

COMMUNITY ENGAGEMENT EVENT

WELCOME

Jct. US-81/N-12 Intersection Safety Improvement Project

TONIGHT'S AGENDA

5:00 – 5:30 PM

OPEN HOUSE

5:30 – 6:00 PM

NDOT PRESENTATION

6:00 – 7:00 PM

BREAKOUT GROUP Q&A

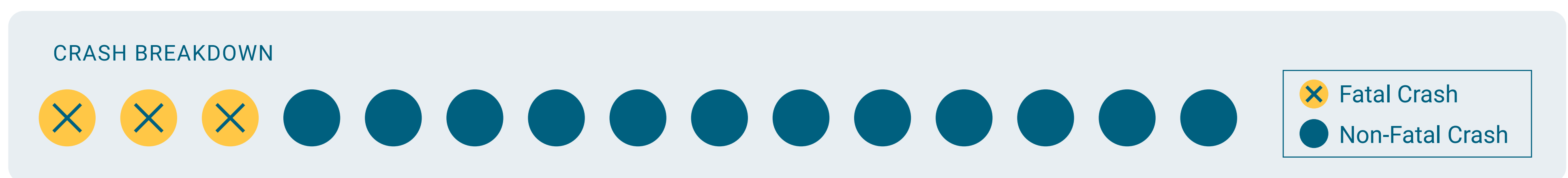
Please sign in at the registration table

Thank you for joining us!

ABOUT THE PROPOSED PROJECT

THE INTERSECTION NOW

Between 2016 and 2025, the intersection of US-81 and N-12 experienced 15 crashes, including 3 that resulted in fatalities. That's more than one crash every year at a single rural intersection.



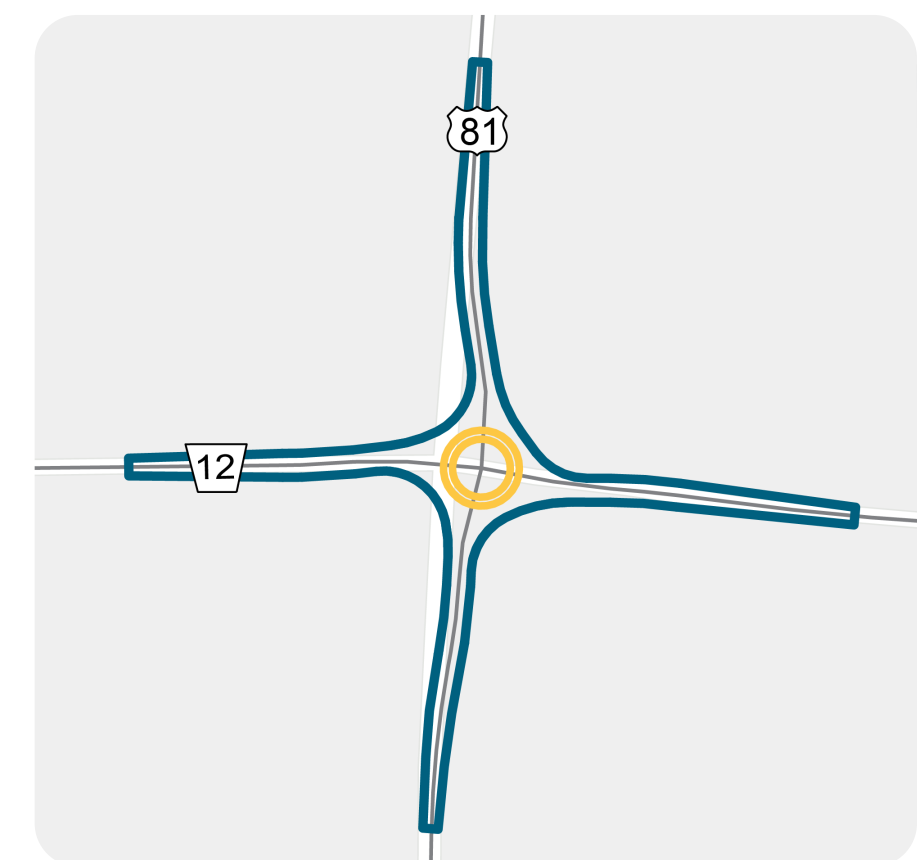
The pattern is consistent: nearly 3 in 4 crashes occurred when a vehicle struck the side of another. This type of collision happens when a driver on N-12 pulls into US-81 traffic and misjudges a gap in vehicles traveling at highway speeds. At 65 mph, there is very little margin for error.

NDOT has previously installed overhead lighting, flashing beacons, and advance warning signs at this location. These measures improve visibility and awareness, but they do not change the root cause. Drivers on N-12 must still cross or enter a high-speed highway through gaps in oncoming traffic.

Addressing the root cause of these crashes means *changing the intersection itself.*

THE PROPOSED PLAN

- Construct a **single-lane roundabout** at the intersection of US-81 and N-12.
- Raise the intersection grade by **approximately 6 feet** to improve sight distance for vehicles approaching from the south.
- Update lighting** designed for the new intersection geometry.



ESTIMATED COST
\$7.4 Million
Funded through the federal Highway Safety Improvement Program (HSIP)—dedicated exclusively to safety improvements. Funds are available now.

CONSTRUCTION SCHEDULE
Spring – Fall 2027
Anticipated within a single construction season. Project would be constructed under traffic using temporary roads. No detours will be required for construction.

TENTATIVE PROJECT TIMELINE



WHY A ROUNDABOUT WORKS

ROUNDABOUTS EXCEL AT SAFETY

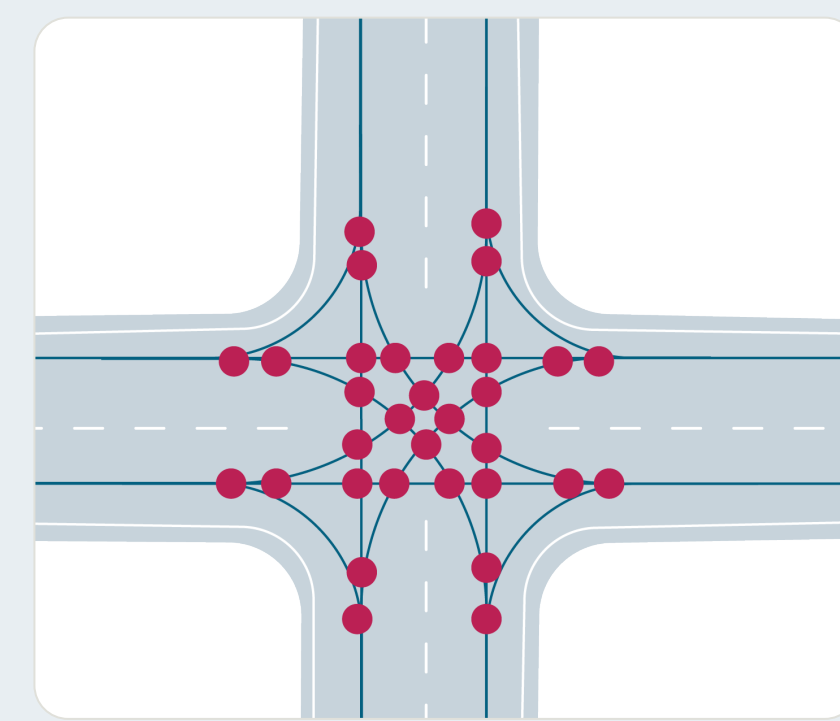


Reduces the **NUMBER** of crashes

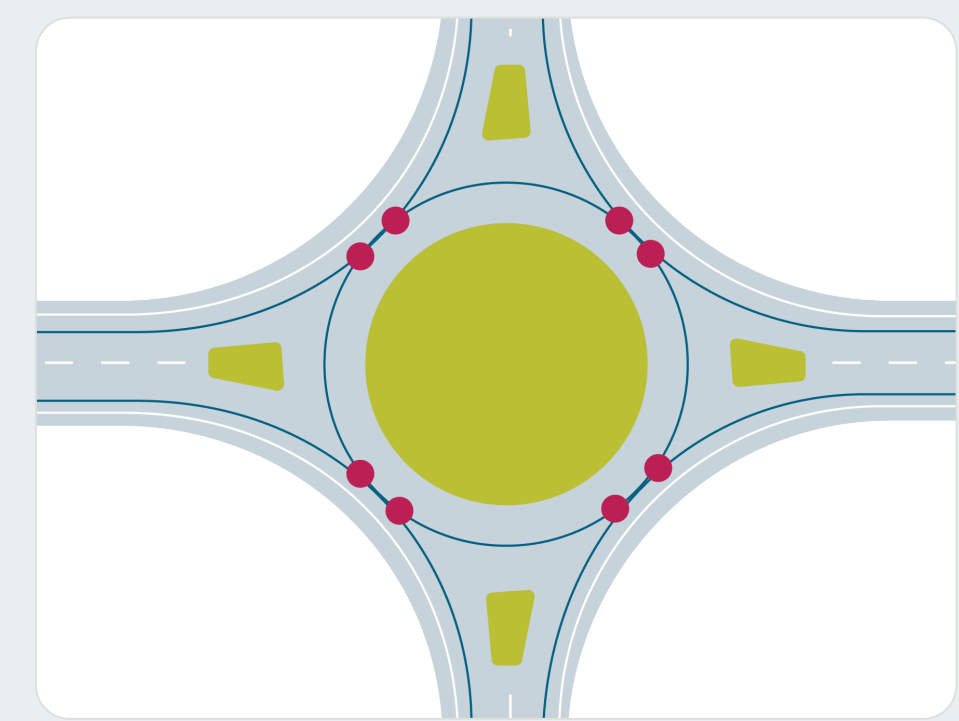


Reduces the **SEVERITY** of crashes

With roundabouts, head-on and high-speed right angle collisions are **dramatically reduced**.



TRADITIONAL INTERSECTION



ROUNDABOUT

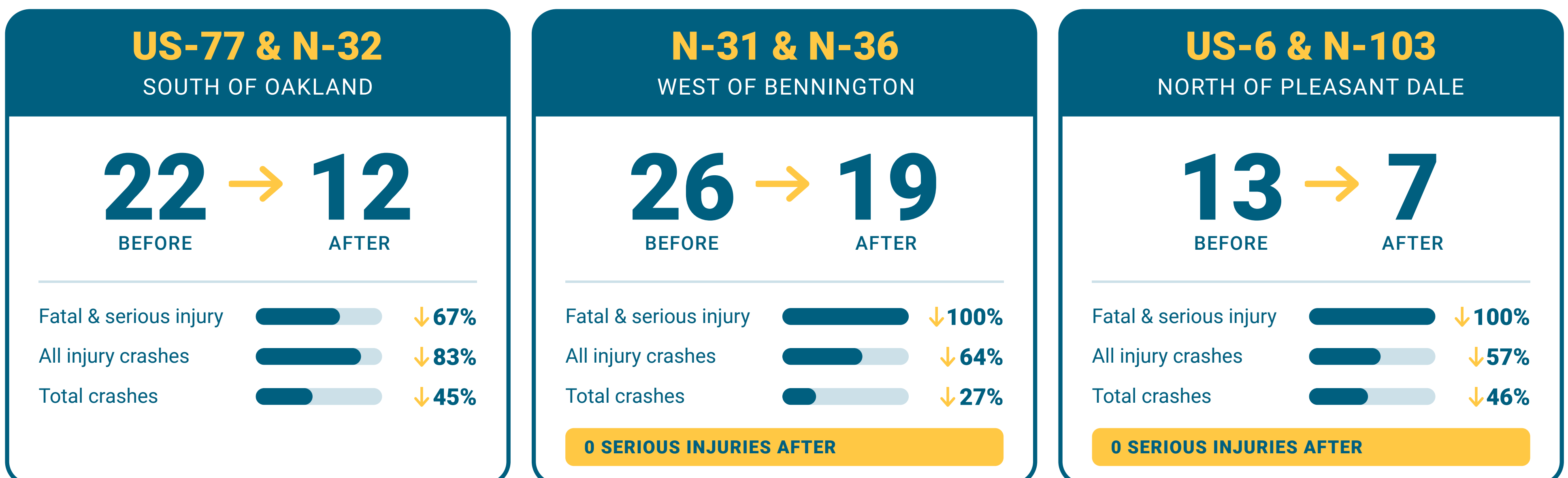
— Traffic Flow ● Vehicle-Vehicle Conflict Point

SLOWER SPEEDS WHERE IT MATTERS

Today, US-81 traffic passes through at 65 mph. A roundabout's physical design—curved lanes and a center island—requires all vehicles to slow to 20 mph. Signs require drivers to yield to traffic already in the roundabout. A roundabout enforces it through geometry.

THEY WORK IN RURAL NEBRASKA

A common concern is that roundabouts belong in cities, not on rural highways, but NDOT has built roundabouts in high-speed rural locations across Nebraska with consistent, positive results.



73% involved a vehicle crossing into oncoming traffic—the exact conflict a roundabout eliminates.

THEY KEEP TRAFFIC MOVING

Unlike a 4-way stop or a traffic signal, a roundabout does not require any vehicles to come to complete stop when the intersection is clear. Vehicles yield on entry and keep moving.



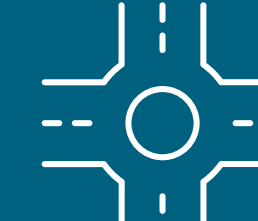
4-WAY STOP

Full stop for all vehicles



TRAFFIC SIGNAL

Full stop on red



ROUNDABOUT

Yield and keep moving

WHAT WE'VE HEARD "JUST PUT IN A 4-WAY STOP"

More than 1 in 4 community respondents suggested a 4-way stop, many pointing to the US-81/US-20 intersection near Norfolk as a model.



A 4-way stop like the one at Highway 20 and Highway 81 just makes more sense. It would cost less and probably lead to fewer accidents.



25%

RESPONDENTS SUGGESTED
A 4-WAY STOP

HOW THE INTERSECTION TYPES COMPARE

4-WAY STOP

SPEED

Full stop, then acceleration back to speed

VOLUME IMBALANCE

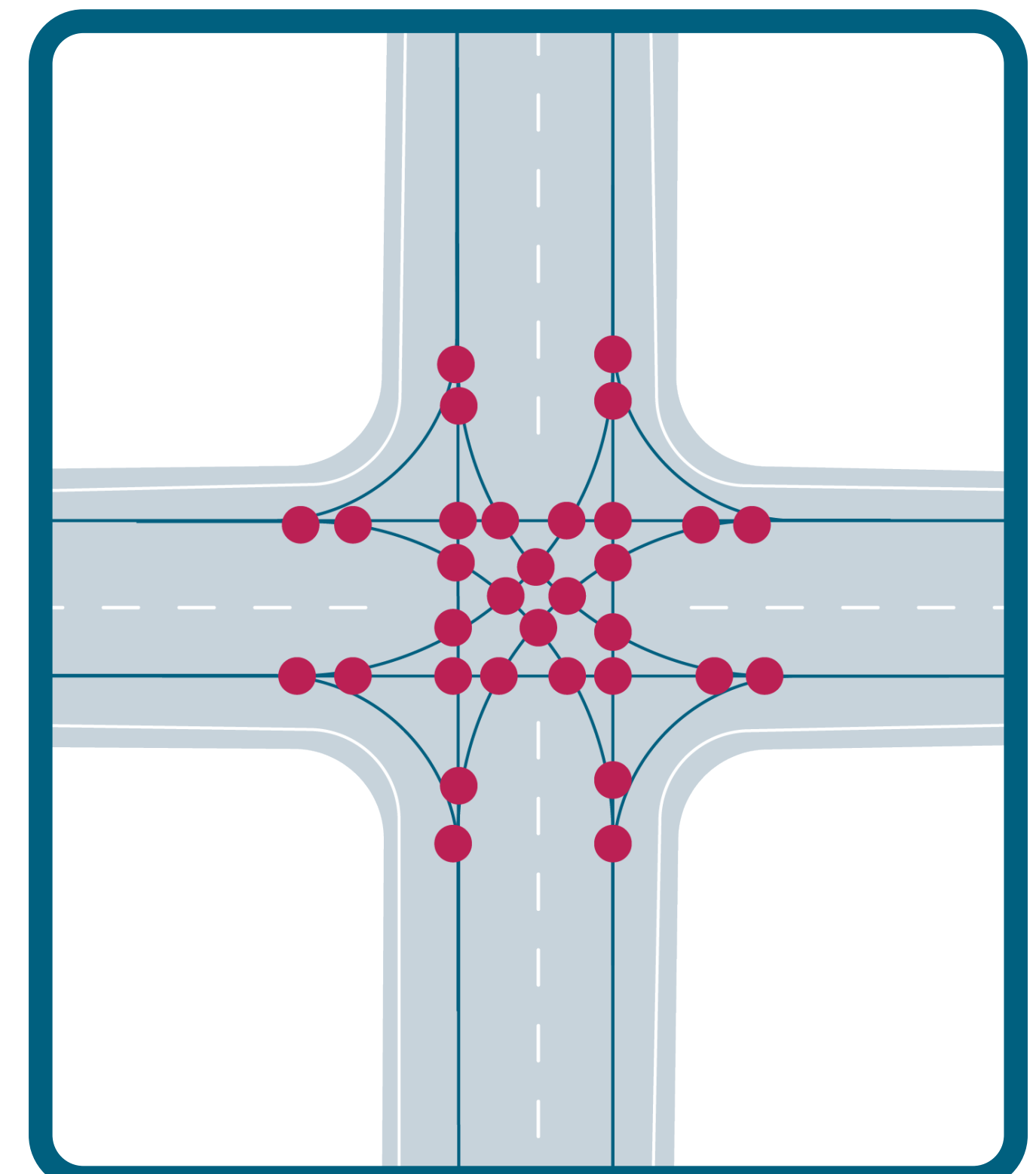
Creates excessive delay on the busier road

CRASH SEVERITY

Reduces angle crashes but introduces rear-end risk

COMPLIANCE

Relies on drivers choosing to stop at 65 mph



— Traffic Flow ● Vehicle-Vehicle Conflict Point

ROUNDBABOUT

SPEED

Slows traffic to 20 mph

VOLUME IMBALANCE

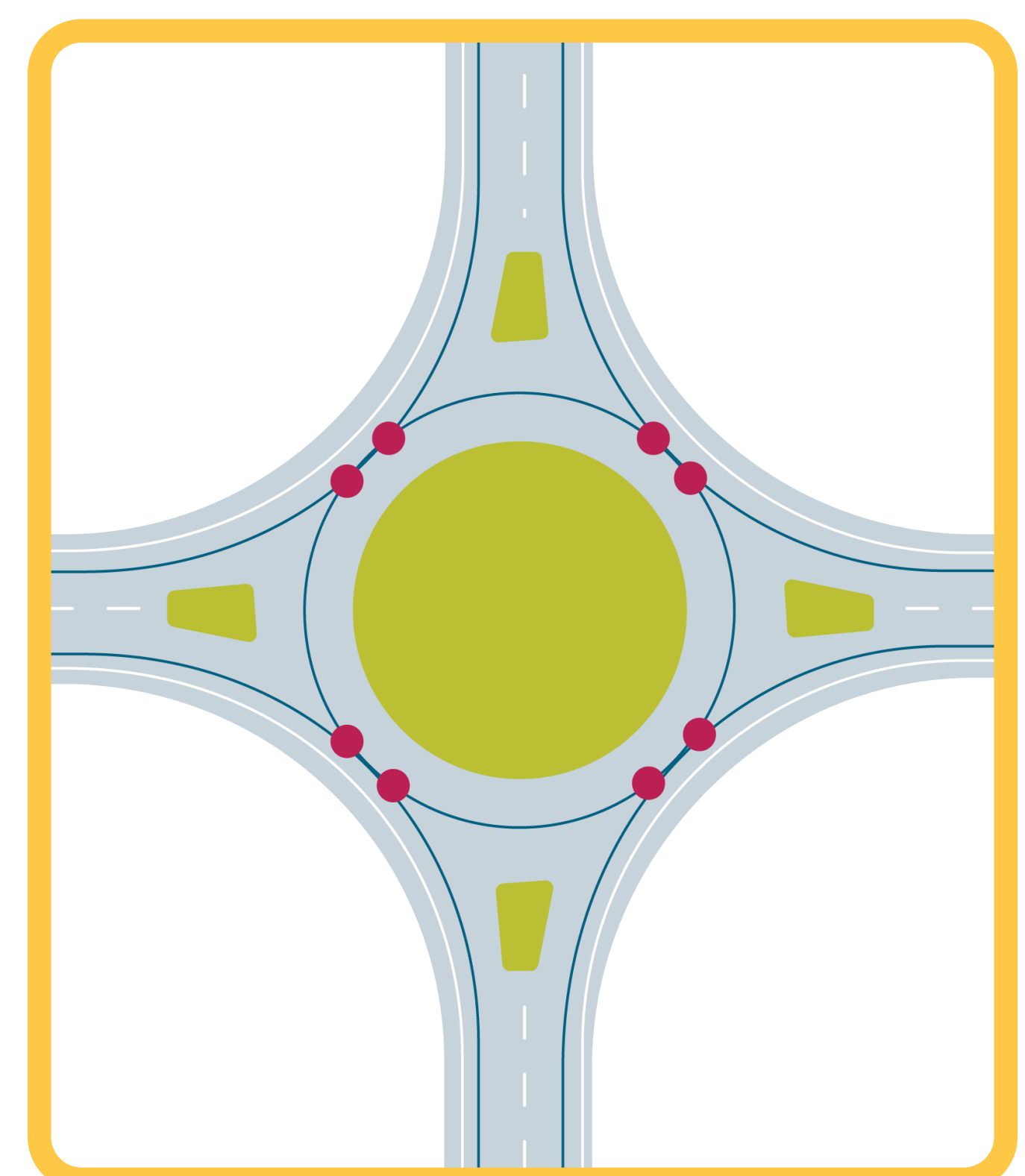
Yields, not stops, which keep traffic moving

CRASH SEVERITY

Reduces fatal and serious-injury crashes **78 – 82%** nationally

COMPLIANCE

Physical geometry requires speed reduction



WHAT WE'VE HEARD

“SEMIS, FARM EQUIPMENT, AND LARGE TRUCKS WILL BE IN JEOPARDY”

Large vehicles were the most frequently raised concern in public comments, mentioned by more than 1 in 3 respondents. Community members asked how semis, farm equipment, windmill loads, campers, and other oversized vehicles would safely travel through a roundabout at this intersection.



The roundabout on the west side of Norfolk along 275 has semis going through it all the time, and they fly through way too fast, which keeps causing accidents.



1 in 3

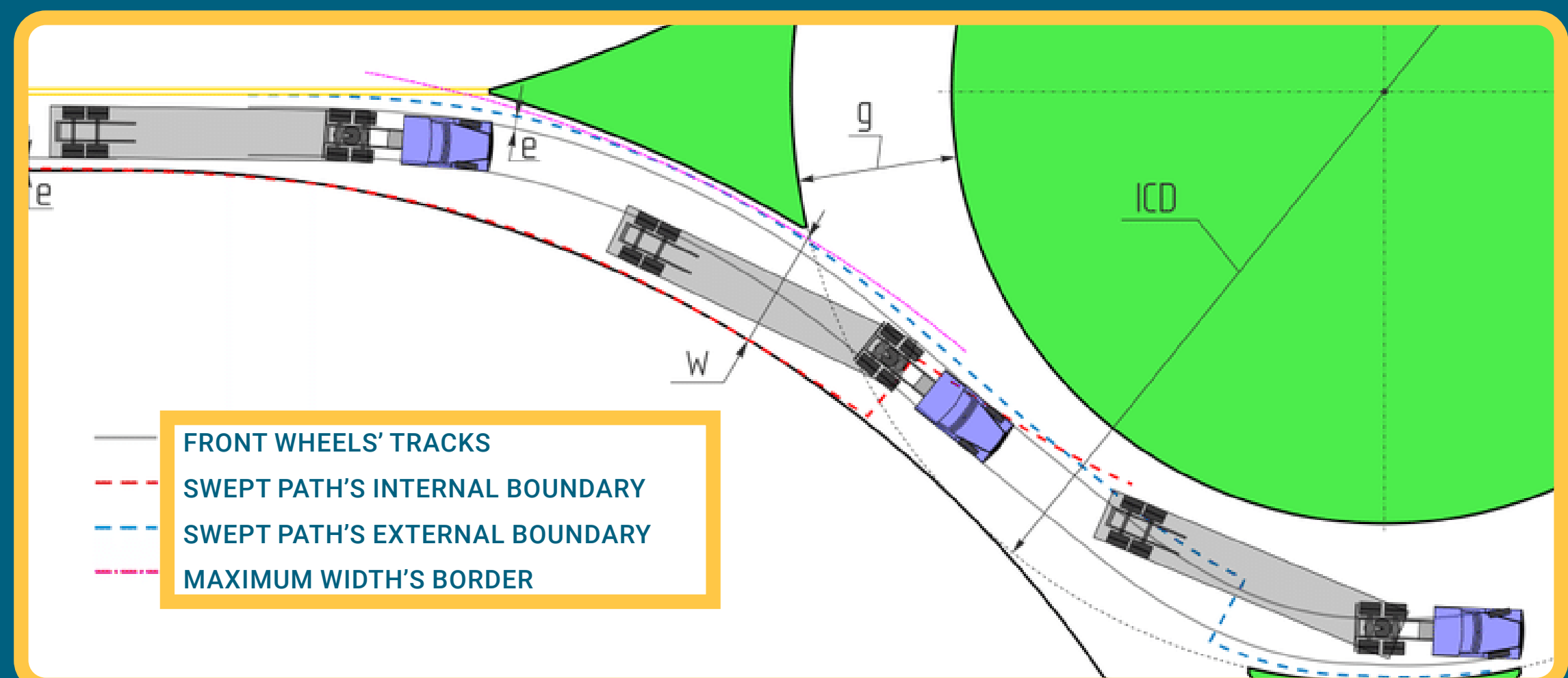
RESPONDENTS RAISED
LARGE VEHICLE CONCERNS

#1

MOST FREQUENTLY
RAISED CONCERN

ROUNDBABOUTS ARE DESIGNED FOR LARGE VEHICLES

Modern roundabouts include a truck apron, which is a raised, mountable concrete surface around the center island that large trucks can drive over with their rear wheels, giving them the extra space needed to complete the turn.



STAY IN THE TRAVEL LANE

Standard Passenger Vehicles

Cars and light trucks travel entirely within the paved roundabout lane – the apron sits slightly raised and is not used. The circulating roadway width is wider than a typical roadway lane. This helps cars and trucks navigate the roundabout.

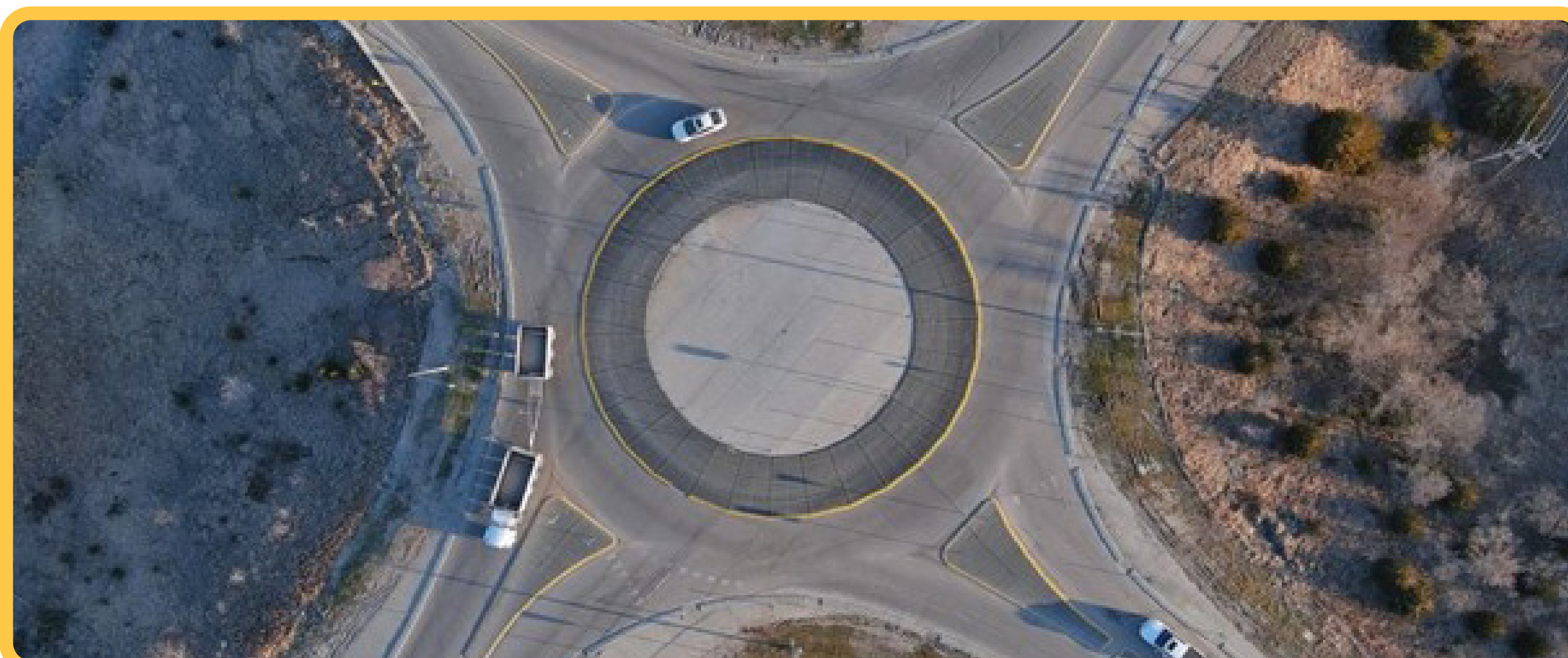
USE THE TRUCK APRON

Large and Oversized Vehicles

Semis and wide loads mount the apron with their rear wheels, gaining the extra swept width needed to complete the turn.

THIS IS NOT NEW TO NEBRASKA

Semis and large vehicles already navigate roundabouts at locations throughout the state, including on high-speed rural highways. NDOT has designed and built roundabouts that accommodate:



Ashland Roundabout at US-6 and N-66



**SEMI-TRUCKS AND
TRACTOR TRAILERS**



FARM EQUIPMENT



**OVERSIZED
PERMITTED LOADS**

WHAT WE'VE HEARD "THIS IS A WASTE OF MONEY"

More than 1 in 4 community respondents questioned whether the investment is justified or whether cheaper alternatives exist.



Seven-plus million dollars is way too much, and it makes no sense to waste tax money on such an expensive roundabout.



25%

RESPONDENTS QUESTIONED
THE INVESTMENT

WHERE THE MONEY COMES FROM

This project is funded through the federal Highway Safety Improvement Program (HSIP): federal dollars designated for safety improvements only, available now.

HOW DOES THIS COMPARE TO OTHER OPTIONS

ALTERNATIVE	ESTIMATED COST	SAFETY REDUCTION	FEASIBILITY
ROUNDBABOUT	\$7.4M	Significant reduction in fatal/serious-injury crashes	Funded and Ready
INTERCHANGE	\$15M – \$30M	Reduces conflict points	Not Funded
TRAFFIC SIGNAL	\$250K – \$500K	Does not meet traffic volume warrants at this location	Not Recommended <i>Due to Engineering Analysis</i>
4-WAY STOP	Minimal Capital Cost	Increased delays up to 85%; does not address speed or potential angle crashes	Not Recommended <i>Due to Volume Imbalance</i>

WHY WE ARE DOING SOMETHING

Three fatal crashes. One serious injury crash. Every crash at this intersection carries real costs: human lives, emergency response, medical care, property damage, and lost productivity.

3 fatal crashes occurred at this intersection between 2016 and 2025.



3 FATALITIES



1 SERIOUS INJURY

WHAT WE'VE HEARD "LIMITED VISIBILITY WILL CAUSE MORE CRASHES"

More than 1 in 4 community respondents raised concerns about the hills surrounding the intersection, worried that drivers would not have enough time to see and react to a roundabout at the crest.



With those hills, nobody is going to see a roundabout in time. This location is completely wrong for something like that.



25%

RESPONDENTS RAISED
VISIBILITY CONCERNS

RAISE THE INTERSECTION IMPROVING VISIBILITY

The project will raise the intersection by approximately 6 feet and update lighting to improve visibility for vehicles approaching from all directions.

**RAISE
~6 FEET**

**WARNING
SIGNS**

**UPDATE
LIGHTING**

Raising the intersection ~6 feet **directly addresses the sight-distance concern** raised by the community.

HOW THIS WOULD CHANGE WHAT DRIVERS SEE

TODAY
INTERSECTION ELEVATION Current grade, sits low relative to surrounding hills
SIGHT DISTANCE – SOUTH APPROACH Limited by hill crest
WARNING SIGNS Advance warning signs on N-12
LIGHTING Overhead intersection lighting
SPEED AT INTERSECTION 65 mph through-traffic on US-81

AFTER CONSTRUCTION
INTERSECTION ELEVATION Raised approximately 6 feet
SIGHT DISTANCE – SOUTH APPROACH Significantly improved by grade change
WARNING SIGNS Roundabout and other warning signs in all directions
LIGHTING Updated lighting for roundabout design
SPEED AT INTERSECTION 20 mph, the roundabout's curves require slowing



At 20 mph, a roundabout gives drivers **far more time to see, react, and stop** than traffic moving at 65 mph.

WHAT WE'VE HEARD "WE NEED A 4-LANE"

Expanding US-81 to four lanes was suggested by about 1 in 6 respondents. Community members expressed how this could serve the region's long-term growth.

“

Making US-81 four lanes is a much better solution than a roundabout.

”

“

This project would provide only a temporary fix and would need to be completely redone if Highway 81 is ever expanded to four lanes.

”

Between 2016 and 2025, this intersection saw 15 crashes, including 4 resulting in fatalities or serious injuries. A 4-lane expansion, even if funded tomorrow, would take years before a single lane of pavement is laid.

ROUNDABOUT (THIS PROJECT)

SCOPE Single intersection	TIMELINE Construction Spring–Fall 2027
ESTIMATED COST \$7.4 million	RIGHT-OF-WAY Minimal
FUNDING SOURCE HSIP (federal safety funds, available now)	ADDRESSES SAFETY NOW? Yes

4-LANE EXPANSION

SCOPE Miles of Highway	TIMELINE Years (planning, design, environmental review, funding authorization)
ESTIMATED COST Tens to hundreds of millions	RIGHT-OF-WAY Significant land acquisition along the corridor
FUNDING SOURCE Surface Transportation Program (not currently programmed or funded)	ADDRESSES SAFETY NOW? No: years to decades away if pursued

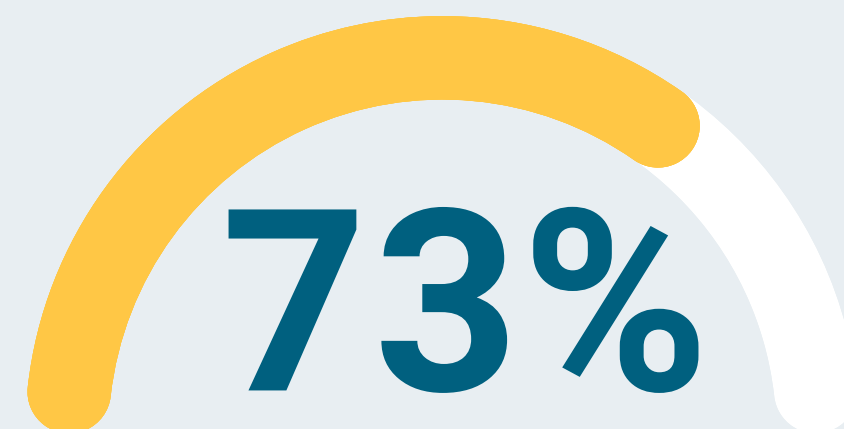
SAFETY IS THE PRIORITY

CRASH SUMMARY

Between 2016 and 2025, the intersection of US-81 and N-12 experienced:

15 TOTAL CRASHES

3 FATAL CRASHES



73% OF CRASHES WERE ANGLE CRASHES

Angle crashes at highway speeds are among the **most dangerous** crash types on rural highways.

Between 2016 and 2025, this intersection averaged more than one crash per year. Three of those crashes took lives. Nearly 3 in 4 crashes occurred when a driver on N-12 pulled into US-81 traffic traveling at 65 mph.

WHAT WE'VE TRIED:

NDOT has previously installed safety measures at this intersection, including:

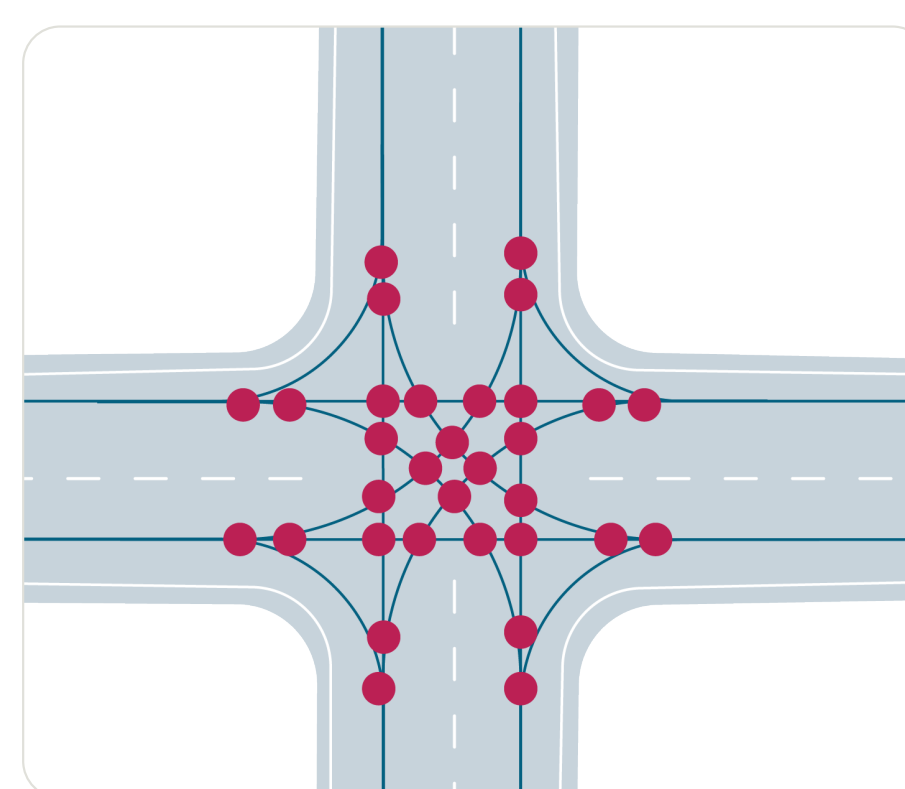
- Overhead intersection lighting
- Flashing beacons on stop signs
- Advance warning signs on N-12
- Rumble strips on N-12

These measures improve visibility and awareness, but do not change the root cause of the problem. Drivers on N-12 must still cross or enter a high-speed highway through gaps in oncoming traffic.

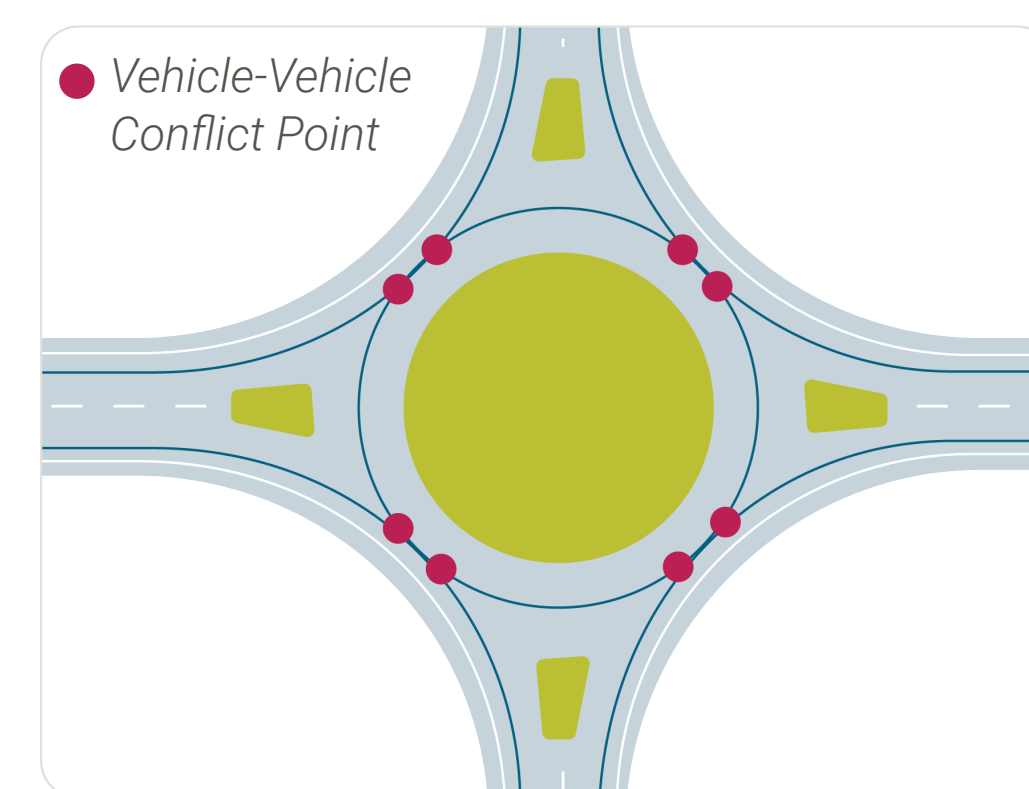
HOW A ROUNDABOUT ADDRESSES THIS:

A roundabout changes the geometry of the intersection itself. Instead of crossing through high-speed traffic, all vehicles:

- Slow to 20 mph before entering the intersection
- Yield and merge rather than cross opposing traffic
- Travel in the same direction



TRADITIONAL INTERSECTION



ROUNDABOUT