

FARNAM STREET TWO-WAY CONVERSION

50th and 52nd Street Intersection Improvements



Welcome!

The purpose of this meeting is to:

- Present the findings of the Farnam Street Corridor Study and conceptual design alternatives
- Inform you of next steps in the process
- Receive public comments/concerns



WELCOME

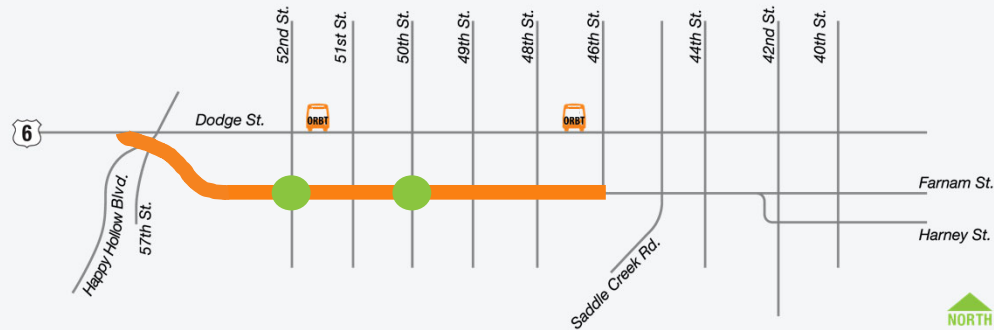
Welcome to the Public Open House Meeting for the Farnam Street Two-way Conversion: 50th and 52nd Street Intersection Improvements. This presentation is intended to be around 15 minutes, after which we will dismiss to the open house portion of the meeting, where project staff will be available to answer questions on a one-on-one basis.

This project is still in the conceptual phase, and alternatives are being considered. The intent of this meeting is to present the finding of the study and hear from property owners and users of the street system early in the process rather than after improvements are designed and planned for construction.

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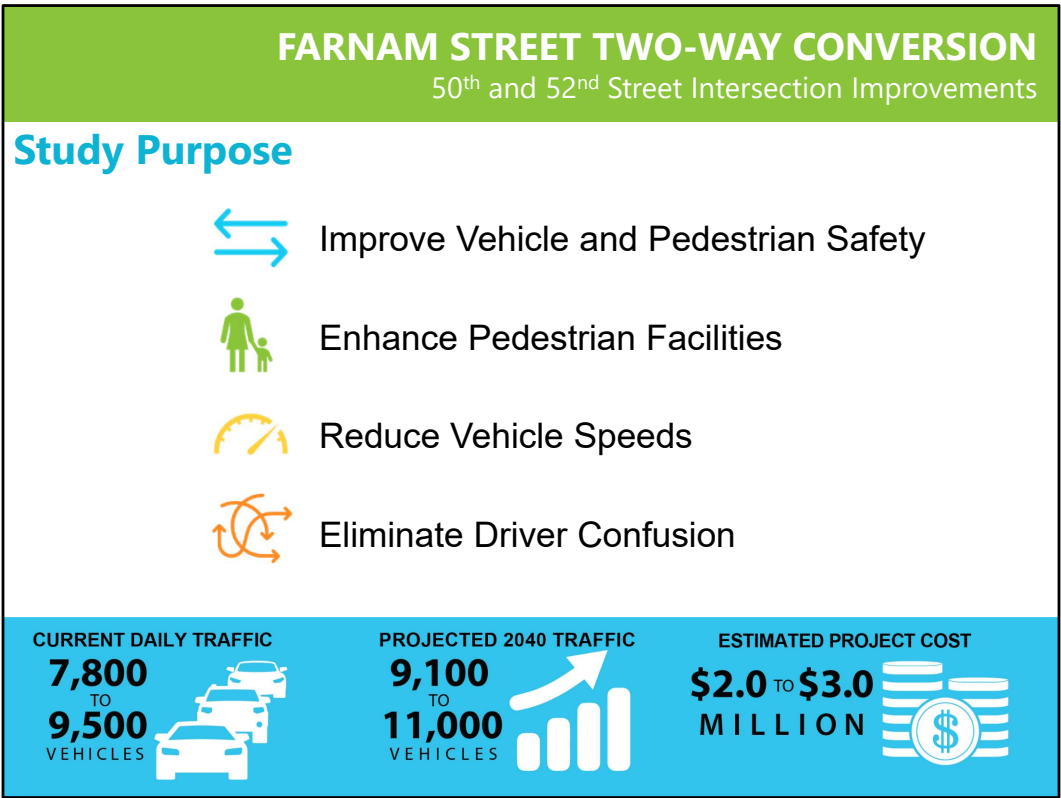
50th and 52nd Street Intersection Improvements

Study Location



STUDY OVERVIEW

The study area is located along Farnam Street from Happy Hollow Boulevard to 46th Street. This segment of Farnam Street passes through the Dundee neighborhood and is unique as it switches between one-way and two-way operations throughout the day using variable lane assignment signs and signals. Farnam Street has operated in this condition since the early 1950s.



STUDY PURPOSE

The City is studying the segment of Farnam Street between Happy Hollow Road and 46th Street to see if converting it to two-way traffic all day is feasible and, if so, what improvements might be needed to make it work.

The purpose of the study is to evaluate alternatives to improve vehicle and pedestrian safety, enhance pedestrian facilities, reduce vehicle speeds, eliminate driver confusion from time-of-day operation change, and improve transportation facility operations and mobility of the traveling public on Farnam Street.

FARNAM STREET TWO-WAY CONVERSION

50th and 52nd Street Intersection Improvements

Study Overview



KEEP OMAHA
moving



STUDY OVERVIEW

The Farnam Street Corridor Study (OPW 53944) included a detailed analysis evaluating the feasibility of permanently converting Farnam Street to a continuous, two-way street all day through the study area.

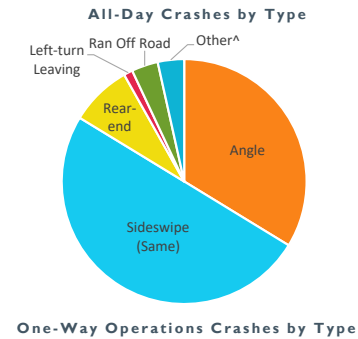
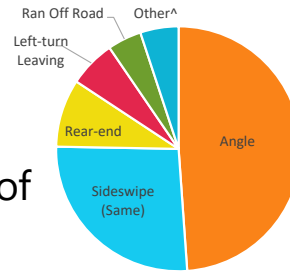
The study shows that two-way conversion is feasible so long as intersection improvements are made at 50th Street and 52nd Street. There are three improvement alternatives for each intersection that are being discussed at this meeting which were developed based on evaluation of the existing crash history and future traffic operation needs. Recommended improvements were then compared based on budget, vehicular and pedestrian safety, right-of-way impacts to adjacent property owners, driveway access impacts, and how well traffic will move through the intersections.

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50th and 52nd Street Intersection Improvements

Safety Analysis: Crash Type

- All-Day vs One-Way
 - >50% of crashes = the 4 hours of peak one-way traffic
 - Sideswipe Crashes During One-way operations



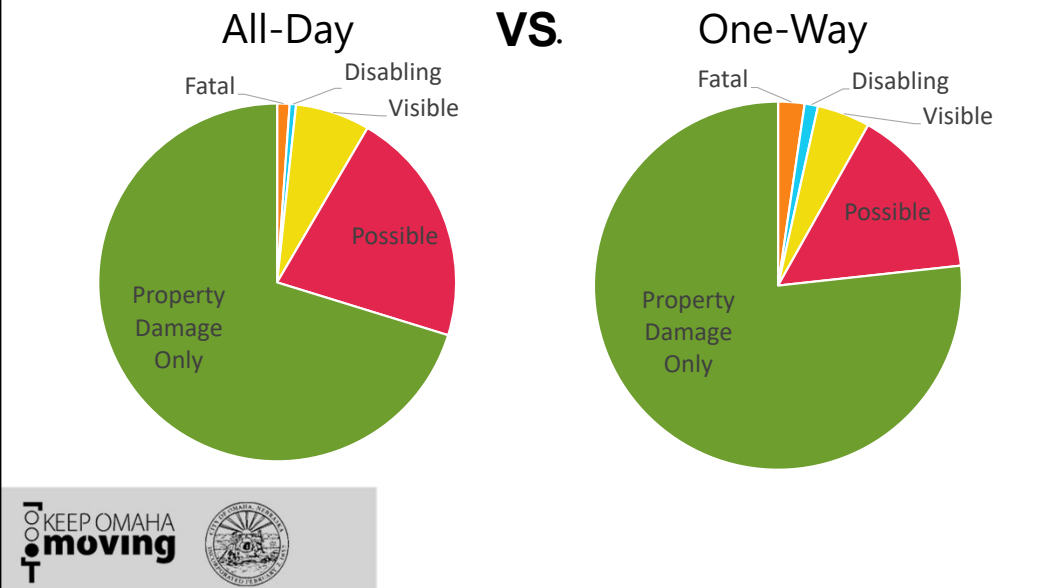
SAFETY ANALYSIS

To start off with are going to look a safety. A safety analysis was first completed comparing crashes occurring during the one-way operation time periods versus the total crashes occurring regardless of traffic flow direction for the whole corridor. The four hours of the day that Farnam Street operates as one-way it carries approximately 30% of weekday traffic, but those four hours only represent 17% of the time in a day. Comparatively, over 50% of all crashes occur during one-way operations. The analysis also indicates that sideswipe (same direction) type crashes make up a higher percentage of crashes during one-way operations, which is directly related to the two lanes of one-way travel during peak hours.

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50th and 52nd Street Intersection Improvements

Safety Analysis: Crash Severity



SAFETY ANALYSIS

Additionally, a comparison of crashes by severity showed that both fatal crashes, and just under 50% of high severity crashes occurred on the corridor during one-way operations. Both fatal crashes in the study period occurred during the PM peak period, with one in 2015 and one in 2019.

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50th and 52nd Street Intersection Improvements

Safety Summary

- 58% of all crashes occur during one-way operations
- 48% of high severity crashes (fatal+injury) occur during one-way operations



SAFETY SUMMARY

In summary, one-way operations during the AM and PM peak periods carry approximately 30% of the daily traffic on Farnam Street, whereas the same 4-hour period accounts for 58% of all crashes throughout the day and 48% of high severity crashes.







Comparing the corridor to other similar roadways in the City, Farnam Street has a significantly higher number of crashes per mile of roadway and higher crash severity during the AM and PM peak hours. During two-way conditions, Farnam Street's crash statistics are more in line with similar corridors.

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50th and 52nd Street Intersection Improvements

Farnam Street w/ Two-way Traffic

- Future peak hour two-way traffic volumes result in the intersections of 50th & 52nd Streets failing to meet the traveling public's needs.
- Both intersections would be LOS F in future conditions.

FREE FLOW Low volumes and no delays.	LOS A	
STABLE FLOW Speeds restricted by travel conditions, minor delays.	LOS B	
STABLE FLOW Speeds and maneuverability closely controlled because of higher volumes.	LOS C	
STABLE FLOW Speeds considerably affected by change in operation conditions. High density traffic restricts maneuverability; volume near capacity.	LOS D	
UNSTABLE FLOW Low speeds; considerable delay; volume at or slightly over capacity.	LOS E	
FORCED FLOW Very low speeds; volumes exceed capacity; long delays with stop-and-go traffic.	LOS F	

Levels of Service



Source: Utah DOT (<https://www.parleyseis.com>)

TWO-WAY OPERATIONS

In addition to safety, traffic operations were also analyzed under two-way traffic conditions for existing and future volumes, including two-way traffic during the AM and PM peak hours. It should be noted the future two-way volumes did not assume any diversion to Dodge Street or Leavenworth Street due to the change to permanent two-way traffic. This provided a conservative estimate for the analysis.

The City of Omaha typically has an overall intersection operations goal of Level of Service (LOS) D or better for the future year. If the study area intersections remain in their current two-way configuration, all study area intersections are anticipated to operate at acceptable levels of service, except for the intersections of 50th Street and 52nd Street with Farnam Street. These two intersections are anticipated to operate at LOS F during the PM peak period and experience long westbound vehicles queues if they remain in their existing configuration.

In summary, based on safety and operations, the conversion of Farnam Street to permanent two-way traffic from Happy Hollow Road to 46th Street is feasible, with intersection improvements at 50th Street and 52nd Street needed to provide vehicle operation and pedestrian safety benefits along the corridor. The conversion will eliminate the driver confusion associated with the existing time-of-day changes and reduce vehicle speeds by restoring the roadway to a typical two-way street during higher volume traffic times.

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50th and 52nd Street Intersection Improvements

Alternatives Analysis

- 50th and 52nd Street Alternatives:
 - Alt 1:** Traffic Signal w/ Left-Turn Lanes
 - Alt 2:** Traffic Signal w/ Left & Right-Turn Lanes
 - Alt 3:** Roundabout

Pedestrian Safety



Intersection Capacity

Property Impacts

Vehicle Safety

Project Cost

Driveway Access Impacts

ALTERNATIVES ANALYSIS

An alternatives analysis was completed as part of the corridor study to compare intersection configurations at the intersections of 50th Street and 52nd Street with Farnam Street. Three alternatives were developed based on traffic operations and safety needs of the intersections, and they include two traffic signal alternatives and a roundabout alternative.

No alternative roadway cross-sections were evaluated for Farnam Street. It is recommended that the existing cross-section be utilized with modifications to lane arrangements and pavement markings when needed to match intersection alternatives and to accommodate the removal of one-way operation during the peak commuter hours.

Screening criteria were developed to evaluate the intersection improvement alternatives. The analysis was based on various factors such as:

- Vehicle Safety
- Pedestrian Safety
- Project Cost
- Property Impacts
- Intersection Capacity & Queuing and
- Driveway Access Impacts

FARNAM STREET TWO-WAY CONVERSION

50th Street Intersection Improvements

50th Street Safety

- Crash rate over twice the citywide average
- High severity type crashes occurring
- Running a red light, a contributing factor in almost half the crashes

Safety
Recommendation:
Roundabout



ALTERNATIVES ANALYSIS

First, let's start with the intersection of 50th Street with Farnam Street. The crash analysis showed thirty-five crashes were reported (13 injury, 22 property damage only) at the intersection during the study period. The crash rate for the intersection is over 2 times the citywide average crash rate compared to similar intersections throughout the City. Half of the thirty-five crashes were angle type crashes which typically result in an injury or worse.

One of the three disabling crashes on the corridor occurred at the 50th Street with Farnam Street intersection. It took place between 5:00 PM and 6:00 PM on a Saturday. Two other injuries occurred at this incident, one visible and one possible. The contributing circumstance to the crash was a northbound vehicle running a red light. Red light running is an issue at this intersection, with almost half of the crashes attributed to running a red light. Crash types attributed to red light running, such as angle type crashes would be mitigated by replacing the traffic signal with a roundabout. Roundabouts also provide a safer crossing for pedestrians, only requiring the crossing of one-lane of slow-moving traffic at a time.

Therefore, based on the safety analysis for this intersection, a roundabout would be the recommended alternative. For purposes of this study, the roundabout will be called Alternative 3.

FARNAM STREET TWO-WAY CONVERSION

50th Street Intersection Improvements

50th Street Traffic Operations

- Unacceptable operations
- Left-turn lanes needed for safety and added capacity
- Right-turn lanes provide additional functionality
- Queuing concern with roundabout



Operations Recommendation:

Signalized Intersection with Left-turn Lanes

Signalized Intersection with Left and Right-turn Lanes

ALTERNATIVES ANALYSIS

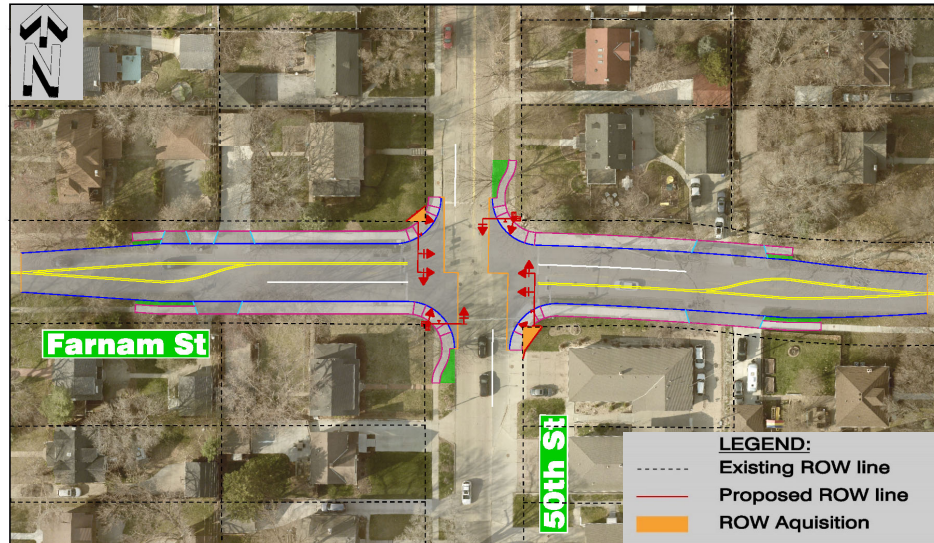
Next, the alternatives analysis looked at traffic operations at the intersection of 50th Street with Farnam Street. Under the existing lane configuration, LOS F operations are anticipated in the AM and PM peak hours. Three alternatives were considered. The first two maintain the signalized intersection, but Alternative 1 adds left-turns lanes only, and Alternative 2 adds left and right-turn lanes on Farnam Street. Both signalized alternatives provide acceptable operations and queuing for the intersection, except for Alternative 1 in the PM peak hour at LOS E. Alternative 3 evaluates the intersection as a single-lane roundabout, which was justified by the safety analysis. Under this configuration, acceptable operations are anticipated in the AM peak hour but not the PM peak hour. Long queues in the westbound direction are anticipated with the roundabout option.

Based on the future operations at this intersection, a signalized intersection would be the recommended alternative. Adding only a left-turn lane will improve traffic flow and safety. When considering moving traffic, providing left and right-turn lanes provide the best alternative for traffic flow as all turning traffic will be separated from through traffic.

FARNAM STREET TWO-WAY CONVERSION

50th Street Intersection Improvements

Alternative 1 : Left Turn Lanes



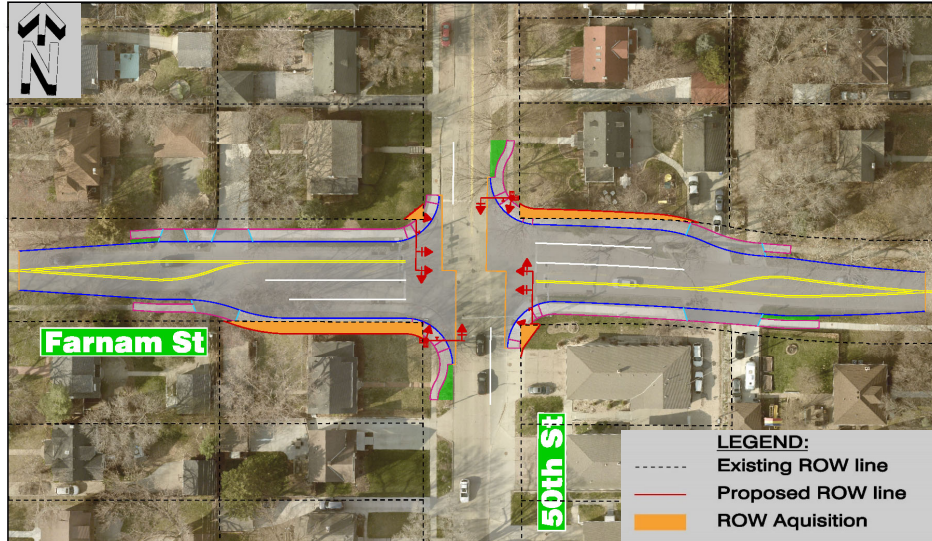
ALTERNATIVES ANALYSIS

Now we will look at the three alternatives for the 50th Street and Farnam Street intersection in more detail and discuss the screening criteria compared to the other Alternatives. Alternative 1, which includes providing left-turn lanes on Farnam Street, provides acceptable traffic operations in the AM but not in the PM under two-way traffic. This alternative requires the least amount of right-of-way impacts and does not impact any access to existing driveways. For pedestrian safety, crossing three lanes of traffic on Farnam Street will be required to get across the intersection. The vehicle safety issues at this intersection would not be directly addressed with this alternative; however, the addition of the left-turn lane would provide some safety benefits.

FARNAM STREET TWO-WAY CONVERSION

50th Street Intersection Improvements

Alternative 2 : Left/Right Turn Lanes



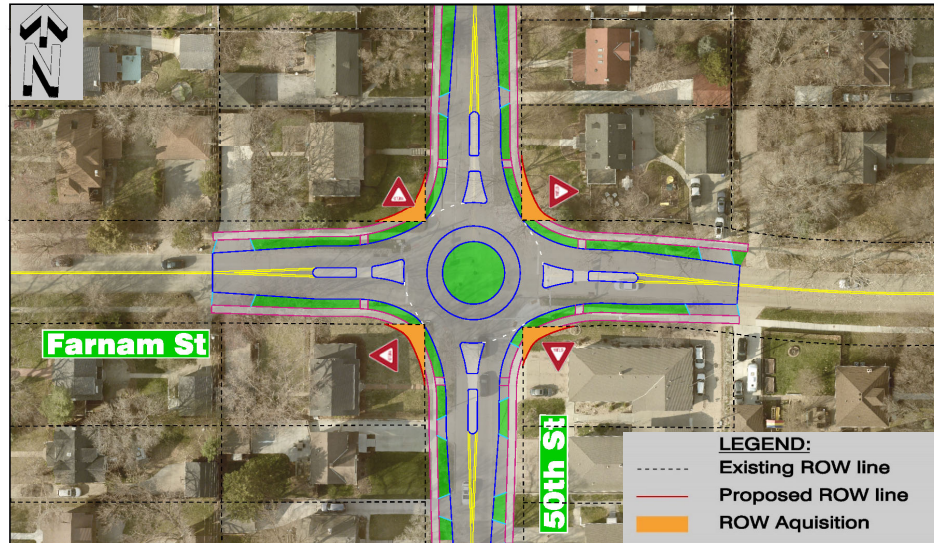
ALTERNATIVES ANALYSIS

Alternative 2 provides left and right-turn lanes on Farnam Street and is anticipated to provide acceptable traffic operations in both the AM and PM peak periods under two-way traffic. This alternative has the most right-of-way impacts due to the right-turn lane and is the costliest. No impacts to any existing driveways are anticipated. For pedestrian safety, exposure to four lanes of traffic on Farnam Street will be required to get across the intersection. The vehicle safety issues at this intersection would not be directly addressed with this alternative; however, the addition of the turn lanes would provide some safety benefits.

FARNAM STREET TWO-WAY CONVERSION

50th Street Intersection Improvements

Alternative 3: Roundabout



ALTERNATIVES ANALYSIS

Alternative 3 converts the intersection to a single-lane roundabout. Acceptable traffic operations in the AM peak period only are anticipated under two-way traffic, but traffic backups are anticipated for the PM peak in the westbound direction. This alternative is the cheapest to construct but may limit access to existing driveways. Roundabouts provide a safer crossing for pedestrians, only requiring the crossing of one-lane of slow-moving traffic at a time. The vehicle safety issues at this intersection are directly addressed with this alternative.

FARNAM STREET TWO-WAY CONVERSION

50th Street Intersection Improvements

50th St. & Farnam St.

Intersection Alternative Matrix

Intersection	Alternative	Vehicle Safety	Pedestrian Safety	Project Cost	Minimize ROW Impacts	Traffic Operations	Access Management
50th Street & Farnam Street	No-Build	○	◐	●	●	○	○
	Alt 1. - Left Turn Lanes	◐	◐	○	●	◐	○
	Alt 2. - Left/Right Turn Lanes	◐	○	○	○	●	○
	Alt 3. - Roundabout	●	●	◐	◐	○	◐

● = Best
◐ = Good
○ = Fair

ALTERNATIVES ANALYSIS

The alternatives analysis for the intersection of 50th Street with Farnam Street is summarized in this matrix, reviewing multiple components of the intersection, including vehicle safety and pedestrian safety, showing the roundabout as the safest option. To summarize the analysis, the signalized alternatives provide the best traffic operations; however, the roundabout provides the safest intersection for vehicles and pedestrians.

The final component is public input, which will use comments received from this meeting to complete this alternatives analysis and make the final selections to move forward.

FARNAM STREET TWO-WAY CONVERSION

52nd Street Intersection Improvements

52nd Street Safety

- Crash rate almost double the citywide average
- High severity type crashes
- Fatal crash location
- Running a red light, a contributing factor in 40% of the crashes

Safety
Recommendation:
Roundabout



ALTERNATIVES ANALYSIS

Now we will focus on the intersection of 52nd Street with Farnam. The safety analysis reported twenty-five crashes (10 injury, 15 property damage only) at the intersection during the six-year study period. The crash rate for the intersection is almost double the citywide average crash rate for Minor Arterial/Local street intersection. Fifteen of the twenty-five crashes were angle type crashes, and eleven of the angle type crashes were due to vehicles running red lights.

The previously mentioned fatal crashes from 2015 and 2019, which occurred at this signalized intersection, both included additional injured individuals. Both crashes occurred during the PM commute and involved northbound vehicles colliding with a westbound vehicle. One of the occurrences had an unknown fault, but the other involved a northbound vehicle passing another northbound vehicle and running the red light. Crashes attributed to red light running, such as angle type crashes would be mitigated by replacing the traffic signal with a roundabout. Roundabouts also provide a safer crossing for pedestrians, only requiring the crossing of one-lane of slow-moving traffic at a time.

Therefore, based on the safety analysis for this intersection, a roundabout would be the recommended alternative. For purposes of this study, the roundabout will be called Alternative 3.

FARNAM STREET TWO-WAY CONVERSION

52nd Street Intersection Improvements

52nd Street Traffic Operations

- Unacceptable operations
- Left-turn lanes needed for safety and added capacity
- Right-turn lanes provide additional functionality
- Queuing concern with roundabout



Operations Recommendation:

Signalized Intersection with Left-turn Lanes

Signalized Intersection with Left and Right-turn Lanes

ALTERNATIVES ANALYSIS

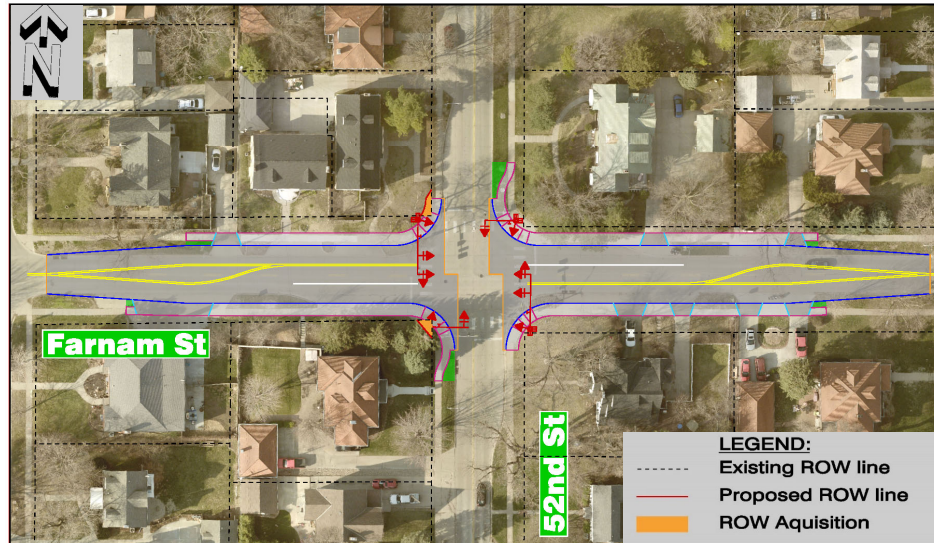
The alternatives analysis looked at traffic operations at the intersection of 52nd Street with Farnam Street. Under the existing lane configuration unacceptable operations are anticipated in the PM peak hour. Two of the alternatives maintained a traffic signal at the intersection. Alternative 1 adds left-turn lanes Farnam Street, and Alternative 2 adds left and right-turn lanes Farnam Street. Alternative 1 with only left-turn lanes will operate at LOS E in the PM peak hour. Acceptable operations and queuing are anticipated with Alternative 2. Long queues and unacceptable traffic operations are anticipated with Alternative 3 as a single-lane roundabout, which was justified by the safety analysis.

Based on the future operations at this intersection, a signalized intersection would be the recommended alternative. Adding a left-turn lane will only improve functionality and is better than a roundabout but when considering moving traffic, left, and right turns best meets this particular factor.

FARNAM STREET TWO-WAY CONVERSION

52nd Street Intersection Improvements

Alternative 1 : Left Turn Lanes



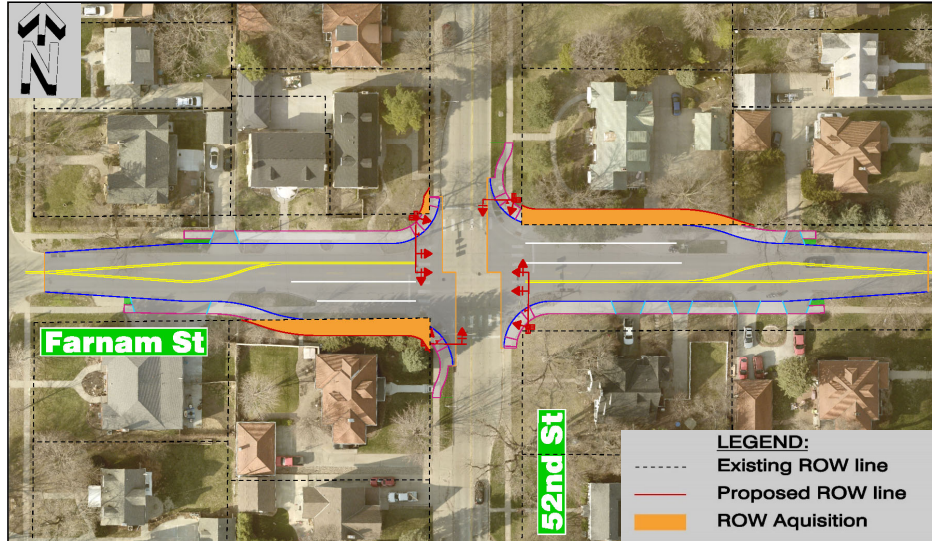
ALTERNATIVES ANALYSIS

Now we will look at the three alternatives for the 52nd Street and Farnam Street intersection and discuss the screening criteria compared to the other Alternatives. Alternative 1, which includes providing left-turn lanes on Farnam Street, provides acceptable traffic operations in the AM and PM under two-way traffic. This alternative requires the least amount of right-of-way impacts and does not impact any access to existing driveways. For pedestrian safety, exposure to three lanes of traffic on Farnam Street will be required to get across the intersection. The vehicle safety issues at this intersection would not be directly addressed with this alternative; however, the addition of the left-turn lane would provide some safety benefits.

FARNAM STREET TWO-WAY CONVERSION

52nd Street Intersection Improvements

Alternative 2 : Left/Right Turn Lanes



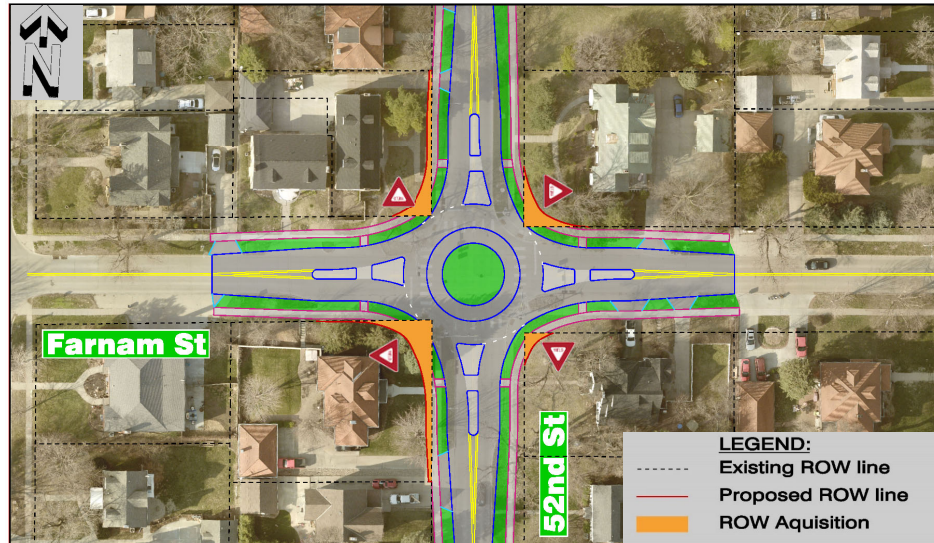
ALTERNATIVES ANALYSIS

Alternative 2 provides left and right-turn lanes on Farnam Street and is anticipated to provide acceptable traffic operations in both the AM and PM peak periods under two-way traffic. This alternative has the most right-of-way impacts due to the right-turn lane and is the costliest. No impacts to any existing driveways are anticipated. For pedestrian safety, exposure to four lanes of traffic on Farnam Street will be required to get across the intersection. The vehicle safety issues at this intersection would not be directly addressed with this alternative; however, the addition of the turn lanes would provide some safety benefits.

FARNAM STREET TWO-WAY CONVERSION

52nd Street Intersection Improvements

Alternative 3: Roundabout



ALTERNATIVES ANALYSIS

Alternative 3 converts the intersection to a single-lane roundabout. Acceptable traffic operations in both peak periods under two-way traffic are anticipated; however, traffic backups are anticipated for the PM peak in the westbound direction. This alternative is the cheapest to construct but may limit access to existing driveways. Roundabouts provide a safer crossing for pedestrians, only requiring the crossing of one-lane of slow-moving traffic at a time. The vehicle safety issues at this intersection are directly addressed with this alternative.

FARNAM STREET TWO-WAY CONVERSION							
52 nd Street Intersection Improvements							
52 nd St. & Farnam St. Intersection Alternative Matrix							
		Vehicle Safety	Pedestrian Safety	Project Cost	Minimize ROW Impacts	Traffic Operations	Access Management
Intersection	Alternative						
52nd Street & Farnam Street	No-Build	○	◐	●	●	○	○
	Alt 1. - Left Turn Lanes	◐	◐	○	●	◐	○
	Alt 2. - Left/Right Turn Lanes	◐	○	○	○	●	○
	Alt 3. - Roundabout	●	●	◐	◐	◐	◐
● = Best ◐ = Good ○ = Fair							

ALTERNATIVES ANALYSIS

The alternatives analysis for the intersection of 52nd Street with Farnam Street is summarized in this matrix, reviewing multiple components of the intersection, including vehicle safety and pedestrian safety, showing the roundabout as the safest option. For access management, the signalized intersection alternatives will not impact access to any existing driveways; however, the splitter island for the roundabout may restrict access to some driveways. To summarize the analysis so far, the signalized alternatives provide the best traffic operations; however, the roundabout provides the safest intersection for vehicles and pedestrians.

The final component is public input, which will use comments received from this meeting to complete this alternatives analysis and make the final selections to move forward.

FARNAM STREET TWO-WAY CONVERSION

50th and 52nd Street Intersection Improvements

How did we get here?

Where are we at?

Where are we going?

What are the next steps?



NEXT STEPS

How did we get here? - Tasked to complete a study to look at the feasibility of converting Farnam Street to two-way, all-day and what improvements would be necessary to have that happen. As discussed in the presentation, the conversion is feasible with improvements to 50th Street and 52nd Street required to address traffic and safety issues.

Where are we at? – We are at this open house meeting with you, the public, to inform you of the study and get feedback on the information provided and the different alternatives for intersection improvements. We want to hear from you and know what are your thoughts on the conversion in general or what are your thoughts on the intersection alternatives proposed? Comments will be taken through May 9th.

Where are we going? - All comments received along with the study and specific factors such as cost, safety, private property impacts, and intersection functionality will be used by the City to make an informed decision on to proceed forward.

Next Step? - Once the City makes a decision, postcards will go out to those who previously received them announcing the intersection configuration being carried forward to design. Updates will also be posted to Keep Omaha Moving website.

FARNAM STREET TWO-WAY CONVERSION

50th and 52nd Street Intersection Improvements

We Want Your Input!

There are several opportunities to provide input or ask questions of the Project team:



Complete a comment form or submit your comment online



Email us:
info@KeepOmahaMoving.com



For more information on this Project, visit
www.KeepOmahaMoving.com

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Design Division

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CLOSING

Thank you for your time. If you have not done so already, please refer to the project website page for the aerial views of the alternatives for the intersections of Farnam Street with 50th Street and 52nd Street, as well as the permanent conversion.

There are several opportunities to provide your input and stay involved with the Project, including:

Submitting a [comment online](#) or providing your [comment on a map](#). Comments are due by May 9, 2022.

Emailing us:

info@KeepOmahaMoving.com

This concludes the presentation portion of the meeting, and now we will now move to the open house. Please visit the stations for discussions and comment tables to provide written comments.