160th and Greenwood / Innis Arden Intersection

Open House Presentation
July 22, 2019

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MEETING AGENDA

6:00 PM – Welcome & sign in

6:30 PM – Presentation and Q&A

7:00 PM – Open house

- View conceptual options
- Talk with staff who can answer questions
- Share your feedback on the conceptual options and your experience at this intersection

8:00 PM – Adjourn

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SHORELINE COMMUNITY COLLEGE MASTER DEVELOPMENT PLAN

- Master Development Plan to support growing College
- Sidewalk improvements under construction; completed concurrent with residence hall in September
- Improvements to 160th and Greenwood / Innis Arden intersection required within 6 years of residence hall project
- City and College developing intersection concepts and want your feedback

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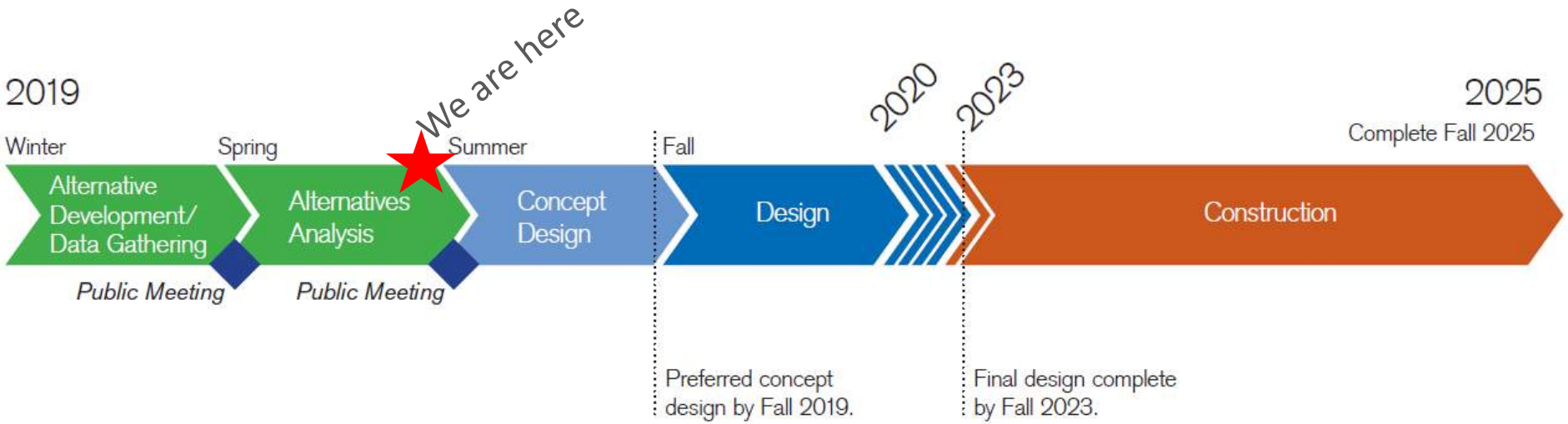
PROJECT TIMELINE



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WHAT ARE THE CURRENT CHALLENGES AT THIS INTERSECTION?

- Unusual alignment leads to confusion / poor operation
- Existing traffic delays, which are becoming longer with increased traffic
- Poor access for people walking and biking
- Metro buses, school buses, and other heavy vehicles are regular users
- Serves elementary school and College campus

Source: Google Earth

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WHAT WE HEARD IN MAY

- Concern about the congestion the intersection experiences throughout the day
- Importance of improving pedestrian safety
- Suggestion of interim measures to improve safety before the project is completed
- Many participates favored the roundabout design
- Some participants thought the roundabout options were less practical that the signalized option
- Concern about the project timeline

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ALTERNATIVE ANALYSIS

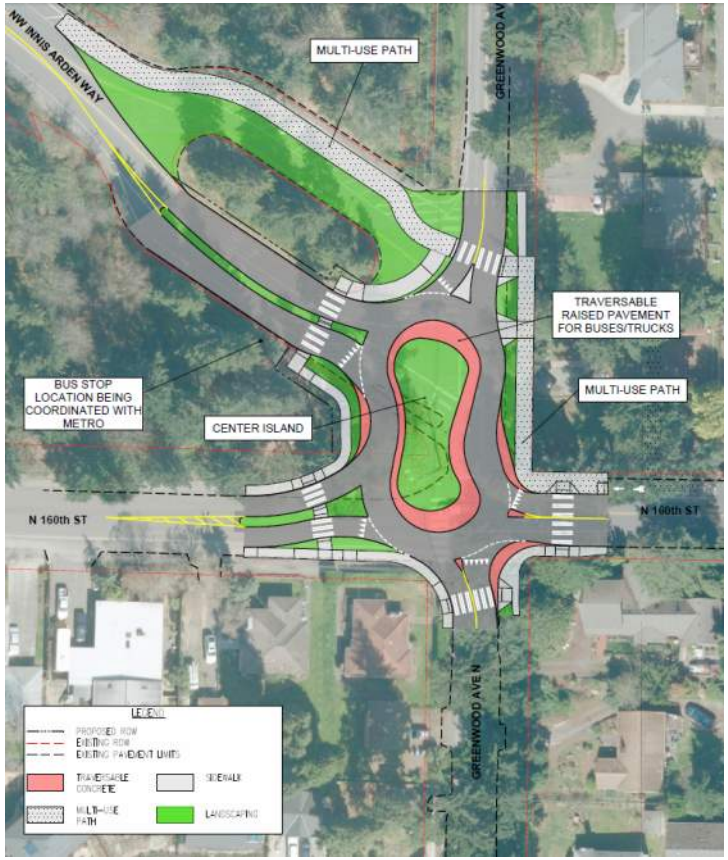
Three improvement options were presented the first open house:
two options were roundabouts and one option was a signalized intersection

Large roundabout

Small roundabout

CONCEPTUAL OPTIONS

Two improvement options are being considered: one roundabout and one signalized option



Roundabout intersection

Signalized intersection

CRITERIA FOR EVALUATION

- Safety and ease of use for people walking, biking, and driving (ADA inclusive)
- Traffic operations
- Construction, operational & maintenance costs
- Right of way acquisition/impacts
- Environmental impacts
- Community feedback
- Impacts to existing and newly constructed infrastructure

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PRELIMINARY INTERSECTION TRAFFIC MODELING

Existing 2018 delay (in seconds)			
Peak hour	**Existing intersection**	**Signal**	**Roundabout**
AM	64	44	8
Mid-day	81	39	14
PM	48	33	8

Note: The delay is the average amount of time a person waits at the intersection before traveling through it.

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CONCEPTUAL ANALYSIS

The table below demonstrates the strengths and weaknesses of each concept.

	Construction costs*	Operations and maintenance costs	Right of way costs	Safety	Traffic flow	Environmental impacts	Impacts to college's current improvements
Roundabout	$1.0M to $1.3M	Limted costs	Moderate costs	Significant improvement	Moderate improvement	Minimal impact	More impact
Signalized intersection	$0.9M to $1.2M	Significant costs	No costs	Improvement	Small improvement	Moderate impact	Less impact

Relative strength and weakness scale

Strongest | 2nd Strongest | 2nd Weakest | Weakest

*Does not include design, inflation, or street lighting costs.

SIGNALIZED INTERSECTIONS

Typical pros:

- Provide familiar experience that drivers are comfortable with
- Provide orderly movement of traffic moving in different directions

  Note: Complex or offset intersections require coordination and present operational challenges

- Provide clear guidance to people walking on when it is safe to cross

Typical cons:

- High maintenance costs
- Can fail during power outages
- Cause delay for people walking, biking, and driving during non-peak hours
- More conflict points and higher speeds compared to roundabouts resulting in poorer safety outcomes for people walking, biking, and driving

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ROUNDABOUTS

Typical pros:

- Reduced delay for people walking, biking, and driving at peak hours and other times
- Reduced air and noise pollution and fuel use with fewer stops, hard accelerations, and idling
- Low maintenance cost (relative to signalized intersection control)
- Improve safety for all users (90% reduction in fatalities, 76% reduction in injuries, and 35% reduction in all crashes

Typical cons:

- People walking can find it uncomfortable to cross without the familiarity of a signalized crossing
- Drivers may not be familiar with how to drive through a roundabout, which can cause confusion and discomfort
- Can require more space
- More complicated construction phasing

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ROUNDABOUT PEDESTRIAN FEATURES

Pedestrian-activated flashing beacons at crosswalks

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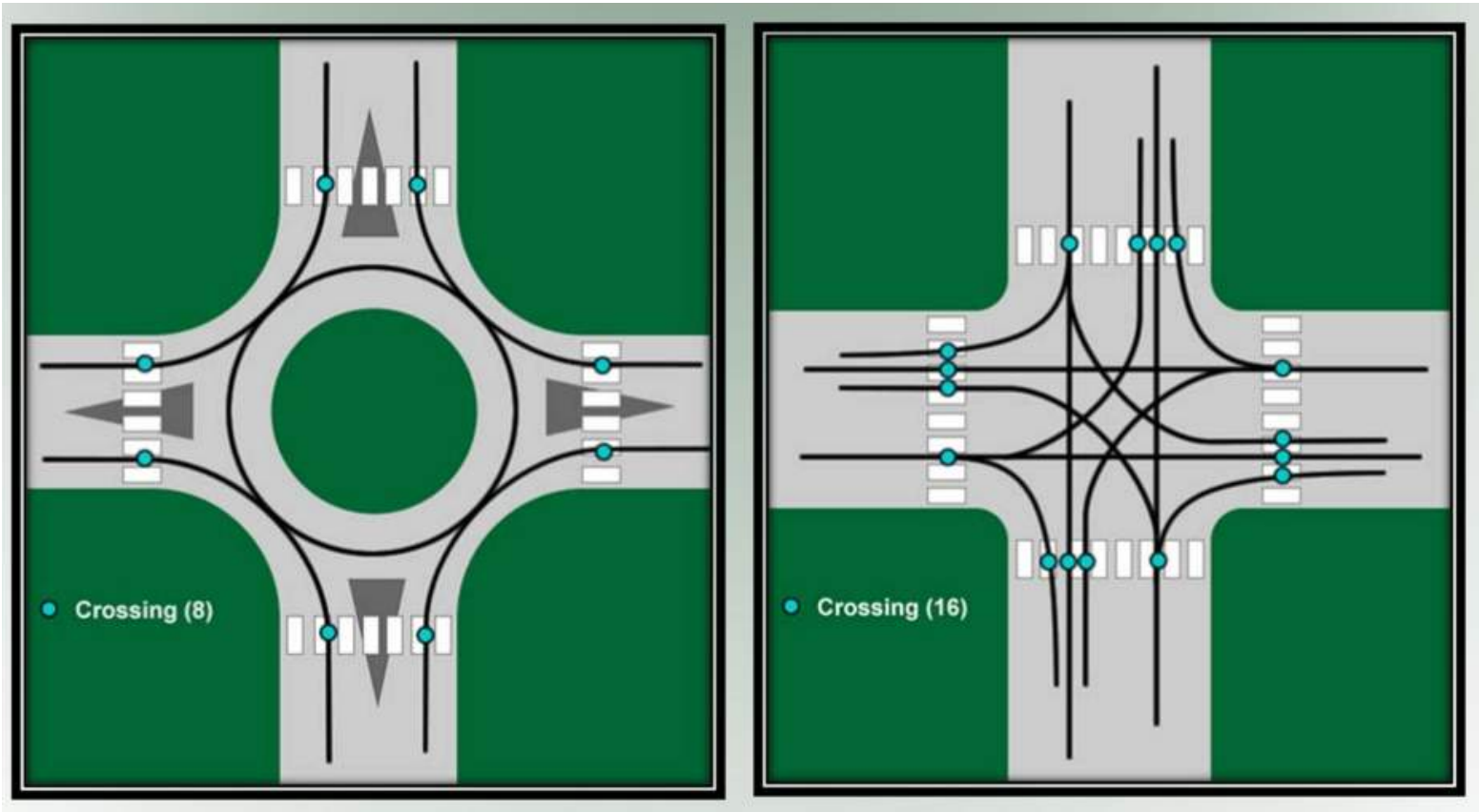
VEHICLE-PEDESTRIAN CONFLICT POINTS



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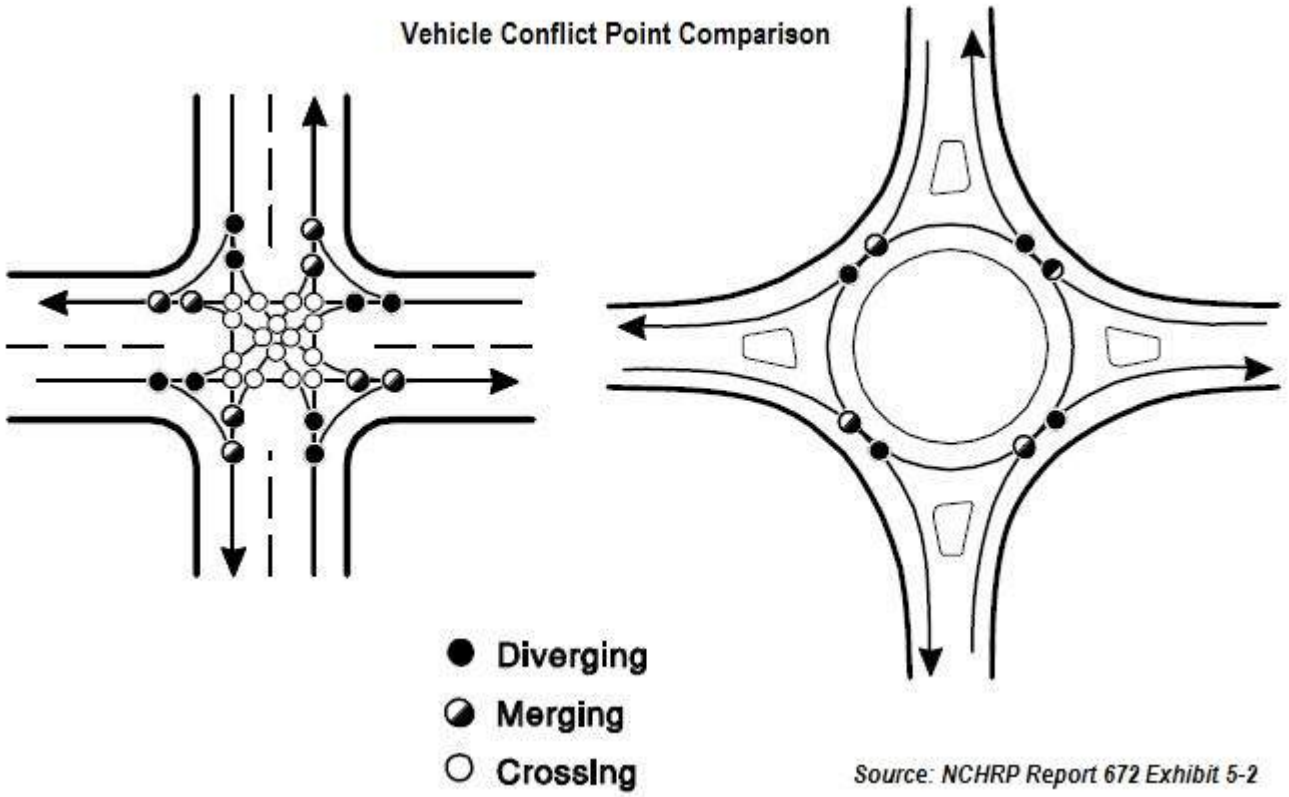
VEHICLE-VEHICLE CONFLICT POINTS



Source: NCHRP Report 672 Exhibit 5-2

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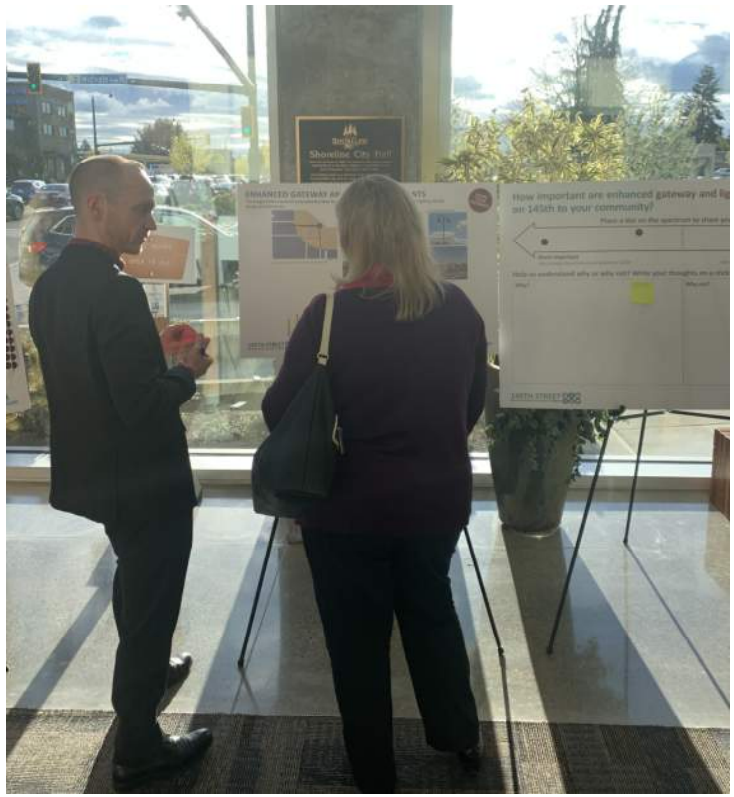
NEXT STEPS

- Listen to feedback and input from community
- Further refine technical information
  - Traffic flow
  - Construction costs
- Work with College to select a preferred concept
  - Either roundabout or signal
- Selection due Fall of 2019
  - Communicate results to the public



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YOUR FEEDBACK

- What do you *like* or *dislike* about the roundabout concept?
- What do you *like* or *dislike* about the signalized concept?
- Which evaluation criteria are most important to you?

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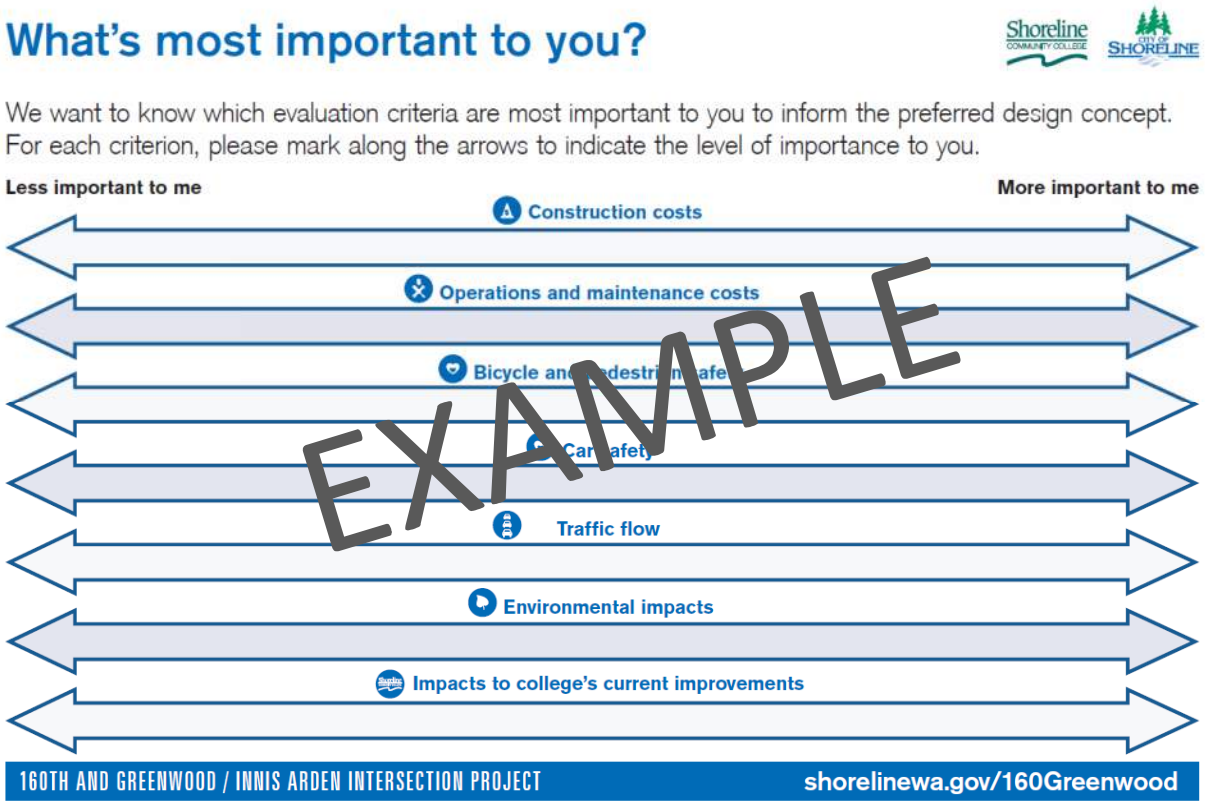
YOUR FEEDBACK



QUESTIONS?

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THANK YOU FOR ATTENDING!

For questions or comments, contact:

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For more information and future updates, please visit:
shorelinewa.gov/160Greenwood

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