



Agenda Summary

File #: ID 15-218

Agenda Date: 7/13/2015

Submitted By

Bill McKenna, Village Engineer

Agenda Item Title

Eisenhower Expressway (I-290) Update and Discussion: Harlem Ave. and Austin Blvd. Traffic Analysis.

Overview

As discussed at the February 18, 2015 meeting of the Village Board, a series of Village Board Study Session are being held to allow Village Staff to present information related to elements of the future reconstruction of the I-290 through Oak Park. As a part of this meeting, information will be presented related to:

- Traffic analysis of Harlem Avenue and Austin Boulevard interchanges with I-290;

It is also noted that comment site has been opened on the Village website related to the traffic analysis and impacts on Harlem Avenue and Austin Boulevard. Residents are encouraged to review the information at the link and share their comments on the traffic analysis through Monday, July 13, 2015 at noon. The site can be found at www.oak-park.us/ikecomments

Anticipated Future Actions/Commitments

There will be a series of Village Board Study Session continuing throughout 2015 in order to provide an opportunity for discussion and consensus related to the reconstruction of I-290. The conclusion of these discussions will be to develop a draft Letter of Intent with the Illinois Department of Transportation. The final Letter of Intent will be presented to the Village Board for formal approval at the conclusion of the Study Sessions. This incremental approach was established as part of the February 18, 2015 discussion with the Village Board in order to provide a process to review the I-290 reconstruction.

Report

Staff has been meeting with Village President Abu-Taleb, Trustee Lueck and IDOT to review elements of the reconstruction. At the April 27, 2015 Board study session staff presented the progress and IDOT commitments for improved roadway geometry and sidewalk widths over I-290 to ensure adequate room for all modes of transportation.

This study session is the second in the series of discussions and focuses on the operation of the Harlem Avenue and Austin Boulevard interchanges with I-290 and the impact on traffic flow and pedestrian movements at these locations.

IDOT has provide the Village will a series of traffic models showing the current vehicle movements and

existing congestion. Comparative traffic models are also provided and demonstrate the expected traffic functions and pedestrian movements that can be achieved with reconstruction of the interchanges at Harlem Avenue with the I-290 and at Austin Boulevard with the I-290.

At the conclusion of the traffic presentation, staff will also briefly note that discussions are also proceeding related noise impacts and that topic is tentatively scheduled for publicly review in August 2015. Additionally, IDOT is developing a 3D model of the Harlem Avenue and Austin Boulevard interchanges for public review in the future in order to more fully inform the discussion related to proposed redesign of the Harlem Avenue and Austin Boulevard interchanges with I-290.

As previously affirmed by the Village Board, key local priorities and areas of concern in our continuing discussions and deliberations with the Illinois Department of Transportation include:

1. Safety and convenience for all users, e.g., pedestrians, cyclists, and persons of all ages and abilities, especially at the interchanges with Harlem and Austin;
2. Methods for avoiding or mitigate noise and/or air quality impacts;
3. CTA Blue Line improvements, including those generally described as "Urban Stitching";
4. Locations and extent of expanded bridge decking options;
5. Elements related to corridor aesthetics and community identity;
6. Coordination with public critical utilities;
7. Project financing sources and any local obligations;
8. Construction planning and staging; and
9. Flexibility to discuss options beneficial to Oak Park.

Each of the future study sessions will focus on specific project design elements of local interest. As each study session is completed, new elements will be added to those comprising the Letter of Intent, progressing to a point where all local design and construction concerns have been discussed with consensus reached and documented.

The Letter of Intent will be presented for Village Board approval upon conclusion of all supporting study sessions and related negotiations, likely during Q4 2015, and will establish mutually agreed design elements for the project, specify any agreed cost-sharing, and document any other mutually agreed terms and conditions, such as construction-related staging and mitigation strategies.

Alternatives

This is a presentation and discussion.

Village Board Study Session

*Traffic and Operational Analysis of
Harlem Ave & Austin Blvd
Interchanges with I-290*



July 13, 2015

Traffic & Operations at Interchanges

- Harlem Ave & I-290 Interchange
 - Existing & Proposed Operations of Interchange
 - Traffic Analysis
- Austin Blvd & I-290 Interchange
 - Existing & Proposed Operations of Interchange
 - Traffic Analysis
- Introduction of future topics



Village of Oak Park ~ “Eye on the Ike”



Harlem Avenue Existing Conditions

OPERATIONS

Existing lanes

Two through lanes each
direction on Harlem Ave.

Dedicated right &
left turn lanes



Harlem Avenue Existing Conditions

Inadequate ramp storage

More green time allocated
to I-290 ramp traffic

OPERATIONS

Less green time available for
Harlem traffic

Inadequate left turn lane
storage on Harlem

Turning traffic backs up &
blocks through traffic

Traffic backs up beyond
Jackson Blvd. & Garfield St.

Harlem N-S

Peak period **LOS = F**



Harlem Avenue Existing Conditions

OPERATIONS

Inadequate room for turning trucks at all four corners

Truck maneuvers block traffic & reduce performance

Truck wheels off-track onto existing sidewalk

Conflicting left & right turns
Safety & operational issue



Harlem Avenue Existing Conditions

Poor access to transit

Inadequate space for bike
parking

NB bus stop/transfer located
south of Garfield St.

PEDESTRIAN ENVIRONMENT & TRANSIT ACCESS

Narrow sidewalks

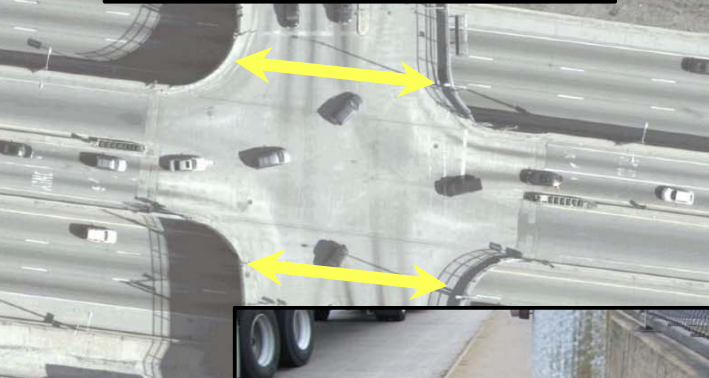
Non-ADA Compliant
sidewalks & curb ramps

Sidewalk encroachments

Lacks pedestrian/vehicle
separation

No signalized E-W ped
crossings

Outdated/inadequate
ped signal equipment



Harlem Avenue Proposed Improvements

Improved sidewalks & pedestrian plazas

Pedestrian refuge islands between ramps

4-Way, high visibility pedestrian crossings

New pedestrian signals & countdown timers

Signalized crossing of north & south legs

PEDESTRIAN & TRANSIT ACCESS IMPROVEMENTS



Accommodates a parallel
Shared Use Trail
(under Harlem Ave.)



Harlem Avenue Proposed Improvements

Improved accessibility
to CTA station

Transit plaza area

Space for bike parking

Northbound bus stop
across from CTA Station

Space for bus stop
shelters/waiting area

CTA



PEDESTRIAN & TRANSIT ACCESS IMPROVEMENTS



Harlem Avenue Proposed Improvements

OPERATIONAL IMPROVEMENTS

Maintains central
intersection location

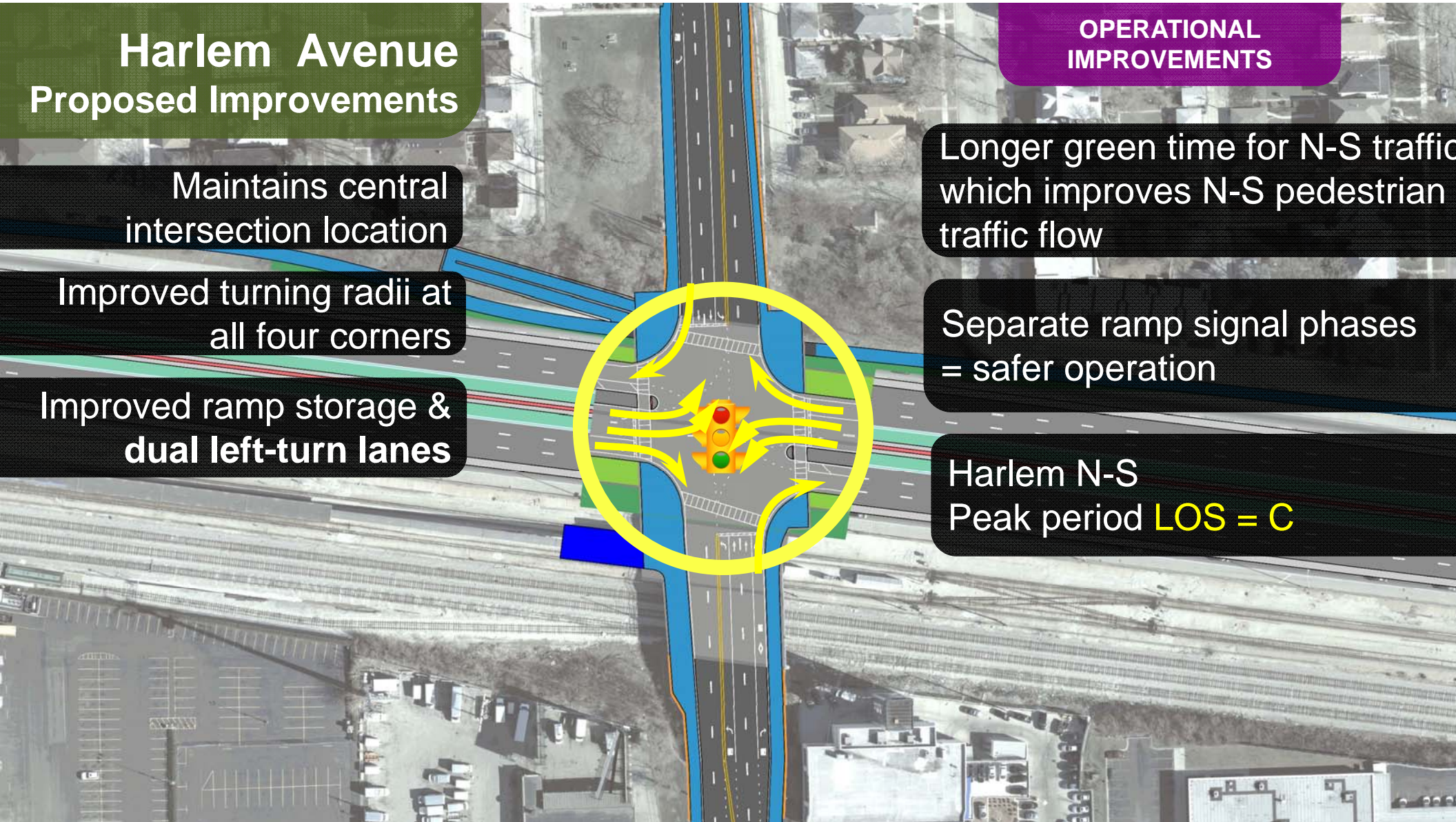
Improved turning radii at
all four corners

Improved ramp storage &
dual left-turn lanes

Longer green time for N-S traffic
which improves N-S pedestrian
traffic flow

Separate ramp signal phases
= safer operation

Harlem N-S
Peak period **LOS = C**



Harlem Avenue Proposed Improvements

Before & After Traffic Simulation



Harlem Avenue Proposed Improvements

Before & After Traffic Simulation



Austin Boulevard Existing Conditions

OPERATIONS

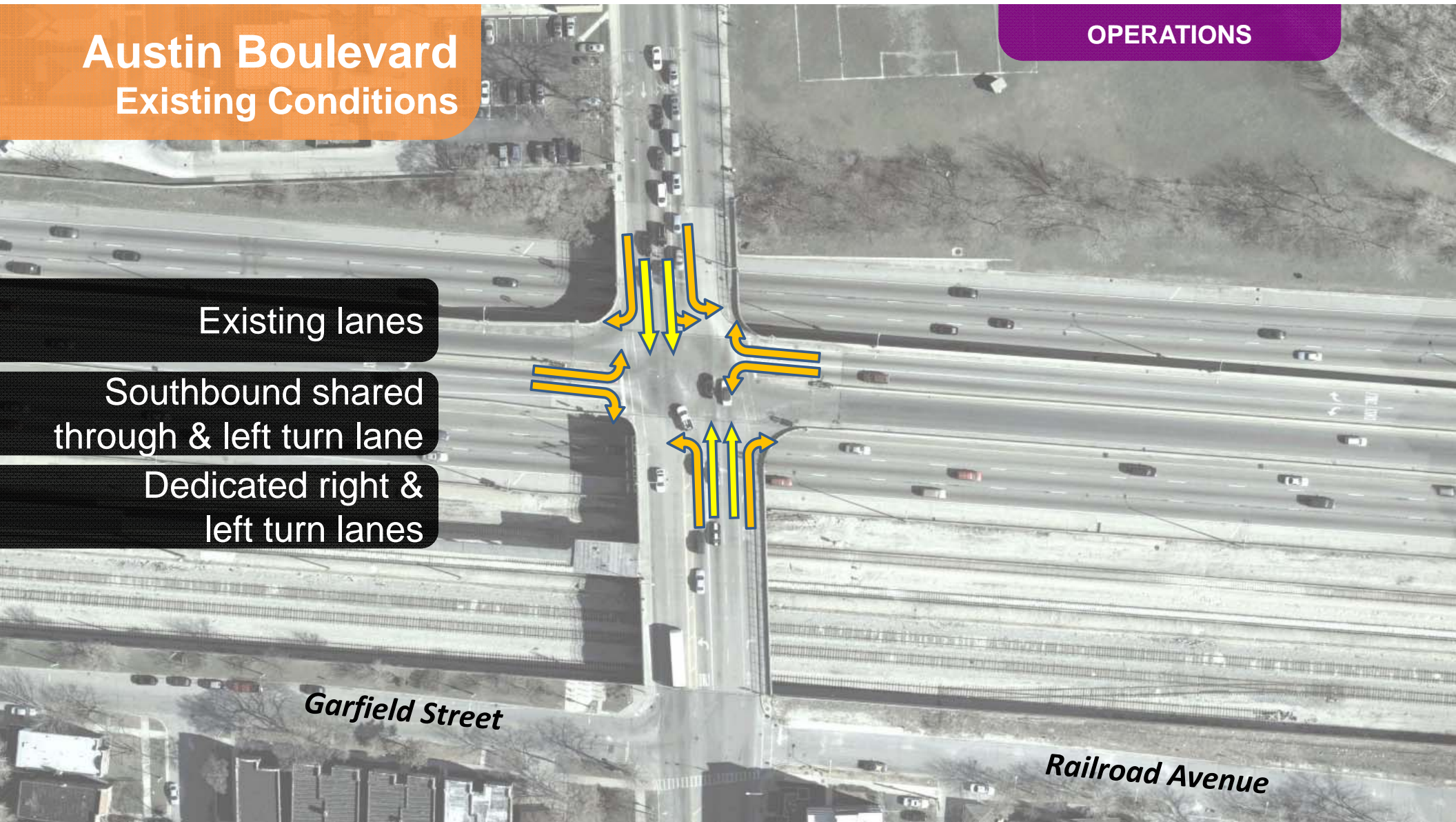
Existing lanes

Southbound shared
through & left turn lane

Dedicated right &
left turn lanes

Garfield Street

Railroad Avenue



Austin Boulevard Existing Conditions

OPERATIONS

Less green time available for
Austin Blvd. traffic

Inadequate left turn lane
storage on Austin Blvd.

Traffic backs up beyond
Garfield St. & Harrison St.

Inadequate ramp storage

More green time allocated
to I-290 ramp traffic

Austin N-S
Peak period **LOS = E**

Railroad Avenue



Austin Boulevard Existing Conditions

OPERATIONS

Conflicting left
& right turns

Safety &
operational issue

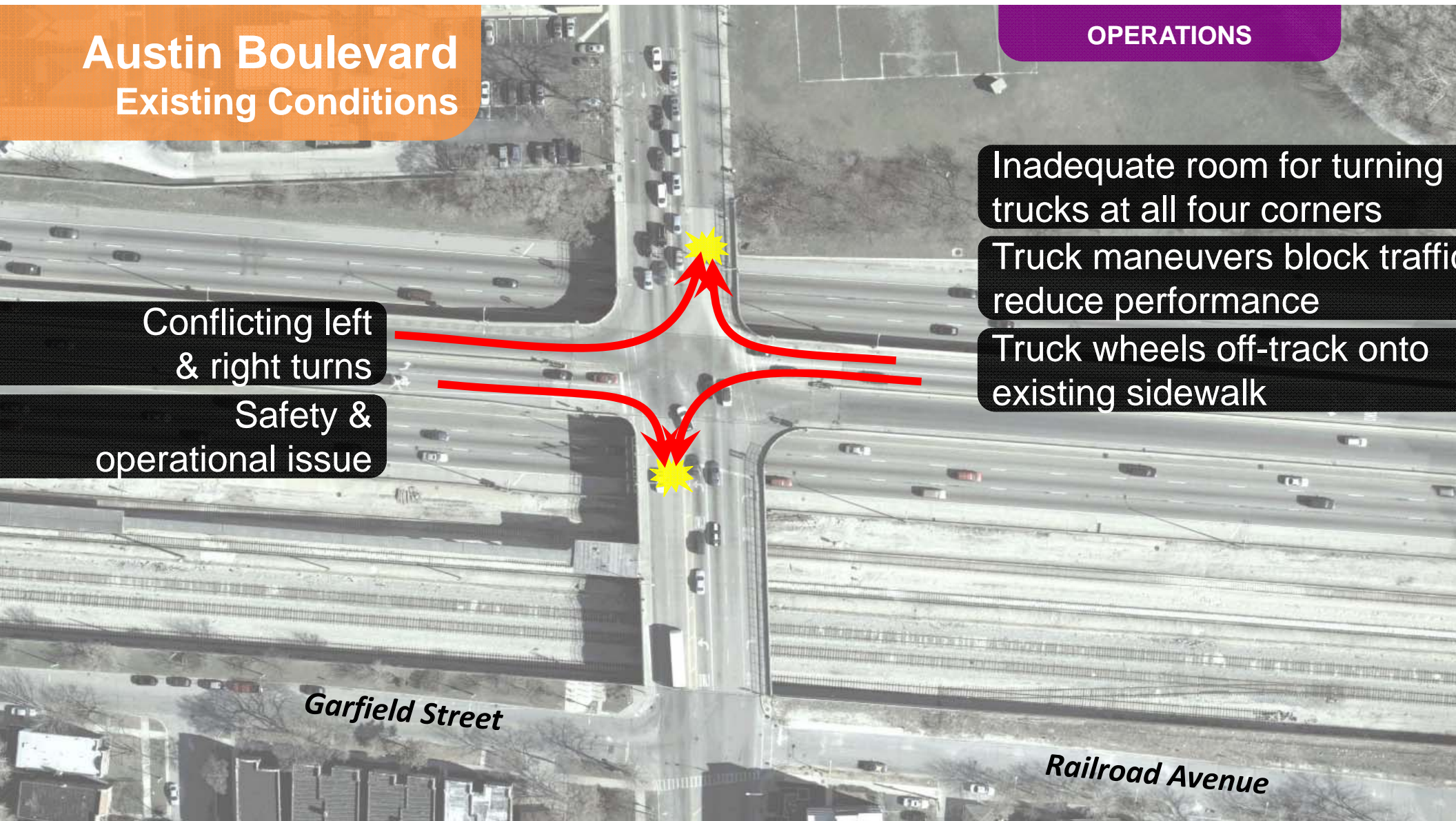
Inadequate room for turning
trucks at all four corners

Truck maneuvers block traffic
reduce performance

Truck wheels off-track onto
existing sidewalk

Garfield Street

Railroad Avenue



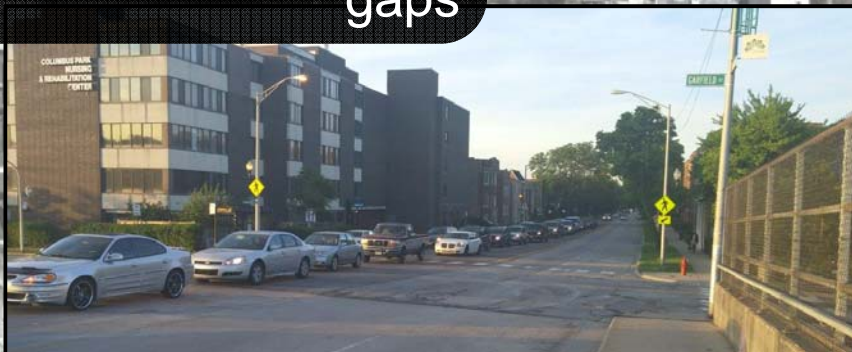
Austin Boulevard Existing Conditions

Inadequate separation from
I-290 ramps (130 ft.)

NB Traffic queue blocks
Garfield St. left turns

Garfield Street

Long delays for Garfield
Left-turn traffic waiting for
gaps



GARFIELD STREET EXISTING ISSUES

Disruptive weaving:
Turning vehicles merge right to
access I-290 EB

Allowing left turns :
- increases crash exposure
- adversely affects operations

Safety Concern:
82% of crashes related to
left turns and through traffic
(2012-2013 data)

Austin Boulevard Existing Conditions

PEDESTRIAN ENVIRONMENT & TRANSIT ACCESS

Narrow & Non-ADA
compliant sidewalks

Sidewalk encroachments

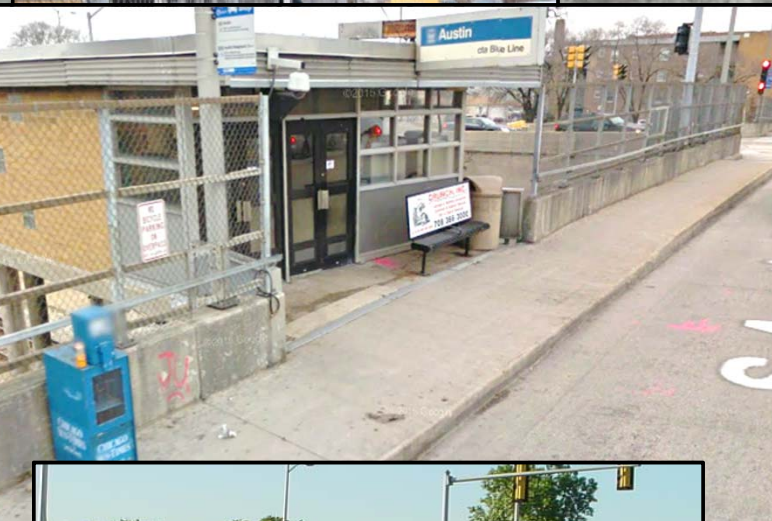
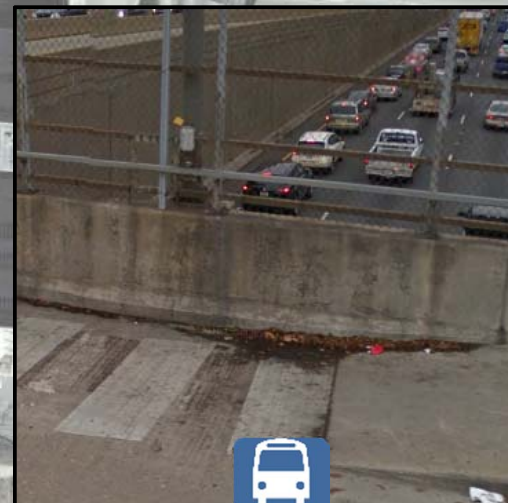
Lack of pedestrian/vehicle
separation

Poor access to transit

No signalized E-W
pedestrian crossings

Inadequate space for bike
parking

NB bus stop/transfer located
south of Railroad Ave.



Outdated/inadequate
pedestrian signal equipment

Austin Boulevard Proposed Improvements

Improved sidewalks &
new pedestrian plazas

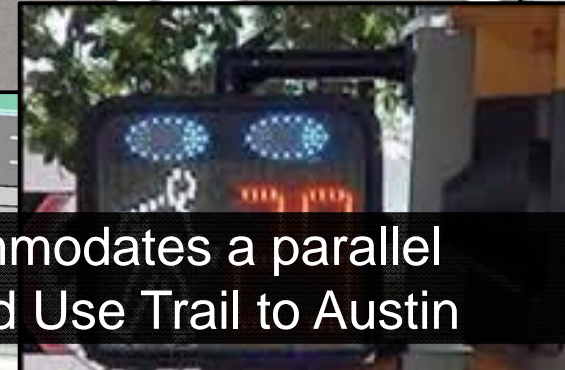
Pedestrian refuge
islands between ramps

4-Way, high visibility
pedestrian crossings

New pedestrian signals
& countdown timers

Signalized crossing of
north & south legs

PEDESTRIAN & TRANSIT ACCESS IMPROVEMENTS



Accommodates a parallel
Shared Use Trail to Austin

Potential Shared Use Trail
connection to Columbus Park

Street

Railroad Avenue

Austin Boulevard Proposed Improvements

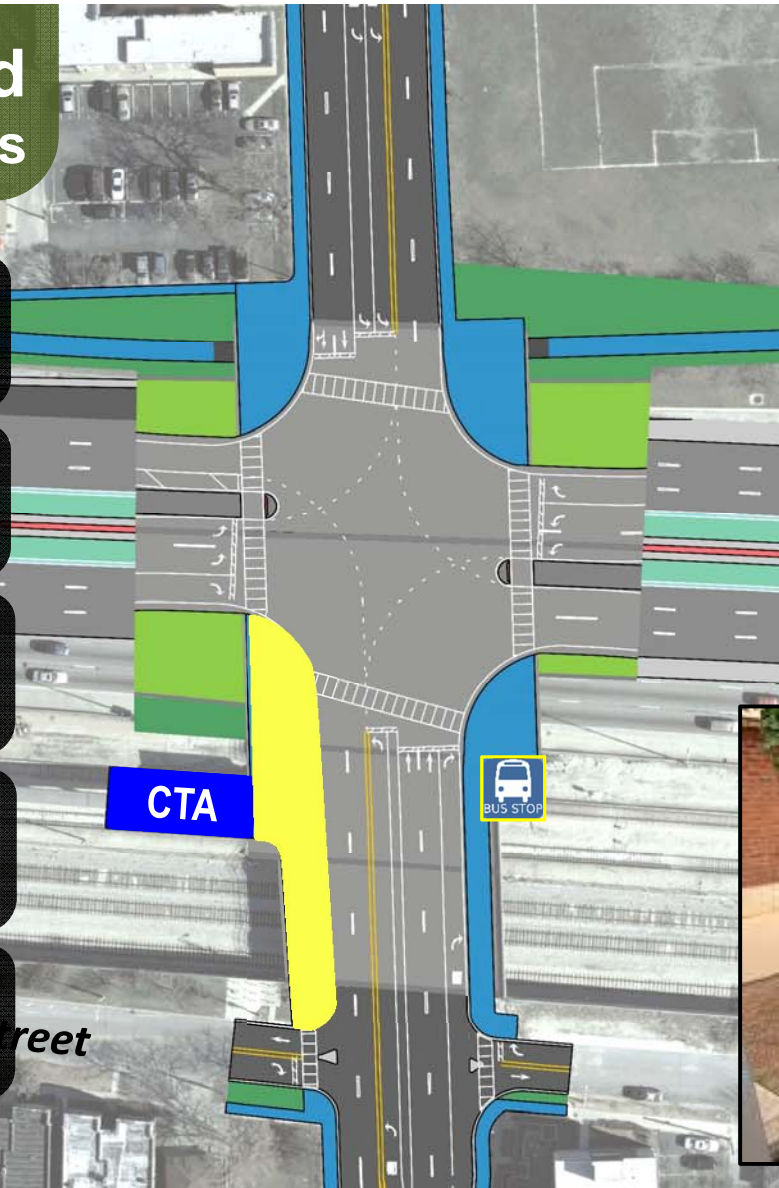
Improved accessibility
to CTA station

New transit plaza area

Space for bike parking

Northbound bus stop
across from CTA Station

Space for bus stop
shelters/waiting area



PEDESTRIAN & TRANSIT ACCESS IMPROVEMENTS



Austin Boulevard Proposed Improvements

OPERATIONAL IMPROVEMENTS

Improved turning radii at
all four corners

Improved ramp storage &
dual left turn lanes

Separate ramp signal
phases = safer operation

Longer green time for N-S traffic,
which improves N-S pedestrian &
traffic flow

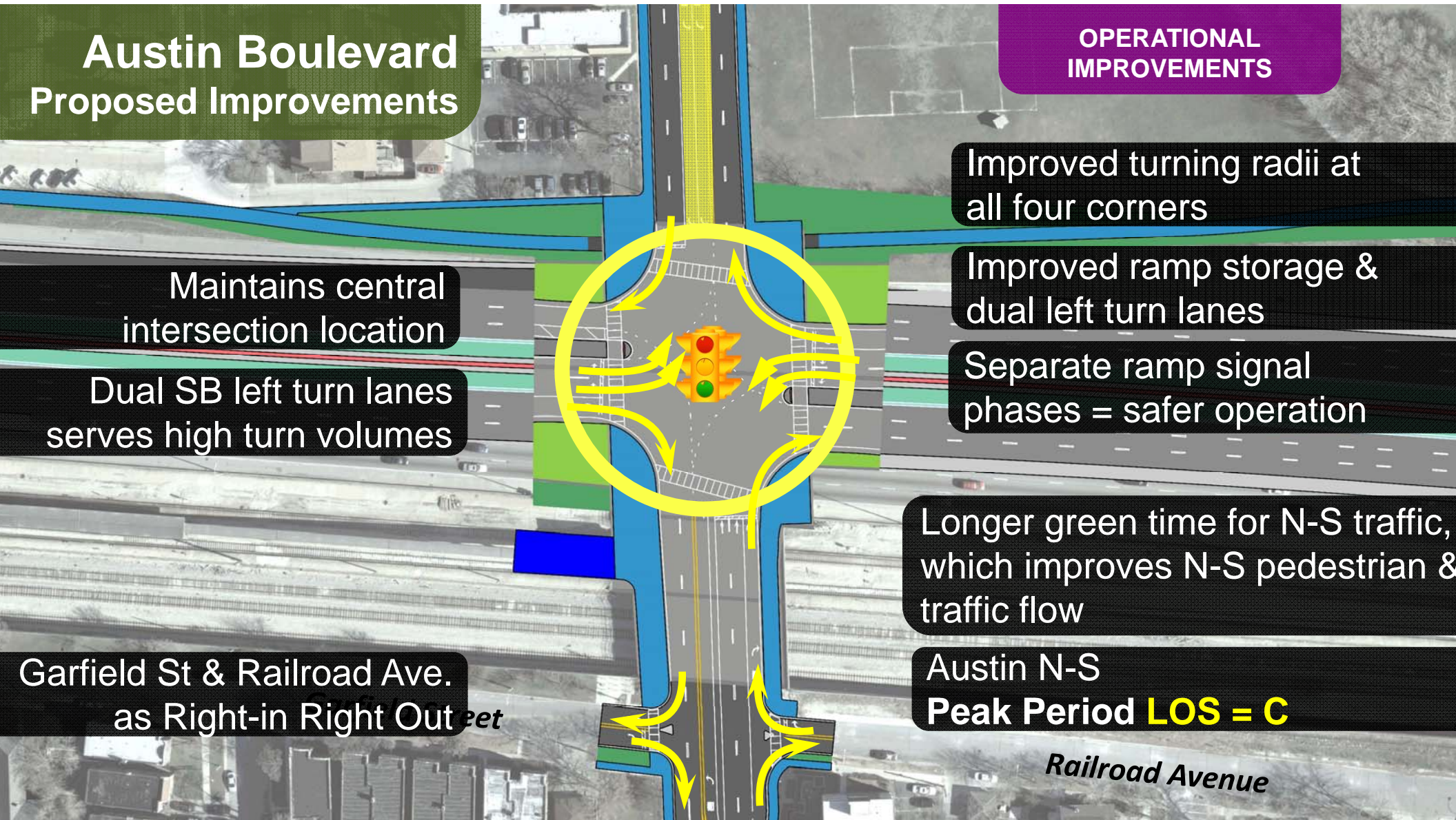
Austin N-S
Peak Period **LOS = C**

Railroad Avenue

Maintains central
intersection location

Dual SB left turn lanes
serves high turn volumes

Garfield St & Railroad Ave.
as Right-in Right Out *street*



Austin Boulevard Proposed Improvements

CTA

Garfield Street

Proposed NB queues extend
past Garfield St.

Needed left turn lane storage
extends past Garfield St.

**GARFIELD STREET
RIGHT-IN RIGHT-OUT**

RIRO reduces number of
Intersection conflict points
from 32 to 8

Reduce potential for
predominant crash types
(Angle/Turning)

Railroad Avenue



Relocate NB Bus Stop to
align with CTA Station

Austin Boulevard Proposed Improvements

Currently 200 left turning cars
in peak period

100 cars assumed to divert to
Harrison St. & Harvard St.

Harrison St. signal evaluated
as part of interchange system

Even with redistributed traffic,
Harrison St. operations improve:

Delay reduced up to **79%**

Queues reduced up to **54%**

LOCAL CIRCULATION



Austin Boulevard Proposed Improvements

Before & After Traffic Simulation



Austin Boulevard Proposed Improvements

Before & After Traffic Simulation



Summary of Interchange Improvements

Harlem Avenue & Austin Boulevard

- Improved access to transit and transfers
- Wider sidewalks
- ADA Accessibility throughout
- Improved and safer ramp pedestrian crossings
- Improved signals and pedestrian countdown timers
- Bike accommodations at transit stations
- East-west shared use path connections
- Improved truck turn accommodations



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Harlem Ave Traffic Operations

Harlem Avenue Operations

- Overall LOS from F to D
- N-S Queue at Harlem/Garfield reduced up to 61%
- E-W Queue at Harlem/Garfield reduced up to 59%
- E-W Queue at Harlem/Jackson reduced up to 35%
- N-S Delay reduced up to 86%



Village of Oak Park ~ "Eye on the Ike"



Austin Blvd Traffic Operations

Austin Boulevard Operations

- Overall LOS from E to C
- EB Queue at Austin/Harrison reduced up to 70%
- E-W Queue at Austin/I-290 ramps reduced up to 70%
- E-W Queue at Austin/Garfield reduced up to 92%
- N-S Queue at Austin/Garfield reduced up to 73%
- N-S Delay reductions up to 76%

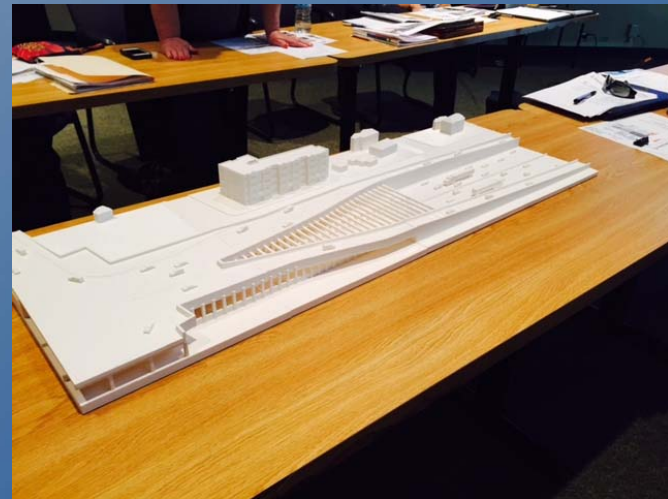


Village of Oak Park ~ "Eye on the Ike"



Future Study Session Topics

- Harlem Ave Interchange Design Discussion
- Traffic Noise Analysis
- Public Presentation of 3D Model



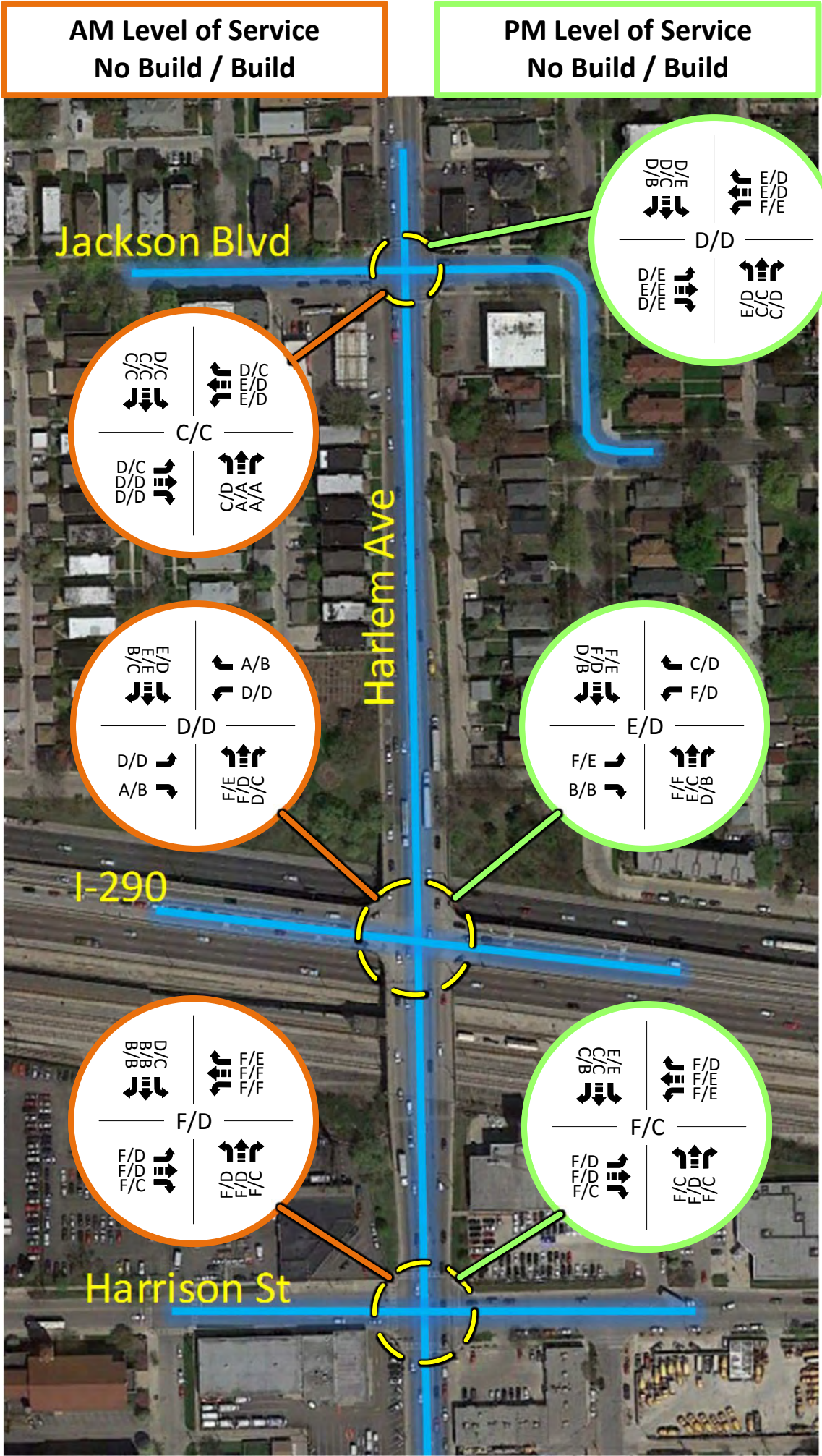
AM

Harlem Ave North/South Delay (Jackson Blvd to Harrison St)

	No-Build	Build	Total Change (s)	% Change
NB Delay (sec/veh)	301	97	-204	-68%
SB Delay (sec/veh)	104	86	-18	-17%

Harlem Avenue

Level of Service Comparison between
No Build and Build
during AM and PM peaks

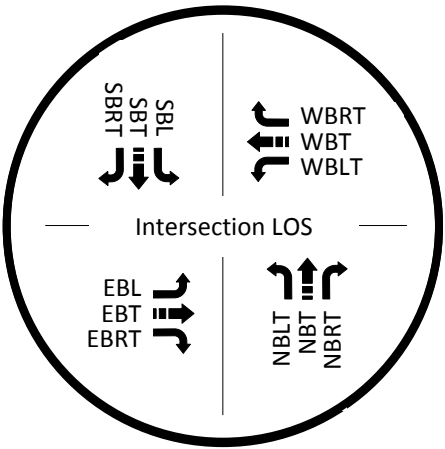


PM

Harlem Ave North/South Delay (Jackson Blvd to Harrison St)

	No-Build	Build	Total Change (s)	% Change
NB Delay (sec/veh)	465	67	-398	-86%
SB Delay (sec/veh)	134	68	-66	-49%

X/X = No Build LOS / Build LOS



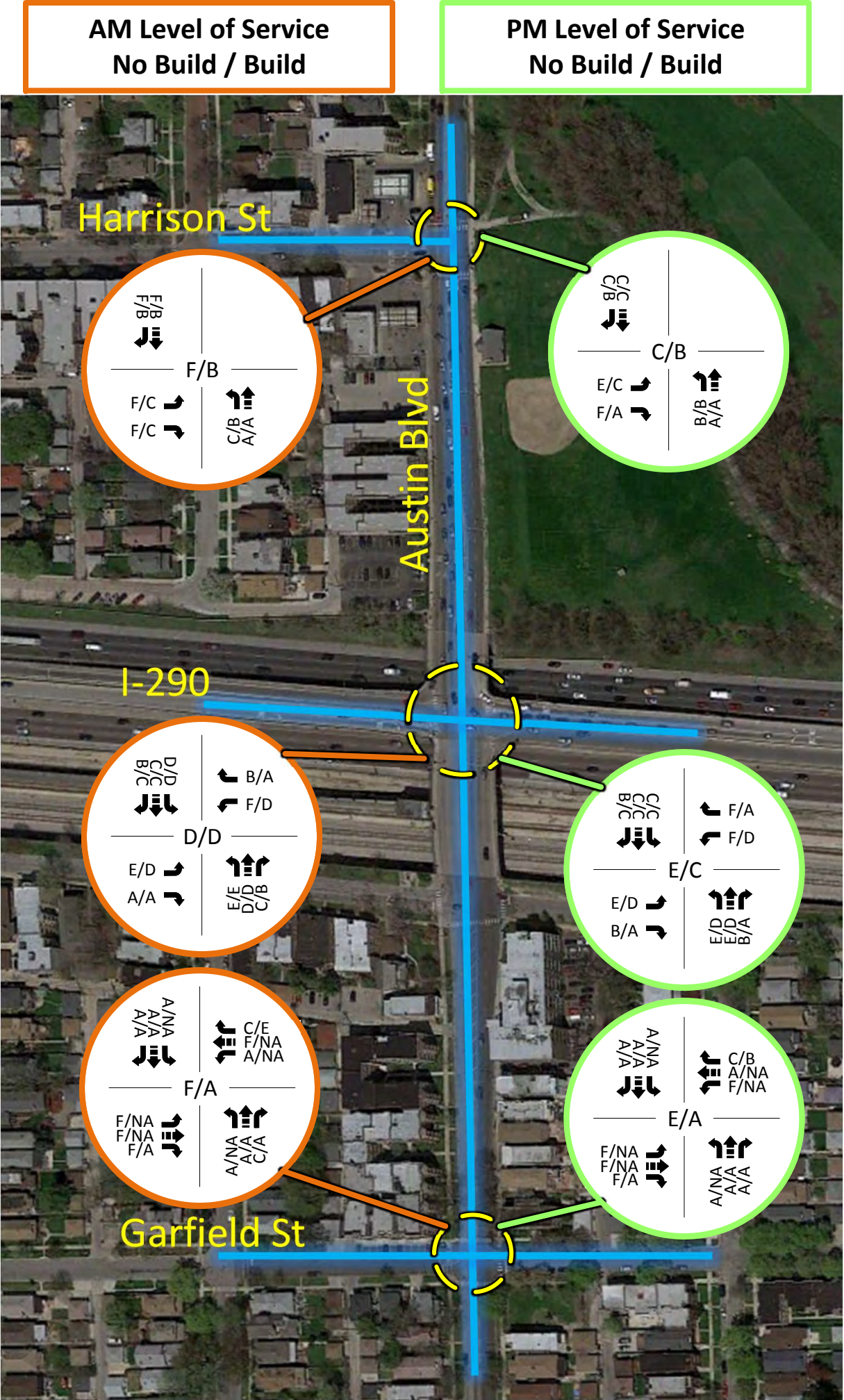
AM

Austin Blvd North/South Delay (Harrison St to Garfield St)

	No-Build	Build	Total Change (s)	% Change
NB Delay (sec/veh)	80	72	-8	-10%
SB Delay (sec/veh)	309	75	-234	-76%

Austin Boulevard

Level of Service Comparison between
No Build and Build
during AM and PM peaks



PM

Austin Blvd North/South Delay (Harrison St to Garfield St)

	No-Build	Build	Total Change (s)	% Change
NB Delay (sec/veh)	84	79	-5	-6%
SB Delay (sec/veh)	92	85	-7	-8%

