Eisenhower expressway

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Village of Maywood I-290 Advisory Working Group Meeting #2

February 25, 2016

Agenda

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- Introductions
- AWG Process & Schedule
- Existing conditions
- Alternatives scoping
- Alternatives evaluation measures
- Noise wall balloting status
- Next steps
- Audience Q&A

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Advisory Working Group (AWG) Outline

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AWG Purpose

- Develop consensus plan for Maywood area

Membership

- As determined by the Village of Maywood

Meeting Format

- AWG Presentation/Discussion
- Audience Q&A

Consensus Plan Considerations

- Community access, community benefits
- Safety, mobility, impacts, costs
- State & Federal standards
- Broader stakeholder context

Anticipated Schedule

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- **AWG meetings (monthly, through May)**
- **Town Hall Meeting (April)**
- **IDOT Public Hearing – Summer 2016**
- **Overall I-290 Study Completion – Late 2016**
- *Phase II (final design and land acquisition) and Phase III (construction) are not currently funded*

Anticipated Schedule

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Proposed Advisory Working Group Meeting Dates:

- AWG #3 – March 24th
- AWG #4 – April 21st
- AWG #5 – May 26th

Evening Meetings
6:00pm to 8:00pm
Maywood Community Center

Additional AWG meetings to be scheduled as needed

- ***Town Hall Meeting – April***

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Existing Conditions

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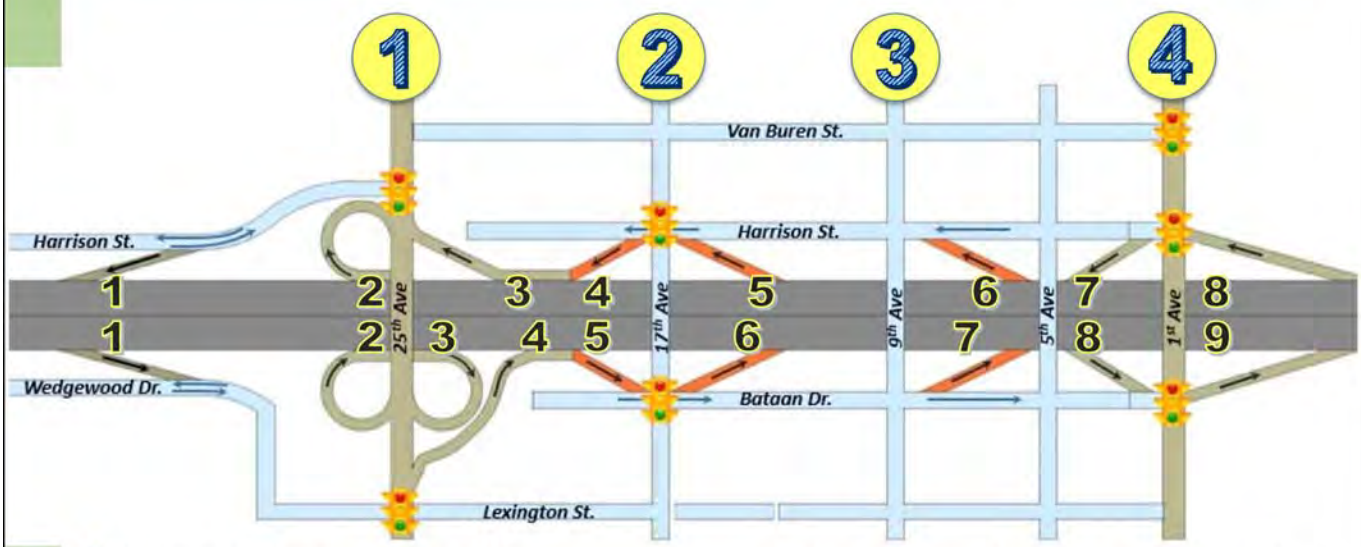
Existing Conditions – 25th Ave. to 1st Ave.



- 4 interchanges in 1.5 miles
  - Current policy recommends 1 mile spacing
- 8 to 9 ramps each direction
- Inadequate ramp lengths
- Sharp/abrupt ramp entrance/exit angles
- Inadequate weaving space
- Elevated crash rates

Existing Conditions – Crash Rates

- Crash evaluation:
  - I-290 crash reports from 2011, 2012, 2013
  - Between 1st Ave & 25th Ave.
  - 4 On-off ramp pairs with similar configurations to the east
  - Quantitative comparison expressed as a ***rate***
    - Crashes per million vehicle miles (MVM)
    - Factors in length & annual traffic volumes
    - Allows for direct comparison

$$MVM = \frac{\text{\# of Crashes}}{\left(\text{Length of roadway}\right) \times \left(\text{Annual Traffic Volume}\right)}$$

Existing Conditions – Crash Rates

Ramp Pairs On-ramp followed by off-ramp	Average Ramp Spacing (ft.)	Auxiliary Lane*	3 Year Crash Total	Crash Rate Crashes Per MVM
25th Ave. to 17th Ave.	918	Yes	209	**2.16**
9th Ave. to 1st Ave.	748	No	342	**3.20**
Homan Ave. to Sacramento Blvd.	825	Yes	197	**1.70**
Oakley Blvd. to Damen Ave.	563	Yes	135	**1.64**
Damen Ave. to Paulina St.	458	Yes	144	**1.89**
Ashland Ave. to Racine Ave.	*598*	*Yes*	*355*	***3.49***

** An auxiliary lane is an extra lane that connects between successive on-ramps and off-ramps*

- Ashland Ave. to Racine Ave. crash rate:
  - Within Jane Byrne interchange congestion spillback zone
  - Jane Byrne interchange reconstruction addressing congestion
  - *Not a suitable crash comparison section*

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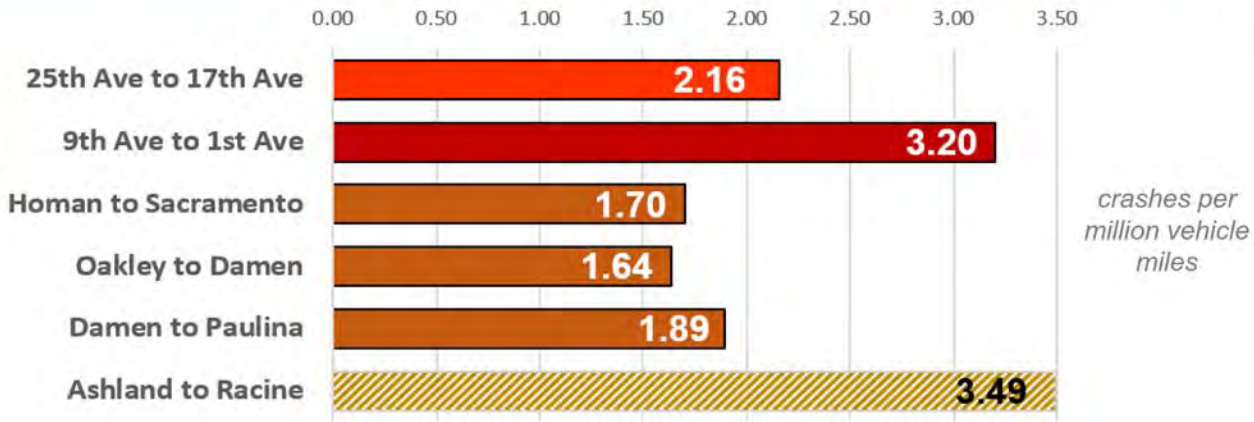
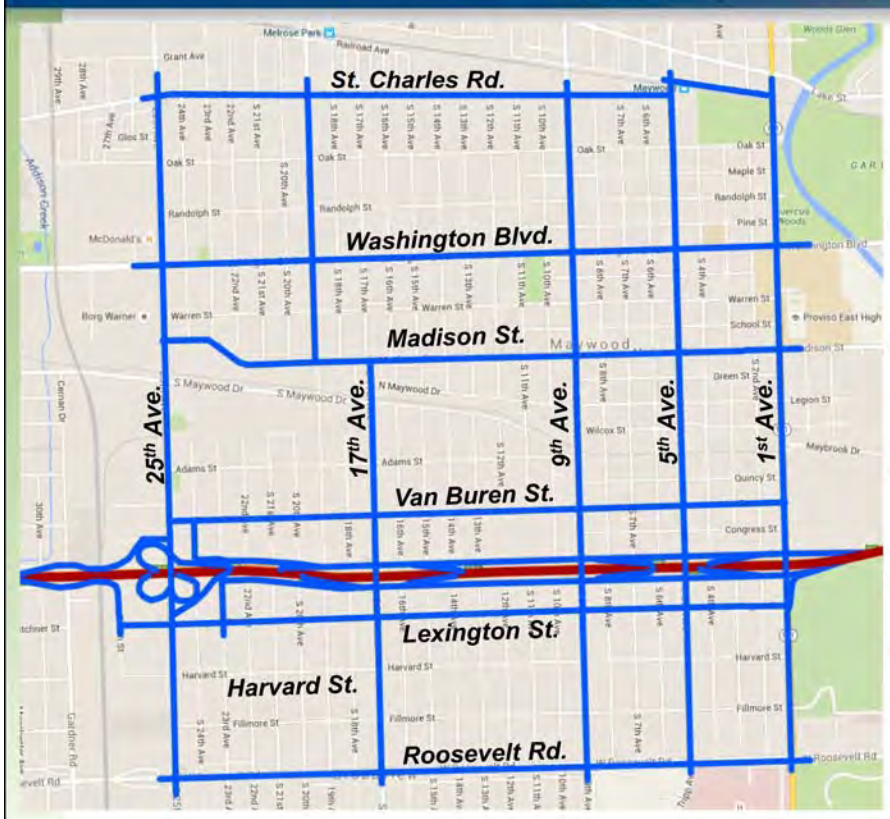
Existing Conditions – Crash Rates



- Findings
  - 9th to 1st Ave. crash rate is **69%** to **95%** higher than similar sections to the east
  - 9th to 1st Ave. crash rate is **38%** higher than 25th to 1st Ave. section as a whole
  - Approximately **70%** rear end crashes: congested, stop-and-go traffic

Micro-Simulation Traffic Analysis



Street included in VISSIM traffic model

VISSIM traffic modeling

- Visual & statistical output
- Detailed roadway network analysis
- Validated with existing traffic counts
- 2040 NoBuild used as baseline
- PM Peak period
- Evaluate & compare alternatives to baseline model

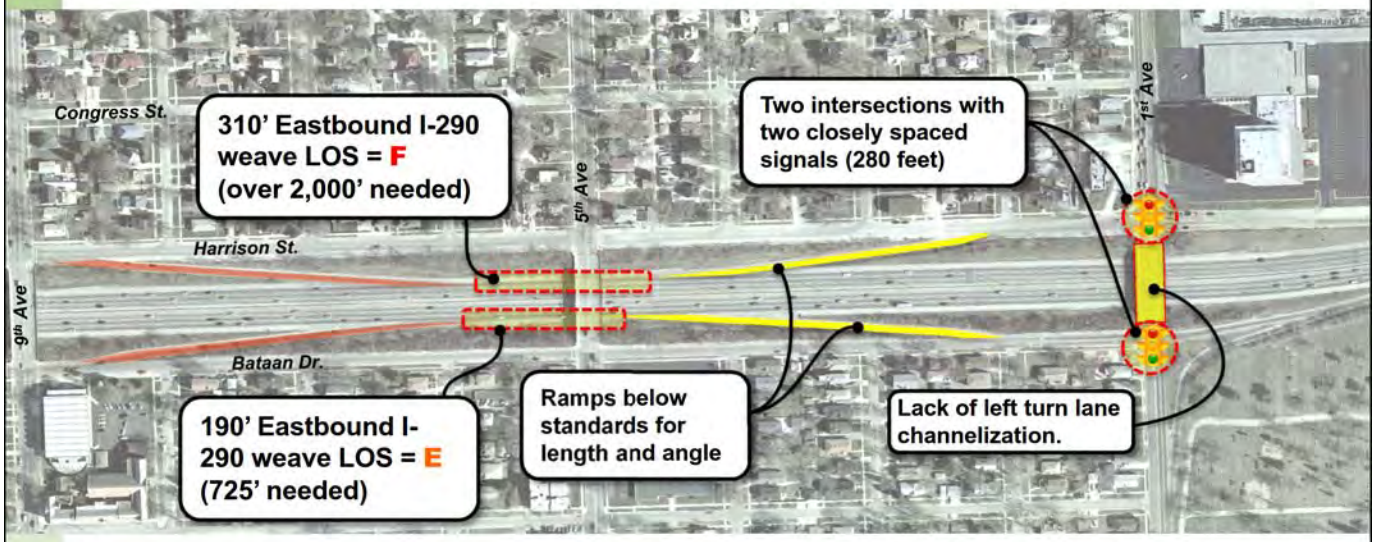
Traffic Simulations
2040 NoBuild Conditions (PM Peak)

I-290 Fly Through 1st to 25th

From east to west

- Video output from VISSIM model
- Simulation speed 2.5 times actual
- Color coding reflects vehicle speed:
  - Stopped or <6mph
  - < 10mph
  - 30mph +/-
  - > 40mph

1st Avenue Existing Conditions



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Traffic Simulations - 2040 NoBuild Conditions (PM Peak)
1st Avenue – Southbound Queue

- Split 4-phase signal required – reduces green time on 1st Ave.

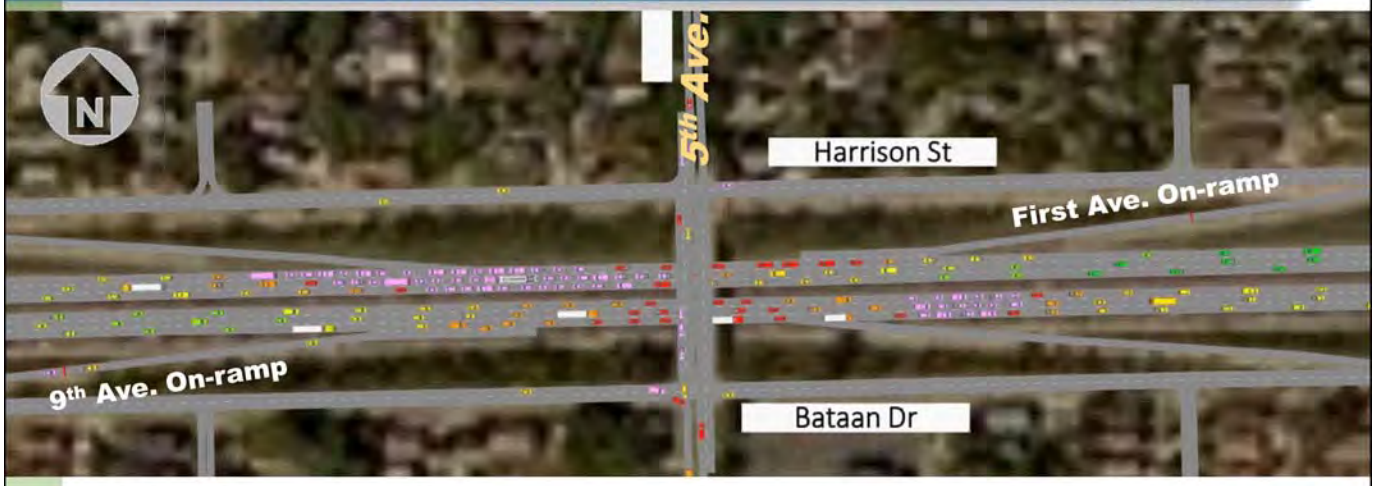
Existing	AM Peak	PM Peak
LOS	F	F
Delay (sec.)	116	109
Max. Queue (ft.)	1,974	1,155

Traffic Simulations - 2040 NoBuild Conditions (PM Peak)
1st Avenue – Northbound Queue

- Split 4-phase signal required – reduces green time on 1st Ave.

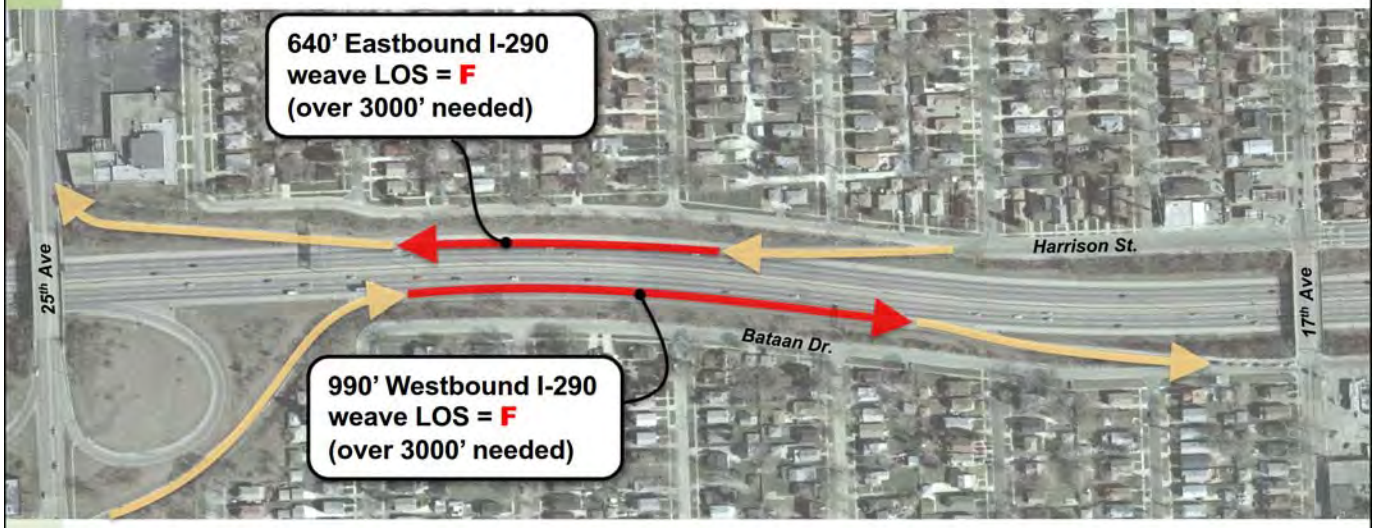
Existing	AM Peak	PM Peak
LOS	F	F
Delay (sec.)	340	137
Max. Queue (ft.)	2,130	1,858

Traffic Simulations - 2040 NoBuild Conditions (PM Peak)
1st Avenue & 9th Avenue Ramps



- **Westbound:** 1st Avenue on-ramp traffic forced merge causes mainline traffic to brake
- **Eastbound:** Mainline 'rolling' queue due to heavy 1st Avenue eastbound on-ramp volumes
- **Eastbound:** 9th Avenue forced merge also causes mainline traffic to brake

17th Avenue Existing Ramp Weave



Existing Conditions – Traffic Simulations

- **Westbound:** Inadequate weave distance and on/off ramp spacing force mainline traffic to brake for ramp traffic
- **Eastbound:** Mainline 'rolling' queue due to downstream mainline ramp turbulence (9th,17th & 1st Avenues)

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Alternatives Scoping

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Alternatives Scoping – Option 1

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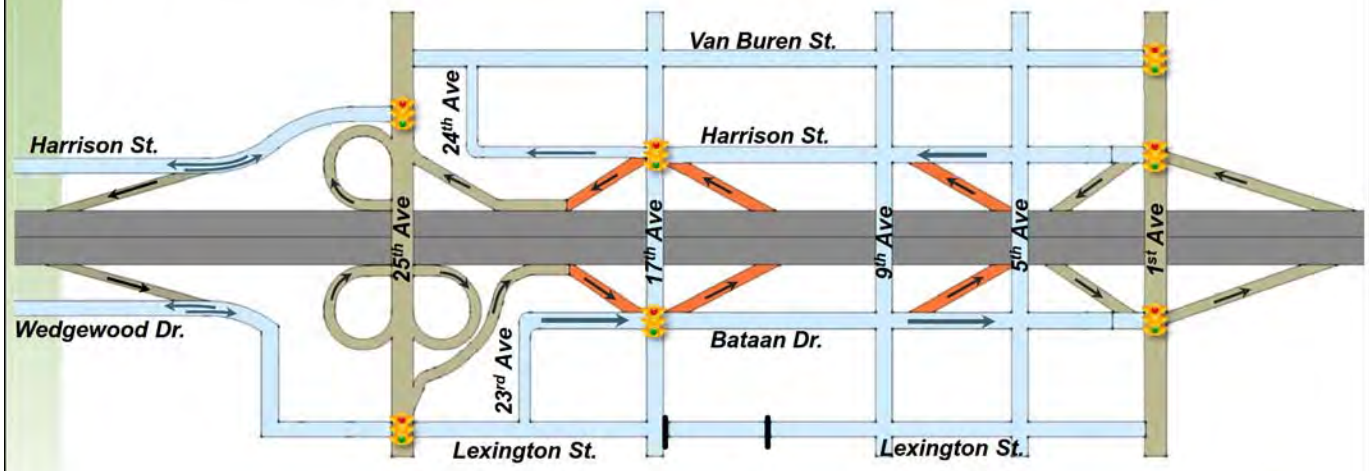
Traffic Simulation Option 1 ***(Existing Interchange Configuration)***

- ❑ 8-Lanes on I-290
- ❑ Full interchange at 17th Ave.
- ❑ Half interchange at 9th Ave.
- ❑ Frontage road access at 1st Ave.



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Alternatives Scoping – Option 2

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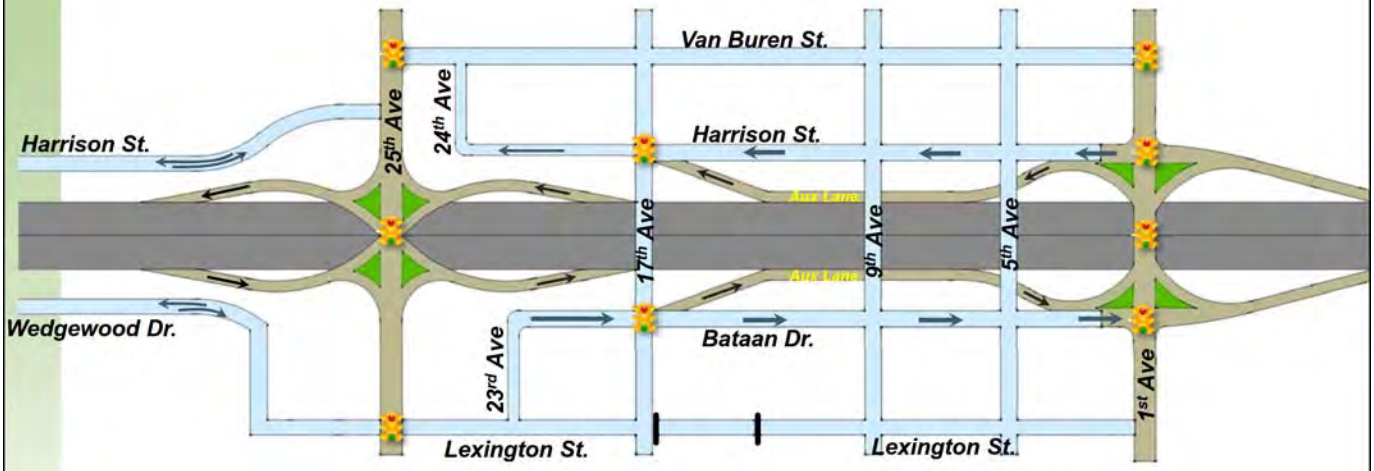
Traffic Simulation Option 2

- ❑ 8-Lanes on I-290
- ❑ Half interchange at 17th Ave.
- ❑ 1st Avenue with frontage road access



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Alternatives Scoping – Option 3

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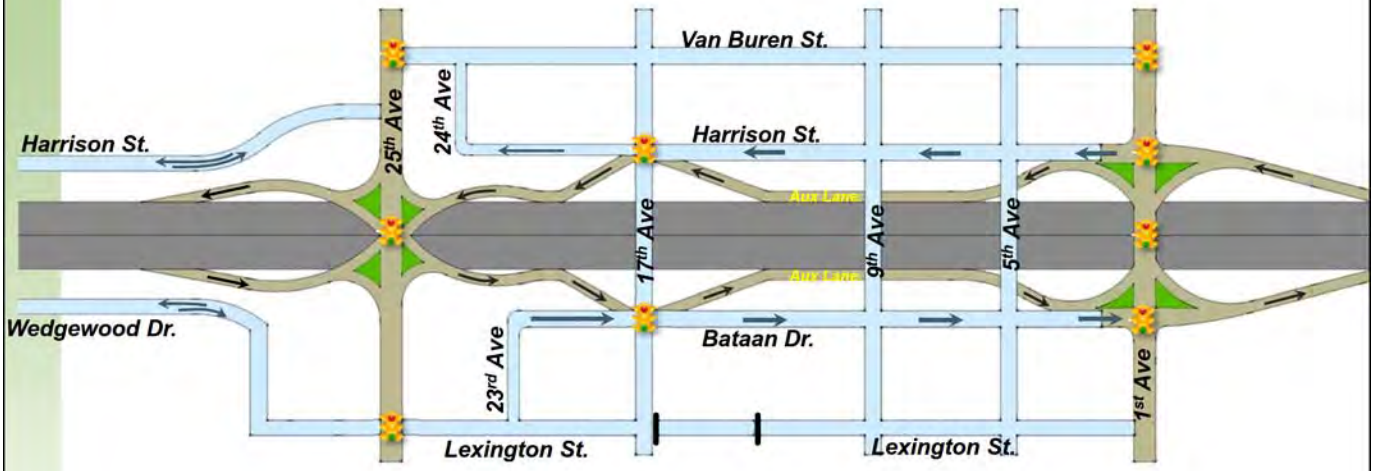
Traffic Simulation Option 3

- ❑ 8-Lanes on I-290
- ❑ Full interchange at 17th Ave.
- ❑ 1st Avenue with frontage road access



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Alternatives Scoping – Option 4

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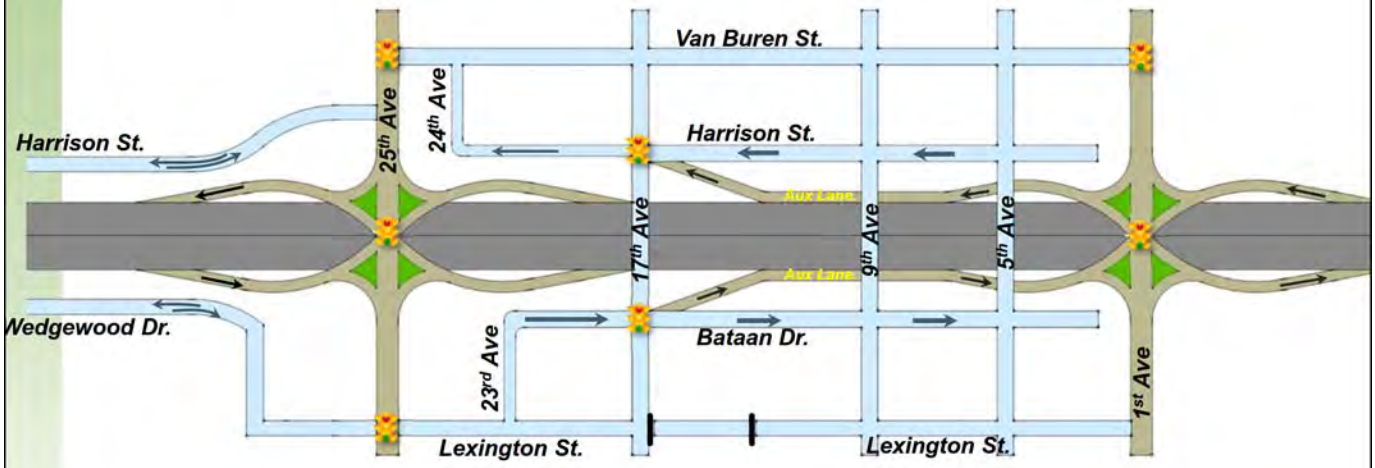
Traffic Simulation Option 4

- ❑ December 2015 Concept
- ❑ 8-Lanes on I-290
- ❑ Half interchange at 17th Ave.
- ❑ 1st Avenue without frontage road access



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Alternatives Scoping – Other Ideas

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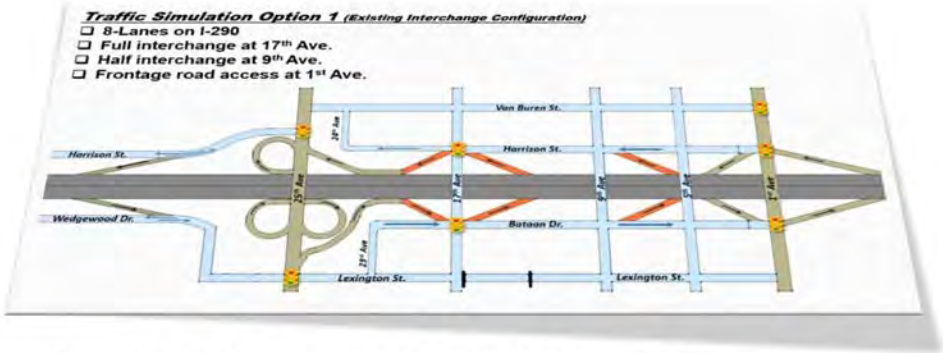
- Other ideas ?



- Alternative sketches available to take with you
- Provide input to IDOT by March 4th
  - Email: Mark.Peterson@illinois.gov
  - Mail: Illinois Department of Transportation-Region One/District 1
    Attn: Mark Peterson
    201 W. Center Court
    Schaumburg, Illinois 60196

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Alternatives Evaluation Approach

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Alternatives Evaluation Measures

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- Safety
- VISSIM Performance Measures:
  - Traffic simulation video comparisons
  - Arterial & frontage road daily traffic volumes
  - Queuing & delay along 1st Avenue
  - Travel time comparisons
- Geometric design review:
  - Design requirements/design exceptions
  - ROW Impacts / displacements

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Alternatives Evaluation Measures
Travel Times

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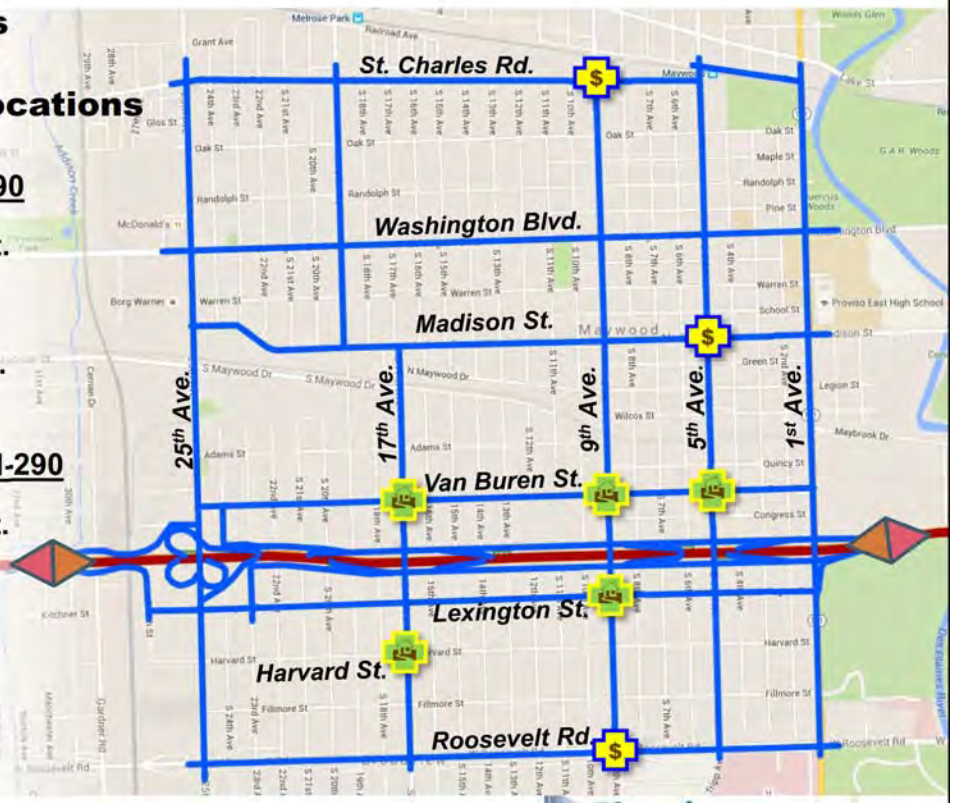
Alternatives Analysis
Origin & Designation
Travel Time Study Locations

Economic Pairs TO FROM **I-290**

- 9th Ave. & St. Charles St.
- 5th Ave. & Madison St.
- 9th Ave. & Roosevelt Rd.

Local Access Pairs TO FROM **I-290**

- 17th Ave. & VanBuren St.
- 17th Ave. & Harvard St.
- 9th Ave. & VanBuren St.
- 9th Ave. & Lexington St.
- 5th Ave. & VanBuren St.



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Noise Walls

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ANALYSIS PROCEDURES RECAP

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- Traffic noise is considered an environmental impact by FHWA
- Exterior locations of frequent human use
  - Based upon outdoor conversations
- Noise impacts - Noise Abatement Criteria (NAC)
  - By land use type – noise sensitive uses
  - 67 dB(A) residential, park, school
  - 72 dB(A) restaurant, office
- Where impacts occur, abatement (walls) studied
  - Feasibility
  - Reasonableness

DETERMINING NOISE WALL LOCATIONS

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- Will wall reduce noise by 5 dB(A)?
  - 5 dB(A) reduction = "benefit," FHWA noise reduction goal
- Will wall reduce noise by 8 dB(A)?
  - 8 dB(A) reduction = IDOT noise reduction goal
- Will wall be cost effective?
  - The allowable wall cost for benefitted receptors behind the wall is greater than the cost of the wall
  - Noise walls are part of the project's cost

IS WALL SUPPORTED BY THOSE IT BENEFITS?

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- Benefitted receptors vote ***for*** or ***against*** proposed noise wall
- "Viewpoint solicitation"
- Simple majority vote – up to 2 rounds of balloting
  - If at least 33% of ballots for a given wall are returned in Round 1 voting, a 2nd round of ballots are not mailed
  - The 2nd round of voting can end without having a 33% response rate

- *8 Maywood walls up for vote*
- ***Status:*** *Second round balloting currently ending*

PROPOSED MAYWOOD NOISE WALLS
VOTING STATUS AS OF FEBRUARY 16

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PROPOSED MAYWOOD NOISE WALLS
VOTING STATUS AS OF FEBRUARY 16

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PROPOSED MAYWOOD NOISE WALLS
VOTING STATUS AS OF FEBRUARY 16

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NOISE ANALYSIS COMPLETION

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- 2nd Round of voting is currently ending
- *Outstanding ballots will be accepted until February 29th*
  - After February 29th, voting will be finalized
  - Recommendation based on majority of votes received
- Voting tabulation & noise analysis completion March 2nd.

NOISE WALL DESIGN AND AESTHETICS

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- IDOT currently conducting research for transparent and T-top noise barriers:
  - Achieve IDOT specified noise reductions?
  - More than one vendor available?
  - Cost-effective?
  - Lessons learned from other states?
- Findings will guide Phase II coordination

'T'-Top Reduces Height

Transparent Barrier
Toledo, OH

T-Top Barrier
North Ridgeville, OH

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Next Steps

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NEXT STEPS

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- Evaluate alternatives
- Next meeting

Thursday, March 24, 2016

6:00 PM – 8:00 PM

Topics:

- **Alternatives evaluation results**
- **Proposed drainage**
- **Final results of noise wall voting**
- **Bike and ped accommodations**
- **Aesthetics**

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Question & Answer

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