



# 47<sup>TH</sup> STREET AT EAST AVENUE

VILLAGE OF LAGRANGE  
JUNE 23, 2014



# AGENDA

- Project History
- Project Goals
- Alternatives Evaluated
- Evaluation Matrix
- Moving Forward



# STUDY HISTORY



- Joliet Road History
- CREATE's involvement
- CSS process



# PROJECT GOALS

- Improve Safety
- Increase Capacity of the Intersection
- Decrease Delay
- Multi-Modal Accommodations



# SAFETY CONCERNS

## IDOT Crash Data (2007-2012):

- Listed as a 5% location
- 2 Fatalities (1 pedestrian, 1 head-on collision)

## Illinois Commerce Commission (ICC) Data (1975-2006):

- Total of 12 crashes with IHB railroad crossings (most recent crash in 2006)
- 2 fatalities (1 in 1975 and 1 in 1977)



# EXISTING TRAFFIC DELAY

## Level of Service (no train event)

MOVEMENT	AM PEAK	PM PEAK
EB	E (46.0)	C (24.6)
WB	E (46.6)	D (30.0)
NB	F (56.7)	C (22.7)
SB	D (26.1)	C (23.5)
<b>OVERALL</b>	<b>E (44.6)</b>	<b>D (25.9)</b>

## Peak Hour Field Observation During Train Event

- Immediately upon start of flashing RR lights, vehicles:
  - fail to stop at intersection,
  - make u-turns to avoid intersection,
  - divert their course to Bluff Ave,
  - or cut-through neighborhood streets/businesses.
- Amount of time for queues to diminish back to 'normal' conditions ranged between 5-10 min.



# MULTI-MODAL ACCOMMODATIONS



**Pedestrian / Bicyclist** ★ Sedgwick Park  
**Generators near** ★ Park District Facility  
**intersection:** ★ Residential Properties



# ALTERNATIVES EVALUATED

- No-Build Alternative
- 4 Grade Separation Alternatives
  - Alt 1: Roadway Over/Under
  - Alt 2: Railroad Over/Under
- At-Grade Alternative



# NO BUILD ALTERNATIVE

## COMMUNITY IMPACTS

**0 Residential Displacements**

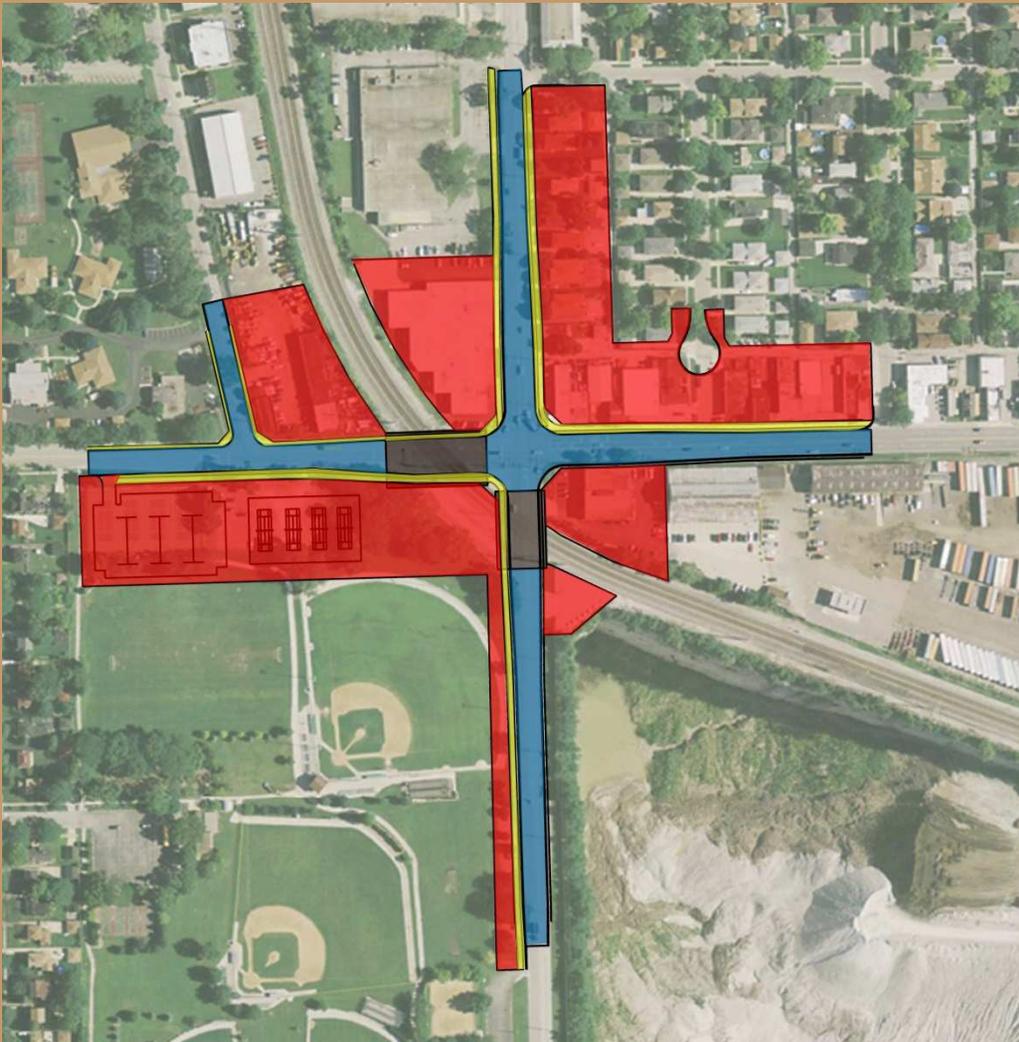
**0 Business Displacements**

**No impact to Park Space**



Google Earth

# GRADE SEPARATION ALTERNATIVES



## LEGEND

-  Impacts
-  Roadway improvements
-  New sidewalk
-  Bridge structure

## COMMUNITY IMPACTS

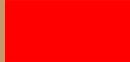
- 5+ Residential Displacements
- 11+ Business Displacements
- High Impact to Park Space



# AT-GRADE ALTERNATIVE



## LEGEND

-  Impacts
-  Roadway improvements
-  New sidewalk
-  Bridge structure

## COMMUNITY IMPACTS

- 0 Residential Displacements
- 0 Business Displacements
- No Impact to Park Space



# ADDITIONAL CONCERNS: TRAIN DELAY

According to CREATE, train traffic will double over the next 20 years. By 2039, there will be an average of 97 trains per day at this intersection.

V3 ran a simulation of current train events that modeled existing and at-grade alternatives.

## Delay per Vehicle

ALTERNATIVE	47 <sup>th</sup> /East	NETWORK
<b>No Build (4-way stop)</b>	201.2 sec (3.4 min)	463.4 sec (7.7 min)
<b>At-Grade (Traffic Signals)</b>	43.2 sec	56.8 sec
<b>Delay Reduction</b>	79%	88%

\*Analysis: Two train events during a 1 hour period.



## ADDITIONAL CONCERNS: PUBLIC FEEDBACK

- The majority oppose the grade separation alternative.
- The Village of LaGrange approved a resolution to oppose a grade separation.



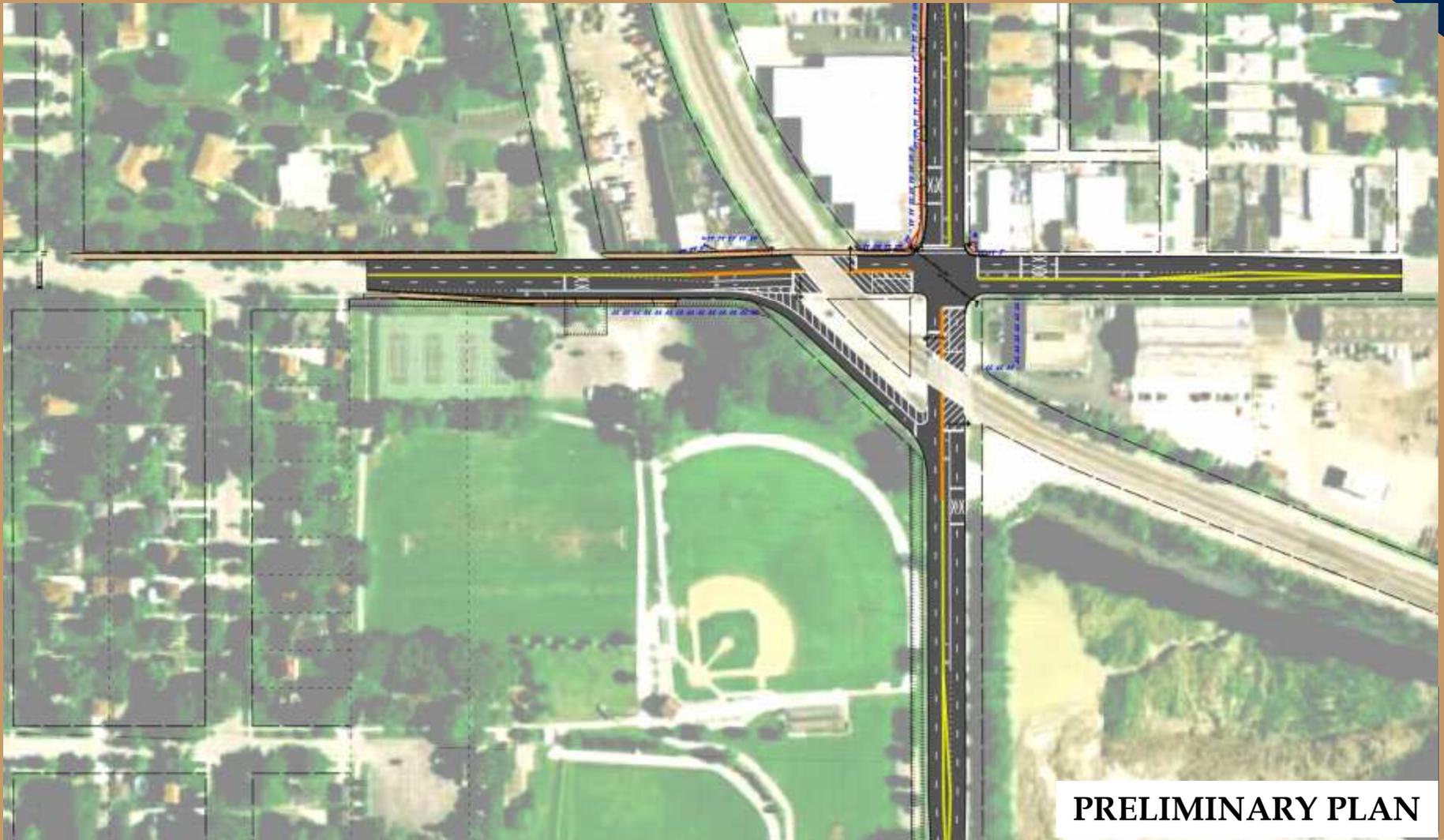
# EVALUATION MATRIX

Category	Evaluation Factor	Standard	Measurement	No Build	Grade Separation	At-Grade Improvement
SAFETY	Pedestrian and Bicyclists Facilities	Alternative provides safe mobility for pedestrian and bicyclist through project site	Mobility Provided	Red	Green	Yellow
	Vehicular safety	Alternative provides safe access for vehicles through project site	Crash Data, Roadway Standards	Red	Green	Yellow
DELAY	Traffic Congestion	Alternative reduces traffic congestion	Traffic Delay	Red	Green	Yellow
COMMUNITY CONCERNS	Community Support	Alternative has greater support from residents, businesses, within project site and local community leaders	Community Feedback	Yellow	Red	Green
	Aesthetics	Alternative has visual impacts on properties adjacent to 47th/East	Visibility of Roadway/Railway	Green	Red	Green
	Drainage Issues	Alternative has greater reliability to prevent flooding of roadway	Reliability	Red	Yellow	Green
	Environmental Impacts	Alternative has less impact on the natural environment	Culmulative Environmental Impacts	Green	Red	Green
	Residential Property Displacements	Alternative displaces a lower number of residential properties	# of Residential Properties Displaced	Green	Red	Green
	Business Property Displacements	Alternative displaces a lower number of business properties	# of Business Properties Displaced	Green	Red	Green
CONSTRUCTION ISSUES	Utility Relocation	Alternative causes less disruption to utility operations during construction	Days disruption to Utility Operations	Green	Red	Yellow
	Traffic Disruption during Construction	Alternative minimized impacts to traffic operations during construction	Estimated time for lane closures	Green	Red	Yellow
	Disruption to Railroad Operations during Construction	Alternative causes less disruption to railroad operations during construction	Days of operational impacts	Green	Red	Green
	Construction Duration	Alternative can be constructed in shorter time period	Time	Green	Red	Yellow
COST	Total Project Cost	Alternative has lower total project cost	Cost	Green	Red	Yellow
	Operation and Maintenance Costs	Alternative has lower operation and maintenance cost	Annualized Cost	Green	Red	Yellow

Legend	
Red	Large Impact
Yellow	Moderate Impact
Green	Small Impact



# RECOMMENDED PREFERRED ALTERNATIVE



PRELIMINARY PLAN

# BLUFF AVENUE



PRELIMINARY PLAN

# BLUFF AVENUE



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NUE

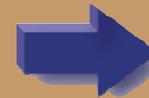
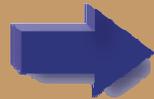
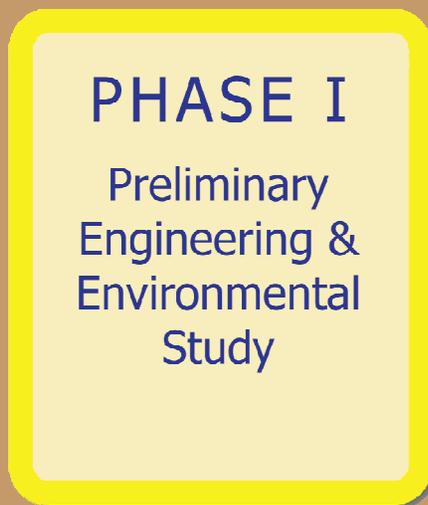
# CAG #3 FOLLOW UP COMMENTS

- Two-way traffic on Bluff Avenue (Spur Road)
- 4 Quadrant Gates instead of delineators
- Sidewalk on north side of 47<sup>th</sup> Street



# PHASES OF AN IDOT PROJECT

WE ARE HERE



18-24 months

12 months



# RIGHT OF WAY



## ➔ Former Nicor (Vacant) Property:

ROW & Temporary Easement:

- New 7' sidewalk connection to Park District Property

## ➔ NW Commercial Property:

ROW & Temporary Easement:

- New 7' sidewalk connection to Park District Property
- Traffic Signals

## ➔ NE Commercial Property:

ROW & Temporary Easement:

- Sidewalk improvements
- Traffic Signals

## ➔ SE Commercial Property:

Temporary Easement for constructability purposes

## ➔ Sedgwick Park:

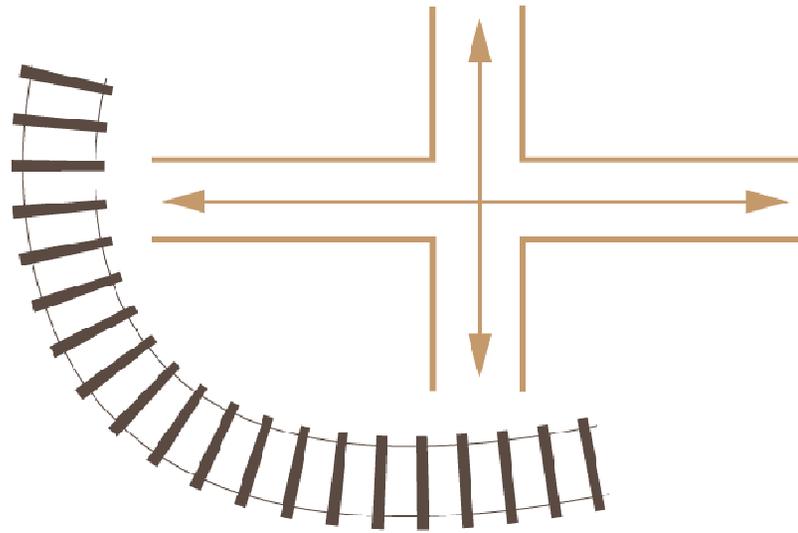
Temporary Easement for driveway improvements

## ➔ Bluff Avenue Commercial Property:

ROW & Temporary Easement for new 7' sidewalk

THANK YOU

47TH STREET



AT EAST AVENUE

TRAFFIC SIMULATION  
ON NEXT SLIDE

# INTERSECTION SIMULATIONS

UNSIGNALIZED INTERSECTION

SIGNALIZED INTERSECTION

