Township of Centre Wellington

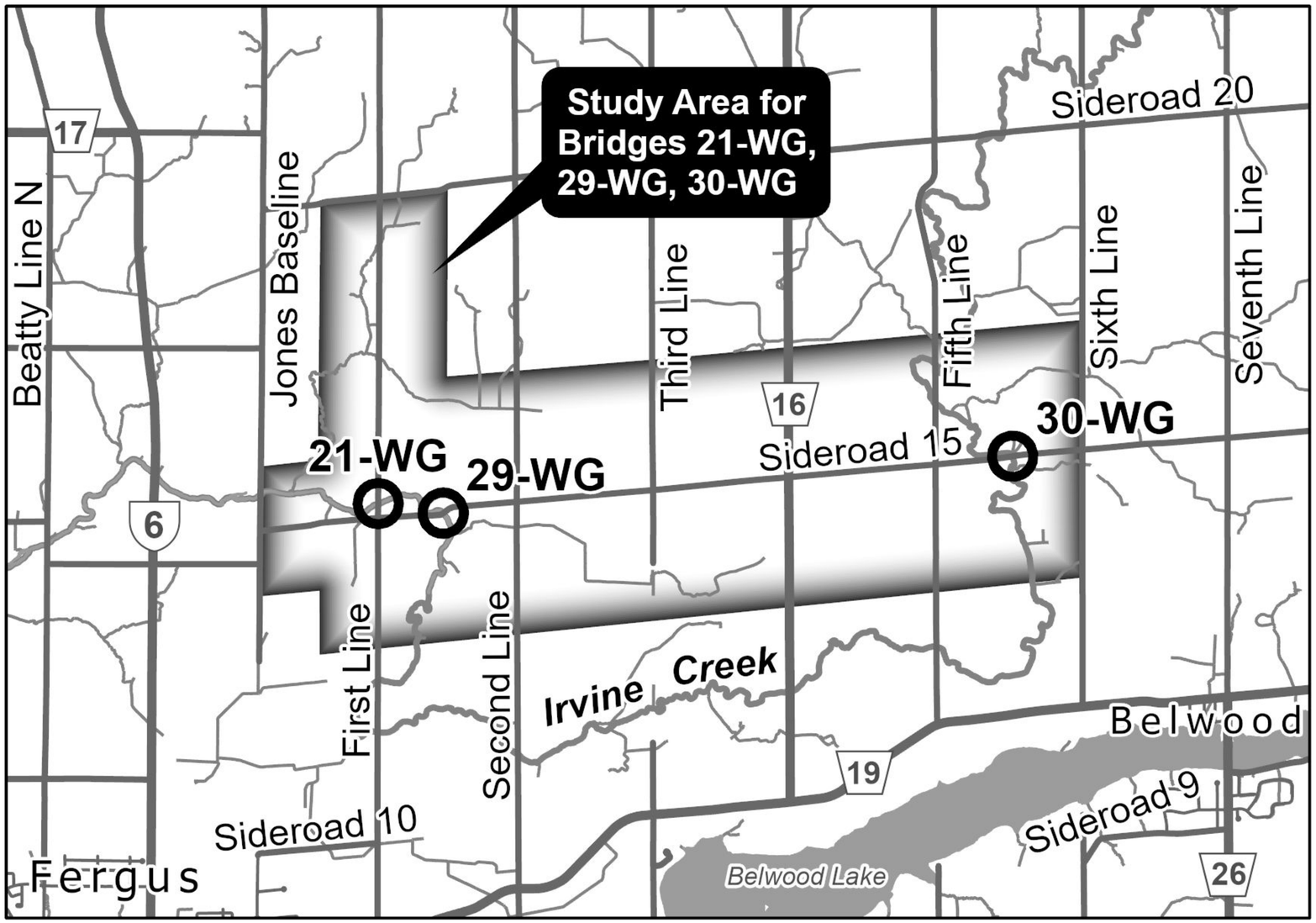
Bridge and Transportation Network Study for Bridges 21-WG, 29-WG & 30-WG

Public Open House #2

November 3, 2025, 6:00 – 8:00 p.m.
Centre Wellington Community Sportsplex – Gord Brown Hall

Project Study Area & Alternative Solutions

Project Study Area:



Alternative solutions:

1. **Remove all bridges**
2. **Replace all bridges**
3. **Replace Bridge 21-WG only**
   - Remove bridges 29-WG and 30-WG and construct turn-arounds
4. **Replace Bridge 29-wg only**
   - Remove bridges 21-WG and 30-WG and construct turn-arounds
5. **Replace Bridge 30-WG only**
   - Remove bridges 21-WG and 30-WG and construct turn-arounds
6. **Replace Bridges 29-WG & 30-WG**
   - Remove bridge 21-WG and construct turn-arounds
7. **Replace Bridges 21-WG & 30-WG**
   - Remove bridge 21-WG and construct turn-arounds
8. **Replace Bridges 21-WG & 29-WG**
   - Remove bridge 21-WG and construct turn-arounds

Alternatives 1 (Removal All Bridges) and Alternative 5 (Replacing Bridge 30-WG Only) were evaluated as part of the study, but will be excluded from summary tables to limit the information presented.

- Alternative 1 (All Bridges Closed) does not address the problems / opportunities of this study
- Alternative 5 (Replacing Bridge 30-WG Only) was the lowest ranking alternative overall

Transportation Study

Cross-Community Travel :

- Evaluated impacts from properties on each side of the bridges to surrounding communities (Alma, Arthur, Grand Valley, Bellwood, Fergus, Guelph)
- Time savings are weighted by the average daily traffic volumes (pre-closure)

Transportation Network Alternatives:

Alternative	2	3	4	6	7	8
Bridges Replaced	All	21-WG	29-WG	29-WG & 30-WG	21-WG & 30-WG	21-WG & 29-WG
Total Time Savings (mm:ss)	43:54	13:22	9:50	26:42	19:35	25:17
Maximum Time Savings (mm:ss)	6:00	4:00	3:12	6:00	4:00	4:00
Traffic Weighted Time Savings(1)	10098	2444	2475	6178	3581	4753
Score(2)	★★★★	★☆☆☆	★☆☆☆	★★★☆	★★☆☆	★★½☆
Rank	1	5	5	2	4	3

Key Findings:

- 21-WG offers most time savings for individual bridge, but experiences less traffic. When considering traffic, 29-WG and 21-WG offer comparable benefit.
- Compounding effects of opening both 29-WG & 30-WG offer greatest overall benefit

Emergency Response Time:

- Evaluated impacts to first response routes from surrounding EMS, Fire and Police Stations
- Time savings are weighted by the number of properties impacted
- Savings to closest (first response) stations are weighted higher than “back-up” stations

Transportation Network Alternatives:

Alternative	2	3	4	6	7	8
Bridges Replaced	All	21-WG	29-WG	29-WG & 30-WG	21-WG & 30-WG	21-WG & 29-WG
Total Time Savings (mm:ss)	36:01	16:15	06:17	15:48	21:11	25:38
Max Time Savings (mm:ss)	06:02	04:00	02:06	06:02	04:00	04:00
Properties Benefited	30	15	15	22	30	23
Weighted Time Savings(3) (h:mm:ss)	1:50:40	1:01:37	0:12:35	0:33:30	1:12:12	1:26:15
Score(2)	★★★★	★★☆☆	½☆☆☆	★½☆☆	★★½☆	★★★☆
Rank	1	4	6	5	3	2

Key Findings:

- 21-WG offers a significantly greater improvement to response times due to larger time savings to more properties
- Opening 21-WG and 29-WG offers the greatest overall benefits to emergency services, with some compounding effects (for Arthur and Guelph Eramosa response stations)

(1) Traffic Weighted Time Savings are calculated by multiplying the time savings of a route by the 2022 average annual daily traffic volumes of the road for the origin near the bridge.
(2) Scores for Alternatives are out of 8, with 0 being least preferred and 8 being most preferred
(3) Weighted Time Savings for Emergency Response multiples time savings by number or properties, and by a factor for dispatch order (1x for first response, 0.75x for second response, etc.)

Transportation Study

Slow Moving Vehicles:

- Evaluates impacts associated to agricultural equipment travel within community
- Uses non-arterial routes (no County Roads), where alternative is available

Transportation Network Alternatives:

Alternative	2	3	4	6	7	8
Bridges Replaced	All	21-WG	29-WG	29-WG & 30-WG	21-WG & 30-WG	21-WG & 29-WG
Total Time Saved (h:mm:ss)	1:49:56	0:27:05	0:30:10	1:08:44	0:50:43	1:00:28
Maximum Time Saved (mm:ss)	24:06	16:19	24:06	24:06	19:20	24:06
Score(1)	★★★★	★☆☆☆	★½☆☆	★★★☆	★★☆☆	★★½☆
Rank	1	6	5	2	4	3

Note: Total Time Saved is a measure for comparison only, based on number of routes analyzed as part of the study.
This time savings is not for one specific route. The individual time saved per route varies.

Key Findings:

- 29-WG offers slightly higher time savings than 21-WG
- 29-WG provides the maximum time savings
- Compounding effects of opening both 29-WG and 30-WG result in the highest benefit for option of opening two bridges.

Local Community Travel:

- Analysis of travel routes with origin on one side of bridge and destination on the opposite side.
- Represents impacts to delivery and collection services, buses, snow-ploughs, etc.

Transportation Network Alternatives:

Alternative	2	3	4	6	7	8
Bridges Replaced	All	21-WG	29-WG	29-WG & 30-WG	21-WG & 30-WG	21-WG & 29-WG
Total Time Saved (mm:ss)	38:53	08:21	12:07	24:02	17:52	24:34
Maximum Time Saved (mm:ss)	08:55	05:54	08:55	08:55	05:54	08:55
Score(1)	★★★★	★☆☆☆	★½☆☆	★★★☆	★★☆☆	★★★☆
Rank	1	6	5	2	4	3

Note: Total Time Saved is a measure for comparison only, based on number of routes analyzed as part of the study.
This time savings is not for one specific route. The individual time saved per route varies.

Key Findings:

- 29-WG offers moderately higher time savings than 21-WG.
- Options of combining 21-WG & 29-WG provides highest benefit for two bridges open options.
- Option of combining 29-WG & 30-WG provides similar benefit for two bridges open options.

(1) Scores for Alternatives are out of 8, with 0 being least preferred and 8 being most preferred

Transportation Study

Transportation Evaluation Summary:

Transportation Network Evaluation:

Least Preferred ☆☆☆☆ → ★★★★ Most Preferred

Criteria / Alternative	All Replaced	21-WG Replaced	29-WG Replaced	29-WG & 30-WG Replaced	21-WG & 30-WG Replaced	21-WG & 29-WG Replaced
Cross-Community Travel	★★★★	★☆☆☆	★☆☆☆	★★★☆	★★☆☆	★★½☆
Emergency Response	★★★★	★★☆☆	½☆☆☆	★½☆☆	★★½☆	★★★☆
Slow-Moving Equipment	★★★★	★☆☆☆	★½☆☆	★★★☆	★★☆☆	★★½☆
Local Community Travel	★★★★	★☆☆☆	★½☆☆	★★★☆	★★☆☆	★★★☆
Average Numerical Rating	**8.00**	**2.50**	**2.25**	**5.25**	**4.25**	**5.50**
Transportation Rating	★★★★	★☆☆☆	★☆☆☆	★★½☆	★★☆☆	★★½☆
Transportation Ranking:	1	5	6	3	4	2

Key Findings:

- 21-WG offers most overall benefit, with significantly greater improvements to emergency response times
- 29-WG offers slightly less benefit overall, but most improvements to commute times, local community travel and travel with farm equipment
- 30-WG provides significantly less benefit
- Compounding effects of opening 21-WG & 29-WG is the highest overall transportation score, with a score slightly higher than opening 29-WG & 30-WG

Structure Type Evaluation & Cost Estimates

Evaluation of Structure Types:

Rehabilitation and several bridge replacement types were evaluated to determine the most suitable option for opening of the bridge to vehicular traffic

Structure Type Evaluation Matrix

Criteria	Weight	Rehabilitation	2-Lane, Single Span Slab on Girder	2-Lane, Two-Span Slab on Girder	Single Lane Prefabricated Modular Bridge	Narrow Two-Lane, Steel Through Truss
Platform Width	5	0.5	2.5	2.5	0.5	1.5
Safety	5	1.0	5.0	5.0	2.0	2.0
Load Capacity	5	1.5	5.0	5.0	5.0	5.0
Maintenance	5	1.0	5.0	5.0	3.0	3.0
Property Impacts	5	5.0	3.0	3.0	3.0	3.0
Environmental	5	4.5	4.0	2.5	4.0	4.0
Hydraulics	5	4.5	3.0	3.5	4.5	4.0
Heritage	5	5.0	2.0	2.0	1.0	3.0
Construction Cost	5	5.0	1.6	0.0	1.6	1.2
Construction Duration	5	5.0	3.0	2.5	5.0	3.5
Service Life	5	1.0	5.0	5.0	3.4	5.0
TOTAL:	/ 55	34.0	**39.1**	36.0	33.0	33.7

Examples of Bridge Types:



Rehabilitate Existing Bridge


Prestressed Concrete Girder Bridge


Prefabricated Modular Panel Bridge


Steel Through-Truss

Recommended Improvement (if opening preferred):

Bridge	Required Span(s) (1)	Preferred Structure Type	Estimated Cost
21-WG	26m	2-Lane, Single Span Slab on Side-By-Side B800 Prestressed Concrete Girders	$2.8M
29-WG	19 m, 19 m	2-Lane, Two-Span Slab on Side-By-Side B700 Prestressed Concrete Girders	$3.8M
30-WG	28 m	2-Lane, Single Span Slab on Side-By-Side B900 Prestressed Concrete Girders	$2.8M

(1) Required span is based on preliminary hydraulics and may be further refined during detailed design.

Key Findings:

- Large corrugated steel culverts (open-footing arch shapes) were not hydraulically efficient enough to provide the required capacity for the watercourse & weren't carried forward in evaluation.
- Replacement with Two-lane Bridge is preferred over narrow platform as it provides additional clearance for farm equipment and allows pedestrians to safely use the shoulders
- Single-span structure is preferred over multi-span structure, as it provides the most efficient hydraulic opening and provides less impact to aquatic habitats
- Hydraulic requirements limit the option of a single-span bridge at 29-WG

Natural & Cultural Heritage Environments

Natural Environment:

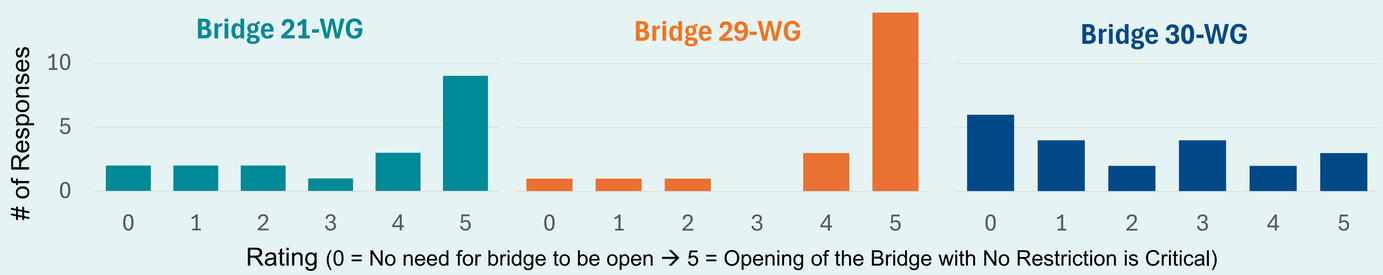
- Species at Risk:
  - Potential Habitats for Monarchs, several bird, bat and turtle species of interest are comparable across all three sites.
  - 30-WG is classified as Occupied Red Side Dace (endangered fish) habitat
- Environmentally Sensitive Areas:
  - Provincially Significant Wetlands adjacent to 30-WG could potentially be impacted during construction if bridge replaced.
  - 30-WG is located in the Irvine Creek Life Science Regionally Significant Area of Natural and Scientific Interest
- Terrestrial Habitat:
  - Removal of 21-WG would eliminate Cliff Swallow habitats under bridge.
  - Replacement would temporarily impact, but provide new option for habitat.
- Aquatic Habitat:
  - Temporary impacts associated with construction. More bridges replaced = more potential impact
  - Pier at 29-WG would result in more disturbance within watercourse.

Note:
Impacts to the Natural Environment will be mitigated to the extent possible during the detailed design by minimizing excavation limits, tree removals and disturbances to habitats.

Social & Cultural Heritage Assessment:

- Community Input:
  - Moderate preference for opening Bridge 21-WG
  - Strong preference for Opening Bridge 29-WG
  - Higher preference for closure of Bridge 30-WG

Community Input:



- Archaeological:
  - All sites were determined to have low archaeological potential based on previous disturbance during construction
  - Construction of more bridges means more ground disturbance, however risks are low due to low archaeological potential
- Cultural & Built Heritage:
  - Removal of bridges eliminates historical context of a bridge crossing
  - Replacing bridges allows for opportunity for commemorative design features



Example of Commemorative Design Feature

Centre Wellington Evaluation of Alternatives

BURNSIDE

Evaluation Matrix:

☆☆☆☆ Least Preferred / Most Impact → Most Preferred / Least Impact ★★★★

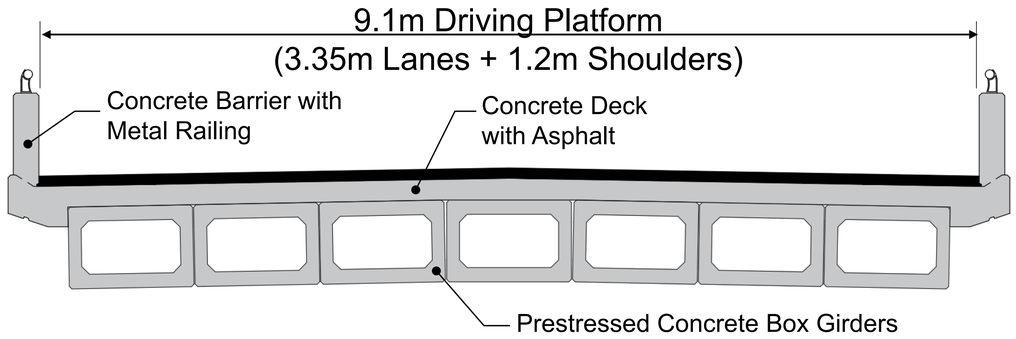
Criteria	All Replaced	21-WG Replaced	29-WG Replaced	29-WG & 30-WG Replaced	21-WG & 30-WG Replaced	21-WG & 29-WG Replaced
Transportation						
Cross-Community Travel	★★★★	★☆☆☆	★☆☆☆	★★★☆	★★☆☆	★★◪☆
Emergency Response Times	★★★★	★★☆☆	◪☆☆☆	★◪☆☆	★★◪☆	★★★☆
Slow Moving Vehicles	★★★★	★☆☆☆	★◪☆☆	★★★☆	★★☆☆	★★◪☆
Local Community Travel	★★★★	★☆☆☆	★◪☆☆	★★★☆	★★☆☆	★★★☆
Transportation Summary	★★★★	★☆☆☆	★☆☆☆	★★◪☆	★★☆☆	★★◪☆
Natural Environment						
Environmentally Sensitive Areas	★★☆☆	★★★□	★★★□	★★☆☆	★★☆☆	★★★☆
Terrestrial Habitat	★★☆☆	★★★☆	★★☆☆	★★☆☆	★★★☆	★★◪☆
Fisheries / Aquatic Habitat	★◪☆☆	★★★☆	★★◪☆	★◪☆☆	★★☆☆	★★◪☆
Species at Risk	◪☆☆☆	★★★☆	★★★☆	★★☆☆	★◪☆☆	★★☆☆
Natural Environment Summary	★◪☆☆	★★★☆	★★◪☆	★◪☆☆	★★☆☆	★★◪☆
Social & Cultural Environments						
Social Environment	★★★☆	★★☆☆	★★◪☆	★★★☆	★★★☆	★★★☆
Community Input	★★★□	★★☆☆	★★★□	★★★☆	★★◪☆	★★★★
Archaeological	★★◪☆	★★★□	★★★□	★★★☆	★★★☆	★★★☆
Cultural & Built Heritage	★★★□	★★◪☆	★★◪☆	★★★☆	★★★☆	★★★☆
Social & Cultural Summary	★★★☆	★★◪☆	★★★☆	★★★☆	★★◪☆	★★★☆
Economic Environment						
Capital Costs	☆☆☆☆	★★★☆	★★◪☆	★☆☆☆	★◪☆☆	★☆☆☆
Maintenance & Operational Costs	★★☆☆	★★★☆	★★★☆	★★◪☆	★★◪☆	★★◪☆
Economic Summary	★☆☆☆	★★★☆	★★◪☆	★◪☆☆	★★☆☆	★◪☆☆
Overall Ranking[1][2] (Equal Weighting)	3	2	3	5	6	1
Overall Ranking[1][3] (Sensitivity Analysis)	3	2	4	5	6	1

(1) Ranking considers all 8 alternatives considered in the study; despite only 6 alternatives being displayed here
(2) 'Overall Ranking (Equal Weighting)' is based on equal weighting for each criteria (25% Transportation, 25% Natural, 25% Social & Cultural and 25% Economic)
(3)'Overall Ranking (Sensitivity Analysis)' is based on the combined results of a series of scenarios ran with different weighting criteria for each of the categories

Preferred Alternative Design Concepts

Preliminary Preferred Alternative: Replacement of Bridges 21-WG & 29-WG

- Top two bridges for transportation improvements
- Aligns best with the overall social and cultural considerations, including community input on structures
- Additional costs and environmental impacts of all bridges open make it less preferred overall



Bridge Cross-Section

21-WG



26m Single Span Prestressed Concrete Box Girder

29-WG



Two-Span (19m, 19m) Prestressed Concrete Box Girder

Visual Representations of Similar Structure Types

Bridge 30-WG

- Remain closed until time removal. Removal timing will be determined as part of the development of the future bridge plan.
- Construct formal vehicle turn-arounds at time of removal.

Invitation for Participation

We want to hear from you!

You are invited to provide comments by completing a comment sheet and submitting it to the comment box today or by mailing or emailing one of the Project Team members below before November 20th, 2025:

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The display boards and a recorded presentation will be available on the project webpage after the Open House.

www.connectcw.ca/CW-3Bridge-Study

If you would like to request access to the files by another means other than through the website, please contact one of the Project Team Members above

Next Steps:

Open House (Today) → Review comments → Confirm Preferred Solution → Draft Project File Report → Township Review & Approval → Project File Report → Public Comment Period → Study Completion (Winter 2026)