Safety Tool Box of Crash Data Analysis

Road School

March 9, 2010

John Nagle, Safety Management Engineer

Office of Traffic Safety

Planning - INDOT

jnagle@indot.in.gov

317-232-5464

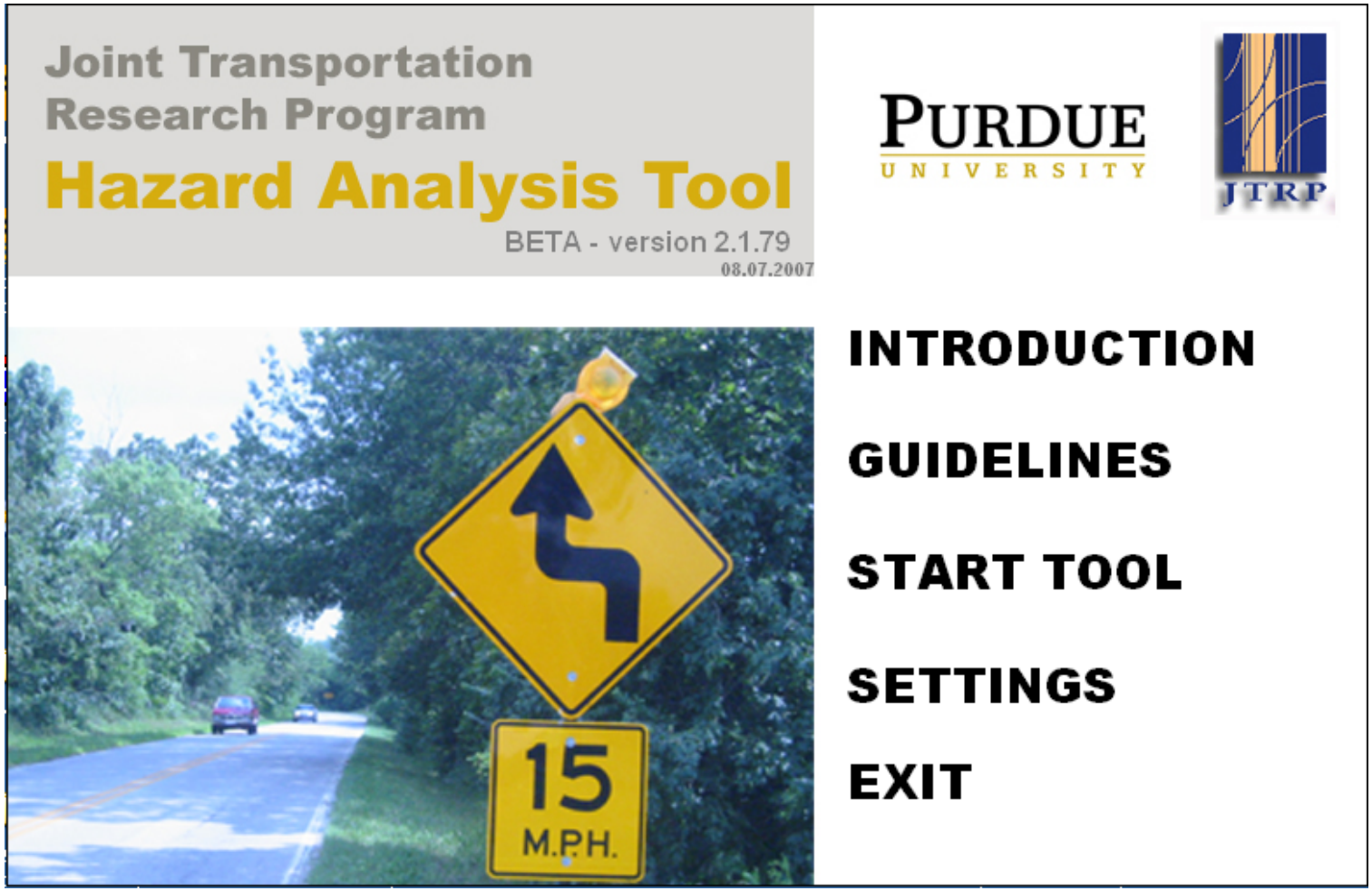
Safety Toolbox of Crash Data Analysis

- HAT
- 5 % Report
- ARIES
- SHSP
- RSA's
- HSM
- SA
- IHSDM
- FHWA DR for CRF
- CJI-CFB
- FARS
- NCHRP 500 Reports
- ELCSI-PFS
- LTAP HELPERS
- MPOs

Toolbox of Crash Data Analysis

- HAT
- Hazard Analysis Tool

Hazard Analysis Tool (HAT)



Hazard Analysis Tool (HAT)

- Designed to Justify Safety Projects
  - Calculates Index of Crash Frequency
  - Calculates an Index of Crash Cost
  - Assists in drawing Crash Diagrams and Condition Diagrams
  - Module to assist in documenting problems and determining mitigation - Safety Check List

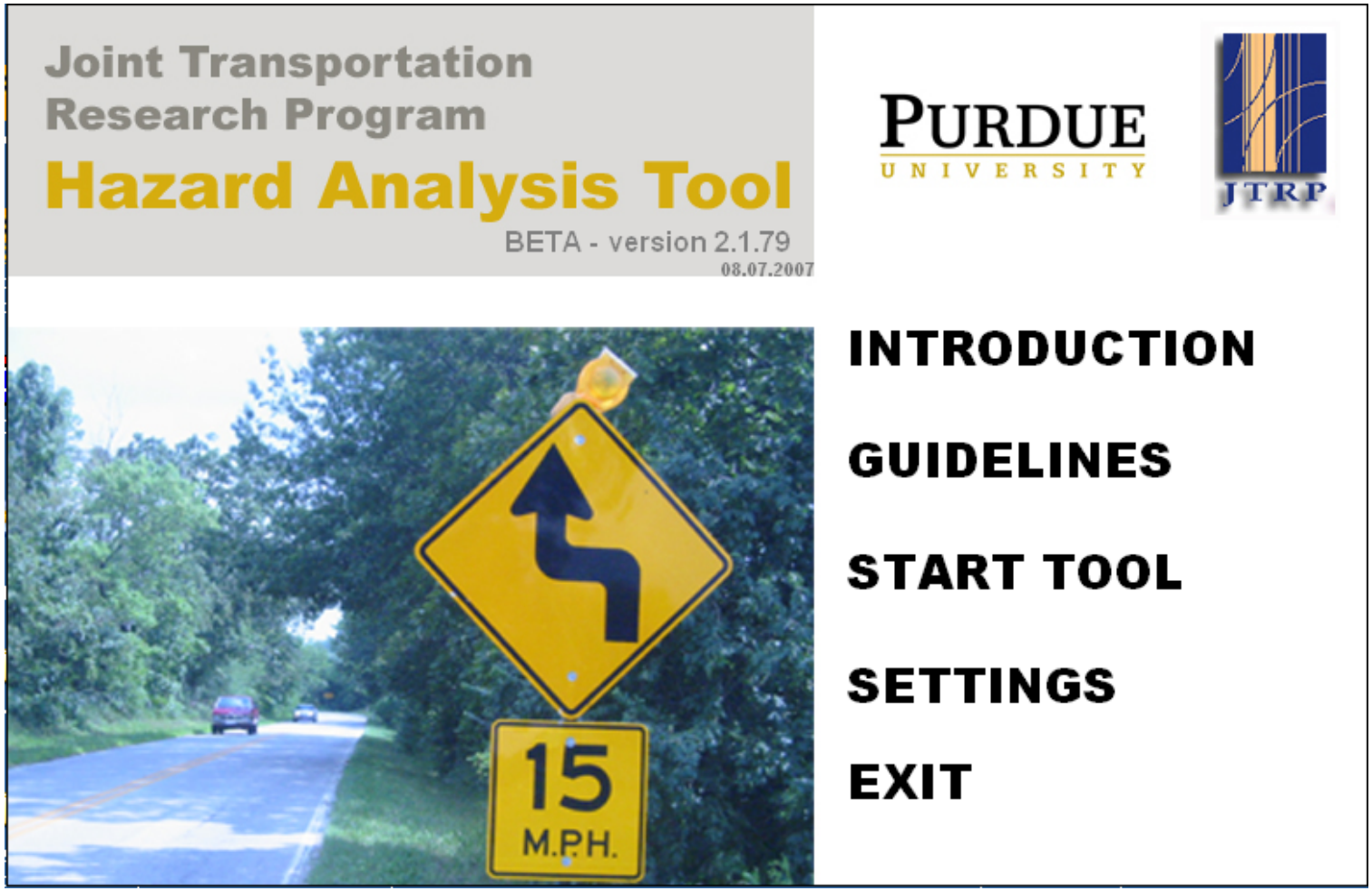
Hazard Analysis Tool (HAT)

- Designed to Justify Safety Projects Cont'd)
  - Calculates Benefit Cost
  - Additional module which can be used to evaluate the effectiveness of implemented safety strategies
  - Program contains the user manual which has Crash Reduction Factors (CRF)

Hazard Analysis Tool (HAT)

- In the process of being updated
- Will have a specific safety performance functions for local roads
- Update Crash Costs
- New capability to calculate Benefit Cost for programmatic low cost safety improvements
- HAT is copyrighted by Purdue
- The program is available to all LPA's

Hazard Analysis Tool (HAT)



Hazard Analysis Tool (HAT)

Joint Transportation Research Program

Hazard Analysis Tool

BETA - version 2.1.79

08.07.2007

PURDUE UNIVERSITY

JTRP

Forms Index:

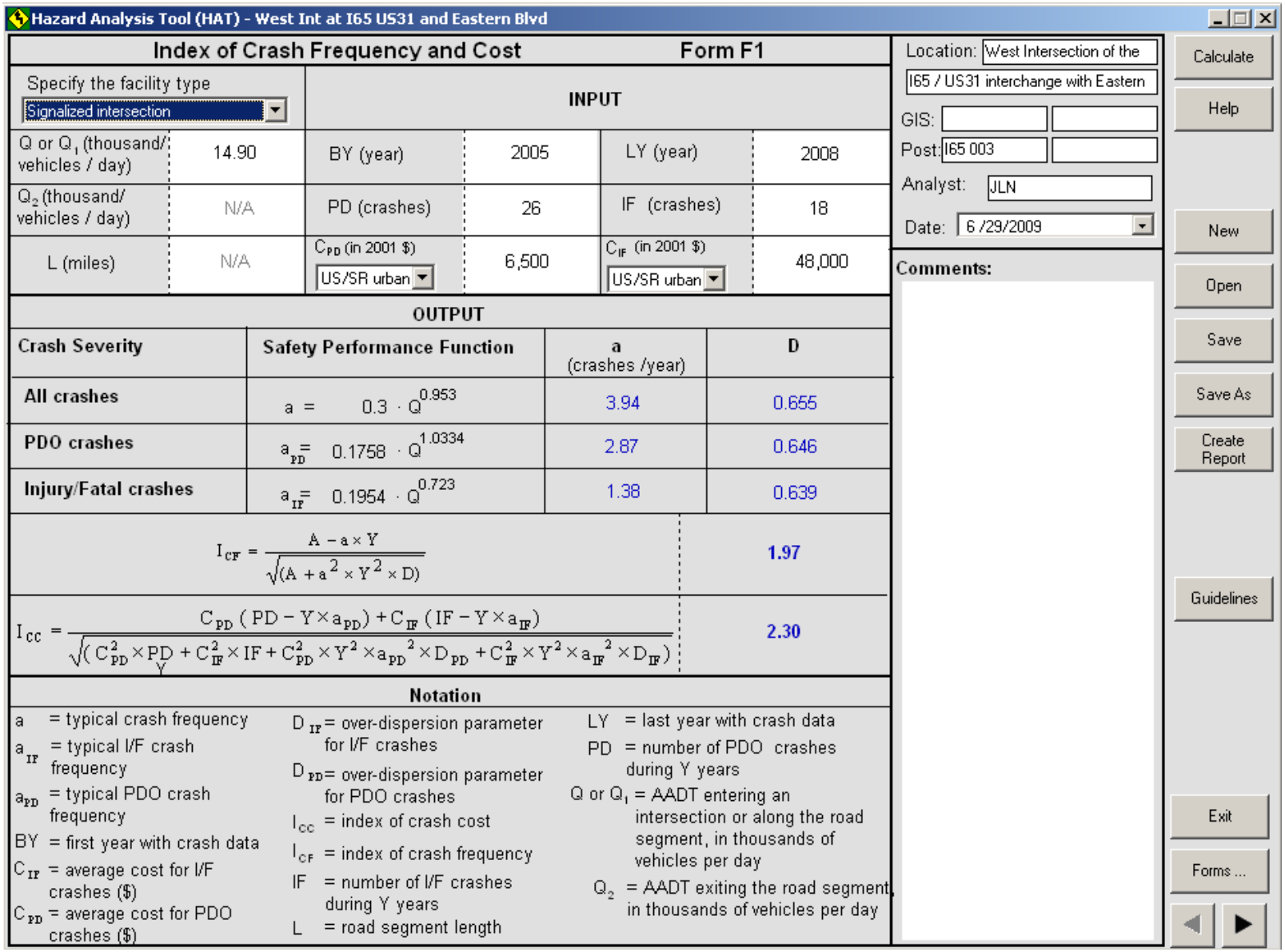
F1 - Index of Crash Frequency and Cost
F2 - Collision Diagram
F3 - Safety Review Checklist
F4 - Condition Diagram
F5.1 - Benefit Cost Analysis
F5.2 - Benefit Cost Analysis
F6.1 - Estimating Crash Reduction Factor
F6.2 - Estimating Crash Reduction Factor

OPEN Existing Project

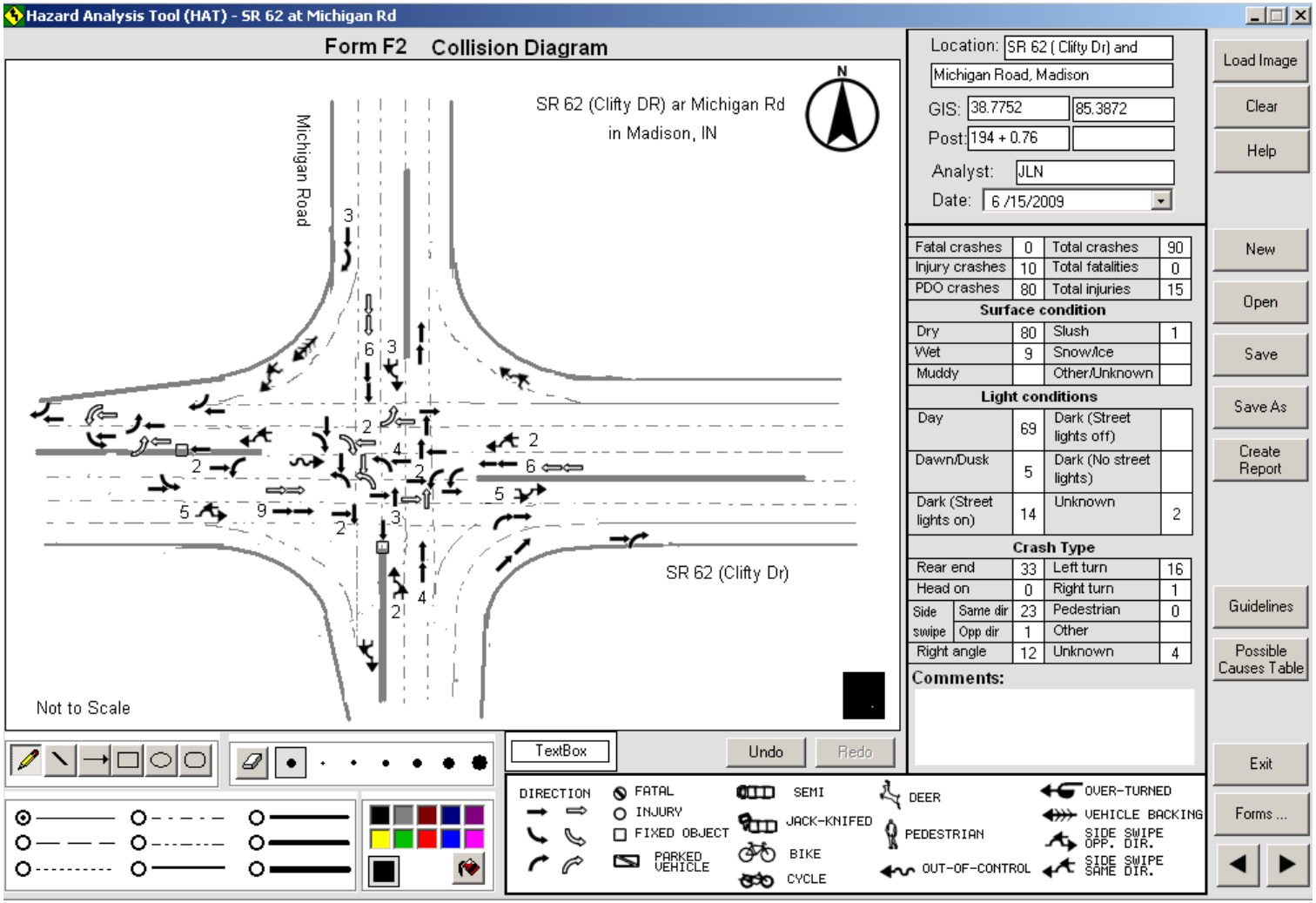
HELP

EXIT

INDIANA DEPARTMENT OF TRANSPORTATION INDOT


Hazard Analysis Tool (HAT) - West Int at I65 US31 and Eastern Blvd
Index of Crash Frequency and Cost
Form F1
Specify the facility type
Signalized intersection
INPUT
Q or Q1 (thousand/ vehicles / day)
14.90
BY (year)
2005
LY (year)
2008
Q2 (thousand/ vehicles / day)
N/A
PD (crashes)
26
IF (crashes)
18
L (miles)
N/A
CPD (in 2001 $)
US/SR urban
6,500
CIF (in 2001 $)
US/SR urban
48,000
OUTPUT
Crash Severity
Safety Performance Function
a (crashes /year)
D
All crashes
a = 0.3 · Q^0.953
3.94
0.655
PDO crashes
aPD = 0.1758 · Q^1.0334
2.87
0.646
Injury/Fatal crashes
aIF = 0.1954 · Q^0.723
1.38
0.639
ICF = (A − a × Y) / √(A + a² × Y² × D)
1.97
ICC = (CPD (PD − Y × aPD) + CIF (IF − Y × aIF)) / √(CPD² × PD + CIF² × IF + CPD² × Y² × aPD² × DPD + CIF² × Y² × aIF² × DIF)
2.30
Notation
a = typical crash frequency
aIF = typical I/F crash frequency
aPD = typical PDO crash frequency
BY = first year with crash data
CIF = average cost for I/F crashes ($)
CPD = average cost for PDO crashes ($)
DIF = over-dispersion parameter for I/F crashes
DPD = over-dispersion parameter for PDO crashes
ICC = index of crash cost
ICF = index of crash frequency
IF = number of I/F crashes during Y years
L = road segment length
LY = last year with crash data
PD = number of PDO crashes during Y years
Q or Q1 = AADT entering an intersection or along the road segment, in thousands of vehicles per day
Q2 = AADT exiting the road segment, in thousands of vehicles per day
Location: West Intersection of the
I65 / US31 interchange with Eastern
GIS:
Post: I65 003
Analyst: JLN
Date: 6 /29/2009
Comments:
Calculate
Help
New
Open
Save
Save As
Create Report
Guidelines
Exit
Forms ...

Hazard Analysis Tool (HAT)



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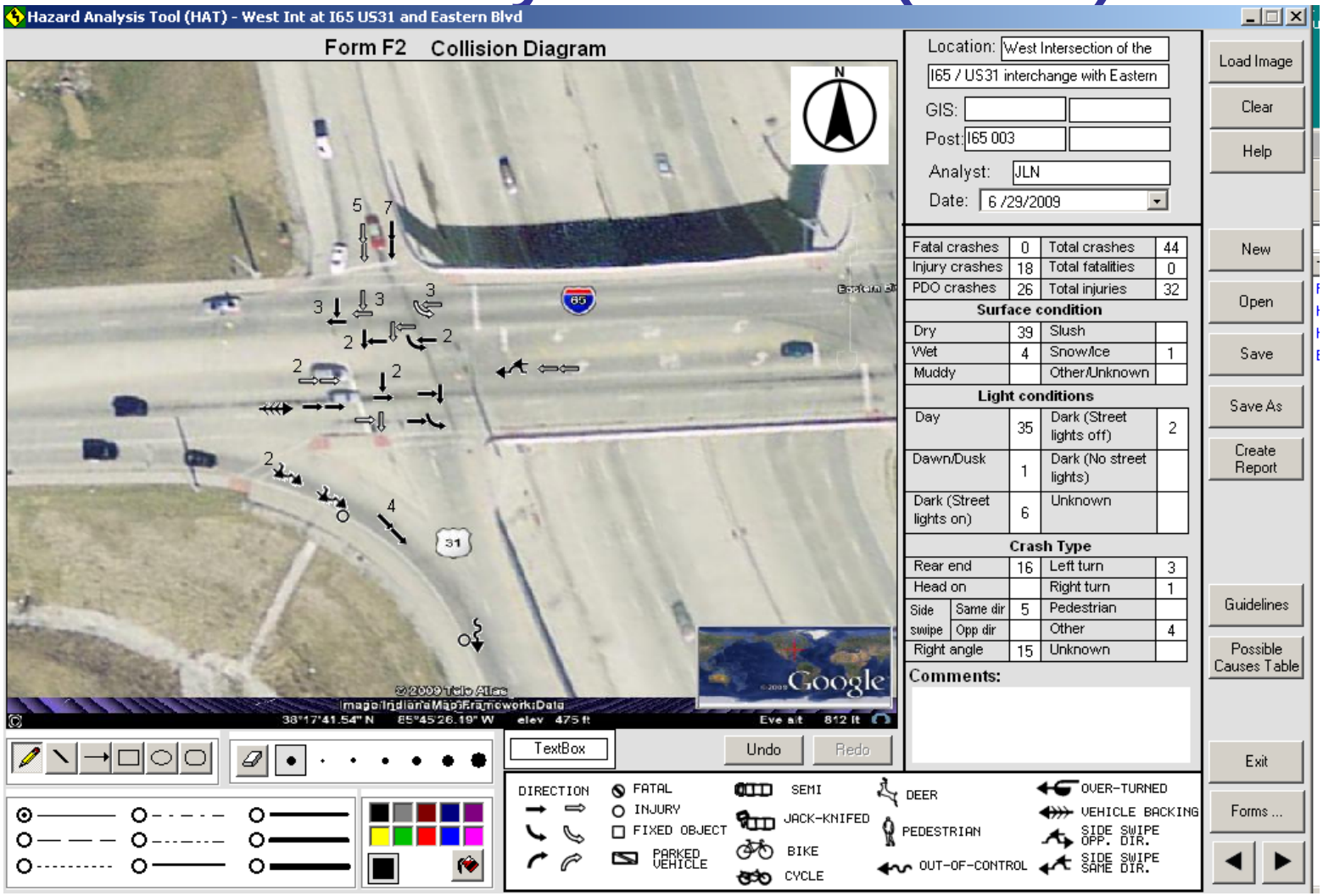

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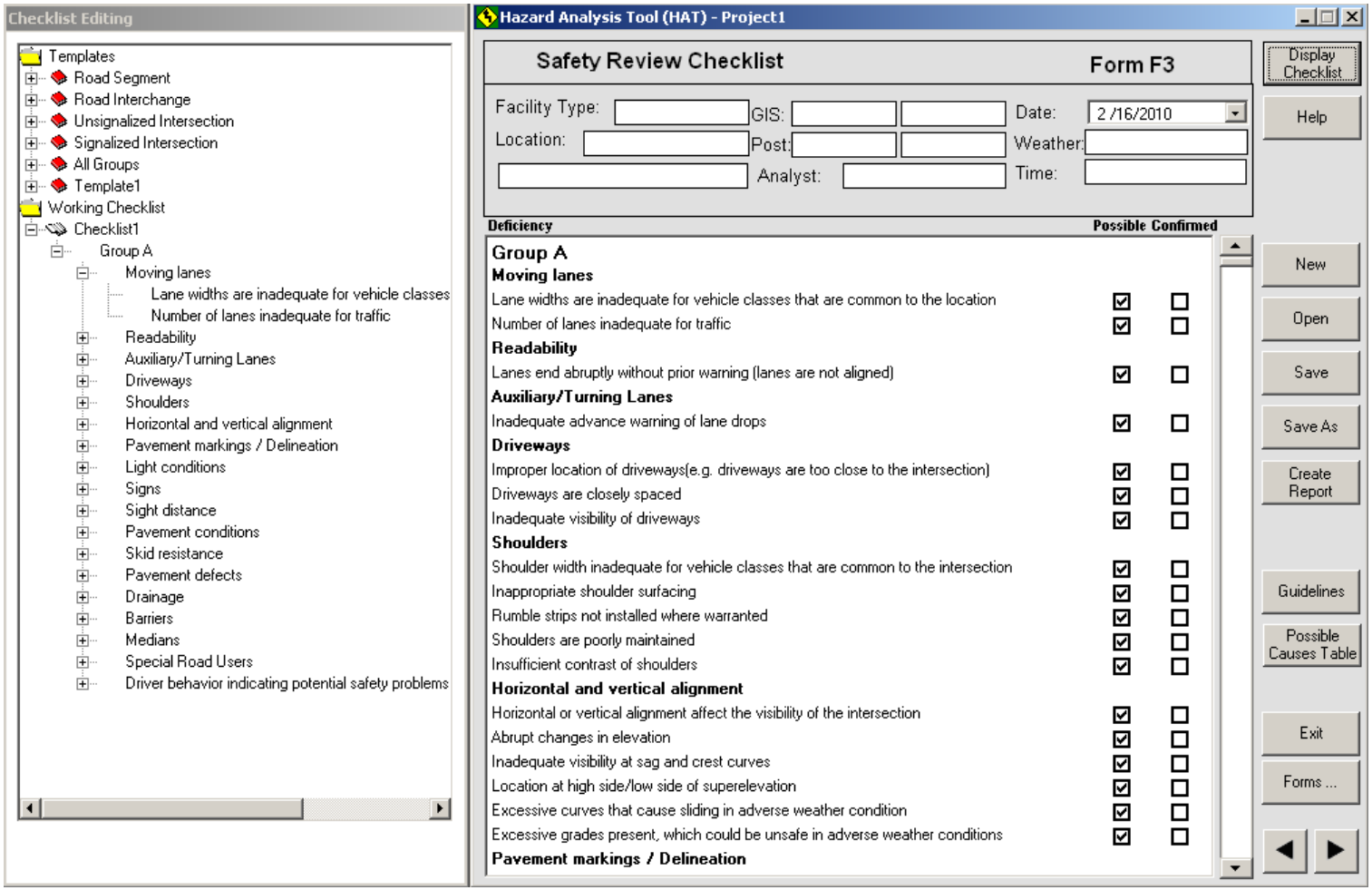

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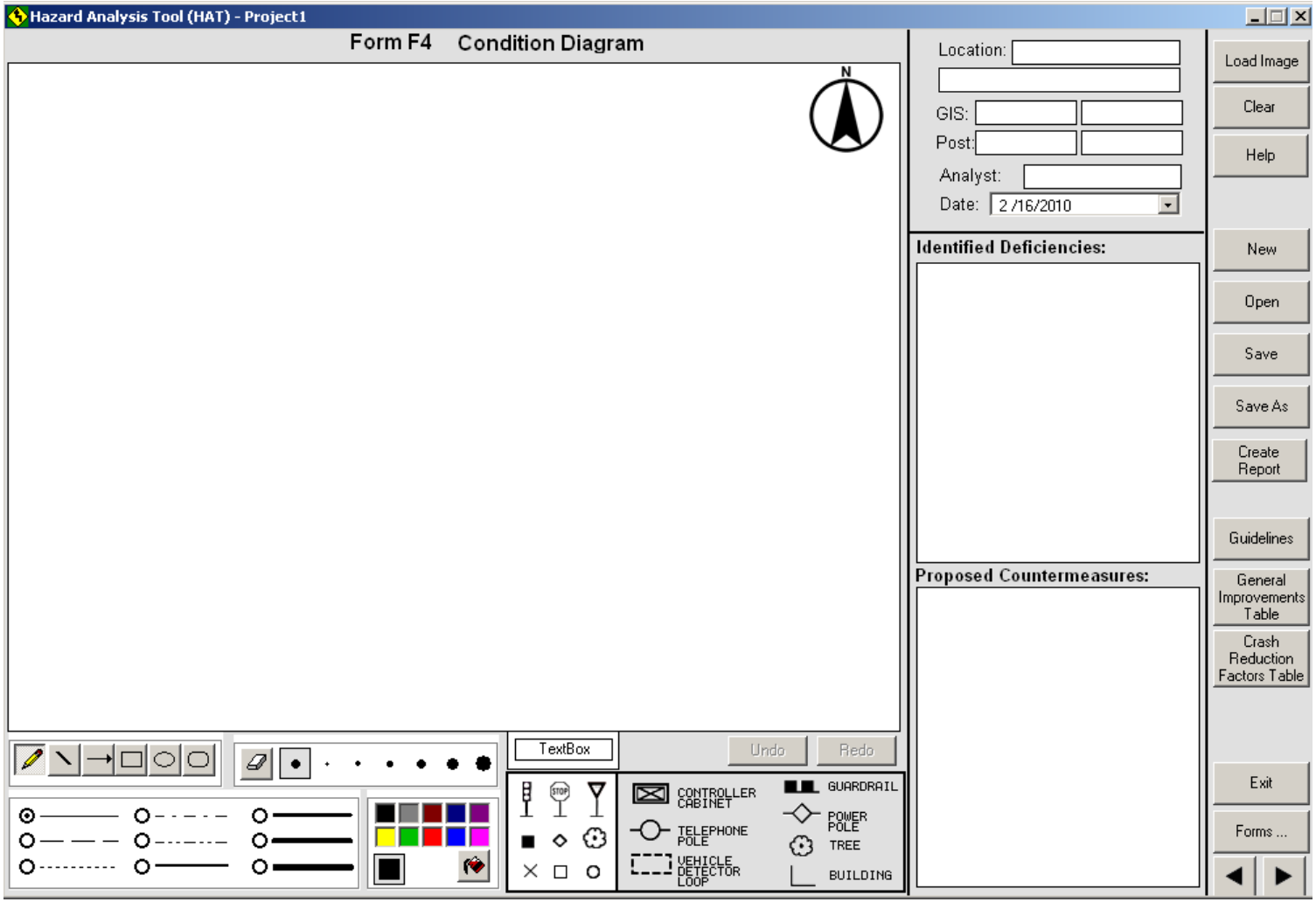

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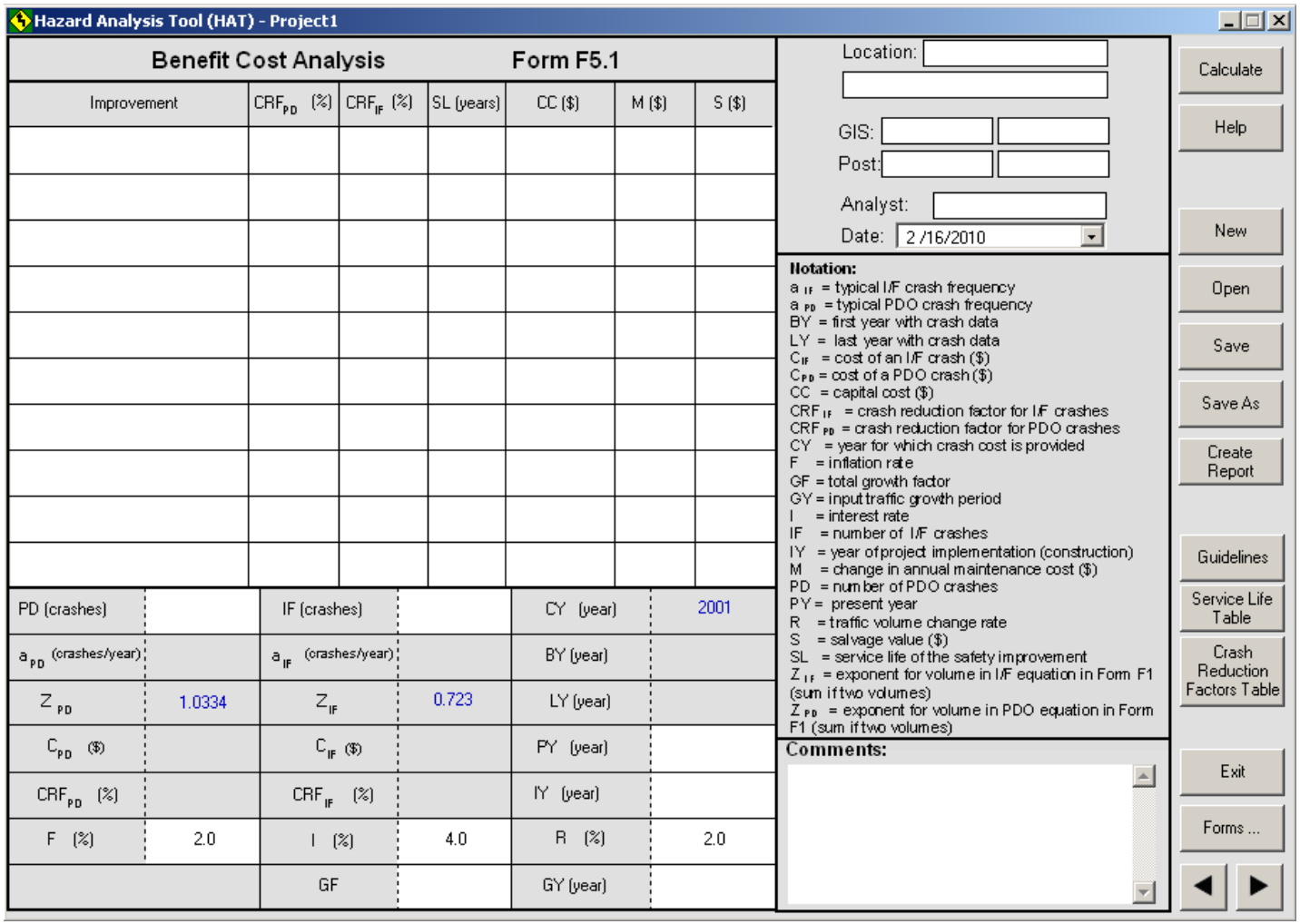

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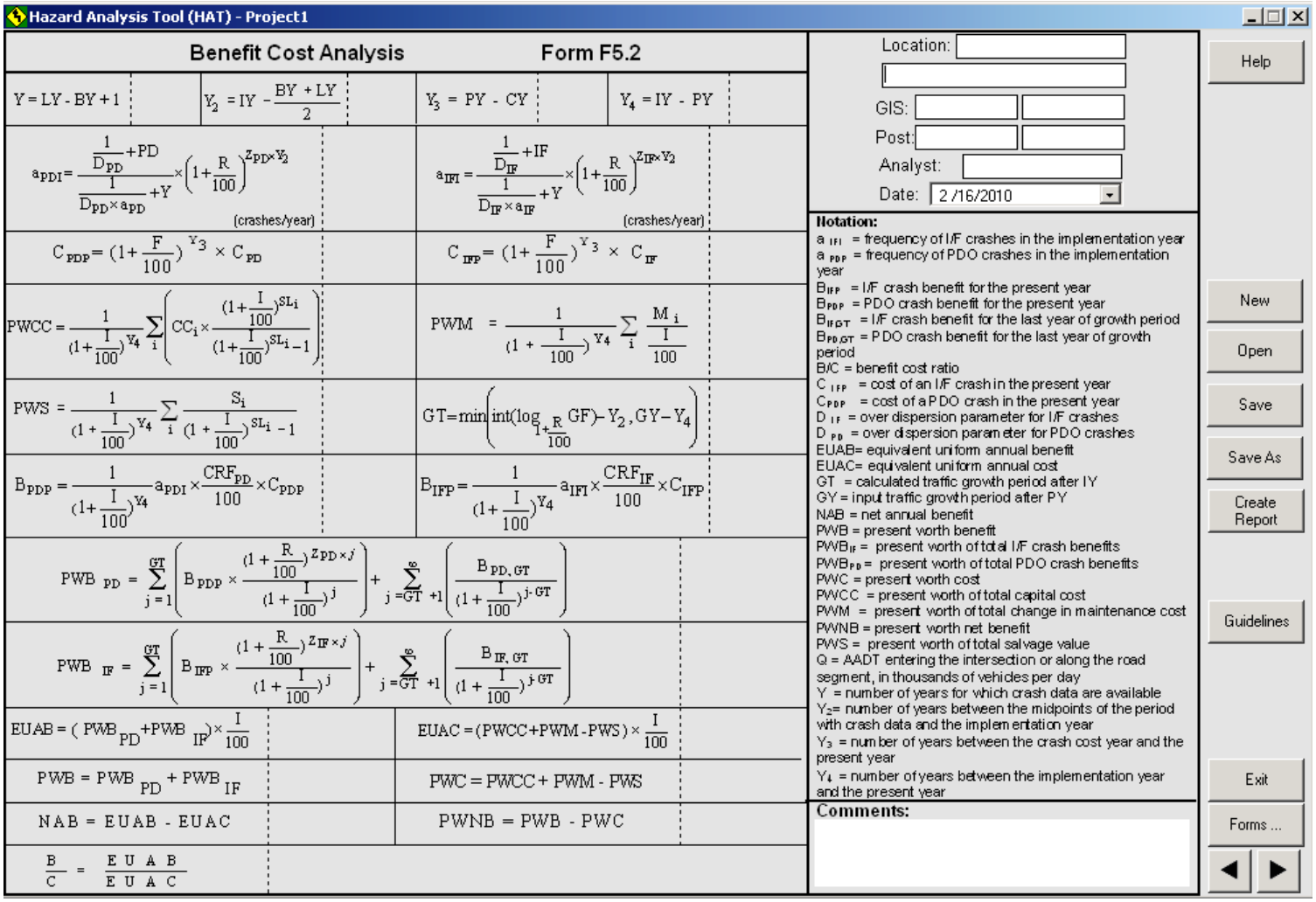

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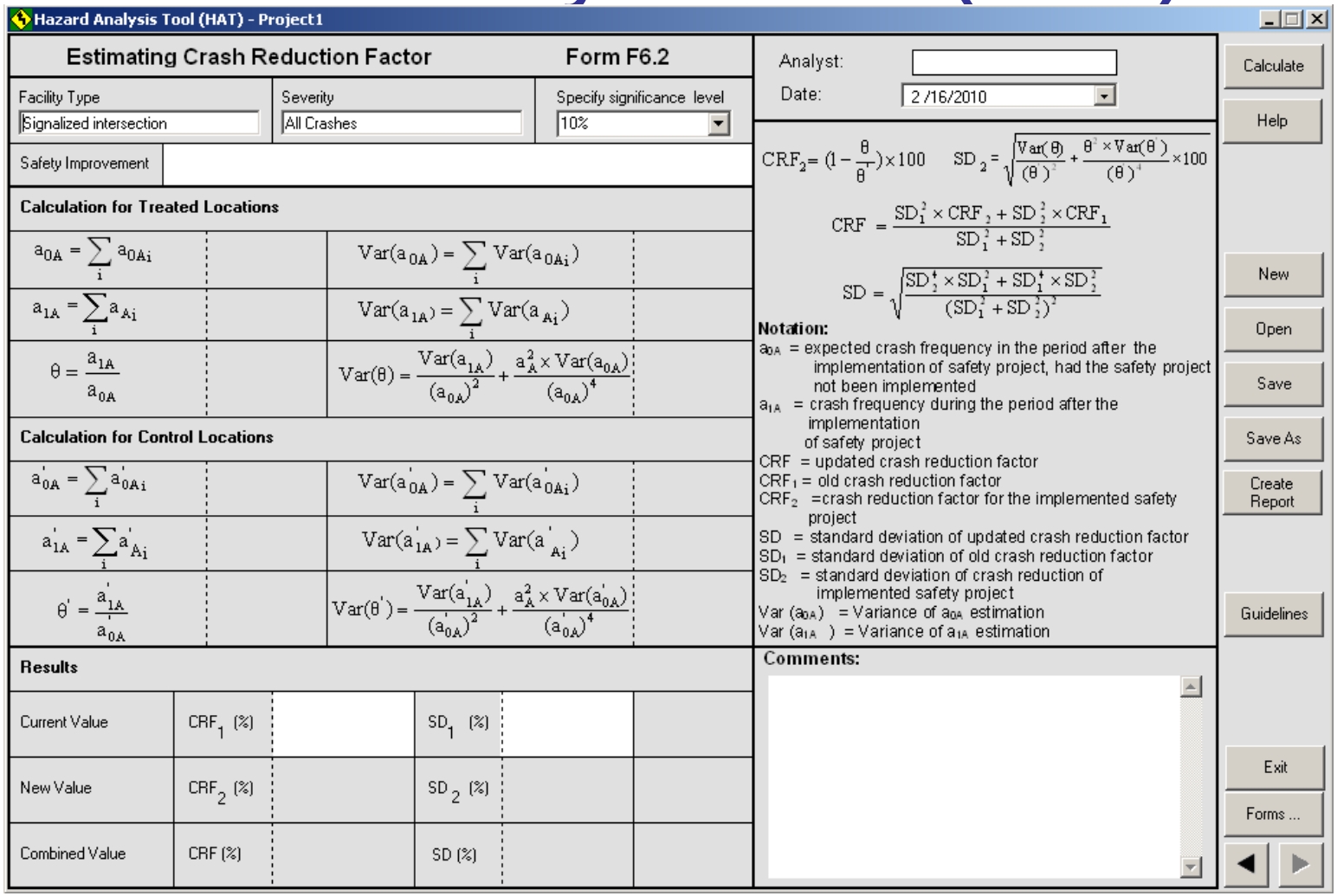


Toolbox of Crash Data Analysis

- 5 % Report
- FHWA 5% Report – Transparency Report

Transparency Report

- Federal Requirement that all states evaluate their highway system for the 5% of locations that exhibit the highest Safety Needs
- Emphasis on Fatal and Incapacitating Injuries

Transparency Report

- Accomplished using Latitude and Longitude of Crashes to Geographically sum crashes to a network of state and local network of segments and intersections
- Uses Safety Performance Functions (SPF) to compare predicted crashes with actual to calculate Icf and Icc

Transparency Report

- Locations are qualified to be on the 5 % that meet two conditions
  - A location must experience two events of a Fatal or Incapacitating Injury
  - Locations are then ranked by Icc
  - Locations are chosen until 5% of the Fatal and Incapacitating Injuries are represented
  - It is possible for a location to have a high Icc but not be chosen because the location did not experience two serious qualifying events

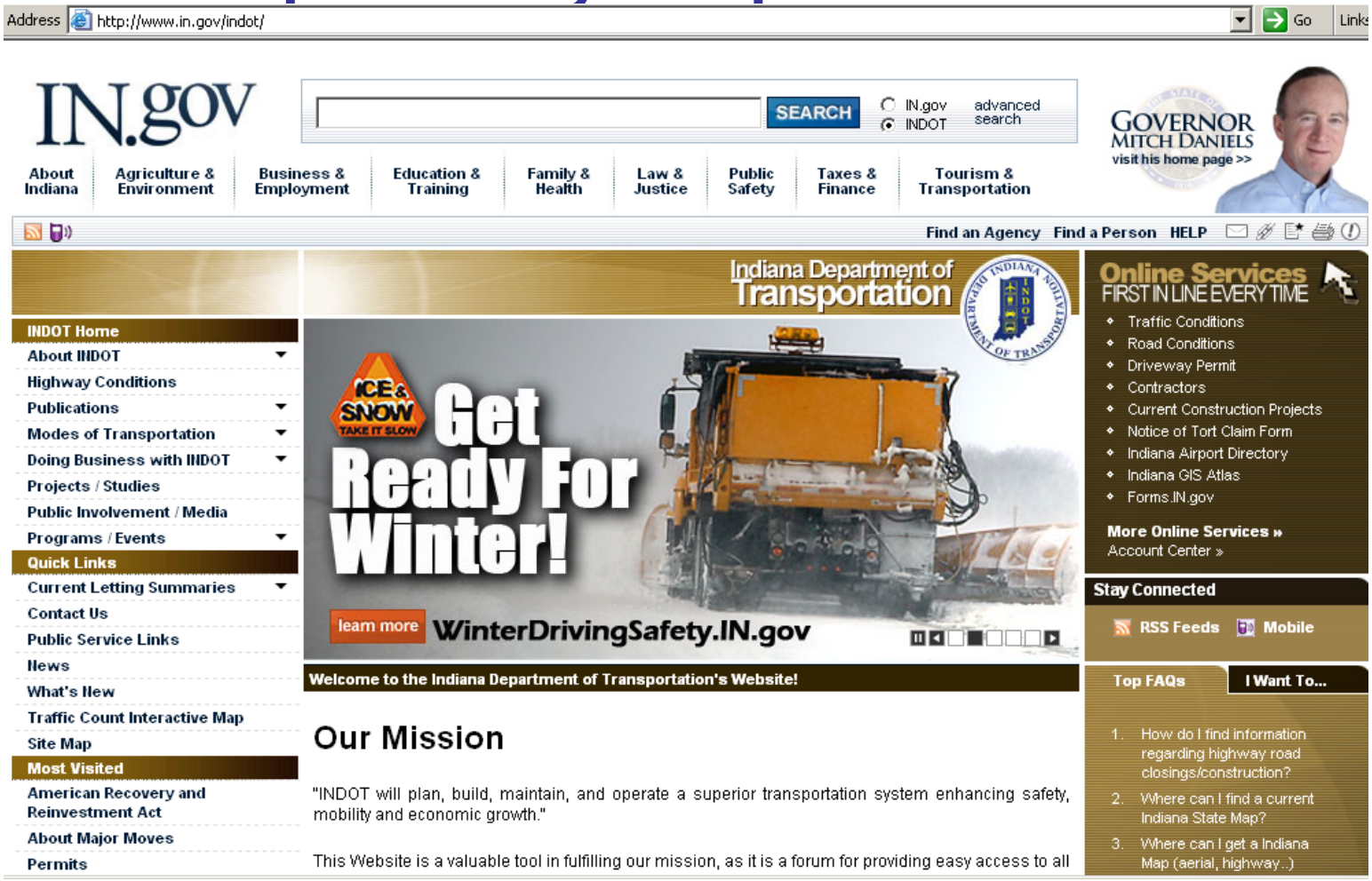
Transparency Report

- Indiana State Website
  - http://www.in.gov/
  - Departments
    - Click more
    - Click Transportation
    - Click Publications
    - Click Other Publications
    - Scroll down until you can click on “Indiana’s 5% Report”

Transparency Report

Under Most Visited select More

Then Transportation



Transparency Report

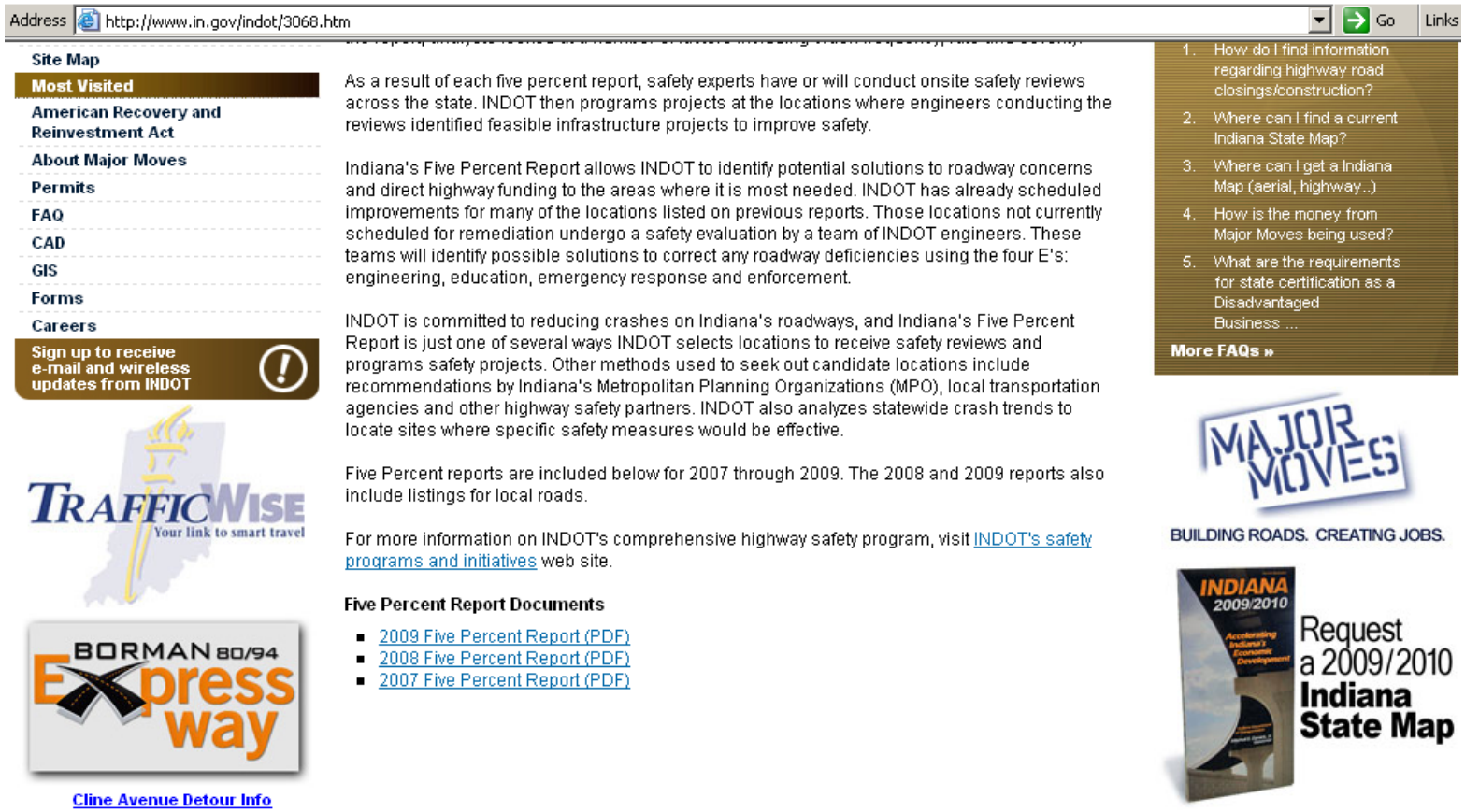
Then Select

Publications

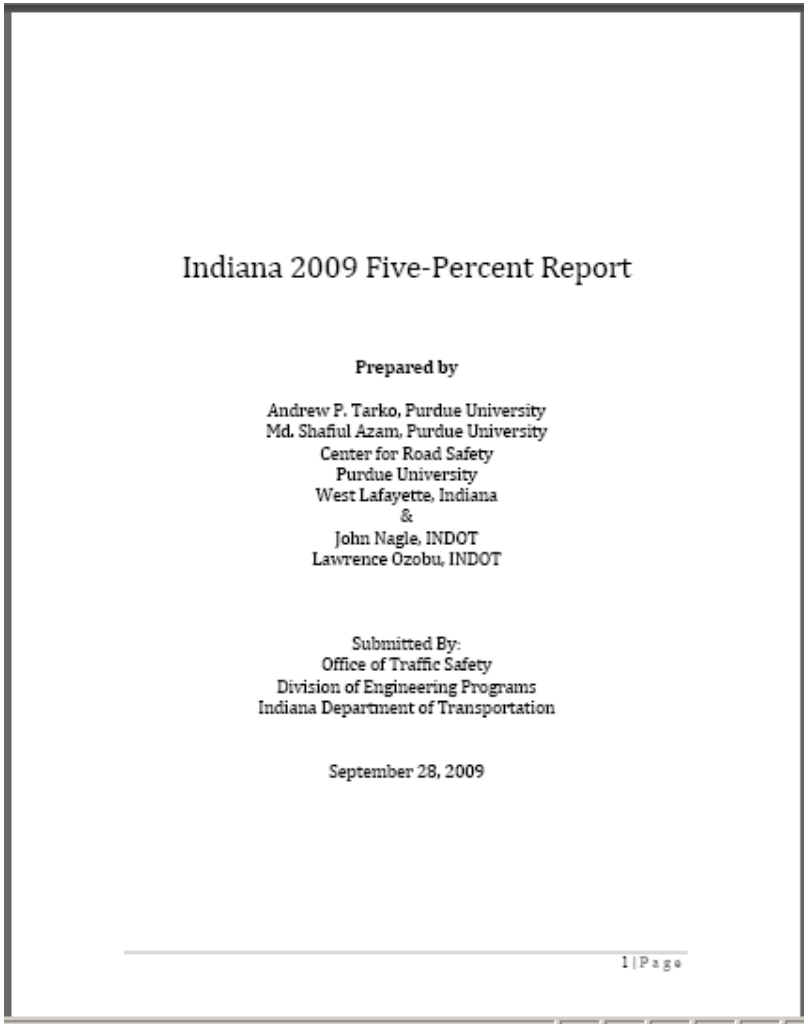
Other Publications

Indiana's Five Percent Report

Transparency Report



Transparency Report



Indiana 2009 Five-Percent Report

Prepared by

Andrew P. Tarko, Purdue University
Md. Shafiul Azam, Purdue University
Center for Road Safety
Purdue University
West Lafayette, Indiana
&
John Nagle, INDOT
Lawrence Ozobu, INDOT

Submitted By:
Office of Traffic Safety
Division of Engineering Programs
Indiana Department of Transportation

September 28, 2009

1 | Page

Transparency Report

2009 Five Percent State Road Segments in Indiana

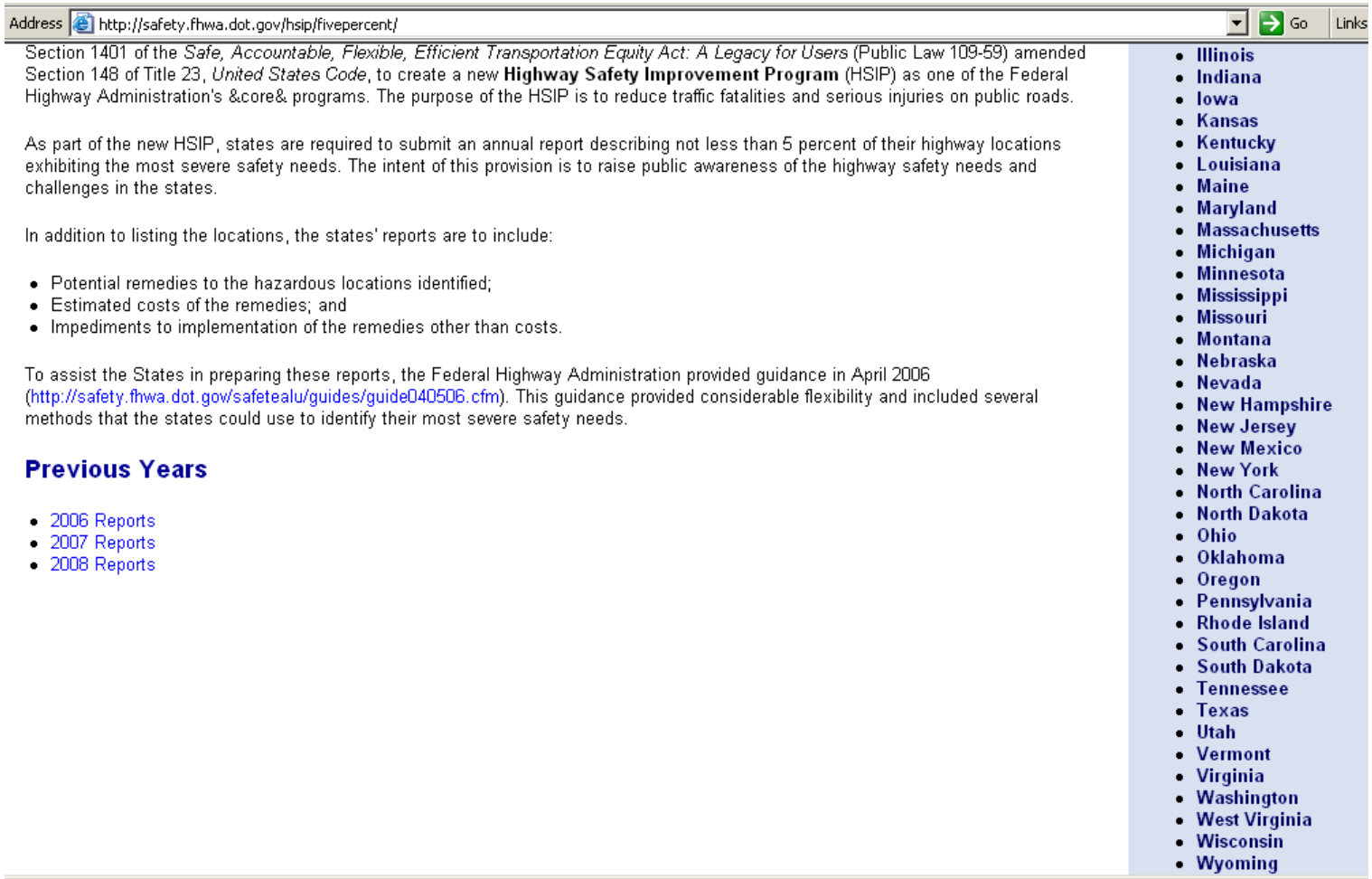
Length (Miles)	Location	City / Town	County	District	No. Fatal Crashes (FTC)	No. Incapacitating Injury Crashes (IINC)	No. Non-Incapacitating Injury Crashes (NINC)	No. Property-Damage-Only Crashes (PDC)	No. Fatal and Injury Crashes (INJFAT)	No. Persons Killed (FTP)	No. Persons Seriously Injured (INP)	Crash Loss Index (I)	Significance of Crash Loss (P)
0.17	US 930W Coliseum Blvd) from 0.08 mi W of US 27 (Lima Rd) E 0.17 mi to Clinton St	Fort Wayne	Allen	FORT WAYNE	0	2	3	23	5	0	3	3.10	0.00100
0.12	I-65/US-52 from 0.33 mi NW to 0.45 mi NW of the bridge carrying Hall Baker Rd/ S CR 100 E over I-65 (Exit 139)	Lebanon	Boone	CRAWFORDSVILLE	2	0	4	47	6	2	0	3.87	0.00030
0.08	I-65 from the bridge on E Stansifer Ave/ US 31 to 0.08 mi N	Clarksville	Clark	SEYMOUR	0	2	7	53	12	0	2	4.56	0.00030
0.26	I-265 within I-64 Interchange	New Albany	Floyd	SEYMOUR	1	3	8	78	18	1	3	4.41	0.00090
0.6	SR 64 from 2.03 mi to 2.63 mi E of the ILL State Line(N CR 650 W to N CR 600W)	SE of Mount Carmel	Gibson	VINCENNES	1	1	2	53	4	1	2	3.56	0.00030
0.17	US 31 (N Meridian St) from 2.65 mi N to 2.82 mi N of I-465 (N Leg)	Carmel	Hamilton	GREENFIELD	0	2	4	21	7	0	2	3.11	0.00030
1.04	I-69 from 4.13 mi to 5.17 mi N of I-465 (N Leg)	Fishers	Hamilton	GREENFIELD	1	3	36	171	43	1	3	2.95	0.00840

Transparency Report

- FHWA Website
  - http://safety.fhwa.dot.gov/hsip/fivepercent

Transparency Report

Transparency Report



Address http://safety.fhwa.dot.gov/hsip/fivepercent/ Go Links

Section 1401 of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (Public Law 109-59) amended Section 148 of Title 23, *United States Code*, to create a new **Highway Safety Improvement Program** (HSIP) as one of the Federal Highway Administration's &core& programs. The purpose of the HSIP is to reduce traffic fatalities and serious injuries on public roads.

As part of the new HSIP, states are required to submit an annual report describing not less than 5 percent of their highway locations exhibiting the most severe safety needs. The intent of this provision is to raise public awareness of the highway safety needs and challenges in the states.

In addition to listing the locations, the states' reports are to include:

- Potential remedies to the hazardous locations identified;
- Estimated costs of the remedies; and
- Impediments to implementation of the remedies other than costs.

To assist the States in preparing these reports, the Federal Highway Administration provided guidance in April 2006 (http://safety.fhwa.dot.gov/safetealu/guides/guide040506.cfm). This guidance provided considerable flexibility and included several methods that the states could use to identify their most severe safety needs.

Previous Years

- 2006 Reports
- 2007 Reports
- 2008 Reports

- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

Toolbox of Crash Data Analysis

- ARIES
- Automated Reporting Information Exchange System
- Formerly called the Vehicle Crash Records System (VCRS)
- Indiana State Police Depository for all Crash Records

ARIES

- All crashes from January 1, 2003 to present are available
- Available to users over the WWW
- ISP intends to keep ten (10) years available
- Electronic Crash Reporting
  - Over 95% of Law Enforcement Agencies
  - Over 96% of Reports
  - Over 79% of Reports submitted within 5 days
  - Mapping percentage 90%

How to get Access

- http://crashreports.in.gov/
  - Available to INDOT, MPO, County and City Engineers
  - Requires User ID and Password
  - Complete a “Data Access Agreement for Indiana State Police Web Access”
  - Return the form to me
  - The forms are then processed and when ISP/OPS activates the account you will be notified by e-mail of your ID and Password

Data Access Agreement for Indiana State Police Web Services

This agreement concerns the conditions of use of data and documentation listed within this agreement. The data and documentation are hereafter referred to as "the materials" which will also include any additional data or documentation which are not subject of a separate agreement.

By using the Indiana State Police Web Services web site, you acknowledge that you have reviewed this agreement and agree to its terms and conditions. You agree to use ISP Web Services strictly in accordance with the terms and conditions set forth in this document knowing it may be amended from time to time. You also agree to be bound by any rules, procedures and conditions established by the Indiana State Police concerning the use of the ISP Web Services. You acknowledge that ISP may modify or discontinue the Web Services offered without any prior notice to you. In addition, ISP reserves the right to terminate your access to the Web Services or any portion thereof, in its sole discretion, without notice and without limitation, for any reason whatsoever, including but not limited to, the unauthorized use of your access passwords.

Access and Security

You agree that you are responsible for the confidentiality and use of your User ID and Password. You agree to be responsible for all requests entered through the Web Services via the use of your User ID and Password. You agree to promptly notify the Indiana State Police if you (1) become aware of the theft or unauthorized use of your User ID or Password, (2) fail to receive requested information from the Web Services.

Confidentiality

You agree that while collision information is not confidential, the source in which it is delivered to you is confidential in nature and may not be shared with anyone unless permission is obtained from the Indiana State Police.

Copyright

Copies of Collision report images are prohibited.

Terms and Conditions

You agree that any information obtained via the Indiana State Police Web Services will be used within the confines of your existing job functions. Information obtained via the Web Services will be used internally to your organization and will not be provided to the general public. You agree that any information obtained via the Web Services will not be sold.

User Printed Name:_____ Phone Number:_____

User Signature: _____ Date: _____

Agency Name: _____ Email address: _____

INDOT Authorized Signature: _____

ISP Records Division Commander Signature:_____

ARIES Restrictions on Use

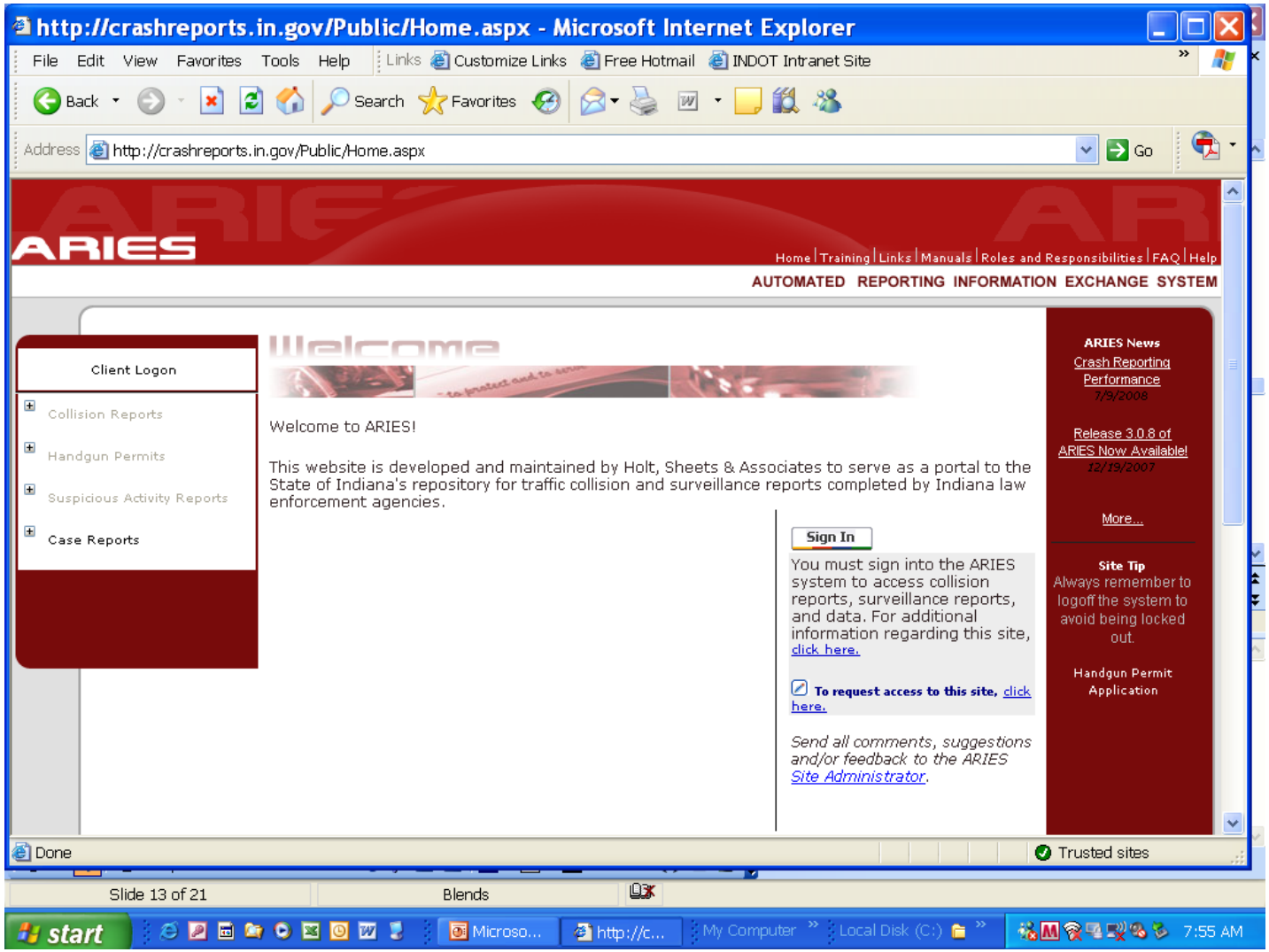
- Access and Security
  - Individual users are responsible for the confidentiality and use of their ID and Password
  - Notify ISP if you become aware of the misuse or theft of your ID
  - Notify ISP of failure to receive requested information

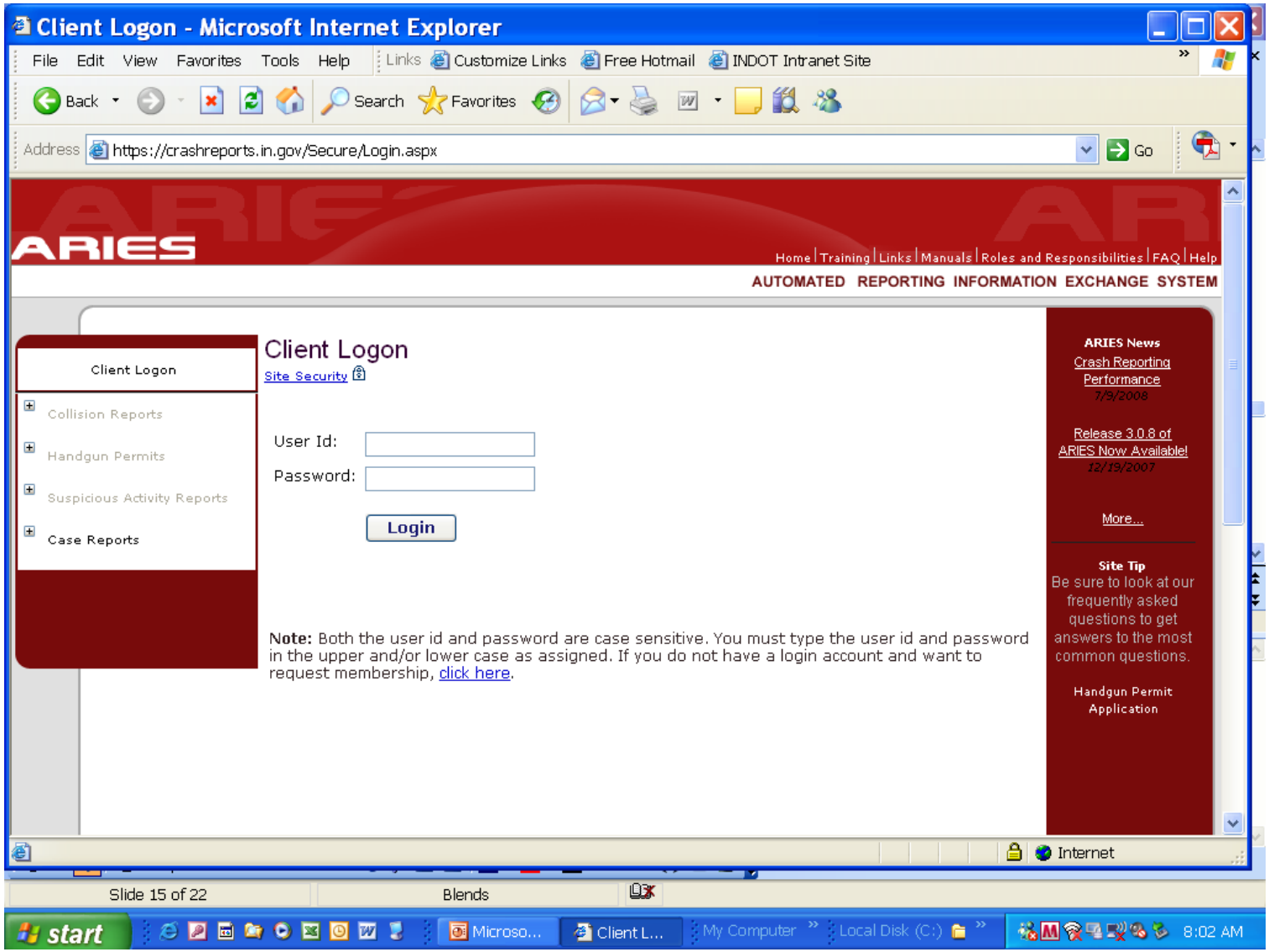
ARIES Restrictions on Use cont'd

- Confidentiality
  - Images of the reports are **NOT** to be distributed and only used for your agency transportation purposes
  - **The data and tables can be shared**
  - The reports are available to be purchased at http://www.buycrash.com/
  - $12 which is split between ISP (to support ARIES) and the originating enforcement agency

Benefits to Transportation Users

- Crash reports are Current
- Crashes available from January 1, 2003 on
- Crash information is available for summarizing and viewing from a Web Site
- Some mapping capability is provided


http://crashreports.in.gov/Public/Home.aspx - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Links Customize Links Free Hotmail INDOT Intranet Site
Back Search Favorites
Address http://crashreports.in.gov/Public/Home.aspx
Go
ARIES
Home | Training | Links | Manuals | Roles and Responsibilities | FAQ | Help
AUTOMATED REPORTING INFORMATION EXCHANGE SYSTEM
Client Logon
Collision Reports
Handgun Permits
Suspicious Activity Reports
Case Reports
Welcome
Welcome to ARIES!
This website is developed and maintained by Holt, Sheets & Associates to serve as a portal to the State of Indiana's repository for traffic collision and surveillance reports completed by Indiana law enforcement agencies.
Sign In
You must sign into the ARIES system to access collision reports, surveillance reports, and data. For additional information regarding this site, click here.
To request access to this site, click here.
Send all comments, suggestions and/or feedback to the ARIES Site Administrator.
ARIES News
Crash Reporting Performance
7/9/2008
Release 3.0.8 of ARIES Now Available!
12/19/2007
More...
Site Tip
Always remember to logoff the system to avoid being locked out.
Handgun Permit Application
Done
Trusted sites
Slide 13 of 21
Blends
start
Microso...
http://c...
My Computer
Local Disk (C:)
7:55 AM


Client Logon - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Links Customize Links Free Hotmail INDOT Intranet Site
Back Search Favorites
Address https://crashreports.in.gov/Secure/Login.aspx
Go
ARIES
Home | Training | Links | Manuals | Roles and Responsibilities | FAQ | Help
AUTOMATED REPORTING INFORMATION EXCHANGE SYSTEM
Client Logon
Collision Reports
Handgun Permits
Suspicious Activity Reports
Case Reports
Client Logon
Site Security
User Id:
Password:
Login
Note: Both the user id and password are case sensitive. You must type the user id and password in the upper and/or lower case as assigned. If you do not have a login account and want to request membership, click here.
ARIES News
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7/9/2008
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More...
Site Tip
Be sure to look at our frequently asked questions to get answers to the most common questions.
Handgun Permit Application
Internet
Slide 15 of 22
Blends
start
Microso...
Client L...
My Computer
Local Disk (C:)
8:02 AM

https://crashreports.in.gov/Public/Home.aspx - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Links Customize Links Free Hotmail INDOT Intranet Site
Back Search Favorites
Address https://crashreports.in.gov/Public/Home.aspx
Go
ARIES
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WEB NAGLE JOHN INDOT
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For a list of frequently asked questions, click here.
Send all comments, suggestions
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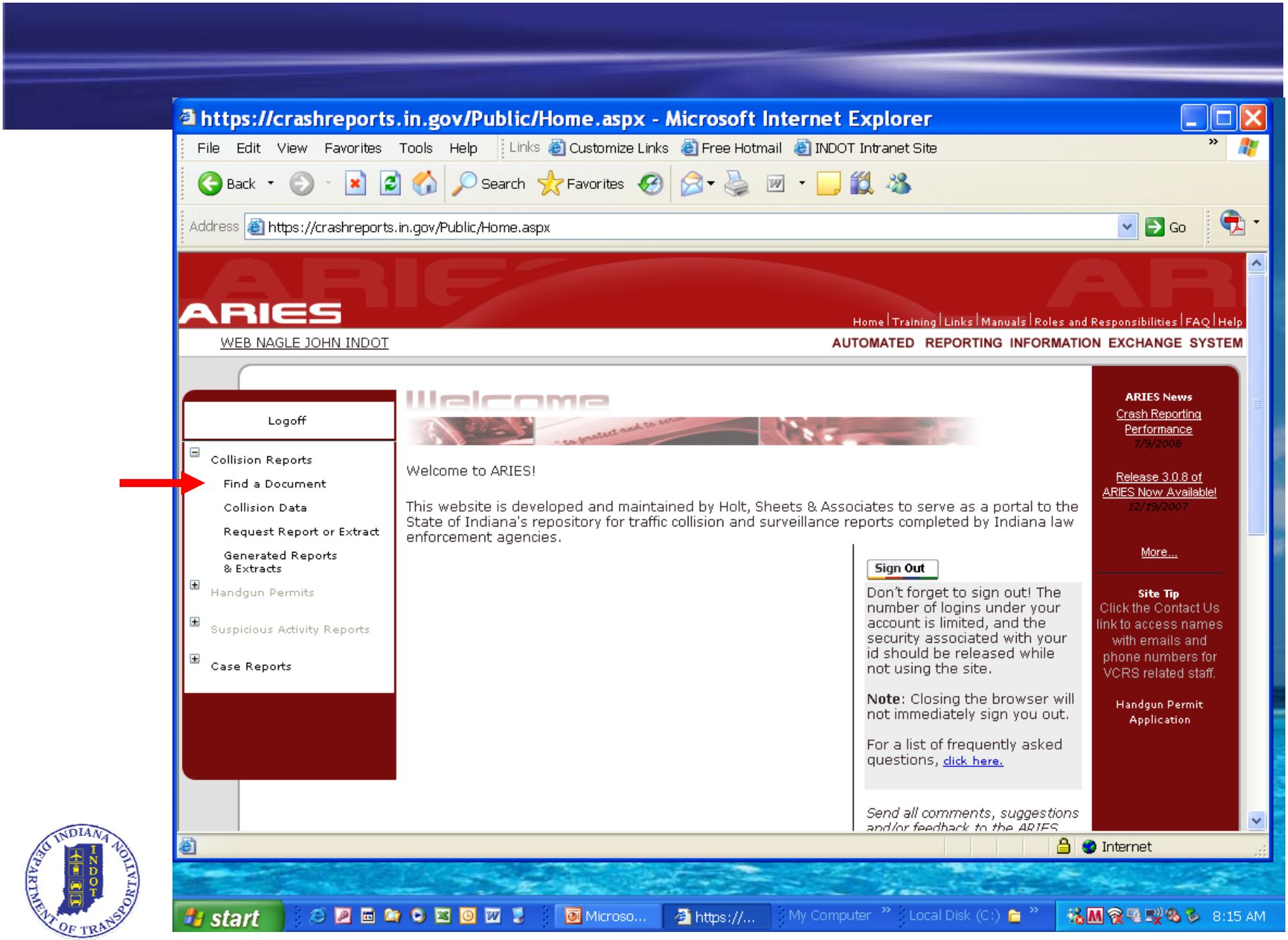
More...
Site Tip
Click the Contact Us link to access names with emails and phone numbers for VCRS related staff.
Handgun Permit Application
Done
Internet
Slide 16 of 23
Blends
start
Microso...
https://...
My Computer
Local Disk (C:)
8:04 AM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Find a Document
Collision Data
Request Report or Extract
Generated Reports & Extracts
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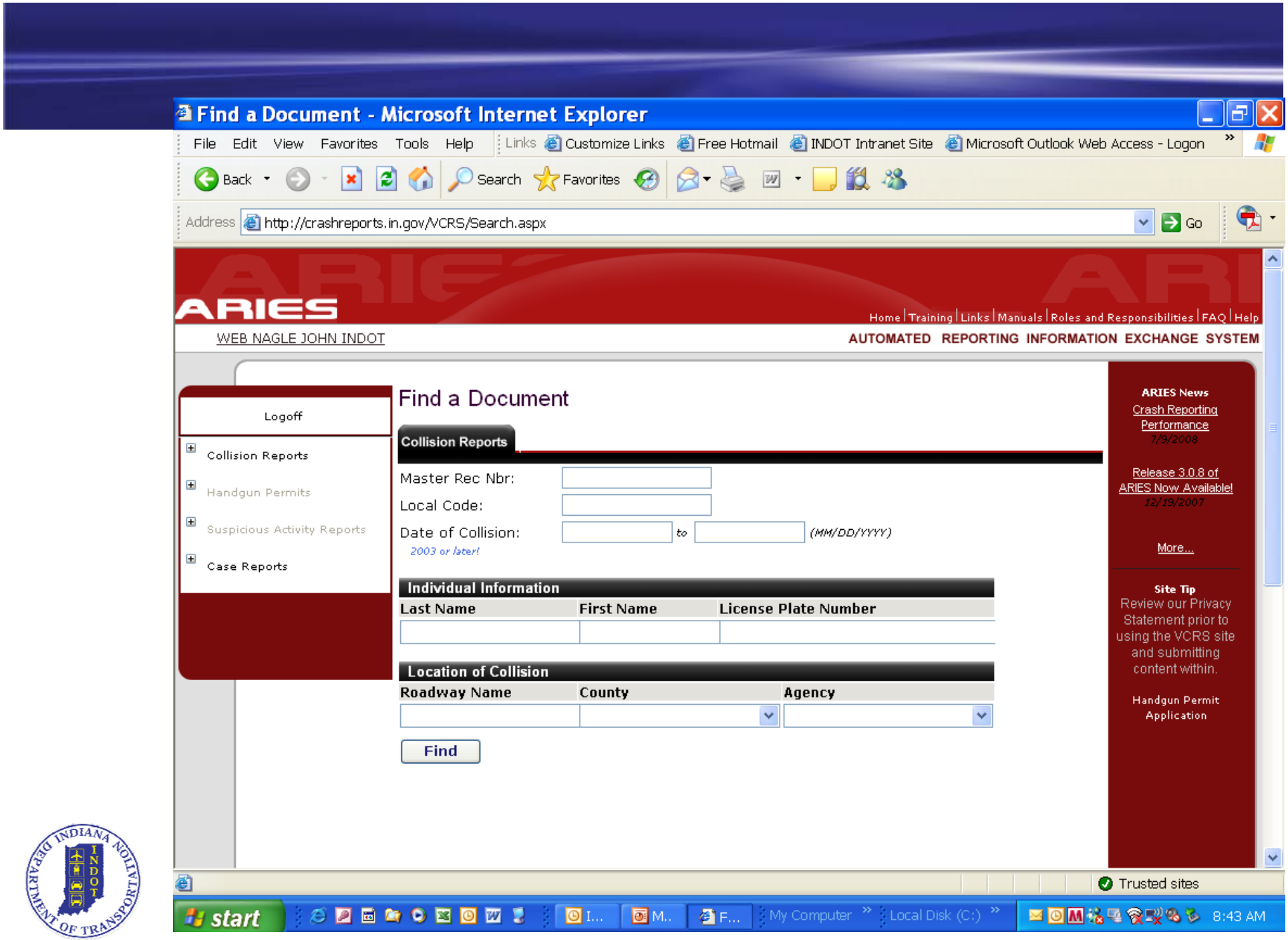
Local Disk (C:)
8:15 AM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Master Rec Nbr:
Local Code:
Date of Collision:
to
(MM/DD/YYYY)
2003 or later!
Individual Information
Last Name
First Name
License Plate Number
Location of Collision
Roadway Name
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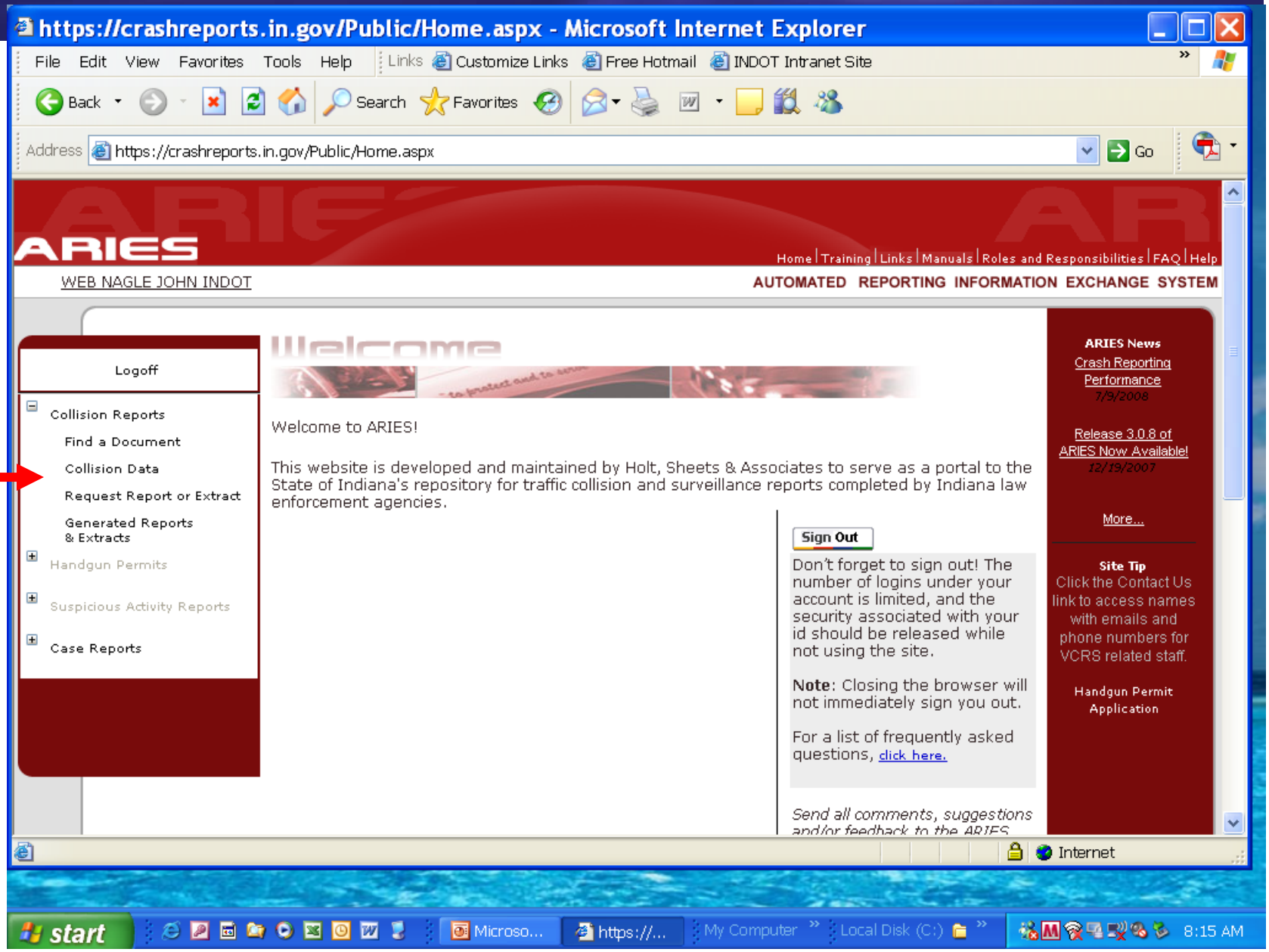
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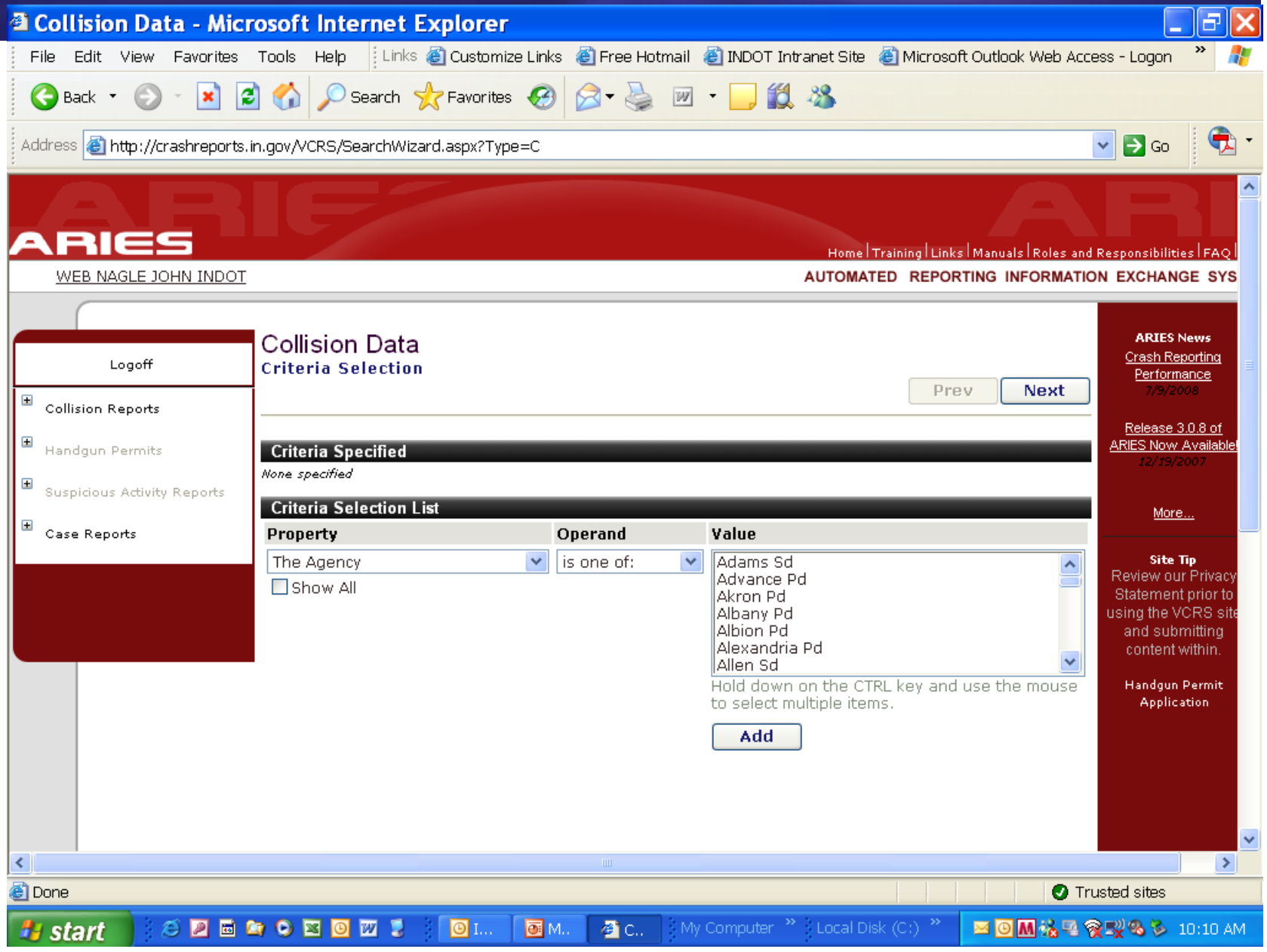
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Akron Pd
Albany Pd
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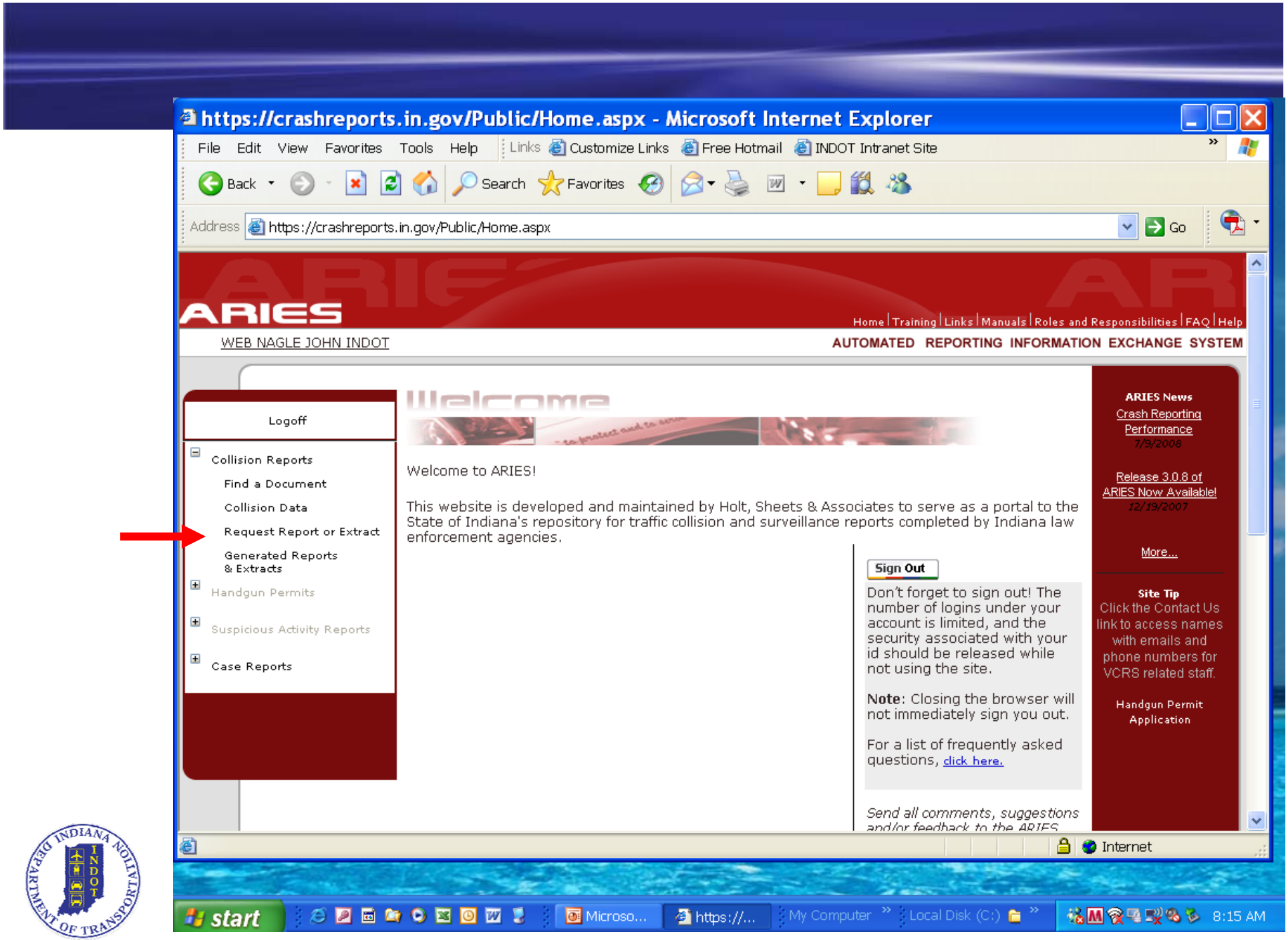
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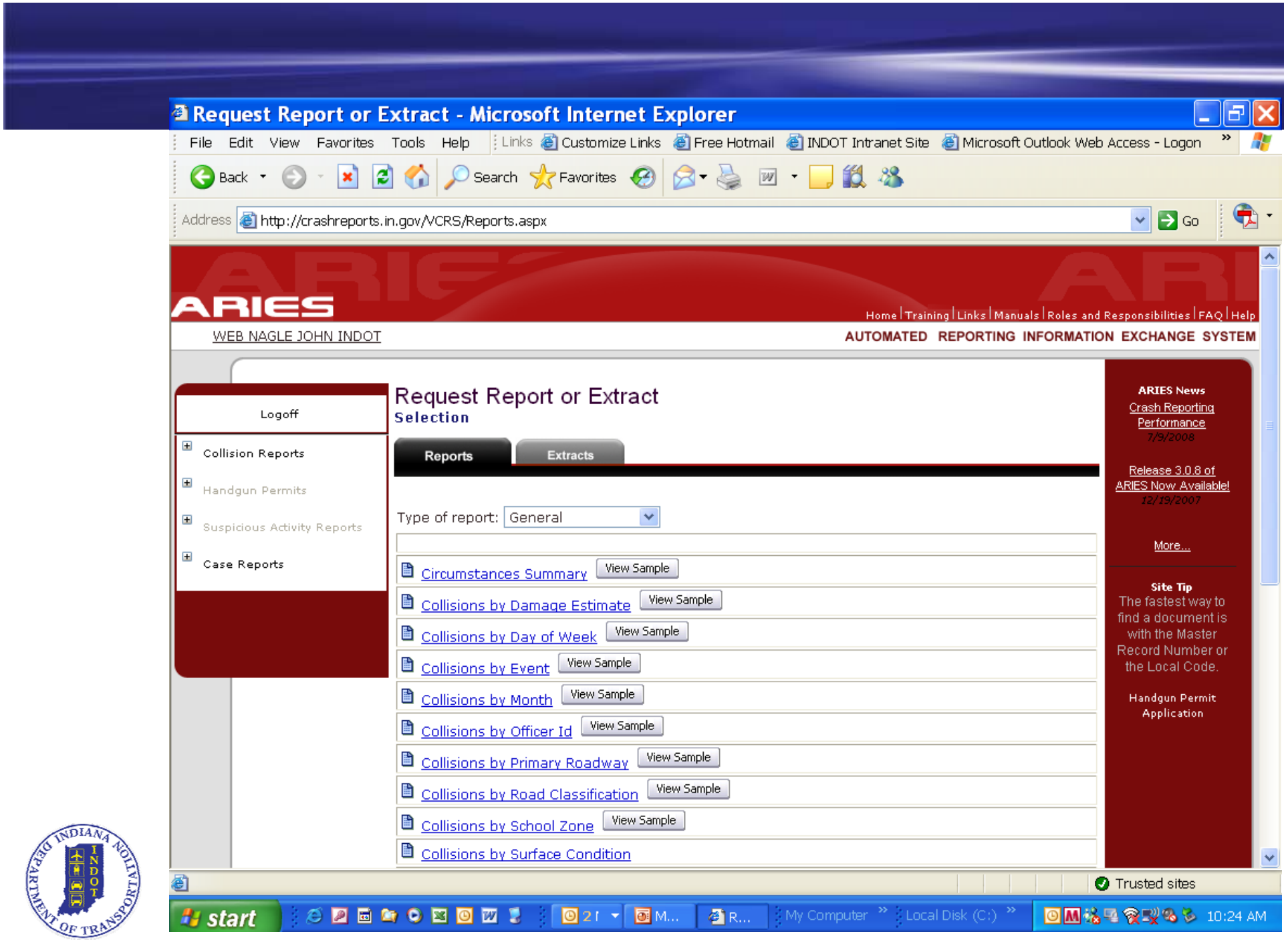
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Type of report: General
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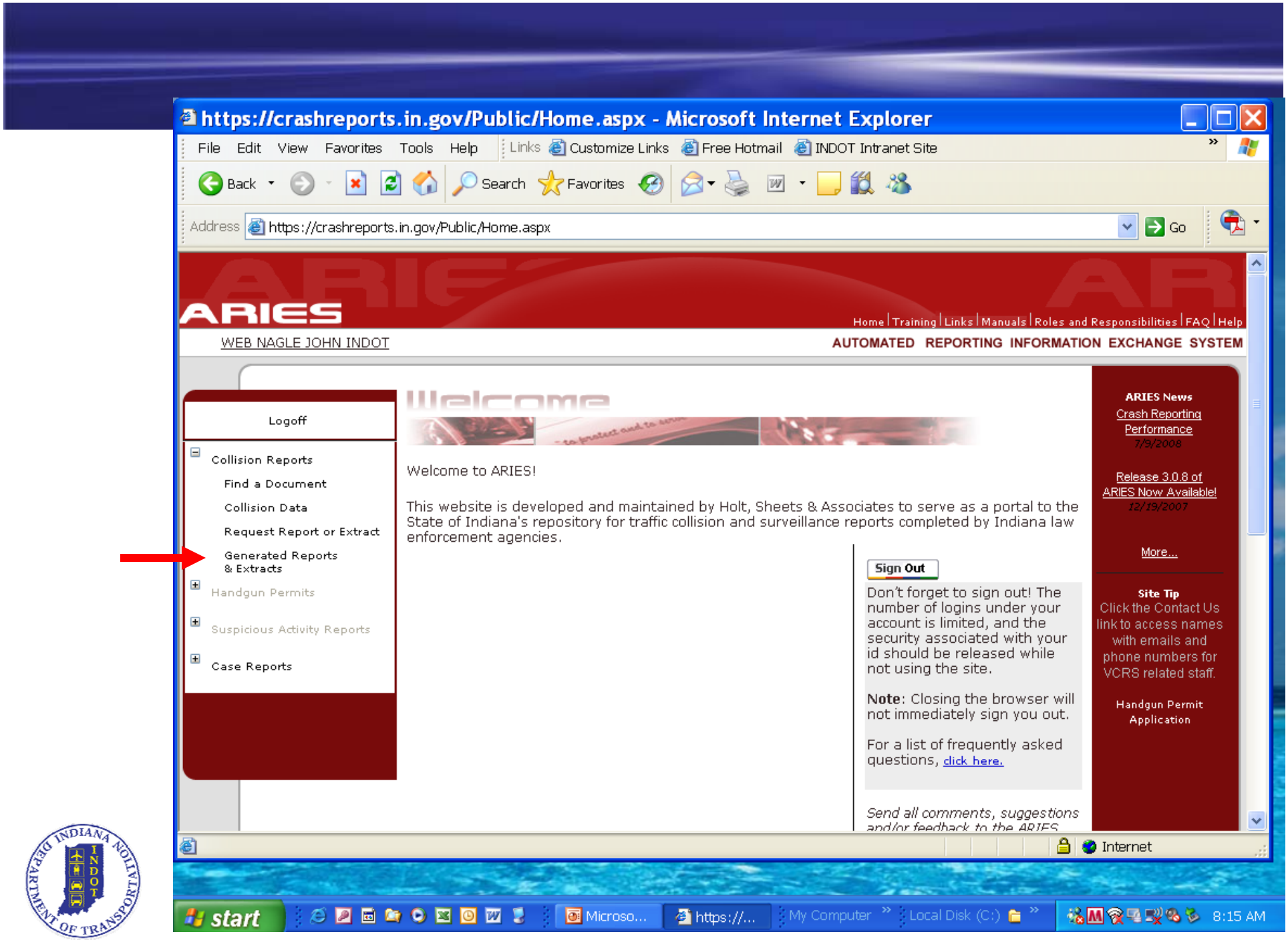
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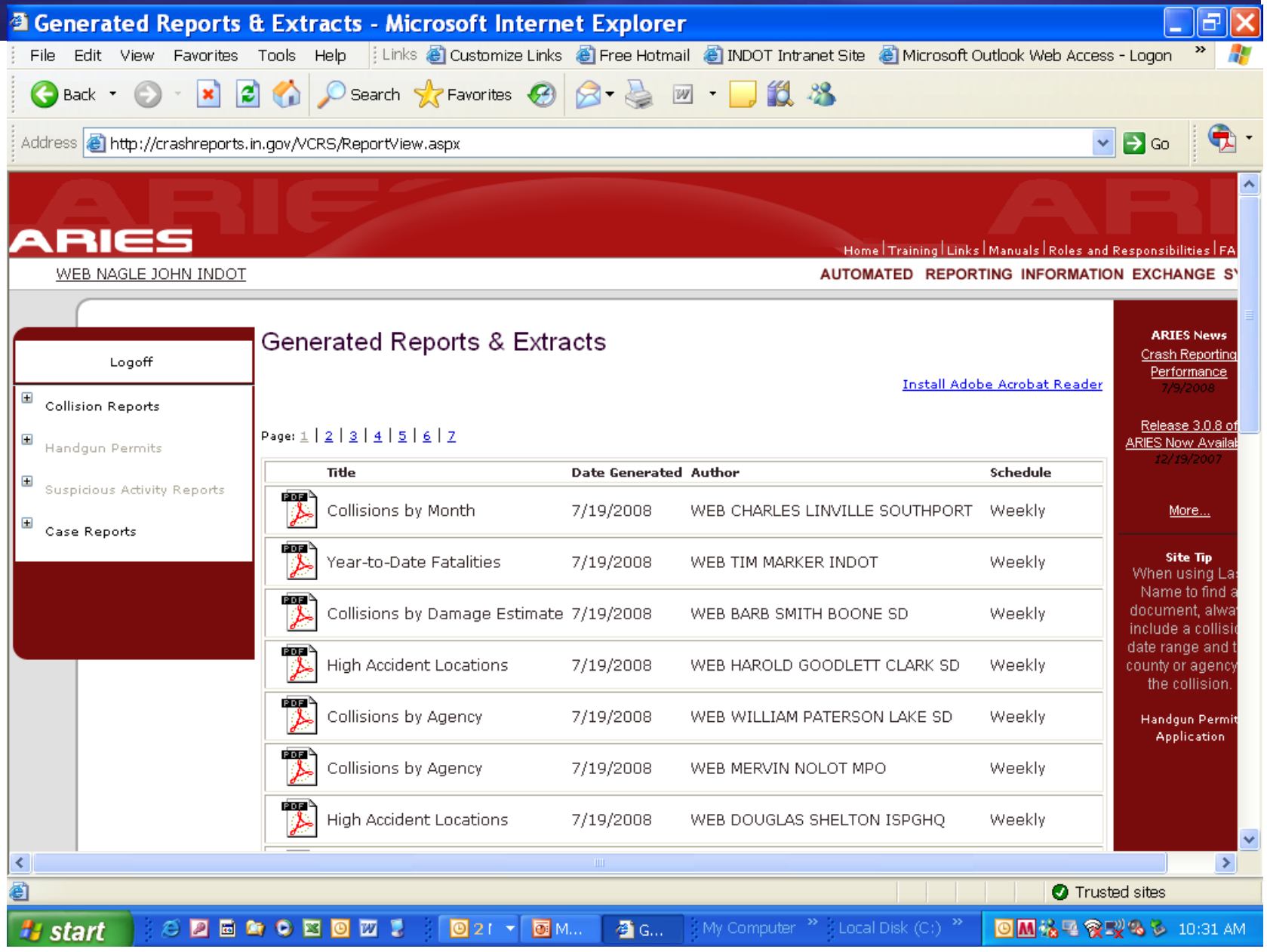
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Collisions by Month 7/19/2008 WEB CHARLES LINVILLE SOUTHPORT Weekly
Year-to-Date Fatalities 7/19/2008 WEB TIM MARKER INDOT Weekly
Collisions by Damage Estimate 7/19/2008 WEB BARB SMITH BOONE SD Weekly
High Accident Locations 7/19/2008 WEB HAROLD GOODLETT CLARK SD Weekly
Collisions by Agency 7/19/2008 WEB WILLIAM PATERSON LAKE SD Weekly
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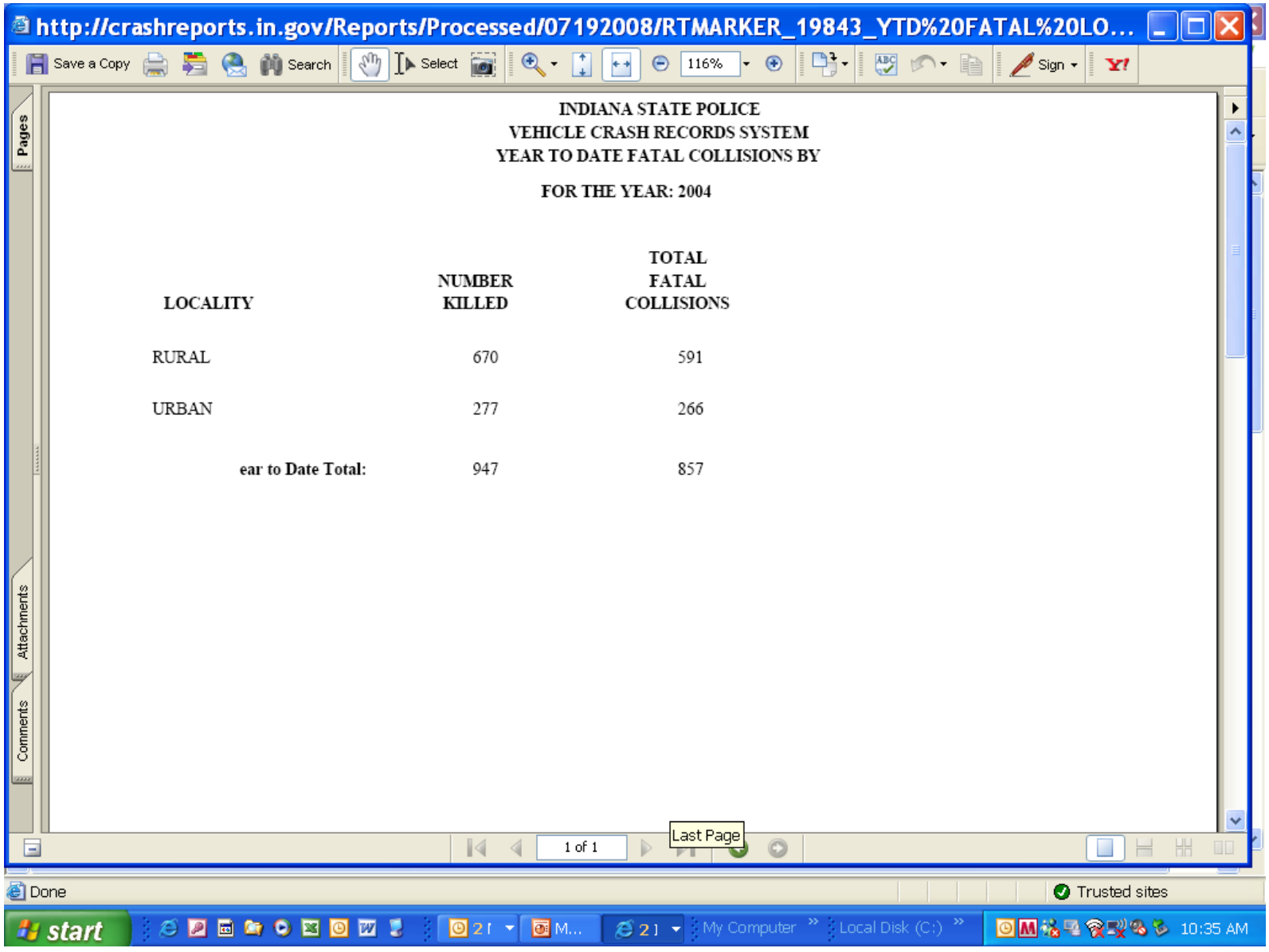
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INDIANA STATE POLICE
VEHICLE CRASH RECORDS SYSTEM
YEAR TO DATE FATAL COLLISIONS BY
FOR THE YEAR: 2004
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RURAL 670 591
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1 of 1
Last Page
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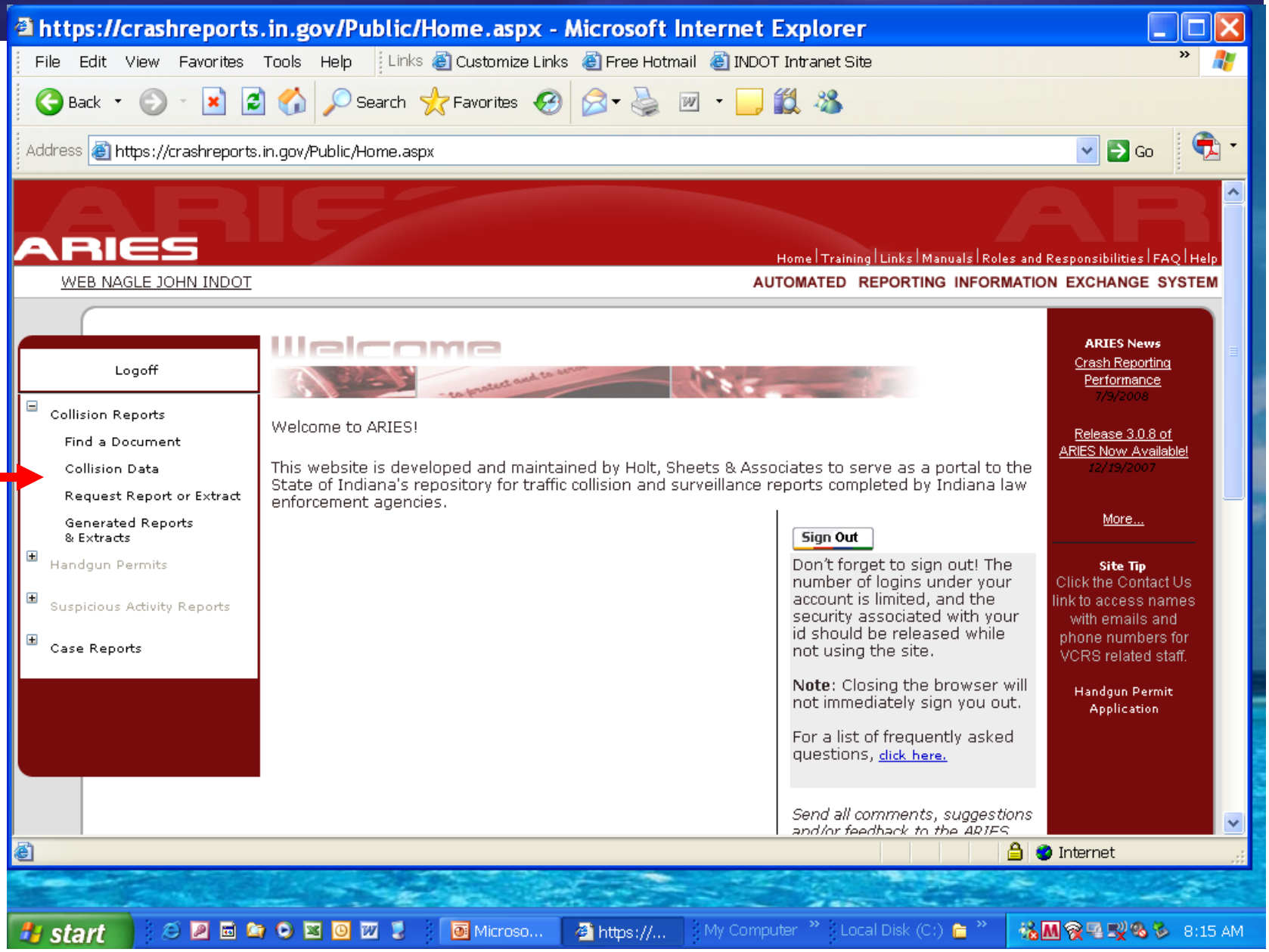
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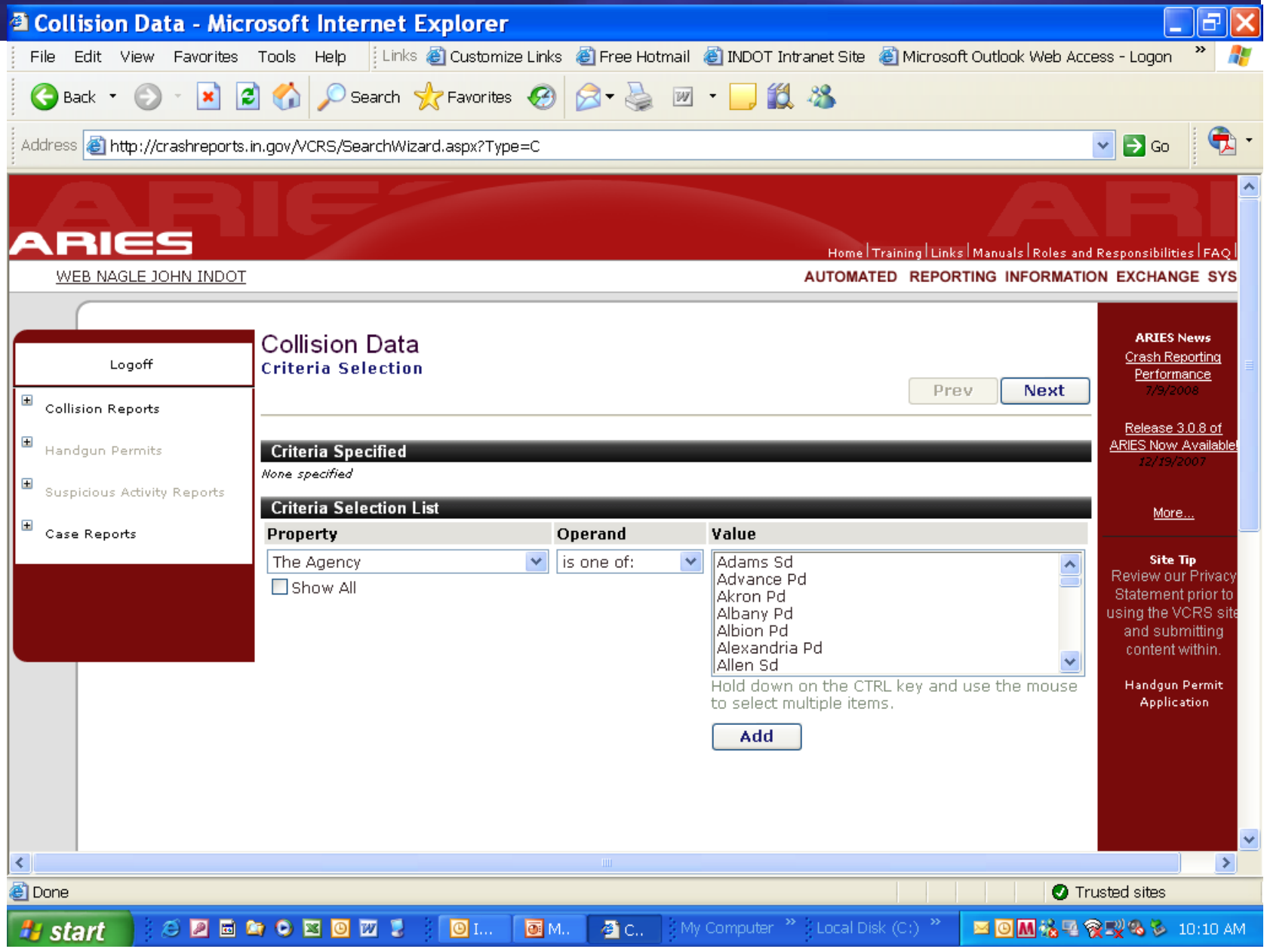
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is one of:
Show All
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Akron Pd
Albany Pd
Albion Pd
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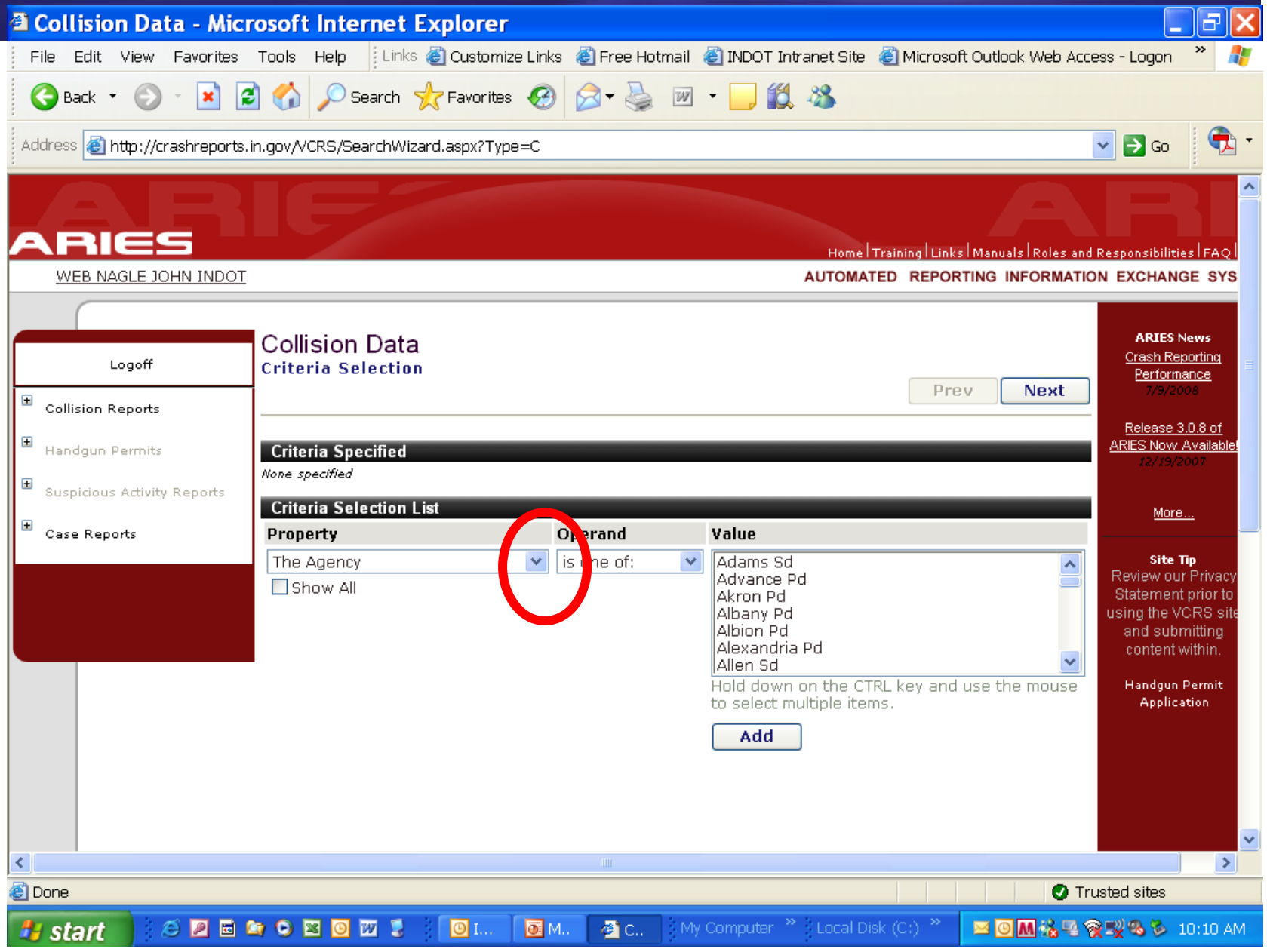
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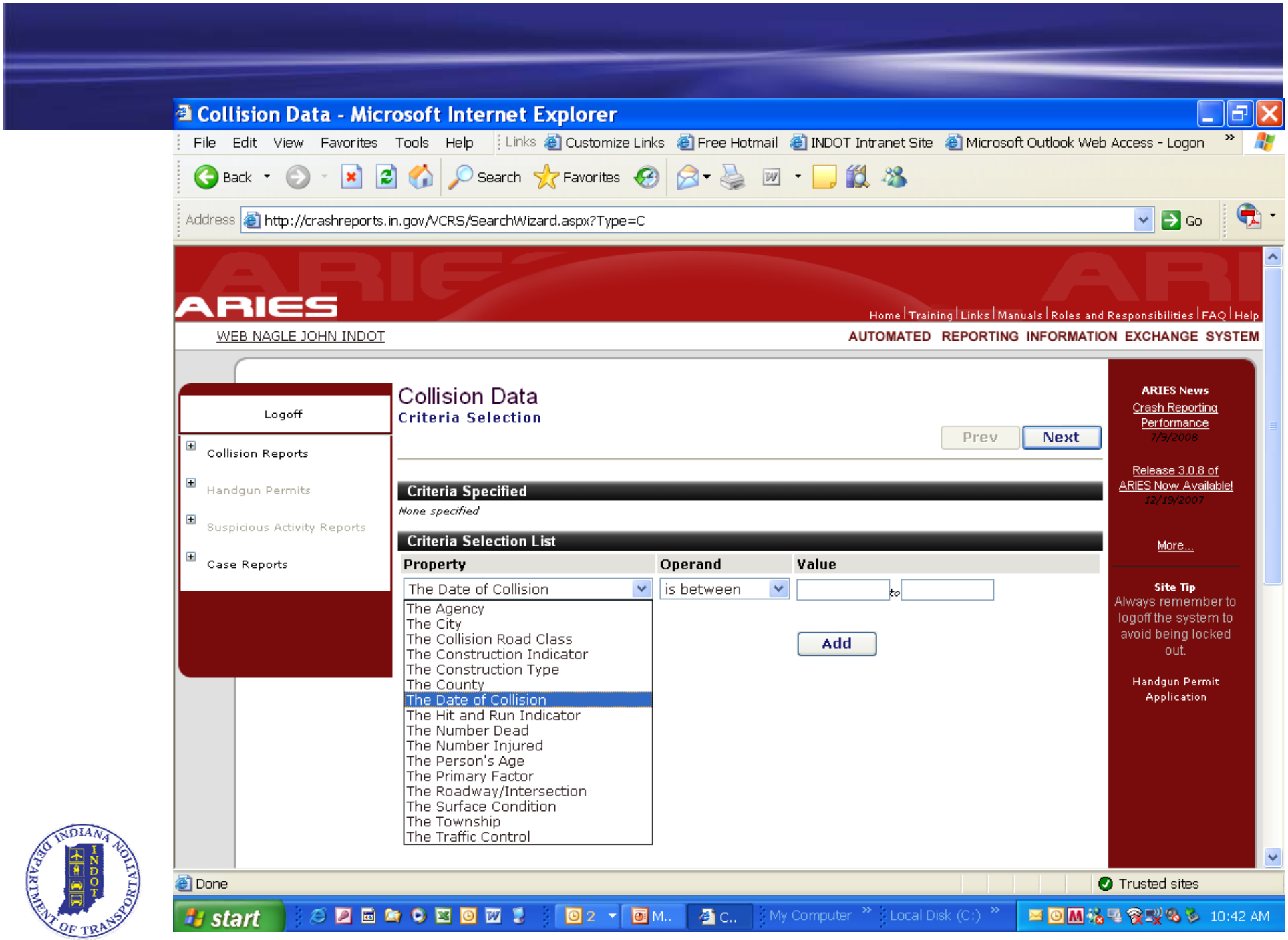
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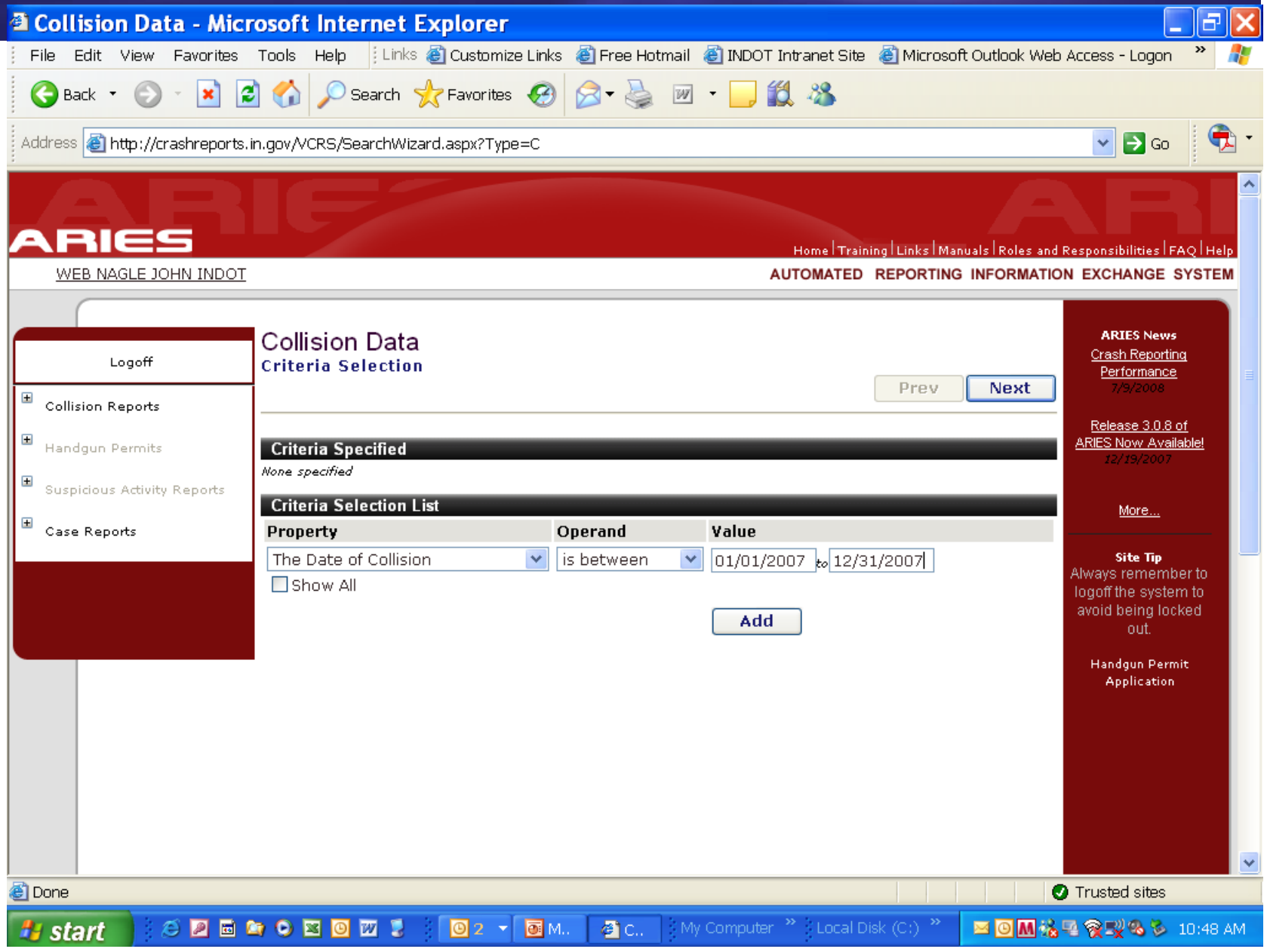
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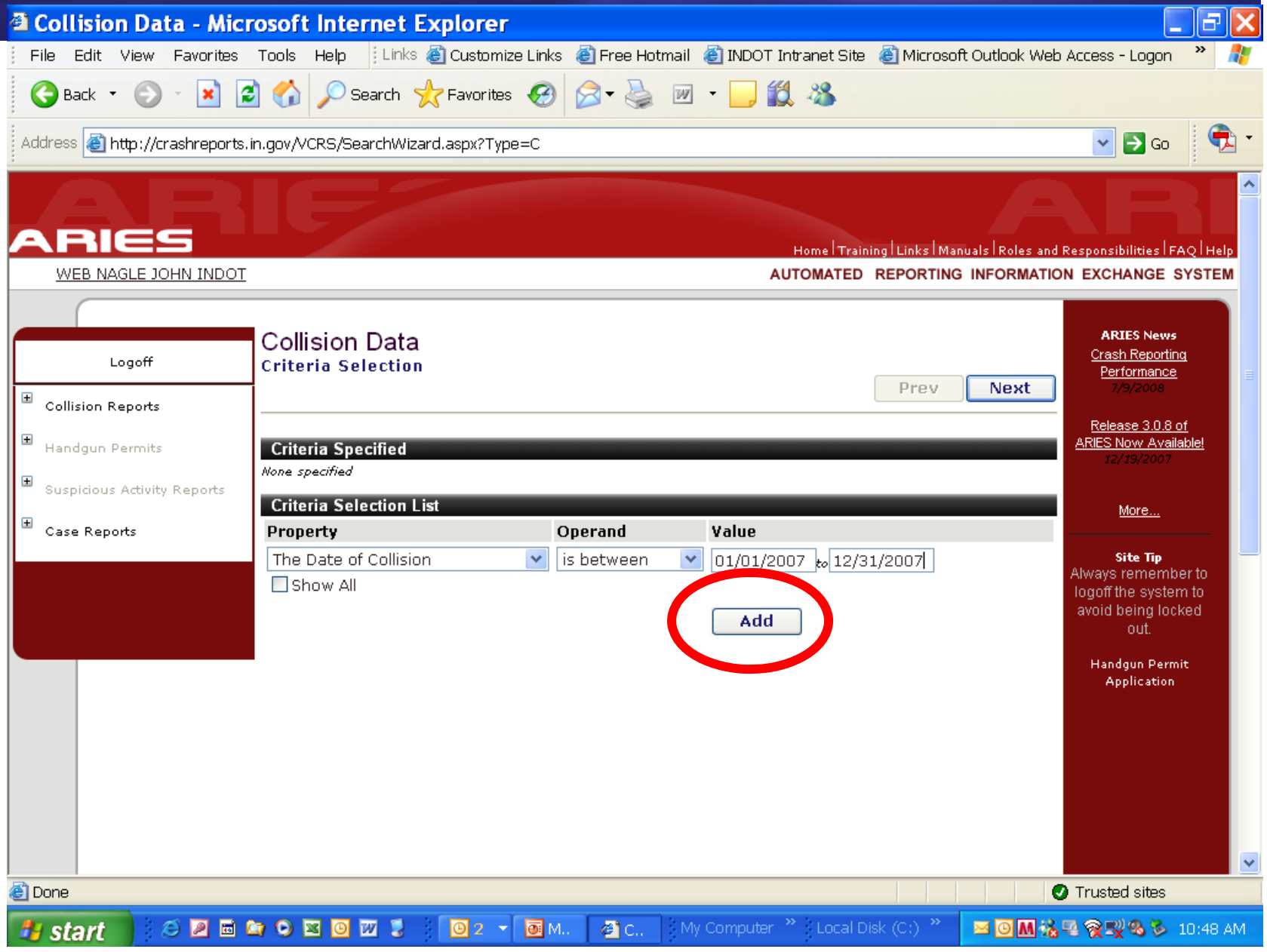
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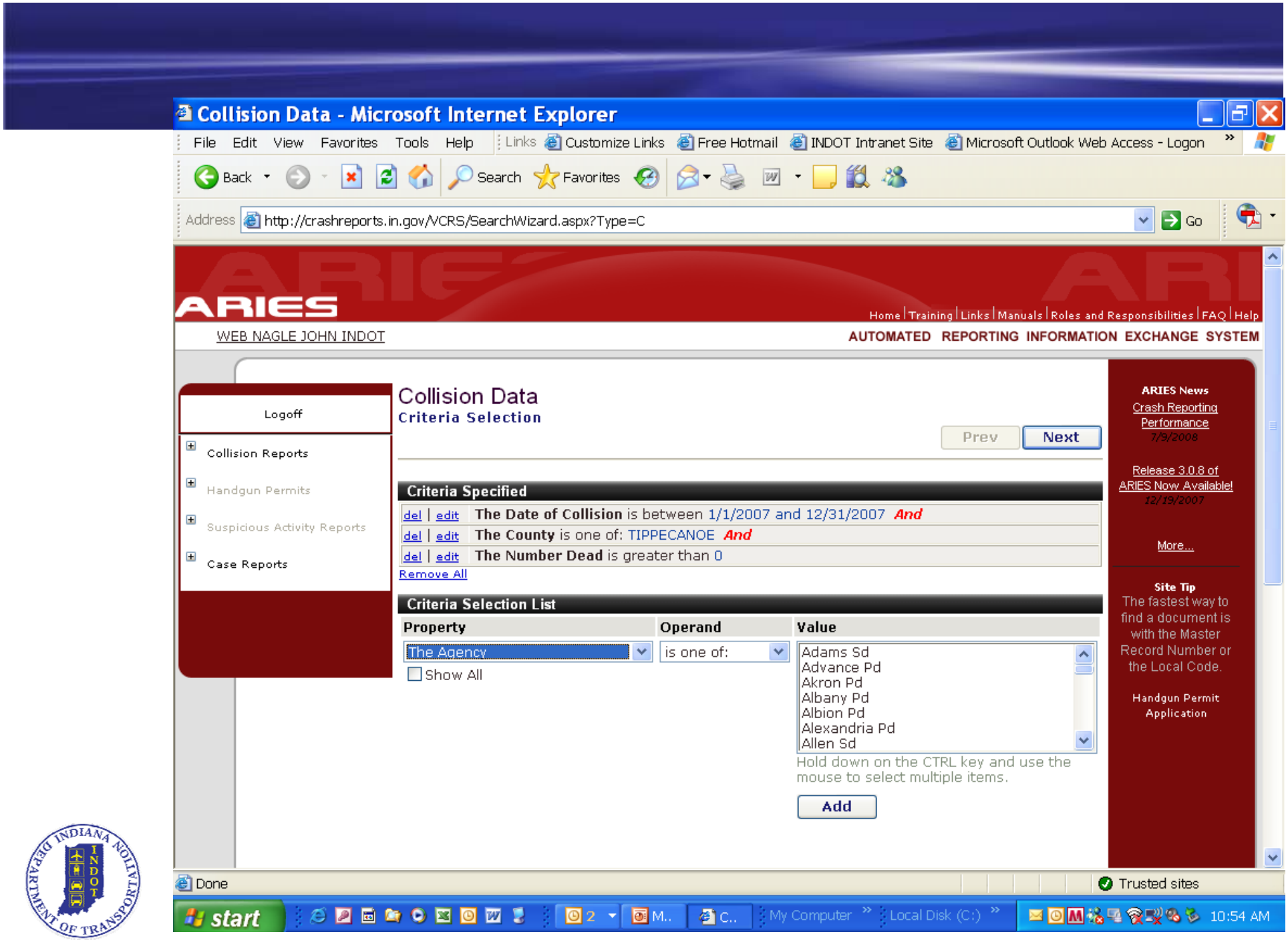
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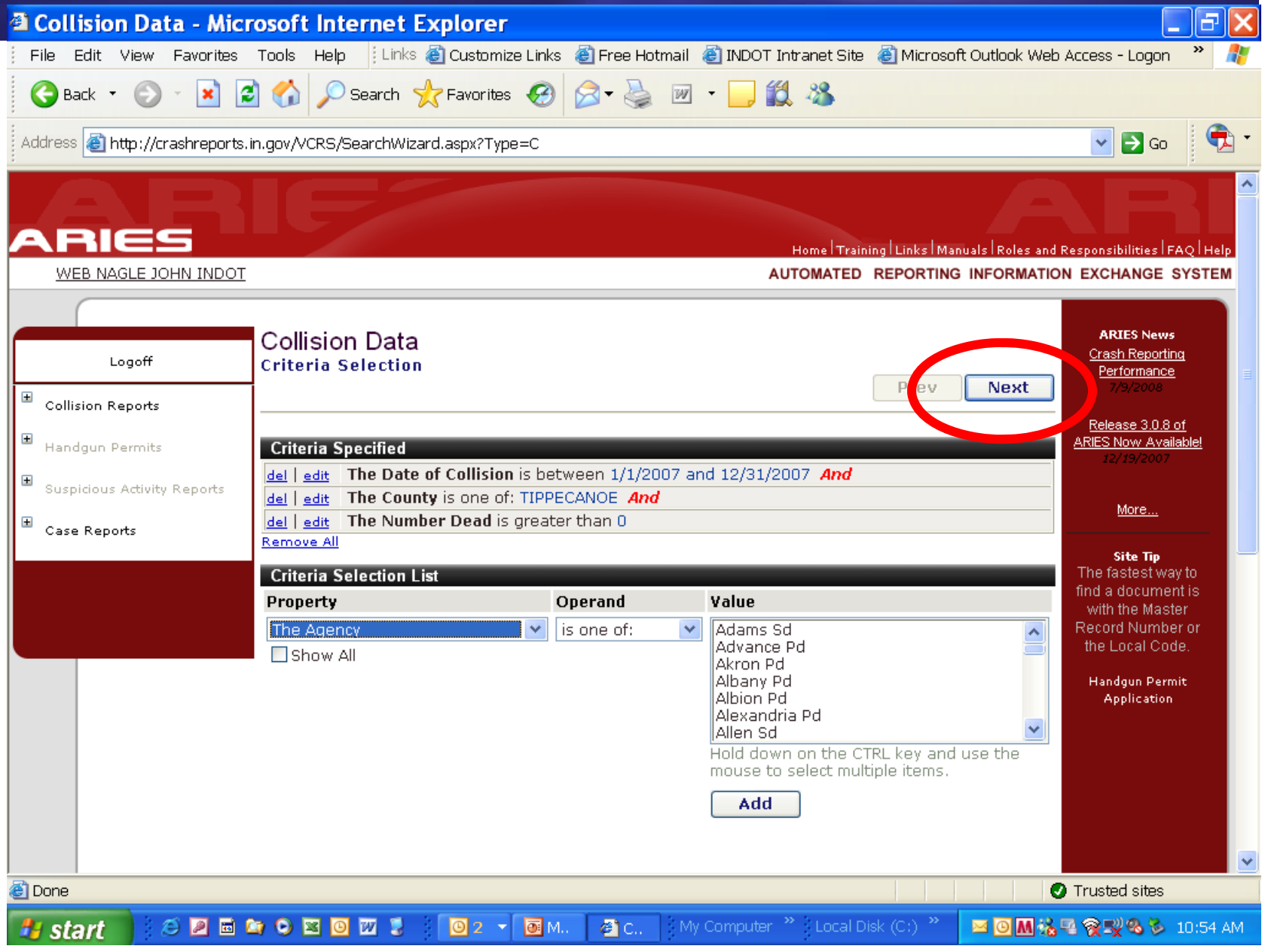
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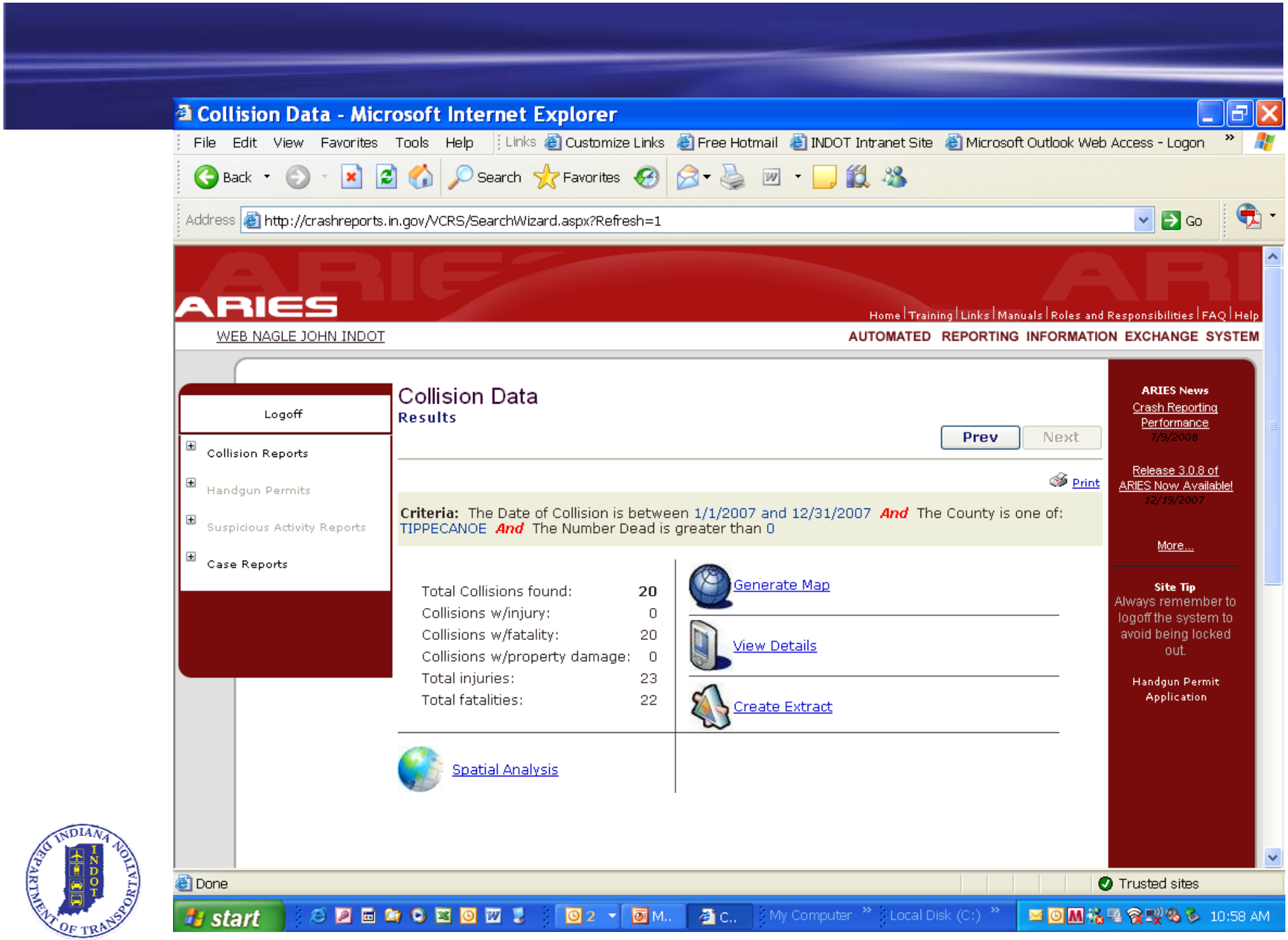
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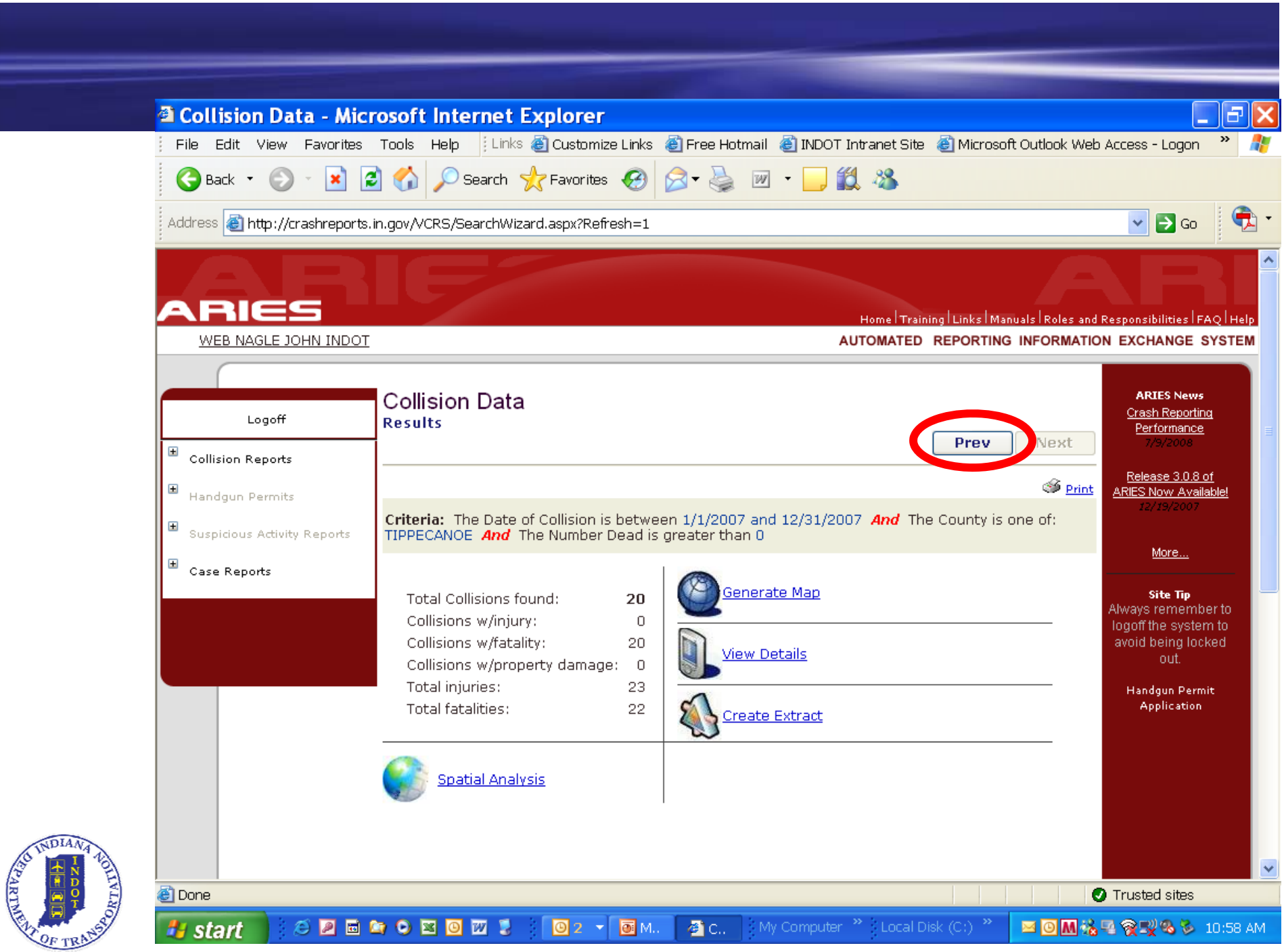
Criteria: The Date of Collision is between 1/1/2007 and 12/31/2007 And The County is one of: TIPPECANOE And The Number Dead is greater than 0
Total Collisions found: 20
Collisions w/injury: 0
Collisions w/fatality: 20
Collisions w/property damage: 0
Total injuries: 23
Total fatalities: 22
Generate Map
View Details
Create Extract
Spatial Analysis
ARIES News
Crash Reporting Performance
7/9/2008
Release 3.0.8 of ARIES Now Available!
12/19/2007
More...
Site Tip
Always remember to logoff the system to avoid being locked out.
Handgun Permit Application
Done
Trusted sites
start
My Computer
Local Disk (C:)
10:58 AM


Collision Data - Microsoft Internet Explorer
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Address http://crashreports.in.gov/VCRS/SearchWizard.aspx?Refresh=1
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Criteria: The Date of Collision is between 1/1/2007 and 12/31/2007 And The County is one of: TIPPECANOE And The Number Dead is greater than 0
Total Collisions found: 20
Collisions w/injury: 0
Collisions w/fatality: 20
Collisions w/property damage: 0
Total injuries: 23
Total fatalities: 22
Generate Map
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Trusted sites
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Local Disk (C:)
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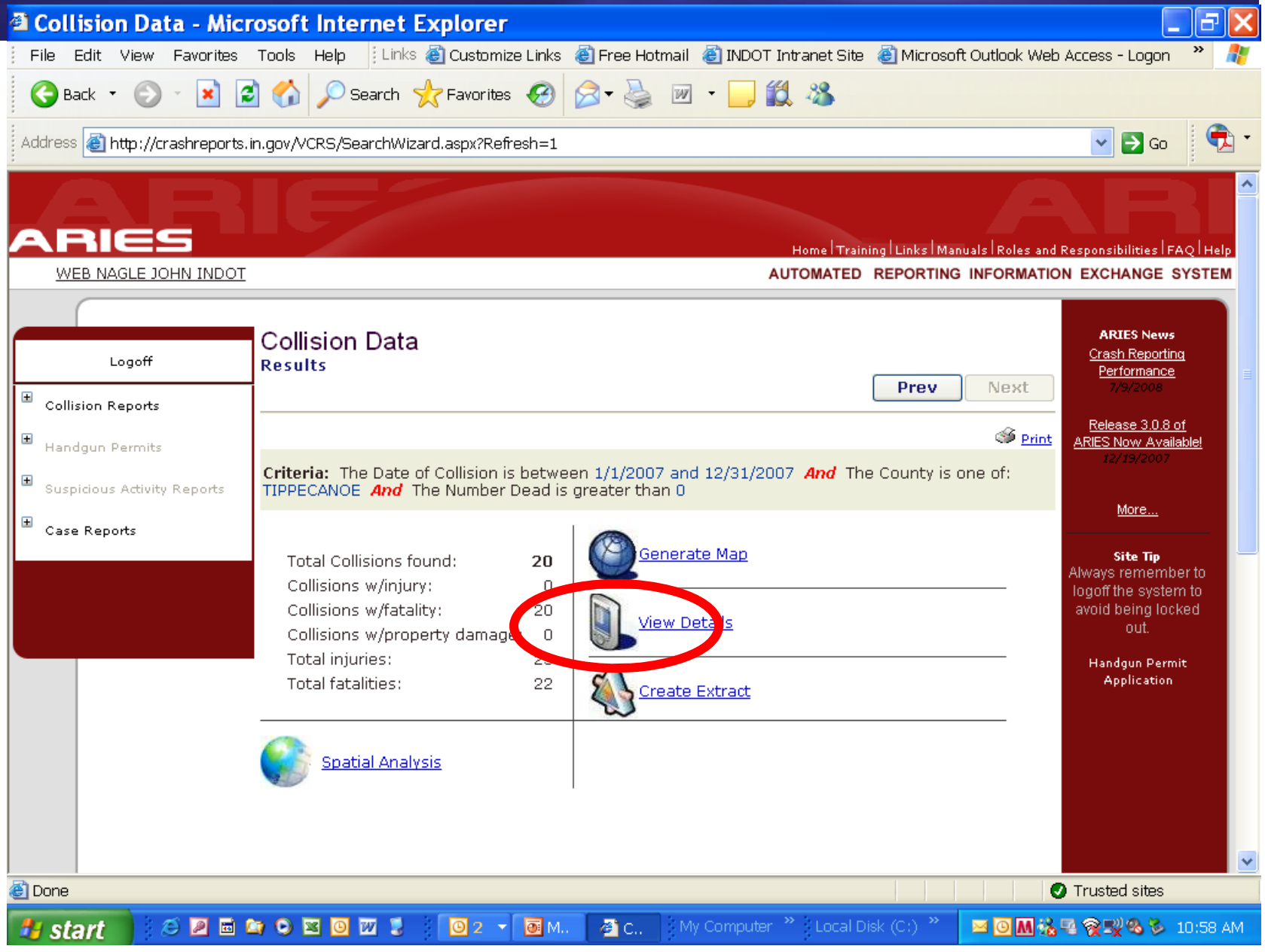
Collision Data - Microsoft Internet Explorer
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Criteria: The Date of Collision is between 1/1/2007 and 12/31/2007 And The County is one of: TIPPECANOE And The Number Dead is greater than 0
Total Collisions found: 20
Collisions w/injury: 0
Collisions w/fatality: 20
Collisions w/property damage 0
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Total fatalities: 22
Generate Map
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Site Tip
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Handgun Permit Application
Done
Trusted sites
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My Computer
Local Disk (C:)
10:58 AM

		MASTER RECORD NUMBER	COLLISION DATE	LOCAL CODE	AGENCY	COUNTY	PRIMARY FACTOR	ROADWAY
view	buy	900620767	1/23/2007	2007001074	LAFAYETTE PD	TIPPECANOE	PEDESTRIAN ACTION	SAGAMORE PKWY
view	buy	900648988	2/4/2007	2007000498	WEST LAFAYETTE PD	TIPPECANOE	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	US52W
view	buy	900632973	2/6/2007	1420070206142848	ISP LAFAYETTE 14	TIPPECANOE	SPEED TOO FAST FOR WEATHER CONDITIONS	I65
view	buy	900634391	2/12/2007	2007000657	TIPPECANOE SD	TIPPECANOE	UNSAFE SPEED	STATE ROAD 25 HWY
view	buy	900666343	4/17/2007	1420070417132807	ISP LAFAYETTE 14	TIPPECANOE	FAILURE TO YIELD RIGHT OF WAY	SR25
view	buy	900667708	4/29/2007	2007001852	TIPPECANOE SD	TIPPECANOE	FAILURE TO YIELD RIGHT OF WAY	CR600
view	buy	900673868	5/16/2007	2007002123	TIPPECANOE SD	TIPPECANOE	DISREGARD SIGNAL/REG SIGN	SR25N
view	buy	900689545	5/30/2007	1420070530070113	ISP LAFAYETTE 14	TIPPECANOE	LEFT OF CENTER	SR25S
view	buy	900694594	6/23/2007	2007002727	TIPPECANOE SD	TIPPECANOE	DISREGARD SIGNAL/REG SIGN	CR900E
view	buy	900700903	6/30/2007	1420070630065436	ISP LAFAYETTE 14	TIPPECANOE	LEFT OF CENTER	SR26
view	buy	900705717	7/13/2007	2007003133	TIPPECANOE SD	TIPPECANOE	UNSAFE SPEED	I65
view	buy	900709703	7/25/2007	2007003328	TIPPECANOE SD	TIPPECANOE	OTHER (ENVIRONMENTAL) - EXPLAIN IN NARR	US52WE
view	buy	900733406	9/5/2007	2007003765	WEST LAFAYETTE PD	TIPPECANOE	PEDESTRIAN ACTION	STATE ST
view	buy	900741277	9/8/2007	2007004021	TIPPECANOE SD	TIPPECANOE	DISREGARD SIGNAL/REG SIGN	SR28
view	buy	900749715	9/27/2007	2007013612	LAFAYETTE PD	TIPPECANOE	FAILURE TO YIELD RIGHT OF WAY	FERRY ST
view	buy	900749745	10/2/2007	2007013815	LAFAYETTE PD	TIPPECANOE	PEDESTRIAN ACTION	GREENBUSH ST
view	buy	900753310	10/4/2007	2007128	BATTLEGROUND PD	TIPPECANOE	BRAKE FAILURE OR DEFECTIVE	PROPHETS ROCK ROAD RD
view	buy	900806990	12/1/2007	030701156	DNR LAW ENFORCEMENT	TIPPECANOE	ROADWAY SURFACE CONDITION	SR25S

	MASTER RECORD NUMBER	COLLISION DATE	LOCAL CODE	AGENCY	COUNTY	PRIMARY FACTOR	ROADWAY
view buy	900620767	1/23/2007	2007001074	LAFAYETTE PD	TIPPECANOE	PEDESTRIAN ACTION	SAGAMORE PKWY
view buy	900648988	2/4/2007	2007000498	WEST LAFAYETTE PD	TIPPECANOE	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	US52W
view buy	900632973	2/6/2007	1420070206142848	ISP LAFAYETTE 14	TIPPECANOE	SPEED TOO FAST FOR WEATHER CONDITIONS	I65
view buy	900634391	2/12/2007	2007000657	TIPPECANOE SD	TIPPECANOE	UNSAFE SPEED	STATE ROAD 25 HWY
view buy	900666343	4/17/2007	1420070417132807	ISP LAFAYETTE 14	TIPPECANOE	FAILURE TO YIELD RIGHT OF WAY	SR25
view buy	900667708	4/29/2007	2007001852	TIPPECANOE SD	TIPPECANOE	FAILURE TO YIELD RIGHT OF WAY	CR600
view buy	900673868	5/16/2007	2007002123	TIPPECANOE SD	TIPPECANOE	DISREGARD SIGNAL/REG SIGN	SR25N
view buy	900689545	5/30/2007	1420070530070113	ISP LAFAYETTE 14	TIPPECANOE	LEFT OF CENTER	SR25S
view buy	900694594	6/23/2007	2007002727	TIPPECANOE SD	TIPPECANOE	DISREGARD SIGNAL/REG SIGN	CR900E
view buy	900700903	6/30/2007	1420070630065436	ISP LAFAYETTE 14	TIPPECANOE	LEFT OF CENTER	SR26
view buy	900705717	7/13/2007	2007003133	TIPPECANOE SD	TIPPECANOE	UNSAFE SPEED	I65
view buy	900709703	7/25/2007	2007003328	TIPPECANOE SD	TIPPECANOE	OTHER (ENVIRONMENTAL) - EXPLAIN IN NARR	US52WE
view buy	900733406	9/5/2007	2007003765	WEST LAFAYETTE PD	TIPPECANOE	PEDESTRIAN ACTION	STATE ST
view buy	900741277	9/8/2007	2007004021	TIPPECANOE SD	TIPPECANOE	DISREGARD SIGNAL/REG SIGN	SR28
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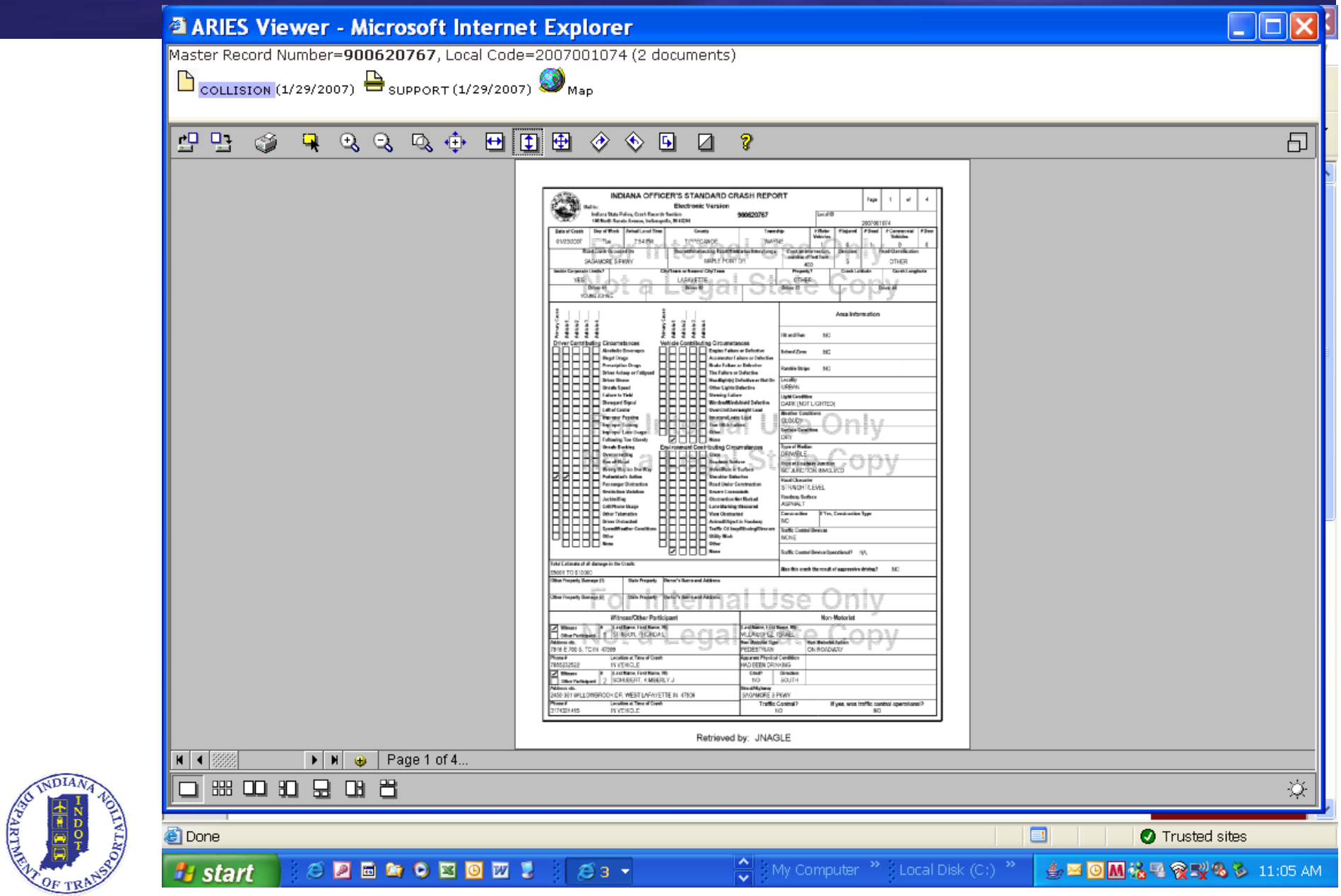
view buy	900753310	10/4/2007	2007128	BATTLEGROUND PD	TIPPECANOE	BRAKE FAILURE OR DEFECTIVE	PROPHETS ROCK ROAD RD
view buy	900806990	12/1/2007	030701156	DNR LAW ENFORCEMENT	TIPPECANOE	ROADWAY SURFACE CONDITION	SR25S


ARIES Viewer - Microsoft Internet Explorer
Master Record Number=900620767, Local Code=2007001074 (2 documents)
COLLISION (1/29/2007)
SUPPORT (1/29/2007)
Map
INDIANA OFFICER'S STANDARD CRASH REPORT
Electronic Version
900620767
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Page 1 of 4...
Done
Trusted sites
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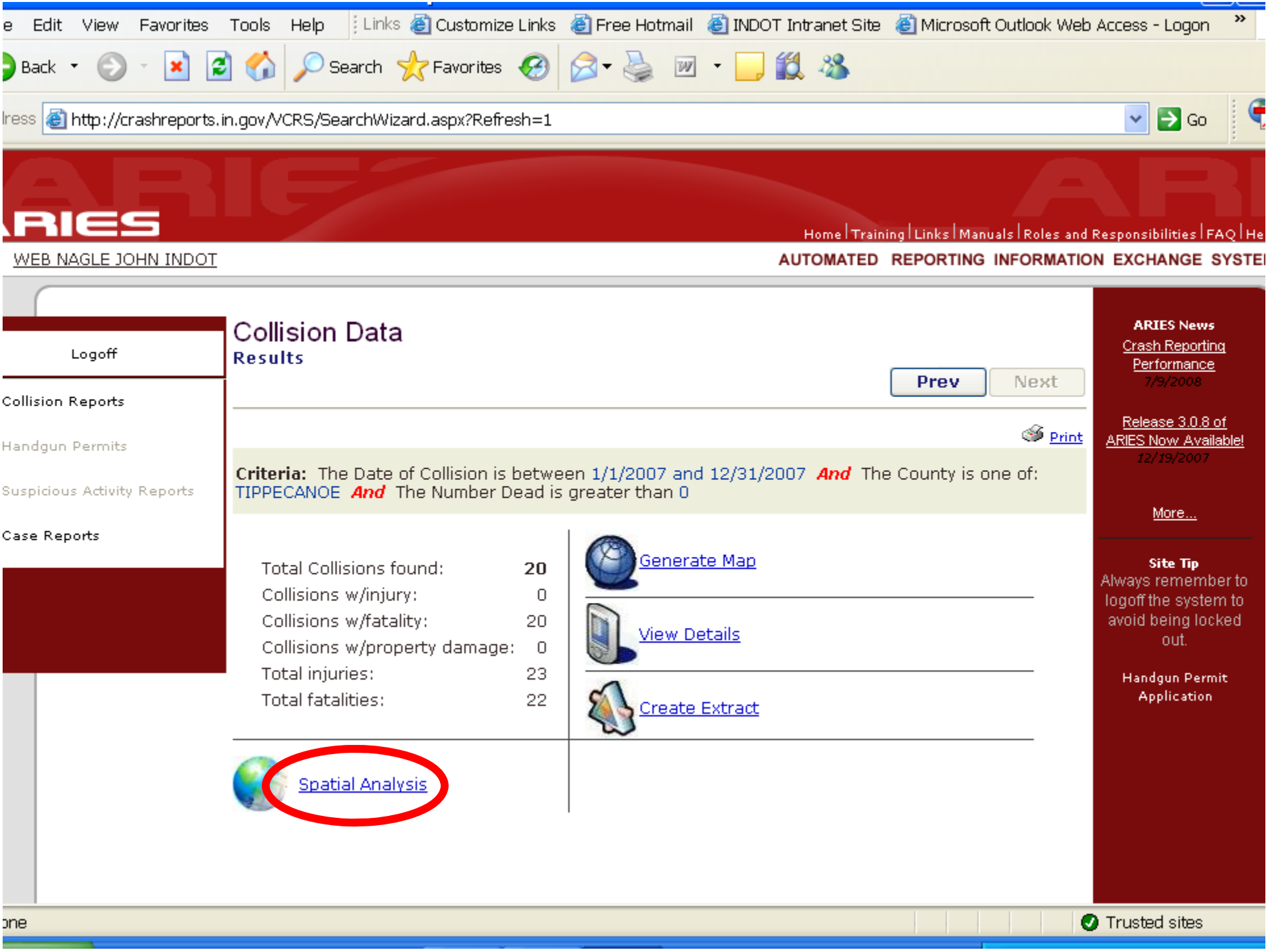
My Computer
Local Disk (C:)
11:05 AM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Criteria: The Date of Collision is between 1/1/2007 and 12/31/2007 And The County is one of: TIPPECANOE And The Number Dead is greater than 0
Total Collisions found: 20
Collisions w/injury: 0
Collisions w/fatality: 20
Collisions w/property damage: 0
Total injuries: 23
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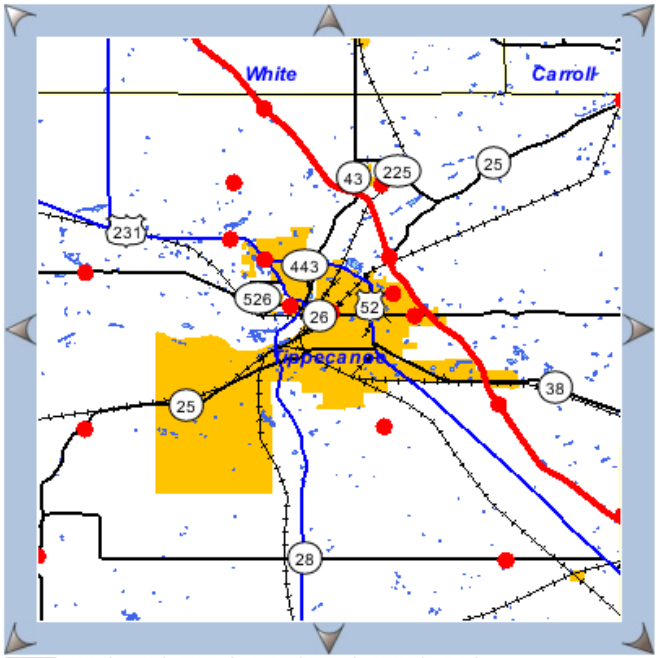
SpatialMap - Microsoft Internet Explorer

Criteria: The Date of Collision is between 1/1/2007 and 12/31/2007 ***And*** The County is one of: TIPPECANOE ***And*** The Number Dead is greater than 0



Layers | Legend

- Public Protection Offices
- Communities
- Schools
- Hospitals
- Airports
- Local Roads
- County Roads
- State Routes
- Railroad
- Hydrology
- Water Bodies
- Incorporated
- County
- Public Land Survey

Segment: Total: Units: Miles

Collision w/ Property Damage:		0
Collision w/ Injury:		0
Collision w/ Fatality:		20
Total Mapped:	=	20
Total NOT Mapped:	=	0

Request:
MDN Web Service --- http://crashreports.in.gov/MapDotNetMapWebService5.2/MapWebService.asmx
ArcIMS server --- http://www.in.gov/dot/gis/servlet/com.esri.esrimap.Esrimap?ClientVersion=9.0 --- Service name:ISP

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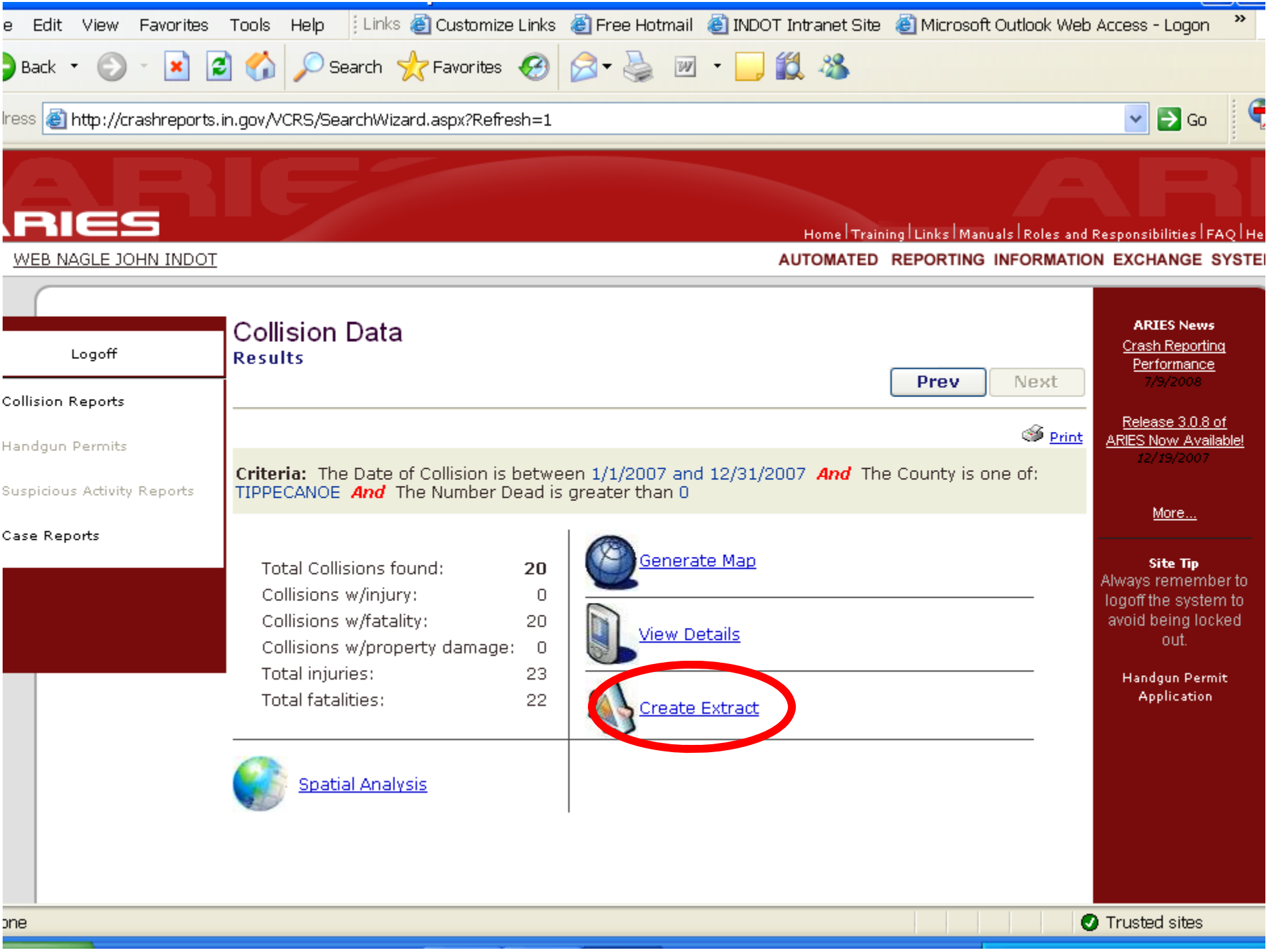
start | My Computer | Local Disk (C:) | 11:15 AM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Collisions w/injury: 0
Collisions w/fatality: 20
Collisions w/property damage: 0
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Total fatalities: 22
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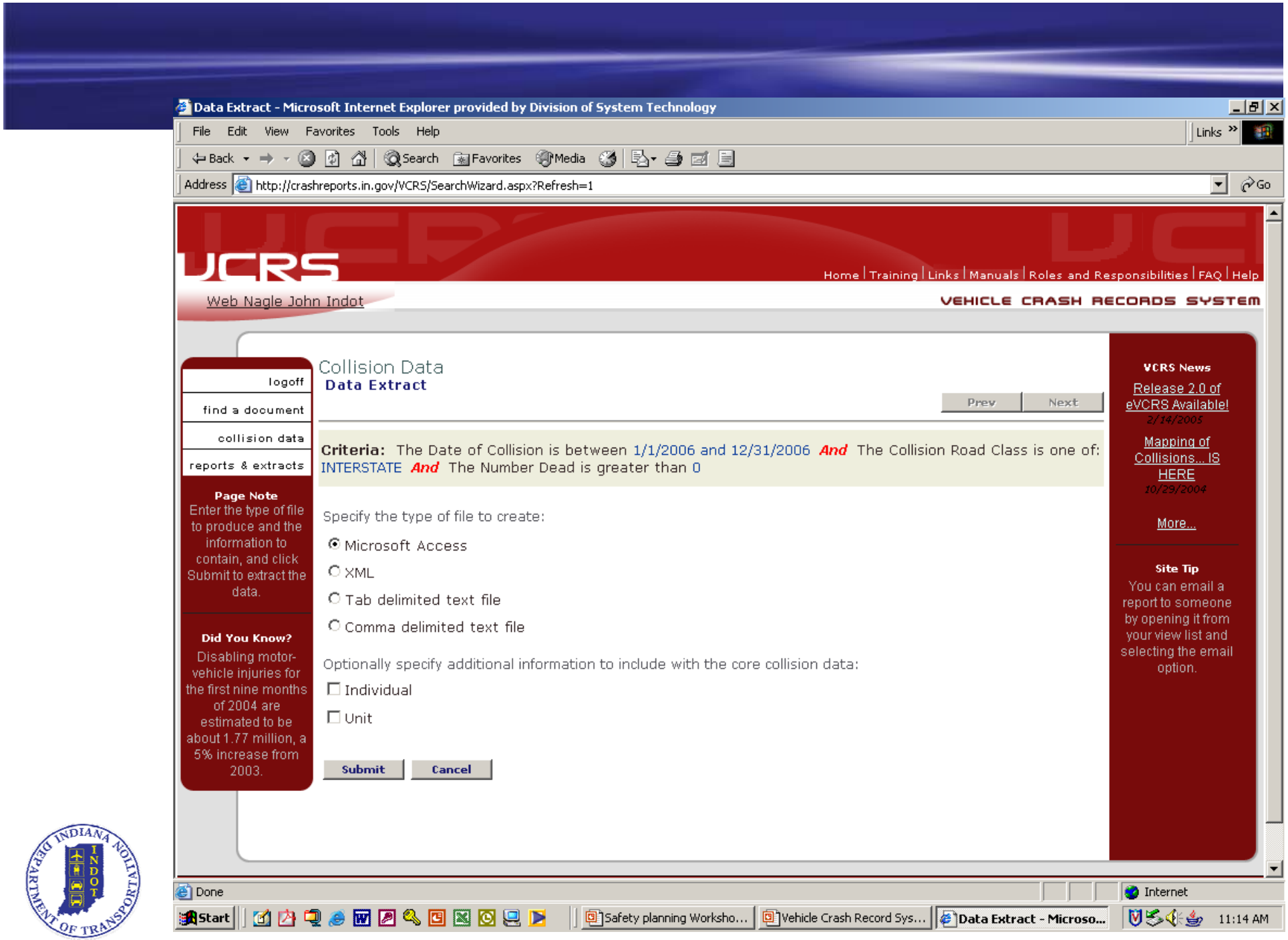
Data Extract - Microsoft Internet Explorer provided by Division of System Technology
File Edit View Favorites Tools Help
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VEHICLE CRASH RECORDS SYSTEM
logoff
find a document
collision data
reports & extracts
Page Note
Enter the type of file to produce and the information to contain, and click Submit to extract the data.
Did You Know?
Disabling motor-vehicle injuries for the first nine months of 2004 are estimated to be about 1.77 million, a 5% increase from 2003.
Collision Data
Data Extract
Prev
Next
Criteria: The Date of Collision is between 1/1/2006 and 12/31/2006 And The Collision Road Class is one of: INTERSTATE And The Number Dead is greater than 0
Specify the type of file to create:
Microsoft Access
XML
Tab delimited text file
Comma delimited text file
Optionally specify additional information to include with the core collision data:
Individual
Unit
Submit
Cancel
VCRS News
Release 2.0 of eVCRS Available!
2/14/2005
Mapping of Collisions... IS HERE
10/29/2004
More...
Site Tip
You can email a report to someone by opening it from your view list and selecting the email option.
Done
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Vehicle Crash Record Sys...
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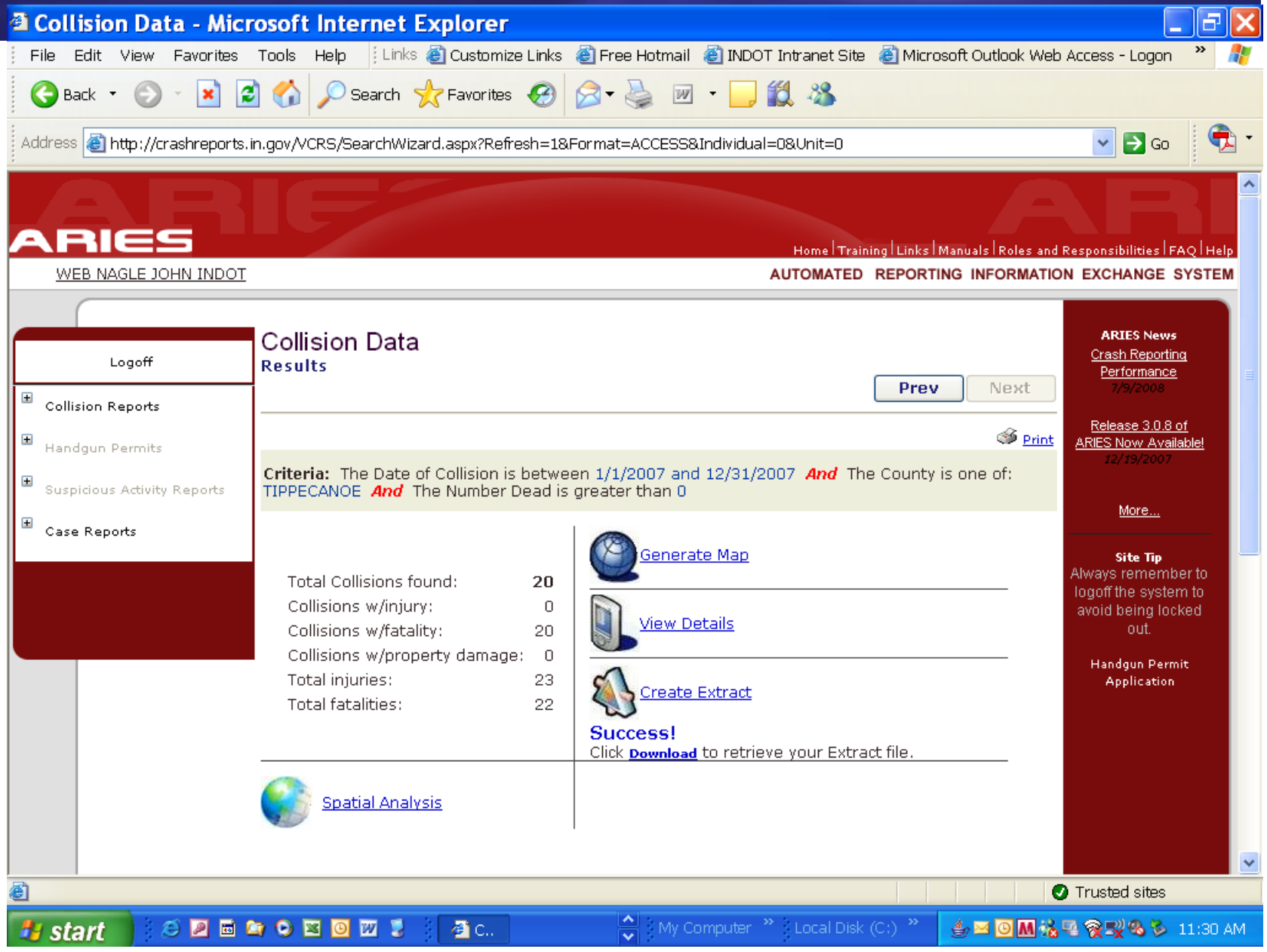
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Collisions w/injury: 0
Collisions w/fatality: 20
Collisions w/property damage: 0
Total injuries: 23
Total fatalities: 22
Generate Map
View Details
Create Extract
Success!
Click Download to retrieve your Extract file.
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Site Tip
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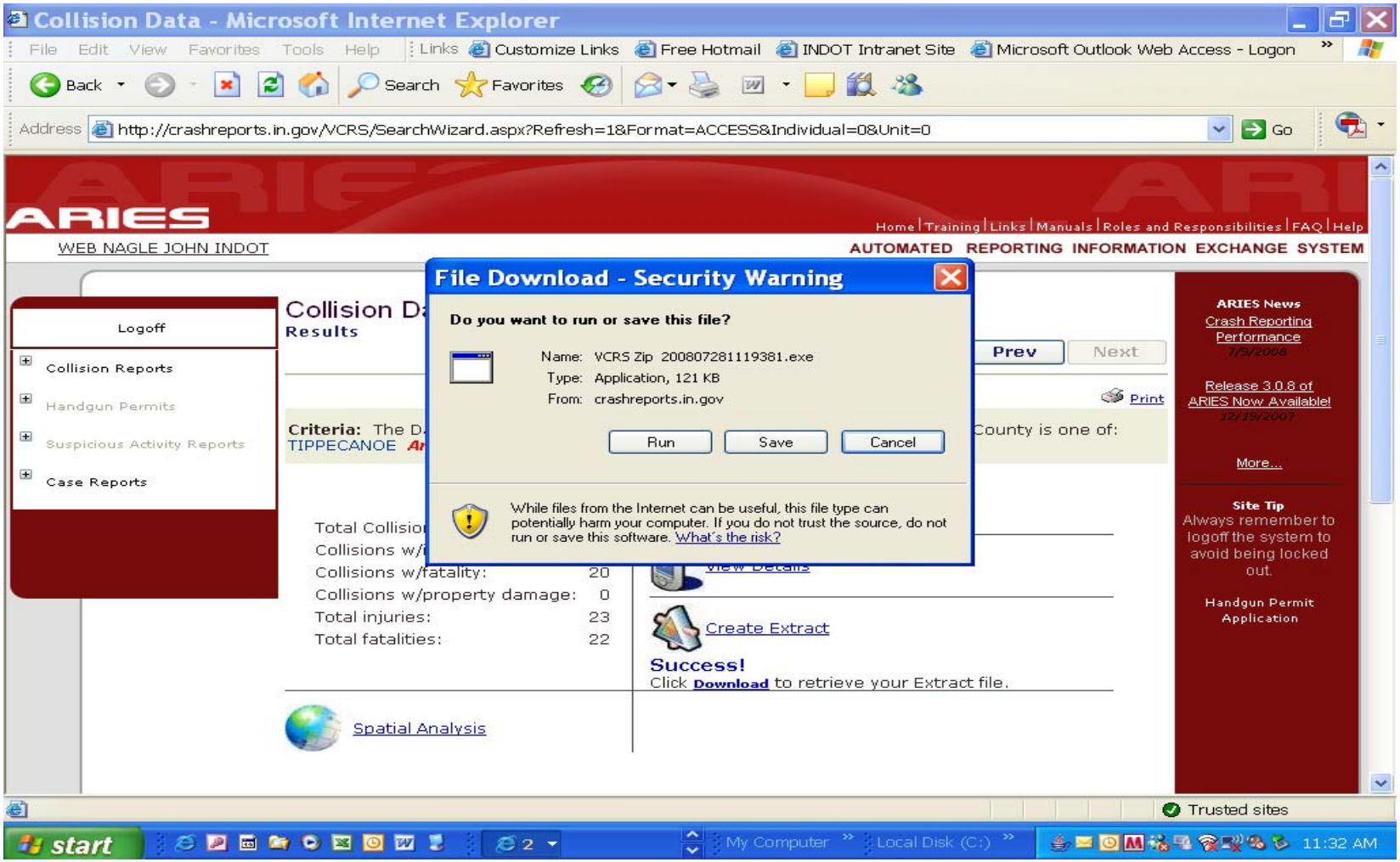
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Collisions w/property damage: 0
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Click Download to retrieve your Extract file.
Spatial Analysis
ARIES News
Crash Reporting Performance
7/9/2008
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More...
Site Tip
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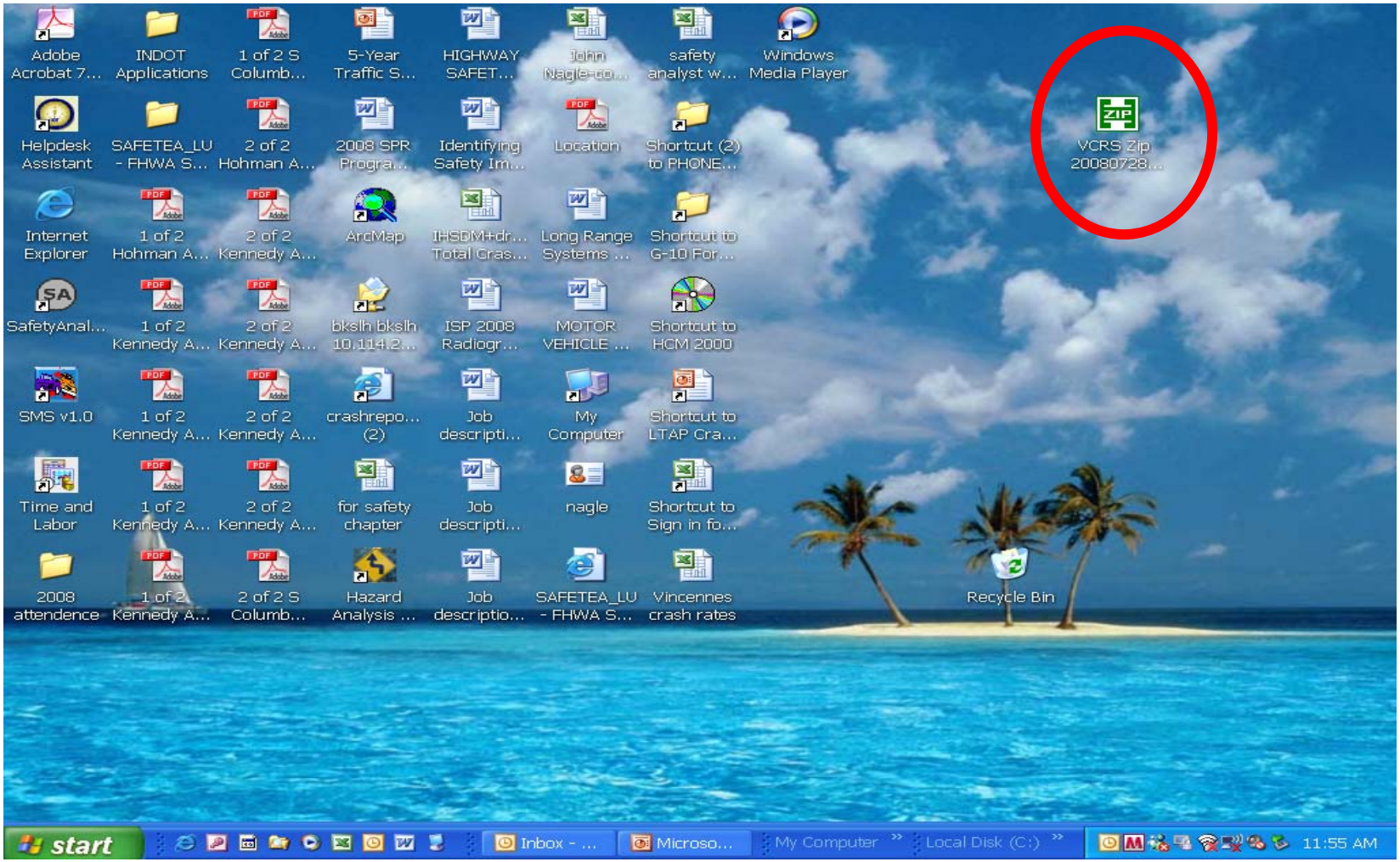
Handgun Permit Application
File Download - Security Warning
Do you want to run or save this file?
Name: VCRS Zip 200807281119381.exe
Type: Application, 121 KB
From: crashreports.in.gov
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?
Trusted sites
start
My Computer
Local Disk (C:)
11:32 AM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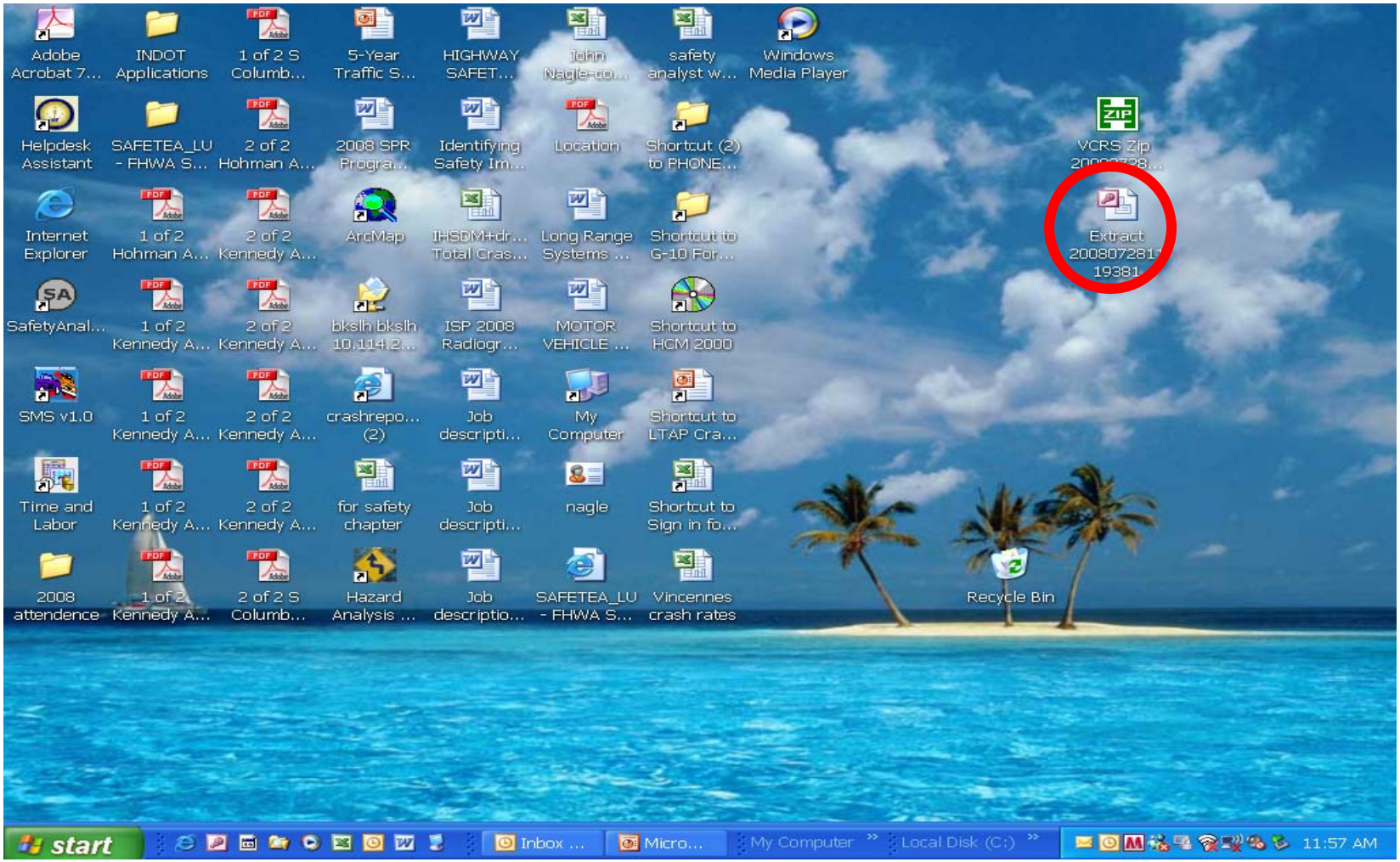
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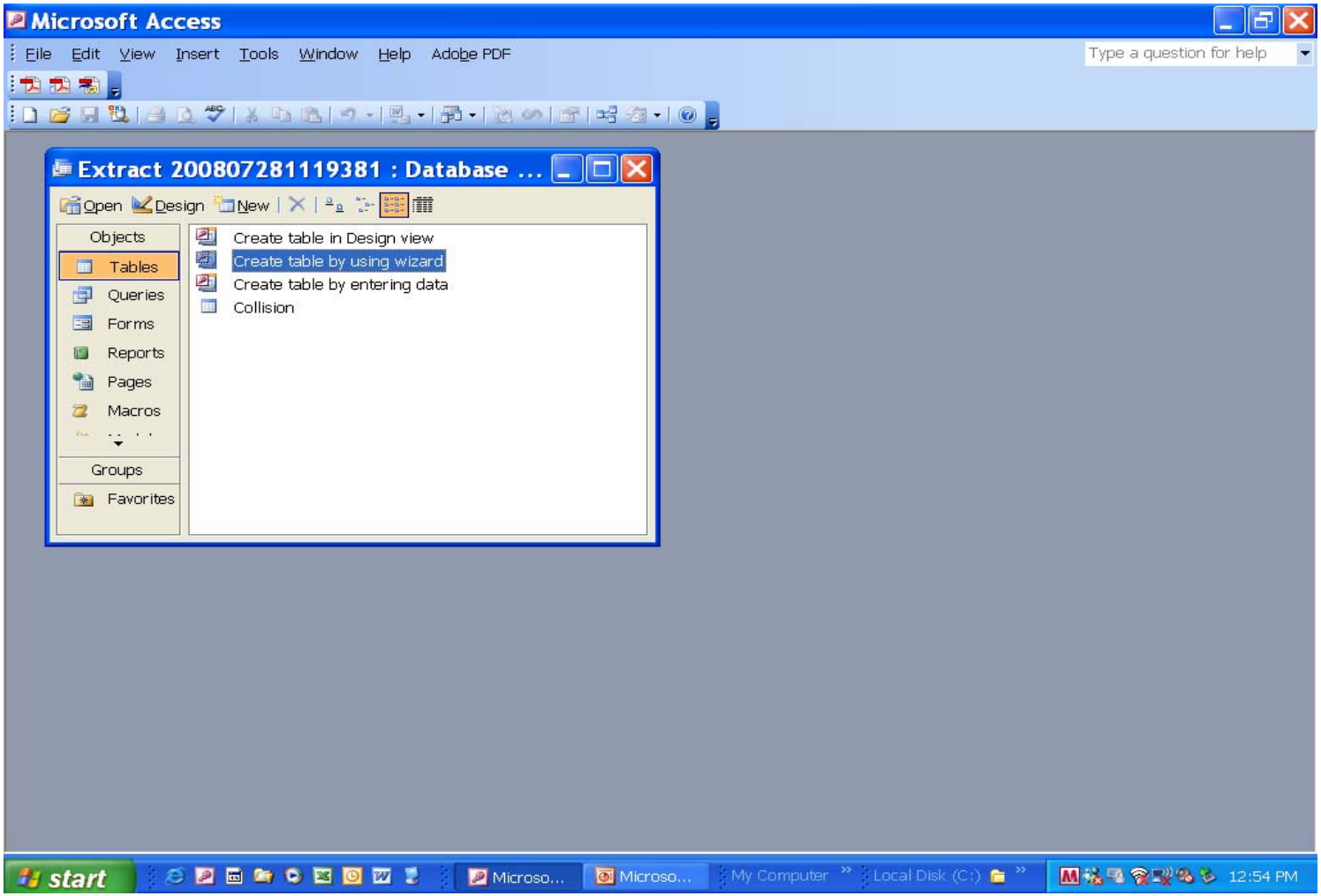
Microsoft Access
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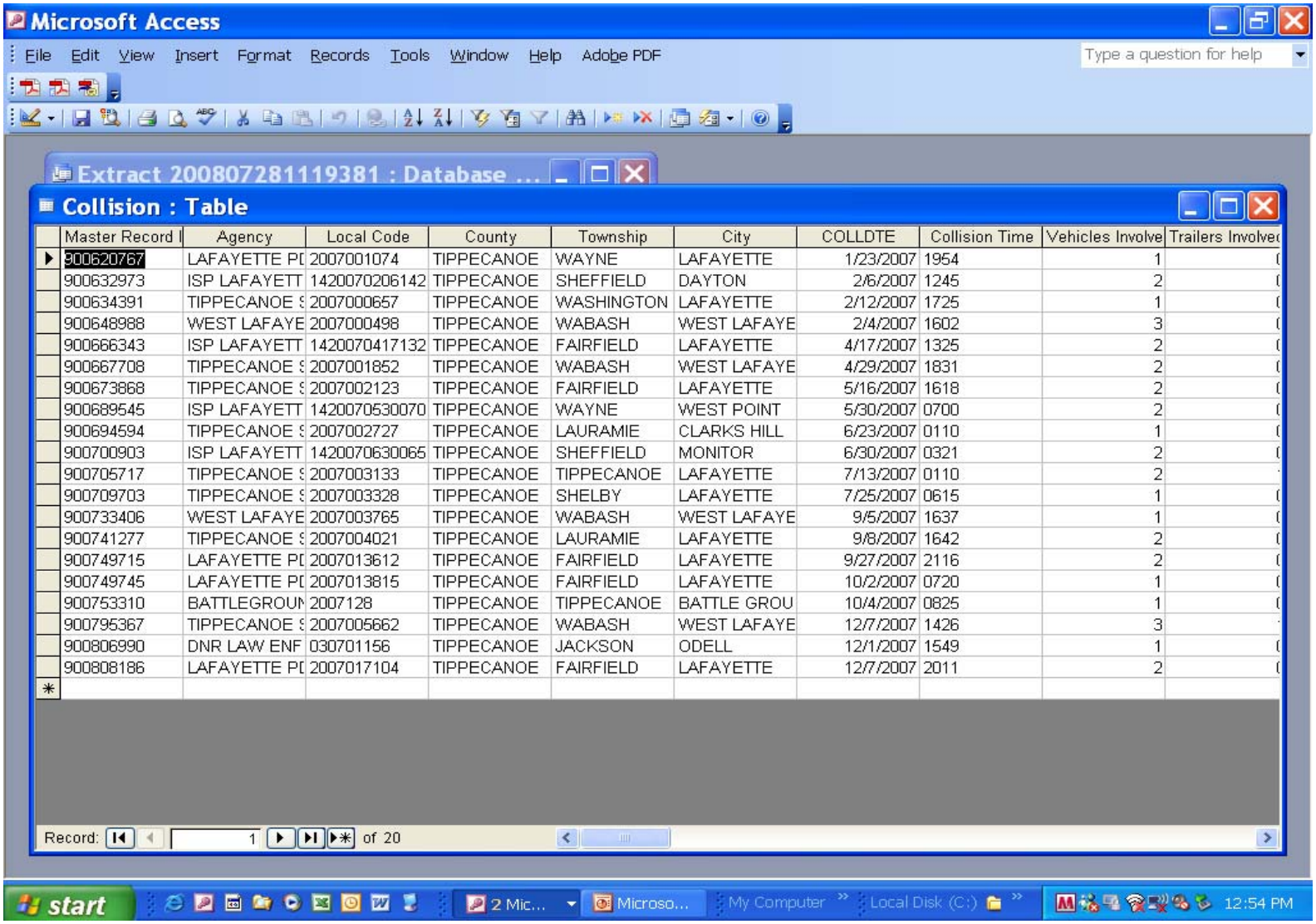
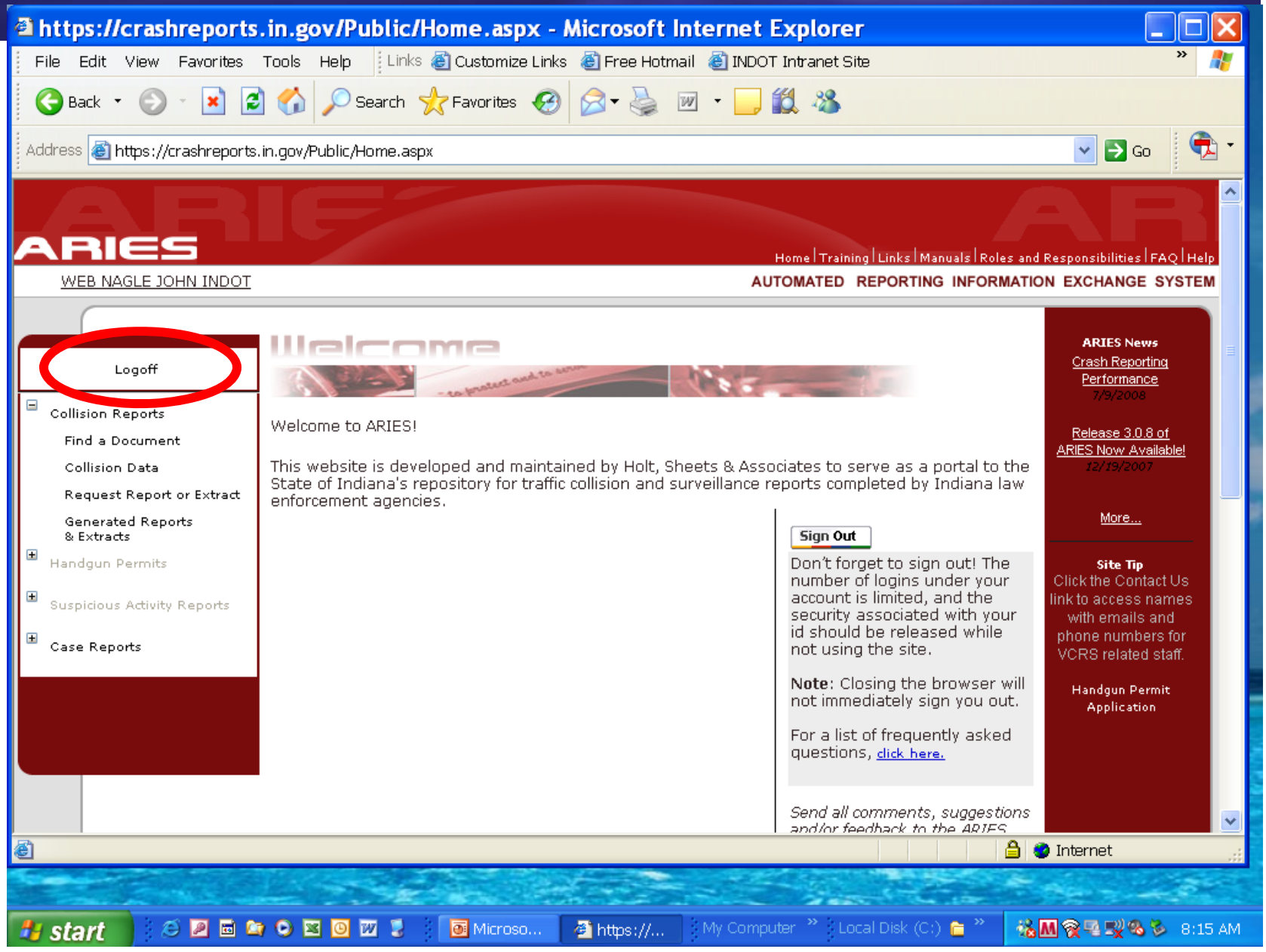


Master Record I	Agency	Local Code	County	Township	City	COLLDTE	Collision Time	Vehicles Involve	Trailers Involvec
900620767	LAFAYETTE PI	2007001074	TIPPECANOE	WAYNE	LAFAYETTE	1/23/2007	1954	1	
900632973	ISP LAFAYETT	1420070206142	TIPPECANOE	SHEFFIELD	DAYTON	2/6/2007	1245	2	
900634391	TIPPECANOE S	2007000657	TIPPECANOE	WASHINGTON	LAFAYETTE	2/12/2007	1725	1	
900648988	WEST LAFAYE	2007000498	TIPPECANOE	WABASH	WEST LAFAYE	2/4/2007	1602	3	
900666343	ISP LAFAYETT	1420070417132	TIPPECANOE	FAIRFIELD	LAFAYETTE	4/17/2007	1325	2	
900667708	TIPPECANOE S	2007001852	TIPPECANOE	WABASH	WEST LAFAYE	4/29/2007	1831	2	
900673868	TIPPECANOE S	2007002123	TIPPECANOE	FAIRFIELD	LAFAYETTE	5/16/2007	1618	2	
900689545	ISP LAFAYETT	1420070530070	TIPPECANOE	WAYNE	WEST POINT	5/30/2007	0700	2	
900694594	TIPPECANOE S	2007002727	TIPPECANOE	LAURAMIE	CLARKS HILL	6/23/2007	0110	1	
900700903	ISP LAFAYETT	1420070630065	TIPPECANOE	SHEFFIELD	MONITOR	6/30/2007	0321	2	
900705717	TIPPECANOE S	2007003133	TIPPECANOE	TIPPECANOE	LAFAYETTE	7/13/2007	0110	2	
900709703	TIPPECANOE S	2007003328	TIPPECANOE	SHELBY	LAFAYETTE	7/25/2007	0615	1	
900733406	WEST LAFAYE	2007003765	TIPPECANOE	WABASH	WEST LAFAYE	9/5/2007	1637	1	
900741277	TIPPECANOE S	2007004021	TIPPECANOE	LAURAMIE	LAFAYETTE	9/8/2007	1642	2	
900749715	LAFAYETTE PI	2007013612	TIPPECANOE	FAIRFIELD	LAFAYETTE	9/27/2007	2116	2	
900749745	LAFAYETTE PI	2007013815	TIPPECANOE	FAIRFIELD	LAFAYETTE	10/2/2007	0720	1	
900753310	BATTLEGROUN	2007128	TIPPECANOE	TIPPECANOE	BATTLE GROU	10/4/2007	0825	1	
900795367	TIPPECANOE S	2007005662	TIPPECANOE	WABASH	WEST LAFAYE	12/7/2007	1426	3	
900806990	DNR LAW ENF	030701156	TIPPECANOE	JACKSON	ODELL	12/1/2007	1549	1	
900808186	LAFAYETTE PI	2007017104	TIPPECANOE	FAIRFIELD	LAFAYETTE	12/7/2007	2011	2	


https://crashreports.in.gov/Public/Home.aspx - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Links Customize Links Free Hotmail INDOT Intranet Site
Back Search Favorites
Address https://crashreports.in.gov/Public/Home.aspx
Go
ARIES
Home | Training | Links | Manuals | Roles and Responsibilities | FAQ | Help
WEB NAGLE JOHN INDOT
AUTOMATED REPORTING INFORMATION EXCHANGE SYSTEM
Logoff
Collision Reports
Find a Document
Collision Data
Request Report or Extract
Generated Reports & Extracts
Handgun Permits
Suspicious Activity Reports
Case Reports
Welcome
Welcome to ARIES!
This website is developed and maintained by Holt, Sheets & Associates to serve as a portal to the State of Indiana's repository for traffic collision and surveillance reports completed by Indiana law enforcement agencies.
Sign Out
Don't forget to sign out! The number of logins under your account is limited, and the security associated with your id should be released while not using the site.
Note: Closing the browser will not immediately sign you out.
For a list of frequently asked questions, click here.
Send all comments, suggestions
ARIES News
Crash Reporting Performance
7/9/2008
Release 3.0.8 of ARIES Now Available!
12/19/2007
More...
Site Tip
Click the Contact Us link to access names with emails and phone numbers for VCRS related staff.
Handgun Permit Application
Internet
start
Microso...
https://...
My Computer
Local Disk (C:)
8:15 AM

July 13, 2006

CRASH ANALYSIS

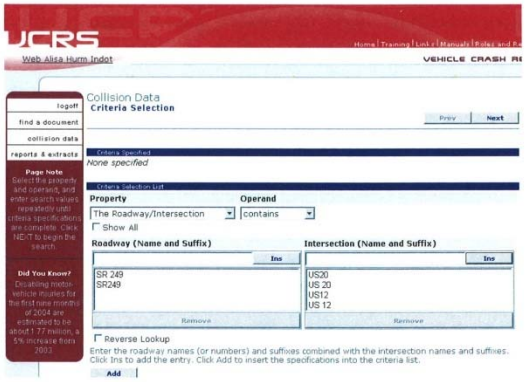
ACCESS THE VEHICLE CRASH RECORDS SYSTEM (VCRS) THROUGH THE WEBSITE:
http://crashreports.in.gov

SELECT **CLIENT LOGON** (LEFT SIDE OF THE SCREEN)

TYPE IN **USER ID** AND **PASSWORD**
SELECT **LOGIN**

SELECT **COLLISION DATA**
ADD THE CRITERIA YOU THINK WOULD GIVE YOU THE BEST RESULT

EXAMPLE:
FROM THE **PROPERTY** PULL-DOWN SELECT **THE ROADWAY/INTERSECTION**
YOU MAY WANT TO TYPE THE ROADWAY IN TWICE, WITH AND WITHOUT A SPACE, TO ENSURE THAT YOU GET THEM ALL. SELECT THE **INS** BUTTON BETWEEN EACH ENTRY. YOU MAY ALSO WANT TO ADD **INTERSECTIONS**.
OPERAND SELECT **CONTAINS**
SELECT **ADD**



ARIES Best Practices
By: Jeremy L. VanVleet, P.E.
November 20, 2009

Purpose: Due to the varying methods used to build a query inside of ARIES, this best practices literature was created to try to standardize the process of building queries in ARIES for different types of projects. This will be an evolving document as new practices may be shared or started with the evolution of ARIES.

Procedure for logging into ARIES:

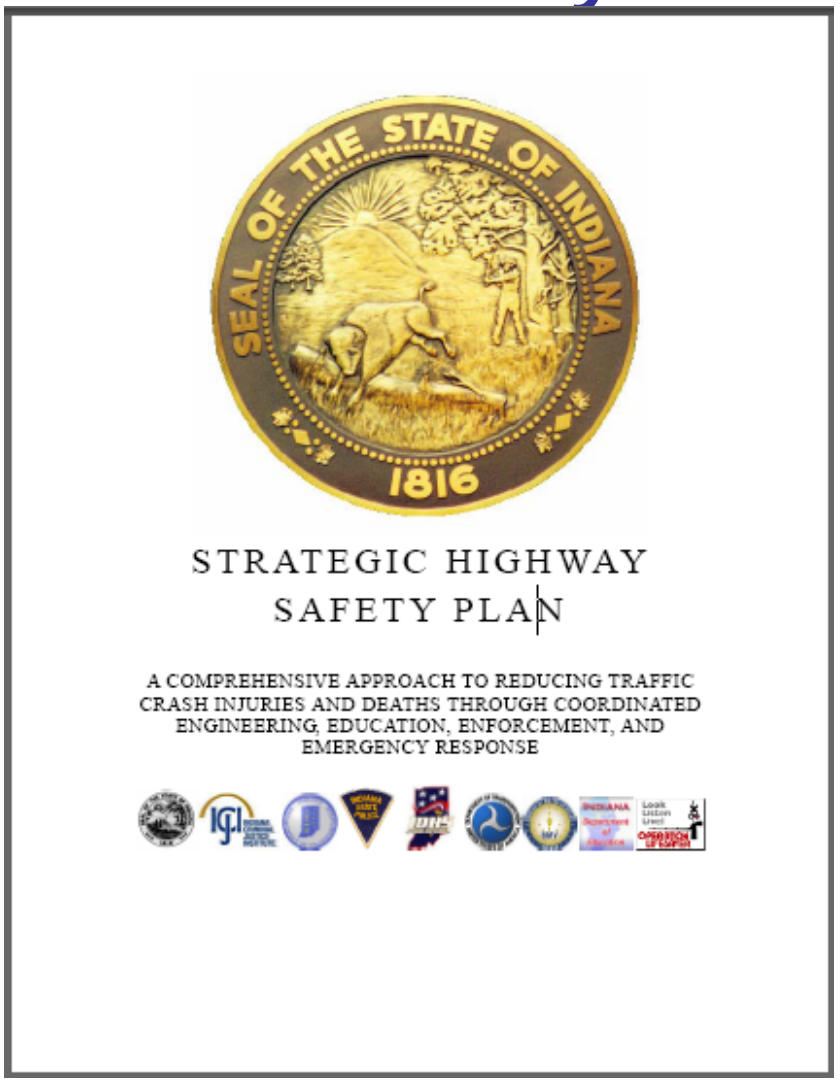
1. ARIES website: http://crashreports.in.gov
2. Select **Client Logon** or click on the Sign In button
3. Insert your issued user name and password in the appropriate spaces
4. Click **Collision Reports**
5. Click **Collision Data**
6. Click **Yes** on the pop up screen

Procedure for building a Query for a specific intersection's crash records:

1. Check the **Show All** box
2. Enter time frame for crash data
   a. Crash data begins with 1/1/2003
   b. Maximum time frame per search is 25 months
   c. The maximum number of records that can be obtained at 1 time is 5,000; therefore in some instances it may be necessary to break the query down by year. In some cases it may even be necessary to break the query down into quarters or month to month depending upon the number of crashes queried.
   d. Click **Add**
3. Select **The County** option from the drop down list under **Property** and use an **Operand** of **is one of:** Then choose the county that pertains to the intersection in question. After this is set then click the **Add** button.
4. If you want to narrow down the search criteria you can also click on **The Township** and leave the **operand** as **is one of:** and then you can choose the township from the drop down list.
5. ~~Select **The Roadway/Intersection** option from the drop down list under **Property**. The **Operand** should be set to **Contains** and the **Reverse Lookup** box needs to be checked.~~
   a. ~~The Roadway/Intersection~~
      i. ~~Insert the major road name in the provided space. After the road name is inserted click on the **Ins** button.~~
      ii. ~~Insert the intersecting road name in the provided space. After the intersecting road name is inserted click on the **Ins** button.~~
      iii. ~~To obtain accurate crash data it is imperative that research is completed to obtain all possible names for the major roadway and the intersecting roadway.~~
      iv. ~~It is also important to insert multiple variations to the names of the roadways as shown below.~~

Toolbox of Crash Data Analysis

- SHSP
- Strategic Highway Safety Plan



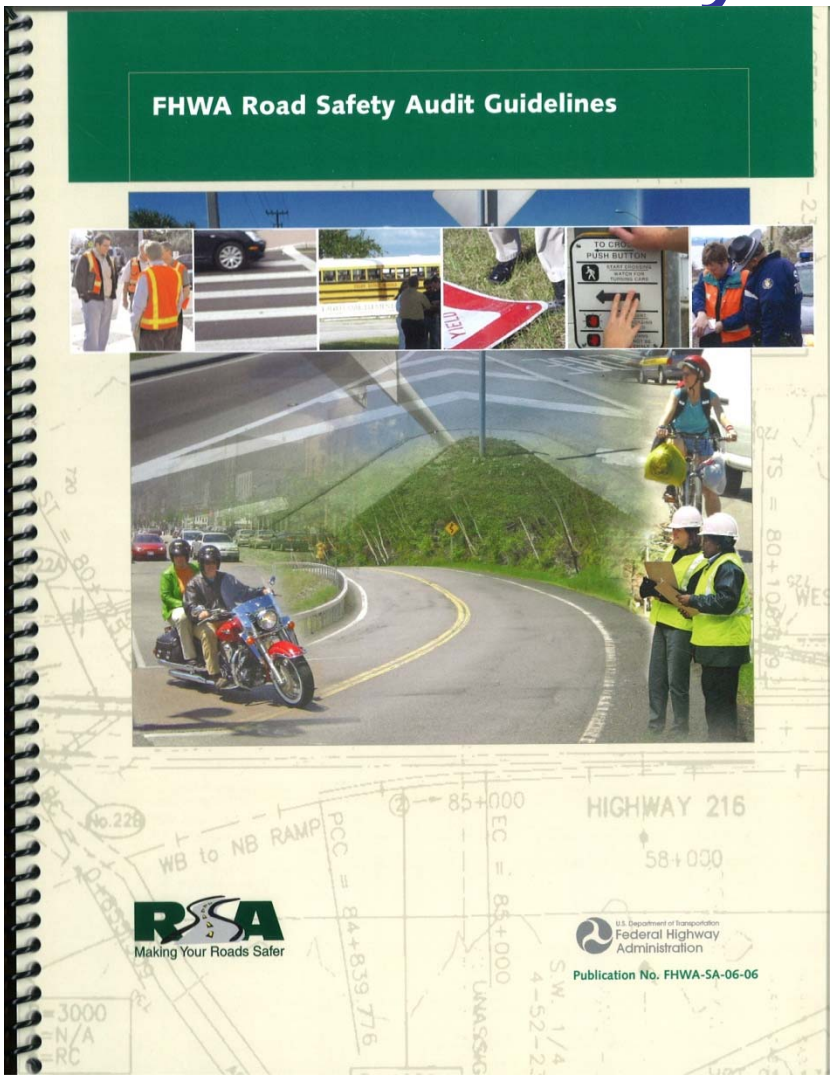
Strategic Highway Safety Plan

- FHWA requirement
- Data Assessment of State Safety Needs
- Data Driven Identification of Indiana Safety Emphasis Areas
- Projects must fit into one of these Emphasis Areas to be Eligible for HSIP Funding
- http://www.in.gov/indot/files/shsp.pdf

Toolbox of Crash Data Analysis

- RSA
- Roadway

  Safety Audits



Roadway Safety Audits

- Performed by a team independent of the project
- Performed by a multi-disciplinary team
- Considers all potential road users
- Generates a formal RSA Report
- Qualitative in nature
- Provides a proactive approach

Roadway Safety Audits are **NOT**

- NOT a means to critique design work
- NOT a check of compliance with standards
- NOT a means of ranking or justifying one project over another

- http://safety.fhwa.dot.gov/rsa/guidelines

Roadway Safety Audits

- Step 1 Identify project to be audited
- Step 2 Select RSA Team
- Step 3 Conduct a pre-audit meeting to review project information
- Step 4 Perform field observations
- Step 5 Conduct Audit analysis and prepare report findings
- Step 6 Present audit findings to Project Owner/Design Team

Roadway Safety Audits

- Step 7 Project Owner/Design Team prepares formal response
- Step 8 Incorporate findings into the project when appropriate

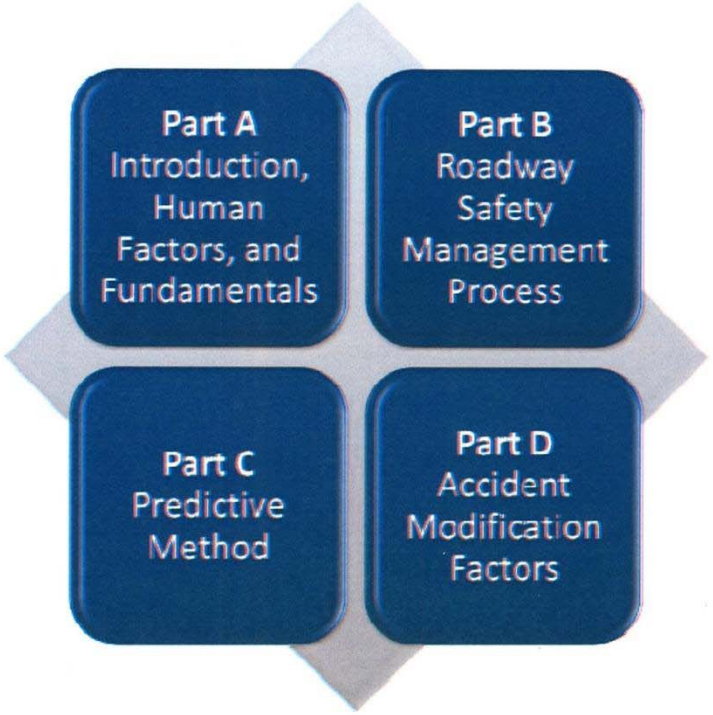
- INDOT is using a RSAs as part of the HSIP application process to determine safety issues and counter measures
- Training has been provided through LTAP

Toolbox of Crash Data Analysis

- HSM
- Highway Safety Manual
- http://www.highwaysafetymanual.org/Home/Home.html

Highway Safety Manual

OUTLINE OF THE HSM

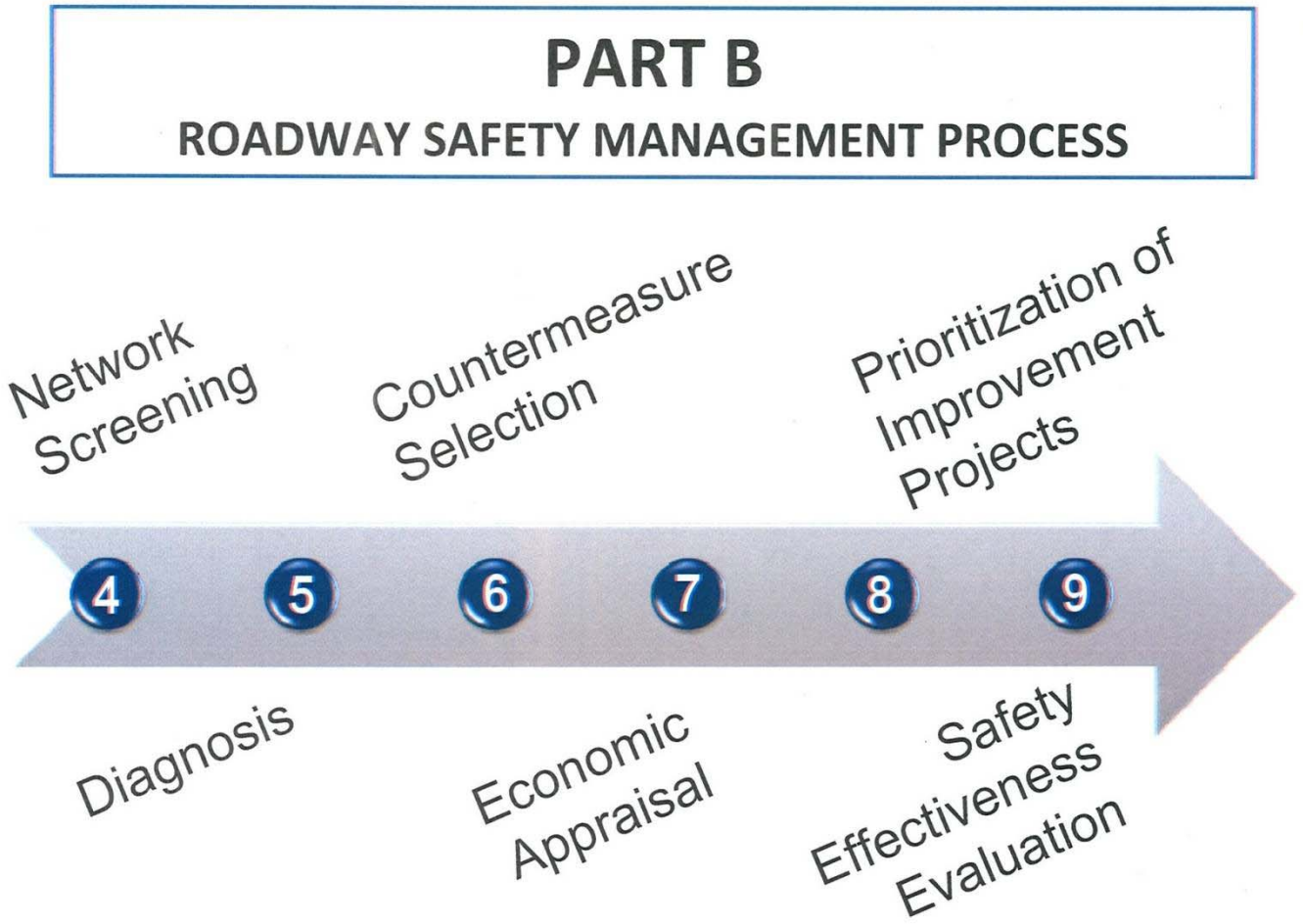


Highway Safety Manual

PART A
INTRODUCTION, HUMAN FACTORS, & FUNDAMENTALS

- Chapter 1 Introduction and Overview
- Chapter 2 Human Factors
- Chapter 3 Fundamentals

Highway Safety Manual



Highway Safety Manual

PART C
PREDICTIVE METHOD

Two-Lane Rural Roads

Urban/ Suburban Arterial Highways

Rural Multilane Highways

- Methodology
- Applications
- Safety issues not explicitly addressed by the methodology
- Example problems
- References

Special Part C Common Procedures

- Calibration
- Combining predicted with observed crashes

Highway Safety Manual

PART D
ACCIDENT MODIFICATION FACTORS

CHAPTER 13	Roadway Segments
CHAPTER 14	Intersections
CHAPTER 15	Interchanges
CHAPTER 16	Special Facilities and Geometric Situations
CHAPTER 17	Road Networks

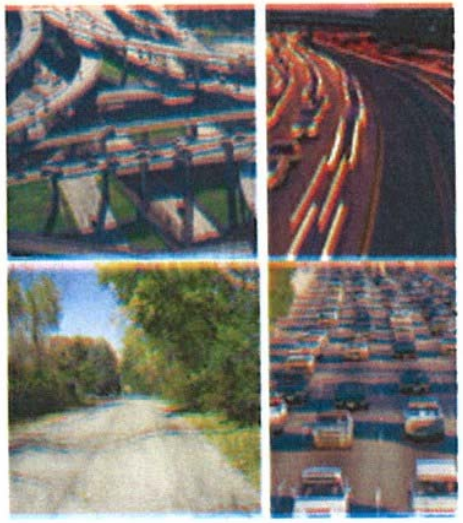
Highway Safety Manual

HSM PART	SUPPORTING TOOL
PART B: Roadway Safety Management Process	SafetyAnalyst http://www.safetyanalyst.org/
PART C: Predictive Methods	IHSDM http://www.tfhrc.gov/safety/ihsdm/ihsdm.htm
PART D: Accident Modification Factors	FHWA CRF/AMF Clearinghouse

Toolbox of Crash Data Analysis

- SA
- Safety Analyst
- http://www.safetyanalyst.org/

SafetyAnalyst



Safety Analyst

SafetyAnalyst Tools

The ***Network Screening Tool*** identifies sites with potential for safety improvements.

The ***Diagnosis Tool*** is used to diagnose the nature of safety problems at specific sites.

The ***Countermeasure Selection Tool*** assists users in the selection of countermeasures to reduce accident frequency and severity at specific sites.

The ***Economic Appraisal Tool*** performs an economic appraisal of a specific countermeasure or several alternative countermeasures for a specific site.

The ***Priority Ranking Tool*** provides a priority ranking of sites and proposed improvement projects based on the benefit and cost estimates determined by the economic appraisal tool.

The ***Countermeasure Evaluation Tool*** provides the capability to conduct before/after evaluations of implemented safety improvements.

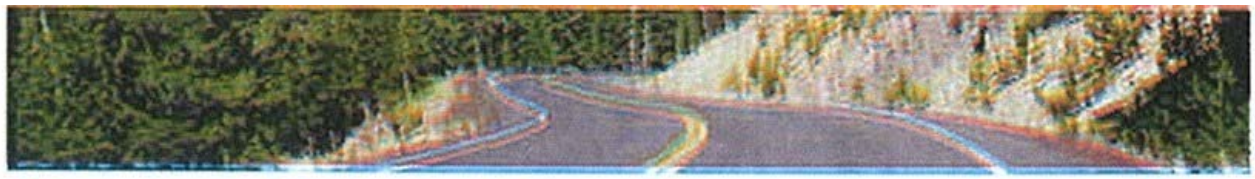
Safety Analyst

- Developed as an FHWA Pooled Fund Study
- Has now become an AASHTOware product
- Includes
  - Administrative Software
  - Data Management Software
  - Analysis Software

Toolbox of Crash Data Analysis

- IHSDM
- Interactive Highway Safety Design Model
- http://www.tfhrc.gov/safety/ihsdm/ihsdm.htm

Interactive Highway Safety Design Model



IHSDM Overview

The **Interactive Highway Safety Design Model (IHSDM)** is a suite of software analysis tools for evaluating safety and operational effects of geometric design decisions on highways.

Interactive Highway Safety Design Model

IHSDM currently includes six evaluation modules (Crash Prediction, Design Consistency, Intersection Review, Policy Review, Traffic Analysis, and Driver/Vehicle). This Web site summarizes the capabilities and applications of the IHSDM evaluation modules. It also provides a library of the research reports documenting their development.

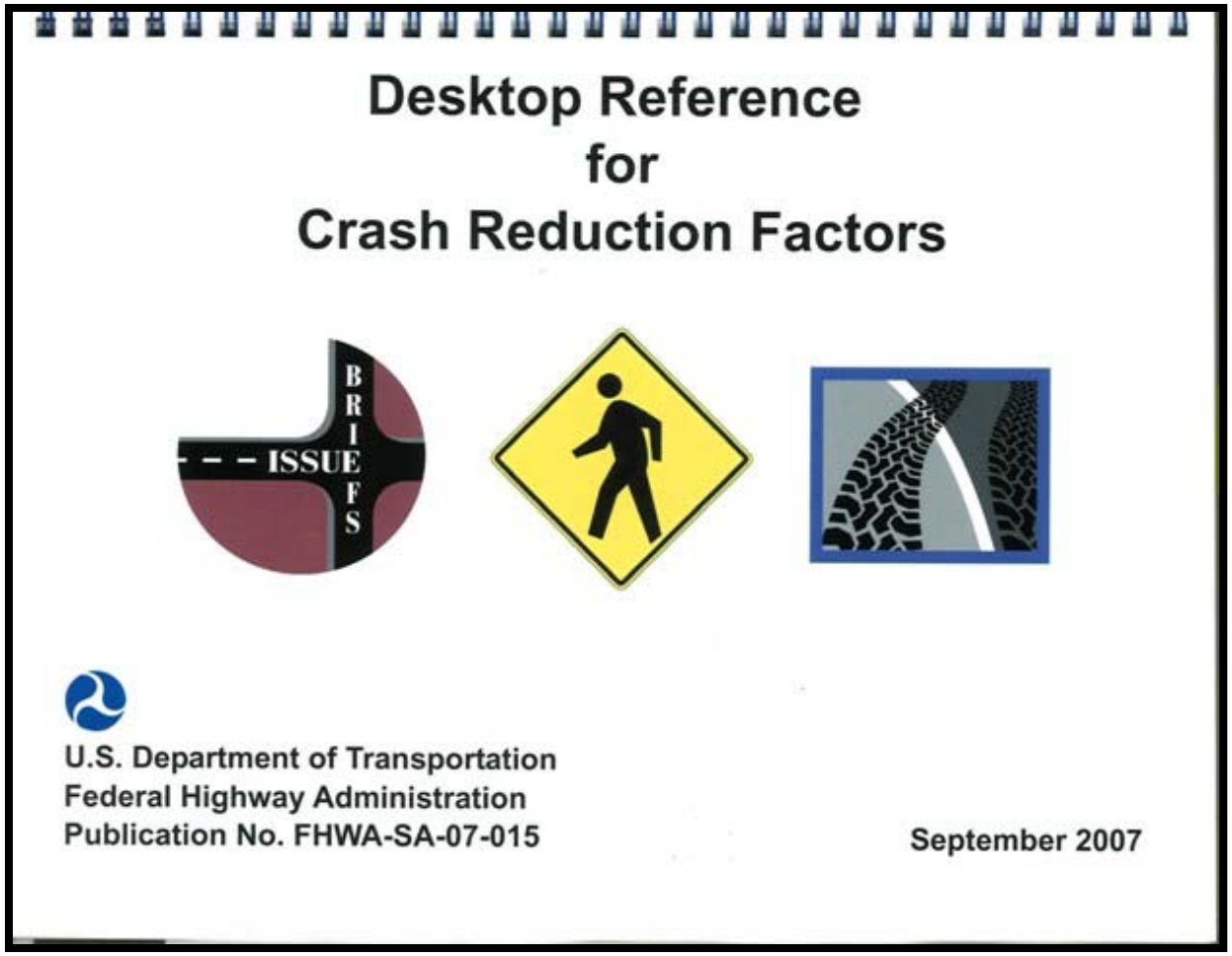
Interactive Highway Safety Design Model

IHSDM is a decision-support tool. It checks existing or proposed highway designs against relevant design policy values and provides estimates of a design's expected safety and operational performance. IHSDM results support decision making in the highway design process. Intended users include highway project managers, designers, and traffic and safety reviewers in State and local highway agencies and engineering consulting firms.

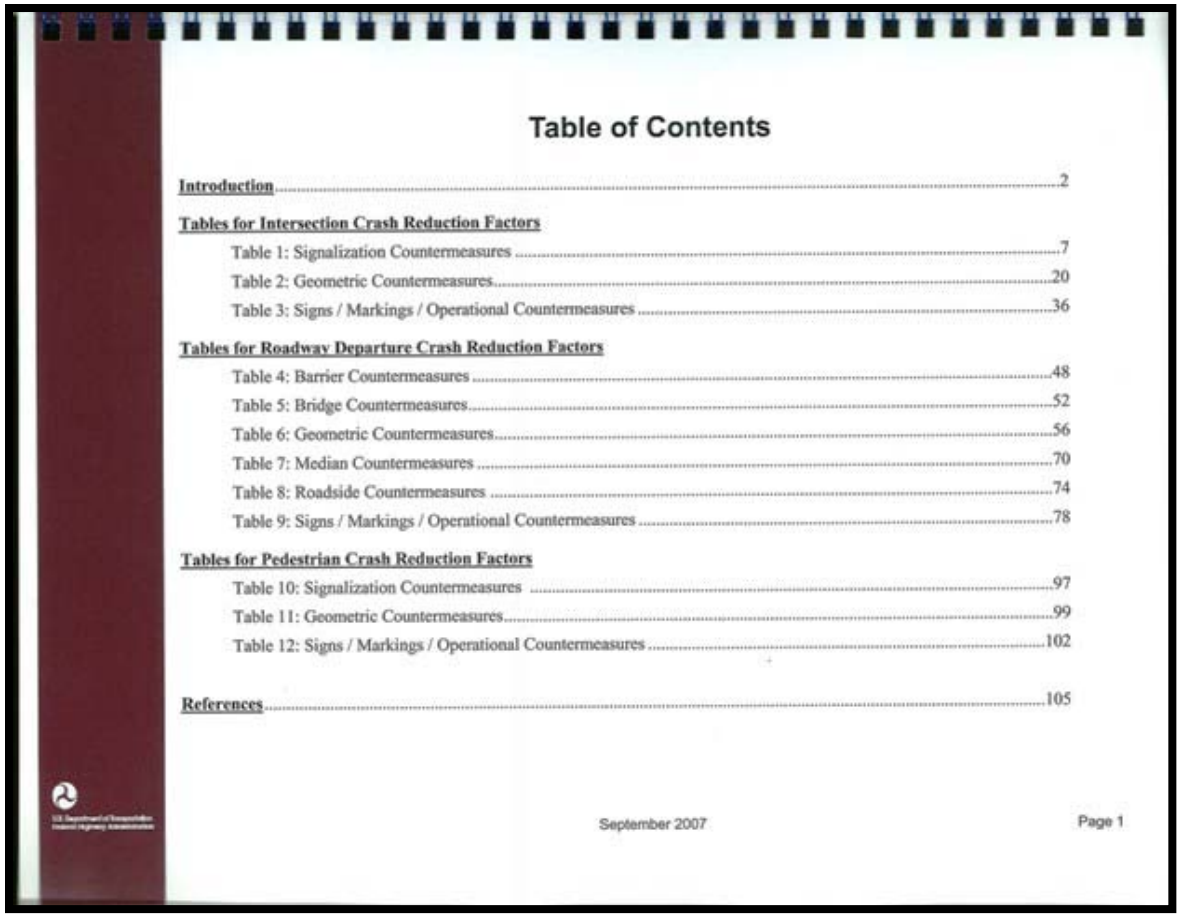
Toolbox of Crash Data Analysis

- DR for CR
- Desktop Reference for Crash Reduction Factors
- http://safety.fhwa.dot.gov/tools/crf/
- AMF
- Accident Modification Factors

Desktop Reference for Crash Reduction Factors



Desktop Reference for Crash Reduction Factors



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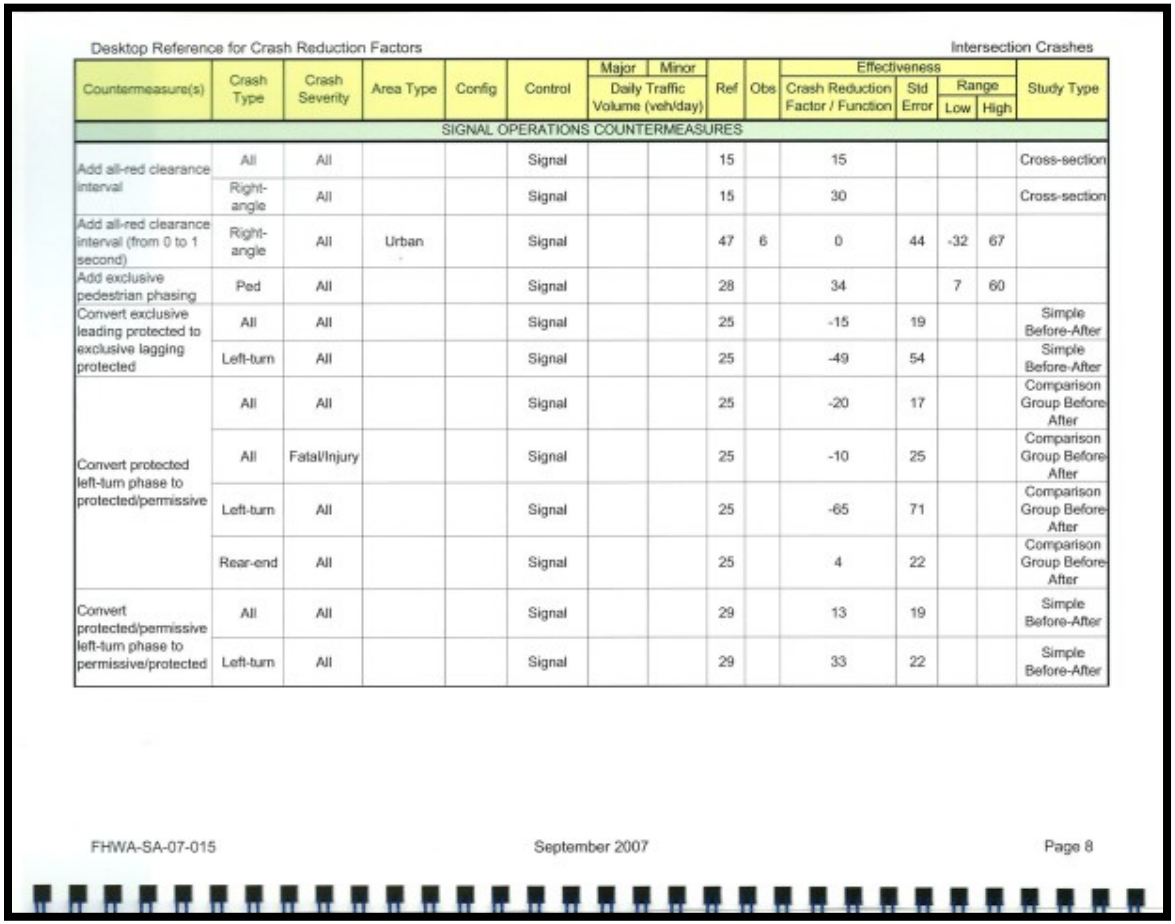
Desktop Reference for Crash Reduction Factors



Desktop Reference for Crash Reduction Factors — Intersection Crashes

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Config	Control	Major Daily Traffic Volume (veh/day)	Minor Daily Traffic Volume (veh/day)	Ref	Obs	Effectiveness: Crash Reduction Factor / Function	Effectiveness: Std Error	Effectiveness: Range Low	Effectiveness: Range High	Study Type
SIGNAL OPERATIONS COUNTERMEASURES														
Add all-red clearance interval	All	All			Signal			15		15				Cross-section
	Right-angle	All			Signal			15		30				Cross-section
Add all-red clearance interval (from 0 to 1 second)	Right-angle	All	Urban		Signal			47	6	0	44	-32	67	
Add exclusive pedestrian phasing	Ped	All			Signal			28		34		7	60	
Convert exclusive leading protected to exclusive lagging protected	All	All			Signal			25		-15	19			Simple Before-After
	Left-turn	All			Signal			25		-49	54			Simple Before-After
Convert protected left-turn phase to protected/permissive	All	All			Signal			25		-20	17			Comparison Group Before-After
	All	Fatal/Injury			Signal			25		-10	25			Comparison Group Before-After
	Left-turn	All			Signal			25		-65	71			Comparison Group Before-After
	Rear-end	All			Signal			25		4	22			Comparison Group Before-After
Convert protected/permissive left-turn phase to permissive/protected	All	All			Signal			29		13	19			Simple Before-After
	Left-turn	All			Signal			29		33	22			Simple Before-After

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Desktop Reference for Crash Reduction Factors

Toolbox of Crash Data Analysis

- CJI-CFB
- Criminal Justice Institute – Crash Fact Book

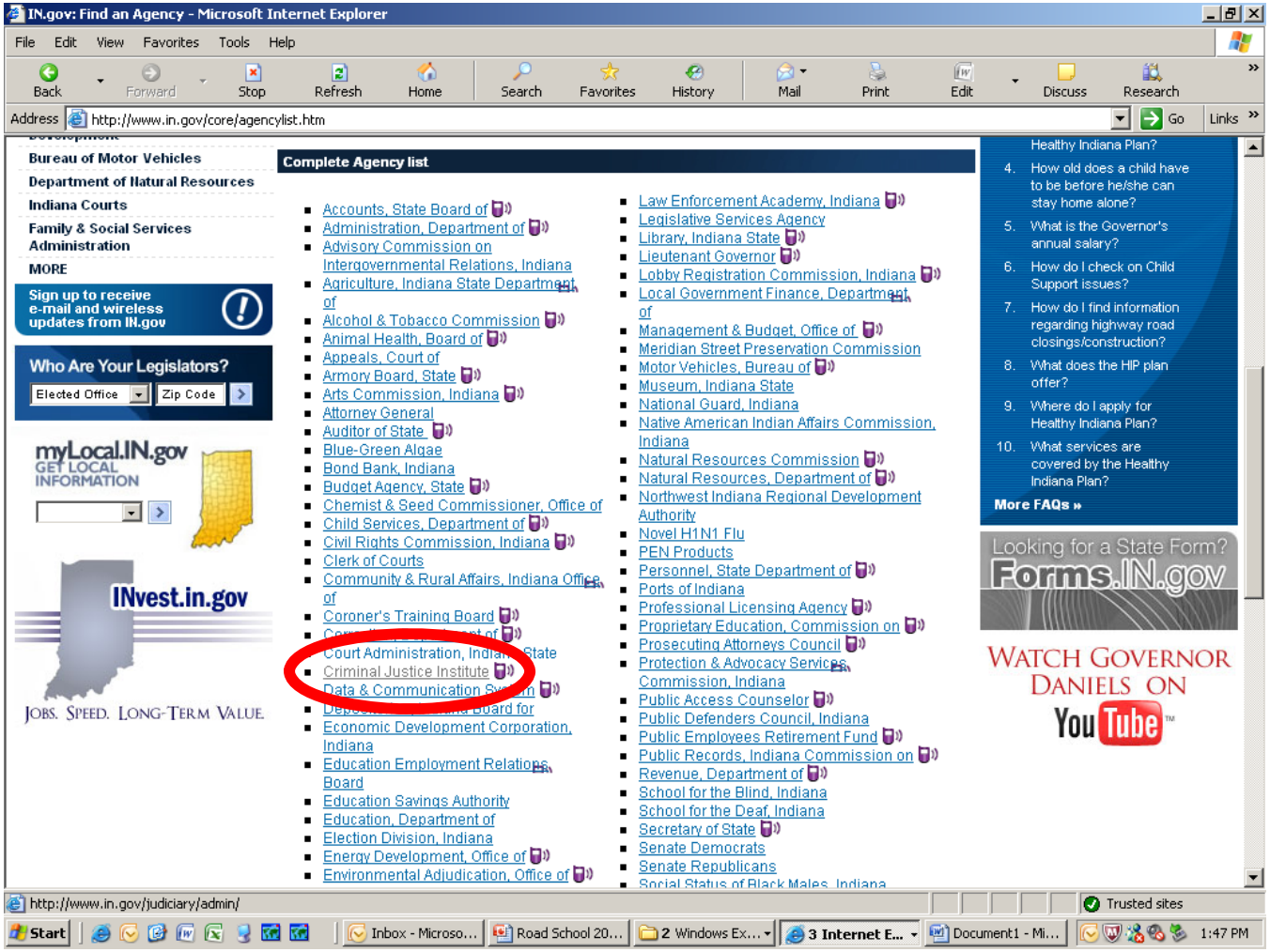
Criminal Justice Institute

- Traffic Safety Division of CJI
- Traffic Records Coordinating Committee (TRCC)
- Grants Relating to Behavior such as aggressive driving and impaired driving
- Publish Crash Summaries on the Web
- Following are examples and how to find them

Criminal Justice Institute

Under Most Visited select More

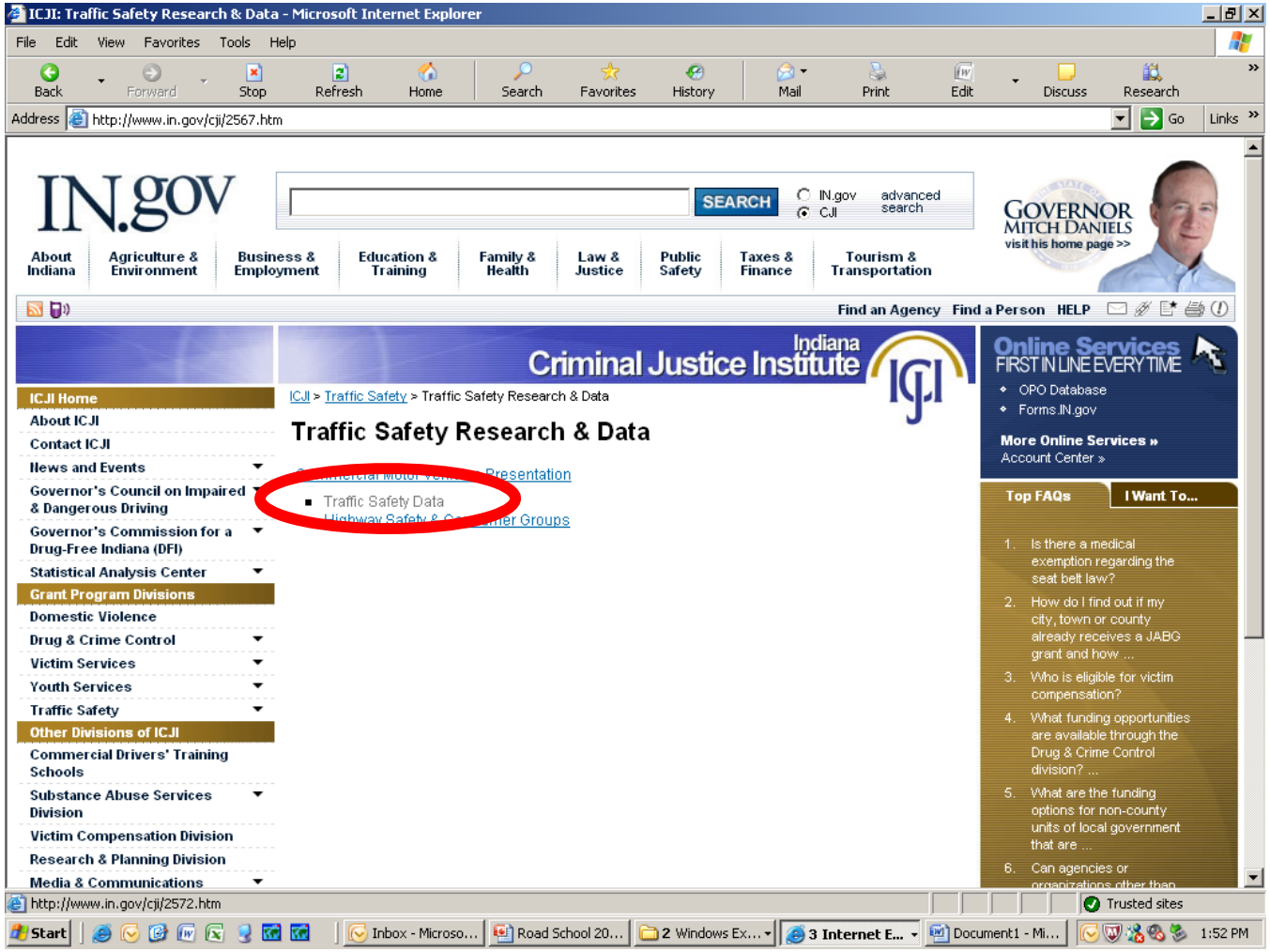
Criminal Justice Institute



Criminal Justice Institute

Criminal Justice Institute

Criminal Justice Institute



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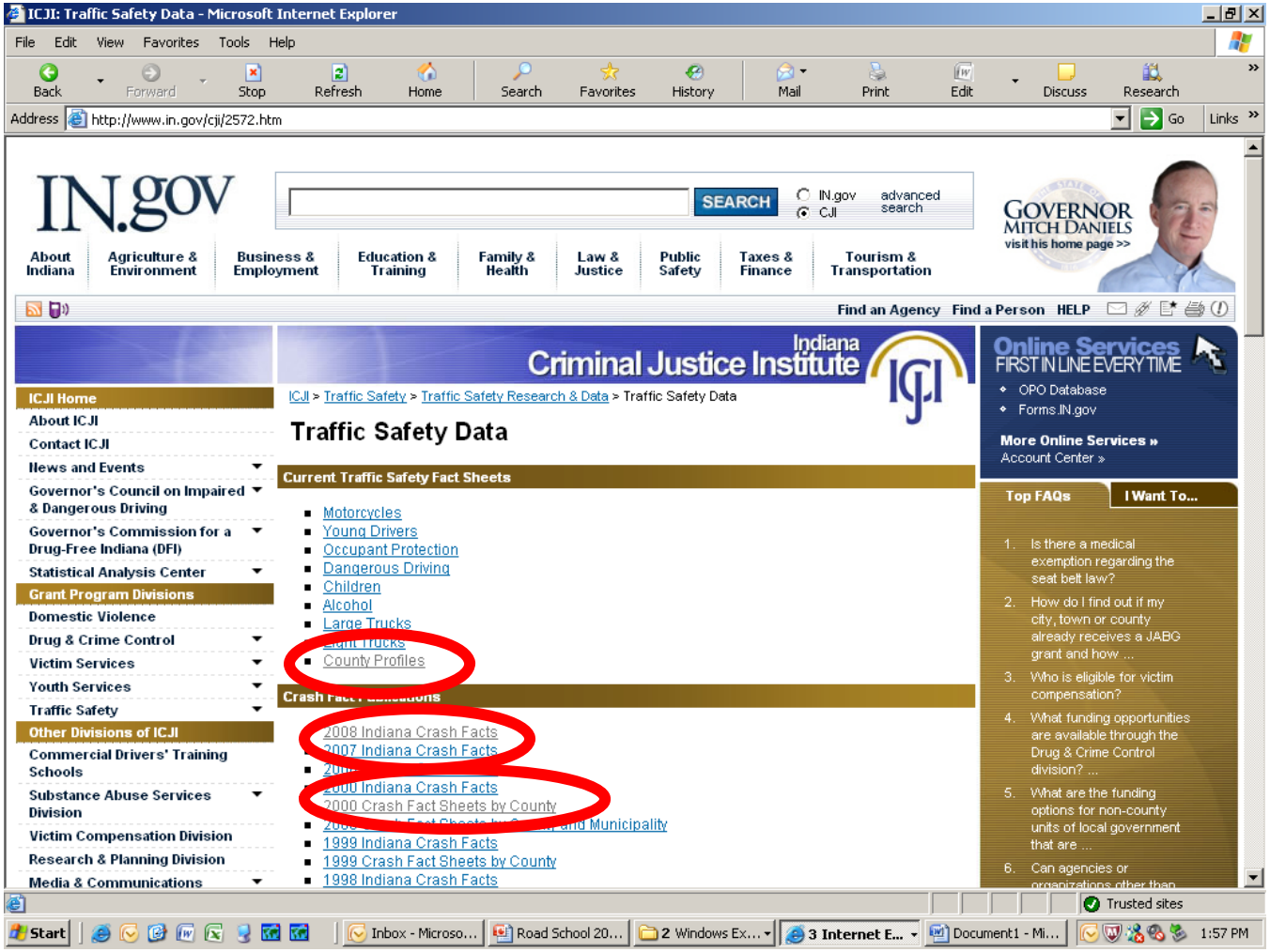
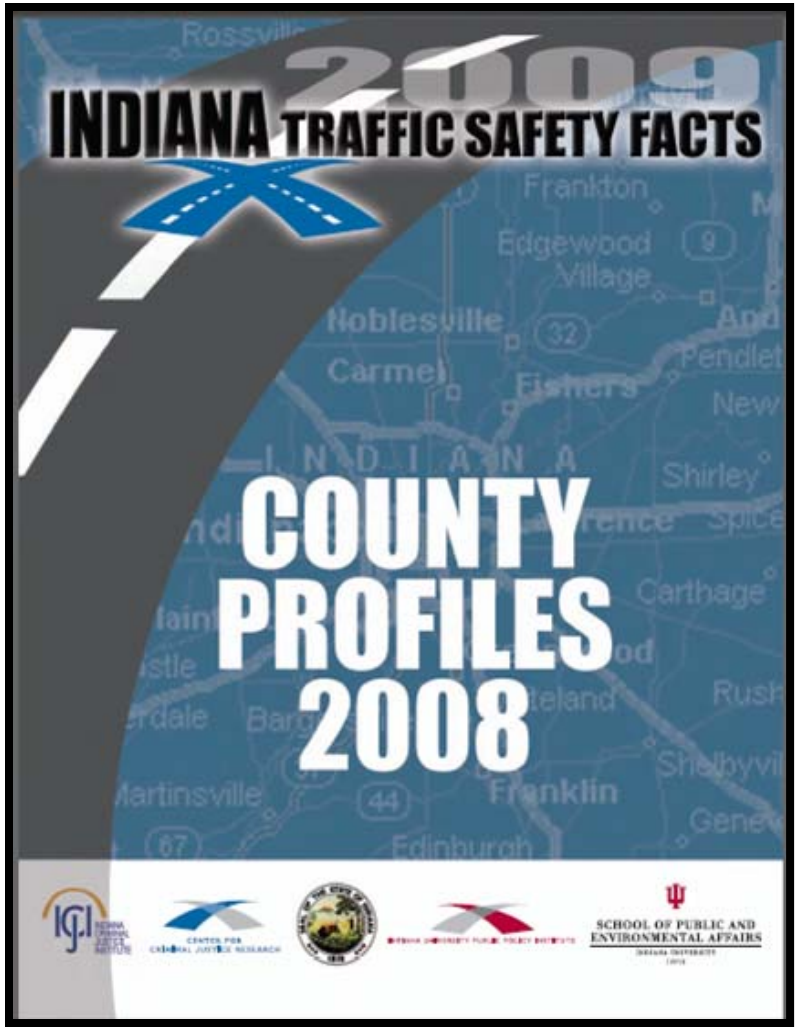
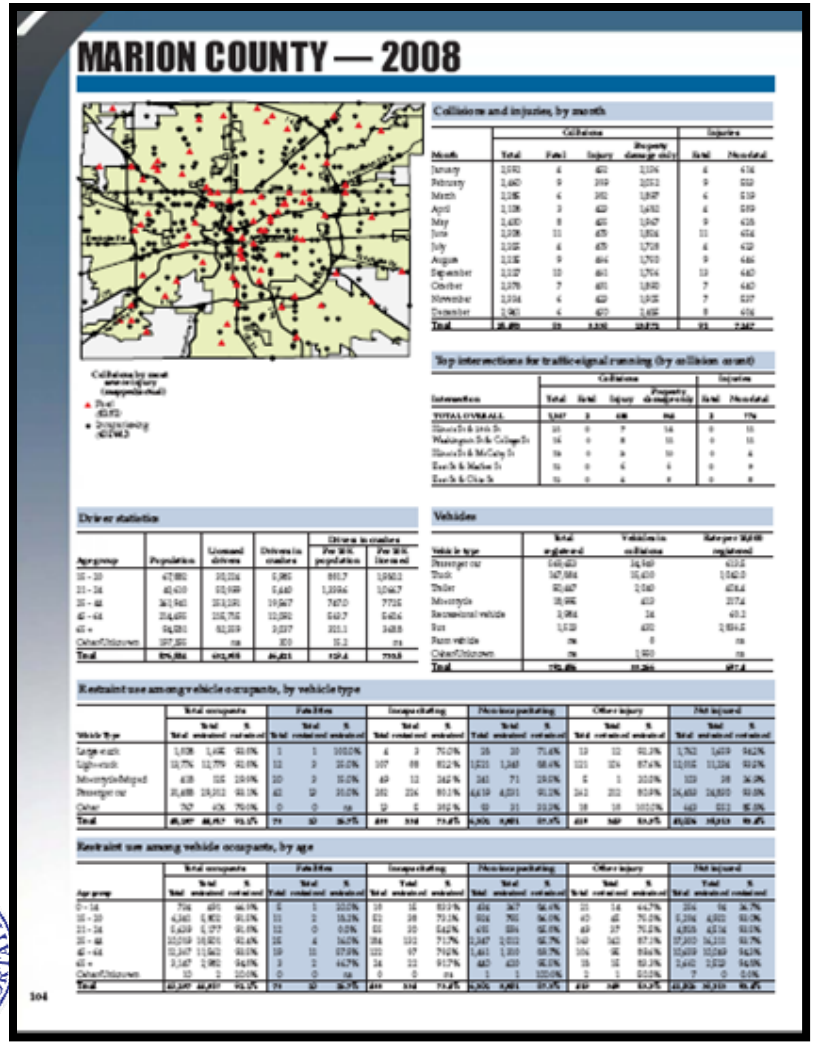


Criminal Justice Institute



Criminal Justice Institute



MARION COUNTY — 2008

Collisions and injuries, by month

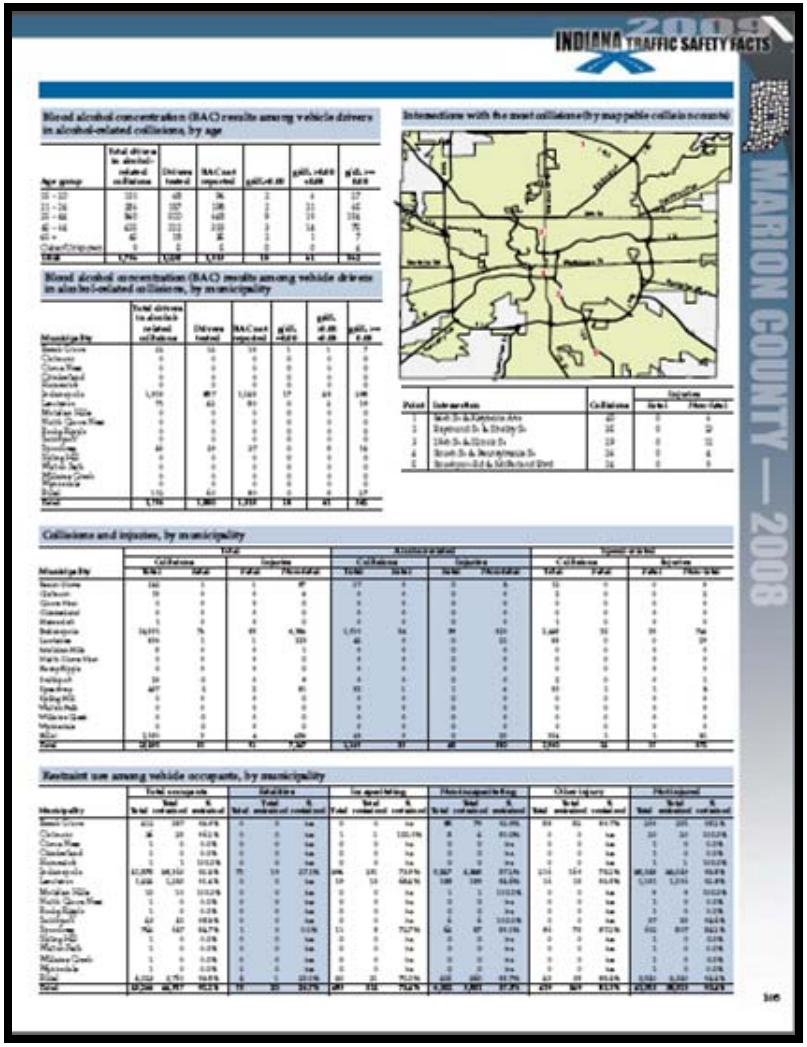
Top intersections for traffic-signal running (by collision count)

Driver statistics

Vehicles

Restraint use among vehicle occupants, by vehicle type

Restraint use among vehicle occupants, by age



INDIANA 2008 TRAFFIC SAFETY FACTS

MARION COUNTY — 2008

Blood alcohol concentration (BAC) results among vehicle drivers in alcohol-related collisions, by age

Intersections with the most collisions (by mappable collision counts)

Blood alcohol concentration (BAC) results among vehicle drivers in alcohol-related collisions, by municipality

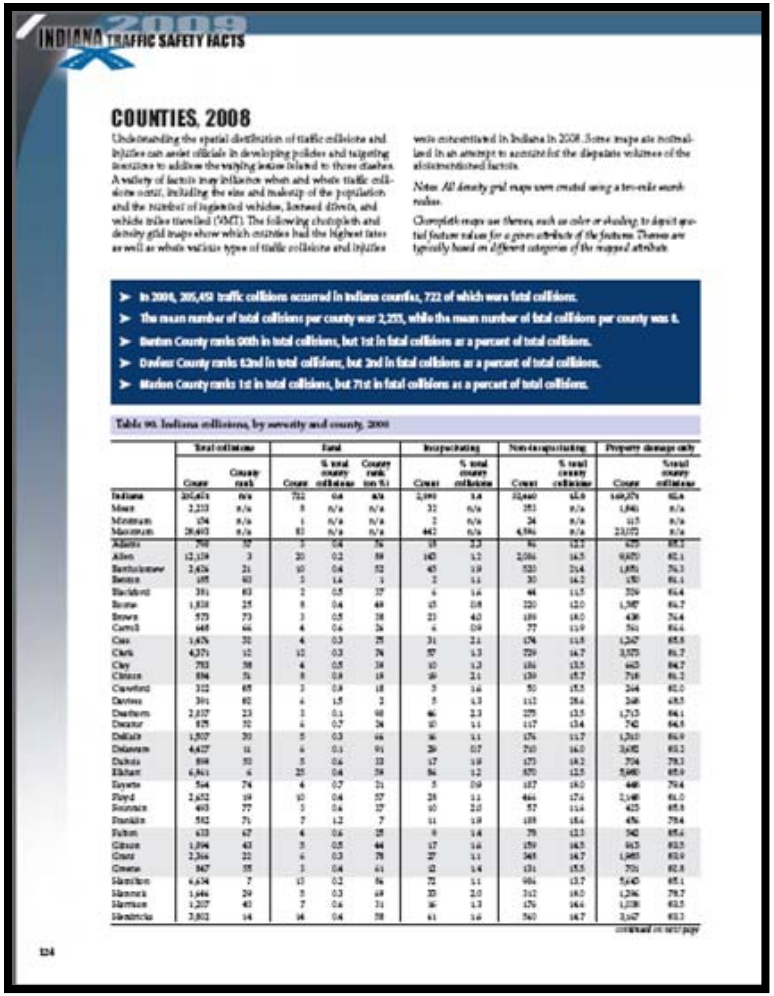
Collisions and injuries, by municipality

Restraint use among vehicle occupants, by municipality

INDIANA DEPARTMENT OF TRANSPORTATION — INDOT

Criminal Justice Institute

Criminal Justice Institute



INDIANA 2009 TRAFFIC SAFETY FACTS

COUNTIES, 2008

Understanding the spatial distribution of traffic collisions and injuries can assist officials in developing policies and targeting resources to address the varying issues related to these crashes. A variety of factors may influence when and where traffic collisions occur, including the size and makeup of the population and the number of registered vehicles, licensed drivers, and vehicle miles travelled (VMT). The following choropleth and density grid maps show which counties had the highest rates as well as where various types of traffic collisions and injuries were concentrated in Indiana in 2008. Some maps are normalized in an attempt to account for the disparate volumes of the aforementioned factors.

Note: All density grid maps were created using a ten-mile search radius.

Choropleth maps use themes, such as color or shading, to depict spatial feature values for a given attribute of the features. Themes are typically based on different categories of the mapped attribute.

- In 2008, 205,451 traffic collisions occurred in Indiana counties, 722 of which were fatal collisions.
- The mean number of total collisions per county was 2,233, while the mean number of total collisions per county was 8.
- Benton County ranks 90th in total collisions, but 1st in fatal collisions as a percent of total collisions.
- Dubois County ranks 62nd in total collisions, but 2nd in fatal collisions as a percent of total collisions.
- Marion County ranks 1st in total collisions, but 71st in fatal collisions as a percent of total collisions.

Table 90. Indiana collisions, by severity and county, 2008

	Total collisions		Fatal			Injuries		Non-incapacitating		Property damage only	
	Count	County rank	Count	% total county collisions	County rank (as %)	Count	% total county collisions	Count	% total county collisions	Count	% total county collisions
Indiana	205,451	n/a	722	0.4	n/a	71,990	35.0	132,660	64.6	140,879	68.6
Mean	2,233	n/a	8	n/a	n/a	782	n/a	1,441	n/a	1,531	n/a
Minimum	154	n/a	1	n/a	n/a	2	n/a	24	n/a	115	n/a
Maximum	28,693	n/a	82	n/a	n/a	9,996	n/a	23,072	n/a	23,072	n/a
Adams	298	72	3	0.6	76	98	32.9	196	65.8	200	67.1
Allen	12,159	3	20	0.2	89	3,923	32.3	8,236	67.7	8,670	71.3
Bartholomew	2,426	21	10	0.4	52	1,005	41.4	1,421	58.6	1,691	69.7
Benton	185	90	3	1.6	1	70	37.8	115	62.2	158	85.4
Blackford	331	83	2	0.5	37	114	34.4	217	65.6	229	69.2
Boone	1,838	25	8	0.4	49	615	33.5	1,223	66.5	1,307	71.1
Brown	573	73	3	0.5	38	233	40.7	340	59.3	436	76.1
Carroll	648	66	4	0.6	26	216	33.3	432	66.7	561	86.6
Cass	1,676	32	4	0.2	75	511	30.5	1,165	69.5	1,247	74.4
Clark	4,271	12	12	0.3	74	1,557	36.5	2,714	63.5	3,125	73.2
Clay	793	58	4	0.5	58	310	39.1	483	60.9	625	78.8
Clinton	896	54	8	0.9	18	369	41.2	527	58.8	718	80.1
Crawford	332	85	3	0.9	18	139	41.9	193	58.1	264	79.5
Daviess	701	62	4	1.5	3	218	31.1	483	68.9	568	81.0
Dearborn	2,127	23	3	0.1	90	796	37.4	1,331	62.6	1,713	80.5
Decatur	829	52	4	0.7	24	310	37.4	519	62.6	742	89.5
DeKalb	1,207	30	5	0.3	66	461	38.2	746	61.8	1,010	83.7
Delaware	4,427	11	6	0.3	91	1,761	39.8	2,666	60.2	3,092	69.8
Dubois	898	51	5	0.6	22	317	35.3	581	64.7	704	78.3
Elkhart	6,841	6	25	0.4	39	2,564	37.5	4,277	62.5	5,480	80.1
Fayette	564	74	4	0.7	21	215	38.1	349	61.9	448	79.4
Floyd	2,652	19	10	0.4	57	1,018	38.4	1,634	61.6	2,148	81.0
Fountain	493	77	3	0.6	37	210	42.6	283	57.4	425	86.2
Franklin	552	71	7	1.2	7	219	39.7	333	60.3	476	86.2
Fulton	433	87	4	0.6	28	178	41.1	255	58.9	382	88.2
Gibson	1,096	43	5	0.5	44	417	38.1	679	61.9	815	74.4
Grant	2,266	22	6	0.3	78	837	36.9	1,429	63.1	1,685	74.4
Greene	967	55	3	0.4	61	362	37.4	605	62.6	761	78.7
Hamilton	6,634	7	13	0.2	86	2,512	37.9	4,122	62.1	5,640	85.0
Hancock	1,646	29	5	0.3	69	615	37.4	1,031	62.6	1,396	84.8
Harrison	1,207	40	7	0.6	31	446	37.0	761	63.0	1,038	86.0
Hendricks	3,302	14	16	0.4	58	1,261	38.2	2,041	61.8	2,647	80.2

continued on next page

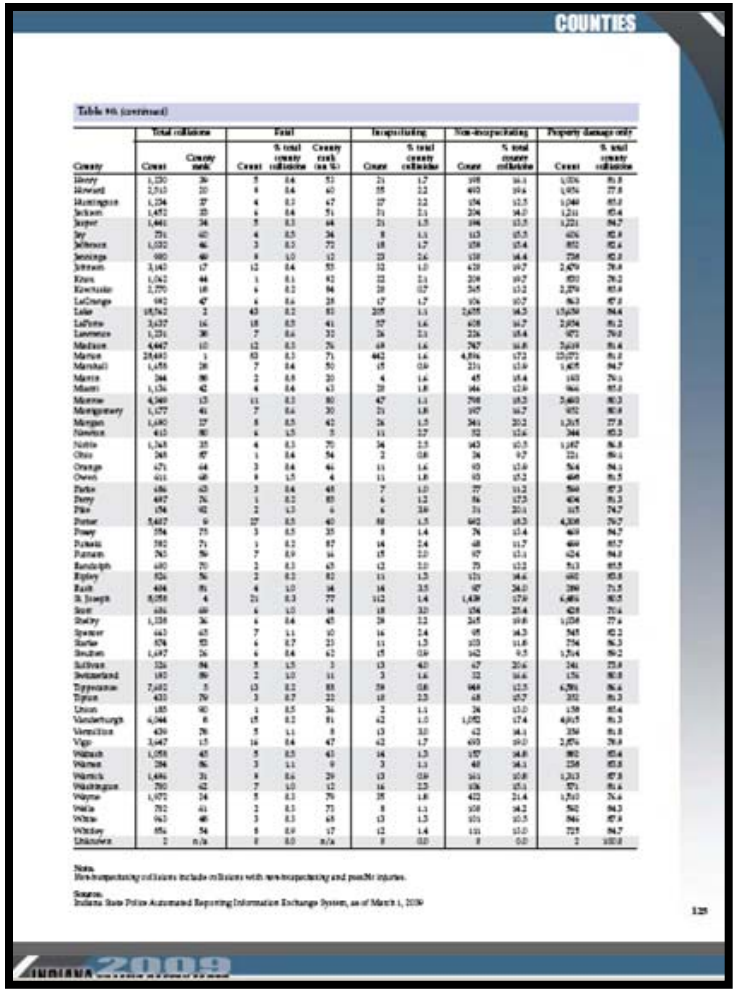


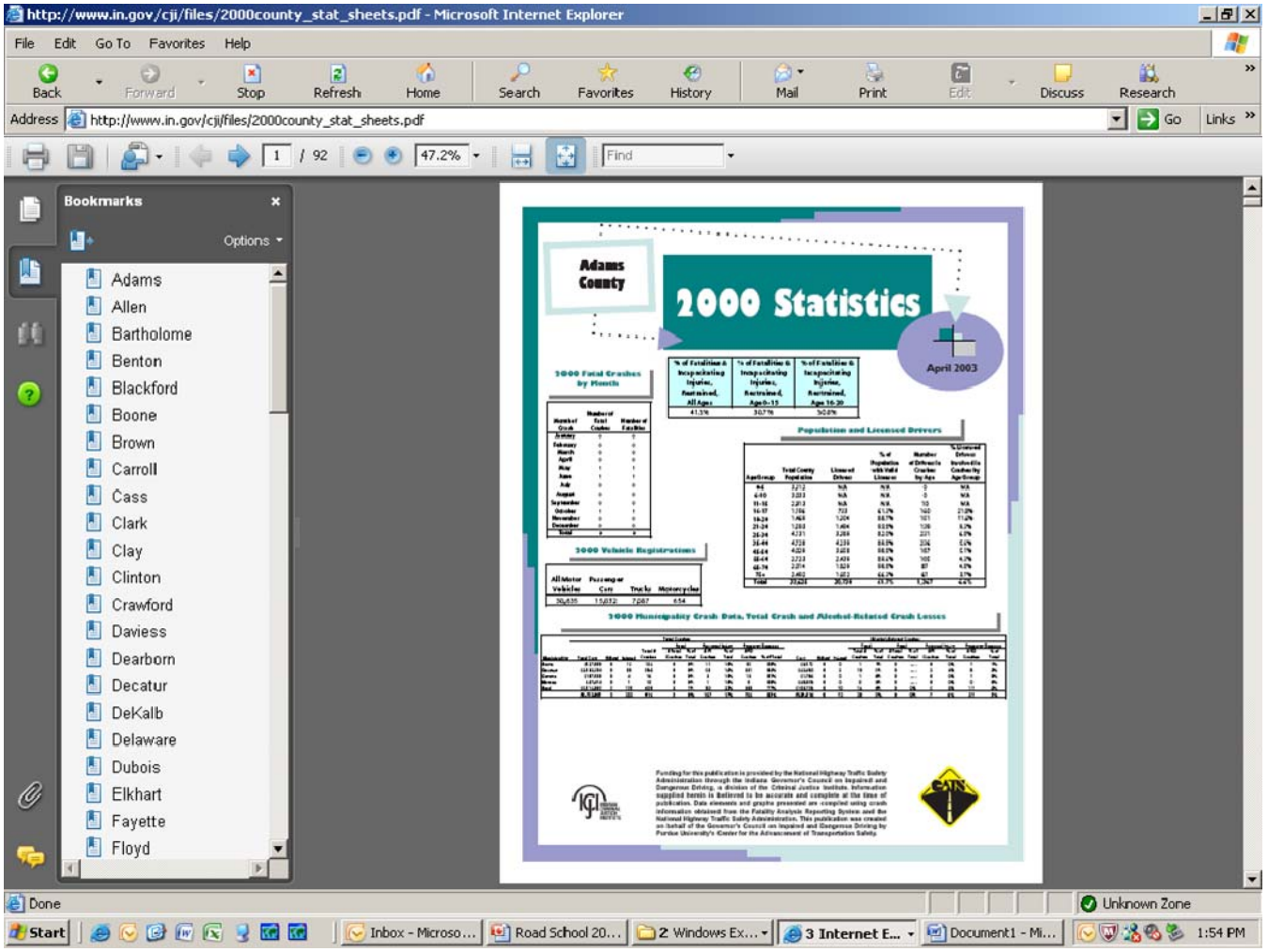
Table 90. (continued)

	Total collisions		Fatal			Injuries		Non-incapacitating		Property damage only	
County	Count	County rank	Count	% total county collisions	County rank (as %)	Count	% total county collisions	Count	% total county collisions	Count	% total county collisions
Henry	1,330	36	5	0.4	53	515	38.7	815	61.3	1,026	77.1
Howard	2,910	10	4	0.1	60	1,115	38.3	1,795	61.7	2,315	79.6
Huntington	1,224	37	4	0.3	47	477	39.0	747	61.0	1,040	85.0
Jackson	1,452	33	6	0.4	51	511	35.2	941	64.8	1,211	83.4
Jasper	1,441	34	5	0.3	66	515	35.7	926	64.3	1,221	84.7
Jay	731	60	4	0.5	34	278	38.0	453	62.0	606	82.9
Jefferson	1,032	46	3	0.3	72	418	40.5	614	59.5	832	80.6
Jennings	900	48	8	1.0	12	323	35.9	577	64.1	728	80.9
Johnson	3,140	17	12	0.4	55	1,132	36.0	2,008	64.0	2,479	78.9
Knox	1,042	44	1	0.1	92	422	40.5	620	59.5	831	79.8
Kosciusko	2,770	18	6	0.2	84	1,018	36.8	1,752	63.2	2,276	82.2
LaGrange	992	47	4	0.4	25	417	42.0	575	58.0	763	77.0
Lake	18,762	2	63	0.3	83	7,107	37.9	11,655	62.1	13,650	72.8
LaPorte	3,637	16	15	0.4	41	1,357	37.3	2,280	62.7	2,974	81.8
Lawrence	1,231	38	7	0.6	32	476	38.7	755	61.3	972	79.0
Madison	4,447	10	12	0.3	76	1,619	36.4	2,828	63.6	3,619	81.4
Marion	28,693	1	82	0.3	71	9,662	33.7	19,031	66.3	23,072	80.4
Marshall	1,455	28	7	0.4	50	575	39.5	880	60.5	1,105	75.9
Martin	344	80	2	0.9	20	144	41.9	200	58.1	253	73.5
Miami	1,126	42	4	0.4	63	438	38.9	688	61.1	966	85.8
Monroe	4,360	13	11	0.3	80	1,827	41.9	2,533	58.1	3,403	78.1
Montgomery	1,177	41	7	0.6	30	471	40.0	706	60.0	972	82.6
Morgan	1,690	27	8	0.5	42	676	40.0	1,014	60.0	1,315	77.8
Newton	413	81	4	1.0	5	171	41.4	242	58.6	344	83.3
Noble	1,363	35	4	0.3	70	546	40.1	817	59.9	1,147	84.1
Ohio	260	87	1	0.4	94	102	39.2	158	60.8	221	85.0
Orange	671	64	3	0.4	46	271	40.4	400	59.6	564	84.1
Owen	611	68	4	0.7	4	231	37.8	380	62.2	468	76.6
Parke	486	69	3	0.6	48	197	40.5	289	59.5	366	75.3
Perry	697	76	1	0.1	89	276	39.6	421	60.4	604	86.7
Pike	434	82	2	0.5	40	166	38.2	268	61.8	358	82.5
Porter	5,447	9	27	0.5	40	2,110	38.7	3,337	61.3	4,208	77.3
Posey	556	75	3	0.5	35	218	39.2	338	60.8	469	84.4
Pulaski	382	79	1	0.3	87	146	38.2	236	61.8	309	80.9
Putnam	765	59	7	0.9	16	297	38.8	468	61.2	624	81.6
Randolph	650	70	2	0.3	65	252	38.8	398	61.2	513	78.9
Ripley	926	56	3	0.3	82	358	38.7	568	61.3	682	73.7
Rush	404	85	4	1.0	14	156	38.6	248	61.4	286	70.8
St. Joseph	8,058	4	21	0.3	77	3,112	38.6	4,946	61.4	5,684	70.5
Scott	636	63	4	1.0	14	238	37.4	398	62.6	458	72.0
Shelby	1,338	26	4	0.4	45	516	38.6	822	61.4	1,038	77.6
Spencer	663	65	7	1.1	10	256	38.6	407	61.4	545	82.2
Starke	574	83	4	0.7	21	221	38.5	353	61.5	456	79.4
Steuben	1,147	24	6	0.4	61	435	37.9	712	62.1	1,014	88.4
Sullivan	526	84	5	0.5	3	203	38.6	323	61.4	381	72.4
Switzerland	190	89	2	1.0	11	73	38.4	117	61.6	176	92.6
Tippecanoe	2,602	5	13	0.5	83	1,013	38.9	1,589	61.1	1,991	76.5
Tipton	433	79	3	0.7	22	168	38.8	265	61.2	372	85.9
Union	180	90	1	0.5	36	72	40.0	108	60.0	138	76.7
Vanderburgh	4,344	8	15	0.3	81	1,652	38.0	2,692	62.0	3,352	77.2
Vermillion	436	78	5	1.1	8	168	38.5	268	61.5	356	81.7
Vigo	3,447	15	16	0.5	47	1,342	38.9	2,105	61.1	2,674	77.6
Wabash	1,058	45	5	0.5	43	416	39.3	642	60.7	862	81.4
Warren	294	86	3	1.1	9	113	38.4	181	61.6	234	79.6
Warrick	1,696	31	6	0.4	29	653	38.5	1,043	61.5	1,313	77.4
Washington	780	62	7	1.0	12	306	39.2	474	60.8	571	73.2
Wayne	1,972	24	5	0.3	79	778	39.5	1,194	60.5	1,510	76.6
Wells	782	61	3	0.3	73	308	39.4	474	60.6	582	74.4
White	663	69	3	0.3	68	263	39.7	400	60.3	546	82.4
Whitley	854	54	8	0.9	17	332	38.9	522	61.1	725	84.9
Unknown	2	n/a	0	0.0	n/a	0	0.0	2	100.0	2	100.0

Note:
Non-incapacitating collisions include collisions with non-incapacitating and possible injuries.

Source:
Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009

Criminal Justice Institute



Toolbox of Crash Data Analysis

- HELPERS
- Hazard Elimination Project for Existing Roads and Streets

HELPERS

- Local Transportation Assistance Program – LTAP
- Assistance for Counties and Towns to justify Safety projects for federal funding
- http://rebar.ecn.purdue.edu/LTAP/TechAssist/HELPERS.aspx

HELPERs

Indiana Local Technical Assistance Program (LTAP) - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Research
Address http://rebar.ecn.purdue.edu/LTAP/TechAssist/HELPERS.aspx
Go Links
Indiana LTAP
Indiana Local Technical Assistance Program
Home About Training Resources Classifieds Technical Assistance
Site Map
Contact Us
LPA Project Development
Equipment Loan Program
HELPERS Project
Toll Free Hotline
The Indiana LTAP HELPERS (Hazard Elimination Project for Existing Roads and Streets) is a project that targets Class III and Class IV local street, highway and/or engineering departments in Indiana to assist in identifying their most hazardous locations, determining the types of crashes most likely to occur at those locations, and suggesting countermeasures to reduce the number and/or severity of those crashes. In many cases, this project also assists these local agencies in requesting federal aid money to implement the suggested countermeasures. In other cases, the road safety audit review (RSAR) performed by LTAP provides the local public agency (LPA) with a list of countermeasures that may be implemented with local forces as time and funding permit.
Documents
Call for Projects Dec 09
HELPERS RSAR Handouts
HELPERS RSAR Presentations
HELPERS_Request_for_assistance
School of Civil Engineering
Purdue University
Copyright © 2007 - 2010, Purdue University. [Contact Site Admin] | [Site Admin] | [Board Info]
Indiana LTAP, 1435 Win Hentschel Blvd., Ste. B100 West Lafayette, IN 47906
Local: 765.494.2164 Toll free (Indiana only): 800.428.7639 Fax: 765.496.1176
The site is optimized for modern browsers. The browser you are using is out-of-date.
Please upgrade to the latest version of Internet Explorer, Firefox, or Opera
Internet
Start
3 Microsoft O...
C:\Documents ...
I:\My Documen...
Microsoft Powe...
Indiana Local ...
10:15 AM

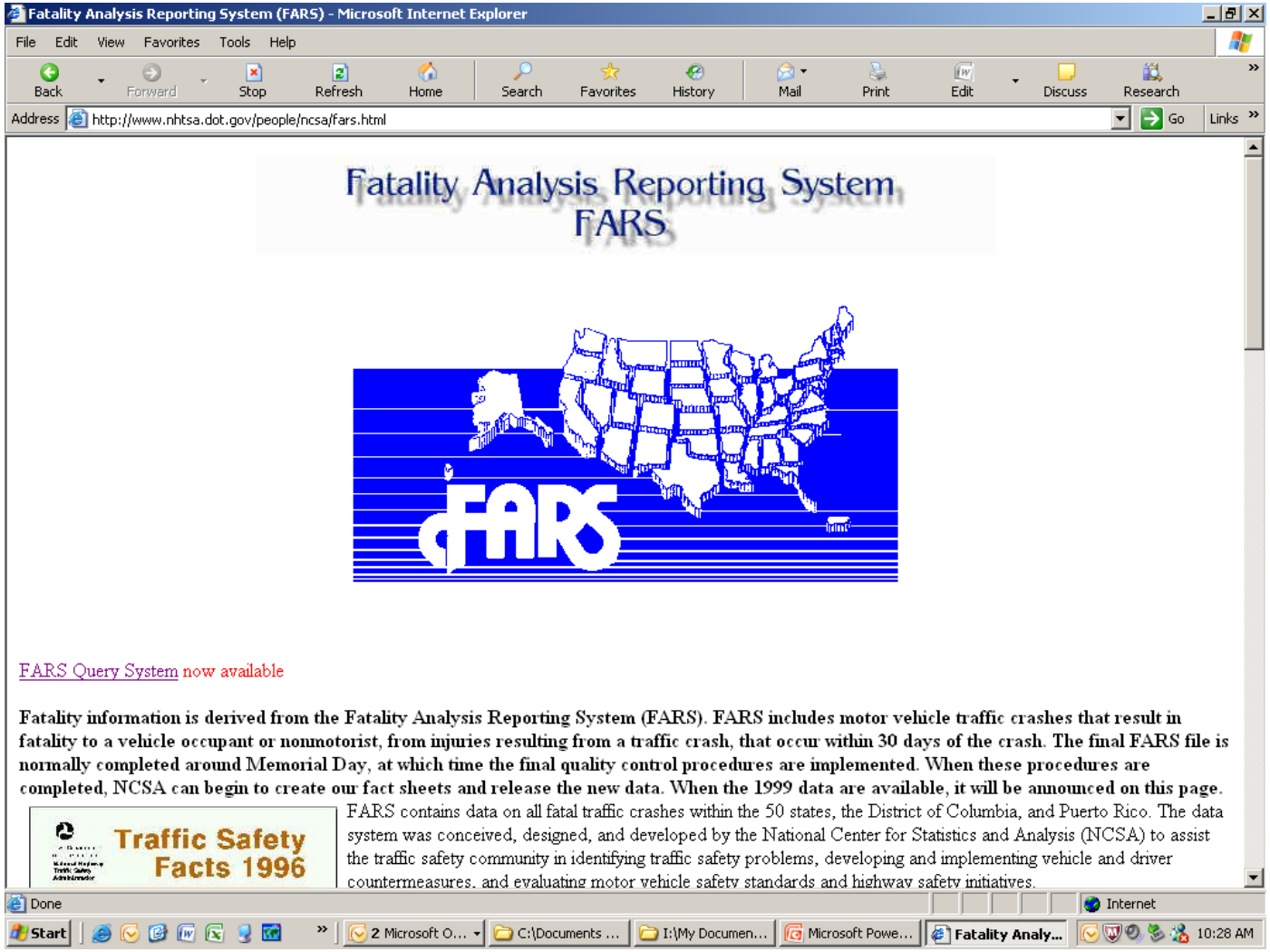
Toolbox of Crash Data Analysis

- FARS
- Fatal Accident Reporting System

FARS

- FARS contains data on all fatal traffic crashes within the 50 states, the District of Columbia, and Puerto Rico
- The FARS Query System enables users to perform their own custom requests
- http://www.nhtsa.dot.gov/people/ncsa/fars.html

FARS


Fatality Analysis Reporting System (FARS) - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss Research
Address http://www.nhtsa.dot.gov/people/ncsa/fars.html
Go Links
Fatality Analysis Reporting System
FARS
FARS
FARS Query System now available
Fatality information is derived from the Fatality Analysis Reporting System (FARS). FARS includes motor vehicle traffic crashes that result in fatality to a vehicle occupant or nonmotorist, from injuries resulting from a traffic crash, that occur within 30 days of the crash. The final FARS file is normally completed around Memorial Day, at which time the final quality control procedures are implemented. When these procedures are completed, NCSA can begin to create our fact sheets and release the new data. When the 1999 data are available, it will be announced on this page.
Traffic Safety Facts 1996
FARS contains data on all fatal traffic crashes within the 50 states, the District of Columbia, and Puerto Rico. The data system was conceived, designed, and developed by the National Center for Statistics and Analysis (NCSA) to assist the traffic safety community in identifying traffic safety problems, developing and implementing vehicle and driver countermeasures, and evaluating motor vehicle safety standards and highway safety initiatives.
Done
Internet
Start
2 Microsoft O...
C:\Documents ...
I:\My Documen...
Microsoft Powe...
Fatality Analy...
10:28 AM

NCHRP REPORT 500

- NCHRP REPORT 500
- National Cooperative Highway Research Program – Report 500
- Guidance for Implementation of the AASHTO Strategic Highway Safety Plan
- 19 publications about key emphasis areas that affect highway safety
- http://safety.transportation.org/guides.aspx

NCHRP REPORT 500

- Volume 01: A Guide for Addressing Aggressive-Driving Collisions
- Volume 02: A Guide for Addressing Collisions Involving Unlicensed Drivers and Drivers with Suspended or Revoked Licenses
- Volume 03: A Guide for Addressing Collisions with Trees in Hazardous Locations

NCHRP REPORT 500

- Volume 04: A Guide for Addressing Head-On Collisions
- Volume 05: A Guide for Addressing Un-signalized Intersection Collisions
- Volume 06: A Guide for Addressing Run-Off-Road Collisions
- Volume 07: A Guide for Reducing Collisions on Horizontal Curves

NCHRP REPORT 500

- Volume 08: A Guide for Reducing Collisions Involving Utility Poles
- Volume 09: A Guide for Reducing Collisions Involving Older Drivers
- Volume 10: A Guide for Reducing Collisions Involving Pedestrians
- Volume 11: A Guide for Increasing Seat Belt Use

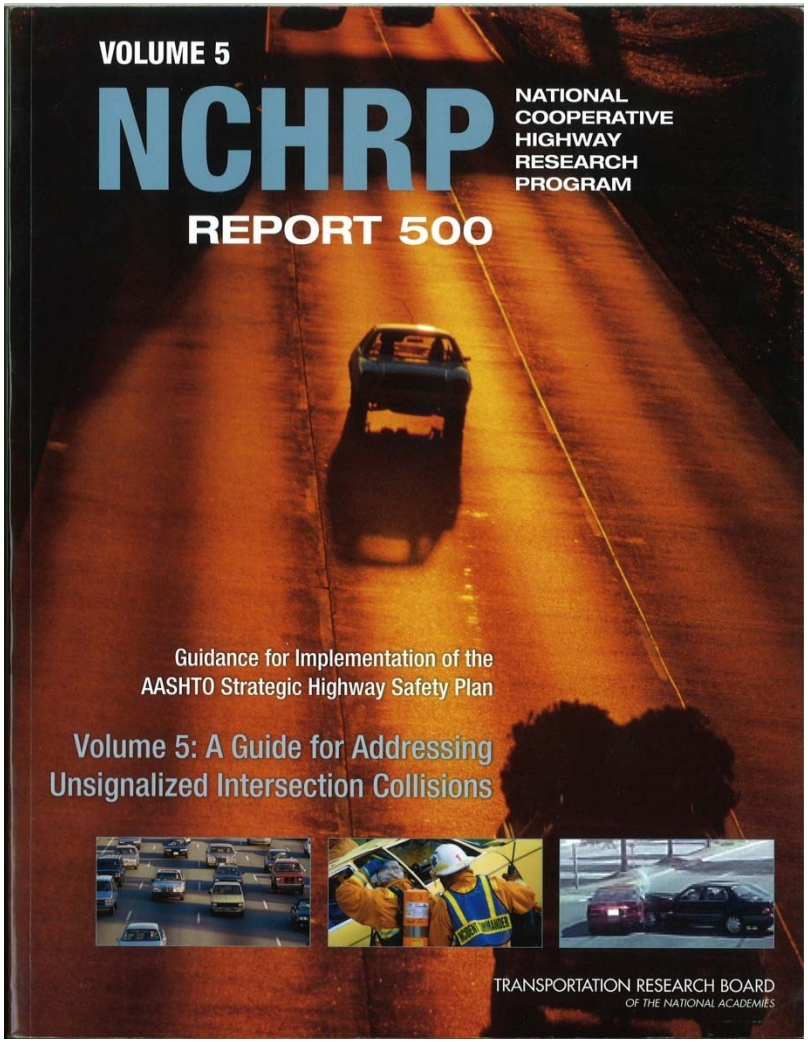
NCHRP REPORT 500

- Volume 12: A Guide for Reducing Collisions at Signalized Intersections
- Volume 13: A Guide for Reducing Collisions Involving Heavy Trucks
- Volume 14: Reducing Crashes Involving Drowsy and Distracted Drivers
- Volume 15: A Guide for Enhancing Rural Emergency Medical Services

NCHRP REPORT 500

- Volume 16: A Guide for Reducing Crashes Involving Alcohol
- Volume 17: A Guide for Reducing Work Zone Collisions
- Volume 18: A Guide for Reducing Head-On Crashes on Freeways
- Volume 19: A Guide for Collecting and Analyzing Safety Highway Safety Data

NCHRP REPORT 500



Toolbox of Crash Data Analysis

- ELCSI-PFS
- Evaluation of Low Cost Safety Improvements – Pooled Fund Study
- http://www.tfhrc.gov/safety/evaluations/pubs.htm

Evaluation of Low Cost Safety Improvements – Pooled Fund Study

- ~ 26 State Pooled Fund Study
- FHWA Strategic Highway Safety Plan Effort
- Purpose is to Estimate the Safety Effectiveness for Several of the Low Cost Strategies Identified in the 500 Reports

Evaluation of Low Cost Safety Improvements – Pooled Fund Study

- STOP Signs with Increased Retro-reflectivity
- Flashing Beacons
- STOP AHEAD Pavement Markings
- Two-Way Left-Turn Lanes

Evaluation of Low Cost Safety Improvements – Pooled Fund Study

- Offset Left-Turn Lanes,
- Advance Street Name Signing
- Curve Treatments
- Lane-Width/Shoulder-Width Combinations
- More

TECHBRIEF

Safety Evaluation of Lane and Shoulder Width Combinations on Rural, Two-Lane, Undivided Roads

FHWA Publication No.: FHWA-HRT-09-032
FHWA Contact: Roya Amjadi, HRDS-06, (202) 493-3383, roya.amjadi@dot.gov

This document is a technical summary of the Federal Highway Administration report, *Safety Evaluation of Lane and Shoulder Width Combinations on Rural, Two-Lane, Undivided Roads* (FHWA-HRT-09-031), which will be available online at http://www.tfhrc.gov/safety.

Objective

The Federal Highway Administration (FHWA) organized a pooled fund study of 26 States to evaluate low-cost safety strategies as part of its strategic highway safety effort. The purpose of the FHWA Low-Cost Safety Improvements Pooled Fund Study is to evaluate the safety effectiveness of several low-cost safety strategies presented in the *National Cooperative Highway Research Program (NCHRP) Report 500 Series*. Although not identified in the *NCHRP Report 500 Series*, one of the strategies selected for evaluation in the pooled fund study was the allocation of lane and shoulder width for fixed pavement widths on rural, two-lane, undivided roads (i.e., given a fixed roadway width for a rural, two-lane, undivided road, is it safer to provide wider shoulders or wider lanes?). The safety effectiveness of various allocations of total paved width had not previously been thoroughly documented, and this study is an attempt to provide an evaluation through scientifically rigorous procedures.

Introduction

State and local agencies are often faced with a decision of how to enhance safety on rural, two-lane roads when the total paved width is to remain the same. More than 42,000 fatalities occur

U.S. Department of Transportation
Federal Highway Administration

Research, Development, and Technology
Turner-Fairbank Highway Research Center
6300 Georgetown Pike
McLean, VA 22101-2296

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TECHBRIEF

Simulator Evaluation of Low-Cost Safety Improvements on Rural Two-Lane Undivided Roads: Nighttime Delineation for Curves and Traffic Calming for Small Towns

FHWA Publication No.: FHWA-HRT-09-062

FHWA Contact: Roya Amjadi, HRDS-06, (202) 493-3383, roya.amjadi@dot.gov

This document is a technical summary of the Federal Highway Administration report, *Simulator Evaluation of Low-Cost Safety Improvements on Rural Two-Lane Undivided Roads: Nighttime Delineation for Curves and Traffic Calming for Small Towns*, FHWA-HRT-09-061.

Objective

The Federal Highway Administration (FHWA) organized 26 States to participate in the FHWA Low Cost Safety Improvements Pooled Fund Study as part of its strategic highway safety plan support effort. The purpose of the pooled fund study is to estimate the safety effectiveness for several of the unproven low-cost safety strategies identified in the *National Cooperative Highway Research Program (NCHRP) Report 500 Series*.[1] One of the strategies chosen to be evaluated for this study is improved curve delineation, which is intended to reduce the frequency of curve-related crashes by providing more conspicuous signing and lane markings.

In this study, a driving simulator experiment was conducted to evaluate two sets of alternative low-cost safety improvements for rural areas based on Technical Advisory Committee recommendations from the 2007 Annual Meeting. The first set of improvements was directed toward enhancing the visibility of curves on rural two-lane undivided roads at night. It focused on achieving advanced detection and speed reduction in such curves. The second set of improvements was directed toward slowing traffic on rural two-lane undivided roads in small towns during the day by focusing on traffic calming within the towns.

U.S. Department of Transportation
Federal Highway Administration

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McLean, VA 22101-2296

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Toolbox of Crash Data Analysis

- MPO's
- Metropolitan Planning Organizations

MPO's

- All the MPO's analyze safety data to various extents
- Have dedicated safety funding
- Are a resource for safety information

Safety Toolbox of Crash Data Analysis

Questions?