number.

If a city has more mileage designated than the new, lower 20% allowable mileage, the city will be over designated and be required to revoke some mileage. If a revocation is necessary, it will not have to be done until the following year after a city computes its new allowable mileage.

MSAS designation on a County Road

County Roads can be designated as MSAS. If a County Road which is designated as MSAS is turned back to the city, it will not be considered as County Road Turnback.

MISCELLANEOUS

A CSAH which was previously designated as Trunk Highway turnback on the CSAH system and is turned back to the city will lose all status as a TH turnback and only be considered as CSAH Turnback.

A city that had previously been over 5,000 population, lost its eligibility for an MSAS system and regained it shall revoke all streets designated as CSAH at the time of eligibility loss and consider them for MSAS designation. These roads will not be eligible for consideration as CSAH turnback designation.

In a city that becomes eligible for MSAS designation for the first time all CSAH routes which serve only a municipal function and have both termini within or at the municipal boundary, should be revoked as CSAH and considered for MSAS designation. These roads will not be eligible for consideration as CSAH turnbacks.

91

CURRENT RESOLUTIONS OF THE MUNICIPAL SCREENING BOARD

June, 2000

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 \$487,286 (not to exceed 2 of 1% of the 1999 MSAS Apportionment sum of \$97,457,150) shall be set aside from the 2000 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 an 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 MSAS 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 MSAS 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. 1998)

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 mileage of local streets, county roads and county road turnbacks.

(Nov. 1965 - Revised 1969, October 1993, October 1994, June 1996, October 1998)

However, the maximum mileage for State Aid designation may be exceeded to designate trunk highway turnbacks after July 1, 1965 and county highway turnbacks after May 11, 1994 subject to State Aid Operations Rules.

Nov. 1965 (Revised 1972, Oct. 1993, 1995, 1998)

The maximum mileage for Municipal State Aid Street designation shall be based on the Annual Certification of Mileage current as of December 31st of the preceding year. Submittal of a supplementary certification during the year shall not be permitted. Frontage roads which are not designated Trunk Highway, Trunk Highway TURNBACK or County State Aid Highway system shall be considered in the computation of the basic street mileage. The total mileage of local streets, county roads and county road turnbacks 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.

All mileage on the MSAS 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 COSTS

Roadway Item Unit Annually)	Prices (Revised		
Right of Way (Needs Only)			\$80,000 per Acre
Grading (Excavation)			\$3.30 per Cu. Yd.
Base:			
	Class 5	Spec. #2211	\$6.70 per Ton
	Bituminous	Spec. #2331	\$22.00 per Ton
Surface:			
· · ·	Bituminous	Spec. #2331	\$22.00 per Ton
	Bituminous	Spec. #2341	\$25.00 per Ton
	Bituminous	Spec. #2361	\$31.50 per Ton
Shoulders:			
	Gravel	Spec. #2221	\$10.30 per Ton
Miscellaneous:			
	Storm Sewer Construction		\$246,000 per Mile
	Storm Sewer Adjustment		\$79,000 per Mile
	Special Drainage (rural segments only)		\$33,000 per Mile
	Street Lighting (every segment)		\$35,000 per Mile
	Curb & Gutter Construction	,	\$7.70 per Lineal Foot
	Sidewalk Construction		\$20.50 per Sq. Yd.
	Engineering		18%
Removal Items:			
	Curb & Gutter		\$2.10 per Lineal Foot
	Sidewalk		\$5.10 per Sq. Yd.
	Concrete Pavement		\$4.60 per Sq. Yd.
	Tree Removal		\$180.00 per Unit

Traffic Signal Need	egment)		
Projected Traffic	Percentage X	Unit Price =	Needs Per Mile
0 - 4,999	25%	\$99,990	\$24,998 per Mile
5,000 - 9,999	50%	\$99,990	\$49,995 per Mile
10,000 and Over	100%	\$99,990	\$99,990 per Mile

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:

Bridge Unit Costs	
Bridges 0 to 149 Feet long	\$63.50 per Sq. Ft.
Bridges 150 to 499 Feet long	\$63.50 per Sq. Ft.
Bridges 500 Feet and Over	\$63.50 per Sq. Ft.

Railroad Over Highway	
One Track	\$8,200 per Linear Foot
Each Additional Track	\$6,700 per Linear Foot

"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.

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)	\$85,000 per Unit	
Signals and Gates(Multiple Track – high	\$135,000 per Unit	
Signs Only & (low speed)	\$1,000 per Unit	
Rubberized Railroad Crossings (Per Track)	\$850 per Linear Foot	
Pavement Marking	\$750 per 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.

Maintenance Needs Costs	Cost For Under 1000 Vehicles Per Day	Cost For Over 1000 Vehicles Per Day
Traffic Lanes Segment length times number of traffic lanes times cost per mile	\$1,360 per Mile	\$2,260 per Mile
Parking Lanes: Segment length times number of parking lanes times cost per mile	\$1,360 per Mile	\$1,360 per Mile
Median Strip: Segment length times cost per mile	\$450 per Mile	\$900 per Mile
Storm Sewer: Segment length times cost per mile	\$450 per Mile	\$450 per Mile
Traffic Signals: Number of traffic signals times cost per signal	\$450 per Unit	\$450 per Unit
Unlimited Segments: Normal M.S.A.S. Streets		
Minimum allowance per mile is determined by segment length times cost per mile.	\$4,500 per Mile	\$4,500 per Mile
Limited Segments: Combination Routes		
Minimum allowance per mile is determined by segment length times cost per mile.	\$2,260 per Mile	\$2,260 per Mile

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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.

<u>Unencumbered Construction Fund Balance Adjustment</u> - 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.

<u>Right of Way</u> - 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

<u>FRAFFIC</u> - June 1971

<u>Traffic Limitation on Non-Existing Streets - Oct. 1965</u>

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

<u>Traffic Manual</u> - 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 nethods of counting traffic and computing average daily traffic. The manner and scope of reporting is letailed in the above mentioned manual.

Traffic Counting - Sept. 1973 (Revised June 1987, 1997, 1999)

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 and maps prepared by State forces every four years, or may elect to continue the present procedure of taking their own counts and have state forces prepare the maps.
- 3. Any city may count traffic with their own forces every two years at their discretion and expense, unless the municipality has made arrangements with the Mn/DOT district to do the count.