

City of Madison Resurfacing Program



City Engineering Division

RESURFACING PROGRAM

- ⇒ Resurface about 3 miles of streets throughout the City
- ⇒ Resurfacing program which includes resurfacing, crack filling, mill/overlay and seal coat is designed to improve the quality of the street and delay the need for total reconstruction
- ⇒ Deficient C&G sections are replaced
- ⇒ Terraces are restored (topsoil, seed & mulch)
- ⇒ Pavement is milled or pulverized
- ⇒ New layer(s) of asphalt are paved
- ⇒ Project Highlights

SELECTION PROCESS

- ⇒ How are streets selected for resurfacing?
- ⇒ Streets rated bi-annually
 - PASER Scale (UW-Madison)
- ⇒ Coordination with other public works projects
- ⇒ Group streets around City for cost/efficiency

RATING SYSTEM

- ⇒ PASER rates streets from 1 – 10
- ⇒ **Resurface** streets with a pavement rating of 5 or less and a c&g rating of 6 or greater
- ⇒ **Reconstruct** streets with lower ratings (these streets require extensive replacement and not cost effective for resurfacing)

State of Our Streets

All Streets		2010	2011	2012	2013	2014
	Total Miles	769.14	771.59	773.08	777.05	779.69
	Total Lane Miles	1717.91	1734.75	1741.78	1750.20	1735.96
	Average Surface Year	1991	1992	1992	1993	1994
	Average Curb Rating	7.19	7.28	7.30	7.29	7.28
	Average Pavement Rating	6.90	7.01	6.88	6.85	6.60

All Streets by Class		2010	2011	2012	2013	2014
Arterial Streets						
	Total Miles	93.35	94.35	94.35	94.80	94.97
	Total Lane Miles	312.57	323.92	327.90	328.81	324.00
	Average Surface Year	1996	2000	2001	2001	2002
	Average Curb Rating	7.37	7.70	7.74	7.65	7.66
	Average Pavement Rating	7.32	7.75	7.55	7.37	7.00
Collector Streets						
	Total Miles	166.48	166.25	166.42	167.13	168.00
	Total Lane Miles	376.79	378.94	379.29	381.19	373.56
	Average Surface Year	1996	1997	1998	1998	2000
	Average Curb Rating	7.42	7.51	7.51	7.49	7.53
	Average Pavement Rating	7.08	7.14	6.98	6.95	6.68
Local Streets						
	Total Miles	509.31	511.00	512.32	515.12	516.72
	Total Lane Miles	1028.54	1031.89	1034.59	1040.20	1038.41
	Average Surface Year	1988	1987	1990	1990	1991
	Average Curb Rating	7.09	7.12	7.14	7.16	7.13
	Average Pavement Rating	6.76	6.84	6.73	6.90	6.51

780 miles of streets. Ave curb and pavement rating is 7

State of Our Streets

Arterial, Collector and Local	2010	2011	2012	2013	2014
% Miles at or below Cond State 10	100.0%	100.0%	100.0%	100.0%	100.0%
% Miles at or below Cond State 9	97.4%	96.6%	97.1%	98.3%	98.5%
% Miles at or below Cond State 8	89.9%	87.3%	89.4%	90.9%	92.2%
% Miles at or below Cond State 7	53.2%	48.0%	55.7%	55.6%	68.2%
% Miles at or below Cond State 6	37.4%	34.1%	34.6%	33.8%	38.4%
% Miles at or below Cond State 5	25.0%	24.1%	24.0%	24.6%	25.2%
% Miles at or below Cond State 4	6.5%	7.7%	9.9%	10.8%	13.9%
% Miles at or below Cond State 3	0.7%	0.9%	0.9%	1.0%	3.1%
% Miles at or below Cond State 2	0.0%	0.0%	0.0%	0.0%	0.1%
% Miles at or below Cond State 1	0.0%	0.0%	0.0%	0.0%	0.0%
% Miles at or below Cond State 0	0.0%	0.0%	0.0%	0.0%	0.0%

Goal is centered around the number of streets rated at or below 5.

State of Our Local Streets

Local	2010	2011	2012	2013	2014
% Miles at or below Cond State 10	100.0%	100.0%	100.0%	100.0%	100.0%
% Miles at or below Cond State 9	98.6%	98.5%	98.2%	98.3%	98.8%
% Miles at or below Cond State 8	92.6%	90.5%	91.8%	92.9%	93.6%
% Miles at or below Cond State 7	56.0%	51.4%	59.4%	59.0%	70.8%
% Miles at or below Cond State 6	40.7%	38.1%	37.4%	35.8%	39.0%
% Miles at or below Cond State 5	28.5%	27.8%	28.1%	28.1%	27.9%
% Miles at or below Cond State 4	6.7%	9.0%	11.3%	12.4%	16.2%
% Miles at or below Cond State 3	0.6%	0.9%	0.8%	1.1%	2.8%
% Miles at or below Cond State 2	0.0%	0.0%	0.0%	0.0%	0.1%
% Miles at or below Cond State 1	0.0%	0.0%	0.0%	0.0%	0.0%
% Miles at or below Cond State 0	0.0%	0.0%	0.0%	0.0%	0.0%

Goal: less than 30% of total miles of local streets
at or below 5

State of Our Collector Streets

Collector	2010	2011	2012	2013	2014
% Miles at or below Cond State 10	100.0%	100.0%	100.0%	100.0%	100.0%
% Miles at or below Cond State 9	96.9%	95.9%	98.2%	98.8%	98.2%
% Miles at or below Cond State 8	89.0%	87.4%	89.6%	90.9%	92.3%
% Miles at or below Cond State 7	48.5%	44.2%	52.3%	51.4%	64.6%
% Miles at or below Cond State 6	32.4%	30.9%	32.6%	33.1%	39.8%
% Miles at or below Cond State 5	19.3%	20.5%	19.3%	21.1%	21.7%
% Miles at or below Cond State 4	4.7%	6.2%	8.6%	9.1%	10.9%
% Miles at or below Cond State 3	0.8%	1.0%	1.3%	1.0%	4.8%
% Miles at or below Cond State 2	0.0%	0.0%	0.0%	0.0%	0.0%
% Miles at or below Cond State 1	0.0%	0.0%	0.0%	0.0%	0.0%
% Miles at or below Cond State 0	0.0%	0.0%	0.0%	0.0%	0.0%

Goal: less than 20% of total miles of collector streets at or below 5

State of Our Arterial Streets

Arterial	2010	2011	2012	2013	2014
% Miles at or below Cond State 10	100.0%	100.0%	100.0%	100.0%	100.0%
% Miles at or below Cond State 9	92.0%	87.2%	88.8%	97.3%	97.6%
% Miles at or below Cond State 8	76.6%	69.3%	75.9%	80.0%	84.7%
% Miles at or below Cond State 7	47.0%	36.1%	41.6%	44.7%	60.4%
% Miles at or below Cond State 6	28.2%	17.9%	22.9%	24.4%	32.7%
% Miles at or below Cond State 5	15.8%	10.2%	10.0%	11.8%	16.5%
% Miles at or below Cond State 4	8.1%	3.6%	4.6%	5.0%	6.3%
% Miles at or below Cond State 3	0.8%	1.0%	1.0%	0.2%	1.9%
% Miles at or below Cond State 2	0.0%	0.0%	0.0%	0.0%	0.0%
% Miles at or below Cond State 1	0.0%	0.0%	0.0%	0.0%	0.0%
% Miles at or below Cond State 0	0.0%	0.0%	0.0%	0.0%	0.0%

Goal: less than 15% of total miles of arterial streets at or below 5

Curb & Gutter

⇒ What is the purpose of curb & gutter?

- Drainage
- Define parking
- Keep terrace intact

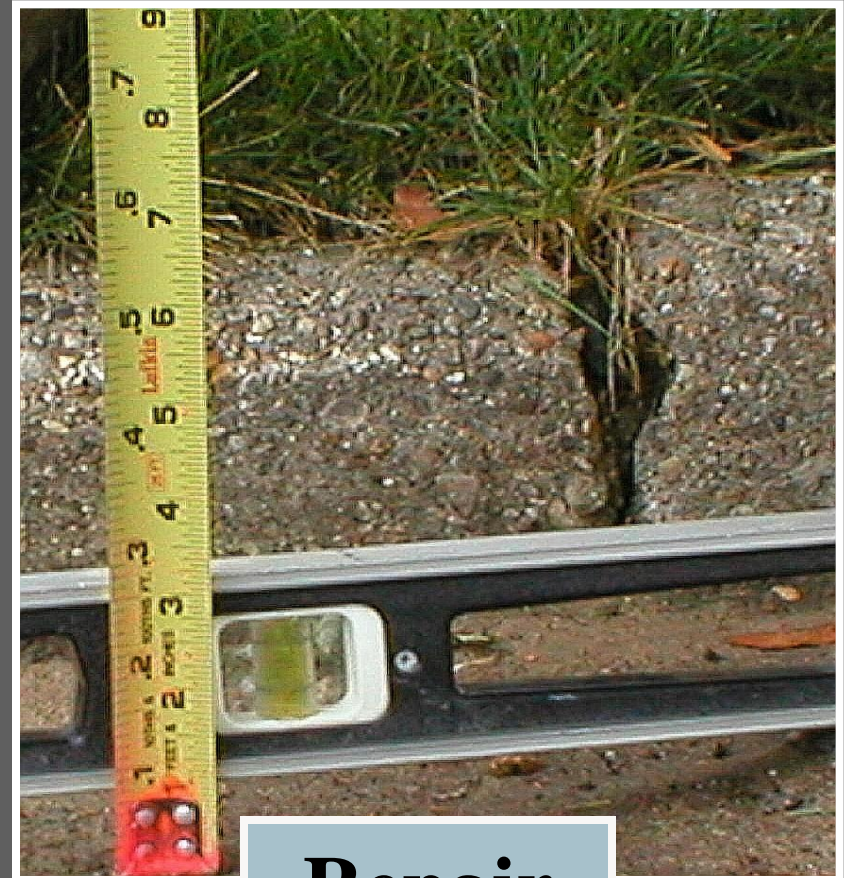
Selection Criteria

- ⇒ Look for 6 different types of problems in c&g:
- ⇒ Vertical Offset
- ⇒ Horizontal Offset
- ⇒ Water Ponding
- ⇒ Curb Head
- ⇒ Tipped Curb
- ⇒ Pitted Concrete

Vertical Offset



Repair



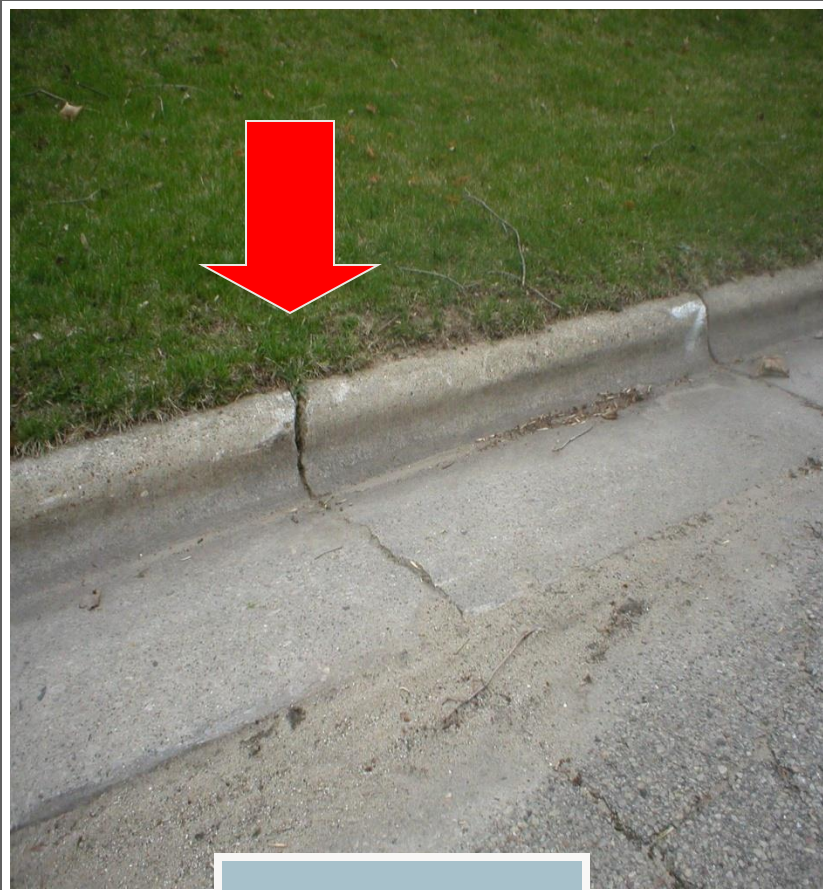
Repair

Horizontal Offset



Repair

Cracks



Repair



Leave

Water Ponding



Repair

Curb Head



Tipped Curb



Repair

Pitted Concrete



Leave

Assessments

- ⇒ Cost split with property owner and City
- ⇒ Curb & Gutter work associated with storm sewer inlets is not assessed to property owners
- ⇒ Public hearings at Board of Public Works and Common Council meetings
- ⇒ Pay assessment in full the year invoiced or pay installments over an eight year period

CURB & GUTTER CONSTRUCTION



➡ HAND PLACED C&G VS. MACHINE PLACED C&G

STORM SEWER CONSTRUCTION



- REBUILDING INLETS
- INSTALLING NEW INLET AND PIPE

UTILITY CASTING ADJUSTMENTS



➡ ADJUSTING CASTING

➡ ADJUSTING WATER VALVE BOX

DRIVE APRON CONSTRUCTION



- ➡ PARTIAL REPLACEMENT OF DRIVE APRON
- ➡ FULL REPLACEMENT OF DRIVE APRON IN PHASES

PAVEMENT PULVERIZING



- ➡ ASPHALT AND GRAVEL BASE ARE PULVERIZED
- ➡ NEW BASE IS GRADED AND COMPACTED
- ➡ NEW BASE IS TEST ROLLED AND UNDERCUT
- ➡ NEW BASE IS FINISHED ROLLED TO FINAL GRADE

PAVEMENT PULVERIZING



- ➡ ROLLED AND COMPACTED BASE
- ➡ UNDERCUT SOFT AREA AFTER TEST ROLL

PAVEMENT MILLING



➡ MILLING OPERATION

➡ SOFT AREA THAT WILL BE UNDERCUT OR BASE PATCHED

PAVEMENT MILLING - UNDERCUT



- ➡ TEST ROLL PAVEMENT
- ➡ EXCAVATE SOFT AREAS
- ➡ PLACE BREAKER RUN STONE OR ASPHALT

ASPHALT PAVING



- ➡ TACK COAT APPLIED TO LOWER ASPHALT LAYER
- ➡ PAVING FINAL LIFT OF ASPHALT

ASPHALT PAVING & RESTORATION



➡ ASPHALT PAVING

➡ RESTORATION OF TERRACES AFTER C&G INSTALLED

City Engineering Division RESURFACING PROGRAM

- PUBLIC INFORMATION MEETINGS: DECEMBER 2 & 3.
- TONIGHT IS THE APPROVAL OF 3 CONTRACTS
 - CURB AND GUTTER REPLACEMENT WITH RESURFACING
 - PULVERIZING & PAVING WITH RESURFACING
 - PATCHING
- PUBLIC HEARING ON ASSESSMENTS TONIGHT
- COMMON COUNCIL HEARING JANUARY 5, 2016
- SURFACE PAVING NINE PLAT PHASES: CITY COST SHARE FOR IMPROVEMENTS TO EXISTING STREETS
- PAVEMENT PATCHING/MILLING/OVERLAY CITYWIDE
- 2016 BUDGET IS \$2,938,000, ASSESSMENTS \$80,500