

A photograph of a residential street with houses, trees, and parked cars. The street is paved and has a central line. The houses are mostly white with porches. There are green lawns and trees along the sidewalks. A red pickup truck is parked on the left side of the street. Several cars are parked further down the street.

F.A.I.R. COMMITTEE

PRESENTATION
AUGUST 23, 2016

PASER

Pavement
Surface
Evaluation
Rating

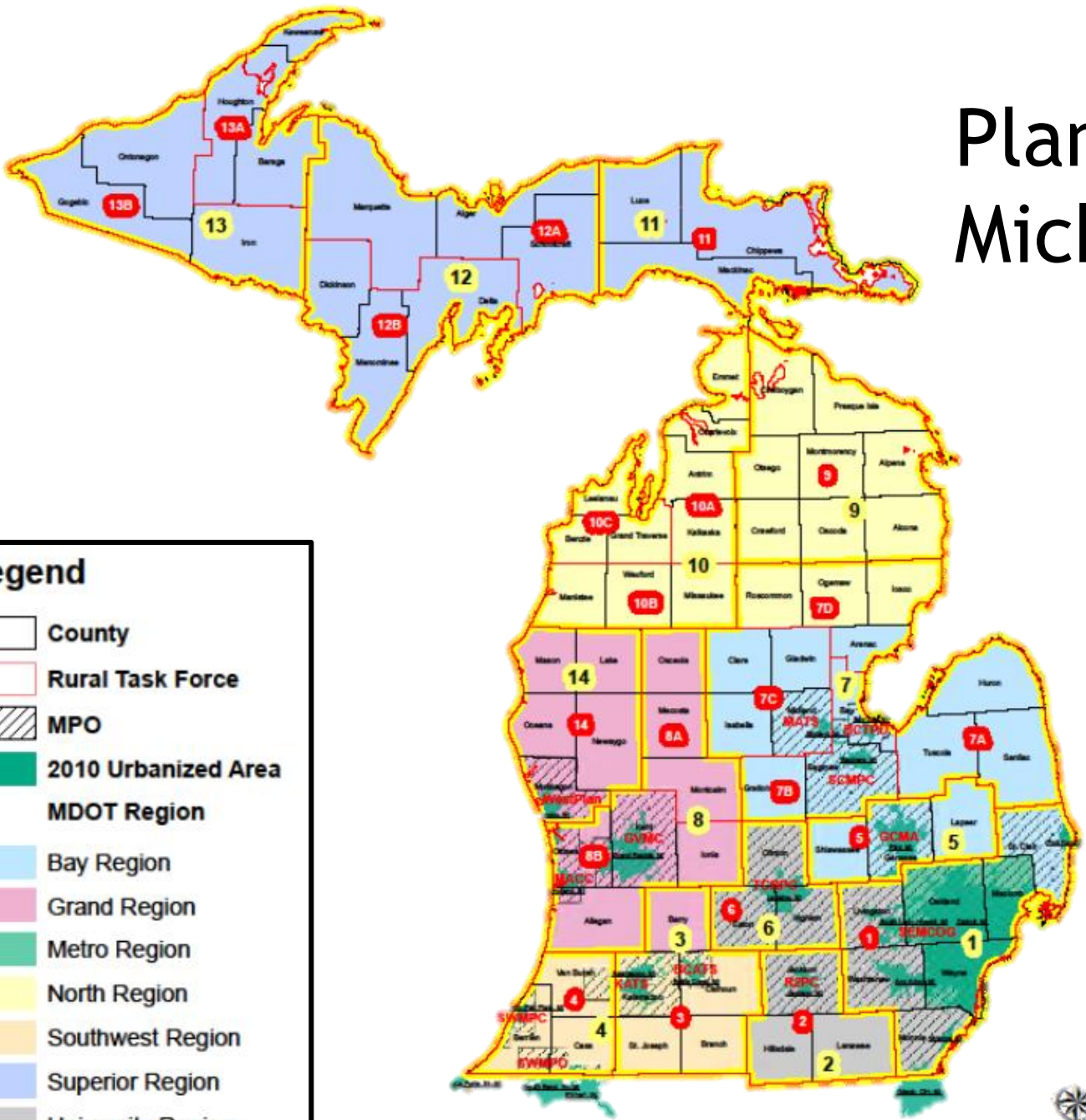
MTAMC

Michigan
Transportation
Asset
Management
Council

RPO / MPO

Regional/**M**etropolita
n
Planning
Organizations

Planning Boundaries In Michigan



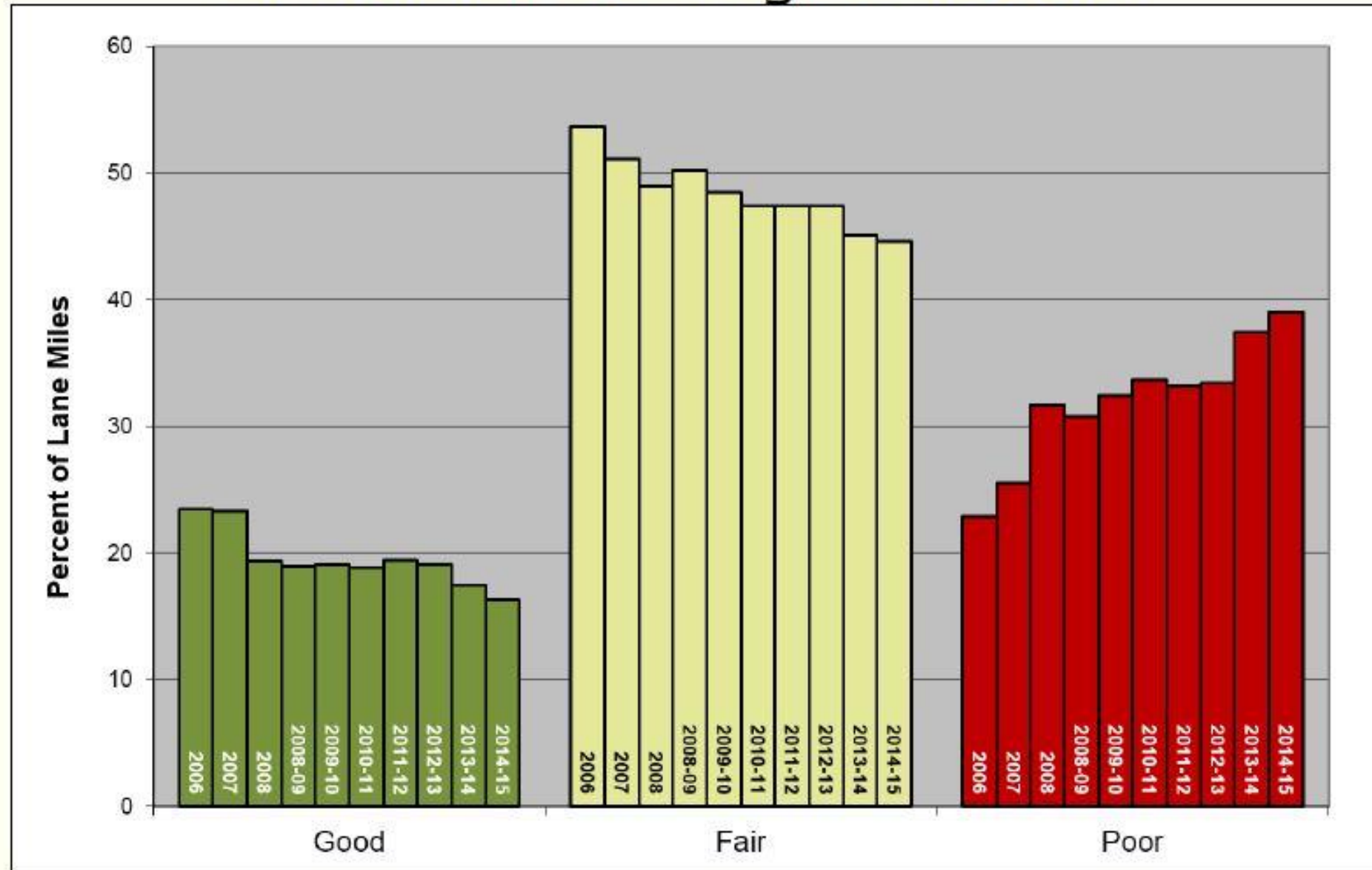
Legend

- County
- Rural Task Force
- MPO
- 2010 Urbanized Area
- MDOT Region**
- Bay Region
- Grand Region
- Metro Region
- North Region
- Southwest Region
- Superior Region
- University Region

Regional Planning Agencies

- 1** Southeast Michigan Council of Governments
- 2** Region 2 Planning Commission
- 3** Southcentral Michigan Planning Commission
- 4** Southwest Michigan Planning Commission
- 5** GLS Region V Planning & Development Commission
- 6** Tri-County Regional Planning Commission
- 7** East Michigan Council of Governments
- 8** West Michigan Regional Planning Commission
- 9** Northeast Michigan Council of Governments
- 10** Northwest Michigan Council of Governments
- 11** Eastern U.P. Regional Planning & Development Commission
- 12** Central U.P. Planning & Development Regional Commission
- 13** Western U.P. Planning & Development Region
- 14** West Michigan Shoreline Regional Development Commission

2006-2015 Preliminary Pavement Condition of Federal Aid Eligible Roads



HOW GOOD IS MY STREET?

Charles Street



Hallett Street



HOW BAD IS MY STREET?

Marion Street



Mead Street



Primary Age-related Distresses



Transverse
cracking



Longitudinal
joint cracking



Block cracking

Structural Distresses



Rutting



Cracking in Wheel Path



Alligator Cracking

Surface Defects



Raveling



Flushing/
bleeding



Polishing



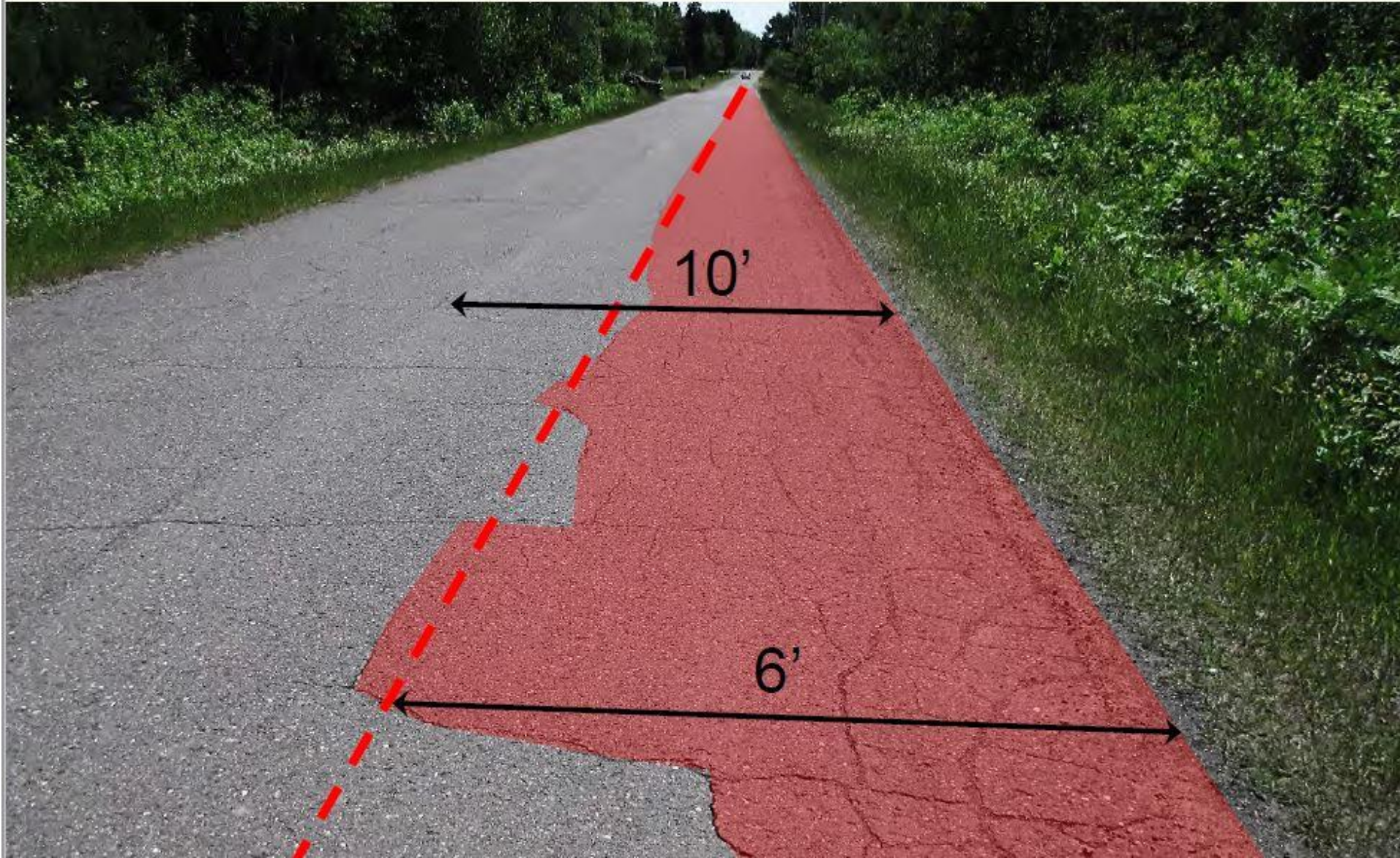
First Signs of
Block Cracking

Rutting Less
Than $\frac{1}{2}$ Inch

Longitudinal
Joint Cracks
Present

Transverse Cracks at
10 foot Spacing

Percentage of Worst Lane



Asphalt PASER Cheat Sheet

◆ Denotes PRIORITY DISTRESS

Asphalt 10

- New construction
- No defects
- Less than 1 year old
- Only a "10" for 1 year

Remedy / Action

No action required

Asphalt 9

- Like new condition
- Recent overlay with or without a crush and shape
- More than 1 year old. No defects

Remedy / Action

No action required

Asphalt 8

- ◆ Occasional transverse crack >40' apart
- ◆ All cracks tight (hairline) or sealed
- Recent seal coat or slurry seal
- Few if any longitudinal cracks on joints

Remedy / Action

Little or no maintenance required

Asphalt 7

- ◆ Transverse cracks 10'-40' apart
- ◆ Cracks open < 1/4"
- First signs of wear
- Little or no crack erosion
- Little or no raveling
- Few if any patches in good condition

Remedy / Action

Maintain with crack seal

Asphalt 6

- ◆ Transverse cracks less than 10' apart
- ◆ Initial block cracking (6'-10' Blocks)
- ◆ Cracks open 1/4" - 1/2"
- Sound structural condition
- Blocks are large and stable
- Slight to moderate polishing or flushing
- No patches or few in good condition
- Slight raveling

Remedy / Action

Maintain with sealcoat

Asphalt 5

- ◆ Secondary cracks (crack raveling)
- ◆ Moderate block cracking (1' - 5' blocks)
- ◆ First signs of longitudinal cracks at edges
- ◆ Cracks open > 1/2"
- Sound structural condition
- Patching/wedging in good condition
- Moderate raveling
- Extensive to severe flushing & polishing

Remedy / Action

Maintain with sealcoat or thin overlay

Asphalt 4

- ◆ Longitudinal cracking in the wheel paths
- ◆ Rutting 1/2" - 1" deep
(Error in the PASER manual)
- ◆ Severe block cracking (<1' blocks)
- First signs of structural weakening
- Severe surface raveling
- Multiple longitudinal & transverse cracks with slight crack erosion
- Patching in fair condition

Remedy / Action

Structural overlay >2"

Asphalt 3

- ◆ < 25% alligator cracking (first signs)
- ◆ Moderate rutting 1"- 2" deep
(Error in Revised 2013 PASER Manual)
- ◆ Severe block cracking (Alligator)
- Longitudinal & transverse cracks showing extensive crack erosion
- Occasional potholes
- Patches in fair/poor condition

Remedy / Action

Structural overlay >2"
Patching and repair prior to a major overlay
Milling would extend overlay life

Asphalt 2

- ◆ > 25% alligator cracking
- ◆ Severe rutting or distortion >2"
- Closely spaced cracks with erosion
- Frequent potholes
- Extensive patches in poor condition

Remedy / Action

Reconstruction with base repair
Crush and shape possible

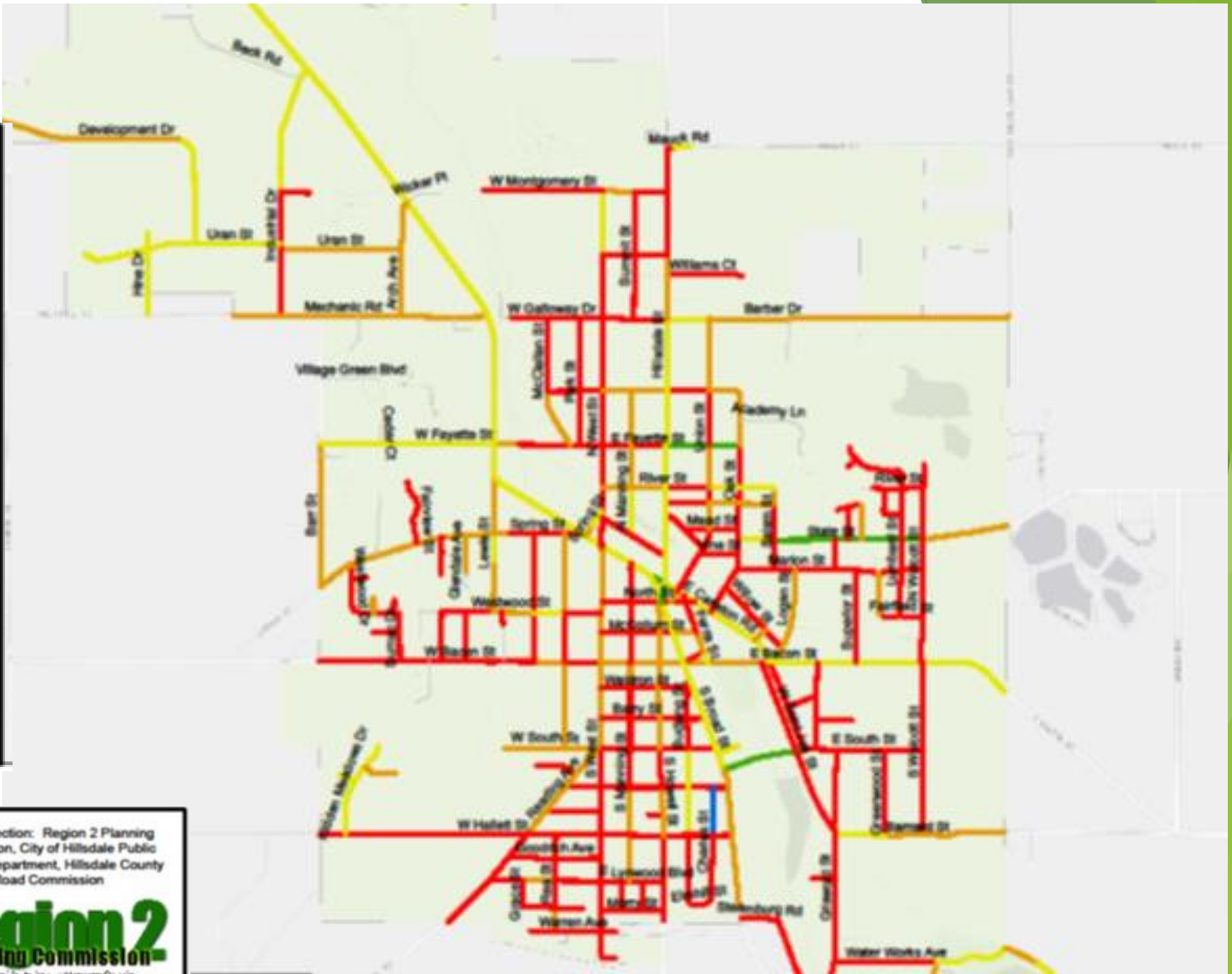
Asphalt 1

Loss of surface integrity
Extensive surface distress

PASER Rating
 All data collected in 2015-2016

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Hillsdale City Limits



Data Collection: Region 2 Planning Commission, City of Hillsdale Public Services Department, Hillsdale County Road Commission

Region 2
 Planning Commission

Serving Hillsdale, Michigan and Surrounding Counties



PASER Rating

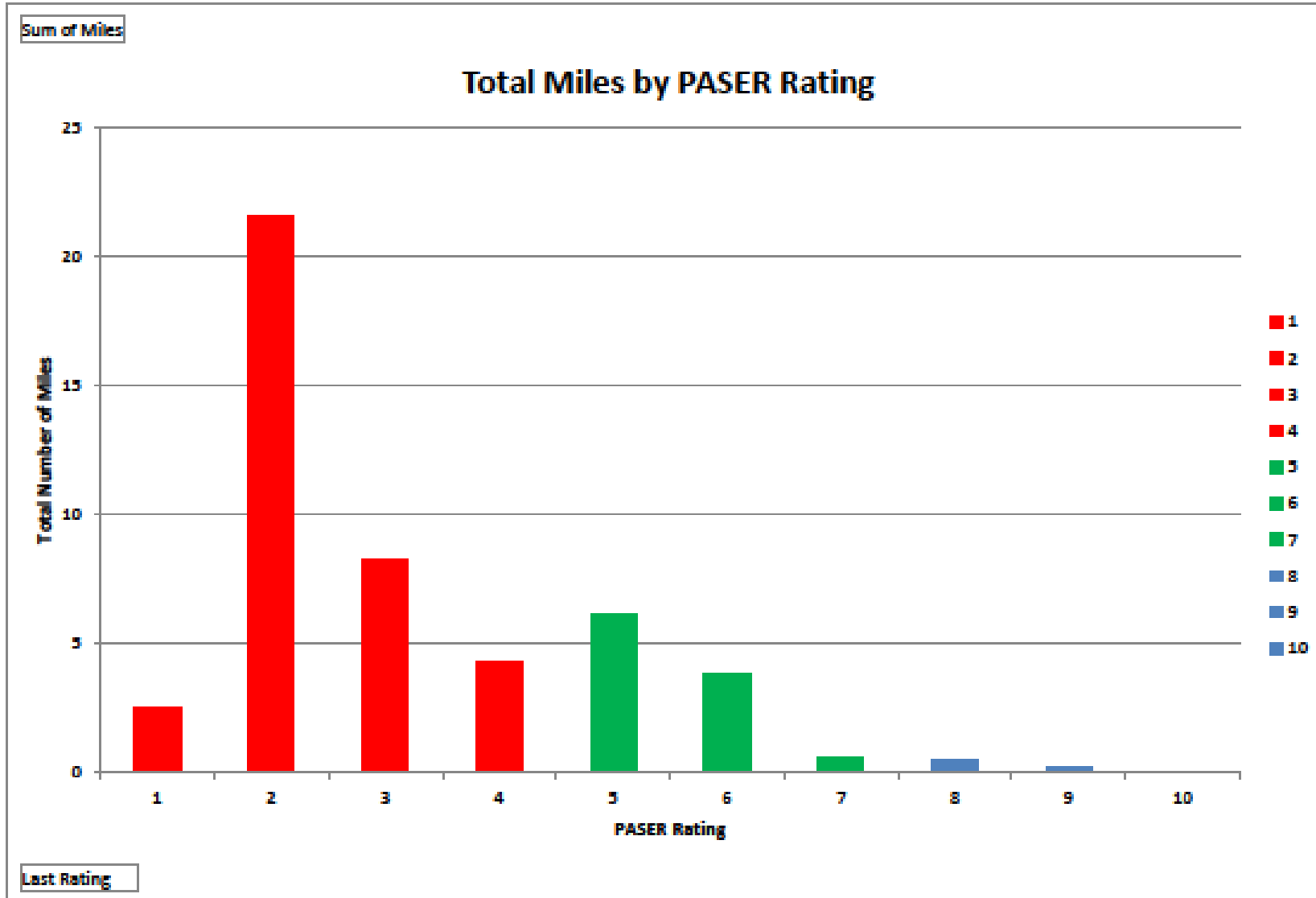
All data collected in 2015-2016

- Poor
- Fair
- Good
- Hillsdale City Limits

Data Collection: Region 2 Planning Commission, City of Hillsdale Public Services Department, Hillsdale County Road Commission

Region 2
Planning Commission
Serving Hillsdale, Hillsdale County and Lenawee Counties

City of Hillsdale Paser Rating by Mileage



Row Labels	Sum of Miles
1	2.504
2	21.587
3	8.238
4	4.211
5	6.102
6	3.799
7	0.549
8	0.487
9	0.139
10	0
Grand Total	47.616

Garden Street- Cost Projection

Construction Budget Estimate

• Sanitary Sewer Replacement:	\$77,270.00
• Watermain:	\$62,390.00
• Road Reconstruction:	<u>\$160,753.50</u>
<i>Construction Sub- Total:</i>	<i>\$300,413.50</i>
Engr, Admin, Contingency (30%)	<u>\$90,200.00</u>
Total Preliminary Project Budget	\$390,613.50

City of Hillsdale

Garden Street - Hillsdale St. to Union St. Local 765' Reconstruction, Sanitary Sewer, Storm Sewer & Watermain

(Preliminary Cost Projection, 2016 ICE Grant Update)

Fleis & VandenBrink Engineering Inc.
F&V Project #813700

Construction Budget Estimate

Item	Prelim Quantity	Unit	Price	Total
Sanitary Sewer Replacement				
8" dia San. Sewer	700	lf	57.00	\$39,900.00
6" dia San. Sewer Laterals (wye, elbows, plug)	16	ea	210.00	\$3,360.00
6" San. Sewer Laterals	600	lf	26.00	\$15,600.00
48" San. Sewer Manhole	3	ea	2250.00	\$6,750.00
Connection to existing	1	ea	310.00	\$310.00
Bypass pumping	1	Lsum	10300.00	\$10,300.00
Post-construction sewer televis	700	lf	1.50	\$1,050.00
				\$77,270.00
Watermain				
8" dia Watermain	770	lf	41.00	\$31,570.00
8" Gate Valves	3	Lsum	1250.00	\$3,750.00
Fire Hydrant Assembly	2	ea	3100.00	\$6,200.00
Corp, stop and box	17	ea	310.00	\$5,270.00
Water Service, 1" type k copper	400	lf	26.00	\$10,400.00
Connection to existing	2	ea	2600.00	\$5,200.00
				\$62,390.00
Road Reconstruction				
General Conditions/Mobilization	1.0	Lsum	5150.00	\$5,150.00
Video Survey- Pre/post	1.0	Lsum	1050.00	\$1,050.00
SESC	1.0	Lsum	1050.00	\$1,050.00
Signage/Barricades	1.0	Lsum	2100.00	\$2,100.00
Pavement Removal/Pulverize	2400.0	syd	3.10	\$7,440.00
Conc. Curb & Gutter, Rem.	1530.0	lft	5.15	\$7,879.50
Station Grading	7.65	sta	1550.00	\$11,857.50
Storm Manholes	2.00	ea	2100.00	\$4,200.00
Storm Catch basins	3.00	ea	1250.00	\$3,750.00
Storm Sewer- 12"	180.00	lf	26.00	\$4,680.00
Storm Sewer- 15"	300.00	lf	31.00	\$9,300.00
Class II Sand, 12"	2400.0	syd	4.10	\$9,840.00
MDOT 22A Aggregate Base, 8"	2400.0	ton	4.10	\$9,840.00
Underdrain	765.0	lft	4.10	\$3,136.50
HMA- 3"	450.0	ton	88.00	\$39,600.00
Conc. Curb & Gutter	1400.0	lft	16.00	\$22,400.00
Drive Removal/Replacement	450.0	syd	36.00	\$16,200.00
Restoration (Topsoil, seed & mulch)	800.0	syd	1.60	\$1,280.00
				\$160,753.50
Construction Sub-Total:				\$300,413.50
Engr, Admin, Contingency (30%)				\$90,200.00
Total Preliminary Project Budget				\$390,613.50

Mead Street- Cost Projection

Construction Budget Estimate

• Sanitary Sewer Replacement:	\$70,690.00
• Watermain:	\$72,920.00
• Road Reconstruction:	<u>\$159,597.00</u>
<i>Construction Sub- Total:</i>	<i>\$303,207.00</i>
Engr, Admin, Contingency (30%)	<u>\$91,000.00</u>
Total Preliminary Project Budget	\$394,207.00

City of Hillsdale				
Mead Street - Garden Street to Oak Street	Local	830'	Reconstruction, Sanitary Sewer Storm Sewer & Watermain	
(Preliminary Cost Projection, 2016 ICE Grant Update)				
<i>Fleis & VandenBrink Engineering Inc.</i> F&V Project #813700				
Construction Budget Estimate				
Item	Prelim Quantity	Unit	Price	Total
Sanitary Sewer Replacement				
8" dia San. Sewer	600	lf	57.00	\$34,200.00
6" dia San. Sewer Laterals (wye, elbows, plug)	16	ea	210.00	\$3,360.00
6" San. Sewer Laterals	560	lf	26.00	\$14,560.00
48" San. Sewer Manhole	3	ea	2250.00	\$6,750.00
Connection to existing	2	ea	310.00	\$620.00
Bypass pumping	1	Lsum	10300.00	\$10,300.00
Post-construction sewer televisis	600	lf	1.50	<u>\$900.00</u>
				\$70,690.00
Watermain				
8" dia Watermain	850	lf	41.00	\$34,850.00
8" Gate Valves	4	Lsum	1250.00	\$5,000.00
Fire Hydrant Assembly	1	ea	3100.00	\$3,100.00
Corp, stop and box	17	ea	310.00	\$5,270.00
Water Service, 1" type k copper	550	lf	26.00	\$14,300.00
Connection to existing	4	ea	2600.00	<u>\$10,400.00</u>
				\$72,920.00
Road Reconstruction				
General Conditions/Mobilization	1.0	Lsum	5150.00	\$5,150.00
Video Survey- Pre/post	1.0	Lsum	1050.00	\$1,050.00
SESC	1.0	Lsum	1050.00	\$1,050.00
Signage/Barricades	1.0	Lsum	2100.00	\$2,100.00
Pavement Removal/Pulverize	2700.0	syd	3.10	\$8,370.00
Conc. Curb & Gutter, Rem.	1660.0	lft	5.15	\$8,549.00
Station Grading	8.30	sta	1550.00	\$12,865.00
Class II Sand, 12"	2700.0	syd	4.10	\$11,070.00
MDOT 22A Aggregate Base, 8"	2700.0	ton	4.10	\$11,070.00
Underdrain	830.0	lft	4.10	\$3,403.00
HMA- 3"	515.0	ton	88.00	\$45,320.00
Conc. Curb & Gutter	1660.0	lft	16.00	\$26,560.00
Drive Removal/Replacement	600.0	syd	36.00	\$21,600.00
Restoration (Topsoil, seed & mulch)	900.0	syd	1.60	<u>\$1,440.00</u>
				\$159,597.00
Construction Sub-Total:				\$303,207.00
Engr, Admin, Contingency (30%)				<u>\$91,000.00</u>
Total Preliminary Project Budget				\$394,207.00

Vine Street- Cost Projection

Construction Budget Estimate

• Sanitary Sewer Replacement:	\$68,960.00
• Watermain:	\$60,000.00
• Road Reconstruction:	<u>\$140,190.00</u>
Construction Sub- Total:	<u>\$269,150.00</u>
Engr, Admin, Contingency (30%)	<u>\$80,800.00</u>
Total Preliminary Project Budget	\$349,950.00

City of Hillsdale

Vine Street - Union St. to Oak St.

Local

600'

Reconstruction, Sanitary Sewer
Storm Sewer & Watermain

(Preliminary Cost Projection, 2016 ICE Grant Update)

Fleis & VandenBrink Engineering Inc.

F&V Project #B13700

Construction Budget Estimate

Item	Prelim Quantity	Unit	Price	Total
Sanitary Sewer Replacement				
8" dia San. Sewer	600	lf	57.00	\$34,200.00
6" dia San. Sewer Laterals (wye, elbows, plug)	15	ea	210.00	\$3,150.00
6" San. Sewer Laterals	600	lf	26.00	\$15,600.00
48" San. Sewer Manhole	2	ea	2250.00	\$4,500.00
Connection to existing	1	ea	310.00	\$310.00
Bypass pumping	1	Lsum	10300.00	\$10,300.00
Post-construction sewer televise	600	lf	1.50	<u>\$900.00</u>
				\$68,960.00
Watermain				
8" dia Watermain	600	lf	41.00	\$24,600.00
8" Gate Valves	3	Lsum	1250.00	\$3,750.00
Fire Hydrant Assembly	2	ea	3100.00	\$6,200.00
Corp, stop and box	15	ea	310.00	\$4,650.00
Water Service, 1" type k copper	600	lf	26.00	\$15,600.00
Connection to existing	2	ea	2600.00	\$5,200.00
				\$60,000.00
Road Reconstruction				
General Conditions/Mobilization	1.0	Lsum	5150.00	\$5,150.00
Video Survey- Pre/post	1.0	Lsum	1050.00	\$1,050.00
SESC	1.0	Lsum	1050.00	\$1,050.00
Signage/Barricades	1.0	Lsum	2100.00	\$2,100.00
Pavement Removal/Pulverize	2200.0	syd	3.10	\$6,820.00
Conc. Curb & Gutter, Rem.	1200.0	lft	5.15	\$6,180.00
Station Grading	6.00	sta	1550.00	\$9,300.00
Class II Sand, 12"	2200.0	syd	4.10	\$9,020.00
MDOT 22A Aggregate Base, 8"	2200.0	ton	4.10	\$9,020.00
Underdrain	600.0	lft	4.10	\$2,460.00
HMA- 3"	450.0	ton	88.00	\$39,600.00
Conc. Curb & Gutter	1200.0	lft	16.00	\$19,200.00
Drive Removal/Replacement	750.0	syd	36.00	\$27,000.00
Restoration (Topsoil, seed & mulch)	1400.0	syd	1.60	<u>\$2,240.00</u>
				\$140,190.00
Construction Sub-Total:				\$269,150.00
Engr, Admin, Contingency (30%)				\$80,800.00
Total Preliminary Project Budget				\$349,950.00

Total Cost Projection: (Garden, Mead & Vine Streets)

Garden Street: \$390,613.50

Mead Street: \$394,207.00

Vine Street: \$349,950.00

Total: \$1,134,770.50

