

Cloud Based Transportation Data Management

2015 Indiana MPO Conference

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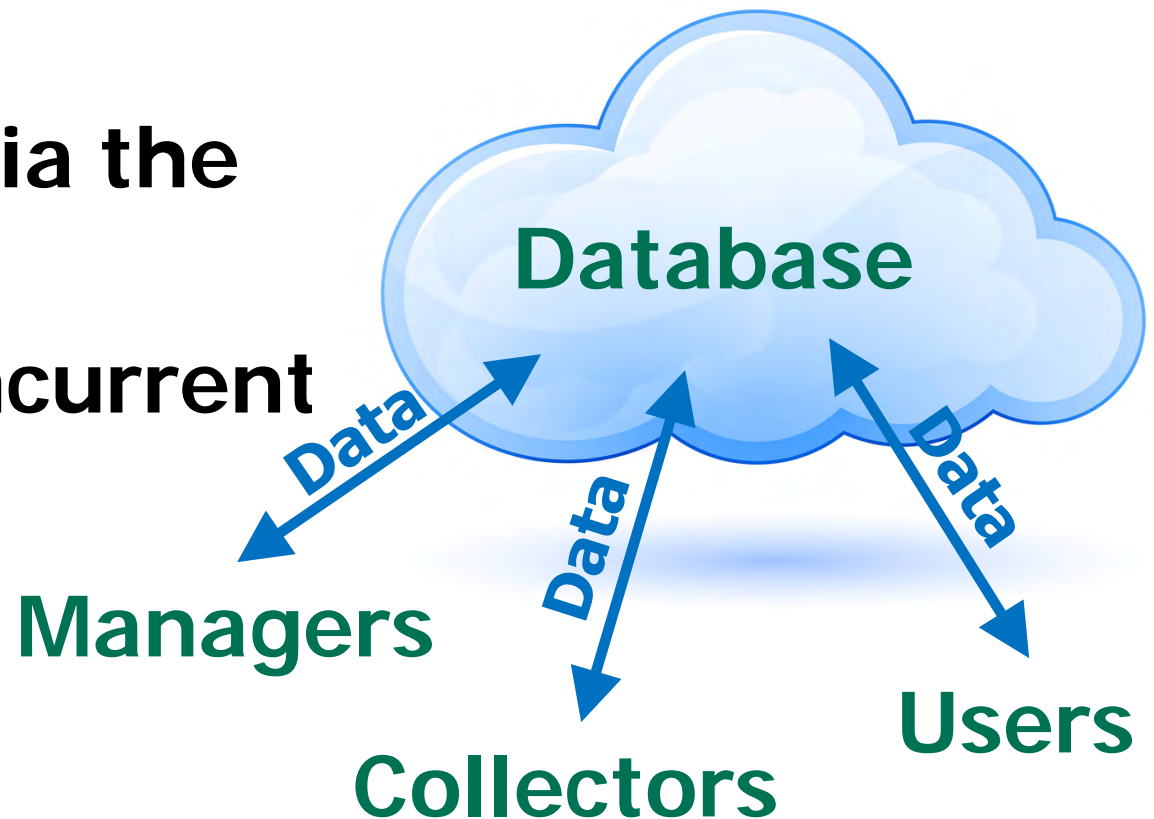
Goals

- **Define Cloud Based Data Management**
- **INDOTs current efforts**
- **Introduction to TCDS by MS2**
- **Integration with ESRI**
- **Future enhancements**



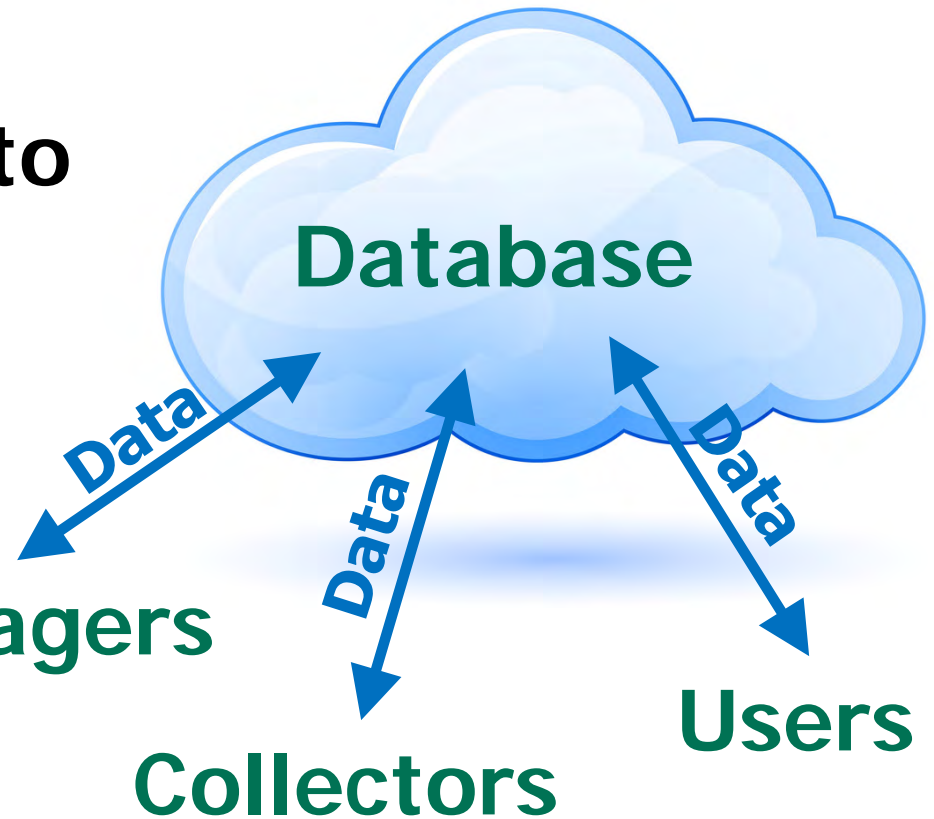
The "Cloud"

- Off-Site
- Accessible via the Internet
- Multiple concurrent users



Cloud Advantages

- **Faster Answers**
- **Faster Feedback to Collectors**
- **Wider access**
- **Self Service**
- **Analysts**
- **Managers**
- **free to improve data quality**



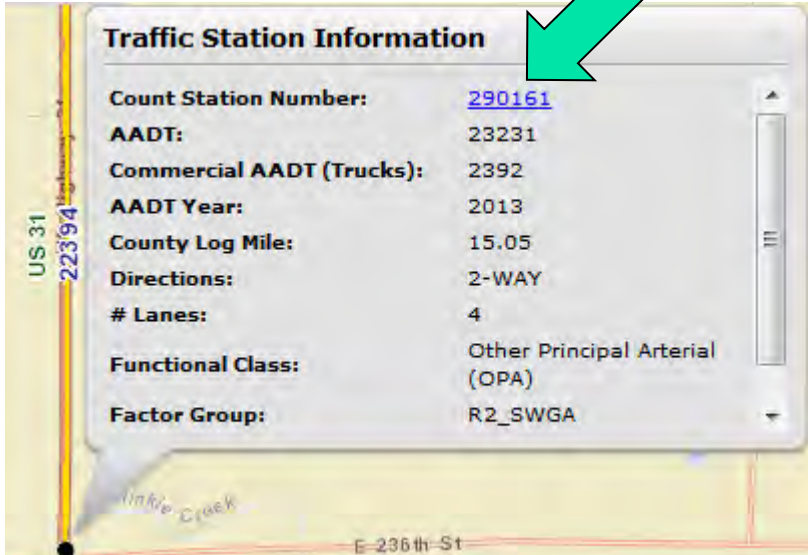
Current INDOT Efforts

- Switched to new online system
- Traffic Count Database System (TCDS)
- Provided by Midwestern Software Solutions (MS2)
- Houses data from short term and permanent sites
- Offers access to detailed raw count data as well as Annual Average Daily Traffic



How to find TCDS

- Type indot.ms2soft.com into address bar (no "www")
- www.in.gov/indot > Resources > Traffic Data > Traffic Count Database System
- Link from Station Information Bubble on current Interactive Map




Traffic Station Information


Count Station Number:	290161
AADT:	23231
Commercial AADT (Trucks):	2392
AADT Year:	2013
County Log Mile:	15.05
Directions:	2-WAY
# Lanes:	4
Functional Class:	Other Principal Arterial (OPA)
Factor Group:	R2_SWGA

US 31
22394
Little Creek
E-236th St

TCDS by MS2

indot.ms2soft.com/tcds/tsearch.asp?loc=Indot&mod=TCDS

 **Indiana Department of Transportation**

 **MS2**
TCDS [Help](#) [Refresh](#) [Support](#)

Traffic Count Database System (TCDS)




[Home](#) [TSNS](#) [TOLS](#) [TTDS](#) [PMS](#) [PMDS](#) [RSMS](#) [NMDS](#) [PMMS](#) [WQTS](#) [RTTV](#)

[Backup](#) [Admin](#) [Login](#) [Logout](#) [+ Locate](#) [+ Locate All](#)

Welcome: greg [edit flowmap](#) [auto-locate ON](#)

Quick Search Advanced Search Map Search Tools

TCDS Quick Search

County	<input type="text" value="Select County"/>	
Community	<input type="text" value="Select Community"/>	
Located On (Road):	<input type="text" value="Select On Road"/>	
Location ID	<input type="text" value="Select Location ID"/>	
Count Year	<input type="text"/>	



TCDS by MS2

Quick Search		Advanced Search		Map Search		Tools	
TCDS Advanced Search							
Select search criteria below, then click the "Search" button.						Search	
<input type="checkbox"/> Search Master Locations Only							
Jurisdiction	All						
District	All						
County	All			New LINK		New SPOT	
Community	All			<input type="checkbox"/> Exact Match			
Location ID				<input checked="" type="radio"/> Exact Match <input type="radio"/> Starts With <input type="radio"/> Ends With <input type="radio"/> Contains			
Type	ALL						
Located On ¹	All			<input type="checkbox"/> Exact Match			
Route Type	ALL						
Route	All			<input type="checkbox"/> Exact Match			
MPO ID	All			Min #		Max #	
Crossroad ¹	ALL			<input type="checkbox"/> Exact Match			
From Road ¹	All			<input type="checkbox"/> Exact Match			
To Road ¹	All			<input type="checkbox"/> Exact Match			
HPMS	All			<input type="checkbox"/> Not Null			
Screenline ID	ALL						



TCDS by MS2

indot.ms2soft.com/tclds/search.asp?loc=Indot&mod=TCDS

Indiana Department of Transportation **MS2**
Traffic Count Database System (TCDS)

Home | TMS | TCLS | TTDS | PMS | PMDS | RSMS | NMDS | PMMS | WOTS | RTTV
Backup | Admin | Login | Logout | Locate | Locate All | Email This

New: Link | Spot | Reports: Locs | Vol | Class | Gap | Speed | WIM | Latest: Vol | AADT
Welcome: greg [edit flowmap](#) [auto-locate DN](#)

Disclaimer: The data is provided pursuant to the Indiana Open Records Act. It represents accurate reproductions of the records on file with the Indiana Department of Transportation; however, [more](#)

Ad-Hoc Rpts | Graphs/Rpts
List View | All DIRs | Report Center | Save Search | Load Search | Build Search

Record 1 of 1 Goto Record go

Location ID	973111	MPO ID	
Type	SPOT	HPMS ID	
On NHS	Yes	On HPMS	No
LRS ID		LRS Loc PL	0.321
SF Group	U1_SWG	Route Type	INTERSTATE
AF Group	U1_A	Route	I-70
GF Group	U1_SWG		
QC Group	JURISHORT		
Funct'l Class	interstate	Milepost	
Located On	I 70 068 RAMP A I 70 EB TO SIX POINTS RD		
Loc On Alias	SW RAMP 68A		

PR MP PT

More Detail Edit

STATION DATA Add

Directions: 1-WAY POS 1

Year	AAAT	DHV-30	K %	D %	PA	BC	Src
2014	901	103	11		769 (85%)	131 (15%)	
2013	787	76	10		662 (84%)	124 (16%)	
2009	859				746 (87%)	112 (13%)	

Travel Demand Model

Model Year	Model AADT	AM PHV	PV	MD PHV	PV	PM PHV	PV	NT PHV	PV

VOLUME COUNT VOLUME TRENDS

Local ID: 973111
Located On: I 70 068 RAMP A I 70 EB TO SIX POINTS RD
Direction: 1-WAY
Count: 901 (2014)
[View Detail](#)



TCDS by MS2

- View data for entire roadway, each direction or individual lanes and historic data.

Directions: **2-WAY** **NEG** **POS** ?
1 2 1 2

AADT ?								Graph
	Year	AADT	DHV-30	K %	D %	PA	BC	Src
<input checked="" type="checkbox"/> <input type="checkbox"/>	2014	30,756	2,893	9	54	20,043 (65%)	10,712 (35%)	
<input checked="" type="checkbox"/> <input type="checkbox"/>	2009	37,137				25,561 (69%)	11,575 (31%)	
<input type="checkbox"/>								

TCDS by MS2

- Volume
- Speed
- Class
- Weight

VOLUME COUNT				View All	Graphs/Rpts
	Date	Int	Total		
	Sun 6/8/2014	60	30,586		
	Sat 6/7/2014	60	31,172		
	Fri 6/6/2014	60	40,928		
	Wed 6/4/2014	60	35,599		
	Tue 6/3/2014	60	33,972		
	Fri 10/2/2009	15	41,879		
	Thu 10/1/2009	15	38,470		
	Create		Flag/Unflag	Edit Multiple	
Export Totals					

SPEED ?						View All	Graphs/Rpts
	Date	Int	Pace	85th	Total		
	Wed 6/4/2014	60	65 - 75	77	35,599		
	Tue 6/3/2014	60	65 - 75	76	33,972		
Create							

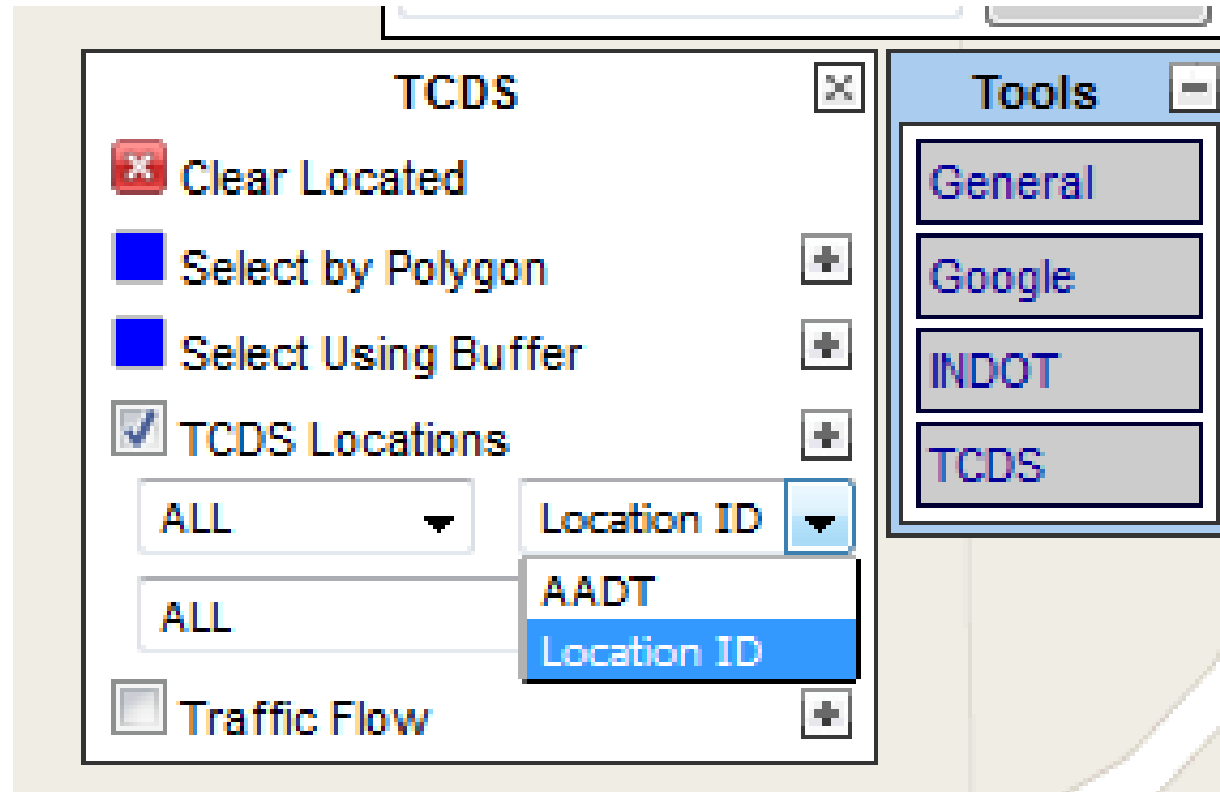
VOLUME TREND ?		Graph
Year	Annual Growth	
2014	-4%	

CLASSIFICATION ?				View All	Graphs/Rpts
	Date	Int	Total		
	Sun 6/8/2014	60	30,586		
	Sat 6/7/2014	60	31,172		
	Fri 6/6/2014	60	40,928		
	Wed 6/4/2014	60	35,599		
	Tue 6/3/2014	60	33,972		
	Fri 10/2/2009	15	41,879		
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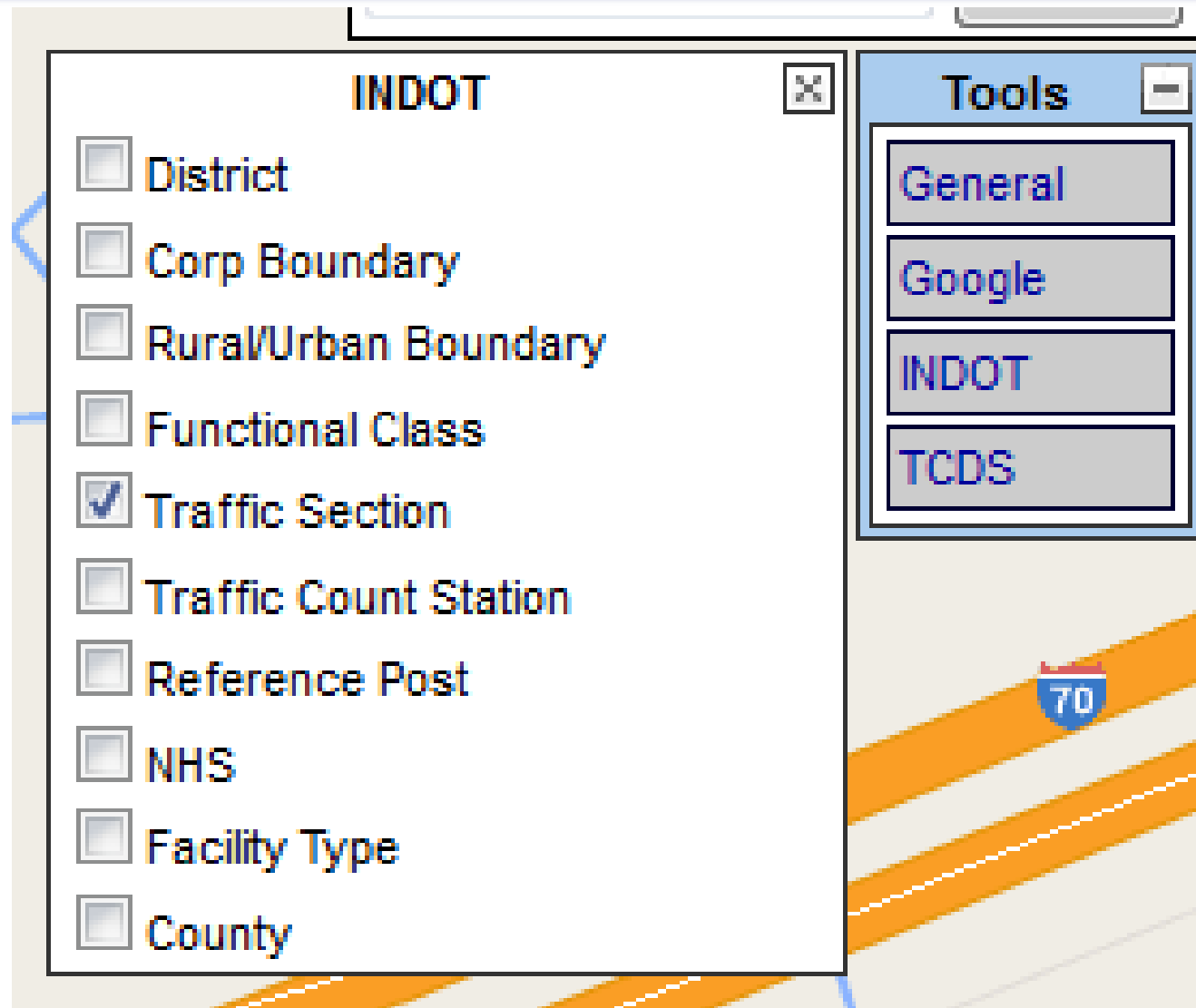
TCDS by MS2

- Display options
- Selection tools



TCDS by MS2

- **INDOT Layers**



Integration with ESRI

- **ESRI Roads and Highways (RAH)** serves as INDOT's authoritative inventory of Assets and Attributes (Roads, Lanes, Bridges, Functional Classification, etc.)
- Working to Link TCDS with RAH so that all attributes in TCDS are populated from authoritative source
- Edits will be made in RAH tools (Roadway Characteristics Editor)



The future with TCDS and RAH

- **New stations will be added via a proposal/acceptance model using RCE (training will be provided)**
- **Stations managed in RAH**
- **Will allow identification of duplicates and clean up of stations**



Future Enhancements

- **Improved Coversheet workflow**
- **Greater integration with Small Urban and Rural Planning (SURP)**
- **Considering unified Station ID convention (currently have at least three)**
- **Considering implementation of “Virtual” Stations to achieve full coverage.**
- **Leverage MioVision in coverage count program to expand classification**



Questions



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