

Roadsoft Safety Analysis for Local Agencies



2016 **RUCUS**
Roadsoft User Conference of the United States

November 1, 2016 - Lansing, MI

What Will We Learn Today?

- Project Selection via Roadsoft
 - MDOT Local Agency Safety Call
 - Filter Selections – Specific Countermeasures
 - Ranking Reports – Intersection/Segment
 - Collision Diagrams
 - UD-10 Downloads
 - Tips and Tricks

Project Selection for Local Agency Safety Call

- 90/10 Funding for K/A AND Systemic Locations

Project Type	Total Program
Road Safety Audits (RSA)	\$50,000
Non-motorized facility/Pedestrian improvements	\$100,000
High Friction Surface	\$100,000
Centerline and Shoulder Rumble Strip	\$200,000
Guardrail Upgrades and Clear Zone Improvements	\$600,000
Projects with scopes that directly correct areas with a concentration of Types "A" and "K" crashes	\$4,000,000
Safety Funds per MDOT Region	\$350,000

(FY 2018 Federal Local HSIP Financial Goals)

Filter Selection

- Basic Filtering
 - Crash County/City/Township
 - Year of Crash
 - Trunkline = Non-Trunkline
 - Greatest Injury Severity

Filter Selection

Crash Layer Filter Builder

Open Save Delete Clear

All Field Groups

Find field...

Field	Group
Aging Driver	Driver Details
Animal Involved	Crash Involvement
Area Code	Crash Location
Area Type	Crash Location
Bicycle Involved	Crash Involvement

Operator: Value:

= 60-64 Year Old Driver
<> 65-74 Year Old Driver
75-84 Year Old Driver
85 Year and Older Driver
No Aging Driver

+ Add

Group: 1

Group	Field	Operator	Value(s)
1	Crash County	=	Ingham
1	Year of Crash	=	2016 or 2015 or 2014 or 2013 or 2012 or 2011
1	Trunkline	=	Non-Trunkline
1	Greatest Injury Severity	=	Incapacitating Injury or Killed

Criteria

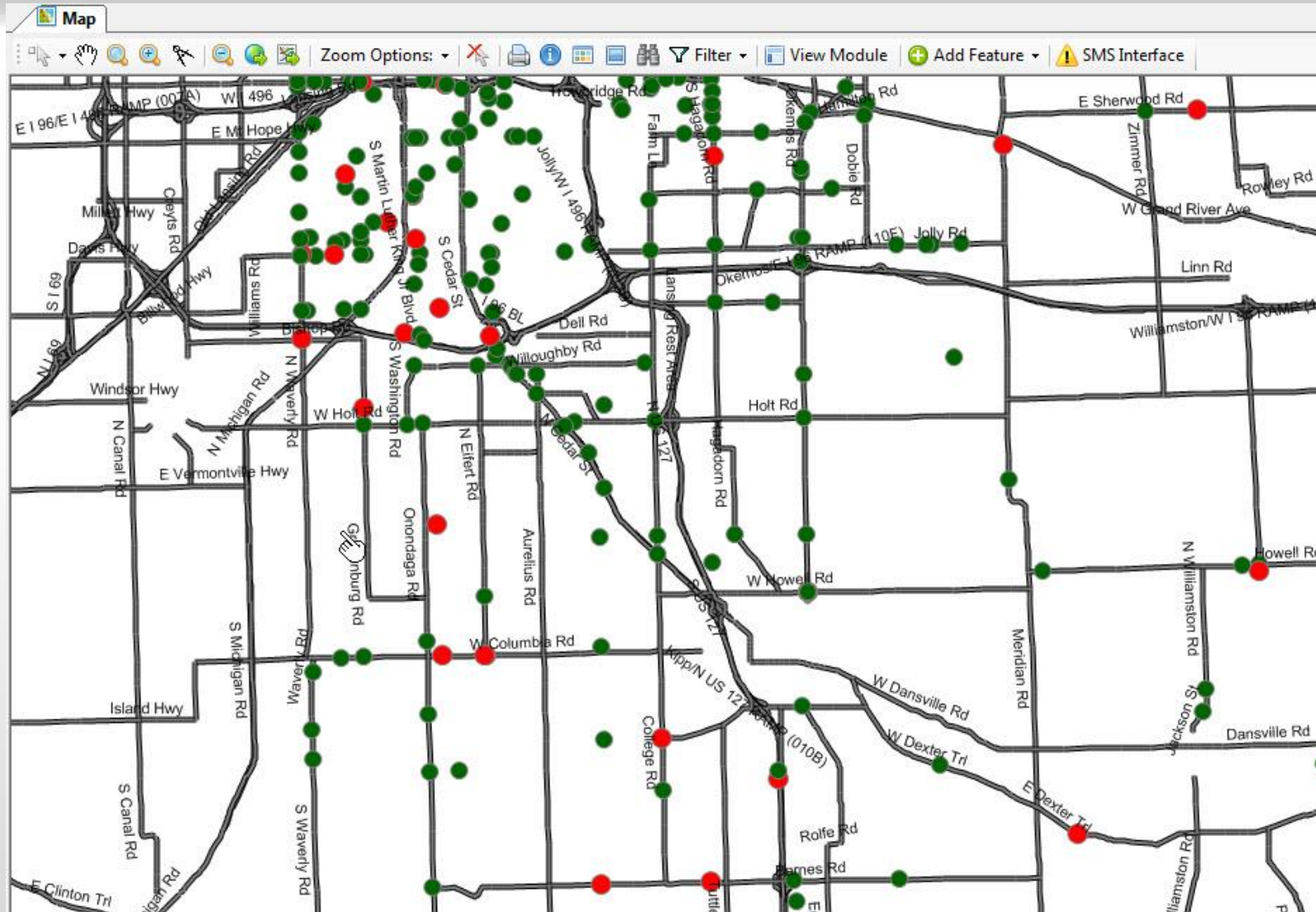
Crash County = Ingham
Year of Crash = 2016 or 2015 or 2014 or 2013 or 2012 or 2011
Trunkline = Non-Trunkline
Greatest Injury Severity = Incapacitating Injury or Killed

386 crash(es) found (animal crashes excluded)

Saved Filter: Ingham County KA 5 Years

Apply as Filter Append to Selection Replace Selection

Filter Selection



Filter Selection

- Lane Departure
 - Countermeasures – Run off Road
 - Rumble Strips – Centerline/Edgeline
 - Shoulder widening
 - Curve Improvements
 - High Friction Surface – Wet Crashes

Filter Selection

The screenshot shows the 'Crash Layer Filter Builder' window. Red arrows highlight the following elements:

- The window title bar and menu bar (Open, Save, Delete, Clear).
- The 'Save as New Filter...' option in the dropdown menu.
- The 'Field' and 'Group' selection table.
- The 'Operator' and 'Value' selection area.
- The main filter criteria table.
- The 'Criteria' summary section.
- The 'Saved Filter' name at the bottom right.

Field and Group Selection Table:

Field	Group
Lane Departure	Crash
ROAD: Number of Lanes	Road

Operator and Value Selection:

Operator: = <>
Value: Multi-Vehicle, Parked Vehicle, Single Vehicle, No Lane Departure

Main Filter Criteria Table:

Group	Field	Operator	Value(s)
1	Crash County	=	Ingham
1	Year of Crash	=	2016 or 2015 or 2014 or 2013 or 2012 or 2011
1	Trunkline	=	Non-Trunkline
1	Greatest Injury Severity	=	Incapacitating Injury or Killed
1	Lane Departure	=	Multi-Vehicle or Parked Vehicle or Single Vehicle

Criteria Summary:

Crash County = Ingham
Year of Crash = 2016 or 2015 or 2014 or 2013 or 2012 or 2011
Trunkline = Non-Trunkline
Greatest Injury Severity = Incapacitating Injury or Killed
Lane Departure = Multi-Vehicle or Parked Vehicle or Single Vehicle

131 crash(es) found (animal crashes excluded)

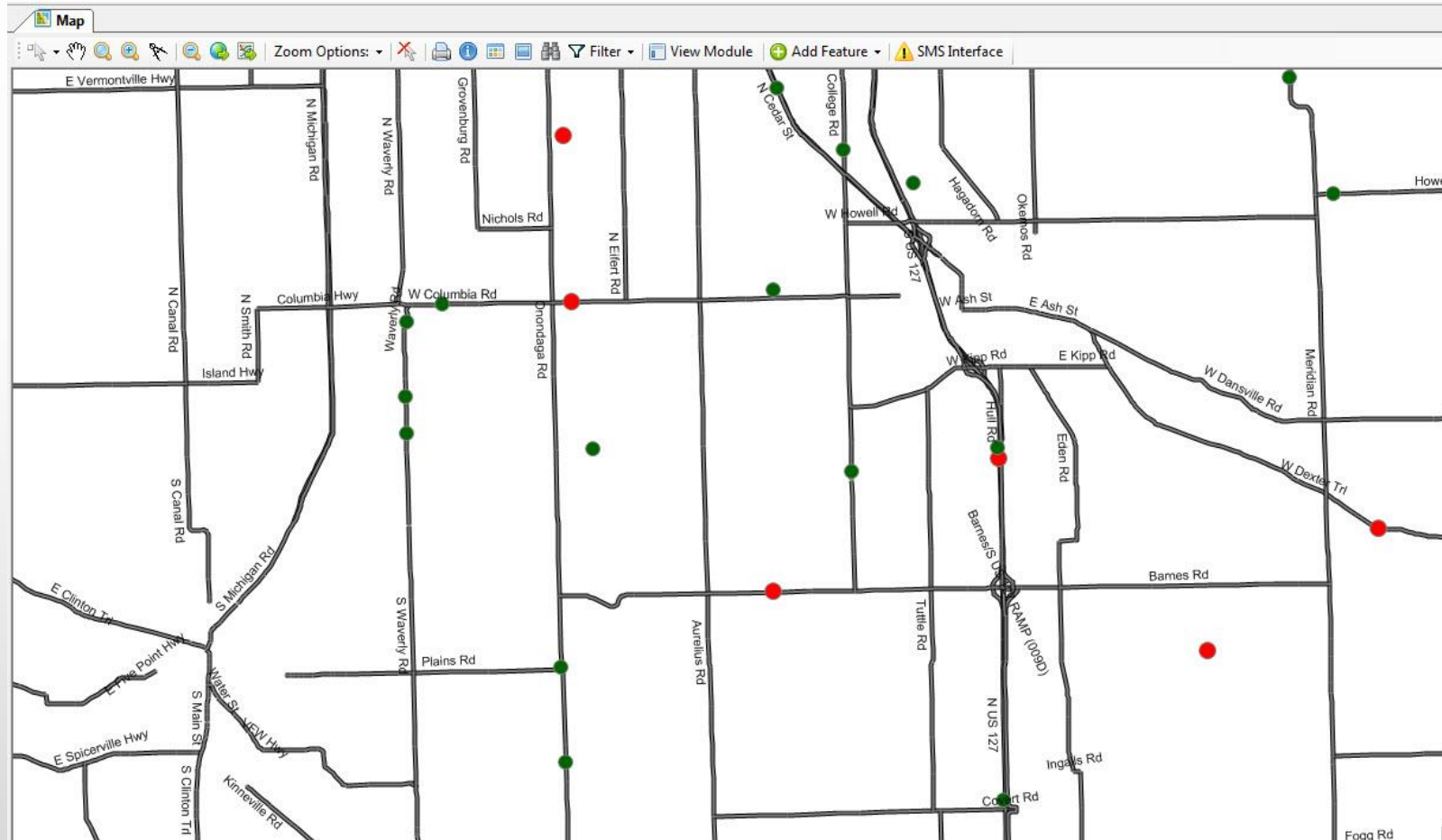
Saved Filter: Ingham Co Lane Departure KA

Buttons: Apply as Filter, Append to Selection, Replace Selection

Filter Selection

- Lane Departure
 - Fixed Objects
 - Tree Removal
 - Utility Poles
 - Guardrail Improvements/Slope Flattening

Filter Selection – Lane Departure



Ranking Reports

- Safety Analysis Tab
 - Intersection Ranking
 - Segment Ranking

Ranking Reports

Crash Intersection Ranking

Filter Columns Run Ranking

Limit List

Limit List to Top: 100

Percent/Intersections: ☒ Percent ☐ Intersections

Crash Dates

Start Date: 1/1/2011

End Date: 12/31/2015

Radius

Radius (feet): 150

Typical Crash Costs

TCFA (Fatal): \$2,600,000

TCIA (Injury): \$180,000

TCPDO (PDO): \$2,000

Weights

[Define Weights...](#)

Use Weight Set: ☐ No

Weight Set Name:

Advanced Filter

[Open Filter Builder](#)

Filter:

Animal Crashes: Excluded

Start Date >= 1/1/2011

End Date <= 12/31/2015

Radius = 150

Advanced Filter:

Crash County = Ingham

Year of Crash = 2016 or 2015 or 2014 or 2013 or 2012 or 2011

Trunkline = Non-Trunkline

Greatest Injury Severity = Incapacitating Injury or Killed

Legend: Contains a Trunkline Leg

Intersection Name	Township	County	Total Crashes	Fatal/A Crashes	Fatal Crashes	Type A Crashes	PDO Crashes	Pedestrian Crashes
Delta River Dr & N Waverly Rd	Delta Twp	Eaton	4	4	1	3	0	0
N Pennsylvania Ave & S Pennsylvania Ave & E Michigan Ave	Lansing	Ingham	4	4	1	3	0	0
N Waverly Rd & Waverly Rd & W Michigan Ave	Lansing Twp	Ingham	3	3	0	3	0	0
Burcham Dr & Abbot Rd	East Lansing	Ingham	3	3	0	3	0	1
S Washington Ave & Malcolm X St	Lansing	Ingham	3	3	1	2	0	0
W Howell Rd & Okemos Rd	Vevay Twp	Ingham	3	3	1	2	0	0
Lake Lansing Rd & Towne Centre Blvd	Lansing Twp	Ingham	2	2	0	2	0	0
S Hayford Ave & Marcus St	Lansing	Ingham	2	2	0	2	0	2
Jackson and Lansing Railroad & W St Joe St & W Saint Joseph St	Lansing Twp	Ingham	2	2	0	2	0	0
W St Joe St & Clare St	Lansing Twp	Ingham	2	2	0	2	0	0
Park Terrace Ln & W St Joe St	Lansing Twp	Ingham	2	2	0	2	0	0
W Jolly Rd & Waverly Rd	Lansing	Ingham	2	2	1	1	0	1
Okemos Rd & Sower Blvd	Meridian Twp	Ingham	2	2	0	2	0	0
S Washington Ave & W Holmes Rd	Lansing	Ingham	2	2	1	1	0	1
Pleasant Grove Rd & W Holmes Rd	Lansing	Ingham	2	2	0	2	0	0
Sandhill Rd & Hagadom Rd	Alaiedon Twp	Ingham	2	2	0	2	0	0
Holt Rd & Dietz Rd	Leroy Twp	Ingham	2	2	2	0	0	0
W St Joe St & Waverly Rd & E St Joe Hwy	Delta Twp	Eaton	2	2	0	2	0	0
Bishop Hwy & Waverly Rd & Bishop Rd	Windsor Twp	Eaton	2	2	2	0	0	0
Terminal Rd & N Martin Luther King Jr Blvd	Lansing	Ingham	1	1	0	1	0	0
Marfitt Rd & Stonehedge Dr	East Lansing	Ingham	1	1	0	1	0	0
Gulick Rd & Zimmer Rd	Williamstown Twp	Ingham	1	1	0	1	0	0
Trafalgar Ln & W Lake Lansing Rd	East Lansing	Ingham	1	1	0	1	0	0
Regency Dr & Burnt Tree Ln & W Lake Lansing Rd	East Lansing	Ingham	1	1	0	1	0	0
W Lake Lansing Rd & N Harrison Rd	East Lansing	Ingham	1	1	0	1	0	0
W Lake Lansing Rd & Abbot Rd & E Lake Lansing Rd	East Lansing	Ingham	1	1	0	1	0	0
Park Lake Rd & Whitehills Lake Dr	Meridian Twp	Ingham	1	1	0	1	0	0
Patriots Way & E Lake Lansing Rd	Meridian Twp	Ingham	1	1	0	1	0	0
Taylor Dr & Abbot Rd	Meridian Twp	Ingham	1	1	0	1	0	0
Marsh Rd & Lake Lansing Rd	Meridian Twp	Ingham	1	1	0	1	0	1

214 Intersections Ranked

[Print Report](#)
[Export as File](#)
[Collision Diagram](#)
[Apply as Selection](#)
[Trend Analysis](#)
[View Crashes](#)
[Close](#)

Collision Diagrams

- Location Selection
 - Collision Diagram Selection
 - Apply As Selection – Map View
 - View Crashes – Crash Data Interface

Ranking Reports

Crash Intersection Ranking

Filter Columns Run

Limit List

- Limit List to Top: 100
- Percent/Intersections: ☒ Percent ☐ Intersections

Crash Dates

- Start Date: 1/1/2011
- End Date: 12/31/2015

Radius

- Radius (feet): 150

Typical Crash Costs

- TCFA (Fatal): \$2,600,000
- TCIA (Injury): \$180,000
- TCPDO (PDO): \$2,000

Weights [Define Weights...](#)

- Use Weight Set: ☐ No
- Weight Set Name:

Advanced Filter

[Open Filter Builder](#)

Filter:

Animal Crashes: Excluded
Start Date >= 1/1/2011
End Date <= 12/31/2015
Radius = 150

Advanced Filter:

Crash County = Ingham
Year of Crash = 2016 or 2015 or 2014 or 2013 or 2012 or 2011
Trunkline = Non-Trunkline
Greatest Injury Severity = Incapacitating Injury or Killed

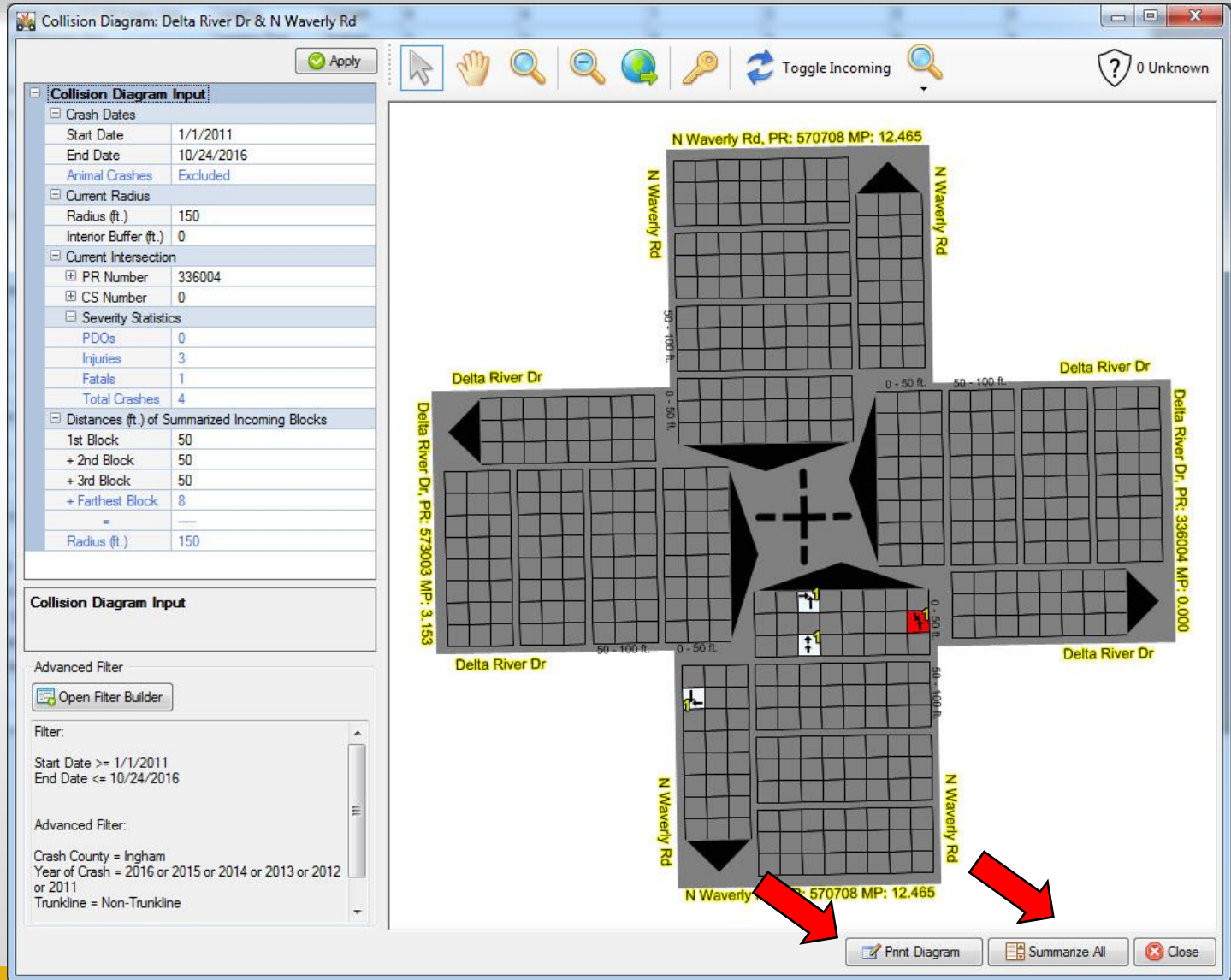
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Burcham Dr & Abbot Rd	East Lansing	Ingham	3	3	0	3	0	1
S Washington Ave & Malcolm X St	Lansing	Ingham	3	3	1	2	0	0
W Howell Rd & Okemos Rd	Vevay Twp	Ingham	3	3	1	2	0	0
Lake Lansing Rd & Towne Centre Blvd	Lansing Twp	Ingham	2	2	0	2	0	0
S Hayford Ave & Marcus St	Lansing	Ingham	2	2	0	2	0	2
Jackson and Lansing Railroad & W St Joe St & W Saint Joseph St	Lansing Twp	Ingham	2	2	0	2	0	0
W St Joe St & Clare St	Lansing Twp	Ingham	2	2	0	2	0	0
Park Terrace Ln & W St Joe St	Lansing Twp	Ingham	2	2	0	2	0	0
W Jolly Rd & Waverly Rd	Lansing	Ingham	2	2	1	1	0	1
Okemos Rd & Sower Blvd	Meridian Twp	Ingham	2	2	0	2	0	0
S Washington Ave & W Holmes Rd	Lansing	Ingham	2	2	1	1	0	1
Pleasant Grove Rd & W Holmes Rd	Lansing	Ingham	2	2	0	2	0	0
Sandhill Rd & Hagadom Rd	Alaledon Twp	Ingham	2	2	0	2	0	0
Holt Rd & Dietz Rd	Leroy Twp	Ingham	2	2	2	0	0	0
W St Joe St & Waverly Rd & E St Joe Hwy	Delta Twp	Eaton	2	2	0	2	0	0
Bishop Hwy & Waverly Rd & Bishop Rd	Windsor Twp	Eaton	2	2	2	0	0	0
Terminal Rd & N Martin Luther King Jr Blvd	Lansing	Ingham	1	1	0	1	0	0
Marfitt Rd & Stonehedge Dr	East Lansing	Ingham	1	1	0	1	0	0
Gulick Rd & Zimmer Rd	Williamstown Twp	Ingham	1	1	0	1	0	0
Trafalgar Ln & W Lake Lansing Rd	East Lansing	Ingham	1	1	0	1	0	0
Regency Dr & Burnt Tree Ln & W Lake Lansing Rd	East Lansing	Ingham	1	1	0	1	0	0
W Lake Lansing Rd & N Hamison Rd	East Lansing	Ingham	1	1	0	1	0	0
W Lake Lansing Rd & Abbot Rd & E Lake Lansing Rd	East Lansing	Ingham	1	1	0	1	0	0
Park Lake Rd & Whitehills Lake Dr	Meridian Twp	Ingham	1	1	0	1	0	0
Patriots Way & E Lake Lansing Rd	Meridian Twp	Ingham	1	1	0	1	0	0
Taylor Dr & Abbot Rd	Meridian Twp	Ingham	1	1	0	1	0	0
Marsh Rd & Lake Lansing Rd	Meridian Twp	Ingham	1	1	0	1	0	1

214 Intersections Ranked

Print Report Export as File Collision Diagram Apply as Selection Trend Analysis View Crashes Close

Collision Diagrams



Collision Diagrams

Intersection: Delta River Dr & N Waverly Rd

Filter Columns

☒ Limit to Original Dataset ☒ Apply

Crash Dates

☒ Start Date 1/1/2011

☒ End Date 10/24/2016

CS Segments

☐ CS Number 0 [Add CS...](#) [Clear all CSs](#)

PR Segments

☐ PR Number 0 [Add PR...](#) [Clear all PRs](#)

Crash Types

☐ Crash Types

Advanced Filter

[Open Filter Builder](#)

Animal Crashes: Excluded

Filter:

Start Date >= 1/1/2011
End Date <= 10/24/2016

Advanced Filter:

Crash County = Ingham
Year of Crash = 2016 or 2015 or 2014 or 2013 or 2012

GreatestInjSev	CrashYear	CrashDate	CrashSeverity	CS Number	PR MP	CrashType
Killed	2012	8/23/2012	Fatal	0	12.465	Head-On Left-Turn Not Associated w
Incapacitating Injury	2014	10/27/2014	Injury	0	12.465	Angle Straight
Incapacitating Injury	2015			0	12.465	Angle Straight
Incapacitating Injury	2015			0	12.460	Rear End Straight

0 Crashes in Queue 4 Crashes

[View UD-10s](#) [Export as File](#) [Generate Reports](#) [Trend Analysis](#) ☒ Apply as Selection ☒ Close

Context Menu:

- Clear Queue
- Add to Queue
- Remove From Queue

Red arrow pointing to the 'View UD-10s' button.

UD-10 Downloads

Intersection: Delta River Dr & N Waverly Rd

Filter Columns

☒ Limit to Original Dataset

Crash Dates

☒ Start Date 1/1/2011

☒ End Date 10/24/2016

CS Segments

☐ CS Number 0 [Add CS...](#) [Clear all CSs](#)

PR Segments

☐ PR Number 0 [Add PR...](#) [Clear all PRs](#)

Crash Types

☐ Crash Types

Advanced Filter

Animal Crashes: Excluded

Filter:

Start Date >= 1/1/2011
End Date <= 10/24/2016

Advanced Filter:

Crash County = Ingham
Year of Crash = 2016 or 2015 or 2014 or 2013 or 2012

GreatestInjSev	CrashYear	CrashDate	CrashSeverity	CS Number	PR MP	CrashType
Killed	2012	8/23/2012	Fatal	0	12.465	Head-On Left-Turn Not Associated w
Incapacitating Injury	2014	10/27/2014	Injury	0	12.465	Angle Straight
Incapacitating Injury	2015			0	12.465	Angle Straight
Incapacitating Injury	2015			0	12.460	Rear End Straight

0 Crashes in Queue 4 Crashes

From Queue
From Highlighted

UD-10 Downloads

UD-10 Viewer

Retry Import

Separate Files
Single File

100%

STATE OF MICHIGAN TRAFFIC CRASH REPORT

Authority: 1949 PA 300, Sec. 257.822
Compliance: Required MSP UD-10E
Penalty: \$100 and/or 90 days (Rev 11/2006)

External # 0210662 Crash ID 9469848

Page 01 of 01
Incident # 11672215 File Case 93001

Incident Disposition Closed

Reviewer STEVEN TEMELKO

CRI: MI 3301100 Department Name MSP Lansing

Crash Date 12/28/2015	Crash Time 11:50	No. of Units 02	Crash Type Rear End	Special Circumstances ☐ School Bus ☒ None ☐ Hit and Run ☐ Deer ☐ Fleeing Police	Special Checks ☐ Fatal ☐ Non-Traffic Area ☐ CRV/Snowmobile			
County 33 - Ingham	Traffic Control Signal	Relation to Roadway On Road	Special Study	Weather Sleet/Hail	Area 07 - NON-FRWY in Intersection			
City/Twp 95 - Lansing	Construction Zone (if applicable) Type	Lane Closed	Activity	Light Day/light	Road Condition Icy	Total Lanes 04	Speed Limit 45	Posted Yes

Prefix	Road Name WAVERLY	Road Type RD	Suffix	Divided Roadway
Distance 25 Feet S	Traffic Way 01 - Not physically divided		Access Control 01 - No access control	
Prefix	Intersecting Road DELTA RIVER	Road Type DR	Suffix	Divided Roadway

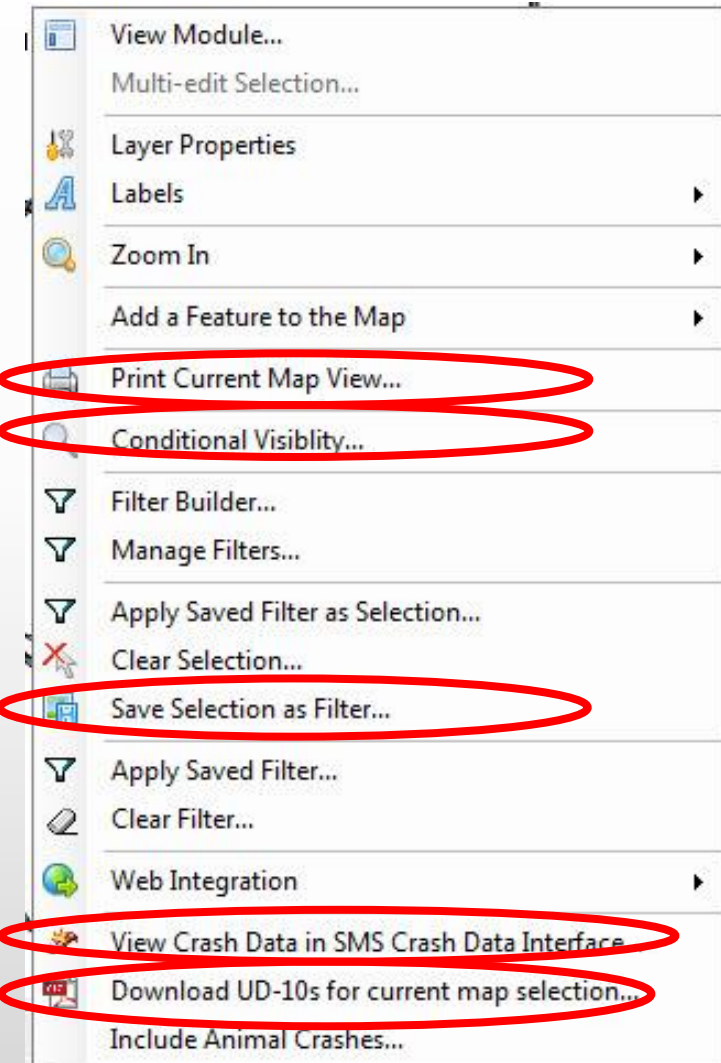
LOCATION

Tips and Tricks – Program

- Save Filters for Specific Countermeasures
- Trend Analysis
- One Line Listing –PDF vs. Excel
 - Hyperlinking of UD-10's

Tips and Tricks – Map

- Legend Builder
- Save Selection As Filter
- Download UD-10's
- Crash Data Interface
- Conditional Visibility
- Printing



Questions?

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