

DATE: November 30, 2022
TO: Chad Williams, P.Eng.
CC: Natasha Elliott, P.Eng., PTOE
Janine Taylor
FROM: Forrest Klotzbach, P.Eng.
FILE: 0467.0437.01
SUBJECT: SDS Bylaw 7900 Update – Transportation: Summary Covering Memo

The following memorandum provides an overview of recently completed updates to the Transportation section of the City's Subdivision, Development and Servicing (SDS) Bylaw 7900. This memo outlines the key elements of the bylaw update process, including the rationale, the guiding principles, and alignment with City of Kelowna policies and industry best practices. A full list of updated sections and standards is included in **Appendix A: Revised Bylaw Sections**.

1.0 WHY MODERNIZE BYLAW 7900

The existing Highways design standards section of the SDS Bylaw is more than 20 years old. It no longer follows current best practices in the transportation planning and design field. The proposed updates elevate the design standards and align the bylaw with the priorities of the 2040 Official Community Plan and the 2040 Transportation Master Plan.

2.0 BYLAW UPDATE PROCESS

2.1 BYLAW WORKING GROUP

The bylaw updates were led by the Bylaw Working Group, which includes external Engineering consultants and representatives from various City of Kelowna departments, including staff from Infrastructure, Operations, Planning, Development Engineering and Transportation Engineering.

This multi-disciplinary and multi-departmental team began by working with relevant stakeholders, including the Urban Development Institute (UDI), to establish a framework for the update process. Together, the group conducted a robust review of technical guidelines to build a foundation for the bylaw and adapt best practices to address Kelowna's unique context. As a result of their work, the updated version of the bylaw is implementable and aligned with the objectives of the 2040 Official Community Plan, the 2040 Transportation Master Plan, and the perspectives of multiple City departments.

2.2 PROCESS

The SDS bylaw is a living document that needs to be adjusted as development needs evolve. These proposed updates are an important step forward, but refinements will continue to be made to the bylaw as Kelowna grows.

This update process started in 2019 with minor updates to the existing bylaw, which focused on addressing out-of-date language and references. This amendment to the bylaw was adopted by Council in 2020, and can be found in [Bylaw No. 12066 - Amendment No. 21 to Subdivision, Development and Servicing Bylaw No. 7900](#).

In 2020, a workshop was held with the Bylaw Working Group, City of Kelowna staff and Urban Development Institute (UDI) staff. This session started the comprehensive review process and

focused on understanding the issues with the current bylaw, identifying desired outcomes for the new bylaw, and developing guiding principles. Following this workshop, the Bylaw Working Group met every second week for three years to draft the changes found in **Appendix A: Revised Bylaw Sections**.

3.0 GUIDING PRINCIPLES

The guiding principles outlined below were developed by the Bylaw Working Group and UDI at the 2020 workshop to ensure the new version of the bylaw addresses the current and future needs of City of Kelowna staff, developers, and residents.

1. Provide certainty

- The bylaw updates should provide clear direction, enhance the efficiency of development applications, and anticipate future transportation needs as Kelowna grows and evolves.

2. Align with Council policy and best practices

- The bylaw should reflect overarching City policies and long-term goals, elevate design and construction standards in Kelowna, and comply with best practices for urban transportation and design.

3. Be context sensitive and flexible

- The bylaw should reflect the local context in Kelowna and meet a wide variety of design needs, specific and unique to the area.

4. Account for network impacts

- The bylaw should anticipate population growth in Kelowna and increasing and evolving demands on the transportation network.

5. Be consultative

- The bylaw should recognize that some situations may need to be approached on a case-by-case basis and detail a consultative approach to meet unique design needs.

4.0 ALIGNMENT WITH CITY POLICY AND DIRECTION

The SDS Bylaw is a key tool to help achieve the vision of a thriving, active, well-connected community outlined in the 2040 Official Community Plan and the 2040 Transportation Master Plan. Together, these policies and the proposed bylaw update offer a more user-friendly development process that better reflects the various transportation contexts in Kelowna.

Some examples of this alignment and refinement include:

1. More flexible and contextual guidelines that reflect land use considerations.
2. Sections that are inclusive of sustainable transportation modes, including active and public transit.
3. New cross-sections and supporting material to implement the road classification system adopted in the OCP.

This work also includes an update to the OCP policy 13.1.3 to ensure successful implementation of the proposed bylaw updates.

5.0 ALIGNMENT WITH BEST PRACTICES AND DESIGN GUIDELINES

5.1 MASTER MUNICIPAL CONTRACT DOCUMENTS (MMCD) DESIGN GUIDELINES

A key part of elevating Kelowna's design and construction standards include aligning the bylaw with the 2014 Master Municipal Contract Documents (MMCD) Design Guidelines. This follows recent updates to Water Distribution, Sanitary Sewer, and Stormwater Management design standards. Highways is the last major section to be updated to follow the MMCD Design Guidelines, which will make the design standards easier to use and more consistent for developers and consultants.

Although most of the updates align with MMCD Design Guidelines, a few intentional differences were made in the bylaw. This includes adding supplemental sections for Road Safety Audits, Transportation Assessments, and Linear Parks and Trails.

5.2 TRANSPORTATION DESIGN BEST PRACTICES AND GUIDELINES

Transportation design has evolved from a historical approach of moving cars to the current best practice of moving people. To follow this modern approach, the bylaw has been updated to reference the latest provincial and national guidelines.

For example:

- Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC)
- BC Active Transportation Design Guide, BC Ministry of Transportation and Infrastructure
- Manual of Uniform Traffic Control Devices, TAC
- Canadian Guide to Traffic Calming, TAC
- Canadian Roundabout Design Guide, TAC
- Canadian Road Safety Audit Guide, TAC
- Bikeway Traffic Control Guidelines for Canada, TAC
- BC Transit Infrastructure Design Guidelines

6.0 NEXT STEPS

The bylaw updates incorporate the perspectives of key departments in the City and external stakeholders with the goal of having more flexible and easy-to-use design requirements. It is important to note that these updates focus solely on changes to the technical design standards and will not change the existing development process. The SDS Bylaw provides a source of design guidance, but developers will need to continue working with Transportation staff to apply the bylaw to specific contexts.

Following SLT review, the next steps to advance the bylaw updates to adoption include:

1. Workshops with UDI to gather feedback on the final bylaw.
2. Presenting the final bylaw to Council, accompanied by a Council Report.
3. Council adoption.
4. Implementation, pending Council adoption

Sincerely,

URBAN SYSTEMS MEMORANDUM

DATE: November 30, 2022

FILE: 0467.0437.01

PAGE: 4 of 13

SUBJECT: SDS Bylaw 7900 Update – Transportation: Summary Covering Memo

URBAN SYSTEMS LTD.



Forrest Klotzbach, P.Eng.
Project Engineer

cc: Natasha Elliott, P.Eng.
Janine Taylor

/fk/mb

Enclosure

https://urbanpulse-my.sharepoint.com/personal/fklotzbach_urbansystems_ca/Documents/COK SDS Bylaw Update/Implementation Support/2022-11-28 First Draft Covering Memo.docx

APPENDIX A: REVISED BYLAW SECTIONS

The following sections of Bylaw 7900 were included in the comprehensive update. These sections were effectively re-written, and direct comparisons to the previous sections are not feasible.

1) Final Draft – Bylaw 7900, Schedule 4, Section 4 – Transportation

- a. Provides a standardized set of guidelines and design standards for consultants, contractors, and City staff involved with the design and construction of municipal infrastructure.

2) Final Draft – Bylaw 7900, Schedule 5, Section 2- Drawing Index

- a. This document is the City of Kelowna Supplement to the Master Municipal Specifications. This section outlines the construction standards for municipal infrastructure and identifies standard drawings including Cross Section Standards.
- b. **Cross Section Standards XS-R01 to XS-R89** (44 drawings, 15 of which from in the current Hillside section)
 - i. Addition of
 1. XS-R01 - Hillside Laneway
 2. XS-R02 - Suburban / Core Area / Urban Centre Laneways
 3. XS-R20 - Rural Local
 4. XS-R21 - Hillside Village Local Residential
 5. XS-R22 - Hillside Local Condition A (Development Both Sides)
 6. XS-R23 - Hillside Local Condition B (Development One Sides)
 7. XS-R24 - Hillside Local Condition A (No Development Either Sides)
 8. SX-R25 - Suburban Local
 9. XS-R26 - Industrial Local
 10. XS-R27 - Core Area Local
 11. XS-R28 - Urban Centre Local
 12. XS-R40 - Rural Collector
 13. XS-R41 - Hillside Village Collector Condition A (Retail/M.F. Fronting)
 14. XS-R42 - Hillside Village Collector Condition B (No Retail Fronting)
 15. XS-R43 - Hillside – Collector Condition A (Development Both Sides)
 16. XS-R44 - Hillside Collector Condition B (Development One Side)
 17. XS-R45 - Hillside Collector Condition C (Nove Development Either Side)
 18. XS-R46 - Hillside Minor Collector Condition A
 19. XS-R47 - Hillside Minor Collector Condition B
 20. XS-R48 - Suburban Collector

21. XS-R49 - Suburban Collector (With Bike Lanes)
22. XS-R50 - Industrial Collector
23. XS-R51 - Core Area Collector
24. XS-R52 - Core Area Collector (With Bike Lanes)
25. SX-R53 - Urban Centre Collector
26. XS-R54 - Urban Centre Collector (With Bike Lanes)
27. XS-R60 - Rural Minor Arterial
28. XS-R61 - Rural Minor Arterial (With Multi-Use Path)
29. XS-R62 - Hillside Arterial Condition A (Village Parkway)
30. XS-R63 - Hillside Arterial Condition B (Within 0.8km Walking Distance of Village)
31. XS-R64 - Hillside Arterial Condition C (Greater Than 0.8km Walking Distance of Village)
32. XS-R65 - Suburban Minor Arterial
33. XS -R66 - Core Area Minor Arterial
34. XS-R67 - Urban Centre Minor Arterial
35. XS-R80 - Rural Major Arterial (3 Lane)
36. XS -R81 - Rural Major Arterial (3 Lane with Multi-Use Path)
37. XS-R82 - Rural Major Arterial (5 Lane)
38. XS-R83 - Rural Major Arterial (5 Lane with Multi-Use Path)
39. XS-R84 - Suburban Major Arterial (3 Lane)
40. XS-R85 - Suburban Major Arterial (5 Lane)
41. XS-R86 - Core Area Major Arterial (3 Lane)
42. XS-R87 - Core Area Major Arterial (5 Lane)
43. XS-R88 - Urban Centre Major Arterial (3 Lane)
44. XS-R89 - Urban Centre Major Arterial (5 Lane)

- ii. Removal of old cross-sections from Section 2 – Drawing Index

c. Update Standard Details

i. Concrete

1. SS-C7a – Driveway Crossing for Barrier Curbs – Separated Sidewalk and Letdown
2. SS-C7b - Driveway Crossing for Barrier Curbs - Combined Sidewalk and Letdown
3. SS-C8 – Sidewalk Ramp Details
4. SS-C9 – Sidewalk Ramp Layouts

i. Roads

1. SS-R50 – Smart Channel Right Turn
2. SS-R51 – Intersection Curb Extensions (higher class road without parking)
3. SS-R52 – Intersection Curb Extensions (higher class road with parking)
4. SS-R53 – Cul-De-Sac Turnaround

5. SS-R54 – Hammerhead Turnaround
 6. SS-R55 – Standard Ditch Section
 7. SS-R56 – Utility Access and Location at Ditch
 8. SS-R57 - Rock Cut Section
 9. SS-R58 – Driveway Grades
 10. SS-R59 – Urban Transit Stop Layout
 11. SS-R60 – Urban Transit Stop Details
 12. SS-R61 – Post Mounted Sign
 13. SS-R62 – Street Name Blades
- ii. Addition of linear park standard details
 1. SS-T01 Class 1 – Major Urban Promenade
 2. SS-T02 Class 2 – Major Multi-Use Urban
 3. SS-T03 Class 3 – Major Multi-Use Rural
 4. SS-T04 Class 4 – Standard Multi-Use Rural
 5. SS-T05 Class 5 – Narrow Multi-Use Rural
 6. SS-T06 Class 6 – Nature Trail Rural
 - iii. Removal of old Standard Details from Section 2 – Drawing Index

3) Final Draft - Bylaw 7900, Schedule 1

- a. Schedule 1 sets servicing requirements for development.
- b. The requirement for classification is no longer based on land use but based on the updated classification structure in OCP Map 13.1. This ensures that identified Cross Section Standards are consistent and better suited to the context and network.

4) Final Draft – OCP policy 13.1.3

- a. Addresses the Right-of-Way requirements to reflect the new classification structure and the way the current bylaw works.
- b. The recommended text is the preferred option of Planning and Development based on the legal review.

APPENDIX B: UDI FACILITATION NOTES

Subject: SDS Bylaw 7900 Update – Transportation: Summary Covering Memo
 Date: February 6, 2020
 Meeting Date: February 5, 2020
 Location: Kelowna Yacht Club Board Room, 1370 Water Street
 File: 0467.0437.01
 Prepared By: Hugh Culver; Forrest Klotzbach
 Distribution: Attendees; Terry Barton; James Donnelly

Attendees

Chad Williams
 Rafael Villareal
 Gord Foy
 James Kay
 Brian Beach
 Alan Newcombe
 Joel Shaw
 Kevin Wahl
 Ryan Smith
 James Moore
 Laurens Campbell
 Melanie Steppuhn
 Dean Strachan
 Adam Cseke
 Andrew Bruce
 Matt Cameron
 Hugh Culver
 Forrest Klotzbach

Company

City of Kelowna
 UDI
 UDI
 Marathon Communications
 Urban Systems

Email

CWilliams@kelowna.ca
RVillarreal@kelowna.ca
GFoy@kelowna.ca
JKay@kelowna.ca
BBeach@kelowna.ca
ANewcombe@kelowna.ca
JShaw@kelowna.ca
KWahl@kelowna.ca
RSmith@kelowna.ca
JMoore@kelowna.ca
ldcampbell@kelowna.ca
MSteppuhn@kelowna.ca
DStrachan@kelowna.ca
ACseke@kelowna.ca
abruce@melcor.ca
mcameron@ctqconsultants.ca
hugh@hughculver.com
fklotzbach@urbansystems.ca

Item Discussion

Action By

1 Welcome and Introductions

Hugh and Forrest provided context regarding the proposed update to the Transportation section of the Subdivision, Development and Servicing Bylaw 7900. This was followed by introductions by participants.

INFO

2 Challenges with existing bylaw

Hugh asked the various tables to discuss and list challenges with the current Bylaw. The following are the responses:

Team #1 - Where current Bylaw isn't working:

- Unclear application of standards - too much time wasted
- Missing elements (e.g. signal design)
- Safety

Item Discussion

Action By

- Poor connection between policy intent and bylaws
- Doesn't address unique site conditions (not flexible)
- Guideline vs. bylaw
- Conflicting policy and direction
- Flexibility vs consistency
- Everything is custom
- Timeline expectations.

INFO

Team #2 - Where current Bylaw isn't working:

- Greenfield vs. infill - not contextual
- Not flexible to context
- Interpretation not clear e.g. hillside or not?
- Late changes from operations
- Operations constrains creativity e.g. equipment
- Current standards don't meet higher level objectives - alternative designs, but unpredictable
- Concern Re: "gold plated" infrastructure
- Unpredictability drives costs up

Team #3 - Where current Bylaw isn't working:

- Greenfield focused
- Car-centric
- Ultimate cross-section chaos
- Competing objectives between hillside and flats
- Doesn't deal with existing conditions
- No certainty

4 Measures of Project Success

Following the identification of challenges with the current Bylaw, Hugh asked participants to write on Post-It notes objectives they would like from the new Bylaw. The following are the results:

1. Provide Certainty

>> themes from the Post-It notes

- ❖ Provides clear direction for majority of design elements

Item Discussion

Action By

- ❖ Helps to move applications forward with expediency
- ❖ Allows for future transportation needs

>> individual Post-It's notes

- Clear direction on requirements
- A concept plan for cross-sections on all existing major roads
- Predictable land dedications
- Accountability - who pays for what?
- Certainty of requirements
- Use bylaw where we want consistency and context not as important
- Authority to approve 80% with minimal consultation
- Needs predictability so that there are no big surprises i.e. conflicts/costs
- Limit conflict
- Certainty of frontage improvements for every existing road i.e. sidewalks, ATC, parking, lane, etc.
- Legal authority to enforce; council, local government act
- Legally grounded

INFO

2. Align with Council Policy

>> themes from the Post-It notes

- 1) Meets with City policy and long-term goals
- 2) Elevates the standards of design and construction in the City
- 3) Complies with best practices for urban transportation
- 4) Relies on current, external sources for more standard design elements

>> individual Post-It's notes

- Bylaw implementable. Meets with City long term goals (policies)
- Alignment with policy objectives
- Fits into other City plans
- Considers context: land use, use, site constraints
- Identify key objectives

Item Discussion

Action By

- High quality long-lasting infrastructure
- Safety
- Define relationship with OCP, TMP, PBMP
- use /reference provincial/national standards
- Details refer to standard ext. Documents
- #1: public health and safety

3. Context Sensitive and Flexible

>> themes from the Post-It notes

- ❖ Clear process for unique design needs
- ❖ Sensitive to unique local esthetics and transportation demands
- ❖ Unique applications for greenfield vs. brownfield developments

>> individual Post-It's notes

- 2 clear function: new build, how to design to fit context/area
- Context sensitive
- Geographically: use context to set priority of design elements
- Greenfield vs. infill/brownfield
- Greater intervention where more complex urban + major roads
- Aligned with current best practices
- Clear process for unique circumstances
- Split up local/major roads and brownfield/greenfield
- Use bylaw on local streets only
- Separate new roads (greenfield) from existing roads (infill)

4. Accounts for Network Impacts

>> themes from the Post-It notes

- ❖ Accommodates transportation impact on larger community
- ❖ Allows for network growth and change in demands

Item Discussion

**Action
By**

- ❖ Responsibility of applicant to conform
- >> individual Post-It's notes
 - How do we account for external transportation impacts?
 - TIA's only for greenfield developments, No TIA's for infill developments
 - Needs to be separate bylaw/plan standards for major networks - then everything else
 - Treat major networks separately

5. Consultative

- >> themes from the Post-It notes
 - ❖ Recognizes unique situations require a consultative approach
 - ❖ Details a consultative approach for non-conforming design needs
- >> individual Post-It's notes
 - Flexible
 - Maintainable
 - Require transportation expertise for certain application: define/pre-qualify "transportation expert"
 - Separate design standards into separate document sort of like APL
 - Ease of application: clarity of rights-of-way, network features

5 Guiding Principles for the Update

Given the above discussion, the following Guiding Principles for the comprehensive update are proposed:

The transportation section of the Subdivision, Development and Servicing Bylaw is to:

- Provide certainty;
- Align with Council Policy and Best Practices;
- Be context sensitive and flexible;
- Account for Network Impacts; and
- Be consultative.

INFO

URBAN SYSTEMS MEMORANDUM

DATE: November 30, 2022

FILE: 0467.0437.01

PAGE: 13 of 13

SUBJECT: SDS Bylaw 7900 Update – Transportation: Summary Covering Memo

The preceding is the writer's interpretation of the proceedings and any discrepancies and/or omissions should be reported to the writer.

URBAN SYSTEMS LTD.



Forrest Klotzbach, P.Eng.
Senior Project Engineer

hc/fk

U:\Projects_KEL\0467\0437\01\M-Meetings\2020-02-06 Transportation Bylaw Update Workshop Meeting Notes.docx