



# **NIRPC RAIL CROSSING TASK FORCE**

January-August 2019

RAIL CROSSING DATA  
ANALYSIS SUMMARY

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# Blocked Crossing Classification

Simplified Root Cause  
Identification System

# Blocked Crossing Classification

The cause of blocked railroad crossing incidents are classified into three categories:

- OP Operating Practices and Procedures
- IE Infrastructure/Engineering Characteristics
- MO Mechanical Failure/Other



# Operating Practices and Procedures **OP**

## Definition

Blocked crossing events caused by the length of train (service design), dispatching decisions (locations where trains can be held waiting to advance) and other operating protocols regarding the operation of trains through a specific area.

Example: NS train is stopped at the signal at CP Hohman in Downtown Hammond waiting for the IHB train traffic to clear. Due to train length, multiple road crossing are blocked.

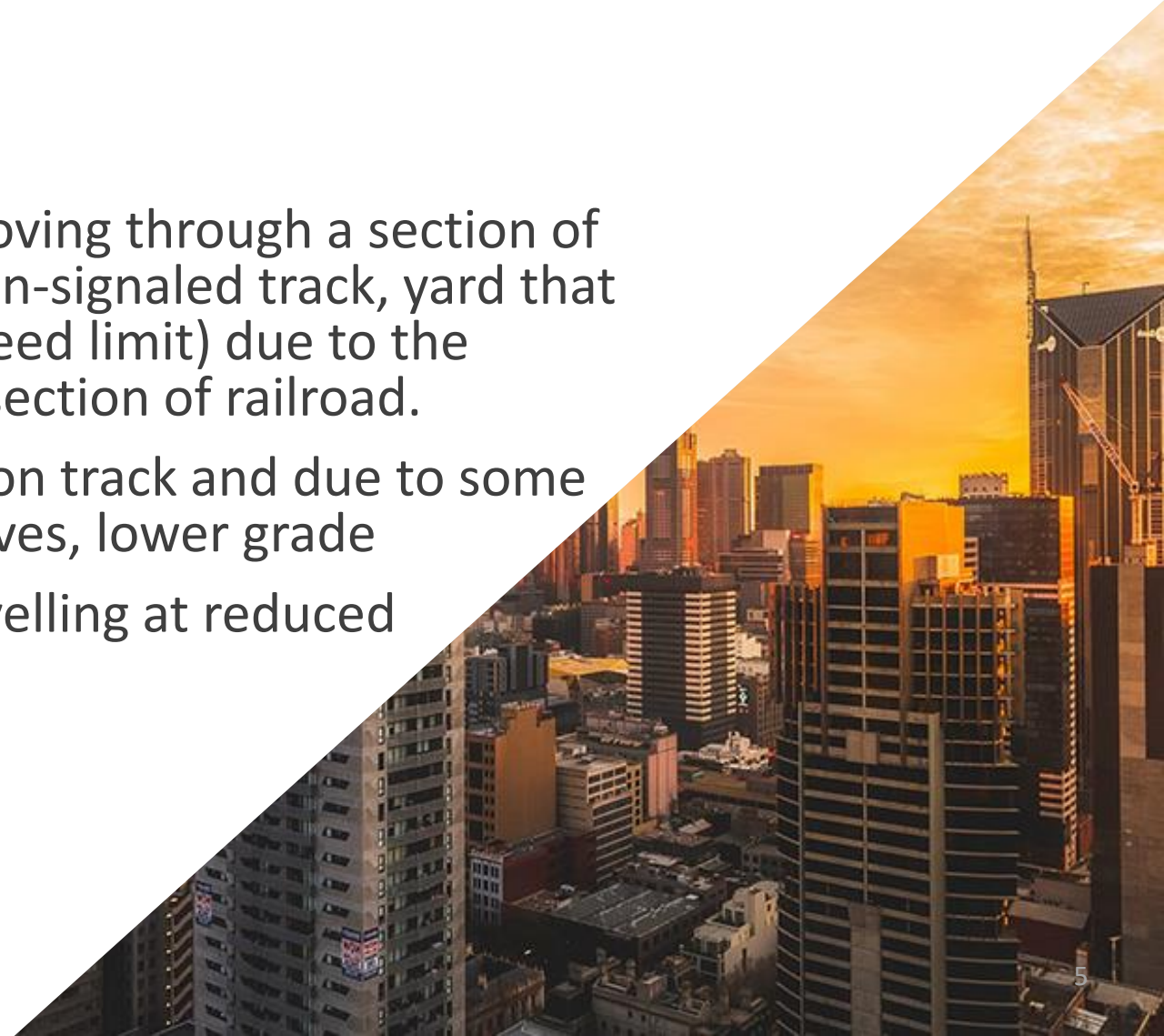


# Infrastructure/Engineering Characteristics **IE**

## Definition

Blocked crossing events caused by a train moving through a section of track such as crossover, connection track, non-signaled track, yard that has a speed restriction (lower authorized speed limit) due to the physical/engineering characteristics of that section of railroad.

Example: A train moving through a connection track and due to some type engineering constraint (tight radius curves, lower grade track, non-signaled territory) the train is travelling at reduced Speed.



# Mechanical Failure/Other MO

## Description

Blocked crossing events caused by a mechanical failure with a train that requires the train crew to stop and inspect the train and make repairs if needed. This classification is also used for events such as the crossing gates operating without a train and gates staying activated after a train clears the crossing.



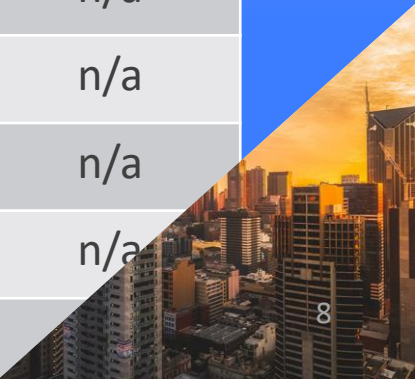


WHAT HAVE WE  
LEARNED FROM THE  
CROSSING DATA ??

# Crossing Data Analysis Jan-August 2019

## Breakdown by City/Town

City or Town	Observations	No of Blocked Xings events <10 minutes	Railroad(s) Responsible for Blocked Xing	Cause OP	Cause IE	Cause MO
East Chicago	63*	49*	IHB (39)CN(9) CSXT(1)	48	5	1
Hammond	136	49	IHB(10) NS(39)	40	12	1
Ogden Dunes	25	0	n/a	n/a	n/a	n/a
Hobart	15	2	NS (2)	2	n/a	n/a
Griffith	13	1	CN(1)	n/a	1	n/a
Gary	8	2	CSXT(2)	n/a	2	n/a
Lowell	1	0	n/a	n/a	n/a	n/a
Dunes Acres	1	0	n/a	n/a	n/a	n/a
Merrillville	1	0	n/a	n/a	n/a	n/a





# Crossing Data Analysis Jan-August 2019

## Breakdown by City/Town Continued

City or Town	Observations	No of Blocked Xings events <10 minutes	Railroad(s) Responsible for Blocked Xing	Cause OP	Cause IE	Cause MO
Highland	1	0	n/a	n/a	n/a	n/a
Munster	1	0	n/a	n/a	n/a	n/a
Portage	1	0	n/a	n/a	n/a	n/a
Schererville	1	0	n/a	n/a	n/a	n/a
Totals	304	105	CN(3)*	92	24	2
			CSXT(3)			
			CFE(1)			
			IHB(55)*			
			NS(42)			



# Crossing Data Analysis Cont'd

January-August 2019

Total of 304 observations between January 1, 2019 and August 31, 2019

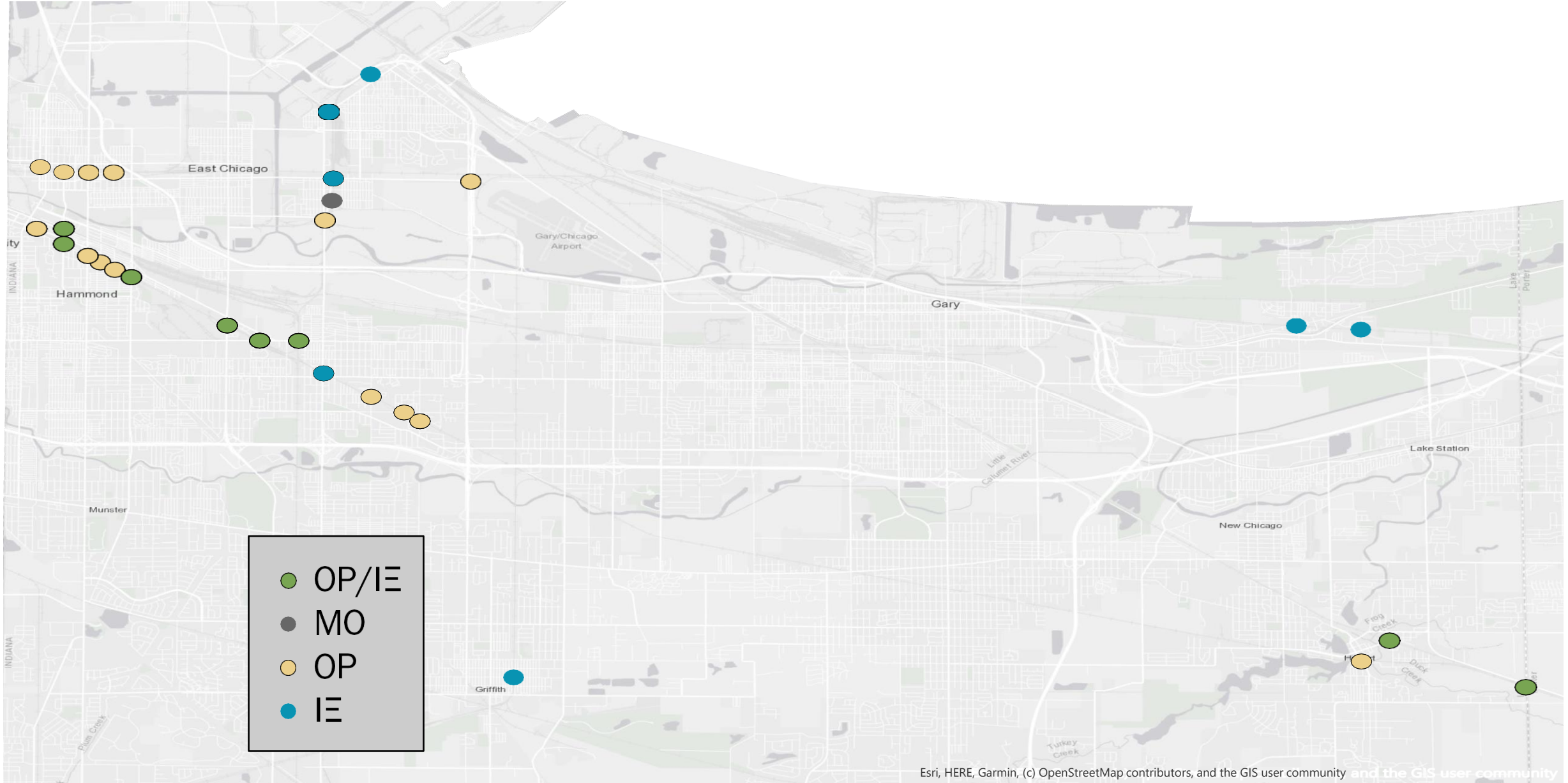
The 304 observations captured 3097 minutes of crossing activations

105 of the 304 observations or 34.5 percent were classified as a blocked crossing incidents

The average crossing activation time between January 1 and August 31, 2019 was 10.18 minutes.

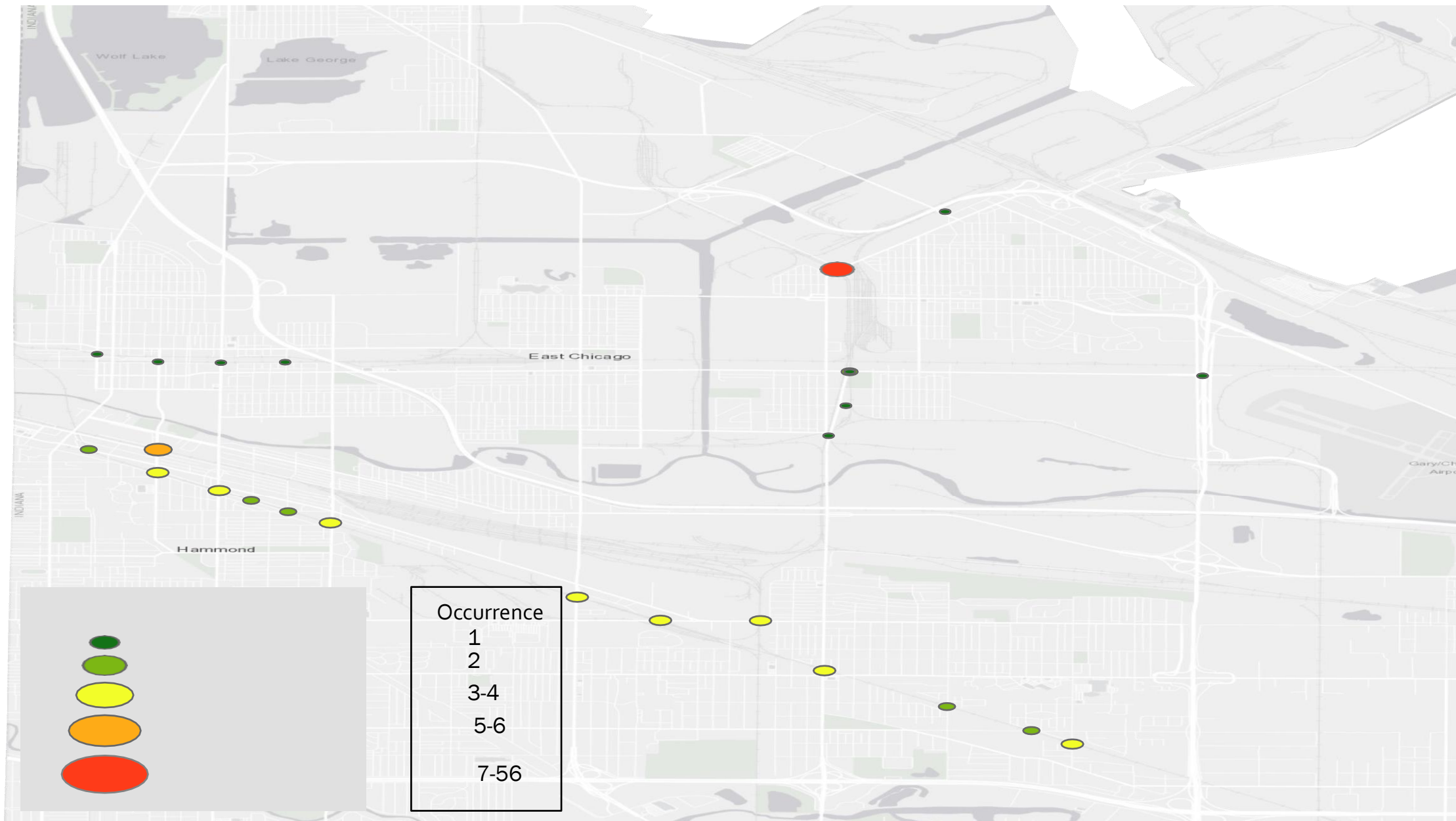


# Cause for blocked crossings

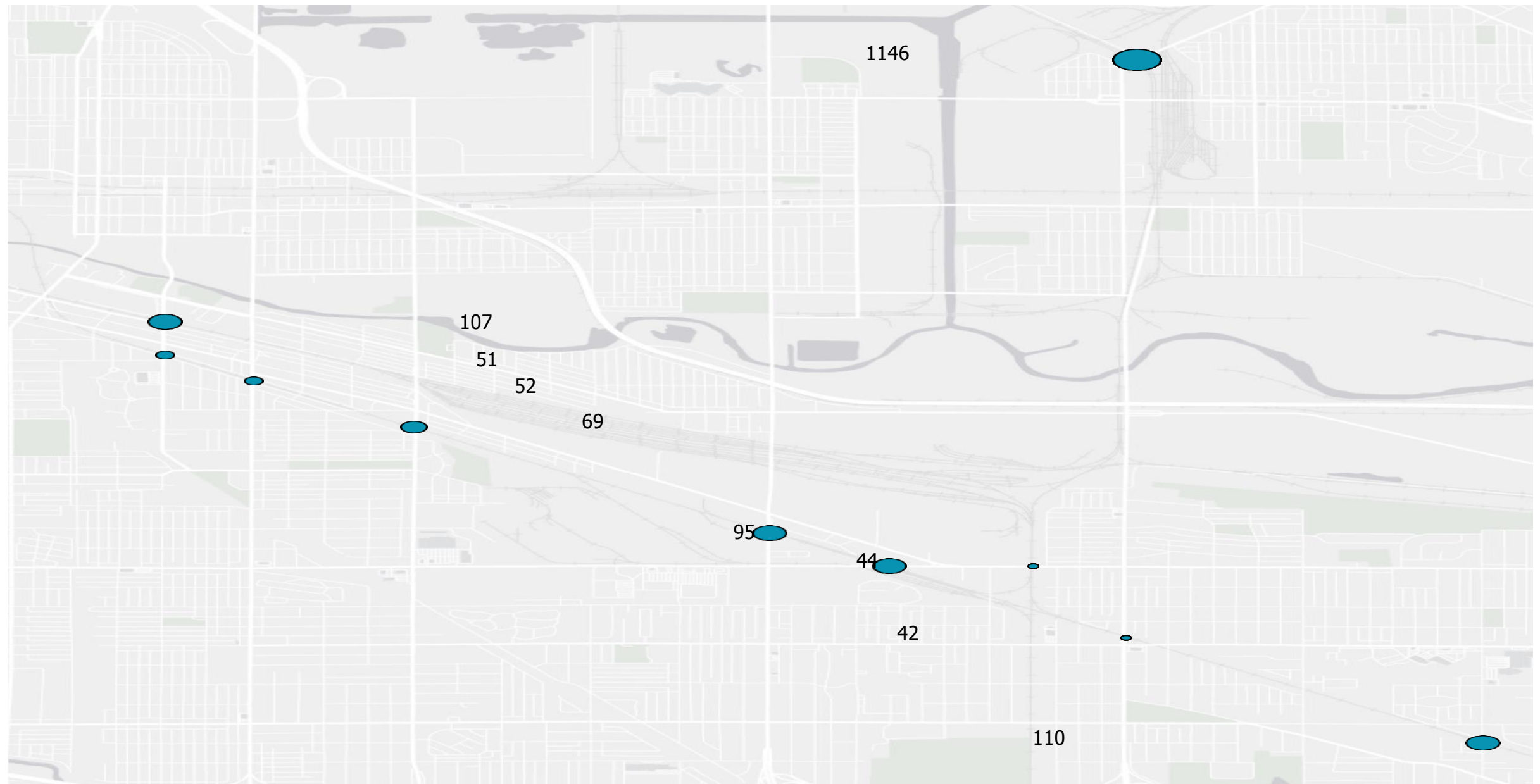


Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

# NWI Rail Crossing Blocked => 10 Min



# Sum of blockage time greater than or equal to 10 minutes



# Crossing Data Analysis Trends

January-July 2019

MONTH(S)	AVG. XING ACTIVATION (IN MINUTES)	% OF XINGS BLOCKED
JANUARY/FEBRUARY	9.85	33
MARCH	15.88	50
APRIL	10.67	38
MAY	7.97	29.3
JUNE	19.7	35.29
JULY	5.95	9.52
AUGUST	6.83	40.4



# Preliminary Findings

Norfolk Southern

Fort Wayne Line

City of Hammond

# City of Hammond NS Chicago District

## Overview

- ❖ The Norfolk Southern Railroad owns and operates a railroad territory through the city named the Chicago District.
- ❖ It stretches approximately 149 miles between 80<sup>th</sup> Street on Chicago's South Side to New Haven just East of Fort Wayne, IN.
- ❖ In the City of Hammond, there are 6.8 miles of double track on this territory
- ❖ There are 19 at grade rail crossings in the City of Hammond on the NS Chicago District. It intersects every major north/south thoroughfare in the City, including Calumet Avenue (US 41), Columbia Avenue, Indianapolis Boulevard, Kennedy Avenue, Parrish Avenue and Grand Avenue. Some other significant thoroughfares includes Sibley Street, 165<sup>th</sup> Street and 169<sup>th</sup> Street.





# City of Hammond NS Chicago District

Are the road crossing on the NS Chicago District in Hammond seeing an increase in crossing activations over 10 minutes?

- ❖ Since we've started collecting the data on the rail crossing activations, there has been repeated activations over 10 minutes on the 19 NS Chicago District railroad crossings.
- ❖ The repeated activations have occurred at Sibley Street, Oakley Avenue, Sohl Avenue, Calumet Avenue, Maywood Avenue, Carroll Street, Columbia Street, Indianapolis Blvd and 165<sup>th</sup> Street.



# City of Hammond NS Chicago District

Are the road crossing on the NS Chicago District in Hammond seeing an increase in crossing activations over 10 minutes?

- ❖ These repeated activations were caused by the NS's daily scheduled intermodal trains 233/234 from Chicago to Norfolk, Virginia and Norfolk to Chicago and its 66 series loaded Crude Oil Trains that originate in Chicago destined for the East Coast refineries in Delaware and New Jersey.
- ❖ The westbound train 233 from Norfolk tends to cause the most activations over 10 minutes. This train typically arrives in the City Limits between 23:00 hours and 01:00 hours

# City of Hammond NS Chicago District

What are causing these trains to occupy the crossings longer?

- The Norfolk Southern's implementation of its "Precision Scheduled Railroad" model throughout its network. Their "PSR" has resulted in longer trains being operated through Northwest Indiana. In particular, the intermodal trains are being operated at close to 13,000 feet. I observed an NS 233 train that was stopped at the State Street crossing in downtown Hammond waiting for the signal at CP Hohman(IHB). The rear of the train was located about 150 west of Indianapolis Boulevard. According to my calculations the train measured in at approximately 12,133 feet. As this train waited for authority to proceed, it had 7 crossings blocked.



# City of Hammond NS Chicago District

What are causing these trains to occupy the crossings longer?

- There is nowhere in Northwest Indiana where these trains can fit without blocking crossings. On this NS railroad territory, the only way two trains of this length can operate is to have them meet each other on the 6.8 miles of double track in the City of Hammond.
- Another event that has been observed on this territory is what is called a “rolling meet”. A “rolling meet” occurs when two trains are moving in opposite directions on a section of railroad where there are two tracks with lots of rail crossings but enough track for both trains to fit without blocking the other one. This Operating Practice is typically performed when two high priority trains are scheduled to meet at location where neither train will fit into the siding or side track to allow the other to pass. In these instances, the nearest meeting location is in Hobart, IN. But the two sidings at that locations are 6,945 feet and 6,548 feet in length. If either train is delayed, the other one will wait until it reaches this section of track in Hammond\*. Unfortunately, this waiting for the other train or cross traffic to clear at the IHB Crossing, CP Homan, or CSXT’s CP State Line results in the train blocking multiple road crossings.

In Hammond , the longest distance between railroad crossings on the Chicago District is approximately 6,100 feet between Columbia Avenue and Indianapolis Boulevard.

# City of Hammond NS Chicago District

What are causing these trains to occupy the crossings longer?

A change in routing of certain traffic in particular “Crude by Rail” or CBR has also led to increased blocked crossings at several locations including Columbia Avenue, Indianapolis Boulevard, and 165<sup>th</sup> Street at the NS and Indiana Harbor Belt Rail Crossing.

This traffic is being diverted off the Chicago District at CP Indy (Indianapolis Blvd) onto the Indiana Harbor Belt Railroad through a low speed, non-signalized track that runs from CP Indy to just south of 165<sup>th</sup> St. on the IHB. This traffic ultimately takes one of two routes to continue its eastward trip. It either goes north onto the NS Chicago Line via East Chicago or goes onto the CSX’s Porter Branch and goes onto the Chicago, Fort Wayne and Eastern Railroad at Tolleston Junction (near Grant Street) and connects back to the Fort Wayne Line near Valparaiso.

The low-speed connection track between CP Indy and CP Osborn requires the train to start slowing down at Columbia Avenue to be in compliance with the signal indication at CP Indy.



# City of Hammond NS Chicago District

## Preliminary Findings

Due to the NS operating longer trains and changes in traffic routing, the 19 Road Crossings along the Norfolk Southern's Chicago District in Hammond is seeing an increase in rail crossing activations over 10 minutes. As more data is collected and analyzed on these crossings the Rail Crossing Task Force will be able to devise a plan to address these issues with the railroads, Surface Transportation Board and Federal legislatures.



# Preliminary Findings

Indiana Harbor  
Drive/Michigan Avenue

Indiana Harbor Belt

Canadian National

City of East Chicago

# Crossing Data Analysis Indiana Harbor Drive/Michigan Avenue

March 2019

Total of 534 observations between March 15, 2019 and March 29, 2019\*

The 534 observations captured 7,185 minutes of crossing activations

235 of the 534 observations or 44 percent were classified as a blocked crossing event

Indiana Harbor Drive/Michigan Ave averaged 15.66 blocked crossing events per day

Between the IHB Rail Crossing and CN Rail Crossing at Indiana Harbor Drive(Michigan Avenue) there was an average of 35.6 trains per day

\*The Indiana Harbor Drive/Michigan Avenue data was collected from Vidimos Inc. Security Cameras and Jill Smith of Kemira.



# Crossing Data Analysis Indiana Harbor Drive/Michigan Avenue

March 2019

The two crossings were activated an average of 477 minutes or just below 8 hours per day.

The longest crossing activation for a single day occurred on March 19, 2019. Between the IHB and CN, the crossing was blocked for 1,117 minutes/18 hours and 37 minutes.

The longest single activation occurred on March 28, 2019, when the IHB crossing was blocked for 7 hours and 36 minutes. From 05:16 hours until 12:52 this rail crossing was continuously blocked by a train at the Indiana Harbor Belt Rail Crossing.

# Crossing Data Analysis Indiana Harbor Drive/Michigan Avenue

Summary of March and April Totals

Information provided by Scott Vidimos of Vidimos Inc. located at 3858 Indiana Harbor Drive East Chicago, IN 46312

The averages for March train totals, crossing activations and blocked crossings events stayed unchanged for the month of April. The sample size(over 1,700 observations) shows with a high degree of certainty that the data depicts an accurate picture of daily events at the crossing.

\*The Indiana Harbor Drive/Michigan Avenue data was collected from Vidimos Inc. Security Cameras and Jill Smith of Kemira.

# Crossing Data Analysis Indiana Harbor Drive/Michigan Avenue

Preliminary Findings at Indiana Harbor Drive  
Railroad Crossings

(Indiana Harbor Belt/Canadian National)

Vidimos Incorporated, Kemira and Randall Metals Corporation are 3 East Chicago businesses located between the Indiana Harbor Belt Rail Crossing and the Canadian National Rail Crossing on Indiana Harbor Drive/Michigan Avenue.

All three businesses are directly impacted by the 35 daily trains and 15 blocked crossing events per day.

The crossings are occupied on average for 477 minutes per day or just under 8 hours per day.

\*The Indiana Harbor Drive/Michigan Avenue data was collected from Vidimos Inc. Security Cameras and Jill Smith of Kemira.

# Crossing Data Analysis Indiana Harbor Drive/Michigan Avenue

Preliminary Findings at Indiana Harbor Drive  
Railroad Crossings

(Indiana Harbor Belt/Canadian National)

Due to the Cline Avenue Bridge Reconstruction project, the only other road that allows access to these three facilities, Dock Street is currently closed. Throughout the day, there are trains occupying both crossings, which in turns isolates Vidimos Inc, Kemira and Randall Metals Corp, from the rest of East Chicago and the Emergency Services of the city such as Police, Fire and EMS.

If some type of Emergency takes place at any of these three facilities, how can they be assured that the services will be able gain access to the area?

\*The Indiana Harbor Drive/Michigan Avenue data was collected from Vidimos Inc. Security Cameras and Jill Smith of Kemira.

# Crossing Data Analysis Indiana Harbor Drive/Michigan Avenue

Preliminary Findings at Indiana Harbor Drive  
Railroad Crossings

(Indiana Harbor Belt/Canadian National)

If Dock Street is going to remain closed for an extended period during the Cline Avenue Project, then some type of emergency plan should be developed by the railroad, City of East Chicago and emergency services for the businesses in that area.

If we can get information from INDOT or the City of East Chicago on how long Dock Street will remain closed, then an action plan can be created to mitigate the problem for emergency access to these businesses.



# FEDERAL RAILROAD ADMINISTRATION

PROPOSED AGENCY INFORMATION  
COLLECTION ACTIVITIES

DOCKET NO. FRA-2019-0004-N-6

# KEY TAKEAWAYS

DO NOT EXPECT THE DATA COLLECTED BY THE FRA TO BE SHARED OR THOROUGHLY ANALYZED

- ACCORDING TO THE FEDERAL REGISTER, VOLUME 84, NO. 115 : ....*the user would be notified that the information submitted will not be forwarded to a railroad, State, or local agency, and is only being used for data collection purposes to determine the locations, times, and impacts blocked crossings.*
- *Don't expect the information collected by the FRA to be shared and analyzed for the benefit of the communities that the railroads operate in.*
- *Pandoras Box was opened with the Indiana Supreme Court decision. Other states such as Oklahoma have had their ordinances challenged by the BNSF and a similar outcome is expected.*

# KEY TAKEAWAYS

WHY IS THE DATA SO IMPORTANT?

OTHER BLOCKED CROSSING COMPLAINTS FILED  
WITH SURFACE TRANSPORTATION BOARD (STB)

*WE HAVE DISCUSSED THE LACK OF ACTION ON THE PART OF THE SURFACE  
TRANSPORTATION BOARD WHEN IT COMES TO BLOCKED CROSSINGS*

*NOTED EXAMPLES: CITY OF CHICAGO AND CSX ELSDON SUBDIVISION*

*BARRINGTON, ILLINOIS AND CANADIAN NATIONAL (FORMER E.J.&E  
Property)*

*STB acknowledge that there were problems, but no action has been taken  
to mitigate the blocked crossings.*



# KEY TAKEAWAYS CONT'D

WHY IS THE DATA SO IMPORTANT?

OTHER BLOCKED CROSSING COMPLAINTS FILED WITH SURFACE TRANSPORTATION BOARD (STB)

*IN THOSE COMPLAINTS, THE COMMUNITIES EXPECTED THE STB TO DO ALL OF WORK OF DETERMINING THE CAUSES AND ORDERING THE RAILROADS TO TAKE CORRECT ACTIONS. THE RAILROADS PROVIDED THEIR OWN TAKE ON WHAT WAS TAKING PLACE AND THERE WAS NOT ANY DATA TO DISPUTE THE OPERATIONS TAKING PLACE IN THE COMMUNITIES.*

*THE NIRPC RAIL CROSSING TASK FORCE HAS BEEN DOING ITS DUE DILIGENCE AND WE HAVE THE DATA TO SHOW THE IMPACTS IT IS HAVING ON OUR COMMUNITIES AND COST-EFFECTIVE WAYS TO MITIGATE THESE ISSUES.*

# **SPECIAL THANKS TO**

JILL SMITH OF KEMIRA

SCOTT VIDIMOS OF VIDIMOS  
INC.

PETER KIMBALL NIRPC

HAMMOND MAYOR THOMAS  
MCDERMOTT JR.



# Thank You.

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