

WELCOME

Interstate 70 /
U.S. Route 54 Interchange
at Kingdom City

*Study Update &
Preferred Alternative
February 15 – 28, 2022*





Interstate 70 / U.S. Route 54 Interchange at Kingdom City

STUDY GOAL

*Identify a **preferred alternative** design for the interchange that **enhances safety** and **mobility** through the corridor, provides **access to nearby businesses** and promotes **economic growth** in Kingdom City.*

Study Process



Data Collection & Discovery
September – October 2021



Draft Concepts & Evaluation
November 2021 – January 2022



Preferred Alternative & Public Update
February 2022



Final Report & Recommendations
May 2022



Data Collection & Discovery





Discovery & Data Collection

400 people participated in a short **safety survey** in October of 2021. Nearly **70% of respondents were local residents**. Business owners and commercial truck drivers also weighed in.



More than 35% **feel this interchange is less safe** compared to others.



Nearly 75% believe that **high traffic volumes lead to crashes or near misses**.



Top safety concerns included:

- Difficulty **merging onto I-70**
- **Traffic backing up** at intersections
- Interactions between **heavy trucks** and passenger vehicles



Discovery & Data Collection

More than **20 nearby businesses and local representatives** participated in a **Stakeholder Advisory Committee**. Their thoughtful input **helped the team deliver a design informed by local needs.**

Thank you to those who shared their time!



Lots of **valuable insight** helped the design team **explore options** and **determine a preferred solution.**



Here are some of the things we heard:

- **Improving safety** is important **for families, employees and customers.**
- Maintaining **business access** is vital.
- **Construction phasing and timing** will be important.



Draft Concepts & Evaluation



Study Focus Areas

The study explored improvements, including a “No Build” option, to 4 focus areas:

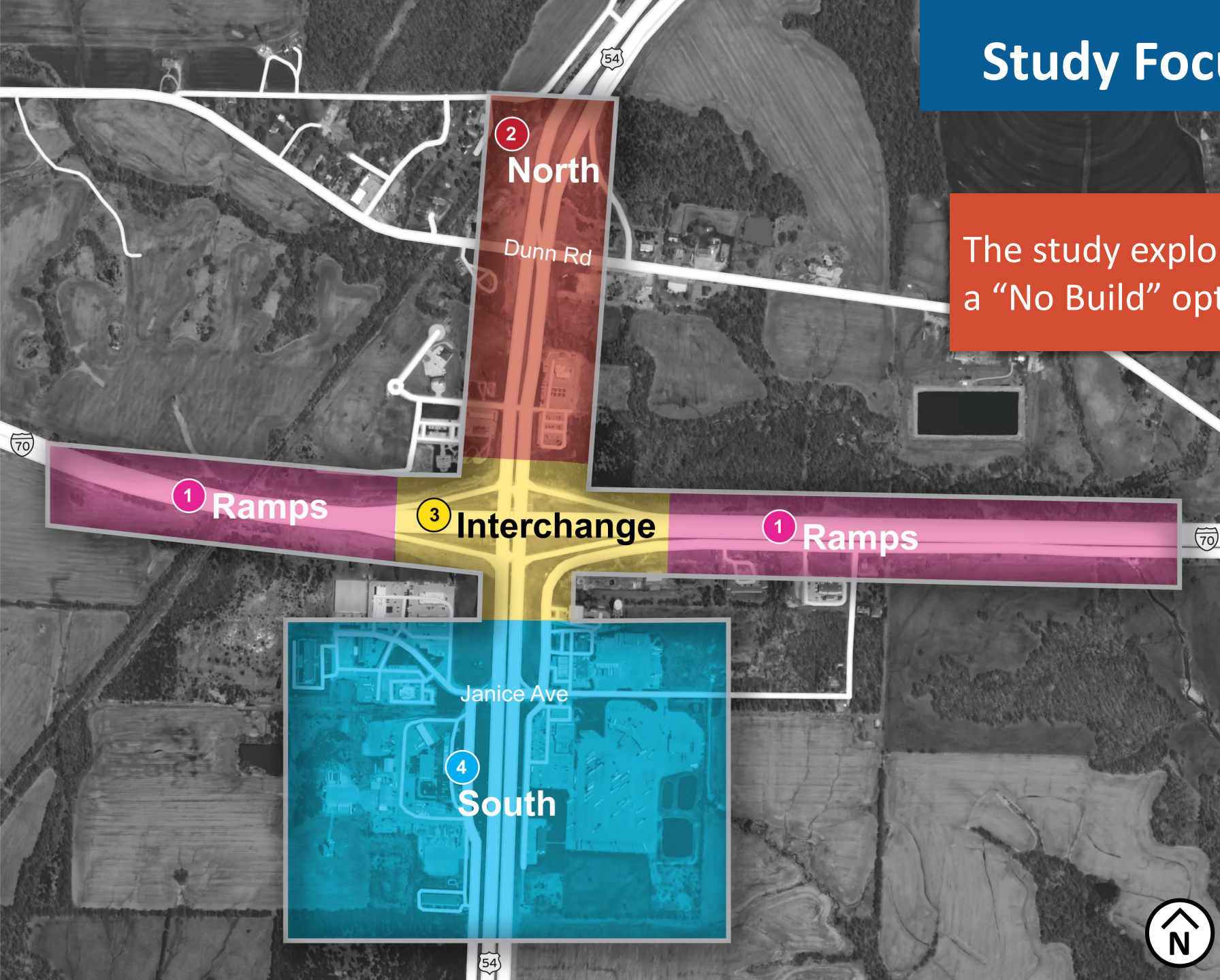
1 I-70 Ramps

2 North/Dunn Rd.

3 I-70/U.S. 54 Interchange

4 South/Janice Ave.

In addition to the improvements presented on the following slides, MoDOT also considered the "No Build" alternative. Under the No Build alternative, no improvements would be made to the interchange. Only routine maintenance would continue.



1

I-70 Ramps: Current Conditions (No Build)



The existing I-70 on-ramps are short and do not meet current MoDOT standards.

This makes merging onto I-70 difficult and sometimes results in traffic backing onto the interstate.

[illegible]

An aerial photograph of a multi-lane highway interchange, identified as I-70. The image shows several lanes of traffic, with some lanes highlighted in a light blue color. The text 'I-70' is visible on the road surface. A north arrow is located in the bottom right corner of the image.

The team considered several solutions, including **removing the existing railroad bridge and reconfiguring the ramps.**

1 I-70 Ramps: Preferred Alternative



The **preferred solution** significantly increases the **length of on- and off-ramps** with the **existing railroad bridge** left in place.

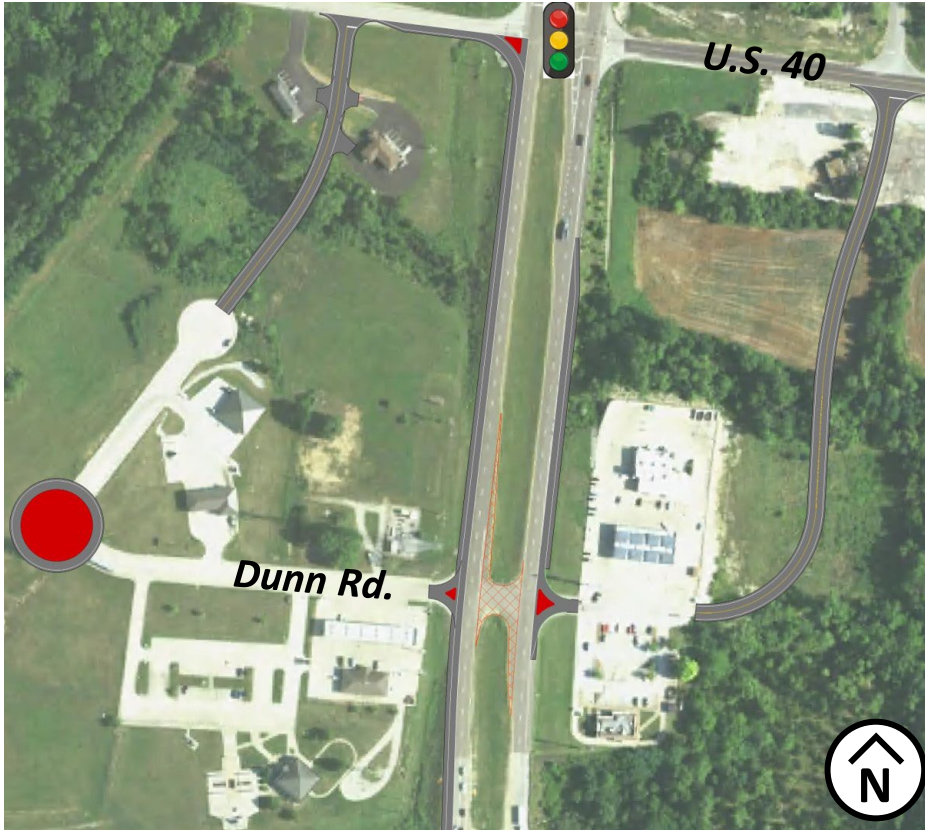
2

North/Dunn Rd.: Current Conditions (No Build)

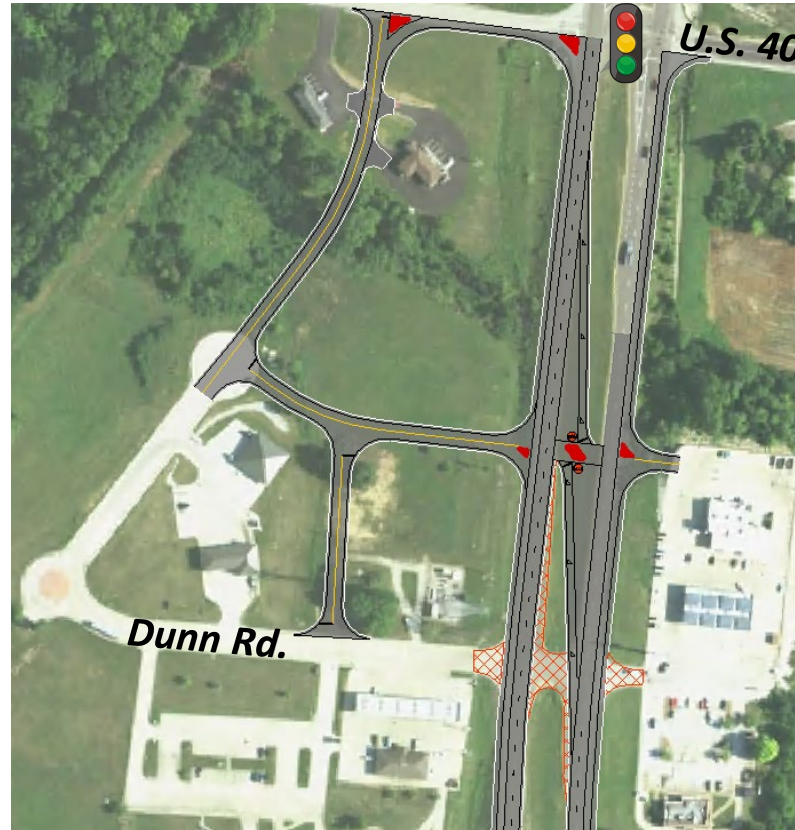


Currently, the Dunn Rd. intersection is **quite close to I-70**. When congestion occurs, **traffic can back up onto U.S. 54** – providing even **less space for vehicles exiting I-70** to maneuver into the appropriate lane.

2 North/Dunn Rd.: Exploration



Option #1: Right-in/Right-out at Dunn Rd. and construct west & east backage roads



Option #2: Relocate Dunn Rd. and construct west backage road

The team explored several solutions, including **removing some turning movements** and the use of **backage roads**.

These options would be **costly** and were **not well received** by stakeholders.

2

North/Dunn Rd.: Preferred Alternative



The **preferred solution** keeps Dunn Rd. as-is, **maintaining existing business access** and allowing project funds to be spent in areas of greater need.

Dunn Rd. has much **less traffic volumes** and **substantially fewer crashes** than other areas of the study. This solution would also **allow for future improvements** to accommodate new **development** or **other local needs** as they emerge.

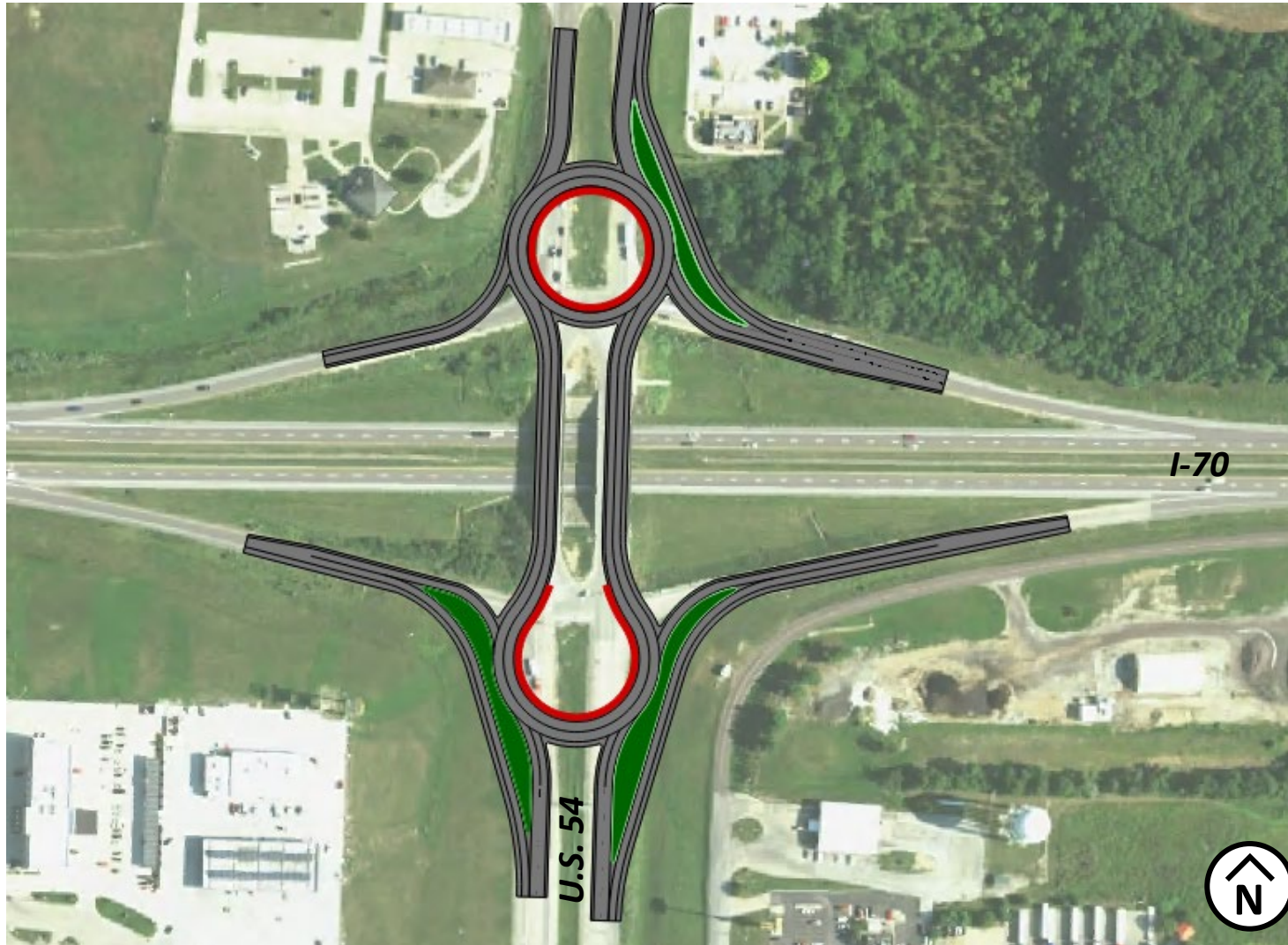


3 I-70/U.S. 54 Interchange: Current Conditions (No Build)



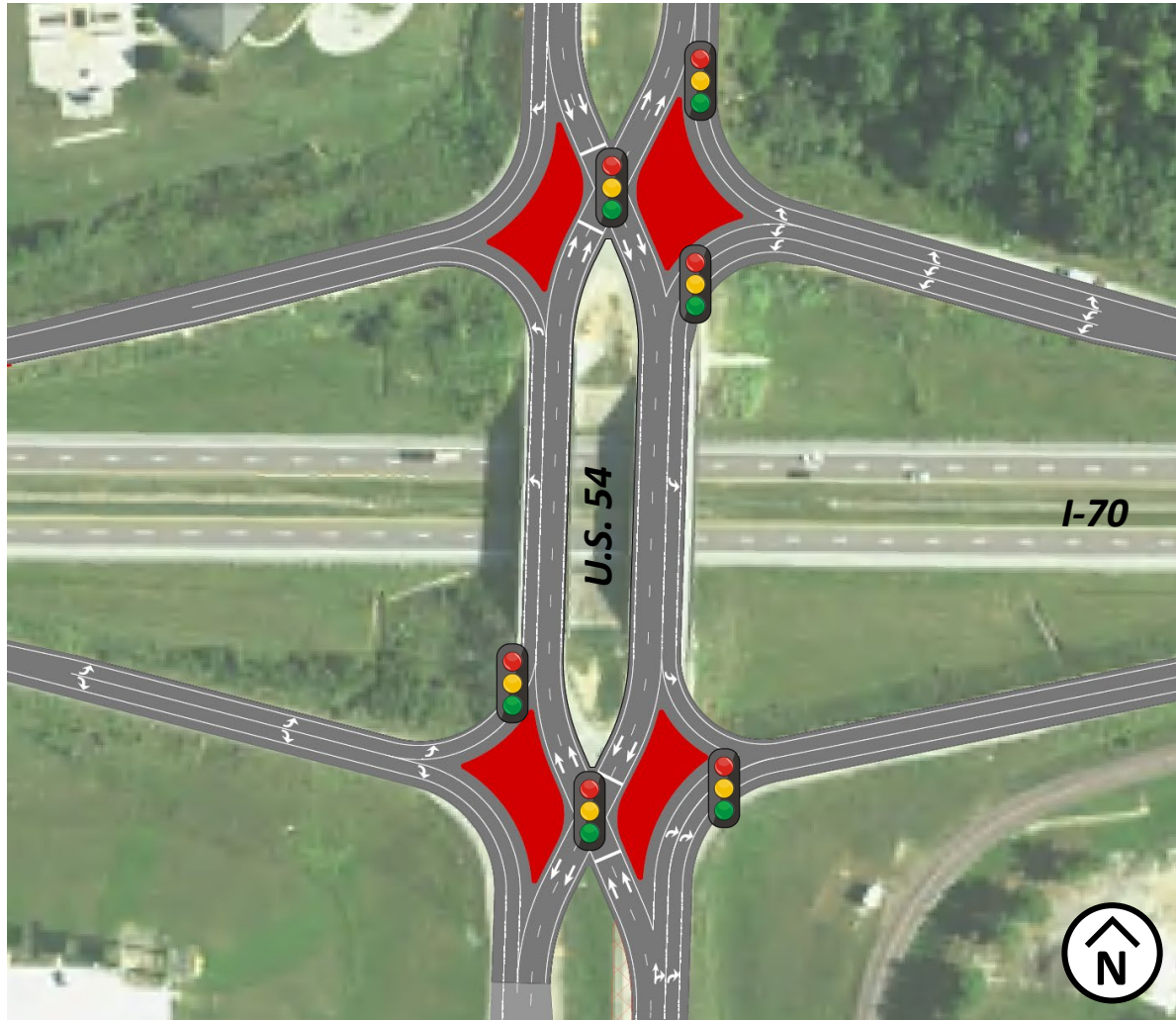
The existing interchange **does not accommodate current and projected traffic volumes.**

3 I-70/U.S. 54 Interchange: Exploration



The team explored several solutions, including a **double roundabout**.

3 I-70/U.S. 54 Interchange: Preferred Alternative



The preferred solution is a **Diverging Diamond Interchange (DDI)**. A DDI would:

- Provide substantial **safety benefits**.
- **Alleviate congestion** and long turning lines that back up onto I-70 exit ramps.
- Offer the **greatest cost/benefit value**.

*This interchange would be **similar to I-70 & Stadium Blvd. in Columbia, MO.***

A video example of a DDI is available on MoDOT's YouTube page: [youtube.com/watch?v=kMq1hReQ6xs](https://www.youtube.com/watch?v=kMq1hReQ6xs)

4

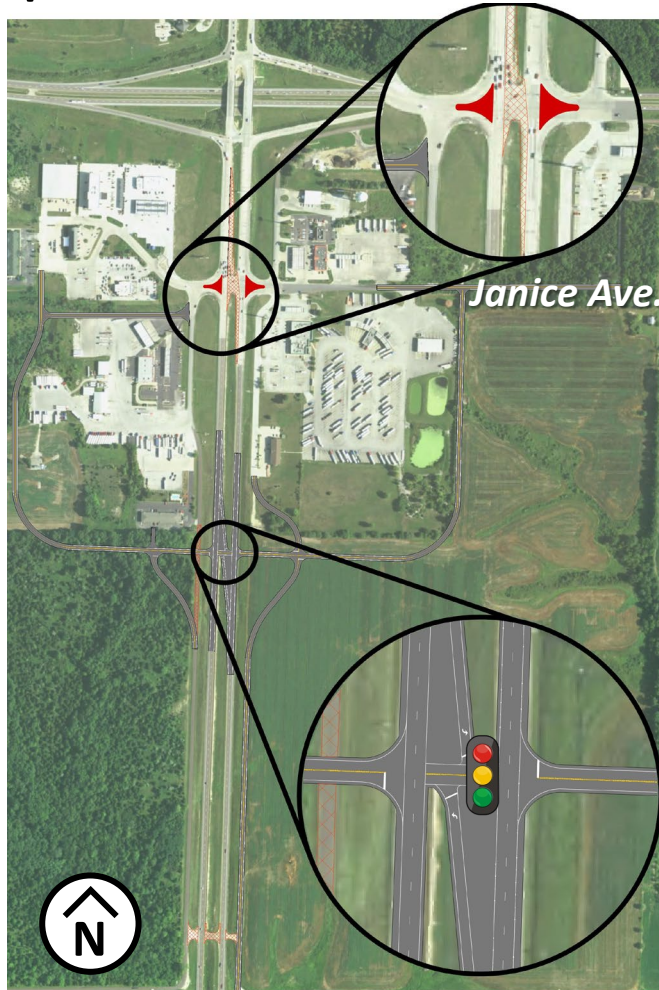
South/Janice Ave.: Current Conditions (No Build)



Currently, Janice Ave. experiences **heavy congestion** that can cause traffic to **back up onto U.S. 54**. In addition, the **turning lanes do not accommodate trucks well**, and this **slows traffic flow** through the intersection.

4 South/Janice Ave: Exploration

Option #1: Janice Ave. Intersection Relocation

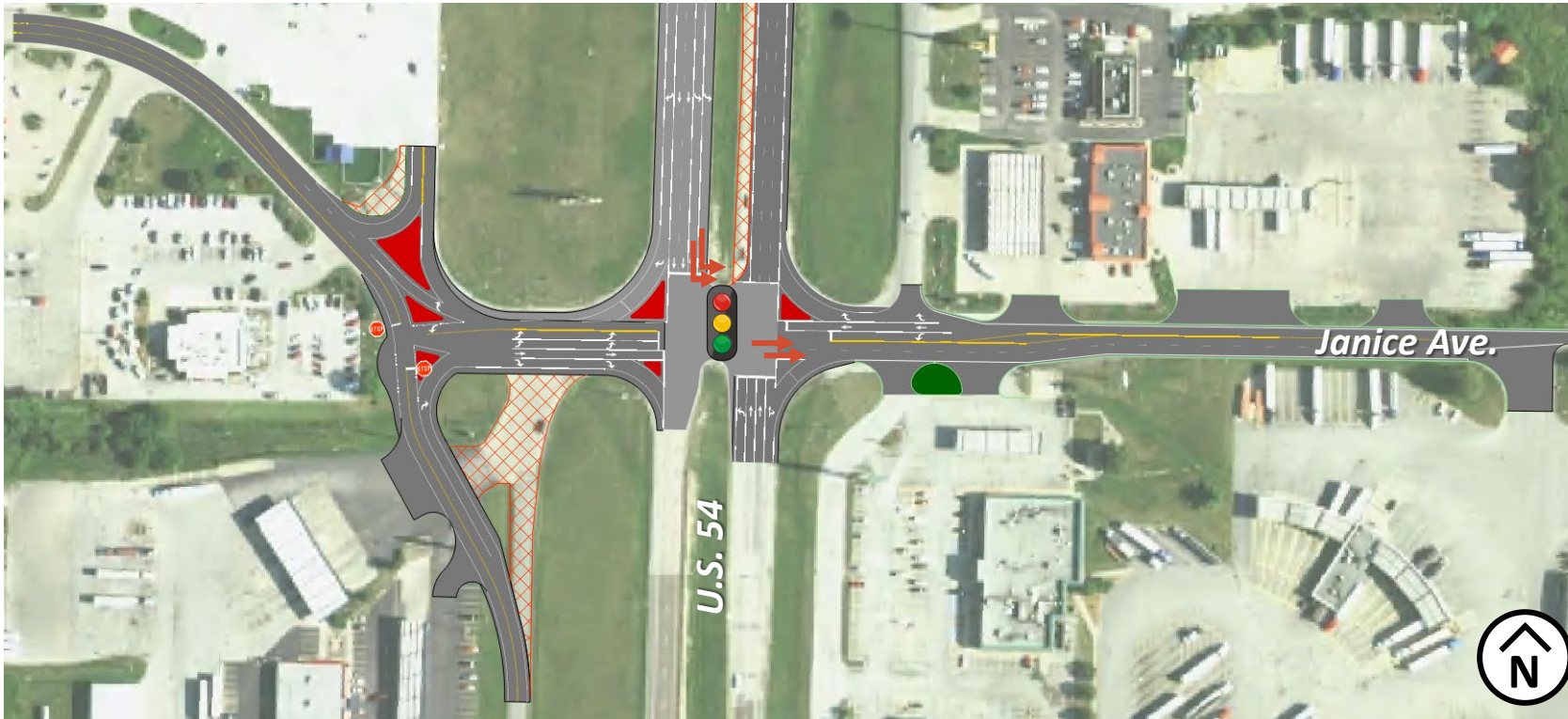


Option #2: Janice Ave. Throughabout Intersection



The team explored several solutions, including relocating the intersection and a throughabout.

4 South/Janice Ave: Preferred Alternative



- The preferred solution includes local road improvements that would:
- Improve traffic flow and **alleviate congestion.**
 - Better accommodate **side-by-side southbound left turns** for trucks.
 - Offer the **greatest cost/benefit value.**

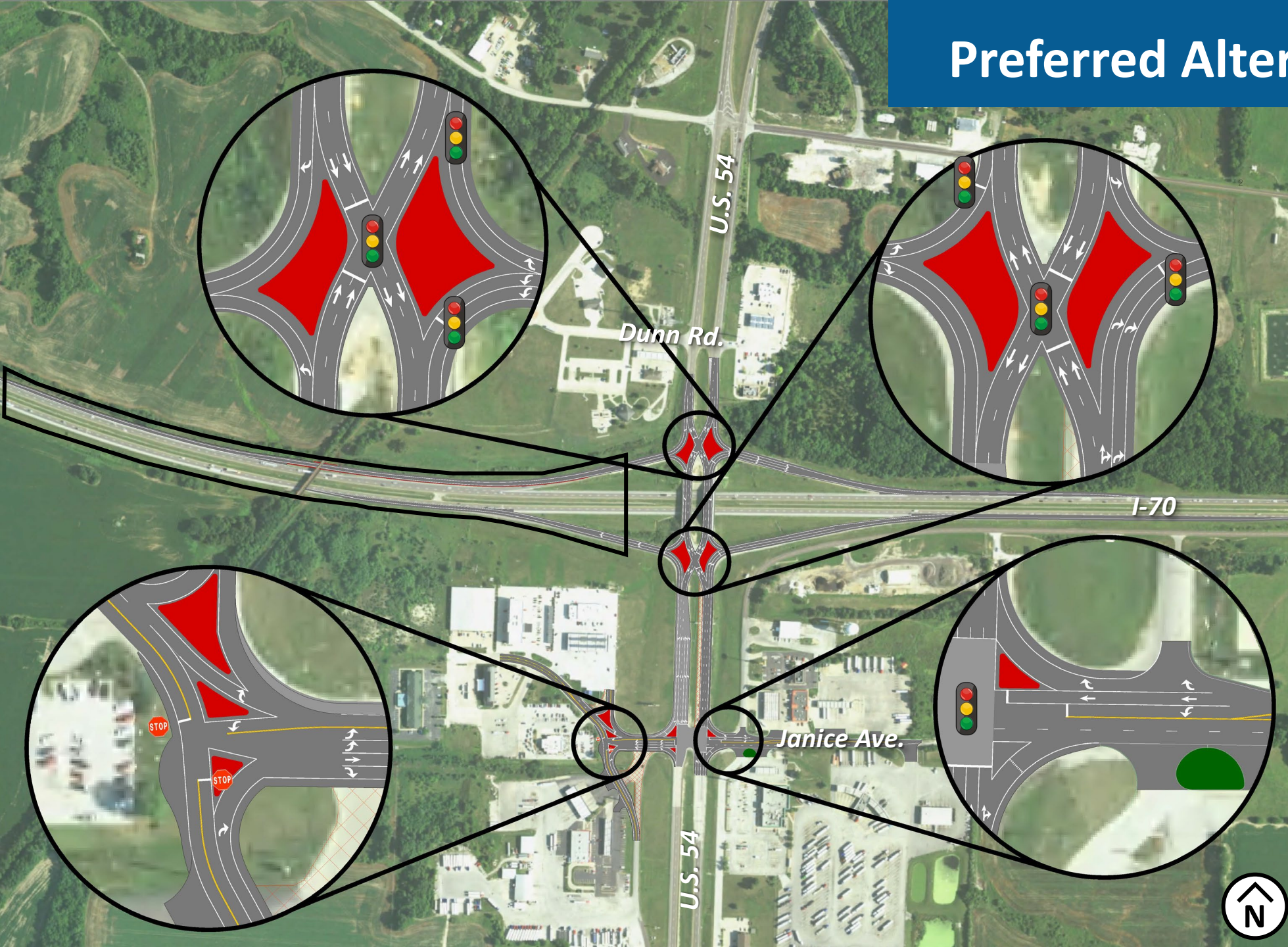


Preferred Alternative

Putting all the pieces together.



Preferred Alternative



No changes are currently planned at the Dunn Rd. intersection.



Anticipated Improvements

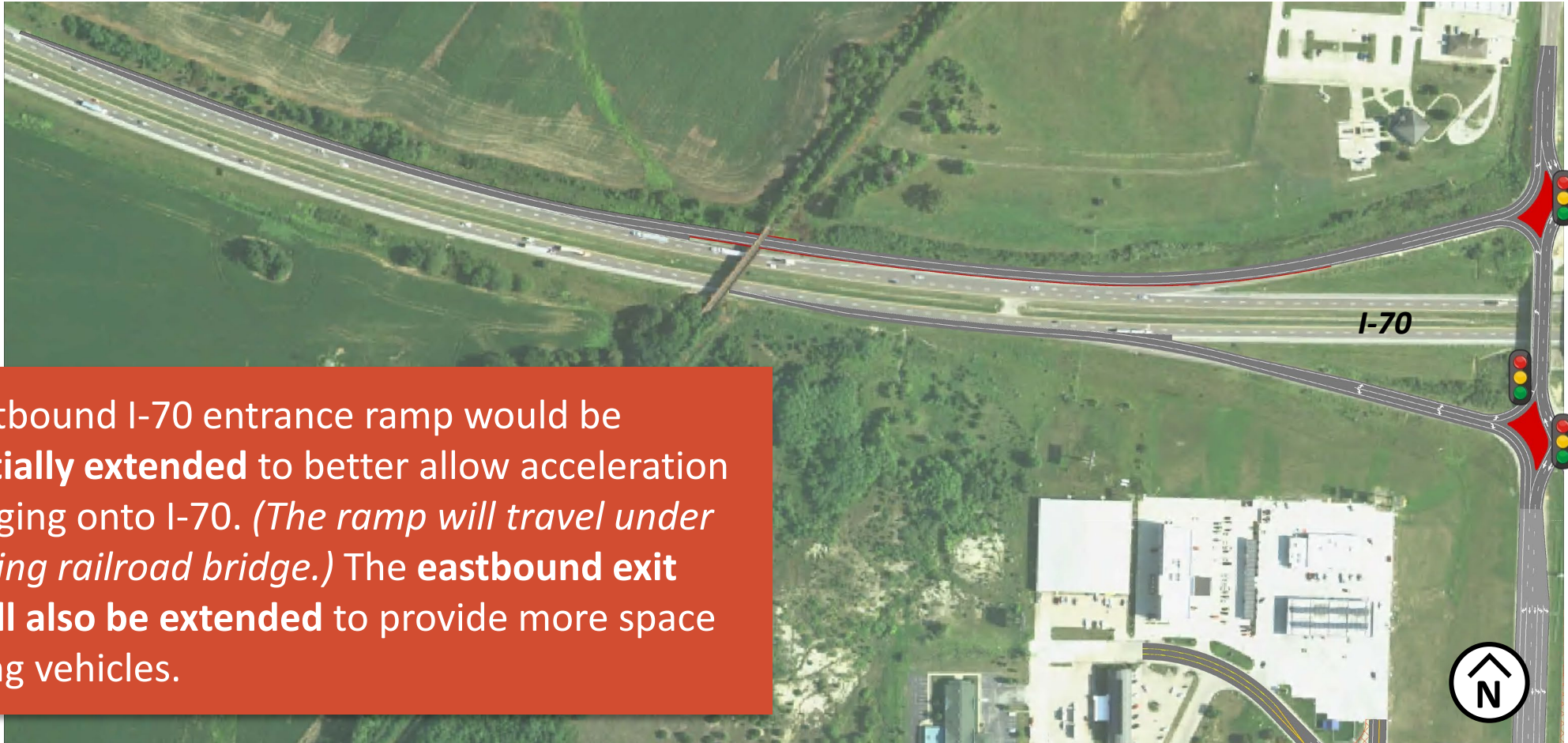
The Study's preferred alternative is anticipated to deliver the **following improvements**.

1. **Enhance safety** – through the **reduction of conflict points**
2. **Improve traffic flow** – keeping traffic on their way!
3. Opportunities for **less disruption to local businesses**
 - We understand **construction timing and phasing is important** – these details will be advanced in the next phase of the project.

1

Recommended Improvements to I-70 Ramps (on the west)

The westbound I-70 entrance ramp would be **substantially extended** to better allow acceleration and merging onto I-70. *(The ramp will travel under the existing railroad bridge.)* The **eastbound exit ramp** will also be **extended** to provide more space for exiting vehicles.



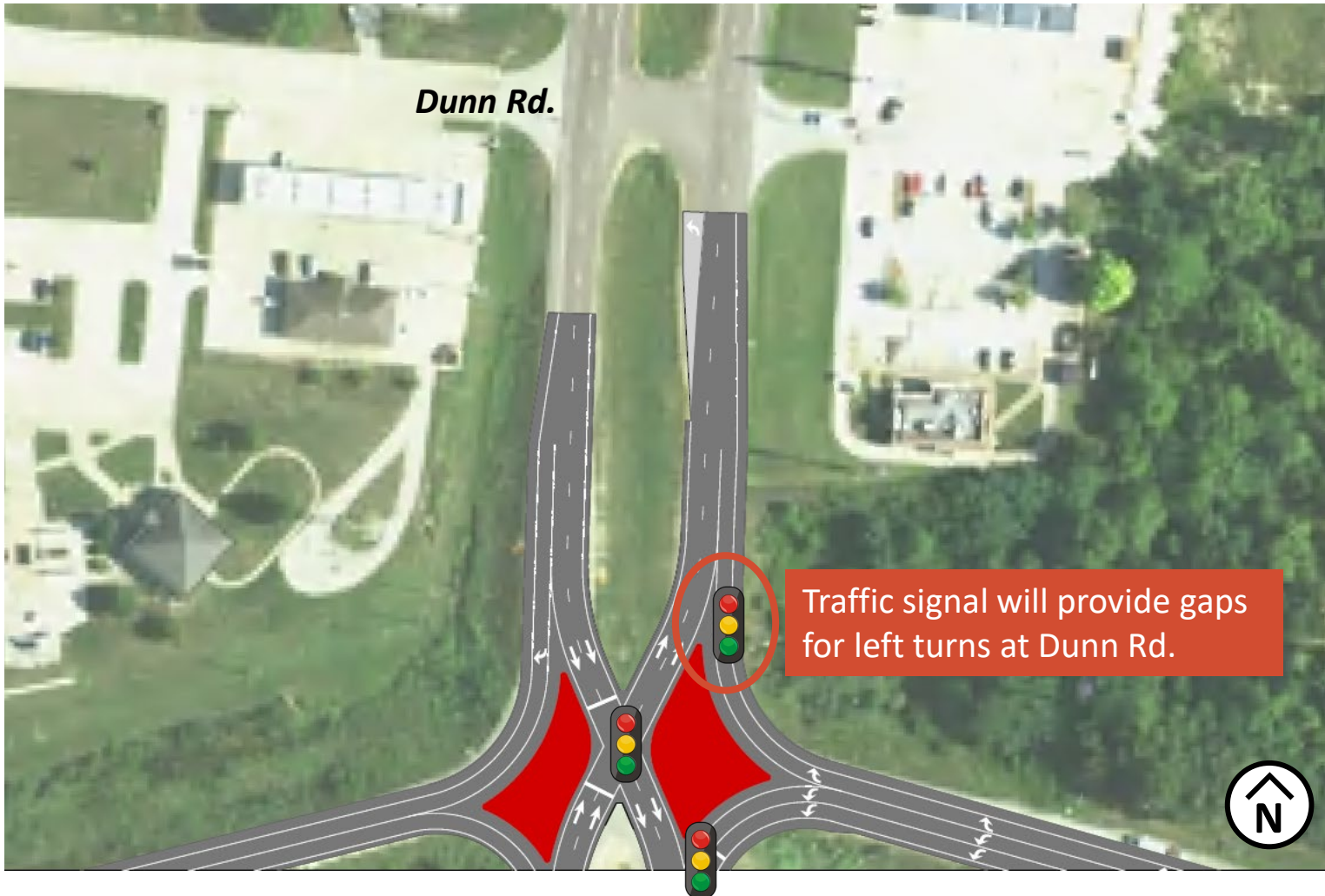
1

Recommended Improvements to Ramps (on the east)



The eastbound I-70 entrance ramp would be **substantially extended** to better allow acceleration and merging onto I-70. The **westbound exit ramp** will also be extended to provide more space for exiting vehicles.

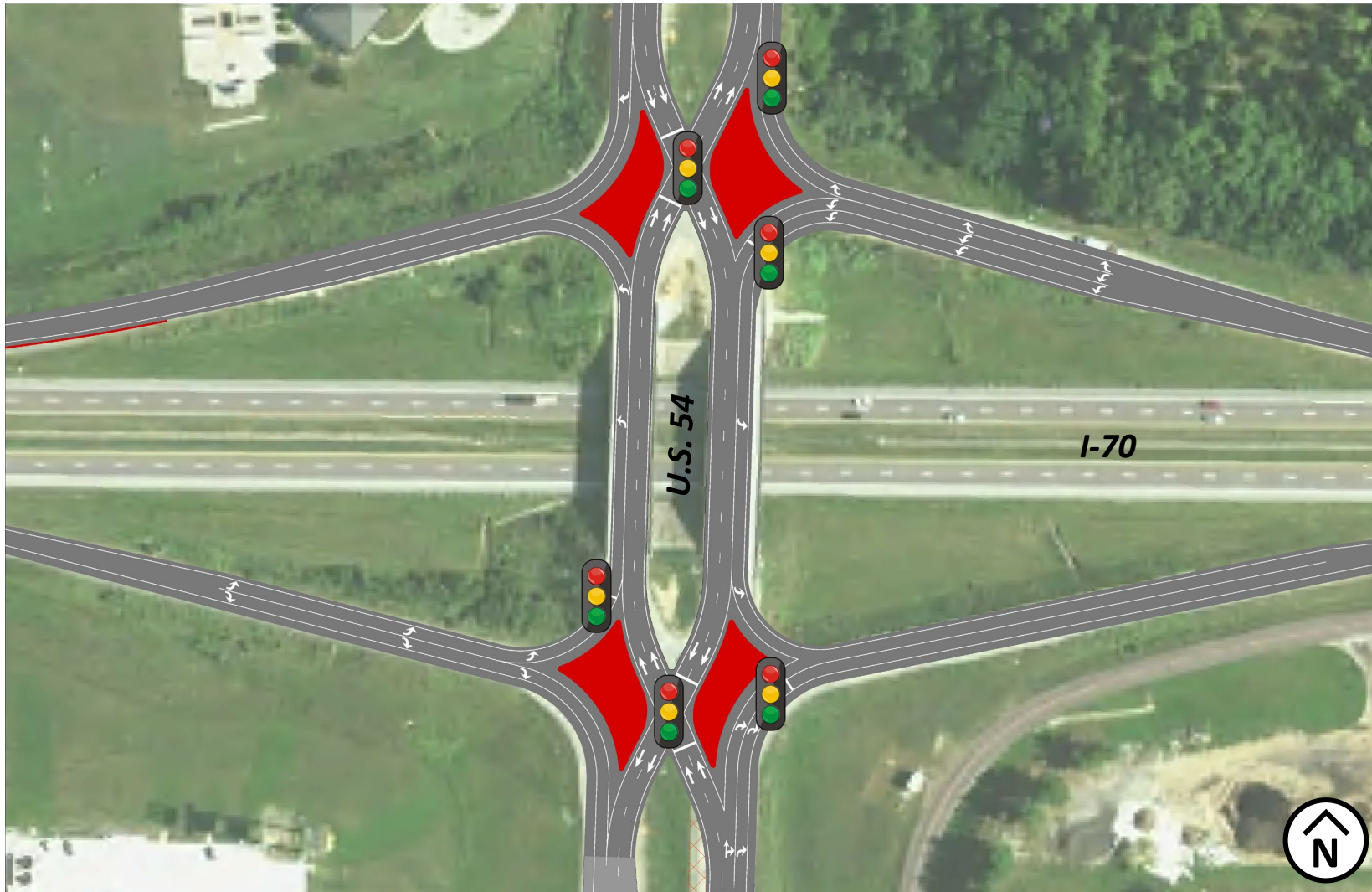
2 North/Dunn Rd. – No Change



Dunn Rd. has significantly **less traffic volumes** than other areas of the study. No changes are currently planned. The addition of a **traffic signal for right turns exiting from westbound I-70** will provide **gaps for left turns at Dunn Rd.**

3

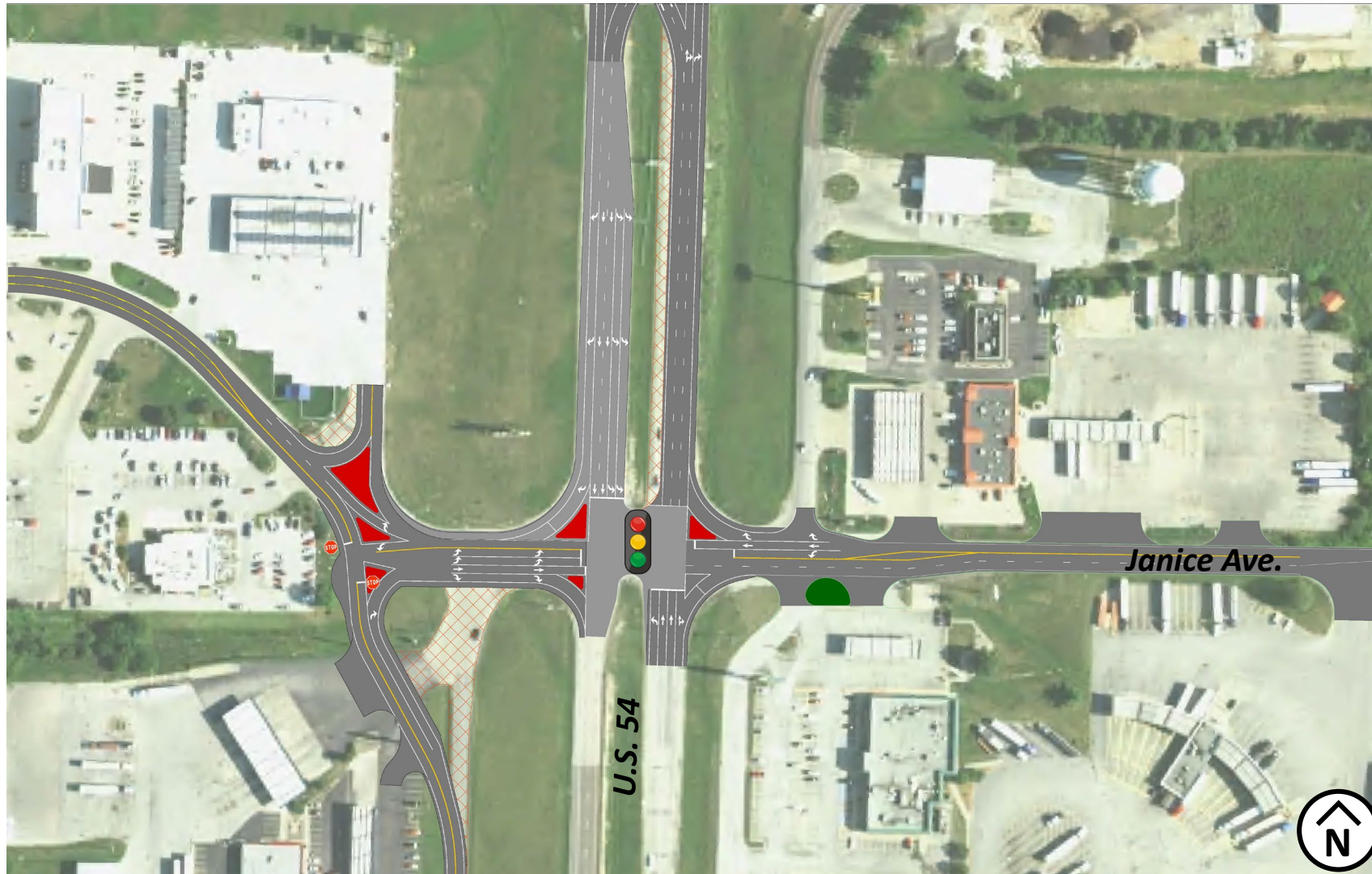
Recommended Improvements to I-70/U.S. 54 Interchange



A Diverging Diamond Interchange (DDI) would **reduce conflict points** by crossing the northbound and southbound lanes of U.S. 54 over I-70. This makes **left turns easier**, **accommodates more traffic** and **reduces the risk of crashes**.

4

Recommended Improvements to Janice Ave.



Moving the intersection of Janice Ave. and County Road 211 away from the traffic signal at U.S. 54 adds more storage and provides priority for U.S. 54 traffic turning onto Janice Ave.

A third northbound through lane would improve traffic flow during peak seasons.



Next Steps



TELL US WHAT YOU THINK

*Comment via the online comment form:
www.modot.org/KingdomCityInterchange*

Comments received before March 1, 2022, will be factored into the final results of the study, which is expected to be complete later this spring.



***A hard copy display of the preferred alternative is available for viewing at Kingdom City Hall and MoDOT Central District Office in Jefferson City.
Call 1-888-ASK-MoDOT (275-6636) if you require another option to comment.***

THANK YOU

This project is being considered for addition to the Draft **2023-2027 Statewide Transportation Improvement Program (STIP)**.

