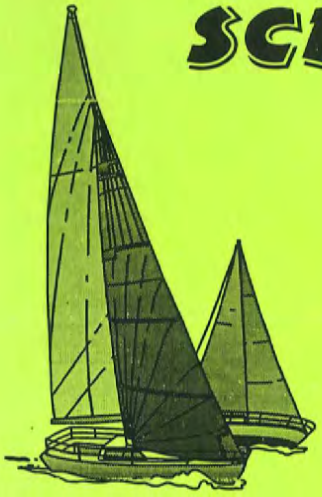
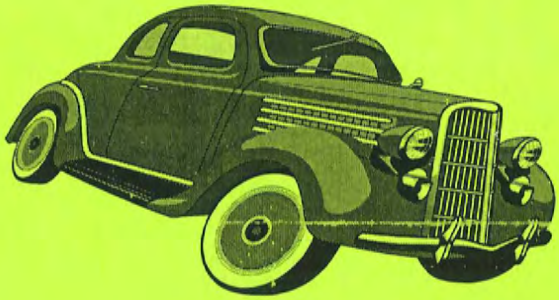
1999 MUNICIPAL SCREENING BOARD DATA





JUNE, 1999

TO: Municipal Engineers
City Clerks

SUBJECT : Municipal Screening Board Data

Enclosed is a copy of the June 1999 Municipal Screening Board Data Booklet.

The data included in this report will be used by the Municipal Screening Board at its June 2 and 3, 1999 meeting near Brainerd to establish unit prices for the 1999 Needs Study and the 2000 apportionment. The Board will also review other recommendations of the Needs Study Subcommittee outlined in their minutes. The Needs Study Subcommittee minutes are found on pages 13-15.

The annual unit price study was not done in 1999. A Municipal Construction Cost Index was computed based on past unit prices and applied against the 1998 need prices.

Should you have any suggestions or recommendations regarding the data in this publication, please refer them to your District Representative along with a copy to this office, or call me at (651) 296-1662 prior to the Screening Board Meeting.

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

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

Sincerely,

Ken

Kenneth Straus
Municipal Needs Manager

Enclosures:
1999 Municipal Screening Board Data Booklet.

1999 MUNICIPAL SCREENING BOARD DATA

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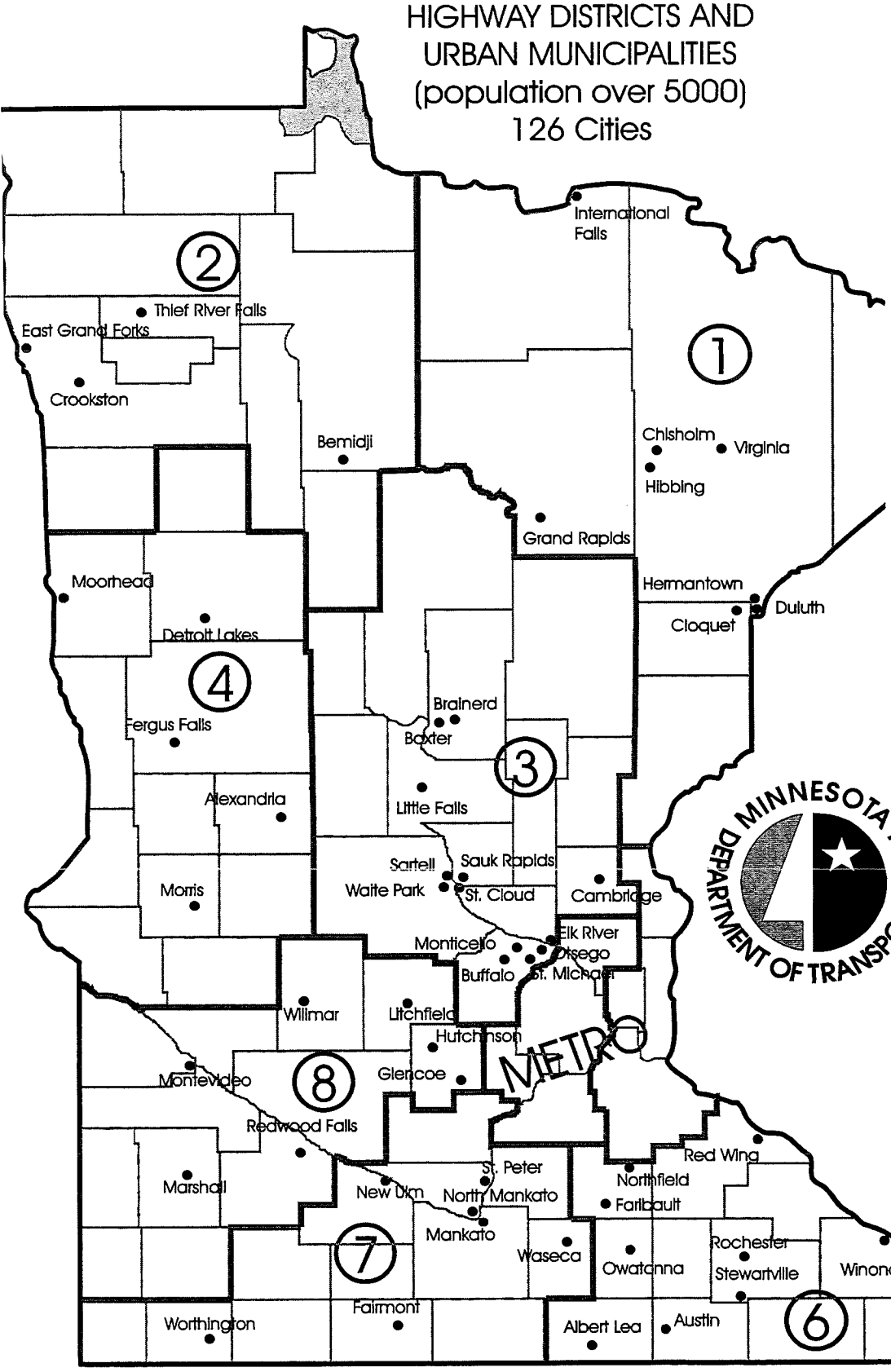
STATE OF MINNESOTA

HIGHWAY DISTRICTS AND URBAN MUNICIPALITIES (population over 5000) 126 Cities



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO MUNICIPALITIES

40 Metro West Cities

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

33 Metro East Cities

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

January, 1999

1999 MUNICIPAL SCREENING BOARD

OFFICERS

Chairman	John Rodeberg	Hutchinson	(320) 234-4208
Vice Chairman	Ken Ashfeld	Maple Grove	(612) 494-6000
Secretary	Dave Jessup	Woodbury	(651) 714-3593

MEMBERS

District	Served	Representative		
1	2	David Salo	Hermantown	(218) 727-8796
2	3	David Kildahl	Crookston	(218) 281-6545
3	3	Terry Wotzka	Waite Park	(612) 253-1000
4	2	Tim Schoonhoven	Sauk Rapids Alexandria	(320) 762-8149
Metro-West	1	Lee Gustafson	Minnetonka	(612) 939-8200
6	2	David Olson	Albert Lea	(507) 377-4325
7	1	Steven P. Koehler	New Ulm	(507) 359-8245
8	3	Daniel Sarff	Litchfield	(612) 231-3956
Metro-East	1	Mark Burch	White Bear Lake	(651) 429-8531
(Three Cities		Mark Winson	Duluth	(218) 723-3278
of the		Ramankutty Kannankutty	Minneapolis	(612) 673-2476
First Class)		Ed Warn	St. Paul	(612) 266-6142

District	Alternates		
1	Jim Kosluchar	Chisholm	(218) 254-3257
2	Michael Metso	Bemidji	(218) 759-3576
3	Larry Koshak	Otsego	(612) 427-5860
4	Steve Windish	Morris	(320) 762-8149
Metro-West	Dave Hutton	Savage	(612) 882-2670
6	Tim Murray	Faribault	(507) 334-2222
7	Tim Loose	St. Peter	(507) 625-4171
8	Keith Nelson	Marshall	(507) 537-6774
Metro-East	Chuck Ahl	Burnsville	(612) 895-4400

1999 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.

NEEDS STUDY SUBCOMMITTEE

Tom Drake - Chair
Red Wing
(651) 227-6220
Expires in 1999

Jack Bittle
Champlin
(612) 421-1955
Expires in 2000

Larry Read
Fairmont
(507) 238-9461
Expires in 2001

UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE

Dave Sonnenberg - Chair
Minneapolis
(612) 673-2443
Expires in 1999

Brian Bachmeier
Oakdale
(612) 739-5086
Expires in 2000

John Rodeberg
Hutchinson
(320) 234-4208
Expires in 2001

ALLOCATION STUDY SUBCOMMITTEE

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

1998 MUNICIPAL SCREENING BOARD FALL MEETING MINUTES October 27 and 28, 1998

I. Opening by Chairman Rodeberg

The 1998 Municipal Screening Board Spring Meeting was called to order at 1:00 p.m., October 27, 1998

A. Chairman Rodeberg Introduced:

Ken Ashfeld, Maple Grove- Vice-Chair of the Municipal Screening Board

Pat Murphy, Mn\DOT- Director, State Aid for Local Transportation

Ken Straus, Mn\DOT- Manager, Municipal State Aid Needs Unit

Dan Edwards, Fergus Falls - Chair of the Unencumbered Construction Fund Subcommittee

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

Ramankutty Kannankutty, Minneapolis- Chair of the Allocation Study Subcommittee

Dave Halter, Grand Rapids- Secretary of the Screening Board.

Dave Sonnenberg, Minneapolis- Past Chair, Municipal Screening Board

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

District 1	District 2	District 3	District 4
Dave Salo	David Kildahl	Terry Wotzka	Tim Schoonoven
Hermantown	Crookston	Sauk Rapids	Alexandria
		Waite Park	
Metro West	District 6	District 7	District 8
Jack Bittle	David Olson	Larry Read	Dan Sarff
Champlin	Albert Lea	Fairmont	Litchfield

Metro East	Duluth	Minneapolis	St. Paul
David Jessup	Mark Winson	Ramankutty	Ed Warn
Woodbury		Kannankutty	

Recognize Screening Board Alternates. All were present as follows:

Metro-West	District 7	Metro East
Lee Gustafson	Steven Koehler	Mark Burch
Minnetonka	New Ulm	White Bear lake

B. The Chair recognized Department of Transportation personnel.

Mike Pinsonneault
Assistant State Aid Engineer

Ken Hoeschen
Manager, County State Aid Needs

Mike Tardy
District 1 State Aid Engineer

Lou Tasa
District 2 State Aid Engineer

Kelvin Howieson
District 3 State Aid Engineer

Tallack Johnson
District 4 State Aid Engineer

Greg Paulson
District 6 State Aid Engineer

Doug Haeder
District 7 State Aid Engineer

Tom Behm
District 8 State Aid Engineer

Bob Brown
Metro Division State Aid Engineer

Khani Sahebjam
State Aid Pre-Letting Engineer

C. The Chair recognized others in attendance.

Dave Kreager
Duluth

Greg Peterson
St. Paul

Dan Sabin
Minneapolis

Larry Veek
Minneapolis

Marshall Johnston
Municipal State Aid Needs

Greg Coughlin
Ass't. Metro District State Aid Engineer

Greg Felt
Ass't. Metro District State Aid Engineer

II. 1998 Municipal State Aid Needs Report

A. The Spring 1998 Screening Board Minutes were presented for approval:

Motion by Mark Winson/Second by Larry Read to approve the minutes. Motion passed

B. Ken Straus reviewed the Municipal Needs Report

He suggested that we review the report in detail today and any action that is required should be taken Wednesday morning. This will give Board members the evening to digest the information.

Mr. Straus discussed the Needs Study Subcommittee and its membership. He noted that Ken Saffert was completing his term, that Curt Krechlau had left the City of Buffalo for a position with MN/DOT and that Dave Halter may have a time conflict since he is also serving as the Sec/Treas of CEAM. The Ceam executive committee should resolve this a their winter meeting.

Mr. Straus noted that cities with more than three times their annual allocation were sent letters asking them to explain the reason for the high balance and their five year construction plan as the board had requested at the spring meeting. The Board encourages them to spend down their balance.

Metropolitan Council and State Demographer estimates shows that we have added about 240,000 people since 1990. Eagan has grown the most since 1990 while Woodbury has grown the most since 1996. Based on the new population counts each person is worth about $.21 less.

There is a large difference in needs between 1997 and 1998. This is due to a large difference in unit prices adopted at the spring meeting. There is a problem with the unit price updating. The computer can only handle five digits and we adopted $100,000 for signals. A modification will have to be made to a lower figure.

The needs value is about $2.80 less per thousand in needs due to the total needs rising. Baxter has been added to the list and right now is receiving needs at the minimum level but that will rise when they establish their system.

The threshold for advances is now set at $30,000,000. We now have about $13,000,000 in outstanding advances. If the total unencumbered balance is reduced to $40,000,000, the amount available for advancement will be rather small. This money is provided on a first come first serve basis. Ed Warn indicated he would like to see more discussion on this issue.

1.5% of the account is set aside for administration and 0.5% is set aside for research. All of the money that gets set aside for research gets spent.

Mr. Straus passed out a suggested resolution regarding mileage. This will be discussed and acted on tomorrow.

There was a suggestion to refer the unit price of traffic signals to the Needs Study Subcommittee. It should possibly be tied to traffic. There also was a suggestion to look a street lighting and possibly consider the width of the street as a determining factor in the unit price of lighting.

Minneapolis has submitted a letter requesting that all one-way pairs be rescinded on their system. If passed this would be affective next year according to Ken Straus.

III. Chairman Rodeberg called for discussion on any other item that the board or audience was interested in taking up.

Chairman Rodeberg noted that a letter had been sent to Commissioner Denn regarding a CEAM survey on metrification. It doesn't seem like there is a unified national effort to go to metric at this time. The CEAM survey indicated that of those responding (67) 66% did not favor MN/DOT's decision to stay with metric. Dave Olson from District 6 noted that the municipal engineers in that district would prefer English units.

Ed Warn, St. Paul, brought up fund advances. He believes advances are a way to fund big projects and not have to save up for them and take a penalty in the meantime. He is concerned that the system presently allows for an ongoing low interest loan to all cities except the first class cities. He recommends that advances be limited to the construction allocation times the multiplier. Tim Schoonoven, District 4, prefers that the advances be kept as flexible as possible.

Pat Murphy indicated that federal funds will go up about 25-30% and this should affect local projects.

There being no more business discussion bought forward a motion to adjourn until 8:30 Wednesday morning was made by Mark Winson. It was seconded by Terry Wotzca. Motion passed.

JUNE 10, 1998 MORNING SESSION:

The Screening Board reconvened at 8:30 a. m., Wednesday, October 28.

VI. Formal actions taken by the Board.

A. Needs and Apportionment Data

Motion was made by Ramankutty Kannankutty to accept the needs and apportionment data as presented by Ken Straus. The motion was seconded by Jack Bittle. Motion carried.

B. Research Account

The maximum amount the Board can set aside for the research account is 1/2 of 1%. Mark Winson moved to adopt the following resolution: "Be it resolved that an amount (not to exceed 1/2 of 1% of the 1998 M.S.A.S. Apportionment sum of $93,828,258) shall be set aside from the 1999 Apportionment fund and be credited to the research account. Larry Read seconded the motion. Motion carried.

C. Mileage Resolution

David Jessup made a motion to amend the mileage resolution to the following wording: Feb. 1959(Revised Oct. 1994 & Oct. 1998) The maximum mileage for Municipal State Aid Street designation shall be 20 percent of the municipalities basic mileage which is comprised of the total improved mileage of local streets, county roads and county road turnbacks.

Nov. 1965(Revised 1972, Oct. 1993, 1995 and Oct.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 ofthe basic street mileage. The total mileage of the local streets, county roads and county road turnbacks in the corporate limits shall be included in the

municipalities basic street mileage. Mileage which is on the boundary of two adjoining urban municipalities shall be considered as one half mileage.
Nov. 1965 (Revised 1969, October 1993, 0ctober 1994, June 1996, Oct. 1998)
However the maximum mileage for State Aid designation may be exceeded to designate trunk highway turnbacks after July 1, 1965 subject to State Aid Operations Rules. All mileage on the MSA system shall accrue needs in accordance with current rules and resolutions.
Oct. 1961 (Revised May 1980, Oct. 1982, Oct. 1983, June 1993 & Oct. 1998) All requests for additional mileage or revisions the Municipal State Aid System must be received by the District State Aid Engineer by March First and a City Council resolution of the 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 System received by the District State Aid Engineer after March First will be included in the following year's Needs Study.

Tim Schoonoven seconded the motion. Motion carried.

D. Traffic Signal Unit Price

Dan Sarf moved to revise the unit price for traffic signals from $100,000 to $99,990 due to the mainframe computer limitations. Ramankutty Kannankutty seconded the motion. Motion carried.

E. Rescind approval of one-pairs in Minneapolis

David Salo moved to "rescind the approval of the one-way pairs previously approved for Minneapolis". Jack Bittle seconded the motion. Motion carried.

F. General Fund Advances

Ed Warn made a motion "to base general fund advances on the previous years construction allotment. David Jessup seconded the motion. After discussion Warn and Jessup withdrew the motion. Warn moved to "send the issue of construction fund advances to the Unencumbered Construction Funds Subcommittee. The motion was seconded by Jessup. Motion carried.

G. Metro Board Member Term

Pat Murphy suggested that we make a one time change in the term for metro board members so two do not come on at the same time. He suggests that something be done at the January CEAM meeting to formalize this. Larry Read moved to accept Mr. Murphy's suggestion. Jack Bittle seconded the motion. Motion carried.

H. Murphy Resolution
Larry Read moved to adopt the following resolution:
RESOLUTION EXPRESSING APPRECIATION
FOR DEDICATED SERVICE PROVIDED BY PATRICK MURPHY
OCTOBER 29, 1998

WHEREAS Patrick Murphy has served the State of Minnesota and its municipalities as the State Aid Engineer since JUNE, 1994, and

WHEREAS Patrick Murphy has provided loyal and dedicated and professional service to the Municipal State Aid Screening Board, and

WHEREAS Patrick Murphy has been a partner with the Municipal Engineers in maintaining the Municipal State Aid Street system at a high level, and

WHEREAS Patrick Murphy has worked hard and dilgently to provide the timely and fair funding to all municipalities, and

WHEREAS Patrick Murphy has indicated his intent to retire from dedicated service to the municipalities of the State of Minnesota.

NOW THEREFORE BE IT RESOLVED that the municipal State Aid Screening Board does hereby express its sincere gratitude and appreciation to Patrick Murphy and expresses our hope for a long and happy retirement.

Motion was seconded by "all". Motion carried unanimously.

IV. Closing comments by Pat Murphy
Pat provided a handout on the turnback funding proposal. He expressed the importance of the Screening Board making decisions on spending State Aid money.

Chairman Rodeberg asked Ken Straus about the streetlight unit price study and noted that there are a lot of differences between streets and the cost of lighting them. Presently the needs reflect $20,000 per mile and some cities are spending up to $200,000 per mile. Rammankutty Kannankutty moved that this issue be sent to the Needs Study Subcommittee. Ed Warn seconded the motion. Motion carried

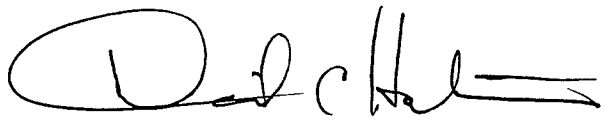
V. The Chair thanked Ken Saffert, Chair of the Needs Study Subcommittee, Dan Edwards, Chair of the Unencumbered Construction Fund Subcommittee, Ramankutty Kannankutty, Chair of the Allocation Study Subcommittee, and the members of the Screening Board for their work.

He also thanked the past Chairs of the Screening Board who are present: Dan Edwards, Dave Sonnenberg and Brian Bachmeier.

The Chairman recognized the three members of the Screening Board who will be leaving due to the expiration of there term; Jack Bittle, Larry Read and David Jessup..

VI. Upon a motion by Rammankutty Kannankutty and second by Mark Winson the meeting of the Municipal Screening Board was adjourned at 9:09 a.m.

Submitted by,



David C. Halter, PE
MSA Screening Board Secretary
Grand Rapids City Engineer

MEMORANDUM

TO: SCREENING BOARD

FROM: NEEDS STUDY SUBCOMMITTEE

DATE: APRIL 12, 1999

SUBJECT: REVIEW OF NEEDS STUDY RECOMMENDATIONS

Per direction of the Screening Board, the Needs Study Subcommittee met with the Needs Unit on April 9th to review the following items:

Part 1 - Apply a MSA Construction Cost Index to the 1998 Prices.

In an effort to simplify the method of calculating the unit prices that are now calculated individually, the Needs Study Subcommittee is recommending the use of a Construction Cost Index, put together by the Needs Unit. This is referred to as the "Municipal State Aid Annual Construction Cost Index" as shown on page 22 of the Municipal Screening Board Data booklet. The annual construction cost study was used in this calculation in the proposed unit prices, found on page 16 and the Annual Maintenance needs cost found on page 17, with the exception of the items modified under Part 2 of this memorandum.

Part 2 - Setting of Unit Prices Other than with the proposed "Municipal State Aid Annual Construction Cost Index"

The following items are recommended to be set by either sections within Mn/DOT or as modified by the Needs Subcommittee:

Storm Sewer and Storm Sewer Adjustment
Use the unit prices on storm sewer and storm sewer adjustment that are readily available from the Hydraulics Section that uses the same information independent of MSA.

Special Drainage-Rural
Use the unit prices on Special Drainage-Rural that are readily available through the Mn/DOT estimating Unit.

Bridges
Use the unit prices on bridges that are readily available from the Mn/DOT Bridge Section using the same information for internal use.

Right-of-Way
Use the unit price of $80,000 per acre on Right-of-Way.

Engineering Overhead
Engineering Overhead to be changed from 18 percent to 20 percent due to the additional office work and field work that needs to be done.

Signal Lights
The unit prices on signal lights are now locked on $99,990 due to the inability of the existing computer system to go over $99,999 (Five to six digits.) This will be corrected after the new Needs Study Program is in place, now scheduled for next year. This would allow the unit price for signal lighting to be adjusted in the next unit price update in 2000.

Railroad Grade Crossings
Use the railroad grade crossing unit prices that are readily available from the Railroad Administration, as modified by the Needs Study Subcommittee.

Part 3 - Adjustment of Unit Prices by District

The Screening Board Committee directed the Needs Study Subcommittee to review the adjustment of Unit Prices by District. There was a concern by the Needs Study Subcommittee that revising the unit prices by District will add another layer of complexity that will more than offset any savings to a district. **It was also felt that there is as much discrepancy within the districts as there was across the districts.** After much discussion it is recommended that the unit prices not be adjusted by District.

Part 4 - Unit Costs for Street Lighting Should Urban and Rural Roadways be Treated Differently?

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 Needs Study Subcommittee is reviewing the creation of Urban/Rural category for street lighting with either two lanes or four lanes. It is proposed that this issue be tabled for further study with implementation after the new Needs Study Program is in place now scheduled for next year. This would make the proposed adjustment of unit prices on street lighting available with the next update in 2000.

Part 5 - Reconditioning Costs

The needs Study Subcommittee is recommending that a 20 year after the fact negative needs adjustment be made when reconditioning is done on a street receiving complete needs. The adjustment is to be made on needs prices instead of contract prices. An adjustment based on contract costs is a higher adjustment for cities with higher contract costs.

The Needs Study Subcommittee directed Ken Straus to prepare wording for the Screening Board Resolution reflecting this change.

Part 6 - Trunk Highway Turnback

After much discussion the Needs Study Subcommittee recommends that the Trunk Highway Turn back issue be tabled to allow more research by the Needs Unit. One question that needs to be answered is why a city would want a lump sum payment as a part of a Turn back. Also, can lump sum funds provided to the city be spent on anything other than for which it was intended? The Committee is leaning toward not allowing needs on the Turn back until reconstructed or after a city appends the lump sum on the route. **This issue will need to be discussed at further subcommittee meetings before final action is taken.**

Respectfully Submitted,

Jack Bittle, P.E.
Secretary
MSA Needs Subcommittee

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The MSA Composite Index of 102.672184 was applied against the 1998 price noted by *.

1999 UNIT PRICE RECOMMENDATIONS
USING AVERAGE CONSTRUCTION COST INDEX

Needs Item		1998 Need Prices	Applying MSA Cost Index Prices for 1999	Sub-committee Suggested Prices For 1999	Screening Board Recommended Prices For 1999
Grading (Excavation)	Cu. Yd.	$3.20	$3.29 *	$3.30	
Aggregate Shoulders #2221	Ton	10.00	10.27 *	10.30	
Curb and Gutter Removal	Lin.Ft.	2.00	2.05 *	2.10	
Sidewalk Removal	Sq. Yd.	5.00	5.13 *	5.10	
Concrete Pavement Removal	Sq. Yd.	4.50	4.62 *	4.60	
Tree Removal	Unit	175.00	179.68 *	180.00	
Class 5 Base #2211	Ton	6.50	6.67 *	6.70	
Bituminous Base #2331	Ton	21.50	22.07 *	22.00	
Bituminous Surface #2331	Ton	21.50	22.07 *	22.00	
Bituminous Surface #2341	Ton	24.50	25.15 *	25.00	
Bituminous Surface #2361	Ton	30.50	31.32 *	31.50	
Curb and Gutter Construction	Lin.Ft.	7.50	7.70 *	7.70	
Sidewalk Construction	Sq. Yd.	20.00	20.53 *	20.50	
Storm Sewer Adjustment	Mile	76,000		79,000	
Storm Sewer	Mile	245,000		246,000	
Special Drainage - Rural	Mile	31,710		33,000	
Street Lighting	Mile	20,000		35,000	
Traffic Signals	Per Sig	99,990	Can not change for 1999		
Signal Needs Based On Projected Traffic					
Projected Traffic Percentage X Unit Price = Needs Per Mile					
0 - 4,999 .25		$99,990 = $24,998			
5,000 - 9,999 .50		99,990 = 49,995			
10,000 & Over 1.00		99,990 = 99,990			
Right of Way (Needs Only)	Acre	60,000		80,000	
Engineering	Percent	18		20	
Railroad Grade Crossing					
Signs	Unit	1,000		1,000	
Pavement Marking	Unit	750		750	
Signals (Single Track-Low Speed)	Unit	80,000		85,000	
Signals & Gate (Multiple Track - High & Low Speed)	Unit	130,000		135,000	
Rubberized Material(Per Track)	Lin.Ft.	750		850	
Bridges					
0 to 149 Ft.	Sq. Ft.	60.00	61.60 *	63.50	
150 to 499 Ft.	Sq. Ft.	60.00	61.60 *	63.50	
500 Ft. and over	Sq. Ft.	60.00	61.60 *	63.50	
Railroad Bridges over Highways					
Number of Tracks - 1	Lin.Ft.	8,000	8,214 *	8,200	
Additional Track (each)	Lin.Ft.	6,500	6,674 *	6,700	

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 1998 was $17,835,699.
For example, An urban road segment with 2 traffic lanes, 2 parking lanes, over 1,000 traffic, storm sewer and one traffic signal would receive $7920 in maintenance needs per mile.

EXISTING FACILITIES ONLY

	1998 NEEDS PRICES		SUBCOMMITTEE SUGGESTED PRICES		SCREENING BOARD RECOMMENDED PRICES	
	Under 1000 ADT	Over 1000 ADT	**Under 1000 ADT**	**Over 1000 ADT**	Under 1000 ADT	Over 1000 ADT
Traffic Lane Per Mile	$1,320	$2,200	**$1,360**	**$2,260**		
Parking Lane Per Mile	1,320	1,320	**1,360**	**1,360**		
Median Strip Per Mile	440	880	**450**	**900**		
Storm Sewer Per Mile	440	440	**450**	**450**		
Per Traffic Signal	440	440	**450**	**450**		
Normal M.S.A.S. Streets Minimum Allowance Per Mile Unlimited Segments:	4,400	4,400	**4,500**	**4,500**		
Combination Routes Minimum Allowance Per Mile Limited Segments:	2,200	2,200	**2,260**	**2,260**		

The MSAS Composite Cost Index of 102.672184 was applied against the 1998 prices to compute the annual Maintenance Needs Cost

"Parking Lane Per Mile" shall never exceed two lanes, and is obtained from the following formula:
(Existing surface width minus (the # of traffic lanes x 12)) / 8 = # of parking lanes.

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

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25-Mar-99

A HISTORY OF THE ANNUAL MAINTENANCE NEEDS COSTS

(COMPUTED ON EXISTING MILEAGE ONLY)

Year	Traffic Lane Per Mile		Parking Lane Per Mile		Median Strip Per Mile		Storm Sewer Per Mile		Per Traffic Signal		Minimum Maintenance Allowance Per Mile	
	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT	Under 1000 ADT	Over 1000 ADT
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											4,400	4,400

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.

UNIT PRICES

AND GRAPHS

NOTES

UNIT PRICE STUDY

The information provided in this booklet includes a computations for a cost index, District unit costs verus State wide unit costs comparison, street lighting costs, reconditioning needs, THTB maintenance adjustment and THTB construction needs.

The unit price study was done annually until 1997 when no study was done. This resulted without making a adjustments to the unit prices for the 1997 needs study. 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 and the past 10 unit price studies. The Screening Board will review and act upon the options provided and Needs Study Subcommittee's recommendations. In the fall, the Needs Unit will adjust the prices as approved by the Screening Board in determining the 1999 Needs. These prices will be applied against the quantity tables located in the State Aid Manual Figs. C & D 5-892.820 to compute the 2000 construction (money) needs apportionment.

Both MN/DOT and State Aid bridges are used so that more bridges determine the unit price. Generally, State Aid contracts do not include many bridges 150 feet long or over. The bridge costs include bridge removal, proration of mobilization, field office and traffic control when included in the contract. Approach panels are not included in the bridge costs nor is any approach grading.

MN/DOT's hydraulic office furnished a recommendation of costs for storm sewer construction and adjustment based on 1998 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 1998 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 1998 needs study are found in the Screening Board resolutions included in this booklet.

25 YEAR CONSTRUCTION NEEDS
FOR EACH INDIVIDUAL CONSTRUCTION ITEM

ITEM	1997 APPORTIONMENT NEEDS COST	1998 APPORTIONMENT NEEDS COST	DIFFERENCE	1998 % OF THE TOTAL
Grading	$126,083,659	$135,097,894	$9,014,235	7.01%
Special Drainage	5,320,551	6,336,908	1,016,357	0.33%
Storm Sewer Adjustment	41,925,408	47,493,920	5,568,512	2.46%
Storm Sewer Construction	189,344,007	202,198,500	12,854,493	10.49%
Curb & Gutter Removal	17,316,619	19,454,264	2,137,645	1.01%
Sidewalk Removal	15,495,144	16,403,510	908,366	0.85%
Pavement Removal	38,150,313	41,438,505	3,288,192	2.15%
Tree removal	7,308,700	7,309,400	700	0.38%
SUBTOTAL GRADING	**$440,944,401**	**$475,732,901**	**$34,788,500**	**24.68%**
Gravel Subbase #2211	$0	$0	$0	0.00%
Gravel Base #2211	225,967,990	238,899,685	12,931,695	12.39%
Bituminous Base #2331	88,614,530	95,165,902	6,551,372	4.94%
SUBTOTAL BASE	**$314,582,520**	**$334,065,587**	**$19,483,067**	**17.33%**
Bituminous Surface #2331	$2,435,460	$2,427,026	($8,434)	0.13%
Bituminous Surface #2341	133,352,001	140,257,005	6,905,004	7.28%
Bituminous Surface #2361	23,233,196	23,665,635	432,439	1.23%
Surface Widening	1,444,980	1,389,804	(55,176)	0.07%
SUBTOTAL SURFACE	**$160,465,637**	**$167,739,470**	**$7,273,833**	**8.70%**
Gravel Shoulders #2221	$1,243,403	$1,542,900	$299,497	0.08%
SUBTOTAL SHOULDERS	**$1,243,403**	**$1,542,900**	**$299,497**	**0.08%**
Curb and Gutter	$99,352,680	$125,160,484	$25,807,804	6.49%
Sidewalk	129,561,227	158,386,040	28,824,813	8.22%
Traffic Signals	102,004,000	128,529,020	26,525,020	6.67%
Street Lighting	55,761,200	56,600,000	838,800	2.94%
Retaining Walls	13,187,102	13,666,874	479,772	0.71%
SUBTOTAL MISCELLANEOUS	**$399,866,209**	**$482,342,418**	**$82,476,209**	**25.02%**
TOTAL ROADWAY	**$1,317,102,170**	**$1,461,423,276**	**$144,321,106**	**75.81%**
Bridge	$76,783,757	$116,580,486	$39,796,729	6.05%
Railroad Crossings	36,257,550	49,091,700	12,834,150	2.55%
Maintenance	17,502,592	17,835,688	333,096	0.93%
Engineering	257,765,007	282,877,295	25,112,288	14.67%
SUBTOTAL OTHERS	**$388,308,906**	**$466,385,169**	**$78,076,263**	**24.19%**
TOTAL	**$1,705,411,076**	**$1,927,808,445**	**$222,397,369**	**100.00%**

MSAS CONSTRUCTION COST INDEX

The Screening Board made a motion that the unit prices for 1999 be determined by applying a construction cost index to the 1998 prices. The needs unit, after reviewing what items Mn/Dot used in calculating a cost index, decided that a MSA cost index would better determine the MSA costs.

MN/Dot Cost Index was not used because the scope of the projects are much different than MSA projects. Mn/Dot computes their cost index on 6 items. Some items are not used in computing the MSA needs.

An annual Municipal State Aid Construction Cost Index was computed to provide a fixed based index of price trends for construction costs on the MSAS system. It was done by relating the average bid costs for each year to the 1988 bid costs with a basis as 100. Nine indicator items used in the needs were used to compute a weighted average based on the relative dollar amounts from the base year of 1988 for years 1989 through 1998. The annual Cost Index for each item was computed by dividing the annual contract cost by the contract cost of the base year (1988) times one hundred.

The Total Weight is the base year's total weight of all nine indicator items. For this basis, it is always one hundred.

The Relative Weight of each item is the 1988 dollar amount awarded for that item divided by the total 1988 dollar amount of the nine items.

A composite cost index was computed based on bid costs for nine items for the years 1988 through 1998 used in the needs unit price study. The composite index measures the change of all items combined for each year from 1988 relative to an index of 100. The annual Composite Index is computed by adding the annual cost index of each item times the quotient of the Relative Weight divided by the Total Weight.

MUNICIPAL STATE AID ANNUAL CONSTRUCTION COST INDEX (CI)

Base Year of 1988 = 100

Cost Index - relating the average bid costs for each year to the 1988 costs with a basis as 100

Includes Municipal State Aid expenditures for on system projects

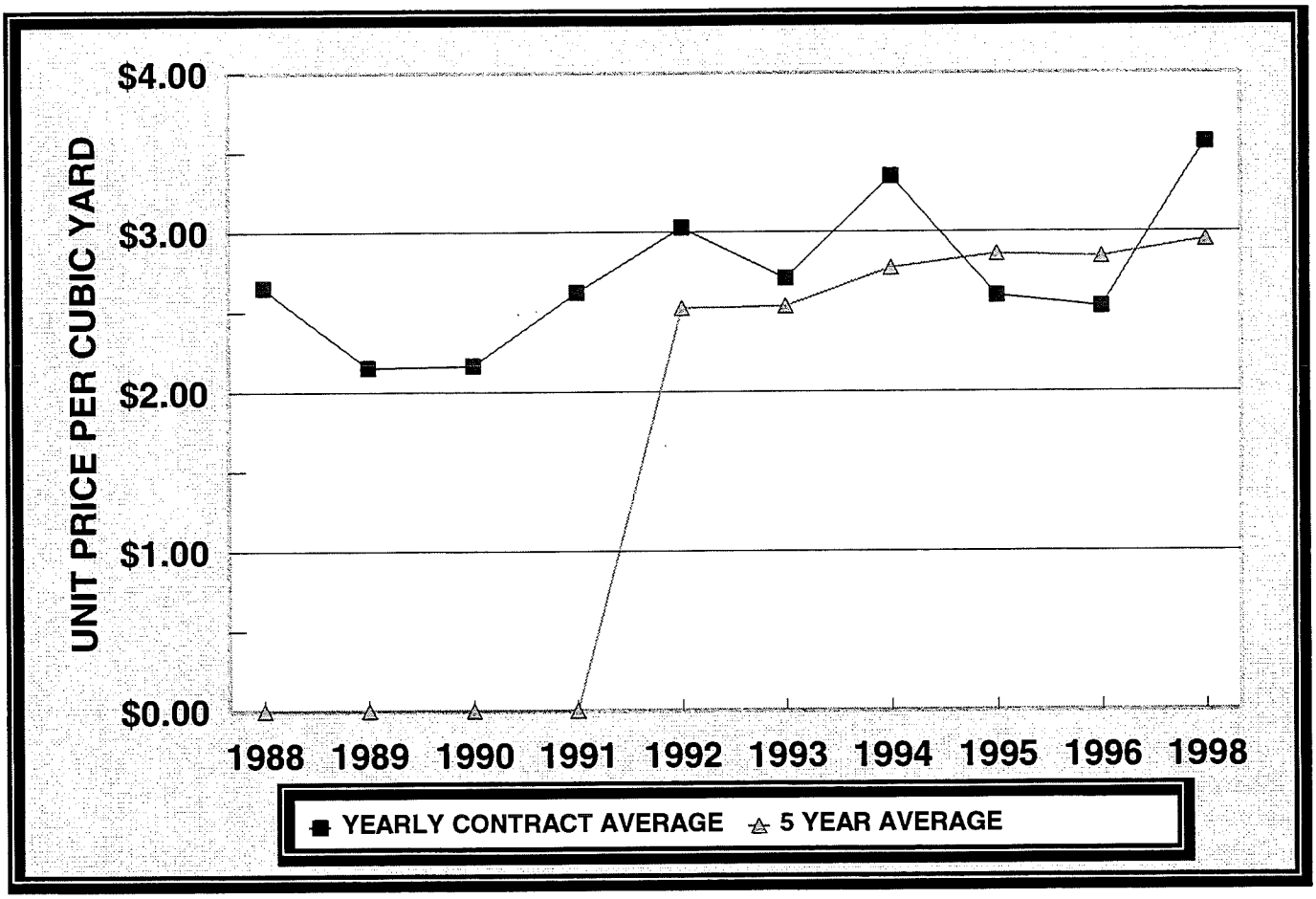
Based on quantities and prices for projects awarded each year

YEAR	CI Grading (Excavation)	CI C & G Removal	CI Sidewalk Removal	CI Conc. Pvmt. Removal	CI Gravel Base
1988	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
1989	81.13	82.04	88.58	69.33	91.26
1990	81.51	83.83	97.46	83.15	90.21
1991	98.87	102.99	106.60	82.94	106.29
1992	114.34	94.01	130.20	88.12	94.76
1993	102.26	92.22	121.57	87.47	107.17
1994	126.42	112.57	110.41	91.36	103.85
1995	98.11	110.18	136.04	89.85	108.92
1996	95.47	122.75	106.35	92.22	109.97
1998	134.34	117.37	126.14	101.30	115.91
AVERAGE	**103.245283**	**101.796407**	**112.335025**	**88.574514**	**102.832168**
1988 Cost	$2,113,700	$139,029	$141,549	$493,029	$2,185,112
Relative wt. (%)	14.90	0.98	1.00	3.48	15.40

YEAR	CI #2331 Bit	CI #2341 Bit	CI C&G Const.	CI Sdwk. Const.	CI Composite Index
1988	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
1989	91.73	93.20	95.38	92.66	89.99
1990	88.33	92.16	94.41	89.44	89.01
1991	99.80	97.10	101.73	96.30	99.64
1992	108.22	104.42	102.31	101.37	104.37
1993	98.60	103.85	105.97	101.85	102.40
1994	100.80	98.70	106.17	114.88	106.69
1995	99.55	100.87	120.42	113.58	105.24
1996	106.11	102.56	120.23	114.88	106.92
1998	114.33	106.54	142.97	142.39	122.45
AVERAGE	**100.746493**	**99.9393677**	**108.959538**	**106.735254**	**102.672184**
1988 Cost	$3,515,861	$2,352,539	$1,868,721	$1,376,749	$14,186,289
Relative wt. (%)	24.78	16.58	13.17	9.70	100.00

Relative weight is the % of the total $ amount for the 9 items used to compute the Cost Index

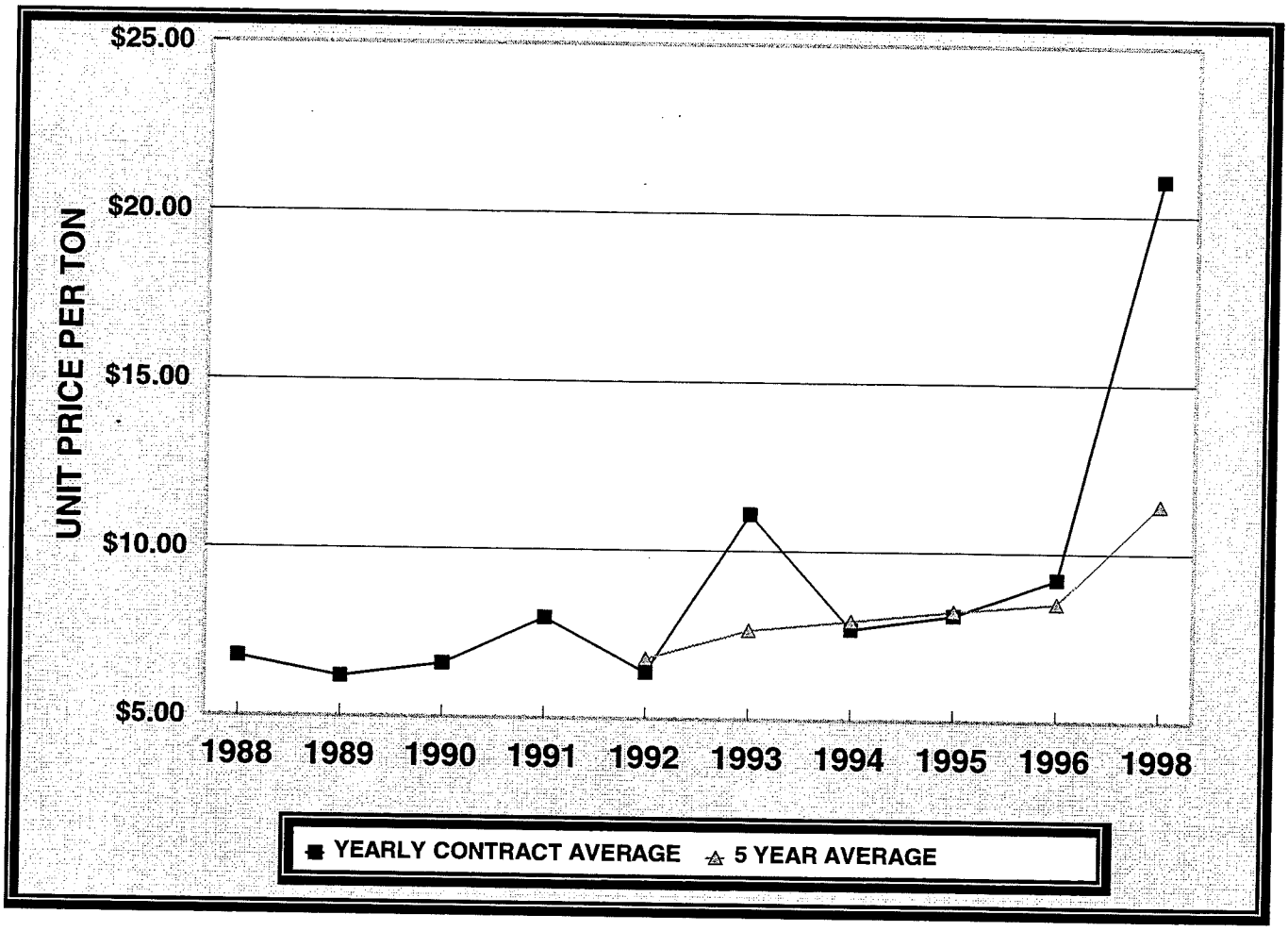
EXCAVATION



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5 YEAR AVERAGE CONTRACT PRICE
1988	62	796,486	$2,113,700	$2.65	$3.00	
1989	70	1,406,108	3,024,233	2.15	3.00	
1990	65	1,263,652	2,733,063	2.16	3.00	
1991	67	1,260,768	3,303,493	2.62	3.00	
1992	70	1,243,656	3,764,822	3.03	3.00	$2.52
1993	64	1,105,710	2,994,010	2.71	3.00	2.53
1994	65	1,484,328	4,965,339	3.35	3.00	2.77
1995	59	1,317,807	3,419,869	2.60	3.00	2.86
1996	68	1,691,036	4,272,539	2.53	3.00	2.84
1998	60	919,379	3,273,588	3.56	3.20	2.95
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $3.30 PER CU. YD.

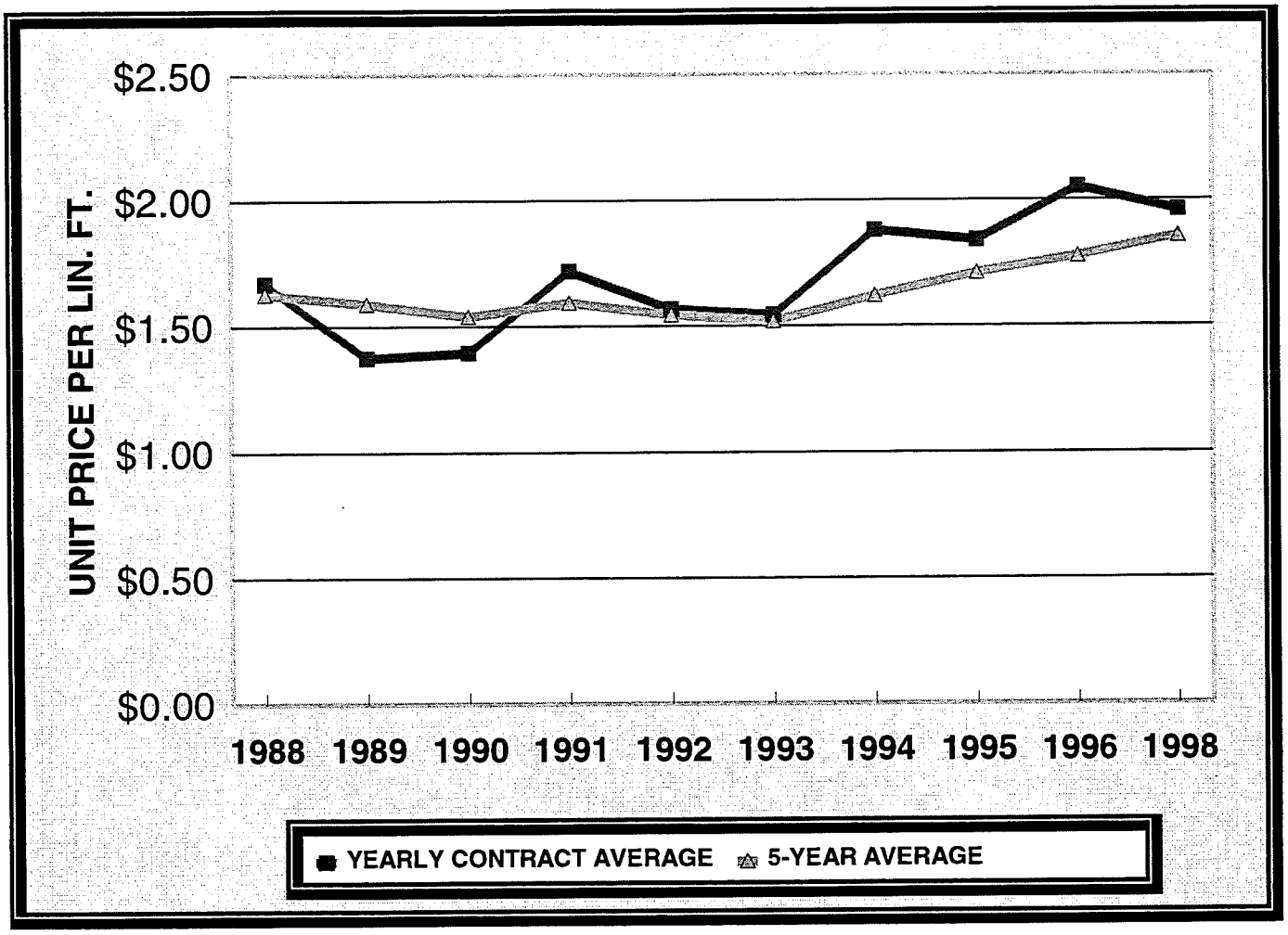
AGGREGATE SHOULDERING



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5 YEAR AVERAGE CONTRACT PRICE
1988	4	1,247	$8,437	$6.77	$4.25	
1989	7	3,485	21,554	6.18	4.25	
1990	6	3,714	24,444	6.58	6.50	
1991	3	2,334	18,624	7.98	7.00	
1992	7	6,285	39,992	6.36	7.00	$6.77
1993	7	803	9,423	11.09	7.00	7.64
1994	4	999	7,691	7.70	7.00	7.94
1995	8	4,923	40,009	8.13	8.00	8.25
1996	6	3,067	28,277	9.22	8.50	8.50
1998	2	60	1,263	21.05	10.00	11.44
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $10.30 PER TON.

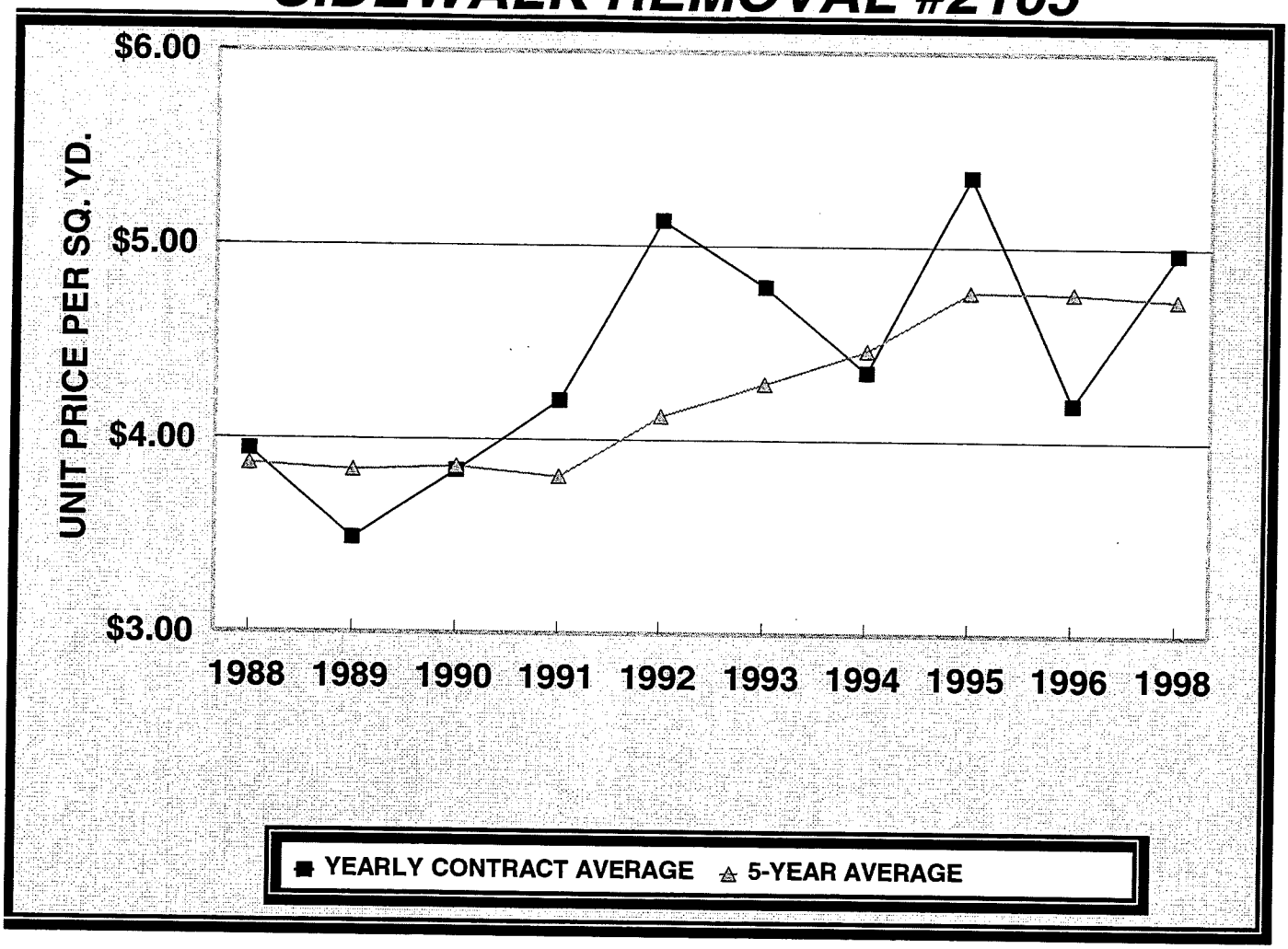
CURB & GUTTER REMOVAL #2104



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	35	83,232	$139,029	$1.67	$1.75	$1.63
1989	64	211,446	290,721	1.37	1.75	1.59
1990	38	215,935	301,389	1.40	1.60	1.54
1991	59	207,105	355,996	1.72	1.60	1.59
1992	58	152,992	239,845	1.57	1.60	1.55
1993	56	118,793	183,378	1.54	1.60	1.52
1994	59	309,891	581,256	1.88	1.60	1.62
1995	51	209,177	384,029	1.84	1.70	1.71
1996	62	142,362	291,935	2.05	1.80	1.78
1998	63	150,083	294,046	1.96	2.00	1.85
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS PER LIN. FT. **$2.10**

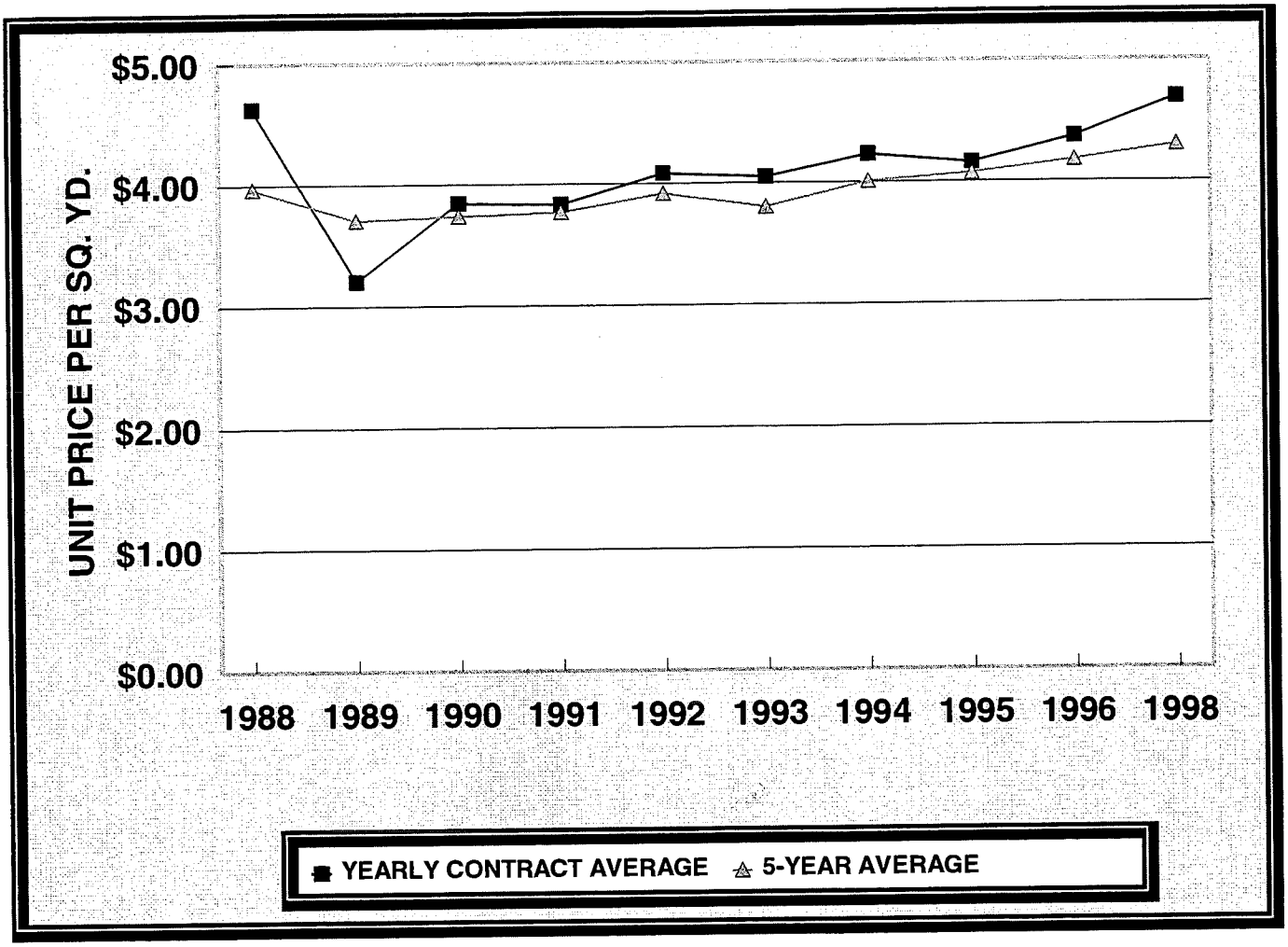
SIDEWALK REMOVAL #2105



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	25	35,889	$141,549	$3.94	$4.00	$3.87
1989	46	77,633	270,831	3.49	4.00	3.84
1990	41	50,017	192,021	3.84	4.00	3.86
1991	43	71,868	301,912	4.20	4.00	3.81
1992	45	57,606	295,735	5.13	4.50	4.12
1993	40	43,017	206,147	4.79	4.50	4.29
1994	39	54,206	235,995	4.35	4.50	4.46
1995	34	73,172	392,401	5.36	4.70	4.77
1996	46	49,759	208,305	4.19	4.75	4.76
1998	41	36,967	183,894	4.97	5.00	4.73
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS PER SQ. YD. **$5.10**

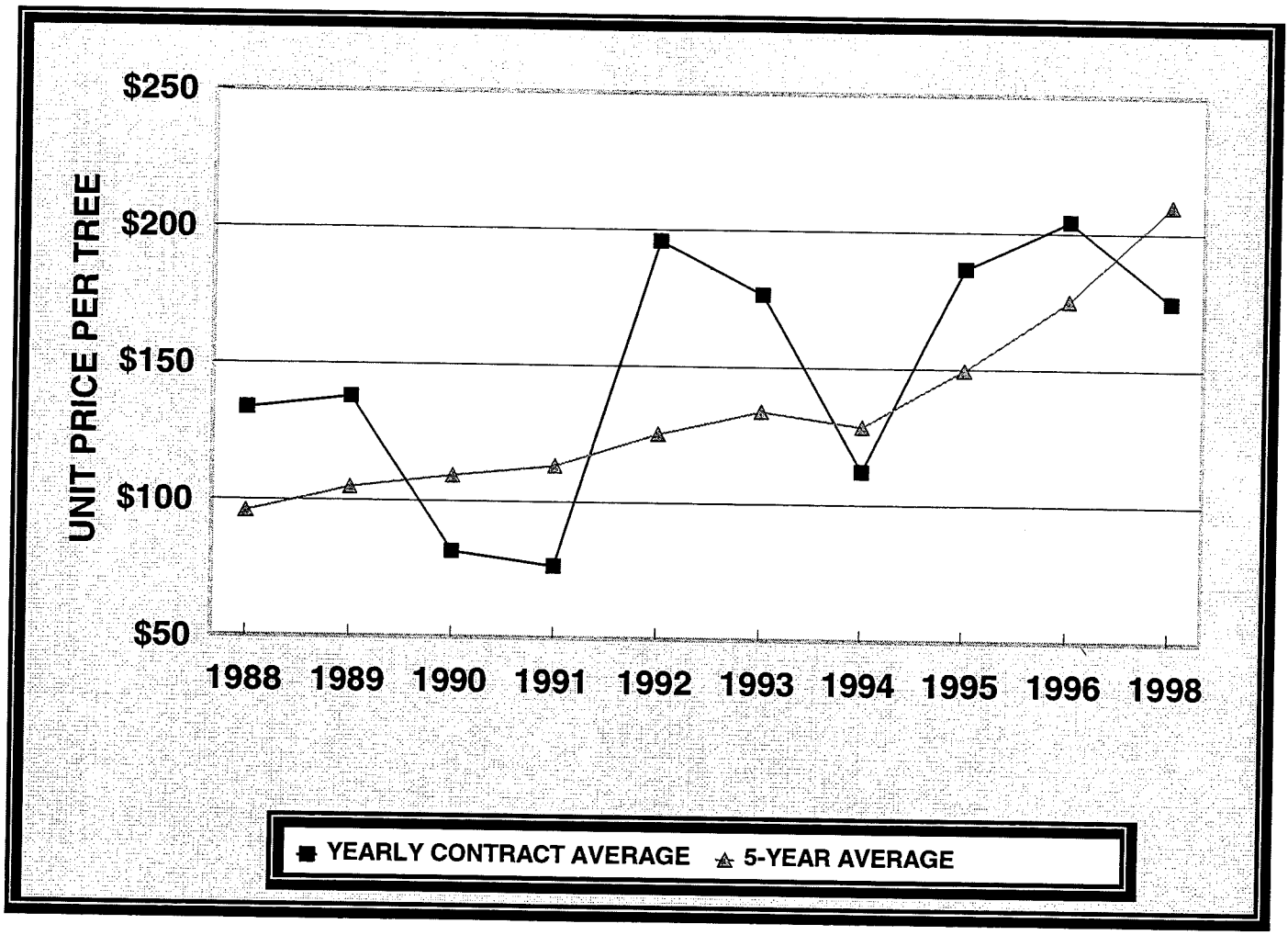
CONCRETE PAVEMENT REMOVAL #2106



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	25	106,550	$493,029	$4.63	$4.00	$3.97
1989	44	276,630	886,757	3.21	3.75	3.71
1990	27	88,278	339,571	3.85	4.00	3.74
1991	27	108,995	418,053	3.84	4.00	3.77
1992	23	98,752	403,278	4.08	4.00	3.92
1993	26	190,259	770,477	4.05	4.00	3.80
1994	26	185,066	782,965	4.23	4.00	4.01
1995	27	81,258	337,753	4.16	4.10	4.07
1996	28	78,122	341,385	4.37	4.20	4.18
1998	24	110,941	520,259	4.69	4.50	4.30
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $4.60 PER SQ. YD.

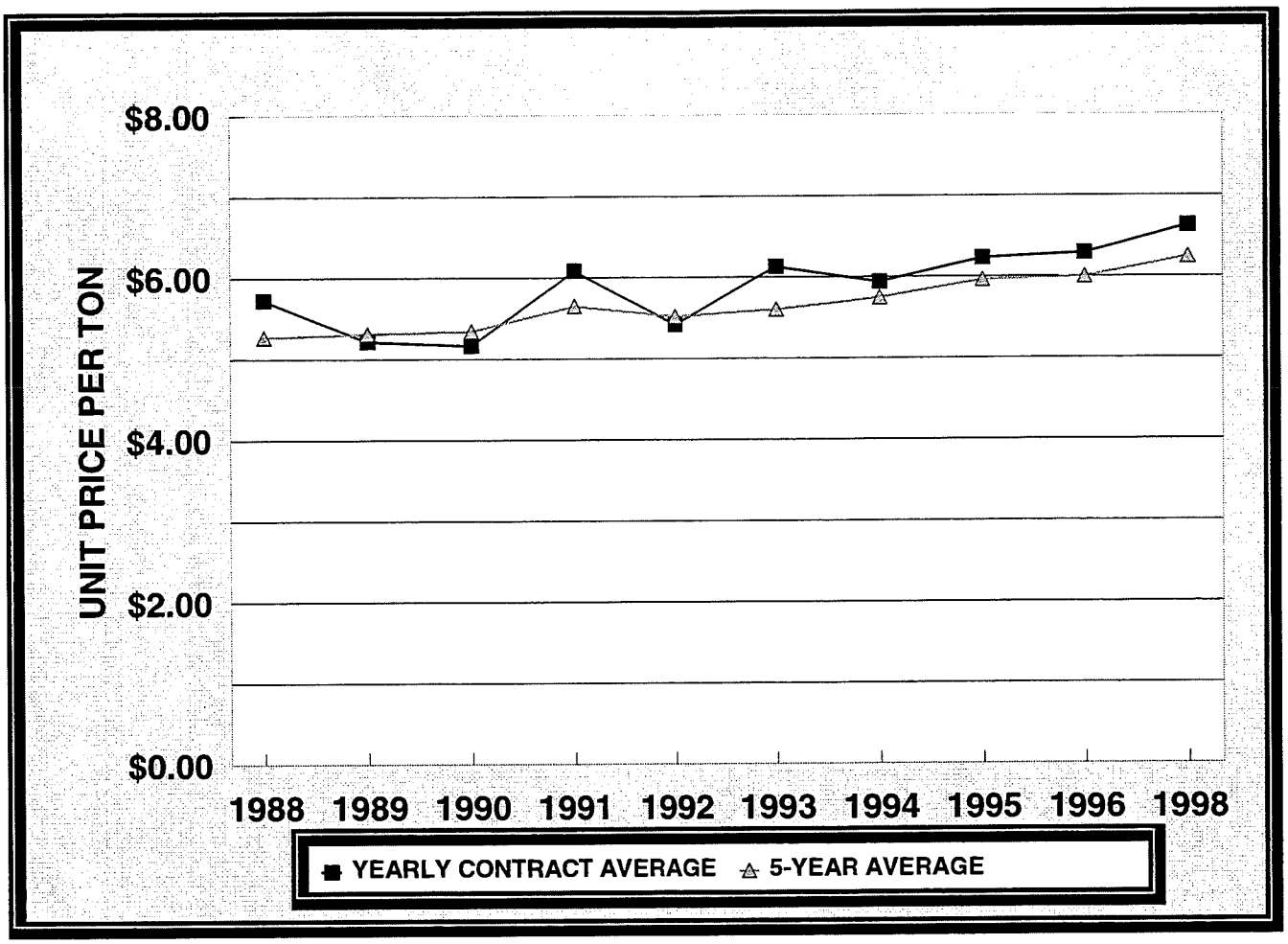
TREE REMOVAL #2101



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	19	535	$71,490	$133.63	$135.00	$95.96
1989	40	884	122,030	138.04	140.00	104.88
1990	37	1,659	135,381	81.60	140.00	109.35
1991	35	1,869	142,888	76.45	140.00	113.19
1992	39	867	169,797	195.84	150.00	125.11
1993	34	853	150,442	176.47	175.00	133.68
1994	35	1,876	210,444	112.15	175.00	128.50
1995	41	1,136	211,912	186.54	175.00	149.49
1996	33	783	159,884	204.19	175.00	175.04
1998	28	779	136,004	174.64	175.00	209.97
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $180.00 PER TREE.

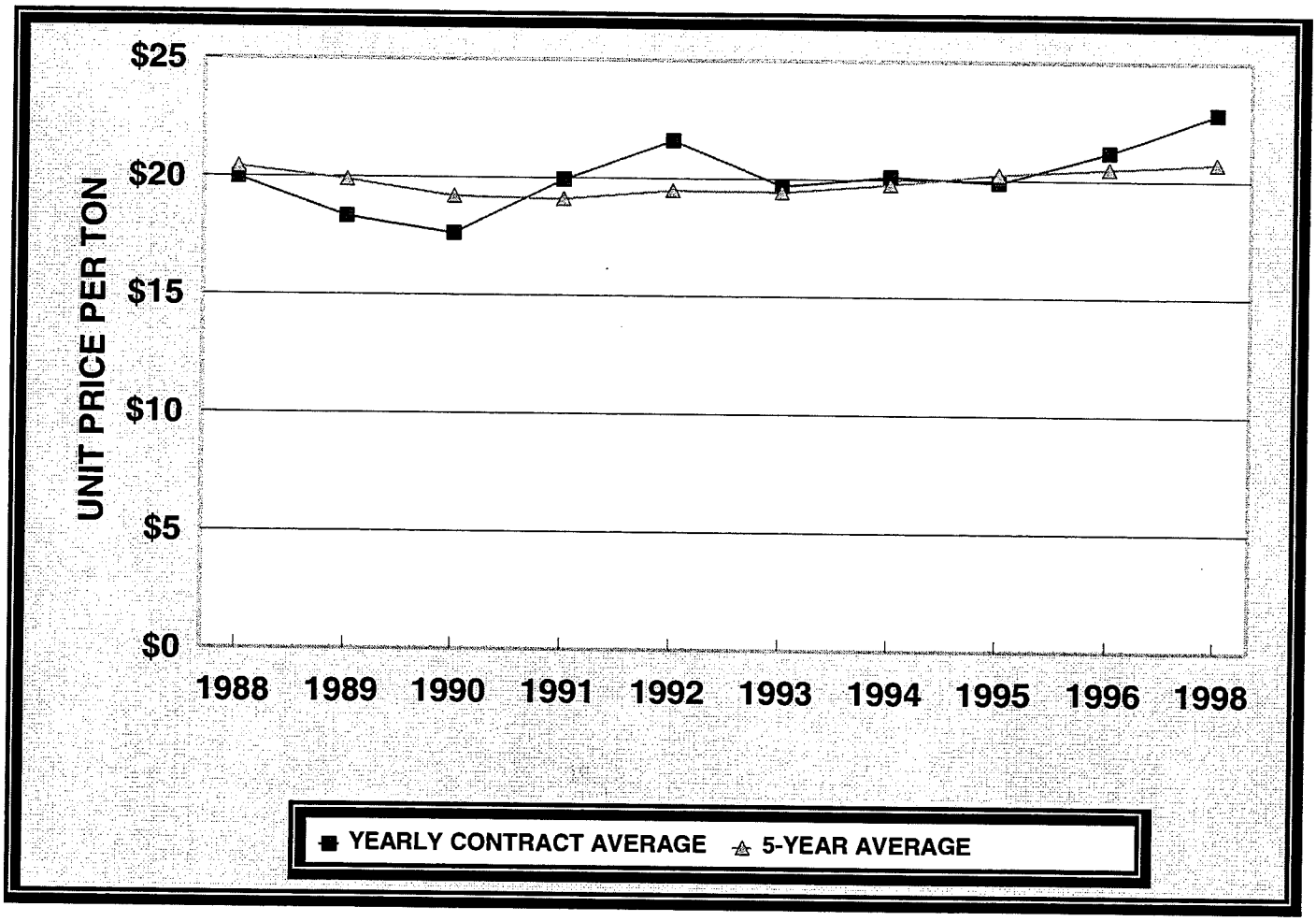
CLASS 5 AGGREGATE BASE #2211



NEEDS YEAR	NO. OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	51	381,898	$2,185,112	$5.72	$6.00	$5.27
1989	70	648,988	3,385,938	5.22	5.75	5.31
1990	68	715,922	3,696,421	5.16	5.50	5.34
1991	70	553,874	3,368,664	6.08	6.00	5.65
1992	69	650,835	3,525,629	5.42	5.75	5.52
1993	60	621,247	3,807,092	6.13	6.00	5.60
1994	70	660,174	3,921,230	5.94	6.00	5.75
1995	61	491,608	3,060,585	6.23	6.00	5.96
1996	68	593,314	3,733,431	6.29	6.20	6.00
1998	67	470,633	3,118,365	6.63	6.50	6.24
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $6.70 PER TON.

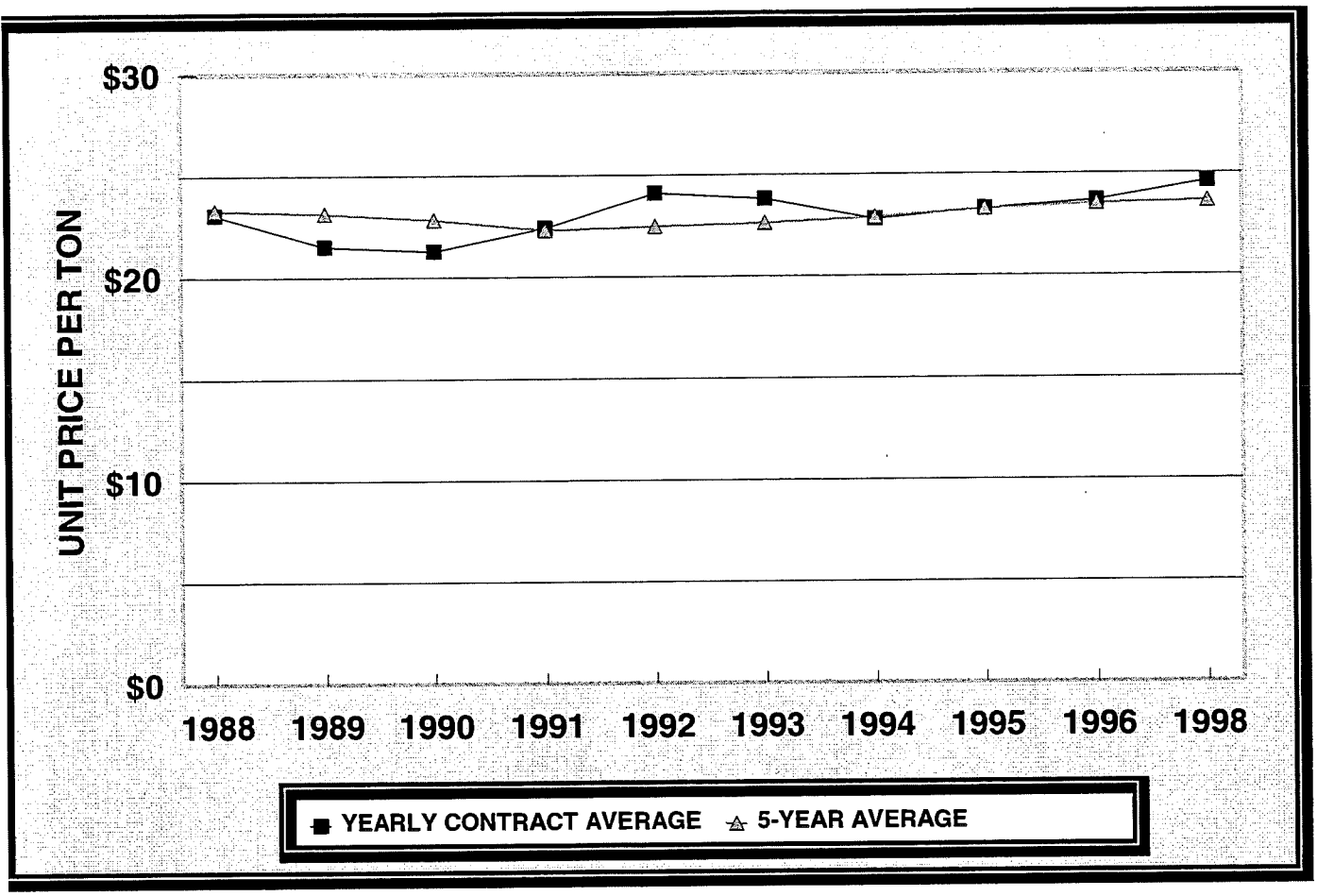
BITUMINOUS BASE OR SURFACE #2331



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT AMOUNT	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT AMOUNT
1988	50	176,177	$3,515,861	$19.96	$21.00	$20.43
1989	71	316,333	5,793,245	18.31	21.00	19.87
1990	61	313,022	5,517,034	17.63	20.00	19.19
1991	70	349,058	6,952,316	19.92	20.00	19.09
1992	67	358,244	7,739,246	21.60	22.00	19.48
1993	58	243,491	4,791,236	19.68	22.00	19.43
1994	68	265,414	5,339,712	20.12	21.00	19.79
1995	59	190,763	3,791,009	19.87	20.00	20.24
1996	67	188,898	4,000,168	21.18	20.50	20.49
1998	65	183,962	4,197,677	22.82	21.50	20.73
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS PER TON. **$22.00**

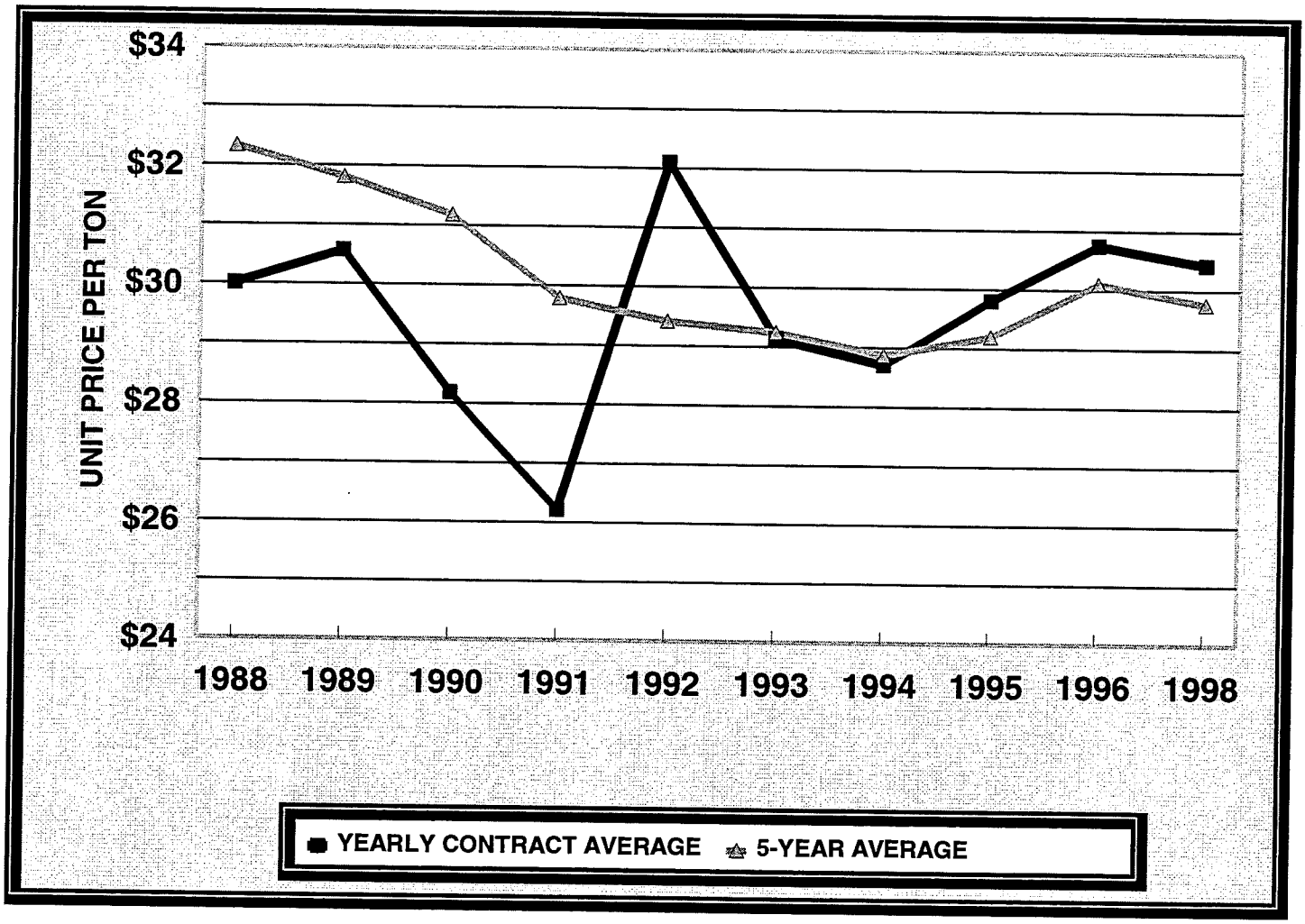
BITUMINOUS SURFACE #2341



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	47	101,894	$2,352,539	$23.09	$24.00	$23.31
1989	58	144,986	3,119,592	21.52	24.00	23.14
1990	44	127,267	2,707,906	21.28	23.50	22.83
1991	48	125,102	2,804,228	22.42	23.50	22.31
1992	31	77,735	1,873,836	24.11	24.50	22.48
1993	66	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	23.28
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						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $25.00 PER TON.

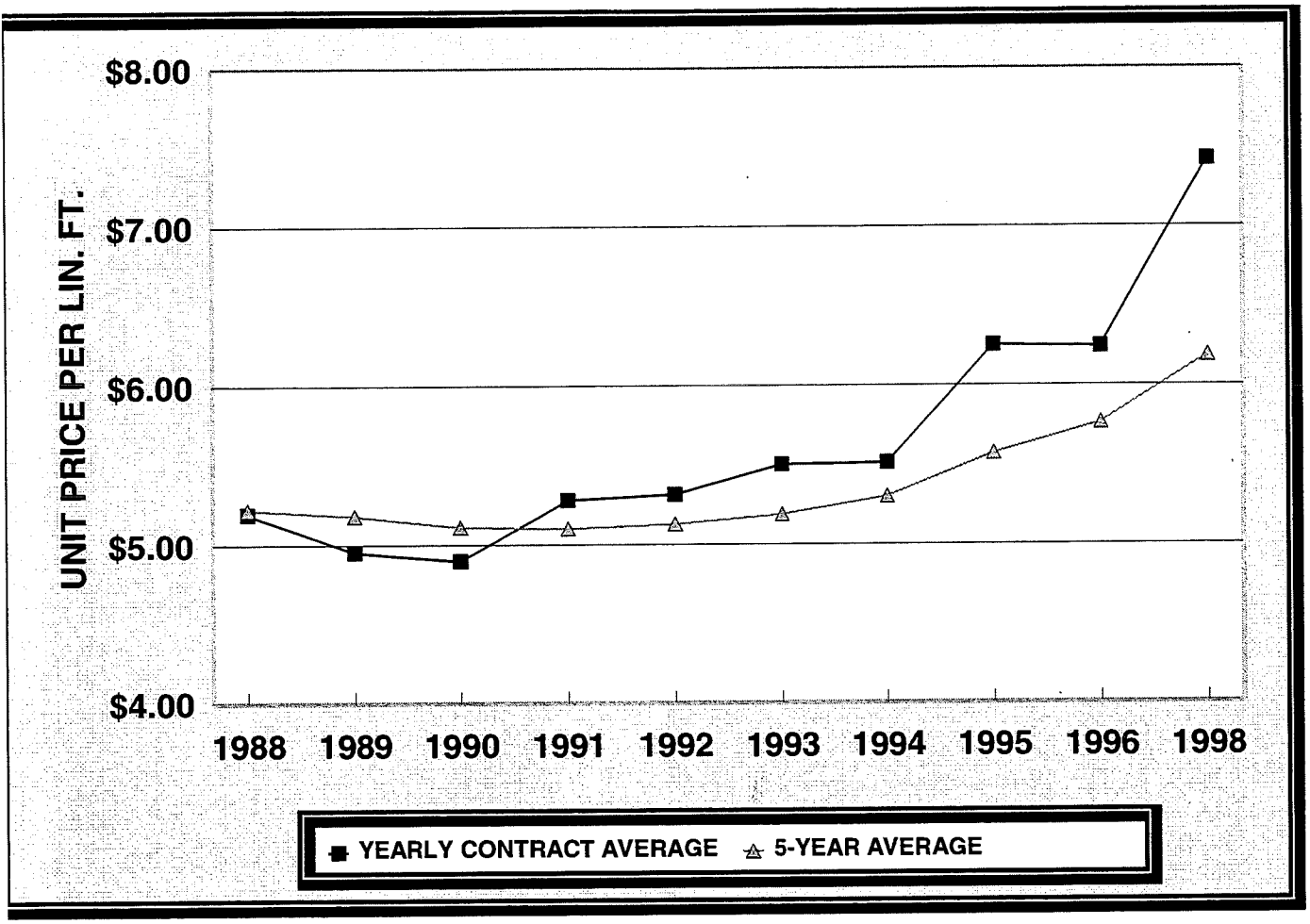
BITUMINOUS SURFACE #2361



NEEDS	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	11	23,776	$713,311	$30.00	$35.50	$32.33
1989	17	25,201	770,369	30.57	34.00	31.81
1990	14	31,527	888,370	28.18	33.00	31.18
1991	13	13,901	364,419	26.22	30.00	29.79
1992	3	6,186	198,585	32.10	32.00	29.41
1993	13	33,901	991,209	29.14	32.00	29.24
1994	11	24,412	700,939	28.71	30.00	28.87
1995	8	28,444	847,581	29.80	30.00	29.19
1996	7	12,140	373,248	30.75	30.10	30.10
1998	5	4,770	145,148	30.43	30.50	29.77
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $31.50 PER TON.

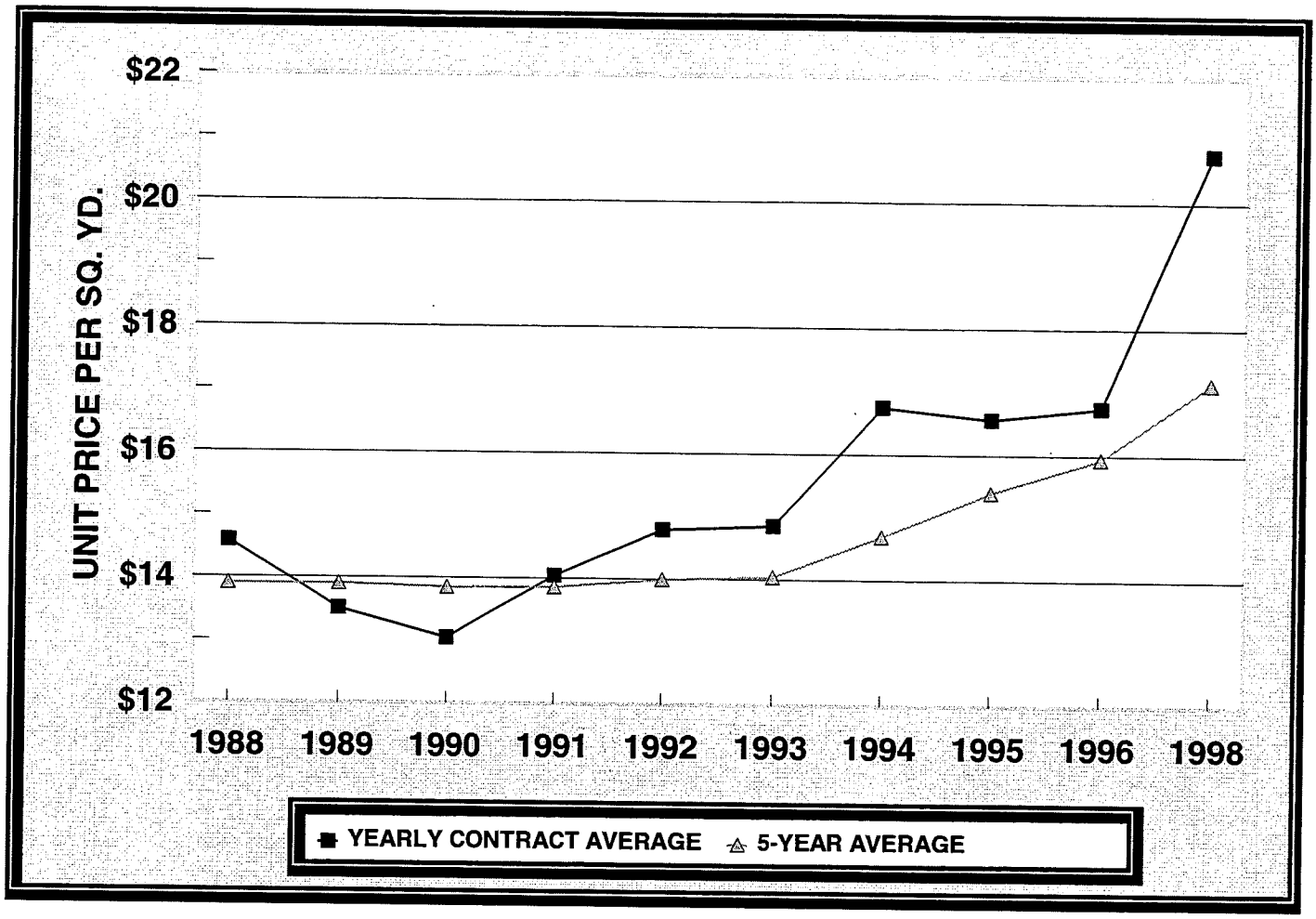
CURB & GUTTER CONSTRUCTION #2531



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	51	359,952	$1,868,721	$5.19	$6.00	$5.22
1989	73	606,413	3,002,995	4.95	5.50	5.18
1990	57	603,356	2,954,409	4.90	5.50	5.11
1991	67	559,342	2,952,849	5.28	5.50	5.10
1992	68	523,717	2,783,163	5.31	5.50	5.13
1993	69	515,687	2,836,644	5.50	5.50	5.19
1994	70	460,898	2,538,790	5.51	5.50	5.30
1995	64	528,679	3,303,027	6.25	5.75	5.57
1996	72	453,022	2,828,565	6.24	6.00	5.76
1998	64	347,973	2,581,523	7.42	7.50	6.18
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS PER LIN. FT. **$7.70**

SIDEWALK CONSTRUCTION #2521



NEEDS YEAR	NO.OF CITIES	QUANTITY	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	40	94,423	$1,376,749	$14.58	$14.50	$13.90
1989	62	159,205	2,150,360	13.51	14.00	13.90
1990	54	125,748	1,639,735	13.04	14.00	13.85
1991	60	179,115	2,514,996	14.04	14.00	13.86
1992	62	141,946	2,097,863	14.78	14.50	13.99
1993	55	119,082	1,767,834	14.85	15.00	14.04
1994	56	89,662	1,501,608	16.75	16.00	14.69
1995	49	134,724	2,230,974	16.56	16.00	15.40
1996	60	94,140	1,577,035	16.75	16.50	15.94
1998	54	71,578	1,486,101	20.76	20.00	17.13
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS PER SQ. YD. **$20.50**

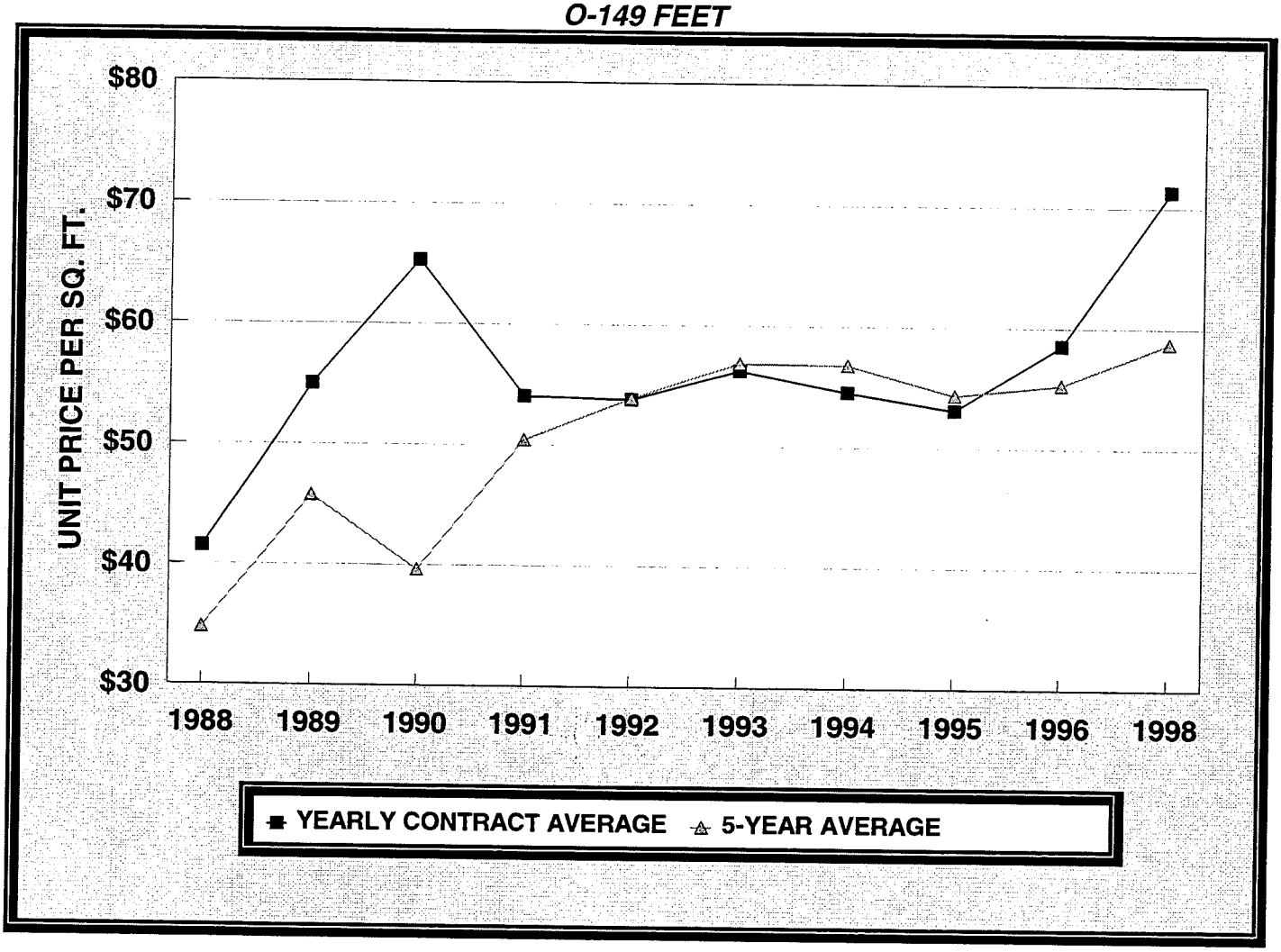
Bridges Let in Calendar Year 1998
Bridge Length 0-149 Feet

Bridge Number		Project Number	Deck Area	Bridge Cost	Cost per Sq. Ft.	Bridge Length
1521	SP	01-598-10	2,400	$167,770	$69.90	80.00
5522	SAP	05-598-05	3,787	210,192	55.50	105.20
7571	SAP	07-612-08	3,490	287,087	82.26	70.50
7572	SAP	07-669-01	1,610	169,406	105.22	52.50
11515	SP	11-602-05	3,043	135,946	44.67	65.30
11517	SP	11-678-02	4,606	457,522	99.33	98.00
12546	SAP	12-599-54	3,383	189,978	56.16	110.27
16517	SP	16-612-56	3,216	238,145	74.05	83.10
20551	SP	20-598-08	3,746	191,980	51.25	96.80
25581	SP	25-598-07	2,748	149,141	54.27	77.77
25582	SP	25-621-04	4,720	273,752	58.00	101.30
28523	SAP	28-625-16	5,880	278,072	47.29	149.50
29520	SAP	29-598-09	1,983	203,861	102.80	51.43
31537	SP	31-598-05	3,978	216,638	54.46	112.70
36524	SP	36-599-07	2,585	203,658	78.78	82.60
37543	SP	37-599-51	3,251	192,060	59.08	93.50
43534	SAP	43-598-06	2,837	162,049	57.12	81.56
45548	SP	45-612-12	4,090	226,929	55.48	104.00
51526	SP	51-599-60	3,156	198,567	62.92	100.70
52507	SAP	52-619-02	3,089	177,017	57.31	79.79
52513	SP	52-604-05	3,348	183,950	54.94	83.70
52514	SAP	52-605-37	3,591	191,500	53.33	84.19
52515	SAP	52-598-07	3,369	189,678	56.30	86.81
52517	SP	52-598-06	2,449	152,531	62.28	70.41
52518	SAP	52-615-18	3,706	184,247	49.72	86.80
56530	SAP	56-680-03	4,378	290,274	66.30	92.50
57509	SAP	57-620-04	2,024	157,760	77.94	51.50
57512	SAP	57-621-01	1,818	134,831	74.16	51.50
57520	SAP	57-598-29	4,167	211,623	50.79	133.00
58537	SP	58-599-24	2,334	150,504	64.48	74.50
58538	SAP	58-599-25	2,936	216,474	73.73	93.80
60541	SAP	60-599-128	2,844	213,112	74.93	79.00
65558	SAP	65-599-35	2,448	124,688	50.93	72.00
67535	SAP	67-599-80	2,428	143,229	58.99	77.50
68528	SP	68-598-29	5,213	285,265	54.72	144.80
68530	SAP	68-599-69	3,348	218,734	65.33	106.85
69621	SAP	69-720-01	2,262	121,717	53.81	60.00
74541	SP	74-598-08	2,221	133,046	59.90	58.90
83541	SAP	83-601-05	3,766	198,381	52.68	108.27
84525	SP	84-598-23	2,826	196,090	69.39	80.00
96544	SAP	35-604-10	1,374	244,925	178.26	54.10
27141		TH	3,422	320,386	93.63	82.77
43009		TH	4,688	309,960	66.12	91.33
48014		TH	6,415	314,059	48.96	126.97
33007		TH	4,241	238,620	56.27	83.99
15006		TH	2,534	174,741	68.96	65.45
27256		TH	6,588	802,656	121.84	148.22
27144		TH	7,145	620,120	86.79	144.96
27150		TH	6,565	527,396	80.33	144.97
27146		TH	6,558	529,728	80.78	140.00
48033		TH	4,394	278,916	63.48	96.92
48034		TH	4,394	287,379	65.40	96.92
27145		TH	6,558	543,307	82.85	140.00

State Aid Projects	130,448	$8,272,329	$63.41	Average
Trunk Hwy Projects	63,502	$4,947,267	$77.91	Average
Total	193,950	$13,219,596	$68.16	Average

BRIDGE COST

O-149 FEET



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	22	73,683	$3,057,881	$41.50	$41.50	$34.78
1989	11	35,733	1,966,077	55.02	55.00	45.78
1990	42	214,557	14,003,285	65.27	55.00	39.64
1991	37	136,770	7,472,265	54.09	55.00	50.46
1992	39	147,313	7,929,250	53.83	55.00	53.94
1993	38	190,400	10,709,785	56.25	55.00	56.89
1994	49	208,289	11,362,703	54.55	55.00	56.80
1995	32	124,726	6,627,018	53.13	55.00	54.37
1996	35	152,105	8,900,177	58.51	55.00	55.25
1998	52	191,385	13,651,209	71.33	60.00	58.75
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS PER SQ. FT. **$63.50**

Bridges Let in Calendar Year 1998
Bridge Length 150-499 Feet

Bridge Number		Project Number	Deck Area	Bridge Cost	Cost per Sq. Ft.	Bridge Length
5527	SAP	05-598-06	6,319	$330,896	$52.37	160.80
7566	FAM	07-690-04	15,318	844,341	55.12	262.61
14534	SP	14-598-20	9,562	436,134	45.61	265.60
23535	SP	23-602-08	7,831	498,262	63.63	183.40
37542	BRG	37-623-07	8,720	665,253	76.29	159.50
54543	SP	54-598-27	9,828	644,131	65.54	278.17
62567	SP	164-020-74	24,279	1,470,993	60.59	412.90
63513	SP	63-598-02	5,241	309,722	59.10	150.60
64558	BRG	64-619-08	13,734	999,502	72.78	354.80
69527	SP	69-598-09	9,010	452,647	50.24	259.05
69623	SAP	69-627-08	11,422	799,745	70.02	267.80
7954.3	SP	79-630-09	13,411	950,284	70.86	257.90
27217		TH	18,223	1,078,886	59.20	167.65
27218		TH	26,458	1,732,328	65.47	173.07
20010		TH	15,826	717,131	45.31	210.08
70041		TH	18,184	903,369	49.68	249.67
27148		TH	33,098	2,041,145	61.67	253.95
27147		TH	31,710	1,696,752	53.51	263.52
02043		TH	15,137	1,256,602	83.02	280.85
27128		TH	16,964	1,139,749	67.19	153.43
10008		TH	8,859	552,735	62.39	175.37
27V07		TH	13,261	858,098	64.71	205.66
27V08		TH	13,293	848,220	63.81	206.12
27214		TH	6,200	382,770	61.74	211.22
27233		TH	14,574	782,646	53.70	231.10
27234		TH	11,894	742,300	62.41	231.10
27225		TH	28,632	1,406,223	49.11	243.77
27V05		TH	24,488	1,291,382	52.74	338.56
27V06		TH	24,488	1,272,507	51.96	338.56

State Aid Projects	134,675	8,401,910	$62.39	Average
Trunk Hwy Projects	321,289	18,702,843	58.21	Average
Total	455,964	27,104,753	59.44	Average

Bridges Let in Calendar Year 1998
Bridge Length 500 Feet and Over

Bridge Number		Project Number	Deck Area	Bridge Cost	Cost per Sq. Ft.	Bridge Length
55562	SAP	55-622-34	7,378	$630,350	$85.44	527.00
27194		TH	30,381	1,733,421	57.06	670.17
27219		TH	25,371	1,676,801	66.09	544.62
18004		TH	53,604	3,437,027	64.12	532.20
40002		TH	39,364	2,794,552	70.99	643.20
09009		TH	45,833	2,956,589	64.51	987.93

State Aid Projects	7,378	630,350	$85	Average
Trunk Hwy Projects	194,553	12,598,390	$65	Average
Total	201,931	13,228,740	$66	Average

Railroad Bridge

Bridge Number	Project Number	Number of Tracks	Bridge Cost	Cost per Lin. Ft.	Bridge Length
38006	TH	1	$1,223,278	$8,139	150.30

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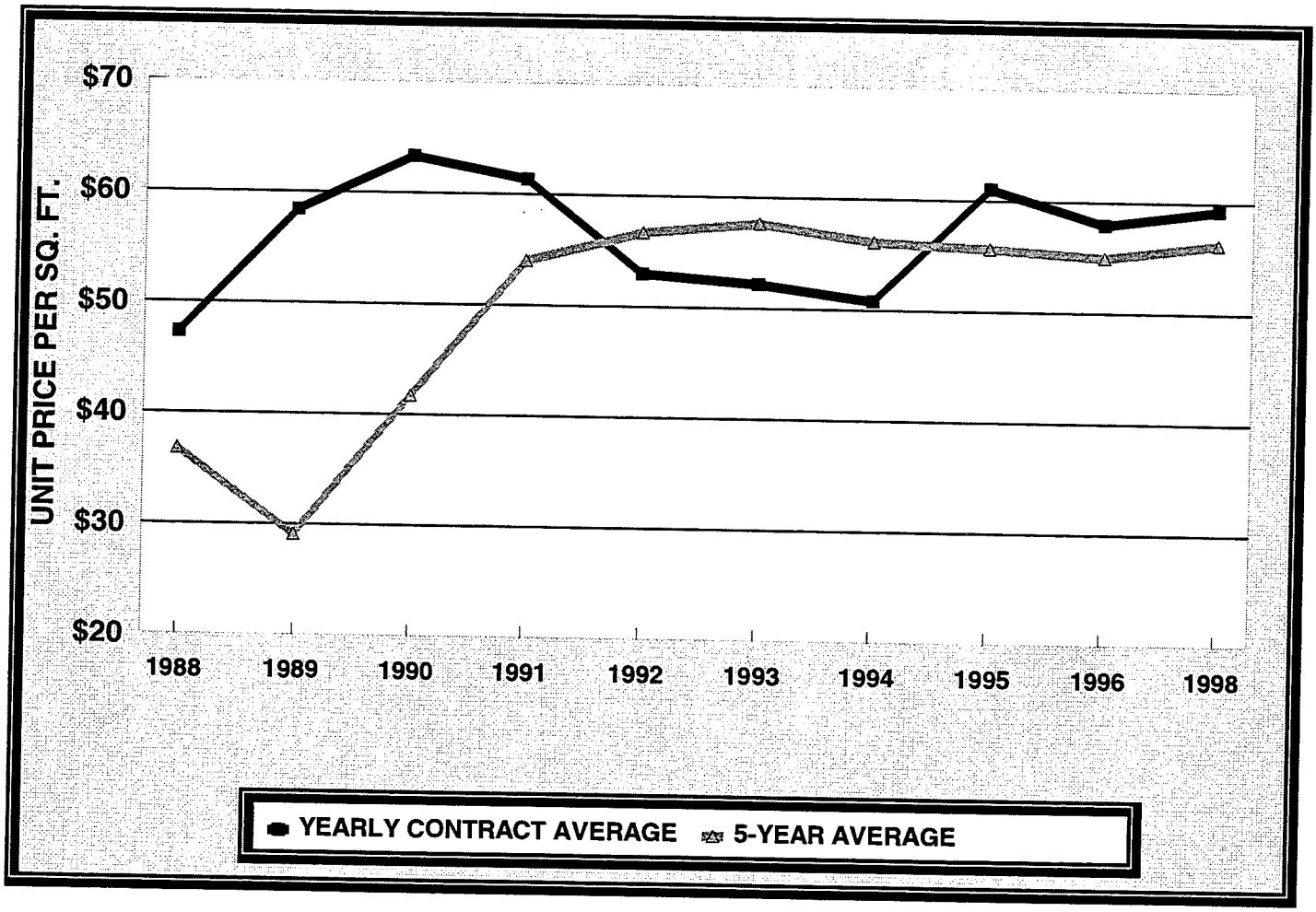
BRIDGE COST

150-499 FEET

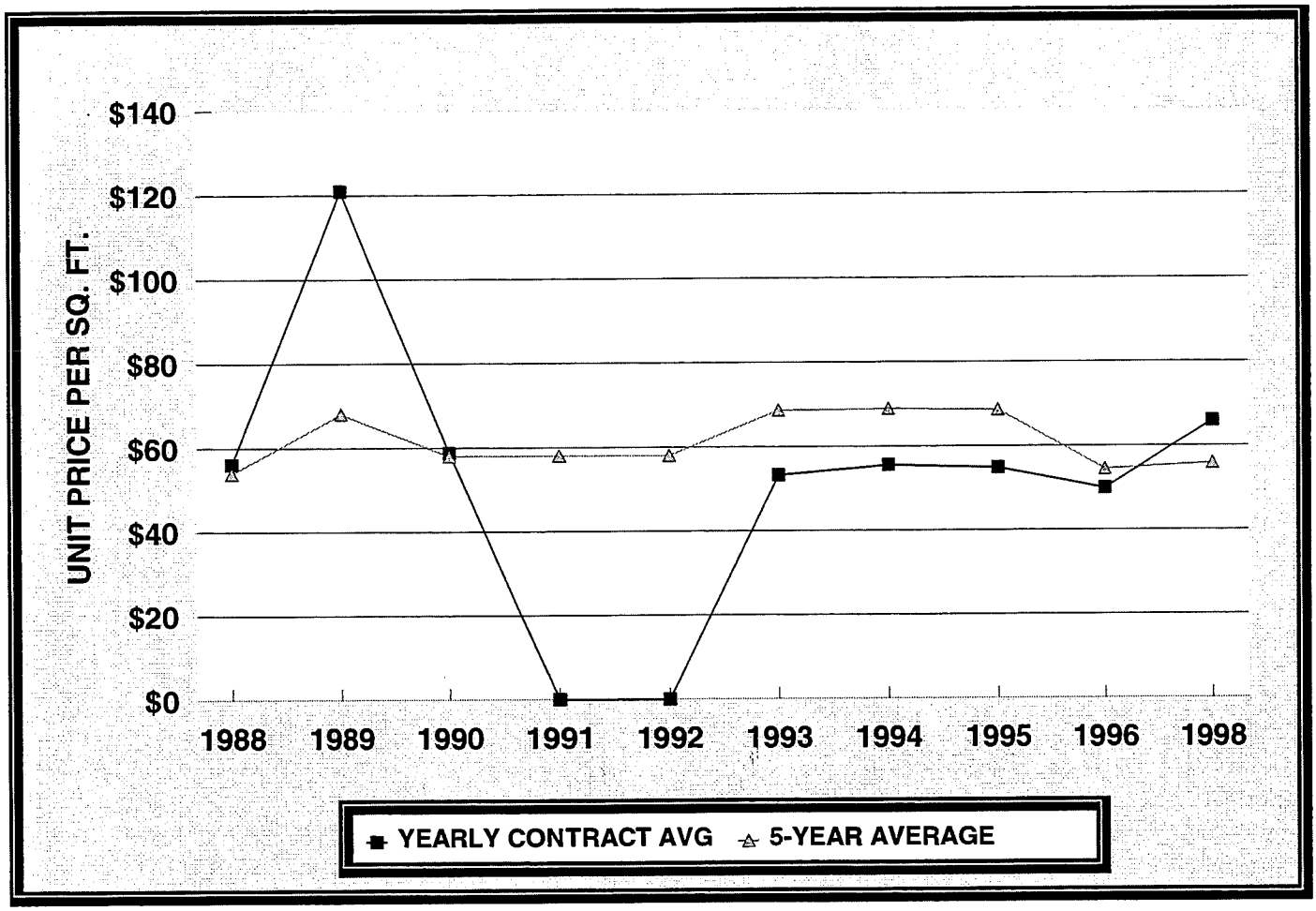


NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	10	83,149	3,932,729	47.30	47.00	36.79
1989	11	116,378	6,796,566	58.40	60.00	29.07
1990	25	418,376	26,483,631	63.30	60.00	41.73
1991	27	368,709	22,167,571	61.33	60.00	54.00
1992	24	331,976	17,582,542	52.96	60.00	56.66
1993	31	421,583	21,987,208	52.15	55.00	57.63
1994	29	307,611	15,619,506	50.78	55.00	56.10
1995	28	381,968	23,310,410	61.03	55.00	55.65
1996	27	385,230	22,302,967	57.90	55.00	54.96
1998	30	483,315	28,642,031	59.26	60.00	56.22
1999						

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $63.50 PER SQ. FT.

BRIDGE COST

500 FEET AND OVER



NEEDS YEAR	NUMBER OF PROJECTS	DECK AREA	TOTAL COST	YEARLY AVERAGE CONTRACT PRICE	PRICE USED IN NEEDS	5-YEAR AVERAGE CONTRACT PRICE
1988	1	25,942	$1,453,694	$56.04	$56.00	$53.83
1989	8	335,830	40,615,626	120.94	70.00	68.02
1990	13	684,812	40,178,274	58.67	65.00	57.95
1991	0	0	0	0	65.00	57.95
1992	0	0	0	0	65.00	57.95
1993	6	245,572	13,068,106	53.21	55.00	68.60
1994	3	75,425	3,959,504	55.53	55.00	68.88
1995	2	174,991	9,595,341	54.83	55.00	68.64
1996	4	157,751	7,875,932	49.93	55.00	54.43
1998	3	182,129	12,002,782	65.90	60.00	55.88
1999						

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

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $63.50 PER SQ. FT.

spg\rrbridge.wk3

16-Apr-99

RAILROAD BRIDGES OVER HIGHWAYS

Needs Year	Number of Projects	Number of Tracks	Bridge Length	Bridge Cost per Lin. Ft. (Actual)	Cost per Lin. Ft. of 1st Track (Unit Price Study)	Cost per Lin. Ft. of Additional Tracks (Unit Price Study)
1986	0	0			$2,250	$1,750
1987	0	0			2,250	1,750
1988	1	3	103.71	$13,988	2,250	1,750
1989	2	1	161.51	8,499	2,250	1,750
		1	317.19	5,423	2,250	1,750
1990	1	2	433.38	8,536	4,000	3,000
1991	0	0			4,000	3,000
1992	1	1	114.19	7,619	4,000	3,000
1993	1	1	181.83	7,307	5,000	4,000
1994	0	0			5,000	4,000
1995	0	0			5,000	4,000
1996	1	1	80.83	12,966	5,000	4,000
1998	1	1	261.02	8,698	8,000	6,500
1999	1	1	150.3	8,139		

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS PER LINEAL FOOT FOR THE FIRST TRACK **$8,200**

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1998 NEEDS STUDY IS PER LIN. FT. FOR ADDITIONAL TRACKS **$6,700**

STORM SEWER, LIGHTING AND SIGNAL NEEDS COSTS

NEEDS YEAR	STORM SEWER ADJUSTMENT (Per Mile)	STORM SEWER CONSTRUCTION (Per Mile)	LIGHTING (Per Mile)	SIGNALS (Per Mile)
1986	62,000	196,000 *	2,000	10,000
1987	62,000	196,000 *	2,000	12,000
1988	62,000	196,000 *	16,000	15,000
1989	62,000	196,000 *	16,000	15,000-45,000
1990	62,000	196,000	16,000	15,000-45,000
1991	62,000	196,000	16,000	18,750-75,000
1992	62,000	199,500	20,000	20,000-80,000
1993	64,000	206,000	20,000	20,000-80,000
1994	67,100	216,500	20,000	20,000-80,000
1995	69,100	223,000	20,000	20,000-80,000
1996	71,200	229,700	20,000	20,000-80,000
1998	76,000	245,000	20,000	24,990-99,990
1999				

* 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 1999:

	Storm Sewer. Adjustment	Storm Sewer Construction
1999	$79,000	$246,000

SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1999:

	Storm Sewer. Adjustment	Storm Sewer Construction	Lighting	Signals
1999	$79,000	$246,000	$35,000	$99,990

RAILROAD CROSSINGS NEEDS COSTS

NEEDS YEAR	SIGNS (Per Unit)	PAVEMENT MARKING	SIGNALS (Low Speed) (Per Unit)	SIGNALS & GATES (High Speed) (Per Unit)	RUBBERIZED MATERIAL (Per Ft.)
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	1000	750	80,000	130,000	750
1999					

MN\DOT'S RAILROAD OFFICE RECOMMENDED PRICES FOR 1999:

	Signs	Pavement Marking	Signals	Sig. & Gates	Rub. Mat.
1999	$1,000	$750	$90,000	$125-170,000	$850

SUBCOMMITTEE'S RECOMMENDED PRICES FOR 1999:

1999	$1,000	$750	$85,000	$135,000	$850

Minnesota Department of Transportation

Memo

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

Date: March 15, 1999

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

From: Mike Leuer
State Aid Hydraulic Technician

Phone: (651) 582-1184

Subject: State Aid Storm Sewer
Construction Costs for 1998

We have completed our analysis of storm sewer construction costs incurred for 1998 and the following assumptions can be utilized for planning purposes per roadway mile:

- approximately $246,000 for new construction, and
- approximately $ 79,000 for adjustment of existing systems

CC: J. L. Boynton (file)

STATE OF MINNESOTA

DEPARTMENT OF TRANSPORTATION
MS 470, Transportation Building

Office Memorandum

TO: Kenneth Straus/Diane Gould
Needs Unit

DATE: March 23, 1999

FROM: Robert G. Swanson, Director
Railroad Administration

PHONE: 651-296-2472

SUBJECT: Projected Railroad Grade Crossing Improvements - Cost for 1999

We have projected 1999 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	$90,000.00
Signals and Gates:		
(Multiple Track - High & Low Speed)** (Average Price)	per System	$125-170,000.00
Signs (Advance warning signs & crossbucks	per Crossing	$1000.00
Pavement Markings		
(Tape)	per Crossing	$5,500.00
(Paint)	per Crossing	$750.00
Crossing Surfaces: (Rubber Crossing Surface) Complete reconstruction of the crossing. Labor and Materials	per track ft	$850.00

* 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.

Special Drainage Costs for Rural Segments
1999

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

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

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

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

For Entrance Culverts:

1) The recommended residential driveway width onto a state aid roadway is 16 feet. (State Aid Manual Fig. D(2) 5-892.210).
2) The minimum pipe diameter of Side Culverts shall be 18 inches. The minimum cover shall be one foot, however, it is desirable to have 1.25 feet or more of cover on side roads. (Drainage Manual 5-294.302).
3) The MN/DOT estimating unit recommends using a 18-inch Galvanized Steel Pipe and two aprons as the standard for an entrance culvert to a rural segment on the Municipal State Aid Street system.
4) For construction needs purposes the MN/DOT estimating unit recommends using $19.00 per foot as a cost for 18" GSP (1998 cost was $17.00 per foot) and $110.00 per apron (1998 cost was $88.00 each).
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:

1) 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 (1998 cost was $45.00 per foot) and $625 per apron (1998 cost was $500 each).
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 ℄ 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 ℄ culverts, the 1999 estimated construction needs cost per mile for Special Drainage would increase from $31,710 to **$35,625**.

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1999 NEEDS STUDY IS $33,000 PER MILE

other topics

NOTES

UNIT PRICES BY DISTRICT

At the June 10, 1998, Municipal Screening Board meeting, the Board made a motion to have the Needs Study Subcommittee review district variances in the unit prices for items used in the needs study.

The State Aid Needs Unit did a district unit price comparison of the eleven construction items used the past unit price study for years 1993 through 1998. The unit prices charts by district represents the quantities and unit prices of items compiled from prior years MSA abstract of bids received by the State Aid Office.

* The contract unit price and quantities per district were taken from the Spring booklets from each of the last five years when a unit price study was conducted.
* Each district average was compared with the yearly state average price.
* An overall summary indicates the number of times the district was above the state average for the 55 possibilities. District 7 was above the average 43 times or 78% of the time.

UNIT PRICES BY DISTRICT

(BOLD AREAS ARE ABOVE STATE AVERAGE)

1993 thru 1998

Grading- Cubic Yard

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	76,497	13,143	115,136	2,800	249,606	53,722	29,548	25,989	539,269		1,105,710
	% Total Quantity	6.92%	1.19%	10.41%	0.25%	22.57%	4.86%	2.67%	2.35%	48.77%		
	Cost	**$4.45**	**$3.28**	$2.23	**$3.54**	**$2.96**	**$4.21**	$2.52	**$3.42**	$2.25	$2.71	
1994	Quantity	391,146	17,998	57,267	59,379	381,142	170,353	46,624	34,373	325,746		1,484,028
	% Total Quantity	26.36%	1.21%	3.86%	4.00%	25.68%	11.48%	3.14%	2.32%	21.95%		
	Cost	$3.19	**$4.02**	**$4.32**	$2.62	**$3.72**	$3.14	**$3.63**	**$3.60**	$3.06	$3.35	
1995	Quantity	48,503	19,979	67,883	13,608	614,585	72,471	56,086	3,790	420,902		1,317,807
	% Total Quantity	3.68%	1.52%	5.15%	1.03%	46.64%	5.50%	4.26%	0.29%	31.94%		
	Cost	**$3.81**	**$3.66**	**$3.32**	**$4.00**	**$2.81**	$2.23	**$3.86**	**$3.50**	$1.82	$2.60	
1996	Quantity	85,518	29,732	70,548	16,924	778,845	81,249	19,785	22,586	585,849		1,691,036
	% Total Quantity	5.06%	1.76%	4.17%	1.00%	46.06%	4.80%	1.17%	1.34%	34.64%		
	Cost	**$3.81**	**$4.12**	**$4.16**	**$3.74**	$2.34	**$2.80**	**$3.78**	**$2.77**	$2.19	$2.53	
1998	Quantity	52,042	4,488	46,737	30,861	548,486	75,287	11,692	43,195	106,591		919,379
	% Total Quantity	5.66%	0.49%	5.08%	3.36%	59.66%	8.19%	1.27%	4.70%	11.59%		
	Cost	**$4.60**	**$4.88**	$3.15	**$6.71**	$3.03	$3.01	**$5.76**	$3.56	**$5.15**	$3.56	
	Total Quantity	653,706	85,340	357,571	123,572	2,572,664	453,082	163,735	129,933	1,978,357		6,517,960
	5 year average	$3.97	$3.99	$3.44	$4.12	$2.97	$3.08	$3.91	$3.37	$2.89	$2.95	
# of years above average		4	5	3	4	3	2	4	4	1		

Aggregate Shoulders- Ton

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	0	180	45	0	450	0	0	0	175		850
	% Total Quantity	0.00%	21.18%	5.29%	0.00%	52.94%	0.00%	0.00%	0.00%	20.59%		
	Cost	$0.00	**$13.19**	**$26.00**	$0.00	$9.17	$0.00	$0.00	$0.00	$10.00	$11.09	
1994	Quantity	257	0	0	350	165	227	0	0	0		999
	% Total Quantity	25.73%	0.00%	0.00%	35.04%	16.52%	22.72%	0.00%	0.00%	0.00%		
	Cost	$8.73	$0.00	$0.00	$4.70	**$8.50**	**$10.57**	$0.00	$0.00	$0.00	$7.70	
1995	Quantity	0	0	0	0	1,134	960	0	0	2,829		4,923
	% Total Quantity	0.00%	0.00%	0.00%	0.00%	23.03%	19.50%	0.00%	0.00%	57.46%		
	Cost	$0.00	$0.00	$0.00	$0.00	**$8.39**	**$8.20**	$0.00	$0.00	$8.00	$8.13	
1996	Quantity	2,721	0	0	120	117	0	109	0	0		3,067
	% Total Quantity	88.72%	0.00%	0.00%	3.91%	3.81%	0.00%	3.55%	0.00%	0.00%		
	Cost	$8.59	$0.00	$0.00	**$10.00**	**$18.40**	$0.00	**$14.31**	$0.00	$0.00	$9.22	
1998	Quantity	0	0	0	0	25	0	0	0	35		60
	% Total Quantity	0.00%	0.00%	0.00%	0.00%	41.67%	0.00%	0.00%	0.00%	58.33%		
	Cost	$0.00	$0.00	$0.00	$0.00	$20.00	$0.00	$0.00	$0.00	**$21.80**	$21.05	
	Total Quantity	2,978	180	45	470	1,891	1,187	109	0	3,039		9,899
	5 year average	$3.46	$2.64	$5.20	$2.94	$12.89	$3.75	$2.86	$0.00	$7.96	$11.44	
# of years above average		1	1	1	1	3	2	1	0	1		

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UNIT PRICES BY DISTRICT

(BOLD AREAS ARE ABOVE STATE AVERAGE)

1993 thru 1998

		Curb & Gutter Removal- Lin. Ft.										
		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	7,398	2,625	11,205	184	21,786	12,384	11,045	7,424	44,742		118,793
	% Total Quantity	6.23%	2.21%	9.43%	0.15%	18.34%	10.42%	9.30%	6.25%	37.66%		
	Cost	**$1.56**	**$1.69**	$1.07	**$5.00**	**$1.62**	$1.21	**$1.69**	**$2.03**	**$1.58**	$1.54	
1994	Quantity	9,139	2,033	726	6,140	64,821	12,026	4,133	12,245	20,909		132,172
	% Total Quantity	6.91%	1.54%	0.55%	4.65%	49.04%	9.10%	3.13%	9.26%	15.82%		
	Cost	**$2.49**	$1.31	$1.76	**$2.16**	$1.76	$1.46	$1.83	**$2.77**	**$2.02**	$1.93	
1995	Quantity	20,820	7,027	17,267	2,212	95,663	11,752	15,619	2,148	36,669		209,177
	% Total Quantity	9.95%	3.36%	8.25%	1.06%	45.73%	5.62%	7.47%	1.03%	17.53%		
	Cost	$1.79	**$1.98**	$1.11	**$2.41**	**$1.85**	**$2.59**	**$1.99**	**$3.32**	$1.72	$1.84	
1996	Quantity	14,881	12,243	278	5,470	37,451	20,847	12,255	4,715	34,222		142,362
	% Total Quantity	10.45%	8.60%	0.20%	3.84%	26.31%	14.64%	8.61%	3.31%	24.04%		
	Cost	$1.56	$1.93	**$3.29**	$1.92	**$2.25**	$1.59	$1.49	**$3.49**	**$2.39**	$2.05	
1998	Quantity	5,419	1,486	3,457	2,192	52,588	6,253	8,815	13,065	56,808		150,083
	% Total Quantity	3.61%	0.99%	2.30%	1.46%	35.04%	4.17%	5.87%	8.71%	37.85%		
	Cost	**$2.89**	**$2.29**	$1.38	**$3.40**	$1.95	$1.40	**$2.82**	**$2.09**	$1.75	$1.96	
	Total Quantity	57,657	25,414	32,933	16,198	272,309	63,262	51,867	39,597	193,350		752,587
	5 year average	$2.06	$1.84	$1.72	$2.98	$1.89	$1.65	$1.96	$2.74	$1.89	$1.86	
# of years above average		3	3	1	4	3	1	3	5	3		

		Sidewalk Removal- Sq. Yd.										
		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	9,838	3,064	780	356	19,168	2,789	1,994	1,111	3,917		43,017
	% Total Quantity	22.87%	7.12%	1.81%	0.83%	44.56%	6.48%	4.64%	2.58%	9.11%		
	Cost	$3.68	**$6.57**	$4.10	**$5.85**	**$5.10**	$3.85	**$5.53**	$4.13	**$5.23**	$4.79	
1994	Quantity	9,906	5,944	397	2,279	14,754	11,419	1,421	3,040	5,046		54,207
	% Total Quantity	18.27%	10.97%	0.73%	4.20%	27.22%	21.07%	2.62%	5.61%	9.31%		
	Cost	$2.73	**$6.19**	$2.75	**$7.26**	**$4.73**	$3.42	**$5.84**	**$5.39**	$4.14	$4.35	
1995	Quantity	17,869	7,675	2,956	411	33,888	5,472	2,820	36	2,044		73,172
	% Total Quantity	24.42%	10.49%	4.04%	0.56%	46.31%	7.48%	3.85%	0.05%	2.79%		
	Cost	**$6.44**	**$7.54**	$4.07	$4.72	$4.49	$4.57	**$7.73**	$4.51	$3.14	$5.36	
1996	Quantity	14,221	3,913	19	2,233	8,188	8,611	7,191	333	5,051		49,759
	% Total Quantity	28.58%	7.86%	0.04%	4.49%	16.46%	17.31%	14.45%	0.67%	10.15%		
	Cost	$1.17	**$8.66**	**$9.00**	**$6.31**	**$5.16**	$3.44	**$5.04**	**$6.75**	**$6.56**	$4.19	
1998	Quantity	2,699	686	1,160	0	20,532	3,345	2,817	2,091	3,637		36,967
	% Total Quantity	7.30%	1.86%	3.14%	0.00%	55.54%	9.05%	7.62%	5.66%	9.84%		
	Cost	$4.97	**$9.42**	**$7.06**	$0.00	$3.37	$4.19	**$15.30**	**$5.57**	$4.92	$4.97	
	Total Quantity	54,533	21,282	5,312	5,279	96,530	31,636	16,243	6,611	19,695		257,122
	5 year average	$3.80	$7.68	$5.40	$4.83	$4.57	$3.89	$7.89	$5.27	$4.80	$4.73	
# of years above average		1	5	2	3	3	0	5	3	2		

UNIT PRICES BY DISTRICT

(BOLD AREAS ARE ABOVE STATE AVERAGE)

1993 thru 1998

Concrete Pavement Removal- Sq. Yd.

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	21,982	4	17,596	4,700	66,938	29,876	6,949	493	41,721		190,259
	% Total Quantity	11.55%	0.00%	9.25%	2.47%	35.18%	15.70%	3.65%	0.26%	21.93%		
	Cost	$3.45	$4.00	$2.81	$2.10	**$5.79**	$2.97	**$4.54**	$4.00	$3.00	$4.05	
1994	Quantity	16,974	9,134	42	10,759	38,085	17,164	15,625	0	77,283		185,066
	% Total Quantity	9.17%	4.94%	0.02%	5.81%	20.58%	9.27%	8.44%	0.00%	41.76%		
	Cost	$3.12	**$5.32**	**$8.00**	$3.00	**$7.00**	$3.47	**$4.69**	$0.00	$3.23	$4.23	
1995	Quantity	2,572	16,595	828	40	10,511	14,950	7,627	0	28,135		81,258
	% Total Quantity	3.17%	20.42%	1.02%	0.05%	12.94%	18.40%	9.39%	0.00%	34.62%		
	Cost	**$5.39**	**$5.52**	$3.44	**$6.50**	**$5.90**	$2.66	**$5.01**	$0.00	$3.17	$4.16	
1996	Quantity	6,804	4,723	216	20	23,438	13,526	8,048	129	21,218		78,122
	% Total Quantity	8.71%	6.05%	0.28%	0.03%	30.00%	17.31%	10.30%	0.17%	27.16%		
	Cost	$3.78	**$4.50**	$1.11	**$5.00**	**$4.49**	**$4.72**	$4.21	**$5.85**	$4.26	$4.37	
1998	Quantity	27,073	0	2,426	36	21,744	34,420	20,803	197	4,242		110,941
	% Total Quantity	24.40%	0.00%	2.19%	0.03%	19.60%	31.03%	18.75%	0.18%	3.82%		
	Cost	$4.48	$0.00	$3.50	**$5.00**	**$5.63**	$3.42	**$6.07**	**$7.09**	**$5.37**	$4.69	
	Total Quantity	75,405	30,456	21,108	15,555	160,716	109,936	59,052	819	172,599		645,646
	5 year average	$4.04	$3.87	$3.77	$4.32	$5.76	$3.45	$4.90	$3.39	$3.81	$4.30	
# of years above average		1	3	1	3	5	1	3	1	1		

Class 5 Aggregate Base- Ton

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	62,920	13,285	55,369	0	168,995	43,201	14,384	22,848	240,272		621,274
	% Total Quantity	10.13%	2.14%	8.91%	0.00%	27.20%	6.95%	2.32%	3.68%	38.67%		
	Cost	**$6.93**	$6.13	$5.63	$0.00	**$6.41**	**$8.07**	**$6.87**	$5.38	$5.51	$6.13	
1994	Quantity	55,773	8,565	35,165	43,801	249,575	59,453	23,680	29,717	154,445		660,174
	% Total Quantity	8.45%	1.30%	5.33%	6.63%	37.80%	9.01%	3.59%	4.50%	23.39%		
	Cost	$5.76	$5.36	**$6.43**	$4.55	**$6.35**	$5.72	**$6.30**	$5.23	$5.82	$5.94	
1995	Quantity	40,376	34,991	42,790	8,322	176,174	35,015	35,286	5,854	112,800		491,608
	% Total Quantity	8.21%	7.12%	8.70%	1.69%	35.84%	7.12%	7.18%	1.19%	22.95%		
	Cost	**$6.84**	$5.01	$5.70	$5.03	**$6.34**	**$6.94**	**$6.83**	$5.33	$6.13	$6.23	
1996	Quantity	35,612	20,031	33,595	5,600	173,868	59,277	16,585	17,121	231,625		593,314
	% Total Quantity	6.00%	3.38%	5.66%	0.94%	29.30%	9.99%	2.80%	2.89%	39.04%		
	Cost	**$6.32**	**$6.49**	**$6.42**	$5.51	**$6.90**	$6.28	$6.24	**$6.34**	$5.82	$6.29	
1998	Quantity	37,759	13,689	35,525	11,045	200,065	42,935	15,338	34,413	79,864		470,633
	% Total Quantity	8.02%	2.91%	7.55%	2.35%	42.51%	9.12%	3.26%	7.31%	16.97%		
	Cost	**$6.97**	$2.89	$4.73	$5.86	**$7.22**	**$6.84**	**$7.02**	$6.42	$6.46	$6.63	
	Total Quantity	232,440	90,561	202,444	68,768	968,677	239,881	105,273	109,953	819,006		2,837,003
	5 year average	$6.56	$5.18	$5.78	$4.19	$6.64	$6.77	$6.65	$5.74	$5.95	$6.24	
# of years above average		4	1	2	1	5	3	4	1	0		

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UNIT PRICES BY DISTRICT

(BOLD AREAS ARE ABOVE STATE AVERAGE)

1993 thru 1998

		Bituminous #2331- Ton										
		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	17,084	6,217	19,729	7,500	58,851	16,490	13,990	5,530	98,100		243,491
	% Total Quantity	7.02%	2.55%	8.10%	3.08%	24.17%	6.77%	5.75%	2.27%	40.29%		
	Cost	**$22.21**	**$25.18**	$17.52	**$21.76**	**$20.63**	**$29.38**	**$25.50**	**$24.62**	$15.85	$19.68	
1994	Quantity	15,367	1,390	16,207	37,681	90,113	14,661	4,532	12,105	73,358		265,414
	% Total Quantity	5.79%	0.52%	6.11%	14.20%	33.95%	5.52%	1.71%	4.56%	27.64%		
	Cost	**$23.51**	**$26.21**	$19.51	$19.92	$19.46	**$20.34**	**$32.45**	**$24.42**	$18.82	$20.12	
1995	Quantity	9,403	5,848	12,730	3,165	69,549	9,758	9,541	1,550	69,219		190,763
	% Total Quantity	4.93%	3.07%	6.67%	1.66%	36.46%	5.12%	5.00%	0.81%	36.29%		
	Cost	**$24.38**	**$26.89**	$17.81	**$23.54**	$19.37	**$22.60**	**$25.31**	**$23.12**	$18.18	$19.87	
1996	Quantity	16,895	8,709	9,412	6,469	56,380	16,533	4,604	10,192	59,704		188,989
	% Total Quantity	8.94%	4.61%	4.98%	3.42%	29.83%	8.75%	2.44%	5.39%	31.59%		
	Cost	**$24.72**	**$25.29**	**$22.09**	$21.10	$20.36	**$23.00**	**$22.61**	**$23.40**	$19.22	$21.18	
1998	Quantity	8,452	9,367	7,763	5,205	80,044	14,474	4,065	16,016	38,576		183,962
	% Total Quantity	4.59%	5.09%	4.22%	2.83%	43.51%	7.87%	2.21%	8.71%	20.97%		
	Cost	**$25.60**	$20.40	$20.17	**$28.45**	$22.34	$22.56	$32.57	$27.89	$20.52	$22.82	
	Total Quantity	67,201	31,531	65,841	60,020	354,937	71,916	36,732	45,393	338,957		1,072,619
	5 year average	$24.08	$24.79	$19.42	$22.95	$20.43	$23.58	$27.69	$24.69	$18.52	$20.73	
# of years above average		5	4	1	3	1	4	5	5	0		

		Bituminous #2341- Ton										
		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	7,117	3,922	12,685	660	86,351	3,607	5,675	2,679	37,891		160,587
	% Total Quantity	4.43%	2.44%	7.90%	0.41%	53.77%	2.25%	3.53%	1.67%	23.60%		
	Cost	$23.52	**$28.68**	$19.74	**$28.71**	**$24.11**	**$27.75**	**$24.73**	**$29.39**	$23.11	$23.82	
1994	Quantity	10,979	9,026	4,337	5,176	102,957	18,161	2,817	5,677	41,990		201,120
	% Total Quantity	**5.46%**	**4.49%**	**2.16%**	**2.57%**	**51.19%**	9.03%	1.40%	2.82%	20.88%		
	Cost	**$24.45**	**$25.33**	**$23.13**	**$23.55**	**$23.05**	$21.49	**$30.96**	**$31.52**	$19.89	$22.79	
1995	Quantity	3,193	3,531	8,101	8,900	119,244	11,160	6,380	0	30,474		190,983
	% Total Quantity	1.67%	1.85%	4.24%	4.66%	62.44%	5.84%	3.34%	0.00%	15.96%		
	Cost	**$24.38**	**$24.54**	$22.15	**$24.53**	$23.20	**$26.61**	**$26.21**	$0.00	$21.51	$23.29	
1996	Quantity	17,991	2,138	9,502	3,455	68,839	6,524	2,233	2,644	56,585		169,911
	% Total Quantity	10.59%	1.26%	5.59%	2.03%	40.51%	3.84%	1.31%	1.56%	33.30%		
	Cost	**$25.87**	**$31.16**	**$25.03**	$21.18	**$24.69**	$22.94	**$30.55**	**$28.25**	$21.00	$23.68	
1998	Quantity	0	3,415	17,663	2,645	79,993	18,370	848	4,130	31,256		158,320
	% Total Quantity	0.00%	2.16%	11.16%	1.67%	50.53%	11.60%	0.54%	2.61%	19.74%		
	Cost	$0.00	$21.81	$22.24	**$35.24**	$24.52	**$25.77**	**$35.16**	**$29.62**	$23.92	$24.60	
	Total Quantity	39,280	22,032	52,288	20,836	457,384	57,822	17,953	15,130	198,196		880,921
	5 year average	$19.64	$26.30	$22.46	$26.64	$23.91	$24.91	$29.52	$23.76	$21.89	$23.64	
# of years above average		3	4	2	4	3	3	5	4	0		

UNIT PRICES BY DISTRICT

(BOLD AREAS ARE ABOVE STATE AVERAGE)

1993 thru 1998

		Bituminous #2361										
		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	4,807	0	8,510	0	8,456	0	934	0	11,041		33,749
	% Total Quantity	14.24%	0.00%	25.22%	0.00%	25.06%	0.00%	2.77%	0.00%	32.72%		
	Cost	$26.56	$0.00	$24.58	$0.00	**$35.82**	$0.00	**$34.33**	$0.00	$28.21	$29.14	
1994	Quantity	4,150	0	6,820	0	8,574	0	0	725	4,143		24,412
	% Total Quantity	17.00%	0.00%	27.94%	0.00%	35.12%	0.00%	0.00%	2.97%	16.97%		
	Cost	$27.67	$0.00	$26.02	$0.00	**$30.10**	$0.00	$0.00	**$36.33**	**$29.98**	$28.71	
1995	Quantity	6,250	0	5,725	2,300	7,527	0	2,513	454	3,675		28,444
	% Total Quantity	21.97%	0.00%	20.13%	8.09%	26.46%	0.00%	8.83%	1.60%	12.92%		
	Cost	$26.90	$0.00	$25.35	**$36.92**	**$30.85**	$0.00	**$40.05**	$28.50	$28.20	$29.80	
1996	Quantity	2,594	0	2,605	0	5,506	0	25	0	1,410		12,140
	% Total Quantity	21.37%	0.00%	21.46%	0.00%	45.35%	0.00%	0.21%	0.00%	11.61%		
	Cost	$32.58	$0.00	$24.01	$0.00	**$33.35**	$0.00	**$55.04**	$0.00	$29.21	$30.75	
1998	Quantity	3,261	0	0	0	1,369	0	140	0	0		4,770
	% Total Quantity	68.36%	0.00%	0.00%	0.00%	28.70%	0.00%	2.94%	0.00%	0.00%		
	Cost	$27.44	$0.00	$0.00	$0.00	**$33.99**	$0.00	**$65.27**	$0.00	$0.00	$30.43	
	Total Quantity	21,062	0	23,660	2,300	31,432	0	3,612	1,179	20,269		103,515
	5 year average	$28.23	$0.00	$19.99	$7.38	$32.82	$0.00	$38.94	$12.97	$23.12	$29.77	
	# of years above average	1	0	0	1	5	0	4	1	1		

		Curb & Gutter Construction- Lin. Ft.										
		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East	State Average	Quantity
1993	Quantity	40,162	10,964	44,588	6,740	141,192	21,919	14,553	11,390	224,179		515,687
	% Total Quantity	7.79%	2.13%	8.65%	1.31%	27.38%	4.25%	2.82%	2.21%	43.47%		
	Cost	**$7.07**	**$6.61**	$4.80	**$6.80**	$5.48	**$6.02**	**$6.69**	**$6.88**	$5.08	$5.50	
1994	Quantity	31,313	7,352	36,648	26,076	183,636	39,635	3,612	18,293	114,333		460,898
	% Total Quantity	6.79%	1.60%	7.95%	5.66%	39.84%	8.60%	0.78%	3.97%	24.81%		
	Cost	**$6.85**	**$8.25**	$5.04	**$6.83**	$5.25	**$5.97**	**$7.91**	**$6.26**	$4.88	$5.51	
1995	Quantity	35,831	9,979	39,879	6,785	242,406	18,454	33,753	2,148	139,444		528,679
	% Total Quantity	6.78%	1.89%	7.54%	1.28%	45.85%	3.49%	6.38%	0.41%	26.38%		
	Cost	$5.99	**$8.06**	$5.22	**$7.29**	**$6.80**	**$8.00**	**$6.67**	**$8.20**	$5.09	$6.25	
1996	Quantity	19,541	20,832	28,115	5,370	149,715	36,093	12,384	10,716	170,256		453,022
	% Total Quantity	4.31%	4.60%	6.21%	1.19%	33.05%	7.97%	2.73%	2.37%	37.58%		
	Cost	**$7.72**	**$8.26**	$5.72	**$8.78**	**$6.40**	**$7.10**	$5.99	**$6.70**	$5.50	$6.24	
1998	Quantity	20,718	1,217	11,973	9,997	154,561	26,927	14,512	19,626	88,442		347,973
	% Total Quantity	5.95%	0.35%	3.44%	2.87%	44.42%	7.74%	4.17%	5.64%	25.42%		
	Cost	**$8.20**	**$8.17**	**$8.53**	**$7.48**	$7.20	**$7.94**	**$9.18**	$7.27	$7.03	$7.42	
	Total Quantity	147,565	50,344	161,203	54,968	871,510	143,028	78,814	62,173	736,654		2,306,259
	5 year average	$7.17	$7.87	$5.86	$7.44	$6.23	$7.01	$7.29	$7.06	$5.52	$6.18	
	# of years above average	5	5	1	5	2	5	4	4	0		

special/distupri.wk4

19-Apr-99

UNIT PRICES BY DISTRICT

(BOLD AREAS ARE ABOVE STATE AVERAGE)

1993 thru 1998

		Sidewalk Construction- Sq. Yd.										
		District 1	**District 2**	**District 3**	**District 4**	**Metro West**	**District 6**	**District 7**	**District 8**	**Metro East**	**State Average**	**Quantity**
1993	Quantity	11,953	4,865	11,532	371	33,904	5,645	2,861	4,668	43,283		119,082
	% Total Quantity	10.04%	4.09%	9.68%	0.31%	28.47%	4.74%	2.40%	3.92%	36.35%		
	Cost	**$17.29**	**$17.58**	$12.27	**$19.73**	$14.38	**$17.60**	**$16.14**	**$16.29**	$14.27	$14.85	
1994	Quantity	15,534	3,908	8,162	2,842	25,455	14,736	2,182	5,168	11,676		89,662
	% Total Quantity	17.33%	4.36%	9.10%	3.17%	28.39%	16.44%	2.43%	5.76%	13.02%		
	Cost	**$19.78**	**$19.76**	$13.93	**$16.99**	$15.15	$16.73	**$20.05**	**$17.91**	$15.99	$16.75	
1995	Quantity	18,411	6,611	12,712	520	61,271	9,135	4,559	1,799	19,707		134,724
	% Total Quantity	13.67%	4.91%	9.44%	0.39%	45.48%	6.78%	3.38%	1.34%	14.63%		
	Cost	$15.05	**$21.58**	$13.32	**$18.09**	**$17.59**	**$16.96**	**$18.27**	**$18.96**	$14.33	$16.56	
1996	Quantity	8,736	4,904	10,742	2,411	28,306	9,732	2,098	1,304	25,907		94,140
	% Total Quantity	9.28%	5.21%	11.41%	2.56%	30.07%	10.34%	2.23%	1.39%	27.52%		
	Cost	**$19.92**	**$20.06**	$15.04	**$0.00**	$15.94	**$19.05**	**$18.96**	$16.16	$15.50	$16.75	
1998	Quantity	4,802	580	2,550	3,468	42,717	4,176	3,369	3,048	6,868		71,578
	% Total Quantity	6.71%	0.81%	3.56%	4.85%	59.68%	5.83%	4.71%	4.26%	9.60%		
	Cost	**$23.59**	$18.59	**$23.75**	$20.25	$19.93	**$20.94**	**$26.55**	**$21.58**	$19.97	$20.76	
	Total Quantity	59,436	20,868	45,698	9,612	191,653	43,424	15,069	15,987	107,441		509,186
	5 year average	$19.13	$19.51	$15.66	$15.01	$16.60	$18.26	$19.99	$18.18	$16.01	$17.13	
	# of years above average	4	4	1	4	1	4	5	4	0		

OVERALL SUMMARY

Total # of times above the state average for 55 items listed	**32**	**35**	**15**	**33**	**34**	**25**	**43**	**32**	**9**
Percentage of times above the state average	58.18%	63.64%	27.27%	60.00%	61.82%	45.45%	78.18%	58.18%	16.36%

wp60/distrup

ALLOCATION DIFFERENCE

Three examples were done to show the affect on each district's apportionment for class 5 base, bit. 2341 and curb & gutter.

* The 5 year average district and the statewide price was applied against the 5 year average district needs quantity to compute the total allocation.

* The 5 year average allocation needs value was applied against the district and statewide total needs. The total allocation affect was for the total district.

The total item apportionment affect for each district varied considerably due to the size and number of cities within that district.

The study did reveal that some districts constructions cost are greater than others. This may be related to the scope of the projects. When the total was averaged out and compared to others, it showed that some cities apportionment would be affected. An overall apportionment affect was not done for all items.

If the committee recommends adjusting unit prices by district, keep in mind that in some districts, it may be difficult to adequately establish the unit prices in some years due to the small number of projects or the size of projects.

This recommendation should either be to continue using statewide unit prices or to base each districts' unit prices on the contract prices within that district.

special/uprlcomp.wk4

17-Mar-99

EXAMPLE OF ALLOCATION DIFFERENCE
for Class 5 Base- Ton
5 Year Average 1993, 1994, 1995, 1996, 1998

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East
Avg District Unit Price	A	$6.56	$5.18	$5.78	$4.19	$6.64	$6.77	$6.65	$5.74	$5.95
Avg Statewide Unit Price	B	$6.24	$6.24	$6.24	$6.24	$6.24	$6.24	$6.24	$6.24	$6.24
District Needs Quantity	C	1,436,328	273,138	937,148	486,118	6,263,801	1,223,791	679,573	385,342	2,777,932
Needs Using Avg District Unit Price	A x C = D	$9,422,309	$1,414,854	$5,416,718	$2,036,834	$41,591,637	$8,285,063	$4,519,158	$2,211,861	$16,528,694
Needs Using Avg Statewide Unit Price	B x C = E	$8,962,684	$1,704,380	$5,847,807	$3,033,376	$39,086,116	$7,636,454	$4,240,533	$2,404,532	$17,334,294
Needs Difference	D - E = F	$459,625	($289,526)	($431,088)	($996,542)	$2,505,520	$648,609	$278,625	($192,671)	($805,600)
Allocation Difference		$12,070	($7,603)	($11,320)	($26,169)	$65,794	$17,032	$7,317	($5,059)	($21,155)
Average Allocation Difference Per City		$1,509	($1,901)	($943)	($5,234)	$1,687	$2,129	$1,045	($843)	($661)

A= Avg. District Unit Price - 5 year average.of the total district contract prices taken from the yearly MSA Spring booklets.

B= Avg. Statewide Unit Price - 5 year average contract price taken from the MSA Spring booklets.

C= District Needs Quantity - 5- year average of the district quantities in the annual Needs Study.

D= Needs Using Avg. District Unit Price - Avg. District Unit Price times the District Needs Quantity.

E= Needs Using Avg. Statewide Unit Price - Avg. Statewide Unit Price times the District Needs Quantity.

F= Needs Difference - Difference between Needs using Avg. District Unit Price and Needs Avg Statewide Unit Price.

Allocation Difference - This is an approximate allocation difference for the district - includes all cities in the district..

Average Allocation Difference Per City - the average is based on the District total allocation divided by the number of cities within the district..
For example, Duluth and Chisholm in District 1 have an equal gain. It does not reflect each city's gain based on their total needs.

EXAMPLE OF ALLOCATION DIFFERENCE
for Bituminous #2341- Ton
5 Year Average 1993, 1994, 1995, 1996, 1998

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	* Metro East
Avg District Unit Price	A	$19.64	$26.30	$22.46	$26.64	$23.91	$24.91	$29.52	$23.76	$21.89
Avg Statewide Unit Price	B	$23.64	$23.64	$23.64	$23.64	$23.64	$23.64	$23.64	$23.64	$23.64
District Needs Quantity	C	577,139	147,448	459,519	240,421	3,380,389	621,608	335,183	204,022	1,959,861
Needs Using Avg District Unit Price	A x C = D	$11,335,004	$3,877,891	$10,320,800	$6,404,803	$80,825,097	$15,484,257	$9,894,603	$4,847,558	$42,901,357
Needs Using Avg Statewide Unit Price	B x C = E	$13,643,559	$3,485,678	$10,863,033	$5,683,541	$79,912,392	$14,694,814	$7,923,727	$4,823,076	$46,331,114
Needs Difference	D - E = F	($2,308,555)	$392,213	($542,233)	$721,262	$912,705	$789,442	$1,970,876	$24,483	($3,429,757)
Allocation Difference for bit. 2341		($60,622)	$10,299	($14,239)	$18,940	$23,967	$20,730	$51,754	$643	($90,064)
Average Allocation Difference Per City for bit. 2341		($7,578)	$2,575	($1,187)	$3,788	$615	$2,591	$7,393	$107	($2,814)

A= Avg. District Unit Price - 5 year average.of the total district contract prices taken from the yearly MSA Spring booklets.

B= Avg. Statewide Unit Price - 5 year average contract price taken from the MSA Spring booklets.

C= District Needs Quantity - 5- year average of the district quantities in the annual Needs Study.

D= Needs Using Avg. District Unit Price - Avg. District Unit Price times the District Needs Quantity.

E= Needs Using Avg. Statewide Unit Price - Avg. Statewide Unit Price times the District Needs Quantity.

F= Needs Difference - Difference between Needs using Avg. District Unit Price and Needs Avg Statewide Unit Price.

Allocation Difference - This is an approximate allocation difference for the district - includes all cities in the district..

Average Allocation Difference Per City - the average is based on the District total allocation divided by the number of cities within the district..
For example, Duluth and Chisholm in District 1 have an equal loss. It does not reflect each city's loss based on their total needs.

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17-Mar-99

EXAMPLE OF ALLOCATION DIFFERENCE
for Curb & Gutter Construction- Lin. Ft.
5 Year Average 1993, 1994, 1995, 1996, 1998

		District 1	District 2	District 3	District 4	Metro West	District 6	District 7	District 8	Metro East
Avg District Unit Price	A	$7.17	$7.78	$5.86	$7.44	$6.23	$7.01	$7.29	$7.06	$5.52
Avg Statewide Unit Price	B	$6.18	$6.18	$6.18	$6.18	$6.18	$6.18	$6.18	$6.18	$6.18
District Needs Quantity	C	1,137,797	291,020	981,656	433,035	6,636,523	1,105,143	633,591	379,064	4,066,436
Needs Using Avg District Unit Price	A x C = D	$8,158,007	$2,264,134	$5,752,507	$3,221,783	$41,345,536	$7,747,050	$4,618,878	$2,676,192	$22,446,725
Needs Using Avg Statewide Unit Price	B x C = E	$7,031,588	$1,798,502	$6,066,637	$2,676,159	$41,013,710	$6,829,781	$3,915,592	$2,342,616	$25,130,573
Needs Difference	D - E = F	$1,126,419	$465,632	($314,130)	$545,625	$331,826	$917,268	$703,286	$333,576	($2,683,848)
Total District Allocation diff. for C&G Const.		$29,579	$12,227	($8,249)	$14,328	$8,714	$24,087	$18,468	$8,760	($70,477)
Average Allocation diff. Per City for C&G Const.		$3,697	$3,057	($687)	$2,866	$223	$3,011	$2,638	$1,460	($2,202)

A= Avg. District Unit Price - 5 year average.of the total district contract prices taken from the yearly MSA Spring booklets.

B= Avg. Statewide Unit Price - 5 year average contract price taken from the MSA Spring booklets.

C= District Needs Quantity - 5- year average of the district quantities in the annual Needs Study.

D= Needs Using Avg. District Unit Price - Avg. District Unit Price times the District Needs Quantity.

E= Needs Using Avg. Statewide Unit Price - Avg. Statewide Unit Price times the District Needs Quantity.

F= Needs Difference - Difference between Needs using Avg. District Unit Price and Needs Avg Statewide Unit Price.

Allocation Difference - This is an approximate allocation difference for the district - includes all cities in the district..

Average Allocation Difference Per City - the average is based on the District total allocation divided by the number of cities within the district..
For example, Duluth and Chisholm in District 1 have an equal gain. It does not reflect each city's gain based on their total needs.

msas\123\spg\strlight.wk4

STREET LIGHTING COSTS

he MSA needs include a similar costs for all segments in the needs. Rural segments are treated the same s urban. The present needs cost for lighting is $20,000 for every mile, includes both adequate and leficient segments. In the past, State Aid eligibility was limited to lighting hazardous intersections. The ew rules allow costs within a municipality.

ALBERT LEA

las one street lighting project scheduled for 1999. The consultant estimated the cost at $260,000 per mile. This is or 40 ft. high poles for a widening project on a stretch of road alongside a new high school.
Street lighting along their projects are usually on wooden poles installed by the local power company, and the city s charged a monthly fee per light fixture.
he city is planning some ornamental pedestrian lighting at a cost of approximately $25.00 per l.f. for buried lectrical, ornamental poles, fixtures, foundations, etc.

CROOKSTON

RECONSTRUCTION OF TH 2 IN 1998
Decorative, 14' poles with 18" diameter spherical globe, 150W HPS

Project Length	Roadway Width	Number of Poles	Cost per Fixture w/conduit & wire	Project Cost	Cost per Mile
2,280'	58'	42	$3,879.29	$162,930	**$377,311.58**

NEW ULM

	Project Length	Roadway Width	Low Standard Lightpoles	High Standard Lightpoles	Decorative Lightpoles w/fixtures	Banner Poles	Project Cost	Cost per Mile
1995	4160'	40'	40				$65,841.00	**$83,567.42**
1996, 1997	2,640'	56'			142	67		
	880'	84'						
otal above 2	3,520'						$469,716.46	**$704,574.69**
1997	2,935'	40'	14	11			$49,251.06	**$88,601.57**
1997	1,050'	28'		7			$14,860.00	**$74,724.57**
1998	1,460'	40'	14				$32,532.96	**$117,653.44**

he average cost for street lighting in New Ulm (not including the 1996,1997 project which was the downtown usiness district) for the last 4 projects is $91,136.75 per mile.

SAINT PAUL

1998 costs on MSAS projects

Street Name	Project Length	Roadway Width	Project Cost	Cost per Mile
Selby	2,901'	46'	$98,253	**$178,827**
Cretin	2,239'	40'	$87,336	**$205,955**
Minnehaha	3,754'	40', 44'	$131,004	**$184,257**
Burr	993'	40', 42'	$36,390	**$193,494**

he average cost for street lighting in Saint Paul on the MSAS system in 1998 was $190,633.25

Buffalo

1998 Bid

rd Ave.	7250 '	32'	62	Decorative	$130,000	**$94,675**

RECONDITIONING NEEDS

Should reconditioning in some way be considered as part of the Construction Needs Study? Currently, a street receives complete construction needs when the grading date is twenty years or older. By definition, reconditioning does not include a significant subgrade correction so in most cases, the grading date would not be changed and the street would continue to receive complete needs.

Reconditioning is defined in the State Aid Rules.
In section 8820.0100 subp. 13b of the new State Aid Operational Rules, Reconditioning is defined as:

"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.

How should reconditioning be treated in the needs?

Should a segment continue to receive complete needs (20 years after the grading date or is more than 20 years old) when a reconditioning project is let for that street?

Should construction needs be reinstated after 20 years if a segment is adequate when a reconditioning project is let for that street? (a grading date less than 20 years)

Possible solutions for deficient segments receiving complete needs:
* Include a reconditioning date in needs and consider the segment as adequate for a period of 10 or more additional years.
* Make a negative needs adjustment for a period of 10 or more years for the costs associated with the reconditioning.

Possible solutions for adequate segments:
* Include a reconditioning date in needs and consider the segment as adequate for a period of 10 or more additional years from that date.
* Make a negative needs adjustment for a period of 10 or more years for costs associated with the reconditioning.
* No adjustment

Bridges?
How should reconditioning be handled for bridges?

Trunk Highway Turnback Maintenance Adjustment and Construction Needs on THTB's

The State Aid Rules have changed by extending the time a city has to receive Trunk Highway Turnback funding on a project. Also, a city may enter into an agreement to receive a lump sum amount from the turnback account. The present resolutions allow a maintenance allowance of $7,200 per mile while the street is eligible for TB funding and is not receiving needs.

- Should a street receive needs before and/or after a lump sum amount is made from the turnback account? If the street doesn't receive construction needs, should it receive the maintenance allowance?

- Should the length of time that a street receives a maintenance allowance be increased from the current time period of 10 years to 15 years or 20 years as the rules allow for streets eligible for trunk highway turnback funding and not receiving construction needs. See the Trunk Highway Turnback Screening Board Resolution. This may not require a resolution change.

Operational Rules before revision

Section 8820.2900 Subp. 1 read, in part: Approval of plans for the initial construction of a turnback project is limited to a period of five years from the date of reversion. After plan approval for constructing the initial part of a turnback project, plans for other portions of the same route must be approved within ten years from the date of reversion to be eligible for turnback funds.

Operational Rules after revision

Section 8820.2300 subp. 6a of the new State Aid Operational Rules states:

> **In lieu payment.** In lieu of contracting work or force account work, the commissioner, with the concurrence of the receiving agency, may enter into an agreement to pay a lump sum payment from the turnback account to the receiving agency's road and bridge account equal to the net value of eligible turnback costs for a project to be constructed within 20 years of the release date.

Also, Section 8820.2900 Subp. 1 has been revised to read, in part:

> For trunk highways released after December 31, 1992, approval of plans for the construction of a turnback project is limited to a period of 15 years from the date of reversion. Each approved project must be advanced to construction status within one year after notification to the county or urban municipality that sufficient funds are available for constructing the project.

The Municipal State Screening Board Resolutions state, in part:

> 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.

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CITY GENERAL FUND ADVANCES

3/24/1999

Fund 250

1998 MSAS YEAR END CONSTRUCTION BALANCE AVAILABLE	$ 35,456,023.49
LESS: AMOUNT REQUIRED IN ACCOUNT	$ (25,000,000.00)
MAXIMUM AMOUNT FOR ADVANCE IN THE 1999	$ 10,456,023.49
AMOUNT ADVANCE TO DATE (LISTED BELOW)	$ 10,454,753.96
BALANCE AVAILABLE TO ADVANCE	$ 1,269.53
Less Requests to Reserve Advance Funding-Not Advanced Yet	$ -
BALANCE AVAILABLE TO ADVANCE (if all requests to reserve are advanced)	$ 1,269.53

CITY NAME	RESOLUTION AMOUNT	YEAR	REQUEST TO RESERVE ADV FUNDING	ADVANCE AMOUNT	REPAID AMOUNT	BALANCE	COMMENTS
Alexandria	$ 500,000.00	1999	500,000.00	500,000.00		500,000.00	
Buffalo	$ 500,000.00	1998	500,000.00	500,000.00	347,051.00	152,949.00	
Buffalo	$ 500,000.00	1999	347,051.00	347,051.00		347,051.00	Advanced Limit
Corcoran	$ 495,716.67	1996		495,716.67	440,240.00	55,476.67	
Cottage Grove	$ 910,485.00	1998		910,485.00	905,705.00	4,780.00	
Crystal	$ 500,000.00	1999	500,000.00	500,000.00		500,000.00	
Elk River	$ 669,690.00	1999	669,690.00	669,690.00		669,690.00	
Glencoe	$ 213,523.29	1999	213,523.29	213,523.29		213,523.29	
Ham Lake	$ 350,000.00	1999	350,000.00	350,000.00		350,000.00	
Hastings	$ 500,000.00	1999	500,000.00	500,000.00		500,000.00	
Hermantown	$ 340,000.00	1998	340,000.00	340,000.00	208,033.00	131,967.00	
Lakeville	$ 1,290,224.00	1998		1,290,224.00	1,266,437.00	23,787.00	
Mahtomedi	$ 344,000.00	1998		344,000.00	188,063.00	155,937.00	
Mankato	$ 1,072,325.50	1998		977,366.00	797,396.00	179,970.00	
Maplewood	$ 650,000.00	1999	650,000.00	650,000.00		650,000.00	
Minnetonka	$ 1,300,000.00	1999	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		500,000.00	
Orono	$ 500,000.00	1999	419,510.00	419,510.00		419,510.00	
Owatonna	$ 400,000.00	1999		277,763.00		277,763.00	
Red Wing	$ 671,000.00	1998		671,000.00	437,024.00	233,976.00	
Rochester	$ 1,375,000.00	1999				-	
St. Louis Park	$ 720,000.00	1999		720,000.00		720,000.00	
St. Michael	$ 500,000.00	1999	500,000.00	500,000.00		500,000.00	
St. Paul	$ 3,000,000.00	1999				-	
Sartell	$ 450,000.00	1999	450,000.00	450,000.00		450,000.00	
Waite Park	$ 500,000.00	1998		374,277.00	225,004.00	149,273.00	
White Bear Lake	$ 450,000.00	1999	450,000.00	450,000.00		450,000.00	
Woodbury	$ 1,300,000.00	1999	426,845.00	426,845.00		426,845.00	Advanced Limit
Woodbury	$ 1,320,000.00	1998		1,009,262.00	417,006.00	592,256.00	Advanced Limit
TOTAL	$ 21,821,964.46		8,616,619.29	$ 15,686,712.96	$ 5,231,959.00	$ 10,454,753.96	

cc: Paul Stine, Diane McCabe Ken Straus

RELATIONSHIP OF CONSTRUCTION BALANCE TO CONSTRUCTION ALLOTMENT

The amount spent on construction projects is computed by the difference between the previous year's and current years unencumbered construction balances plus the current years construction apportionment. Does not include State Aid Advances.

App. Year		No. of Municipalities	Needs Mileage	Unencumbered Construction Balance	Construction Allotment	Amount Spent on Construction Projects	Ratio of Construction Balance to Construction Allotment	Ratio of Amount spent to Amount Received
1973		94	1580.45	$26,333,918	$15,164,273	$12,855,250	1.7366	0.8477
1974		95	1608.06	29,760,552	18,052,386	14,625,752	1.6486	0.8102
1975		99	1629.30	33,239,840	19,014,171	15,534,883	1.7482	0.8170
1976		101	1718.92	37,478,614	18,971,282	14,732,508	1.9755	0.7766
1977		101	1748.55	43,817,240	23,350,429	17,011,803	1.8765	0.7285
1978		104	1807.94	45,254,560	23,517,393	22,080,073	1.9243	0.9389
1979		106	1853.71	48,960,135	26,196,935	22,491,360	1.8689	0.8585
1980		106	1889.03	51,499,922	29,082,865	26,543,078	1.7708	0.9127
1981		106	1933.64	55,191,785	30,160,696	26,468,833	1.8299	0.8776
1982		105	1976.17	57,550,334	36,255,443	33,896,894	1.5874	0.9349
1983		106	2022.37	68,596,586	39,660,963	28,614,711	1.7296	0.7215
1984		106	2047.23	76,739,685	41,962,145	33,819,046	1.8288	0.8059
1985		107	2110.52	77,761,378	49,151,218	48,129,525	1.5821	0.9792
1986		107	2139.42	78,311,767	50,809,002	50,258,613	1.5413	0.9892
1987	*	107	2148.07	83,574,312	46,716,190	41,453,645	1.7890	0.8874
1988		108	2171.89	85,635,991	49,093,724	47,032,045	1.7443	0.9580
1989		109	2205.05	105,147,959	65,374,509	45,862,541	1.6084	0.7015
1990		112	2265.64	119,384,013	68,906,409	54,670,355	1.7326	0.7934
1991		113	2330.30	120,663,647	66,677,426	65,397,792	1.8097	0.9808
1992		116	2376.79	129,836,670	66,694,378	57,521,355	1.9467	0.8625
1993		116	2410.53	109,010,201	64,077,980	84,904,449	1.7012	1.3250
1994		117	2471.04	102,263,355	62,220,930	68,967,776	1.6436	1.1084
1995		118	2526.39	89,545,533	62,994,481	75,712,303	1.4215	1.2019
1996		119	2614.71	62,993,508	70,289,831	96,841,856	0.8962	1.3778
1997	**	122	2740.46	49,110,546	69,856,915	83,739,877	0.7030	1.1987
1998		125	2815.99	44,845,521	72,626,164	76,891,189	0.6175	1.0587
1999		126	2859.05		75,595,243		0.0000	0.0000

The date for the unencumbered balance deduction was changed from June 30 to September 1.
ffective September 1,1986.
* The date for the unencumbered balance deduction was changed from September 1 to December 31.
ffective December 31,1996.

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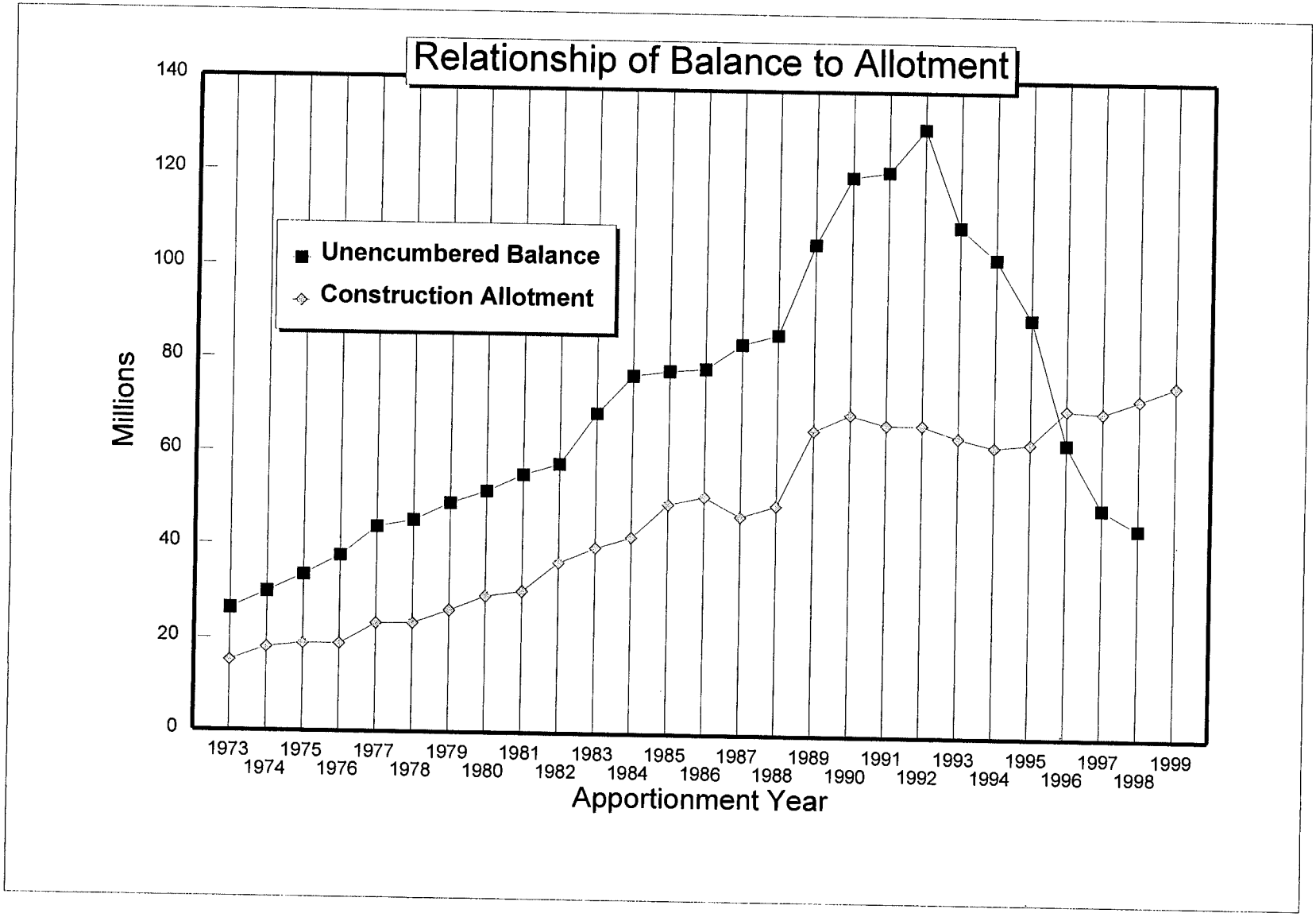

APPORTIONMENT RANKINGS

Municipality	1998 Total Needs Mileage	1998 Population Apportionment Per Need Mile
Falcon Heights	2.54	$33,082
Minneapolis	194.41	29,546
Hopkins	9.31	27,734
Vadnais Heights	7.43	27,427
New Hope	12.70	26,830
St. Paul	164.32	25,833
Shoreview	16.75	24,555
New Brighton	14.95	23,747
St. Louis Park	28.92	23,706
Oakdale	16.72	23,705
Columbia Heights	12.53	23,532
St. Anthony	5.63	23,334
Coon Rapids	40.97	23,315
Anoka	11.98	23,208
West St. Paul	13.10	23,206
Maplewood	23.91	22,676
Stewartville	3.54	22,512
Robbinsdale	10.10	22,225
Richfield	26.22	21,236
Waseca	6.42	21,227
White Bear Lake	19.22	21,216
Spring Lake Park	5.25	20,971
Apple Valley	31.74	20,936
Brooklyn Park	46.68	20,877
Brooklyn Center	21.65	20,805
Northfield	12.06	20,753
Crystal	17.88	20,745
Burnsville	43.70	20,545
Mounds View	9.82	20,410
Arden Hills	7.41	20,395
Rochester	60.48	20,185
Eagan	46.13	19,950
Blaine	34.41	19,869
South St. Paul	16.32	19,380
Plymouth	50.05	19,197
Winona	21.75	19,129
Mound	8.05	18,870
Forest Lake	5.53	18,866
Edina	39.36	18,664
North St. Paul	10.68	18,659
Roseville	28.60	18,643

Municipality	1998 Total Needs Mileage	1998 Const. Needs Apportionment Per Need Mile
Crookston	11.46	$33,600
Minneapolis	194.41	27,818
St. Paul	164.32	25,867
Farmington	11.96	24,376
Bloomington	75.36	23,837
Fairmont	19.41	23,705
Buffalo	9.46	22,621
Moorhead	28.48	22,204
New Hope	12.70	22,159
Waite Park	6.45	21,669
Thief River Falls	13.99	21,575
Duluth	90.00	21,500
Savage	16.36	21,259
Crystal	17.88	21,079
Glencoe	6.94	20,853
Woodbury	40.16	20,845
St. Louis Park	28.92	20,144
Hopkins	9.31	20,113
Little Canada	8.01	19,465
Austin	27.64	19,345
Mankato	29.32	19,324
Maple Grove	41.99	19,242
Red Wing	22.24	19,159
Orono	12.58	18,790
Rochester	60.48	18,711
North Mankato	12.56	18,695
St. Anthony	5.63	18,496
St. Peter	11.70	18,340
Dayton	9.28	18,261
Brooklyn Center	21.65	18,159
Faribault	22.06	18,115
Baxter	12.70	18,039
Worthington	9.81	18,009
Hutchinson	14.73	17,980
Forest Lake	5.53	17,953
Stewartville	3.54	17,901
Owatonna	17.56	17,787
New Ulm	14.16	17,769
Grand Rapids	11.40	17,708
Lino Lakes	18.67	17,498
Roseville	28.60	17,265

Municipality	1998 Total Needs Mileage	1998 Total Apportionment Per Need Mile
Minneapolis	194.41	$57,364
St. Paul	164.32	51,700
New Hope	12.70	48,989
Hopkins	9.31	47,847
Crookston	11.46	44,647
St. Louis Park	28.92	43,850
Bloomington	75.36	41,915
St. Anthony	5.63	41,830
Crystal	17.88	41,824
Moorhead	28.48	40,716
Stewartville	3.54	40,413
Maplewood	23.91	38,990
Brooklyn Center	21.65	38,964
Falcon Heights	2.54	38,925
Rochester	60.48	38,896
Oakdale	16.72	38,790
Columbia Heights	12.53	38,310
Little Canada	8.01	38,083
Buffalo	9.46	37,989
Waseca	6.42	37,647
Vadnais Heights	7.43	37,311
Northfield	12.06	37,200
Farmington	11.96	37,104
Forest Lake	5.53	36,819
Richfield	26.22	36,566
New Brighton	14.95	36,513
Savage	16.36	36,510
Coon Rapids	40.97	36,457
Maple Grove	41.99	36,391
Waite Park	6.45	36,384
Owatonna	17.56	36,363
Duluth	90.00	36,312
Mankato	29.32	36,262
Arden Hills	7.41	36,095
Roseville	28.60	35,908
Anoka	11.98	35,674
Shoreview	16.75	35,129
Mound	8.05	35,037
Apple Valley	31.74	34,960
Burnsville	43.70	34,895
Woodbury	40.16	34,714

Municipality	1998 Total Needs Mileage	1998 Population Apportionment Per Need Mile
Little Canada	8.01	$18,618
Champlin	17.01	18,615
Owatonna	17.56	18,576
Moorhead	28.48	18,512
Inver Grove Heights	23.86	18,244
Bloomington	75.36	18,078
Eden Prairie	42.66	18,015
Stillwater	14.02	17,872
St. Cloud	52.22	17,677
Fridley	25.24	17,557
Maple Grove	41.99	17,149
Mankato	29.32	16,938
Hastings	16.09	16,734
Worthington	9.81	16,628
Sartell	7.63	16,602
Minnetonka	49.90	16,304
International Falls	8.06	16,059
Cottage Grove	29.41	15,955
Chaska	14.87	15,537
New Ulm	14.16	15,418
Buffalo	9.46	15,368
Savage	16.36	15,251
Albert Lea	18.74	15,237
Duluth	90.00	14,812
St. Paul Park	5.30	14,781
Prior Lake	15.14	14,747
Waite Park	6.45	14,715
Sauk Rapids	10.17	14,504
North Mankato	12.56	14,504
Brainerd	14.25	14,403
Golden Valley	23.55	13,895
Woodbury	40.16	13,869
Hutchinson	14.73	13,500
Monticello	7.80	13,492
Mahtomedi	8.22	13,462
Faribault	22.06	13,441
Lakeville	43.59	13,344
Shorewood	8.24	13,161
Marshall	14.88	13,143
Bemidji	14.40	13,074
St. Peter	11.70	13,045
Farmington	11.96	12,728
Mendota Heights	13.51	12,685
Chanhassen	21.19	12,448

Municipality	1998 Total Needs Mileage	1998 Const. Needs Apportionment Per Need Mile
Lakeville	43.59	$17,117
Elk River	25.78	17,106
St. Paul Park	5.30	16,991
St. Cloud	52.22	16,691
Chaska	14.87	16,478
Northfield	12.06	16,447
Waseca	6.42	16,420
Redwood Falls	7.87	16,354
Maplewood	23.91	16,314
Cottage Grove	29.41	16,210
Mound	8.05	16,167
Cloquet	20.12	16,094
Monticello	7.80	16,002
Eden Prairie	42.66	15,918
Sartell	7.63	15,756
Cambridge	9.21	15,733
Arden Hills	7.41	15,700
Inver Grove Heights	23.86	15,692
Rosemount	22.32	15,510
Litchfield	8.09	15,460
Little Falls	15.67	15,375
Richfield	26.22	15,330
Virginia	12.33	15,227
Otsego	13.61	15,123
Oakdale	16.72	15,085
Plymouth	50.05	14,890
Columbia Heights	12.53	14,778
Golden Valley	23.55	14,757
Hugo	14.69	14,565
International Falls	8.06	14,477
Prior Lake	15.14	14,451
Burnsville	43.70	14,350
Blaine	34.41	14,277
Winona	21.75	14,085
Fergus Falls	23.14	14,057
Apple Valley	31.74	14,024
Albert Lea	18.74	13,817
Alexandria	14.12	13,625
St. Michael	14.77	13,618
Chisholm	7.99	13,270
Coon Rapids	40.97	13,142
Shorewood	8.24	13,066
Sauk Rapids	10.17	12,999
North St. Paul	10.68	12,969

Municipality	1998 Total Needs Mileage	1998 Total Apportionment Per Need Mile
Worthington	9.81	$34,637
Robbinsdale	10.10	34,544
St. Cloud	52.22	34,368
White Bear Lake	19.22	34,179
Blaine	34.41	34,146
Plymouth	50.05	34,087
Inver Grove Heights	23.86	33,936
Eden Prairie	42.66	33,933
West St. Paul	13.10	33,827
Brooklyn Park	46.68	33,221
Winona	21.75	33,214
North Mankato	12.56	33,199
New Ulm	14.16	33,187
Mounds View	9.82	33,148
Fairmont	19.41	32,814
Eagan	46.13	32,729
Glencoe	6.94	32,642
Sartell	7.63	32,358
Cottage Grove	29.41	32,165
Chaska	14.87	32,015
St. Paul Park	5.30	31,772
Austin	27.64	31,765
North St. Paul	10.68	31,628
Faribault	22.06	31,556
Hutchinson	14.73	31,480
St. Peter	11.70	31,385
Edina	39.36	31,140
Thief River Falls	13.99	30,863
International Falls	8.06	30,536
Stillwater	14.02	30,471
Lakeville	43.59	30,461
South St. Paul	16.32	30,276
Red Wing	22.24	30,231
Lino Lakes	18.67	29,658
Spring Lake Park	5.25	29,653
Monticello	7.80	29,494
Grand Rapids	11.40	29,244
Minnetonka	49.90	29,243
Prior Lake	15.14	29,198
Albert Lea	18.74	29,054
Champlin	17.01	28,730
Golden Valley	23.55	28,652
Orono	12.58	28,298
Litchfield	8.09	27,560

Municipality	1998 Total Needs Mileage	1998 Population Apportionment Per Need Mile	Municipality	1998 Total Needs Mileage	1998 Const. Needs Apportionment Per Need Mile	Municipality	1998 Total Needs Mileage	1998 Total Apportionment Per Need Mile
Austin	27.64	$12,420	White Bear Lake	19.22	$12,963	Sauk Rapids	10.17	$27,503
Willmar	23.90	12,286	Minnetonka	49.90	12,939	Virginia	12.33	27,154
Shakopee	19.48	12,256	Bemidji	14.40	12,907	Dayton	9.28	26,867
Lino Lakes	18.67	12,160	Marshall	14.88	12,850	Redwood Falls	7.87	26,674
Litchfield	8.09	12,100	Eagan	46.13	12,779	Shorewood	8.24	26,227
Virginia	12.33	11,927	New Brighton	14.95	12,766	Hastings	16.09	26,218
Glencoe	6.94	11,789	Mounds View	9.82	12,738	Brainerd	14.25	25,999
Morris	7.74	11,562	Detroit Lakes	12.41	12,734	Marshall	14.88	25,993
Grand Rapids	11.40	11,536	Montevideo	8.58	12,717	Bemidji	14.40	25,981
East Grand Forks	12.48	11,305	Hibbing	50.74	12,676	Elk River	25.78	25,977
Red Wing	22.24	11,072	Chanhassen	21.19	12,610	Fridley	25.24	25,716
Crookston	11.46	11,047	Stillwater	14.02	12,599	Chanhassen	21.19	25,058
Chisholm	7.99	10,324	Shakopee	19.48	12,549	Shakopee	19.48	24,805
Redwood Falls	7.87	10,320	Edina	39.36	12,476	Cambridge	9.21	24,769
Andover	33.80	10,319	Anoka	11.98	12,466	Cloquet	20.12	24,758
Montevideo	8.58	10,024	East Grand Forks	12.48	12,375	Rosemount	22.32	24,432
Orono	12.58	9,508	Brooklyn Park	46.68	12,344	Mahtomedi	8.22	24,367
Alexandria	14.12	9,403	Robbinsdale	10.10	12,319	Baxter	12.70	24,204
Thief River Falls	13.99	9,288	Andover	33.80	12,212	Willmar	23.90	24,152
Ramsey	29.18	9,283	Willmar	23.90	11,866	East Grand Forks	12.48	23,680
Detroit Lakes	12.41	9,192	Ramsey	29.18	11,786	Mendota Heights	13.51	23,645
Fairmont	19.41	9,109	Brainerd	14.25	11,596	Chisholm	7.99	23,594
Cambridge	9.21	9,036	North Branch	20.89	11,485	Alexandria	14.12	23,028
Rosemount	22.32	8,922	Mendota Heights	13.51	10,960	Little Falls	15.67	23,007
Fergus Falls	23.14	8,906	Mahtomedi	8.22	10,905	Fergus Falls	23.14	22,963
Elk River	25.78	8,871	South St. Paul	16.32	10,896	Montevideo	8.58	22,741
Cloquet	20.12	8,664	West St. Paul	13.10	10,621	Andover	33.80	22,531
Hermantown	12.99	8,621	Shoreview	16.75	10,574	Otsego	13.61	22,510
Dayton	9.28	8,606	Hermantown	12.99	10,473	Detroit Lakes	12.41	21,926
Lake Elmo	11.48	8,595	Champlin	17.01	10,115	Morris	7.74	21,573
St. Michael	14.77	7,666	Morris	7.74	10,011	St. Michael	14.77	21,284
Little Falls	15.67	7,632	Vadnais Heights	7.43	9,884	Ramsey	29.18	21,069
Otsego	13.61	7,387	Corcoran	14.72	9,706	Hugo	14.69	20,743
Ham Lake	24.47	7,371	Ham Lake	24.47	9,559	Hermantown	12.99	19,094
Hugo	14.69	6,178	Hastings	16.09	9,484	Hibbing	50.74	18,222
Baxter	12.70	6,165	Lake Elmo	11.48	9,342	Lake Elmo	11.48	17,937
Corcoran	14.72	6,036	Oak Grove	19.50	9,296	Ham Lake	24.47	16,930
East Bethel	25.48	5,950	Spring Lake Park	5.25	8,682	North Branch	20.89	16,022
Hibbing	50.74	5,546	Fridley	25.24	8,159	Corcoran	14.72	15,742
Oak Grove	19.50	5,146	East Bethel	25.48	8,061	Oak Grove	19.50	14,442
North Branch	20.89	4,537	Falcon Heights	2.54	5,843	East Bethel	25.48	14,011
Average		**15,623**			**15,572**			**31,195**

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STATUS OF MUNICIPAL TRAFFIC COUNTING

In 1997, the Municipal Screening Board revised the Traffic Counting resolution to allow for a two or four year traffic count. After this resolution was reviewed by the Traffic Forecasts and Analysis Section of Mn/DOT, the following changes are suggested:

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

1. The municipalities in the metropolitan area cooperate with the State by agreeing to participate in counting traffic every two or four years at the discretion of the city.

2. The cities in the outstate area may have their traffic counted ~~for a nominal fee~~ and maps prepared by State forces every four years, or may elect to continue the present procedure of taking their own counts and ~~preparing their own traffic~~ have state forces prepare the maps ~~at four year intervals~~.

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 - to be counted in 1999

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
New Brighton
North Branch
Oak Grove
Oakdale
Plymouth
Prior Lake
Ramsey
Rosemount
St. Anthony

St. Paul Park
Savage
Shakopee
South St. Paul
Spring Lake Park
Vadnais Heights
Woodbury

Metro District
Four year traffic counting schedule - to be counted in 2001

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

Outstate
Two year traffic counting schedule - to be counted in 1999

Northfield
St. Cloud
Sartell
Virginia

Outstate
Two year traffic counting schedule - to be counted in 2000

Rochester

Outstate
Two year traffic counting schedule - to be counted in 2001

Brainerd

Outstate
Four year traffic counting schedule - to be counted in 1999

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

Austin
Buffalo
Detroit Lakes
East Grand Forks
International Falls
Montevideo
Monticello
Otsego

Outstate
Four year traffic counting schedule - to be counted in 2001

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

Outstate
Four year traffic counting schedule - to be counted in 2002

Alexandria
Cloquet
Willmar
Worthington

Duluth counts 1/4 of the city each year.

Projected Traffic by Volume Group

	1-99	100-749	750-999	1000-4999	5000-9999	10000 & over	TOTAL DISTRICT MILEAGE
District 1 Mileage	3.49	42.97	10.11	97.05	50.16	25.74	229.52
% fo District Total	1.52%	18.72%	4.40%	42.28%	21.85%	11.21%	
District 2 Mileage	0.00	4.54	5.97	26.08	11.32	4.42	52.33
% fo District Total	0.00%	8.68%	11.41%	49.84%	21.63%	8.45%	
District 3 Mileage	0.56	26.39	6.08	85.70	45.48	35.51	199.72
% fo District Total	0.28%	13.21%	3.04%	42.91%	22.77%	17.78%	
District 4 Mileage	0.00	4.95	1.58	41.78	22.38	15.20	85.89
% fo District Total	0.00%	5.76%	1.84%	48.64%	26.06%	17.70%	
District 6 Mileage	0.50	7.75	6.54	87.98	53.77	49.53	206.07
% fo District Total	0.24%	3.76%	3.17%	42.69%	26.09%	24.04%	
District 7 Mileage	0.26	3.81	1.34	53.78	27.65	16.54	103.38
% fo District Total	0.25%	3.69%	1.30%	52.02%	26.75%	16.00%	
District 8 Mileage	0.20	5.32	4.91	53.17	15.42	5.97	84.99
% fo District Total	0.24%	6.26%	5.78%	62.56%	18.14%	7.02%	
District 5 Mileage	5.83	89.18	48.02	444.24	305.79	241.71	1,134.77
% fo District Total	0.51%	7.86%	4.23%	39.15%	26.95%	21.30%	
District 9 Mileage	0.89	56.54	20.40	328.29	210.63	145.63	762.38
% fo District Total	0.12%	7.42%	2.68%	43.06%	27.63%	19.10%	
STATE TOTAL MILEAGE	**11.73**	**241.45**	**104.95**	**1,218.07**	**742.60**	**540.25**	**2,859.05**

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CURRENT RESOLUTIONS
OF THE
MUNICIPAL SCREENING BOARD

October, 1998

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 $469,141 (not to exceed ½ of 1% of the 1998 MSAS Apportionment sum of $93,828,258) shall be set aside from the 1999 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 Prices (Revised Annually)			
Right of Way (Needs Only)			$60,000 per Acre
Grading (Excavation)			$3.20 per Cu. Yd.
Base:			
	Class 5	Spec. #2211	$6.50 per Ton
	Bituminous	Spec. #2331	$21.50 per Ton
Surface:			
	Bituminous	Spec. #2331	$21.50 per Ton
	Bituminous	Spec. #2341	$24.50 per Ton
	Bituminous	Spec. #2361	$30.50 per Ton
Shoulders:			
	Gravel	Spec. #2221	$10.00 per Ton
Miscellaneous:			
	Storm Sewer Construction		$245,000 per Mile
	Storm Sewer Adjustment		$76,000 per Mile
	Special Drainage (rural segments only)		$31,710 per Mile
	Street Lighting (every segment)		$20,000 per Mile
	Curb & Gutter Construction		$7.50 per Lineal Foot
	Sidewalk Construction		$20.00 per Sq. Yd.
	Engineering		18%
Removal Items:			
	Curb & Gutter		$2.00 per Lineal Foot
	Sidewalk		$5.00 per Sq. Yd.
	Concrete Pavement		$4.50 per Sq. Yd.
	Tree Removal		$175.00 per Unit

Traffic Signal Needs Based On Projected Traffic (every segment)			
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	$60.00 per Sq. Ft.
Bridges 150 to 499 Feet long	$60.00 per Sq. Ft.
Bridges 500 Feet and Over	$60.00 per Sq. Ft.

Railroad Over Highway	
One Track	$8,000 per Linear Foot
Each Additional Track	$6,500 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)	$80,000 per Unit
Signals and Gates(Multiple Track - high	$130,000 per Unit
Signs Only & (low speed)	$1,000 per Unit
Rubberized Railroad Crossings (Per Track)	$800 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	$1,320 per Mile	$2,200 per Mile
Parking Lanes: Segment length times number of parking lanes times cost per mile	$1,320 per Mile	$1,320 per Mile
Median Strip: Segment length times cost per mile	$440 per Mile	$880 per Mile
Storm Sewer: Segment length times cost per mile	$440 per Mile	$440 per Mile
Traffic Signals: Number of traffic signals times cost per signal	$440 per Unit	$440 per Unit
Unlimited Segments: Normal M.S.A.S. Streets		
Minimum allowance per mile is determined by segment length times cost per mile.	$4,400 per Mile	$4,440 per Mile
Limited Segments: Combination Routes		
Minimum allowance per mile is determined by segment length times cost per mile.	$2,200 per Mile	$2,200 per Mile

NEEDS ADJUSTMENTS

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

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

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

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

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

Effective January 1, 1996
The money needs shall be annually reduced by 10% of the total bond issue amount. The computation of needs shall be started in the year that bond principal payments are made to the city.

Unencumbered Construction Fund Balance Adjustment - Oct. 1961 (Revised October 1991, 1996)

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

Funding Requests that have been received before December 31st by the District State Aid Engineer for payment shall be considered as being encumbered and the construction balances shall be so adjusted.

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

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

When "After the Fact" needs are requested for right-of-way projects that have been funded with local funds, but qualify for State Aid reimbursement, documentation (copies of warrants and description of acquisition) must be submitted to the State Aid Office.

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

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

Initial Turnback Maintenance Adjustment - Fractional Year Reimbursement:

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

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

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

TRAFFIC - June 1971

Traffic Limitation on Non-Existing Streets - Oct. 1965

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

Traffic Manual - Oct. 1962

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

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

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

1. The municipalities in the metropolitan area cooperate with the State by agreeing to participate in counting traffic every two or four years at the discretion of the city.

2. The cities in the outstate area may have their traffic counted for a nominal fee and maps prepared by State forces every four years, or may elect to continue the present procedure of taking their own counts and preparing their own traffic maps at four year intervals.

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