



State of Illinois
Illinois Department of Transportation

FY 2011 CONDITION RATING SURVEY SUMMARY REPORT

December 2011



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Condition Rating Survey (CRS)

Overview

The Illinois Department of Transportation, through the Office of Planning and Programming, conducts a Condition Rating Survey (CRS) to assess the pavement condition on the approximate 16,000 miles of centerline state highway system. The CRS is an important tool to assist the Department with its pavement management activities. The CRS value, along with the predominant distresses for the pavement section, indicates the current condition of the pavement. The CRS is a factor in highway program development, provides an opportunity to review the highway network, provides overall condition of the state highway system, gives input to the legislative/budgeting process and allows calculation of pavement needs.

History

The CRS began in 1974 with panels of experts closely inspecting the pavements. This was a very labor intensive effort with the panels driving, at a reduced speed, the entire state highway network. The panel would assign a numeric rating to each rating section and note the three predominant distresses affecting the pavement. The rating and distresses were then hand entered into the computer databank.

This methodology continued until 1994. In 1994 the Department converted to an automated collection methodology by utilizing Video Inspection Vehicles (VIVs) and computerized workstations for pavement analysis. The VIVs collected images of the roadway on videotape as well as sensor data (rutting, faulting, longitudinal profile) at highway speeds. The data was then analyzed at workstations in the office by the rating panels.

To keep consistency between the CRS rating values over the years and to take full advantage of the automated collection technology, some modifications were made to the CRS process. The modifications enhanced the distress identification to five predominant distresses along with the sensor data. The Rater program was developed to utilize the distresses and sensor data to calculate a CRS value. The Rater program was developed by using historical CRS values, distresses, as well as input from experienced rating panels. The Rater program put emphasis on distress identification and lessened the degree of subjectivity of each individual rater.

The videotape system was state-of-the-art technology at that time and was working well, but the system was starting to show its age in the FY 2000 and FY 2001 CRS collection process. The need for updating the technology was evident.

The Department investigated newer technologies and for the FY 2002 CRS, a switch to digital technology was made. The new digital technology further enhanced the CRS by incorporating the previous enhancements (Rater program) into its own software, and included the benefits of digital images instead of videotape. The digital collection process utilizes Data Collection Vehicles (DCVs) and workstations for analysis.

The DCVs are high-tech vans that collect digital views of the roadway and with laser sensors to record rutting and faulting at highway speeds. The longitudinal profile is also collected with on-board computers in the DCVs. The DCVs were first used in the FY 2002 CRS and continue to collect CRS data.

Beginning with the FY 2008 CRS, the data collection was out-sourced to Pathway Services. The collection vehicles incorporated higher resolution cameras, a scanning line laser for road profile and scanning line camera for down views of the pavement.

CRS Training & Schedule

To ensure statewide rating consistency, the Office of Planning and Programming (OPP), Bureau of Statewide Program Planning conducts training sessions annually before the pavement rating begins. This provides a refresher course for experienced raters and trains new raters. The training consists of both classroom instruction and in-field rating. The field portion helps to relate the actual pavement conditions to the images the raters shall be viewing at the workstations.

A random sampling of rating sections is reviewed by experienced raters from the Central Office to ensure rating uniformity throughout the state. The Bureau of Statewide Program Planning furnishes manuals and guidelines to aid the districts in their rating activities.

The CRS is conducted annually on alternating halves of the State.

- Even numbered years: District 1 – Cook County, District 4, 5, 8, and 9 rate their non-interstate system. All Districts rate the interstate system.
- Odd numbered years: District 1 – Collar Counties, District 2, 3, 6, and 7 rate their non-interstate system.

For those districts not rating in a given year, deterioration deduct values are applied to their last CRS values to bring the CRS to the current year.

Data is collected on the interstates every year, but CRS is only assigned on the even years. On the odd numbered years, data is collected for the Pavement Review Team (PRT). The PRT data is used to estimate remaining surface life.

During 2006, three counties were moved from District 9 to District 7. In 2005, nineteen counties were moved to different Districts as part of IDOT's overall reorganization plan. Any comparison of District data between years need to take in consideration the new District boundaries.

For additional information concerning the CRS process and/or its history, please contact the System Performance Manager (217) 785-2792 in the Bureau of Statewide Program Planning.

The following pages will give the results of the FY 2011 CRS. All mileage totals are centerline mileage. If you have any questions concerning the data, please contact the Bureau of Statewide Program Planning in the Office of Planning and Programming.

Pavement Needs

A concerted effort has been made, over the years, to define pavement needs on the state highway system. The needs are used by the Department to establish program goals and accomplishments levels as well as portraying the overall state highway condition to the general public.

The CRS value assigned to a pavement section, together with the average daily traffic (ADT) a roadway carries and its functional importance is used to prioritize roadway deficiencies.

The categories and definitions for pavement needs are:

Needs Improvement (Backlog) – condition has deteriorated to the level where an improvement is recommended now. If the improvement is delayed, the ultimate cost could be much higher.

Acceptable (Accruing and Adequate) – pavement that is not in need of an immediate improvement. Accruing pavements are those that will deteriorate to a backlog condition over the next five years. Adequate pavements need little to no improvements and will not deteriorate to backlog within the next five years.

With the conclusion of the FY 2011 CRS, there are 14,025 miles of pavement in acceptable condition, with 1,969 miles needing improvement. On the State System, approximately 88 percent of the roadways are in Acceptable condition and 12 percent are in the Needs Improvement category.

The following tables and charts provide a detailed breakdown of this mileage.

**Highway Needs
FY 2011 Condition Rating Survey (miles)**

Statewide Mileage

	Acceptable (Accruing + Adequate)	Needs Improvement (Backlog)	Total
Roadway Type			
Interstate	1,697.41	192.00	1,889.41
Other Marked	10,068.35	1,354.95	11,423.30
Unmarked	2,259.03	422.48	2,681.51
Total	14,024.79	1,969.43	15,994.22

Statewide Percentage of Total Mileage

	Acceptable (Accruing + Adequate)	Needs Improvement (Backlog)
Roadway Type		
Interstate	89.8	10.2
Other Marked	88.1	11.9
Unmarked	84.2	15.8
Total	87.7	12.3

**Acceptable Mileage (Accruing + Adequate)
FY 2011 Condition Rating Survey**

District	Interstate	Other Marked	Unmarked	All Systems	All Systems % of District
1	217.88	1,558.19	870.56	2,646.63	94.7%
2	162.42	930.39	147.32	1,240.13	77.0%
3	194.42	1,099.46	82.76	1,376.64	82.4%
4	128.66	1,366.74	75.36	1,570.76	95.5%
5	215.53	801.71	156.72	1,173.96	89.8%
6	240.72	1,261.46	274.82	1,777.00	85.8%
7	180.69	865.67	222.42	1,268.78	77.7%
8	198.54	1,128.44	309.71	1,636.69	91.1%
9	158.55	1,056.29	119.36	1,334.20	91.0%
Total	1697.41	10,068.35	2259.03	14,024.79	87.7%

**Needs Improvement Mileage (Backlog)
FY 2011 Condition Rating Survey**

District	Interstate	Other Marked	Unmarked	All Systems	All Systems % of District
1	0.00	66.09	80.65	146.74	5.3%
2	5.74	291.41	73.52	370.67	23.0%
3	55.45	216.6	22.46	294.51	17.6%
4	25.72	41.97	7.00	74.69	4.5%
5	17.65	70.39	45.03	133.07	10.2%
6	12.61	194.62	86.50	293.73	14.2%
7	40.89	255.20	68.57	364.66	22.3%
8	8.71	120.33	30.34	159.38	8.9%
9	25.23	98.34	8.41	131.98	9.0%
Total	192.00	1,354.95	422.48	1,969.43	12.3%

Accruing Mileage*
FY 2011 Condition Rating Survey

District	Interstate	Other Marked	Unmarked	All Systems	All Systems % of District
1	14.89	442.71	188.39	645.99	23.1%
2	107.00	389.86	79.04	575.90	35.8%
3	59.82	562.47	36.97	659.26	39.4%
4	46.60	282.14	13.46	342.20	20.8%
5	71.76	166.37	48.43	286.56	21.9%
6	88.45	407.07	48.08	543.60	26.3%
7	121.13	257.62	51.92	430.67	26.4%
8	82.87	290.28	32.35	405.50	22.6%
9	32.69	254.25	36.08	323.02	22.0%
Total	625.21	3,052.77	534.72	4212.70	26.3%

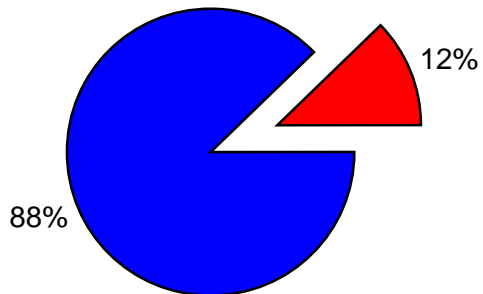
* mileage expected to need improvement (become backlog) within the next five years.

Adequate Mileage**
FY 2011 Condition Rating Survey

District	Interstate	Other Marked	Unmarked	All Systems	All Systems % of District
1	202.99	1,115.48	682.10	2,000.57	71.6%
2	55.42	540.53	68.19	664.14	41.2%
3	134.60	536.99	45.79	717.38	42.9%
4	82.06	1,084.60	61.52	1,228.18	74.7%
5	143.77	635.34	108.29	887.40	67.9%
6	152.27	854.39	226.74	1,233.40	59.6%
7	59.56	608.05	170.47	838.08	51.3%
8	115.67	838.16	277.31	1,231.14	68.5%
9	125.86	802.04	83.28	1,011.18	69.0%
Total	1072.20	7,015.58	1,723.69	9,811.47	61.3%

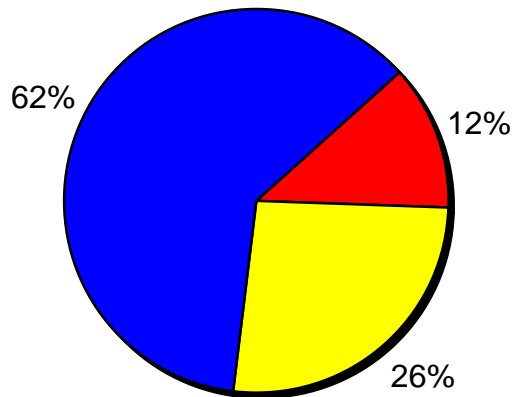
** mileage needing little to no improvement and not expected to reach backlog in five years.

FY 2011 Statewide Mileage

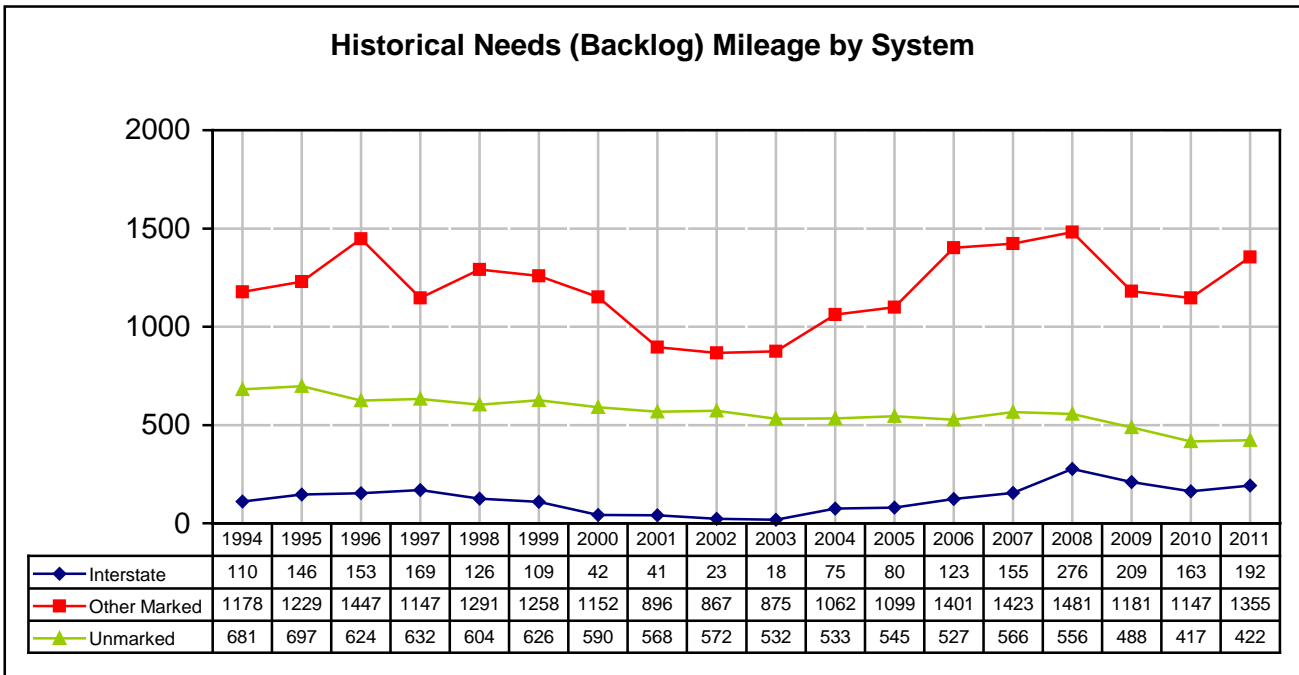
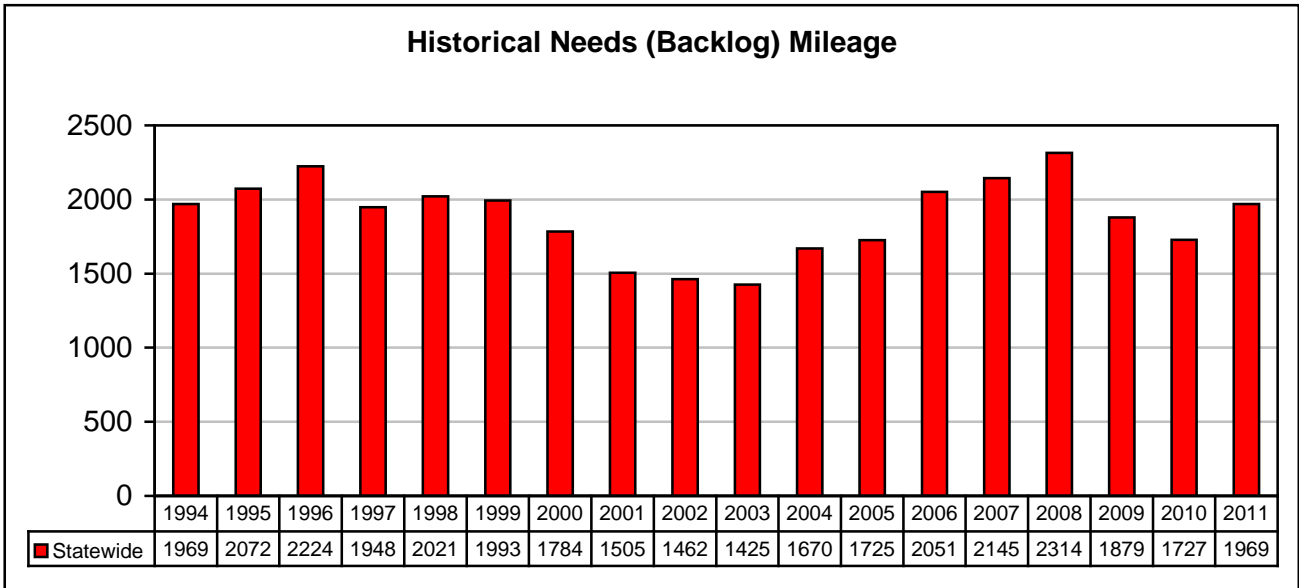


■ Acceptable ■ Needs Improvement

FY 2011 Statewide Mileage

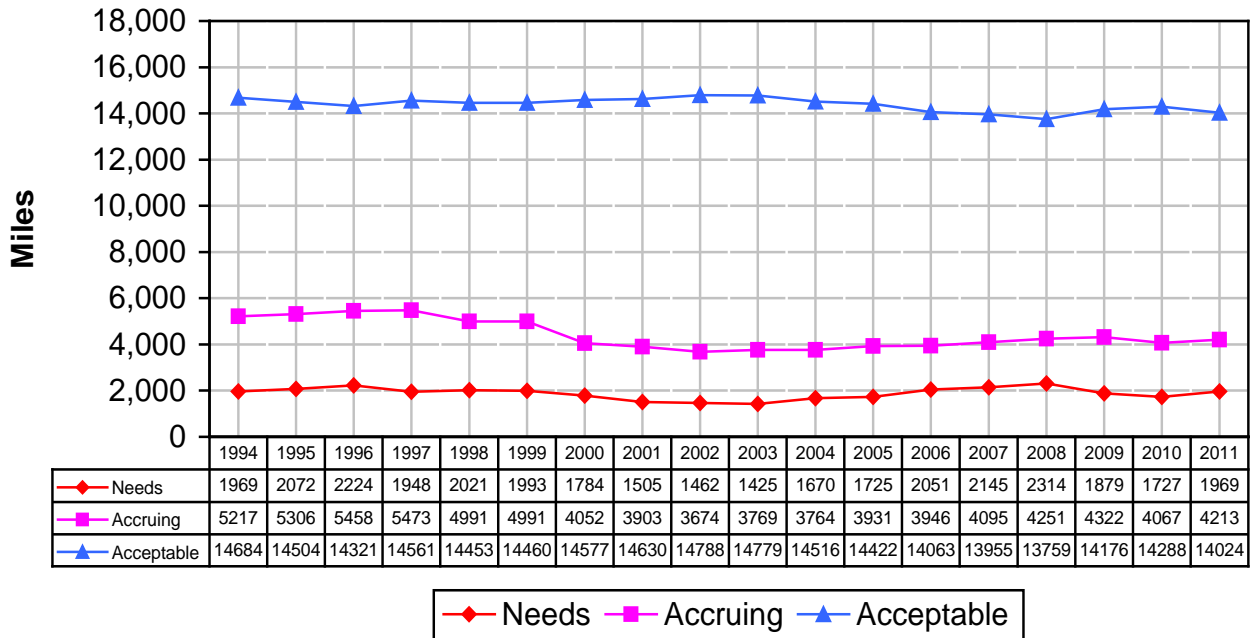


■ Total Backlog ■ Total Accruing ■ Total Adequate



Note: Each system has its own criteria for backlog. Comparison between systems is to be avoided.

Historical System Condition Trends



Pavement Needs by Weighted Average CRS

The comparison of the weighted average CRS of the pavement needs category will indicate if the overall condition of pavements in each needs category has changed over the years.

The tables below show that the weighted pavement conditions in each Needs category. The condition of those segments considered total adequate has improved slightly indicating that the category has stabilized from the observed decline from 2005 to 2007. The total accruing mileage and total backlog mileage conditions have remained relatively stable since the 2000 CRS.

Weighted Average CRS for Total Adequate

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Interstate	7.8	8.0	7.8	7.8	7.7	7.1	6.9	7.6	7.7	8.1	7.9
Other Marked	7.4	7.5	7.5	7.5	7.3	6.5	6.4	7.1	7.4	7.6	7.6
Unmarked	7.0	7.1	7.1	7.1	6.9	6.1	6.0	6.9	7.0	7.3	7.3
Statewide	7.4	7.5	7.5	7.4	7.3	6.5	6.4	7.1	7.3	7.6	7.6

Weighted Average CRS for Total Accruing

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Interstate	5.9	6.1	6.0	5.9	6.0	6.0	5.8	6.0	5.9	6.0	5.8
Other Marked	5.4	5.3	5.3	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.4
Unmarked	4.9	4.9	4.9	4.9	4.9	4.8	4.8	4.8	4.9	4.9	5.0
Statewide	5.3	5.3	5.3	5.3	5.4	5.3	5.3	5.3	5.3	5.4	5.4

Weighted Average CRS for Total Backlog

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Interstate	4.6	4.9	4.9	4.8	4.8	4.8	4.6	4.5	4.5	4.7	4.6
Other Marked	4.3	4.2	4.3	4.3	4.2	4.2	4.2	4.2	4.3	4.3	4.4
Unmarked	3.6	3.7	3.7	3.6	3.7	3.5	3.5	3.7	3.6	3.5	3.7
Statewide	4.0	4.0	4.1	4.1	4.1	4.0	4.0	4.1	4.1	4.2	4.3

CRS Descriptive Categories

The descriptive categories are based on CRS values alone. IDOT has been collecting data on the state highway system since 1974. The data is reported on a scale of 1.0 to 9.0, where 1.0 represents a completely failed pavement and a 9.0 represents a pavement in its best/new condition.

Pavements in the *excellent* category, CRS range 9.0 to 7.6, are in a high quality to new condition. These pavements will generally exhibit low distress levels, if any.

Pavements in the *good* category, CRS range 7.5 to 6.1, are in a satisfactory to good condition. These pavements generally exhibit low to medium levels of distress and are not in need of an immediate improvement based on surface condition.

Pavements in the *fair* category, CRS range 6.0 to 4.6, will likely need improvement over the short term. These pavements generally exhibit medium to high levels of distress over the pavement surface. Distresses are also generally more frequent in occurrence.

Pavements in the *poor* category, CRS range 4.5 to 1.0, are generally in need of improvement. These pavements will exhibit higher levels of distress over larger areas of the pavement surface.

Listed below is a summary of the descriptive categories:

CRS Range	Descriptive Category	Map Color
9.0 to 7.6	Excellent	Blue
7.5 to 6.1	Good	Green
6.0 to 4.6	Fair	Yellow
4.5 to 1.0	Poor	Red

The following pages provide a detailed breakdown of the descriptive categories.

Descriptive Categories by District FY 2011 CRS

All State Highways Miles

District	Poor CRS = 1.0-4.5	Fair CRS = 4.6-6.0	Good CRS = 6.1-7.5	Excellent CRS = 7.6-9.0	Total
1	74.26	790.90	740.75	1,187.46	2,793.37
2	338.49	575.34	179.34	517.63	1,610.80
3	191.98	752.12	245.72	481.33	1,671.15
4	42.84	420.46	227.82	954.33	1,645.45
5	115.90	510.51	232.17	448.45	1,307.03
6	240.85	821.38	466.53	541.97	2,070.73
7	277.70	723.13	279.70	352.94	1,633.44
8	102.98	561.77	522.28	609.09	1,796.07
9	103.87	444.30	409.51	508.50	1,466.18
Total	1488.87	5599.91	3303.82	5,601.70	15,994.22

Interstates Highways Miles

District	Poor CRS = 1.0-4.5	Fair CRS = 4.6-6.0	Good CRS = 6.1-7.5	Excellent CRS = 7.6-9.0	Total
1	0.00	9.18	58.23	150.47	217.88
2	0.00	102.83	16.27	49.06	168.16
3	18.26	60.21	84.39	87.01	249.87
4	7.22	60.03	29.54	57.59	154.38
5	7.79	59.42	36.35	129.62	233.18
6	0.00	58.54	118.04	76.75	253.33
7	12.44	104.29	57.25	47.60	221.58
8	0.00	54.17	95.92	57.16	207.25
9	14.95	36.93	31.79	100.11	183.78
Total	60.66	545.6	527.78	755.37	1,889.41

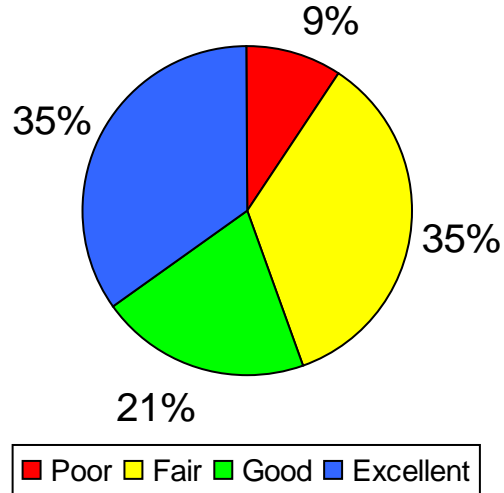
**Other Marked Highways
Miles**

District	Poor CRS = 1.0-4.5	Fair CRS = 4.6-6.0	Good CRS = 6.1-7.5	Excellent CRS = 7.6-9.0	Total
1	10.26	547.79	420.19	646.04	1,624.28
2	239.27	405.87	150.41	426.25	1,221.80
3	139.83	653.06	147.84	375.33	1,316.06
4	23.48	338.14	183.23	863.86	1,408.71
5	44.77	373.02	177.50	276.81	872.10
6	132.85	655.29	267.14	400.80	1,456.08
7	179.75	498.21	195.97	246.94	1,120.87
8	66.39	447.12	345.31	389.95	1,248.77
9	67.69	357.41	333.10	396.43	1,154.63
Total	904.29	4275.91	2220.69	4022.41	11,423.30

**Unmarked Highways
Miles**

District	Poor CRS = 1.0-4.5	Fair CRS = 4.6-6.0	Good CRS = 6.1-7.5	Excellent CRS = 7.6-9.0	Total
1	64.00	233.93	262.33	390.95	951.21
2	99.22	66.64	12.66	42.32	220.84
3	33.89	38.85	13.49	18.99	105.22
4	12.14	22.29	15.05	32.88	82.36
5	63.34	78.07	18.32	42.02	201.75
6	108.00	107.55	81.35	64.42	361.32
7	85.51	120.63	26.45	58.40	290.99
8	36.59	60.48	81.00	161.98	340.05
9	21.23	49.96	44.62	11.96	127.77
Total	523.92	778.40	555.27	823.92	2,681.51

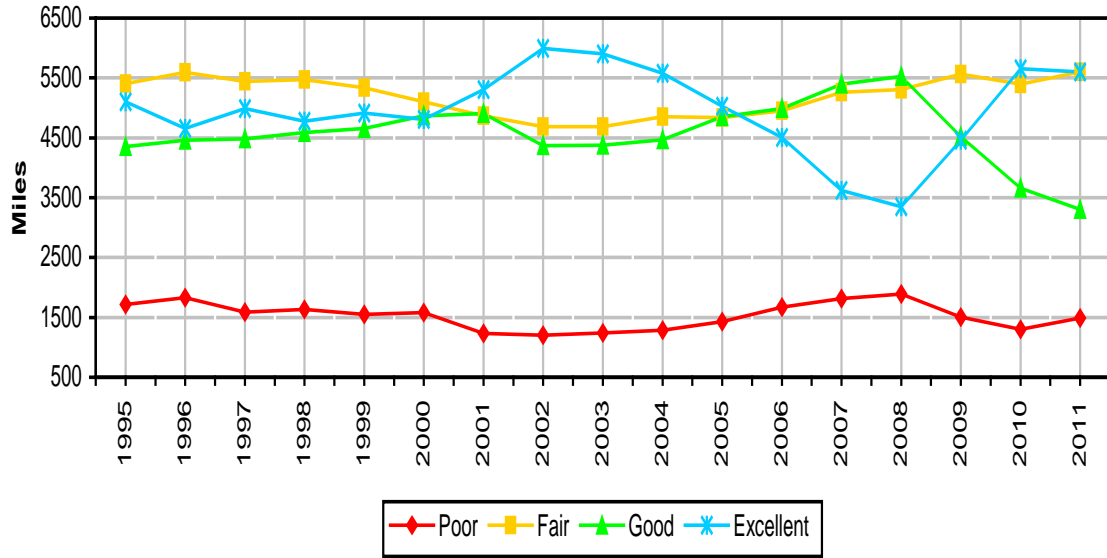
Statewide Descriptive Categories All Systems - 2011 CRS



Statewide Historical Descriptive Category Comparison

Poor (miles)												
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
All Systems	1,579	1,234	1,204	1,238	1,288	1,428	1,674	1,815	1,892	1,505	1,301	1,489
Fair (miles)												
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
All Systems	5,104	4,864	4,686	4,684	4,853	4,836	4,949	5,261	5,306	5,564	5,400	5,600
Good (miles)												
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
All Systems	4,868	4,905	4,366	4,379	4,470	4,852	4,988	5,400	5,526	4,523	3,659	3,304
Excellent (miles)												
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
All Systems	4,810	5,303	5,994	5,903	5,575	5,030	4,503	3,624	3,350	4,463	5,655	5,602

Statewide Historical Descriptive Categories



Weighted Average CRS

The weighted average condition rating is used to indicate the overall condition of the state system. This value is obtained by multiplying miles of a CRS value by that CRS value, totaling these products, and then dividing the sum by total miles.

$$\text{Weighted Average CRS} = \frac{\sum (\text{CRS value of 1.0 to 9.0}) \cdot (\text{miles with each CRS value})}{\text{Total Miles}}$$

The FY 2011 statewide weighted average for all systems is **6.6**. This falls within the good descriptive category that has a range of 6.1 to 7.5. The FY 2011 value remains unchanged from the FY 2010 with a 6.6 weighted average CRS.

The following pages provide a detailed breakdown of weighted average CRS.

**Weighted Average Condition Rating
All Systems**

District	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	6.0	6.0	6.1	6.0	6.1	6.1	6.2	6.2	6.4	6.5	6.7	6.8	6.8	6.6	6.5	6.5	6.4	6.4	6.9	7.0	7.0
2	5.9	6.1	6.1	6.3	6.2	6.0	6.3	6.0	6.2	6.0	6.3	6.4	6.4	6.3	6.3	6.2	6.0	5.7	6.0	6.3	6.2
3	6.0	5.9	6.1	6.4	6.6	6.4	6.4	6.2	6.2	6.3	6.5	6.6	6.6	6.7	6.6	6.4	6.2	6.1	6.2	6.4	6.2
4	6.4	6.3	6.4	6.6	6.5	6.8	6.7	6.8	6.9	6.7	7.0	6.9	6.7	6.0	5.9	5.8	5.6	5.9	6.8	7.5	7.3
5	6.2	6.5	6.7	6.5	6.6	6.5	6.5	6.6	6.5	6.5	6.5	6.8	6.6	6.6	6.6	6.2	6.1	6.0	6.3	6.7	6.6
6	6.4	6.3	6.4	6.3	6.3	6.2	6.3	6.3	6.3	6.4	6.5	6.6	6.8	7.1	6.8	6.7	6.4	6.3	6.0	6.2	6.3
7	6.3	6.2	6.2	6.5	6.4	6.5	6.6	6.5	6.6	6.6	6.7	6.7	6.3	6.3	6.3	6.1	6.1	6.1	6.0	6.0	6.0
8	6.2	6.5	6.8	7.0	6.9	6.9	6.9	6.8	6.7	6.8	6.8	6.9	6.9	6.9	6.7	6.6	6.6	6.7	6.7	6.7	6.7
9	6.6	6.8	7.0	7.0	6.8	6.3	6.4	6.4	6.4	6.5	6.7	6.9	6.9	6.9	6.7	6.6	6.4	6.4	6.6	6.7	6.7
Statewide	6.2	6.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.6	6.7	6.6	6.6	6.5	6.4	6.2	6.2	6.4	6.6	6.6

**Weighted Average Condition Rating
Interstate**

District	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	6.6	7.0	6.9	6.8	7.0	7.2	7.1	7.1	7.5	7.6	7.5	7.7	7.6	7.5	7.2	7.3	7.0	7.1	6.8	7.7	7.9
2	7.2	7.2	6.8	7.0	6.8	6.5	6.5	6.5	6.2	6.9	7.0	7.9	7.6	7.2	7.2	7.3	6.9	6.4	6.3	6.7	6.4
3	7.1	6.9	7.0	7.3	7.0	6.9	6.7	6.7	6.7	7.2	7.5	7.8	7.5	7.6	7.3	6.9	6.6	6.2	6.3	6.8	6.6
4	7.4	6.5	7.1	7.7	7.4	7.6	7.3	7.2	6.9	6.8	6.7	7.3	7.2	7.2	7.1	7.1	6.8	6.7	7.4	6.7	6.6
5	6.9	7.1	7.2	7.1	6.9	6.8	7.0	7.1	7.2	6.9	7.0	7.2	7.1	6.9	6.9	6.7	6.4	6.2	6.7	7.5	7.3
6	7.1	6.9	7.1	6.3	6.4	6.6	6.7	6.8	6.5	7.1	7.0	7.5	7.9	7.7	7.4	7.2	6.9	6.7	6.7	7.0	6.9
7	7.1	7.0	6.7	6.5	6.6	6.8	6.7	6.9	7.0	7.2	7.4	7.7	7.4	7.1	7.1	7.1	7.0	6.7	6.8	6.3	6.2
8	7.4	7.5	7.7	7.4	7.2	7.0	7.0	7.2	6.8	7.5	7.4	7.4	7.0	7.1	7.0	6.8	6.6	6.7	6.8	6.7	6.9
9	7.1	7.3	7.2	6.6	6.4	5.9	6.0	6.4	6.7	7.0	7.0	7.3	7.0	7.1	7.1	7.0	6.8	6.7	6.9	7.2	7.1
Statewide	7.1	7.1	7.1	7.1	6.9	6.9	6.8	6.9	6.9	7.1	7.1	7.5	7.3	7.3	7.2	7.0	6.8	6.6	6.7	7.0	6.9

**Weighted Average Condition Rating
Other Marked**

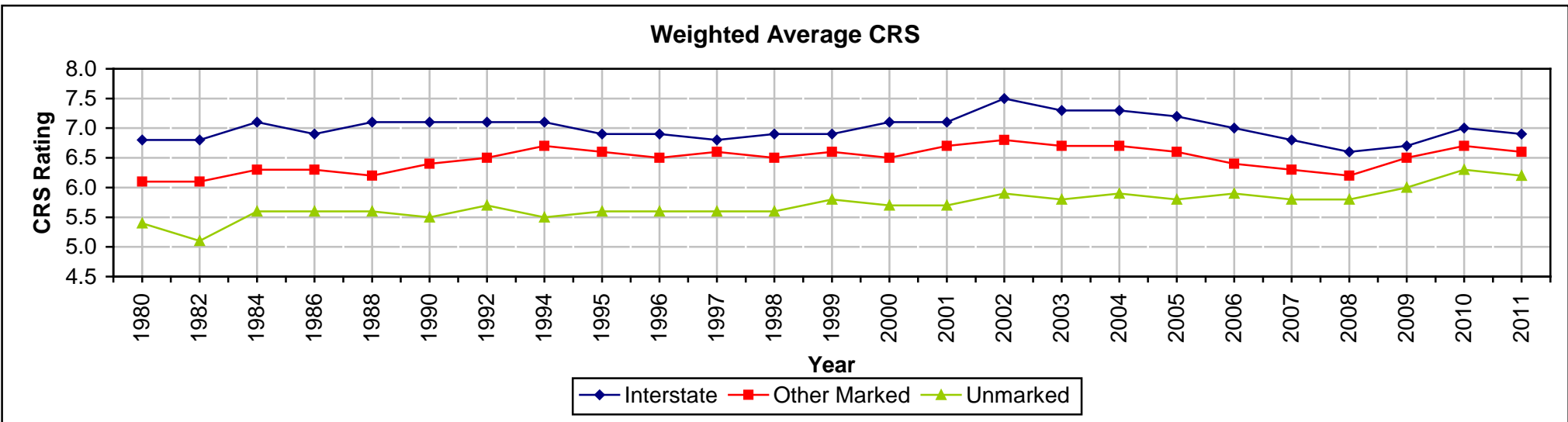
District	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	6.0	5.9	6.1	6.1	6.2	6.0	6.2	6.3	6.5	6.5	6.9	7.0	7.1	6.9	6.7	6.6	6.5	6.5	7.0	7.0	7.0
2	5.9	6.1	6.1	6.3	6.3	6.0	6.4	6.0	6.3	6.0	6.3	6.2	6.3	6.2	6.2	6.1	6.0	5.7	6.2	6.4	6.3
3	6.0	6.0	6.2	6.7	6.7	6.5	6.5	6.4	6.3	6.2	6.5	6.5	6.5	6.7	6.6	6.5	6.2	6.1	6.3	6.4	6.2
4	6.4	6.3	6.4	6.6	6.5	6.8	6.8	6.8	7.0	6.8	7.1	7.0	6.7	5.9	5.8	5.7	5.5	5.8	6.8	7.7	7.4
5	6.3	6.6	6.9	6.7	6.7	6.6	6.6	6.6	6.5	6.7	6.7	7.0	6.8	6.8	6.8	6.4	6.3	6.0	6.4	6.7	6.6
6	6.6	6.5	6.6	6.7	6.6	6.4	6.6	6.5	6.6	6.6	6.6	6.6	6.9	7.3	7.0	6.8	6.5	6.4	6.1	6.3	6.4
7	6.3	6.3	6.2	6.8	6.7	6.7	6.8	6.7	6.6	6.7	6.7	6.7	6.2	6.3	6.4	6.2	6.1	6.2	6.1	6.1	6.1
8	6.3	6.6	7.0	7.2	7.2	7.2	7.2	7.1	7.0	7.0	6.9	7.0	7.2	7.1	6.8	6.7	6.8	6.8	6.9	6.6	6.6
9	6.6	6.8	7.0	7.2	7.0	6.5	6.6	6.5	6.5	6.5	6.7	6.9	6.9	6.9	6.6	6.5	6.4	6.4	6.7	6.7	6.7
Statewide	6.2	6.4	6.5	6.7	6.6	6.5	6.6	6.5	6.6	6.5	6.7	6.8	6.7	6.7	6.6	6.4	6.3	6.2	6.5	6.7	6.6

**Weighted Average Condition Rating
Unmarked**

District	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	6.0	5.8	6.0	5.8	5.7	6.0	5.9	5.9	6.1	6.1	6.1	6.8	6.1	6.0	6.0	6.1	6.1	6.2	6.8	7.0	6.9
2	5.1	5.3	5.7	5.7	5.6	5.5	5.5	5.4	5.6	5.6	5.6	5.7	6.2	6.3	6.0	5.8	5.6	5.3	5.3	5.3	5.3
3	5.0	3.9	4.6	3.9	5.3	5.0	5.1	5.0	5.0	4.9	5.3	5.2	5.5	5.2	5.5	5.5	5.5	5.3	5.5	5.4	5.4
4	5.3	5.3	5.3	5.2	5.0	5.5	5.4	5.5	5.4	5.5	5.5	5.6	5.5	5.1	5.0	5.3	5.3	5.7	6.4	6.7	6.5
5	5.7	6.1	6.1	5.8	5.9	5.9	5.7	6.0	5.7	5.7	5.5	5.6	5.5	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.6
6	5.3	5.0	5.0	5.0	5.3	5.1	5.2	5.1	5.4	5.2	5.7	5.7	5.9	5.9	5.9	6.1	5.8	5.6	5.3	5.4	5.6
7	5.2	4.9	5.6	5.0	5.0	5.1	5.3	5.3	5.8	5.6	5.9	5.8	5.7	5.9	5.3	5.3	5.2	5.0	5.0	5.3	5.5
8	5.5	5.5	5.8	5.9	6.0	6.0	5.9	5.8	5.6	5.6	5.8	6.3	5.9	6.0	5.9	6.2	6.1	6.2	6.0	7.0	7.0
9	6.1	6.0	6.0	6.0	5.8	5.3	5.3	5.7	5.6	5.8	6.2	6.6	6.7	6.5	6.3	6.2	6.0	6.0	5.8	5.8	5.7
Statewide	5.6	5.5	5.7	5.5	5.6	5.6	5.6	5.6	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	5.8	5.8	6.0	6.3	6.2

Weighted Average Condition Rating FY 2011 Comparison Statewide

	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Interstate	7.1	7.1	7.1	7.1	6.9	6.9	6.8	6.9	6.9	7.1	7.1	7.5	7.3	7.3	7.2	7.0	6.8	6.6	6.7	7.0	6.9
Other Marked	6.2	6.4	6.5	6.7	6.6	6.5	6.6	6.5	6.6	6.5	6.7	6.8	6.7	6.7	6.6	6.4	6.3	6.2	6.5	6.7	6.6
Unmarked	5.6	5.5	5.7	5.5	5.6	5.6	5.6	5.6	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	5.8	5.8	6.0	6.3	6.2
Total System	6.2	6.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.6	6.7	6.6	6.6	6.5	6.4	6.2	6.2	6.4	6.6	6.6



International Roughness Index (IRI)

The International Roughness Index or IRI is a measurement of the longitudinal profile of a pavement surface. It is represented as a numerical value that is the accumulation of the inches of vertical movement of a vehicle over a roadway surface, adjusted to reflect a rate per mile.

The lower the value, the smoother the ride, while higher values indicate a rougher ride. Typical IRI ranges include: Good (below 95), Fair (95-170), Poor (above 170). While lower IRI represents smoother riding pavement, to obtain a comprehensive assessment of pavement conditions, additional measures of pavement distresses are needed.

IRI is collected by the DCVs when performing the CRS collection. IRI is not reported in areas of anomalous road conditions (non-final surfaces in construction zones for example), bridges, railroad crossings, or areas that the DCV is driving below the operating threshold of the profiler.

There are also roads for which it is not practical for the DCV to collect data on. For example, these roads may be of gravel construction or may be in a remote location. These roads will not have an IRI value collected by the DCV.

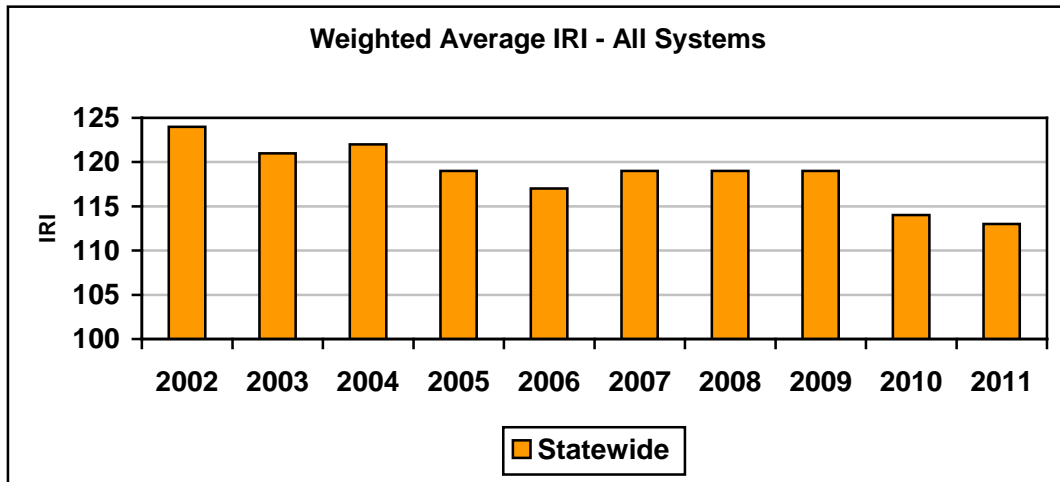
Roadways that were resurfaced after the CRS collection, and the CRS updated in IRIS, will not have an IRI value. The IRI will be collected in the next CRS.

The weighted average IRI is used to indicate the overall ride quality of the state system. This value is obtained by multiplying miles of an IRI value by that IRI value, totaling these products, and then dividing the sum by the total miles. Roadways with a zero IRI are not included.

The following pages provide a breakdown of IRI values.

**Weighted Average IRI
All Systems**

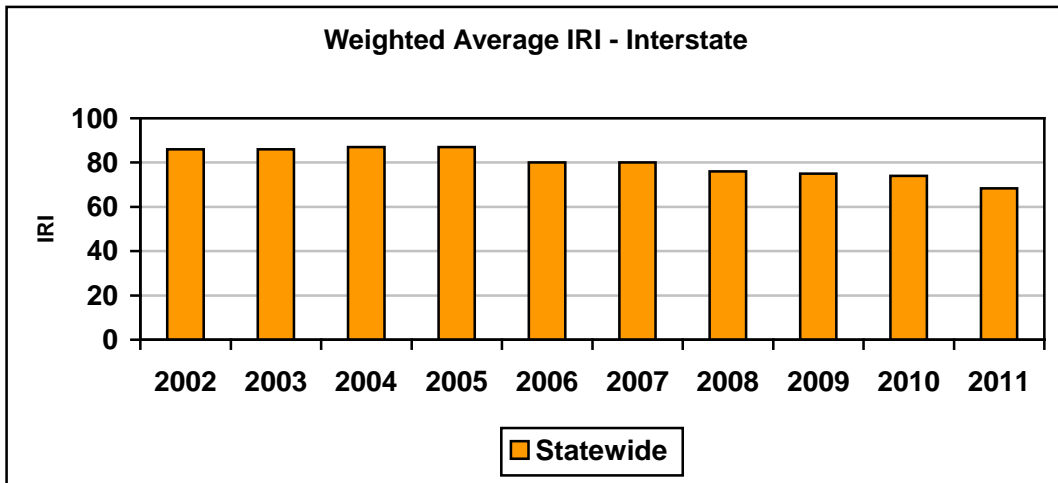
District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	178	173	174	177	173	174	185	187	170	161
2	134	125	125	117	115	120	121	126	125	115
3	103	102	101	105	105	104	103	100	99	97
4	109	109	112	109	112	112	109	108	98	98
5	109	108	114	108	106	106	102	101	97	96
6	121	118	114	101	99	104	101	103	103	102
7	103	100	101	108	104	111	110	112	112	110
8	114	113	113	111	109	108	104	104	105	108
9	99	99	97	96	89	89	84	84	86	91
Statewide	124	121	122	119	117	119	119	119	114	113



Weighted Average IRI Interstate

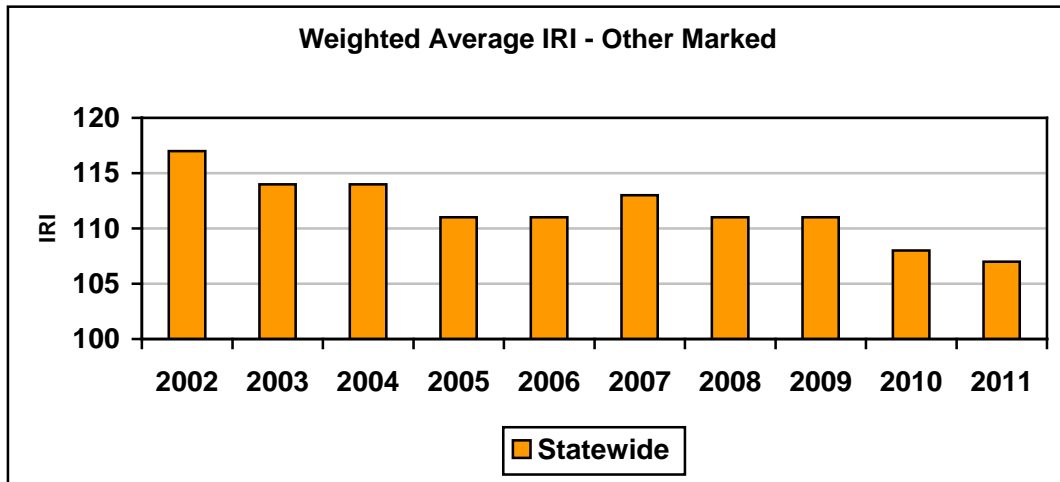
District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	104	104	107	107	106	106	96	96	101	84
2	91	90	87	82	75	75	81	81	74	71
3	79	79	78	79	78	78	79	79	75	69
4	82	82	86	89	81	81	79	77	68	63
5	81	81	83	81	76	76	73	73	70	66
6	84	84	76	76	72	72	65	63	64	61
7	74	73	77	82	67	67	63	63	64	59
8	95	95	104	98	90	89	81	81	81	75
9	94	94	97	91	79	79	69	69	69	68
Statewide	86	86	87	87	80	80	76	75	74	68

Note: Interstate CRS and IRI data are only collected in the even numbered years for all districts. The odd numbered years reflect the previous year's data and any updates/special collections that may have been done.



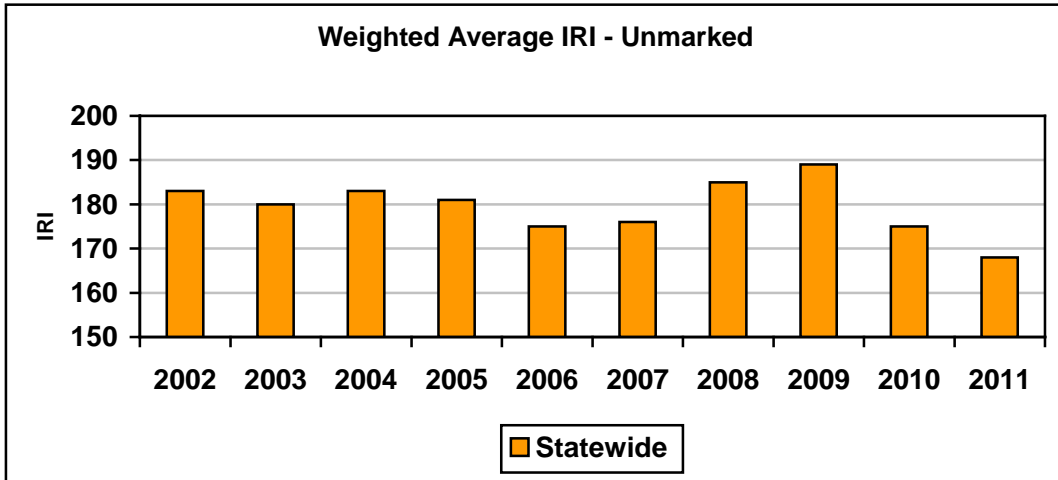
**Weighted Average IRI
Other Marked**

District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	162	156	153	158	158	161	166	168	156	148
2	136	126	127	118	118	122	122	127	127	113
3	98	98	98	102	102	102	102	98	98	99
4	107	107	111	108	113	112	108	106	98	98
5	103	103	107	103	104	104	100	100	96	97
6	117	115	112	95	93	100	97	96	97	97
7	107	103	103	106	104	108	108	106	106	107
8	102	101	100	100	100	100	94	94	96	100
9	96	96	94	94	88	88	82	82	84	90
Statewide	117	114	114	111	111	113	111	111	108	107



**Weighted Average IRI
Unmarked**

District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	223	221	228	229	217	216	241	241	207	201
2	162	150	151	134	133	146	146	156	155	157
3	179	179	174	191	190	178	177	175	171	143
4	180	181	177	177	183	185	194	204	169	160
5	155	155	167	155	147	147	140	140	130	129
6	163	158	155	149	150	146	147	158	159	153
7	126	120	120	144	142	162	162	182	181	159
8	175	174	171	167	160	158	156	156	157	156
9	134	133	127	124	124	124	126	126	130	132
Statewide	183	180	183	181	175	176	185	189	175	168



IRI Groupings from the FY 2011 CRS

Rural Statewide IRI Groupings									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	600.04	564.5	100.88	21.12	2.09	0.00	0.00	0.00
Other Marked	61.34	906.81	3527.88	1926.11	987.55	490.95	186.11	98.74	87.13
Unmarked	55.39	59.65	257.04	234.05	168.30	136.05	122.23	73.23	214.91
Total	116.73	1566.50	4349.42	2261.04	1176.97	629.09	308.34	171.97	302.04

*Data not available due to various DCV collection/operating constraints.

Urban Statewide IRI Groupings									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	2.62	187.15	279.09	82.85	40.75	8.32	0.00	0.00	0.00
Other Marked	7.88	109.97	725.18	654.25	541.84	453.15	277.43	177.81	203.17
Unmarked	39.34	8.84	72.66	155.31	211.83	185.20	150.89	153.03	383.56
Total	49.84	305.96	1076.93	892.41	794.42	646.67	428.32	330.84	586.73

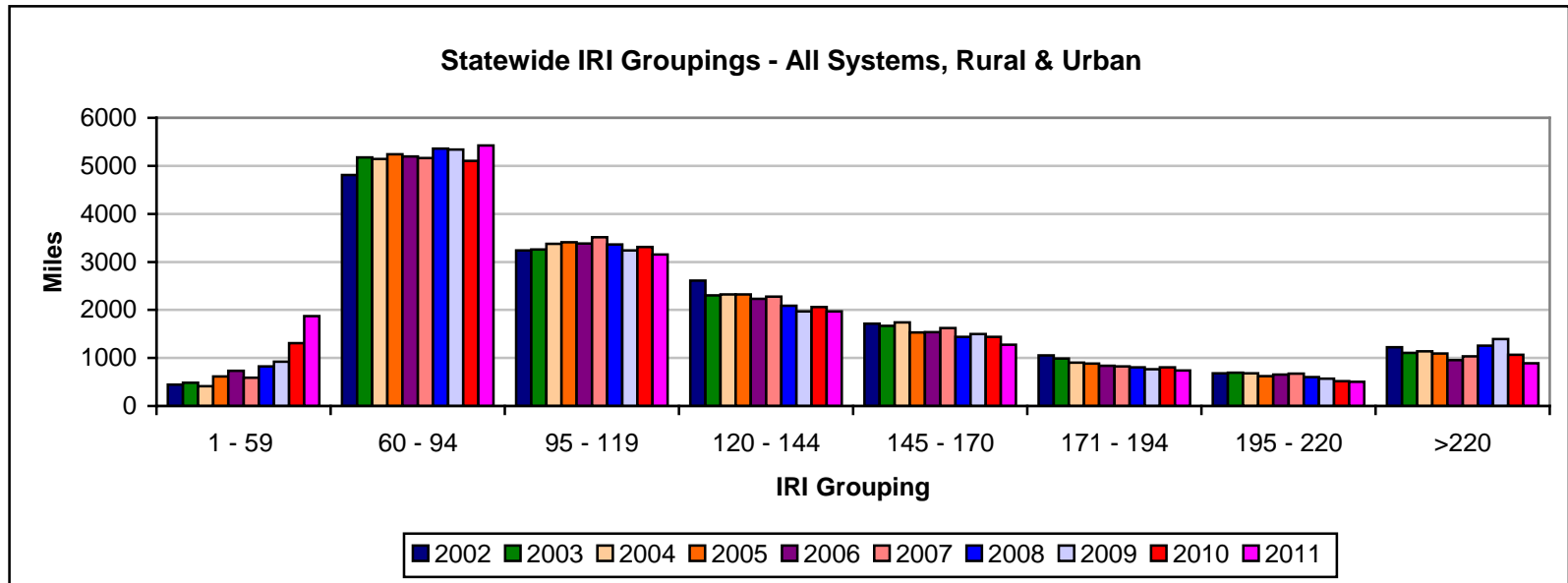
*Data not available due to various DCV collection/operating constraints.

Rural & Urban Statewide IRI Groupings									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
All Systems	166.57	1872.46	5426.35	3153.45	1971.39	1275.76	736.66	502.81	888.77

*Data not available due to various DCV collection/operating constraints.

Statewide IRI Groupings – All Systems, Rural & Urban									
Year	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
2002	482.53	446.60	4,808.92	3,238.20	2,613.83	1,711.52	1,052.16	678.40	1,222.49
2003	527.41	482.81	5,174.87	3,260.62	2,304.60	1,669.13	988.00	691.76	1,105.33
2004	468.23	412.17	5,144.58	3,374.31	2,322.47	1,742.94	901.10	683.71	1,136.42
2005	422.19	615.17	5,241.00	3,412.09	2,324.01	1,532.18	885.48	620.10	1,094.06
2006	583.68	733.64	5,192.71	3,384.75	2,233.79	1,540.45	835.45	652.22	957.72
2007	406.61	589.19	5,164.84	3,511.26	2,274.99	1,619.98	825.66	674.84	1,032.31
2008	338.22	824.53	5,358.73	3,363.99	2,087.82	1,438.41	804.12	602.02	1,255.48
2009	352.30	920.48	5,340.29	3,235.76	1,972.71	1,499.11	767.04	570.49	1,396.73
2010	397.26	1,310.81	5,104.80	3,309.46	2,061.40	1,442.22	803.67	517.65	1,067.78
2011	166.57	1872.46	5426.35	3153.45	1971.39	1275.76	736.66	502.81	888.77

*Data not available due to various DCV collection/operating constraints.



IRI Groupings from the FY 2011 CRS
By CRS Category

Rural Statewide IRI Groupings – Excellent Condition (CRS > 7.5)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	221.2	151.38	54.70	17.35	2.09	0.00	0.00	0.00
Other Marked	53.81	841.70	1052.33	340.39	231.90	141.38	78.13	39.97	54.98
Unmarked	3.43	59.50	99.90	47.48	25.68	32.51	23.36	10.54	18.13
Total	57.24	1122.40	1303.61	442.57	274.93	175.98	101.49	50.51	73.11

*Data not available due to various DCV collection/operating constraints.

Urban Statewide IRI Groupings – Excellent Condition (CRS >7.5)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	2.62	74.80	156.28	54.05	16.48	4.42	0.00	0.00	0.00
Other Marked	7.48	87.13	409.20	299.59	133.76	99.51	51.96	47.15	52.04
Unmarked	6.52	8.74	44.64	66.17	106.19	79.77	45.85	52.91	92.60
Total	16.62	170.67	610.12	419.81	256.43	183.70	97.81	100.06	144.64

*Data not available due to various DCV collection/operating constraints.

Rural and Urban Statewide IRI Groupings – Excellent Condition (CRS >7.5)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
All Systems	73.86	1293.07	1913.73	862.38	531.36	359.68	199.30	150.57	217.75

*Data not available due to various DCV collection/operating constraints.

IRI Groupings from the FY 2011 CRS

By CRS Category

Rural Statewide IRI Groupings – Good Condition (6.0 <CRS < 7.6)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	244.13	87.27	15.07	0.00	0.00	0.00	0.00	0.00
Other Marked	7.53	59.96	1102.69	194.12	59.24	14.53	2.93	2.14	0.73
Unmarked	3.76	0.15	89.74	56.16	21.47	23.27	4.78	2.67	14.31
Total	11.29	304.24	1279.70	265.35	80.71	37.80	7.71	4.81	15.04

*Data not available due to various DCV collection/operating constraints.

Urban Statewide IRI Groupings – Good Condition (6.0 <CRS < 7.6)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	83.90	56.36	16.50	22.06	2.49	0.00	0.00	0.00
Other Marked	0.00	18.98	155.85	142.64	169.69	131.92	72.05	36.05	49.64
Unmarked	3.48	0.00	14.94	47.72	44.58	62.99	54.42	52.54	58.29
Total	3.48	102.88	227.15	206.86	236.33	197.40	126.47	88.59	107.93

*Data not available due to various DCV collection/operating constraints.

Rural and Urban Statewide IRI Groupings – Good Condition (6.0 <CRS < 7.6)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
All Systems	14.77	407.12	1506.85	472.21	317.04	235.20	134.18	93.40	122.97

*Data not available due to various DCV collection/operating constraints.

IRI Groupings from the FY 2011 CRS
By CRS Category

Rural Statewide IRI Groupings – Fair Condition (4.5 <CRS < 6.1)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	134.54	274.71	30.71	0.70	0.00	0.00	0.00	0.00
Other Marked	0.00	5.15	1309.12	1166.14	493.23	173.58	34.15	22.57	9.02
Unmarked	20.97	0.00	63.83	86.21	89.68	60.55	15.93	18.65	48.92
Total	20.97	139.69	1647.66	1283.06	583.61	234.13	50.08	41.22	57.94

*Data not available due to various DCV collection/operating constraints.

Urban Statewide IRI Groupings – Fair Condition (4.5 <CRS < 6.1)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	28.45	63.71	11.78	0.23	0.77	0.00	0.00	0.00
Other Marked	0.34	3.86	156.39	191.85	217.38	189.27	134.79	81.72	87.35
Unmarked	14.50	0.10	11.38	39.76	51.03	38.90	32.70	42.36	142.31
Total	14.84	32.41	231.48	243.39	268.64	228.94	167.49	124.08	229.66

*Data not available due to various DCV collection/operating constraints.

Rural and Urban Statewide IRI Groupings – Fair Condition (4.5 <CRS < 6.1)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
All Systems	35.81	172.10	1879.14	1526.45	852.25	463.07	217.57	165.28	287.60

*Data not available due to various DCV collection/operating constraints.

IRI Groupings from the FY 2011 CRS
By CRS Category

Rural Statewide IRI Groupings – Poor Condition (CRS < 4.6)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	0.17	51.14	0.40	3.07	0.00	0.00	0.00	0.00
Other Marked	0.00	0.00	63.74	225.46	203.18	161.46	70.90	34.06	22.40
Unmarked	27.20	0.00	3.57	44.20	31.47	19.72	78.16	41.37	133.55
Total	27.20	0.17	118.45	270.06	237.72	181.18	149.06	75.43	155.95

*Data not available due to various DCV collection/operating constraints.

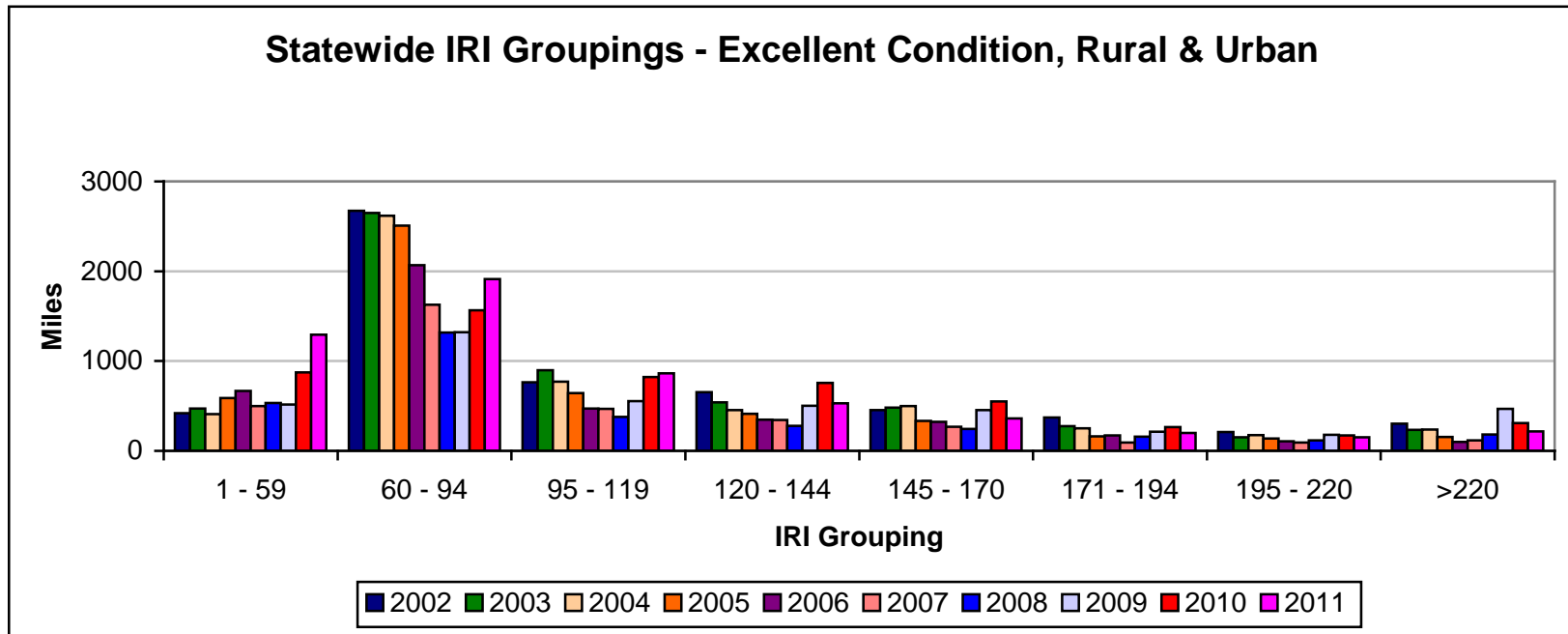
Urban Statewide IRI Groupings – Poor Condition (CRS < 4.6)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
Interstate	0.00	0.00	2.74	0.52	1.98	0.64	0.00	0.00	0.00
Other Marked	0.06	0.00	3.74	20.17	21.01	32.45	18.63	12.89	14.14
Unmarked	14.25	0.00	1.70	1.66	10.03	3.54	17.92	5.22	90.36
Total	14.31	0.00	8.18	22.35	33.02	36.63	36.55	18.11	104.50

*Data not available due to various DCV collection/operating constraints.

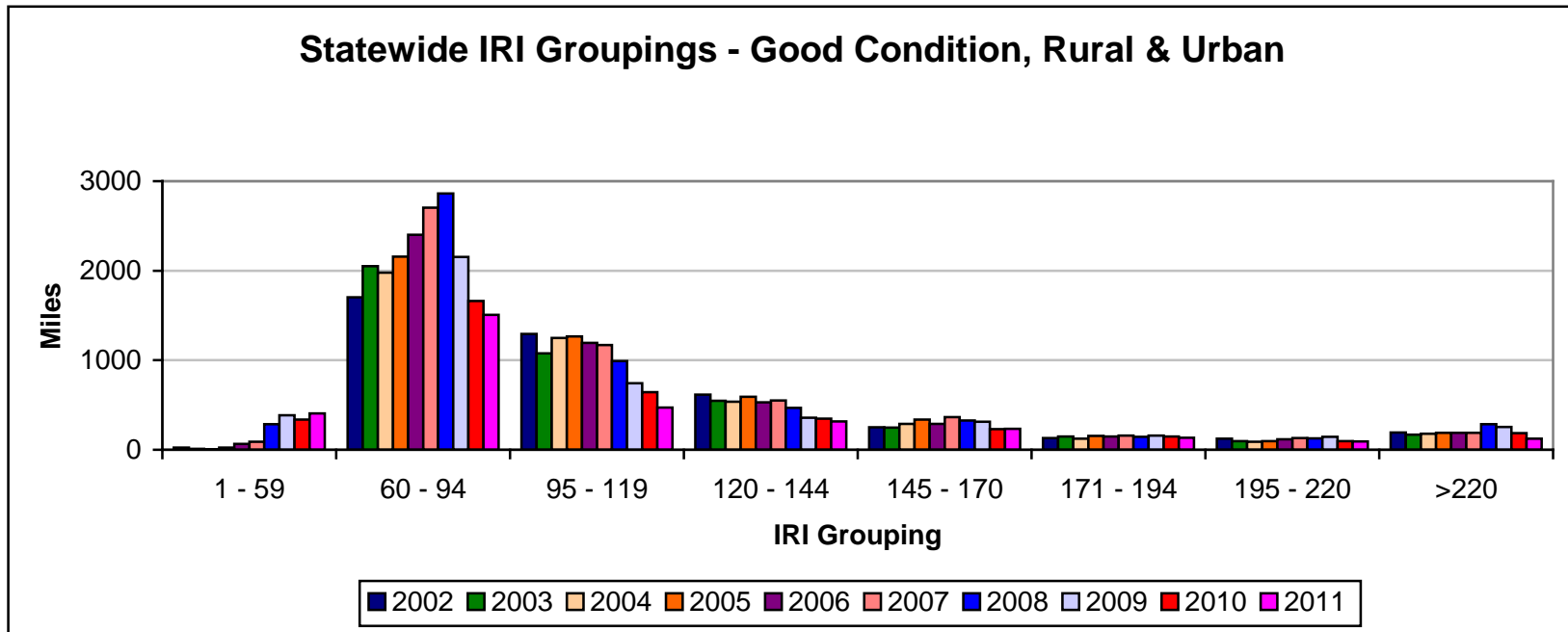
Rural and Urban Statewide IRI Groupings – Poor Condition (CRS < 4.6)									
	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
All Systems	41.51	0.17	126.63	292.41	270.74	217.81	185.61	93.54	260.45

*Data not available due to various DCV collection/operating constraints.

Statewide IRI Groupings – Excellent Condition, All Systems, Rural & Urban									
Year	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
2002	146.09	421.03	2,672.78	763.83	654.15	454.06	372.00	208.96	303.97
2003	202.76	471.17	2,647.54	896.59	541.28	480.82	276.70	151.22	234.51
2004	159.85	407.77	2,616.89	770.28	455.04	499.70	252.24	174.36	238.79
2005	89.03	586.83	2,509.00	644.66	411.85	334.70	163.03	136.71	154.01
2006	253.88	666.75	2,068.05	470.29	346.35	322.54	170.72	105.46	99.41
2007	114.88	498.77	1,626.42	467.82	344.47	268.23	92.66	94.43	116.71
2008	138.22	532.85	1,317.21	378.43	280.34	245.22	158.98	116.01	182.41
2009	257.62	514.97	1,320.56	552.95	501.24	454.76	213.58	178.17	468.99
2010	312.83	873.10	1,564.12	852.33	756.70	550.03	263.56	171.72	310.59
2011	73.86	1293.07	1913.73	862.38	531.36	359.68	199.30	150.57	217.75



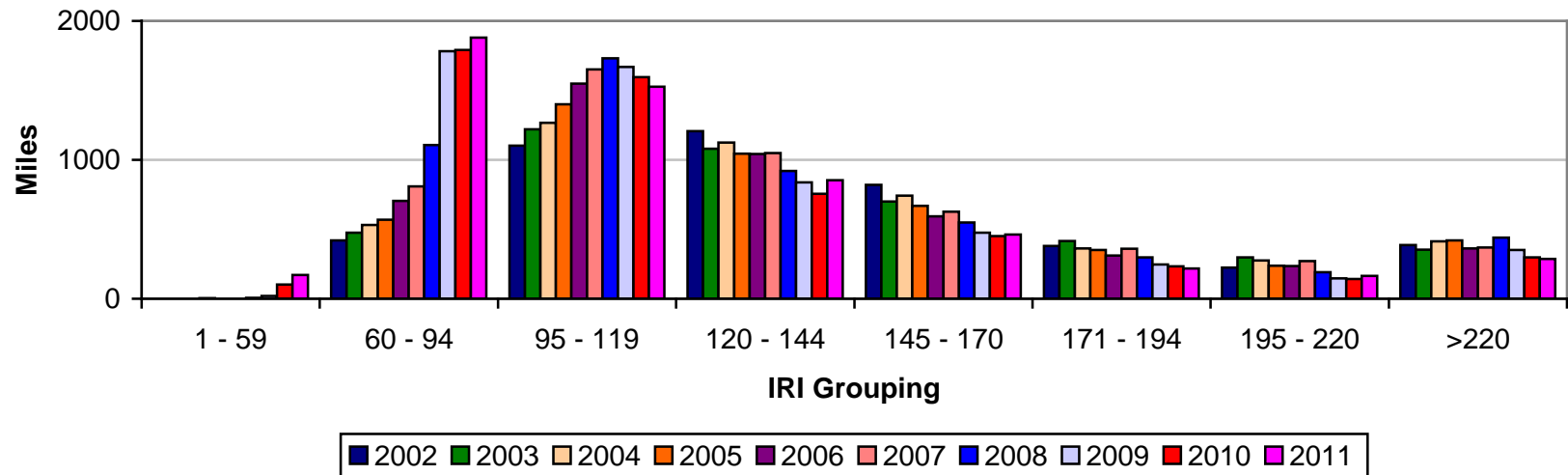
Statewide IRI Groupings – Good Condition, All Systems, Rural & Urban									
Year	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
2002	35.15	25.49	1,703.20	1293.56	615.24	249.78	129.41	124.65	191.02
2003	31.08	11.47	2,050.42	1078.48	547.38	247.23	147.47	96.91	167.71
2004	23.17	4.16	1,978.33	1247.43	538.31	287.45	122.85	90.66	177.63
2005	37.91	23.39	2,156.71	1267.39	590.41	337.09	153.46	95.64	190.08
2006	53.59	66.89	2,399.82	1194.73	528.75	290.55	148.12	116.77	188.29
2007	41.45	90.42	2,702.57	1171.27	550.00	365.69	159.24	130.31	188.83
2008	40.65	283.99	2,862.57	989.96	467.26	327.01	143.19	125.87	285.70
2009	13.71	386.54	2,153.70	741.87	356.96	312.86	159.16	142.96	255.43
2010	7.68	335.63	1,662.79	643.05	349.07	230.25	149.26	94.77	186.70
2011	14.77	407.12	1506.85	472.21	317.04	235.20	134.18	93.40	122.97



Statewide IRI Groupings – Fair Condition, All Systems, Rural & Urban

Year	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
2002	144.67	0.08	419.18	1,102.61	1,207.61	820.56	380.41	225.05	385.92
2003	143.84	0.17	476.65	1,220.14	1,079.19	699.48	414.96	298.85	353.17
2004	136.86	0.09	531.54	1,267.21	1,123.90	743.17	361.70	275.61	413.28
2005	140.87	4.74	568.54	1,400.06	1,043.48	668.52	351.98	238.81	418.95
2006	149.54	0.00	705.29	1,548.85	1,043.00	592.52	312.20	236.26	361.68
2007	125.23	0.00	809.86	1,650.17	1,048.83	627.09	359.11	271.79	368.55
2008	60.12	7.69	1,106.58	1,732.11	920.55	549.33	297.91	190.43	440.89
2009	34.87	18.97	1,781.62	1,669.07	838.28	476.05	246.23	147.40	351.10
2010	31.11	102.08	1,791.12	1,594.85	754.82	451.82	233.83	141.35	298.65
2011	35.81	172.10	1879.14	1526.45	852.25	463.07	217.57	165.28	287.60

Statewide IRI Groupings - Fair Condition, Rural & Urban



Statewide IRI Groupings – Poor Condition, All Systems, Rural & Urban									
Year	No IRI*	1 - 59	60 - 94	95 - 119	120 - 144	145 - 170	171 - 194	195 - 220	>220
2002	156.62	0.00	13.76	78.20	136.83	187.12	170.34	119.74	341.58
2003	149.73	0.00	0.26	65.41	136.75	241.60	148.87	144.78	349.94
2004	148.35	0.00	17.82	89.39	205.22	212.62	164.31	143.08	306.72
2005	154.38	0.00	6.75	99.98	278.27	191.87	217.01	148.94	331.02
2006	126.67	0.00	19.55	170.88	315.69	334.84	204.41	193.73	308.34
2007	125.05	0.00	25.99	222.00	331.69	358.97	214.65	178.31	358.22
2008	99.23	0.00	72.37	263.49	419.67	316.85	204.04	169.71	346.48
2009	46.10	0.00	84.41	271.87	276.23	255.44	148.07	101.96	321.21
2010	45.64	0.00	86.77	219.23	200.81	210.12	157.02	109.81	271.84
2011	41.51	0.17	126.63	292.41	270.74	217.81	185.61	93.54	260.45

