



*Maryland Traffic Records Forum  
State of Michigan's Traffic Crash System  
Baltimore, MD  
June 16, 2015*

# Today's Discussion

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## MI Crash System Evolution

- Where We Were (Circa 2000)
- How We Planned and Developed Updated System
- What We Did (Outcomes)
- Ongoing Issues/Challenges

# Governance

## **Governor's Traffic Safety Advisory Commission (GTSAC)**

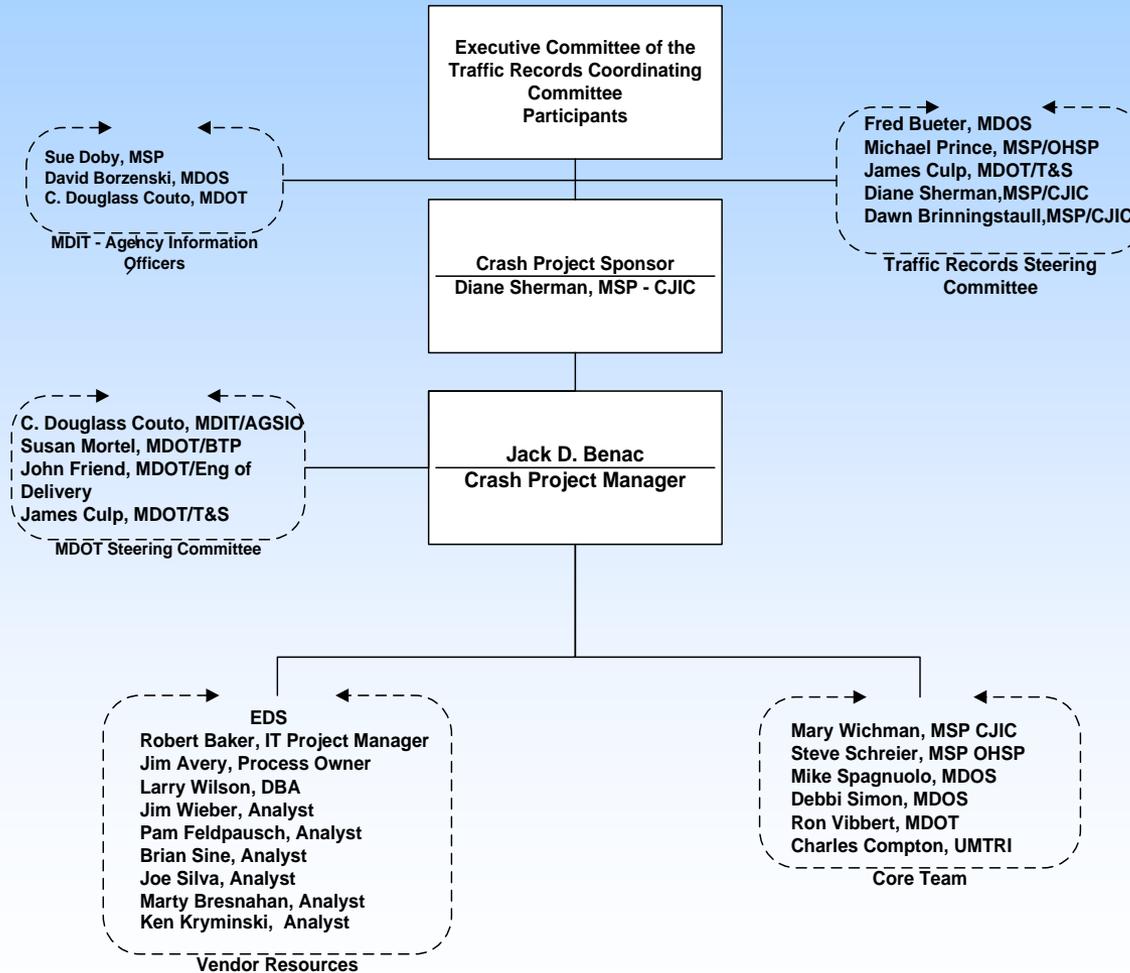
- Originally Established in 1941
- Cabinet Level Members of State Agencies
- Local Government Members – Law Enforcement & County Road Commissions
- Develops the Strategic Highway Safety Plan
- Meets Monthly
- SHSP Emphasis Areas & TRCC are Sub-groups of the GTSAC

# Governance

## **Traffic Records Coordinating Committee (TRCC)**

- Formally Established in 1994
- Executive Level Committee Membership of State Agencies
- Meets Quarterly
- Coordinates the Traffic Records and Information Systems Action Team of the GTSAC
- Develops the Traffic Records Strategic Plan
- Directs Development and Implementation of Traffic Records Projects
- Supports Sub-committees such as the CDUG

# Governance



# 2000 MI Crash System

- System Not Delivering Acceptable Product
- Three Failed Attempts to Update System
- Regional Processing Centers Sprouting Up
- Unconsolidated data sources created delays in traffic safety decision making
  - Three departments maintained their own crash data
  - Redundancies and duplications existed
- Utilized a legacy system running on a Unisys mainframe
- Heavy reliance on manual paper-based processes
- FMCSA Red State

# Crash Data System

## Current MI Traffic Crash System

- Multi Agency Initiative
- Included Eight Development Phases – All Delivered On Time and Under Budget
- Eliminates Redundancy, Uses Enterprise wide products developed under a consolidated Department of Information Technology
- Consolidated FARS, SAFETYNET, and Crash Locating as part of Central Processing
- Provides Timely, Quality, Accessible Traffic Crash data to system stakeholders

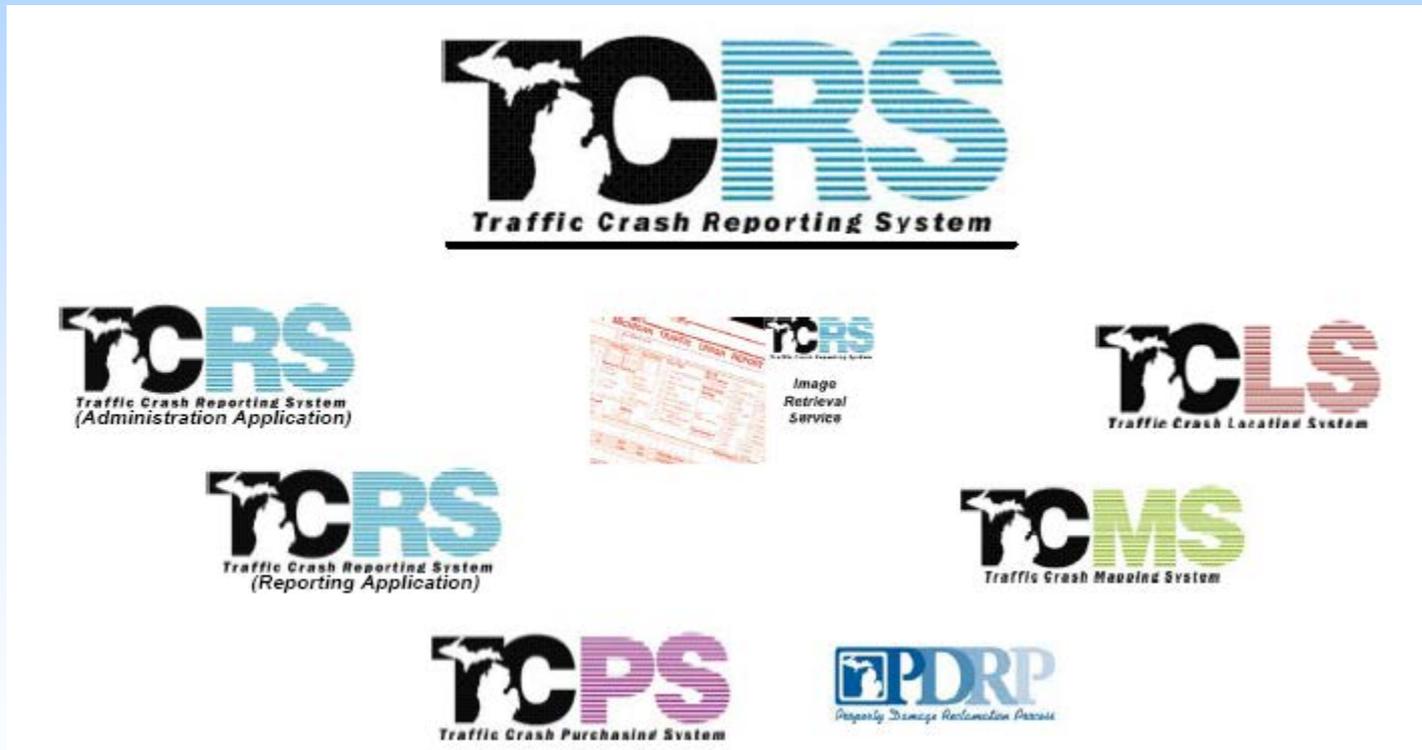
# Crash Data System

## **Business Process Review as Well as an IT Project**

- Data to Measure Quality
- Systematic Processes
- Diversity in Staffing
- Crash Form Training Programs
- Adopt Electronic Data Collection Systems – ECCS
- Incentive for Statewide Law Enforcement Participation

# Crash Data System

## TCRS System Components



# Crash Data System

## TCRS Performance Measures (Efficiencies)

	<u>Before</u>	<u>After</u>
Staffing	24	12
Crash Locating	75% Located	99.5% Located
Average Reporting Days	103 days	22 days
Yearend Reporting	July	March

**Eliminated Three Redundant Databases**

**Developed Quality Control Program**

**Eliminated IT Infrastructure and Staff Support Requirements for Redundant Databases.**

**Improved Federal Motor Carrier Reporting to move from Red to Green State.**

# Crash Data System

## Incentive for Law Enforcement Participation

- Free Training
- Access to the Crash Analysis Web Site – Analysis and Data Performance Reporting
- Crash Report Revenue Sharing – 30% for Agencies Submitting on Paper, 55% for Electronic Submitted Reports
- ECCS grants – Over \$2.5 Million provided to LEAs for Updating Technology

# Crash Data System

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Electronic processing of Crash Form provides significant benefits:

↑ Accuracy

↑ Timeliness

↑ Consistency

↑ Completeness

↓ Cost

# Crash Data System

## Communication & Status

### 2006-2015 Electronic Crash Capture and Submission Status Report

First Quarter Statistics - Updated May 5, 2015

Year	AGENCIES**				
	Electronic	Paper	Total	% Electronic	% Paper
2006	13	612	625	2.1%	97.9%
2007	17	606	623	2.7%	97.3%
2008	82	540	622	13.2%	86.8%
2009	256	369	625	41.0%	59.0%
2010	385	243	628	61.3%	38.7%
2011	443	183	626	70.8%	29.2%
2012*	455	137	592	76.9%	23.1%
2013	465	116	581	80.0%	20.0%
2014	501	94	595	84.2%	15.8%

\*Total agencies lower due to MSP post closings on 11/1/2011.

\*\*2-21-2014 - Total agency counts were updated for 2006-2013 based on actual number of agencies that submitted at least one crash in that year.

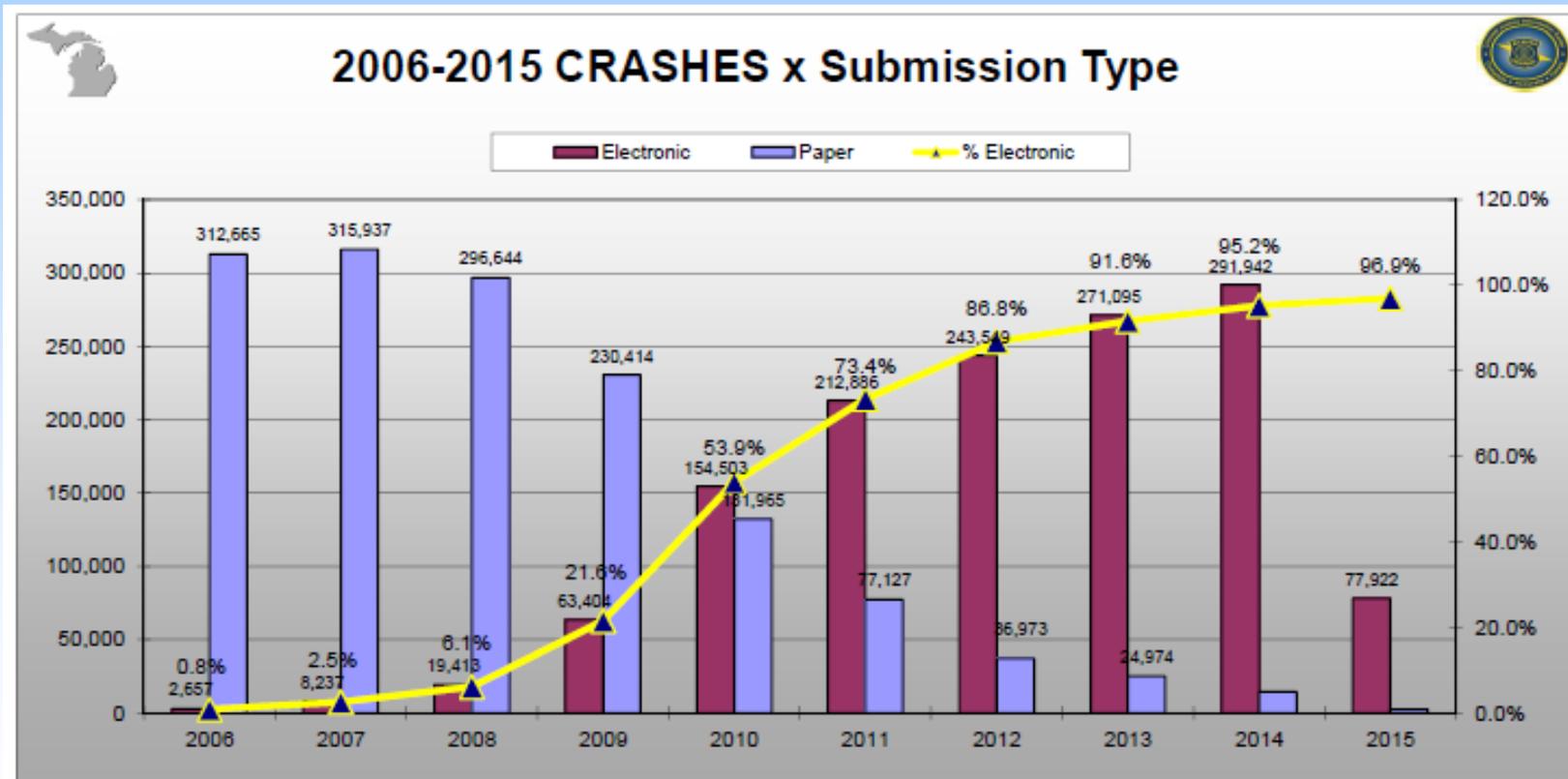
Year	CRASHES				
	Electronic	Paper	Total	% Electronic	% Paper
2006	2,657	312,665	315,322	0.8%	99.2%
2007	8,237	315,937	324,174	2.5%	97.5%
2008	19,413	296,644	316,057	6.1%	93.9%
2009	63,404	230,414	293,818	21.6%	78.4%
2010	154,503	131,965	286,468	53.9%	46.1%
2011	212,886	77,127	290,013	73.4%	26.6%
2012	243,549	36,973	280,522	86.8%	13.2%
2013	271,095	24,974	296,069	91.6%	8.4%
2014	291,942	14,665	306,607	95.2%	4.8%
2015	77,922	2,491	80,413	96.9%	3.1%

Vendor	VENDORS	
	# Agencies	% of Total
A Visionair	2	0.4%
C Clemis	85	17.0%
D ID Networks	2	0.4%
I Iye Tek	330	65.9%
L New World Systems	4	0.8%
S Sungard OSSI	58	11.6%
V Visual Statement Inc	20	4.0%
Agencies - Electronic	501	
Agencies - Paper	94	
TOTAL # Agencies Reporting >1 crash	595	
Total % Electronic	84.2%	

Note: Total number of agencies represented for each vendor is based on agency crash submissions for 2014. If there were zero crash submissions for 2014, those agencies were removed from the total.

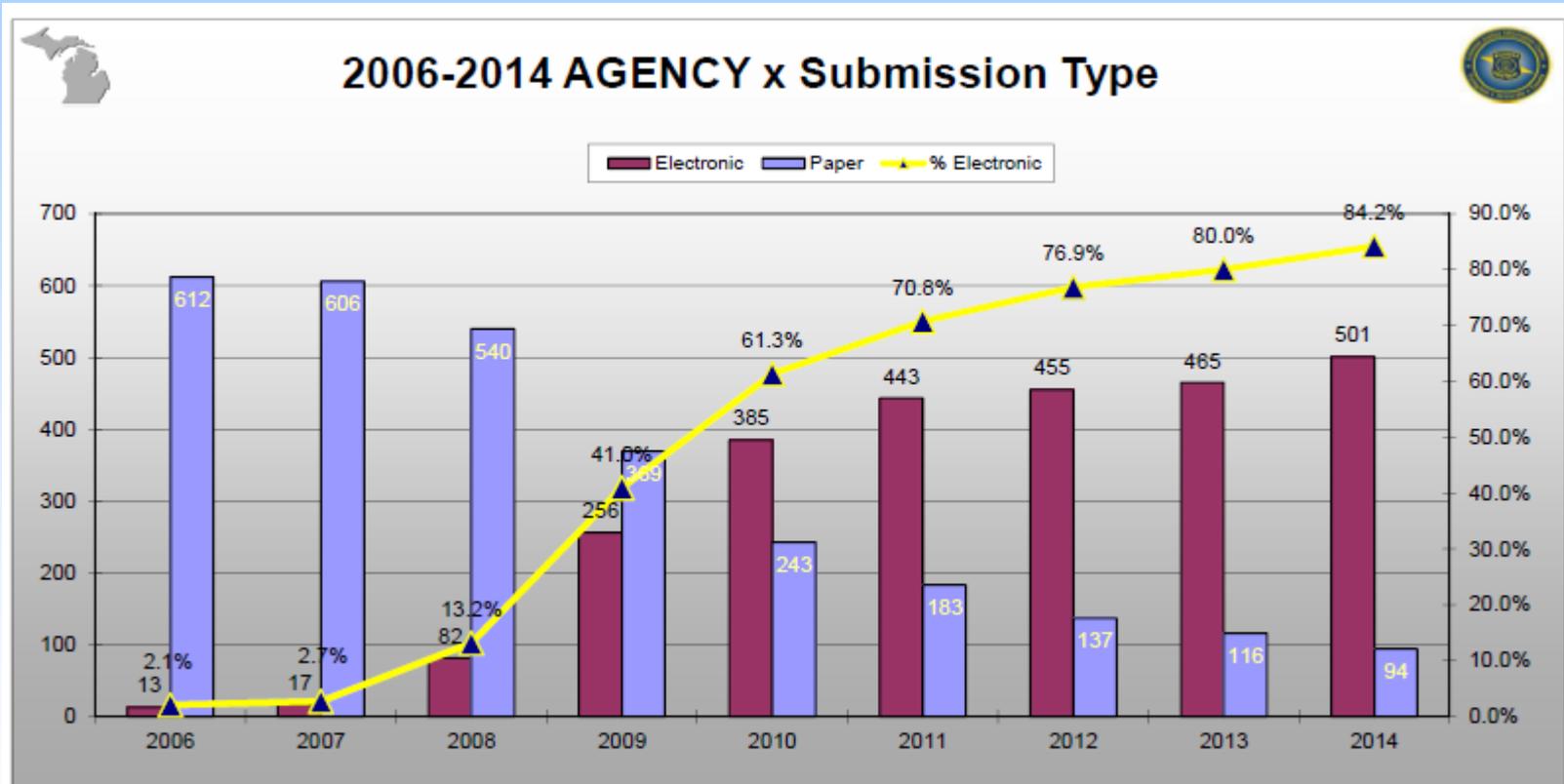
# Crash Data System

## Communication & Status



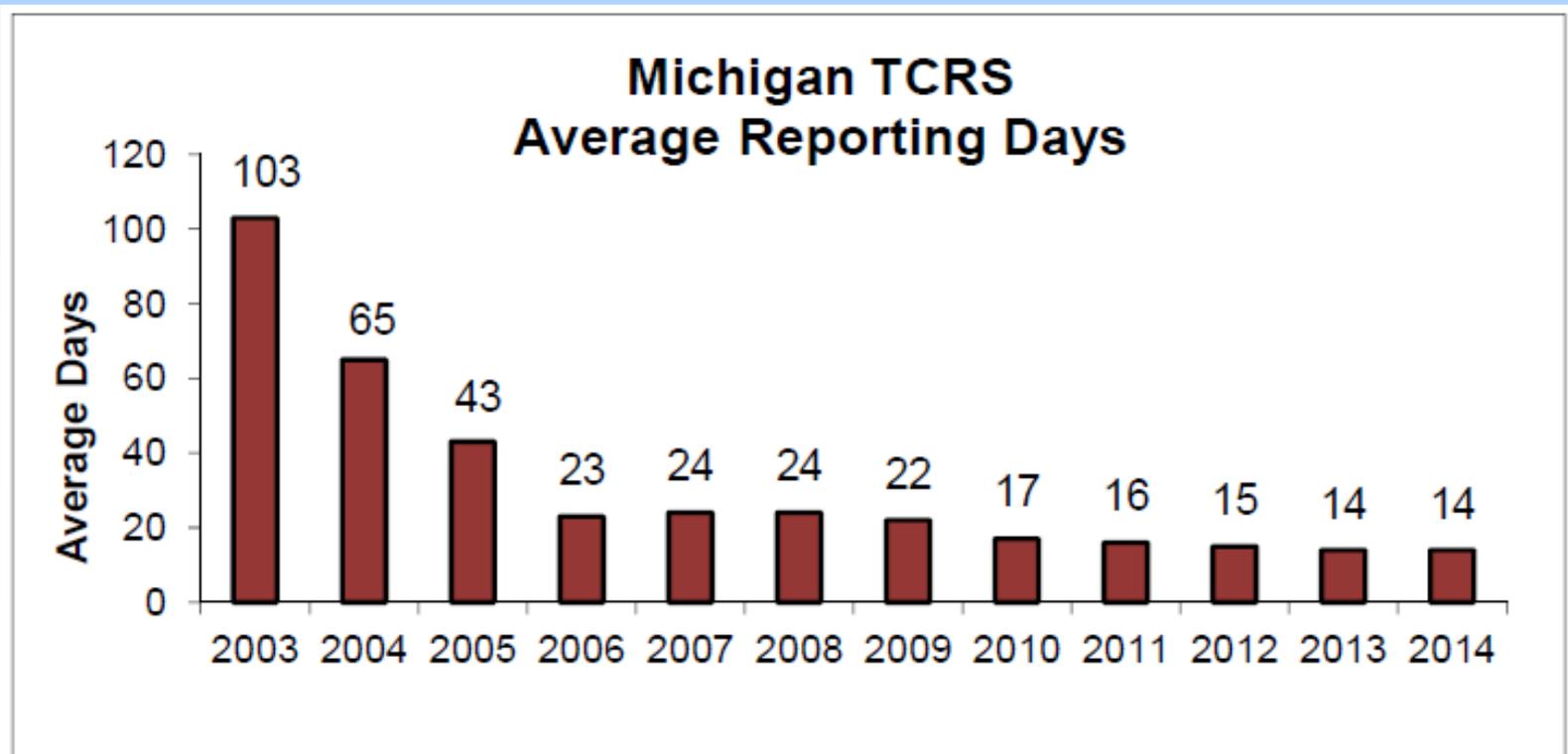
# Crash Data System

## Communication & Status



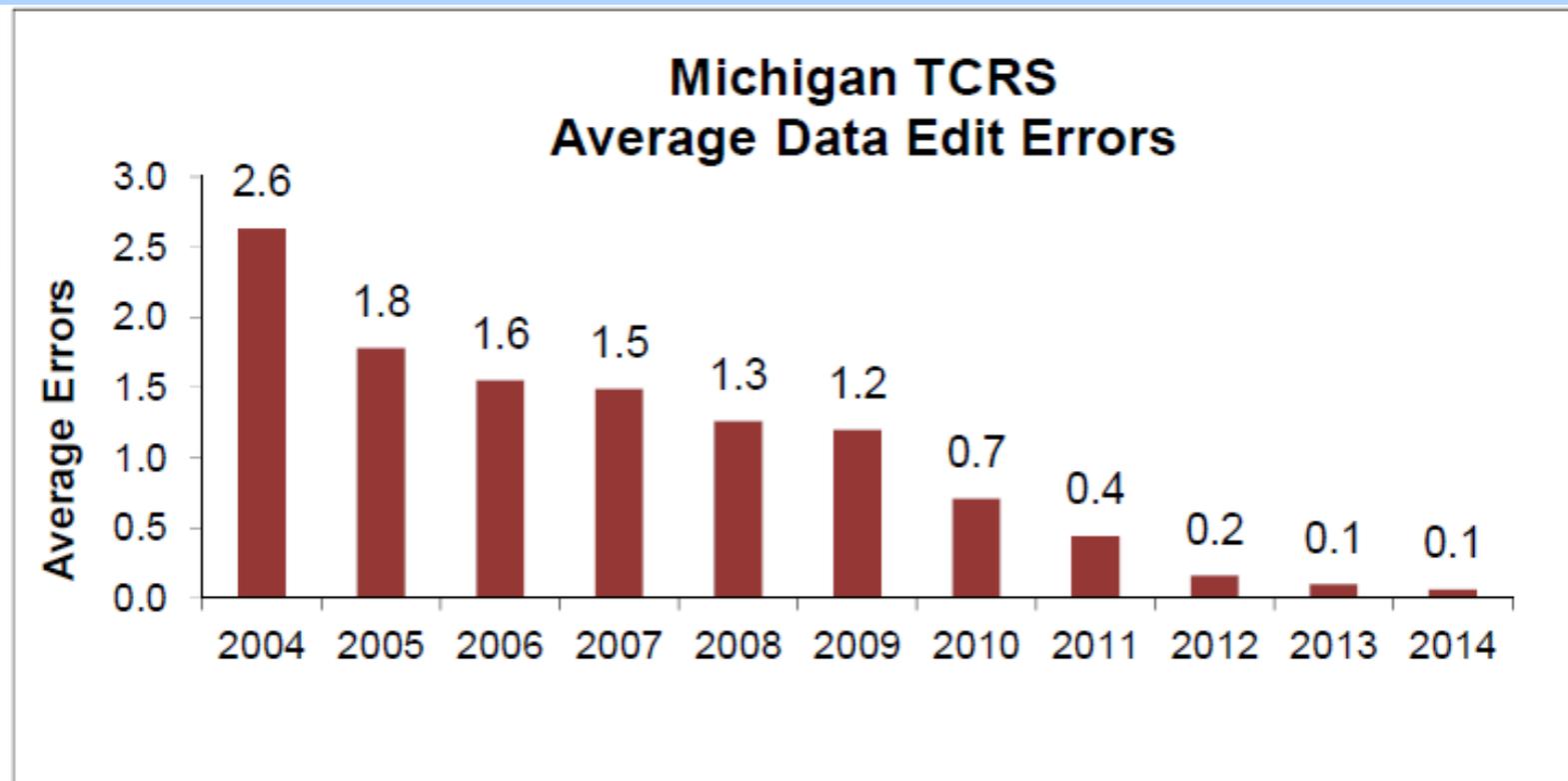
# Crash Data System

## Timeliness – All Crash Reports



# Crash Data System

## Accuracy – All Crash Reports



# Crash Data System

## Accessibility



### MICHIGAN STATE POLICE CRIMINAL JUSTICE INFORMATION CENTER

9/17/2010

Usage Statistics Report  
Monthly Totals Ending: 9/17/2010

User Identification Criteria: All

		<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Total</u>
TCPS	TCPS Purchases	1,338	2,937	3,290	4,029	3,336	4,485	2,835	3,019	3,734	2,921	3,064	1,726	36,714
	<b>TCPS Total</b>	<b>1,338</b>	<b>2,937</b>	<b>3,290</b>	<b>4,029</b>	<b>3,336</b>	<b>4,485</b>	<b>2,835</b>	<b>3,019</b>	<b>3,734</b>	<b>2,921</b>	<b>3,064</b>	<b>1,726</b>	<b>36,714</b>
TCPS Web	Business Search	5,672	14,416	12,817	14,291	12,752	16,384	14,467	12,833	16,282	17,517	14,771	5,929	158,131
	Public Search	320	647	970	1,028	740	834	659	583	674	681	955	527	8,618
	Unknown Search	3,065	5,302	6,384	6,960	7,315	7,516	5,502	5,733	6,472	6,456	6,704	4,088	71,499
	<b>TCPS Web Total</b>	<b>9,057</b>	<b>20,365</b>	<b>20,171</b>	<b>22,279</b>	<b>20,807</b>	<b>24,734</b>	<b>20,628</b>	<b>19,149</b>	<b>23,428</b>	<b>24,656</b>	<b>22,430</b>	<b>10,544</b>	<b>238,248</b>
TCRS Client/Server	UD-10 Report	3,727	7,294	7,423	8,898	6,940	9,967	12,962	14,017	12,309	8,388	8,963	4,230	105,118
	<b>TCRS Client/Server Total</b>	<b>3,727</b>	<b>7,294</b>	<b>7,423</b>	<b>8,898</b>	<b>6,940</b>	<b>9,967</b>	<b>12,962</b>	<b>14,017</b>	<b>12,309</b>	<b>8,388</b>	<b>8,963</b>	<b>4,230</b>	<b>105,118</b>
TCRS Web	Audit History Report	41	37	23	46	30	36	35	27	18	15	23	14	345
	Crash Detail In-Depth Rpt	132	38	140	275	177	305	60	218	70	17	23	7	1,462
	Crash Map Report	135	191	305	501	291	482	275	284	222	278	165	106	3,236
	Crash Stats Report	141	150	348	324	259	93	169	66	89	102	119	13	1,873
	Data Analysis Tool	79	93	100	81	242	187	50	58	43	5	81	13	1,032
	Data Performance Report	57	31	21	37	31	42	35	29	36	20	32	74	445
	Detailed Crash Report	336	464	792	834	1,418	1,201	427	823	352	337	337	74	7,395
	High Crash Criteria City	36	146	102	169	217	309	194	162	131	90	180	115	1,851
	High Crash Criteria Crty	127	100	28	158	192	97	282	315	92	25	55	32	1,503
	High Crash Criteria ORI	59	59	71	185	83	91	70	92	46	58	57	80	952
	High Crash View Detail	542	323	270	988	1,327	1,186	1,921	1,905	697	184	564	100	10,007
	Login	417	792	890	1,181	1,297	1,238	964	799	891	861	912	465	10,707
	UD-10 List	576	1,582	1,619	2,525	4,860	4,556	2,574	1,893	3,623	3,458	2,855	1,094	31,215
	UD-10 Report	1,712	2,912	3,698	5,265	11,552	10,114	5,557	4,867	6,259	5,977	5,469	2,734	66,116
	<b>TCRS Web Total</b>	<b>4,390</b>	<b>6,918</b>	<b>8,408</b>	<b>12,570</b>	<b>21,976</b>	<b>19,937</b>	<b>12,613</b>	<b>11,538</b>	<b>12,569</b>	<b>11,427</b>	<b>10,872</b>	<b>4,921</b>	<b>138,139</b>
TCRS Web Service	UD-10 Image Retrieval	0	3	0	0	0	36	4,977	5,075	2,678	2,576	194	277	15,816
	<b>TCRS Web Service Total</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>4,977</b>	<b>5,075</b>	<b>2,678</b>	<b>2,576</b>	<b>194</b>	<b>277</b>	<b>15,816</b>
	<b>Grand Total</b>	<b>18,512</b>	<b>37,517</b>	<b>39,292</b>	<b>47,776</b>	<b>53,059</b>	<b>59,159</b>	<b>54,015</b>	<b>52,798</b>	<b>54,718</b>	<b>49,968</b>	<b>45,523</b>	<b>21,698</b>	<b>534,035</b>

# Crash Data System

## Accessibility



### MICHIGAN STATE POLICE CRIMINAL JUSTICE INFORMATION CENTER

6/8/2015

#### Usage Statistics Report Monthly Totals Ending: 6/8/2015

User Identification Criteria: All

		<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Total</u>
TCPS	TCPS Purchases	3,680	3,885	4,137	4,942	4,494	4,832	5,443	5,136	4,843	4,000	3,457	738	49,587
	<b>TCPS Total</b>	<b>3,680</b>	<b>3,885</b>	<b>4,137</b>	<b>4,942</b>	<b>4,494</b>	<b>4,832</b>	<b>5,443</b>	<b>5,136</b>	<b>4,843</b>	<b>4,000</b>	<b>3,457</b>	<b>738</b>	<b>49,587</b>
TCPS Web	Business Search	8,825	9,862	10,197	11,495	10,069	11,329	12,278	11,155	10,153	9,577	9,230	2,975	116,945
	Public Search	752	805	908	1,047	872	1,043	1,089	1,061	1,371	812	812	427	10,979
	Unknown Search	6,585	8,001	8,654	8,378	8,510	9,272	10,037	9,947	9,091	8,371	7,738	2,344	96,928
	<b>TCPS Web Total</b>	<b>15,962</b>	<b>18,668</b>	<b>19,759</b>	<b>20,920</b>	<b>19,451</b>	<b>21,644</b>	<b>23,384</b>	<b>22,163</b>	<b>20,615</b>	<b>18,760</b>	<b>17,780</b>	<b>5,746</b>	<b>224,852</b>
TCRS Client/Server	UD-10 Report	2,790	2,716	3,506	2,889	2,547	2,242	2,597	2,296	3,612	3,375	3,186	422	32,178
	<b>TCRS Client/Server Total</b>	<b>2,790</b>	<b>2,716</b>	<b>3,506</b>	<b>2,889</b>	<b>2,547</b>	<b>2,242</b>	<b>2,597</b>	<b>2,296</b>	<b>3,612</b>	<b>3,375</b>	<b>3,186</b>	<b>422</b>	<b>32,178</b>
TCRS Web	Audit History Report	24	14	17	6	13	6	13	12	15	11	11	4	146
	Crash Detail In-Depth Rpt	18	27	66	19	27	73	138	20	1,094	388	135	41	2,046
	Crash Map Report	497	425	483	287	346	1,140	447	446	457	265	497	236	5,526
	Crash Stats Report	61	87	110	103	155	66	257	88	183	85	51	16	1,262
	Data Analysis Tool	18	23	36	50	38	33	71	14	60	6	11	2	362
	Data Performance Report	0	5	6	13	21	9	30	48	17	19	3	2	173
	Detailed Crash Report	353	516	307	2,540	339	138	291	230	629	230	288	40	5,901
	High Crash Criteria City	53	163	60	112	230	94	176	333	106	115	96	30	1,568
	High Crash Criteria Cnty	116	137	110	133	141	75	82	27	85	45	68	20	1,039
	High Crash Criteria ORI	36	44	16	34	74	33	46	46	13	9	43	0	394
	High Crash View Detail	348	637	487	519	719	367	546	603	241	203	198	59	4,927
	Login	1,562	2,965	2,880	2,754	817	811	888	780	856	641	811	621	16,346
	UD-10 List	86,551	209,952	198,848	184,984	1,908	1,405	1,576	1,907	1,577	1,354	13,870	38,893	742,625
	UD-10 Report	90,803	192,935	8,336	6,565	7,682	7,075	7,331	8,002	8,653	6,504	18,824	39,877	402,587
	<b>TCRS Web Total</b>	<b>180,440</b>	<b>407,930</b>	<b>211,742</b>	<b>198,119</b>	<b>12,510</b>	<b>11,325</b>	<b>11,892</b>	<b>12,536</b>	<b>13,986</b>	<b>9,875</b>	<b>34,906</b>	<b>79,641</b>	<b>1,184,902</b>
TCRS Web Service	UD-10 Image Retrieval	18,024	17,914	47,755	23,921	17,850	25,774	25,218	27,748	28,049	56,866	24,093	5,289	318,501
	<b>TCRS Web Service Total</b>	<b>18,024</b>	<b>17,914</b>	<b>47,755</b>	<b>23,921</b>	<b>17,850</b>	<b>25,774</b>	<b>25,218</b>	<b>27,748</b>	<b>28,049</b>	<b>56,866</b>	<b>24,093</b>	<b>5,289</b>	<b>318,501</b>
	<b>Grand Total</b>	<b>220,896</b>	<b>451,113</b>	<b>286,899</b>	<b>250,791</b>	<b>56,852</b>	<b>65,817</b>	<b>68,534</b>	<b>69,879</b>	<b>71,105</b>	<b>92,876</b>	<b>83,422</b>	<b>91,836</b>	<b>1,810,020</b>

# Crash Data System

## Accessibility

### **Systematic Data on Demand**

- System Generated Data Extracts
  - 31 Data Extracts Currently in Place
  - Generates 1,144 Annual Files
- TCRS Web – On Line Data Analysis
  - 3,174 Registered Users
  - 301 Sanitized Data Users
  - 2,860 Unsanitized Data Users

# Crash Data System

## Accessibility

- TCPS Web – On Line Crash Report Purchasing
  - 501,156 Reports Purchased
  - Generated \$5,010,000 in Revenue
- MDOT's Safety Management System
- Local Technical Assistance Program
- Michigan Crash Facts
- MPOs (SEMCOG)
- Traffic Improvement Assoc of Oakland County

# Crash Data System

## Accessibility

### Sanitized/Unsanitized Crash Reports

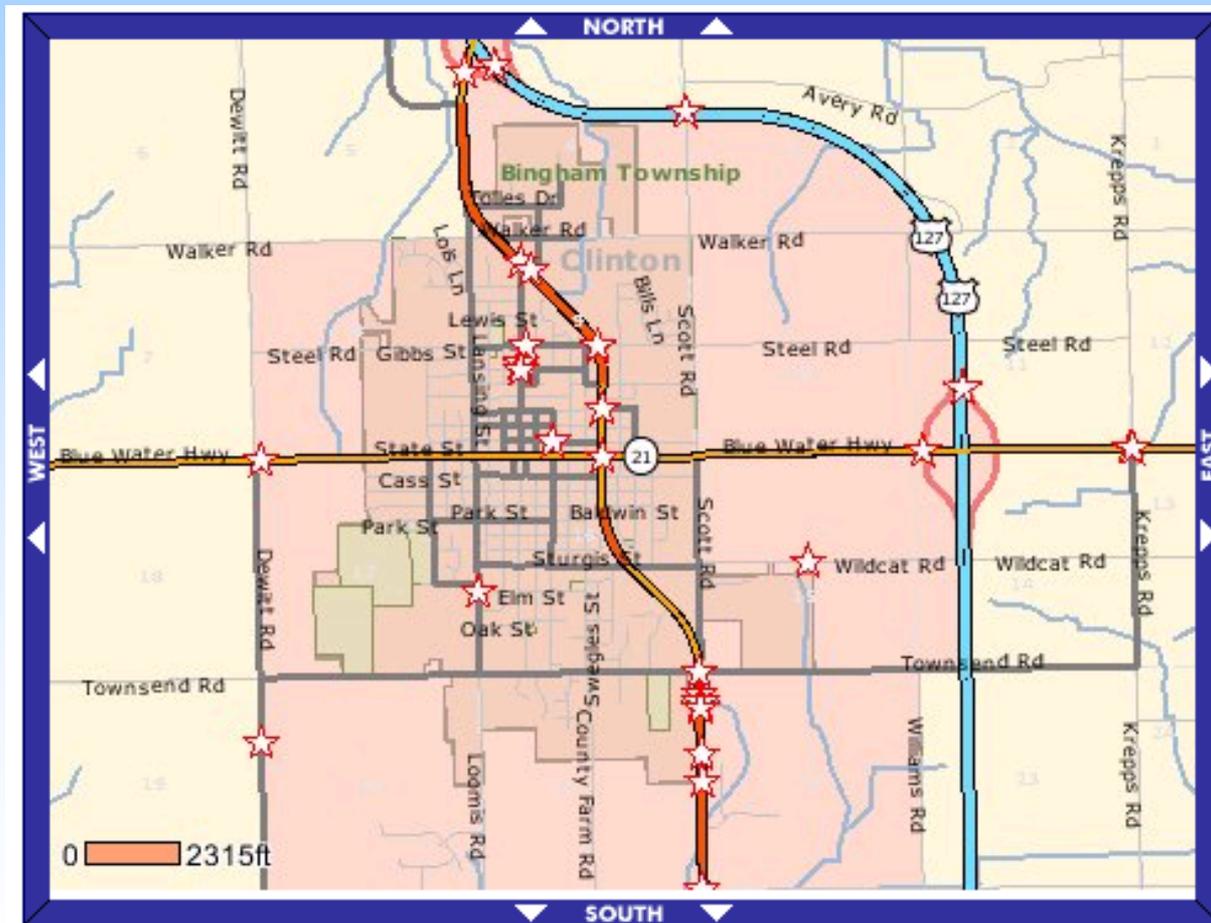
- System Distributes Un-sanitized Reports
- Sanitized Crash Reports Developed to Protect Personal Identity as a Result of:
  - Security Breach Legislation
  - DPPA
  - HIPPA
  - Statutes Requiring Appropriate Use





# Crash Data System

## Accessibility – Web Mapping



# Crash Data System

## Integrated Data Sets

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- Department of State Driver and Vehicle Files
- MDOT's Roadway Characteristics Files
- Local Technical Assistant Program (RoadSoft)
- Department of Community Health (Third Party Liability)
- State Court Administrative Office (Judicial Data Warehouse – Adjudicated Citations)

# Crash Data System

## Ongoing Issues/Challenges

- Vendor Coordination
- Battle of e-Crash Report Purchasing Systems
- MMUCC Compliant Database and Crash Form Update
- Vendor Interface Deployment
  - Vehicle
  - Driver
  - Smart Map

# Crash Data System

## Ongoing Issues/Challenges

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- System Administration and Funding (Agency MOUs)
- ECCS Deployment Remaining LEAs (Paper Submitting Agencies)



*QUESTIONS/DISCUSSION*