



INFORMATIONAL MEMORANDUM

TO: **Transportation and Infrastructure Services Committee**
 FROM: **Hari Ponnekanti, Public Works Director/City Engineer**
 BY: **Adam Cox, Transportation Project Manager**
 CC: **Mayor Allan Ekberg**
 DATE: **March 17, 2023**
 SUBJECT: **Annual Bridge Inspections and Repairs Update**
Project No. 70010402
Presentation on the State of the City’s Bridges

ISSUE

Provide the Transportation and Infrastructure Services Committee with information about the status of the City’s bridge program and inventory, showing the overall condition of the City’s bridges after completion of the 2022 inspections.

BACKGROUND

The Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) require regularly scheduled inspections of all the City’s vehicle-carrying bridge structures. The City extends this effort to include its pedestrian bridges. This requirement allows for continuity in reporting, as well as the opportunity to identify and potentially fund bridges in need of replacement and rehabilitation.

ANALYSIS

The City currently owns 24 bridges (16 traffic bearing and 8 pedestrian). Of those, two are jointly-owned jurisdictional bridges with shared ownership between the City of Renton (Grady Way) and the City of Kent (S 196th/200).

The following discussion will focus on why the City inspects its bridges, where the City stands in comparison to the state and the country, and recommendations for additional steps that can be taken to address known issues. There were no new key findings or major concerns observed during the 2022 inspections.

With available funds in 2022, TranTech Engineering performed a study to evaluate which structures require bridge seal replacement. City staff plans to use the remainder of the 2023 bridge maintenance funds to replace deteriorated bridge seals.

The following structures were inspected in 2022:

Bridge Number	Bridge Name	Date Inspected
Tukwila 05	Southcenter Blvd	8/16/2022
Tukwila 14	42 nd Ave S	3/8/2022
Tukwila 15	Tukwila International Blvd	8/16/2022
Tukwila 18	Green River Trail Pedestrian	8/16/2022
Tukwila 19	Interurban Trail Bridge	8/18/2022
Tukwila 20	180 th Pedestrian Bridge	8/16/2022
Tukwila 21	Fort Dent Park Bridge	8/18/2022
Tukwila 22	Fort Dent Trail Bridge	8/18/2022
Tukwila 25	Tukwila Urban Center Ped Bridge	8/18/2022
Tukwila 26	Riverton Creek Pedestrian	8/16/2022

2023 Scheduled Inspections

A total of 14 of the 24 bridges are planned to be inspected in 2023. One of the bridges being inspected in 2023 is the S 119th St pedestrian bridge, which is scheduled to receive an inspection in April. The structure receives an inspection every 24 months due to some of the deterioration observed in the 2017 special climbing inspection. The structure was constructed in 1960 and is nearing the end of its useful life. The bridge timber deck and timber beams have multiple areas of timber rot and paint loss. The structure is scheduled to receive paint and epoxy to the timber deck and timber beams in 2024. The scheduled repair work is considered preventive maintenance and does not improve the structural integrity of the bridge.

A rough order magnitude (ROM) to replace the structure is approximately \$3.9 million. City staff are actively searching for grant funding opportunities for repairs or replacement of the S 119th street bridge.

FISCAL IMPACT

The cost for King County to perform the 2022 inspections was \$19,500.00, which was under the 2022 project budget of \$45,000.00.

RECOMMENDATION

Discussion only.

Attachments: 2021 CIP page 13
2023 CIP page 14
Annual Bridge Inspection Report
2022 City of Tukwila Bridge Inspection Cover Letter
Map of Tukwila's Bridges

CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2023 to 2028

PROJECT: Annual Bridge Inspections and Repairs Project No. 9XX10402

DESCRIPTION: Ongoing program of bi-annual inspections, repairs, painting and rehabilitation of the 22 City bridges.

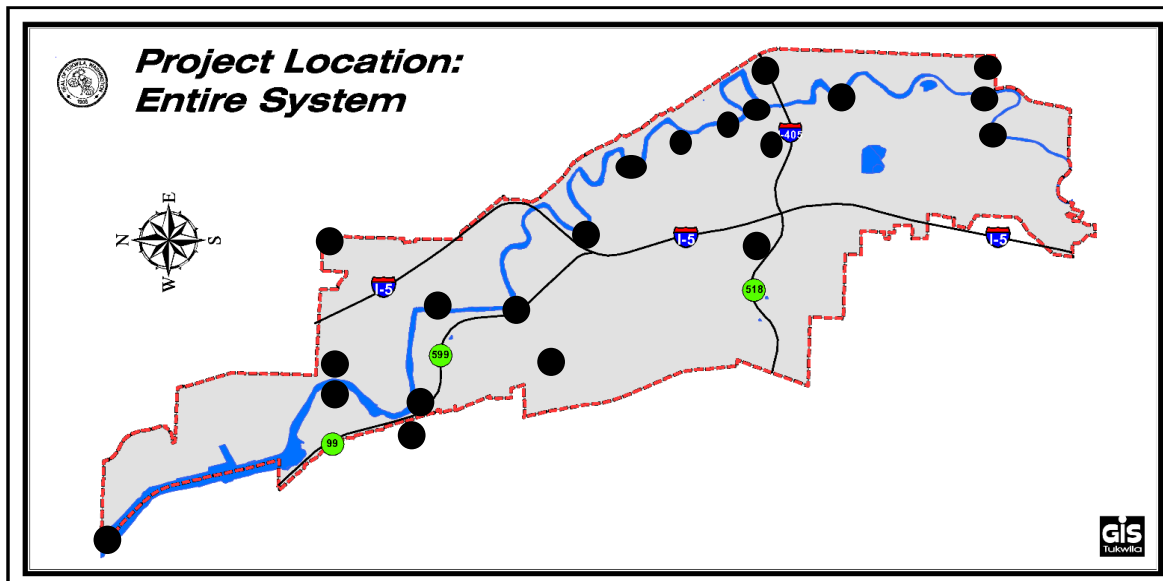
JUSTIFICATION: Federally required program identifies safety or repair needs in the early stages to minimize hazards and costs. The number of bridge inspections necessary each year can vary year to year. Inspection frequencies vary from bridge to bridge and King County has provided some inspection services.

STATUS: Construction projects will be determined from inspection reports and noted deficiencies/problems.

MAINT. IMPACT: Reduces maintenance costs.

COMMENT: Ongoing project, only one year actuals are shown in the first column.

FINANCIAL (in \$000's)	Through 2021	Estimated 2022	2023	2024	2025	2026	2027	2028	BEYOND	TOTAL
EXPENSES										
Inspections	111	45	75	75	110	115	120	125	130	906
Land (R/W)										0
Const. Mgmt.	43	40			15	15	15	15	15	158
Construction	314	250			75	70	65	60	55	889
TOTAL EXPENSES	468	335	75	75	200	200	200	200	200	1,953
FUND SOURCES										
Awarded Grant										
Proposed Grant										0
Mitigation Actual										0
Mitigation Expected										0
City Oper. Revenue	468	335	75	75	200	200	200	200	200	1,953
TOTAL SOURCES	468	335	75	75	200	200	200	200	200	1,953



CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2023 to 2028

PROJECT: Annual Bridge Inspections and Repairs Project No. 7001402

DESCRIPTION: Ongoing program of bi-annual inspections, repairs, painting and rehabilitation of the 24 City vehicle and pedestrian bridges.

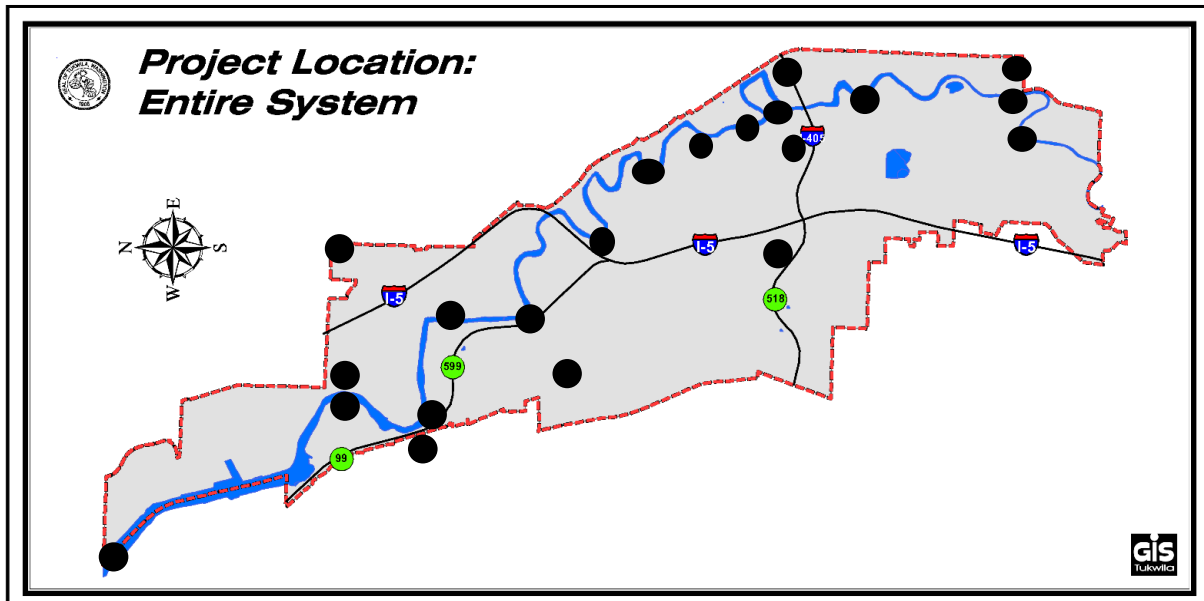
JUSTIFICATION: Federally required program identifies safety or repair needs in the early stages to minimize hazards and costs. The number of bridge inspections necessary each year can vary year to year. Inspection frequencies vary from bridge to bridge and King County has provided some inspection services.

STATUS: Construction projects will be determined from inspection reports and noted deficiencies/problems.

MAINT. IMPACT: Reduces maintenance costs.

COMMENT: Ongoing project, only one year actuals are shown in the first column.

FINANCIAL (in \$000's)	Through 2021	Estimated 2022	2023	2024	2025	2026	2027	2028	BEYOND	TOTAL
EXPENSES										
Inspections	35	40	110	115	120	125	130	135	140	950
Land (R/W)										0
Const. Mgmt.			15	15	15	15	15	15	15	105
Construction			75	75	80	80	85	85	85	565
TOTAL EXPENSES	35	40	200	205	215	220	230	235	240	1,620
FUND SOURCES										
Awarded Grant										
Proposed Grant										0
Mitigation Actual										0
Mitigation Expected										0
Parking Tax	35	40	200	205	215	220	230	235	240	1,620
TOTAL SOURCES	35	40	200	205	215	220	230	235	240	1,620



CITY OF TUKWILA



CITY ENGINEER'S BRIDGE INSPECTION REPORT

March 2023



Tukwila Urban Center Pedestrian Bridge

City of Tukwila



Public Works Department

6300 Southcenter Blvd

Tukwila, WA 98188

CITY ENGINEER'S BRIDGE INSPECTION REPORT

March 2023

Hari Ponnekanti, P.E., PW Director/City Engineer

Table of Contents

Executive Summary	ii
Forward	iii
Quick Bridge Reference	iv
Bridges Recommended for Replacement/Rehabilitation	1
Bridges recommended for Major Maintenance	2
Posted Bridges	3
Bridges Recommended for Rail Retrofit	4
Bridges Repair Recommendations for Repair	5
ADT (Average Daily Traffic)	6
Bridges Maintenance and Repair History	7

Executive Summary

The City currently has ownership of 24 bridges (16 traffic bearing and 8 pedestrian). Of those, two are jointly owned jurisdictional bridges with shared ownership between the City of Renton (Grady Way) and the City of Kent (S 196th/200). The different types of bridge configuration vary from steel through truss, pre-cast concrete girders, cast-in-place concrete girders, steel girder, wood girder, and steel tied arch spans.

Currently the City has a total of six (6) bridges that have a sufficiency rating between 80 to 100; seven (7) bridges that have a sufficiency rating between 60 to 79; two (2) bridges that have a sufficiency rating between 40 to 59; and one (1) bridge (42nd Ave S Bridge) that have a sufficiency rating of 39 or less. Note, pedestrian bridges do not receive a sufficiency rating. Please refer to the Quick Bridge Reference sheet for the break down of city owned bridges and the assigned sufficiency rating.

The sufficiency rating formula provides a method of evaluating highway bridge data by calculating four (4) separate factors to obtain a numeric value which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero (0) percent would represent an entirely insufficient or deficient bridge. The formula considers the structural adequacy, functional obsolescence, level of service and essentiality for public use.

Forward

The *City Engineer's Bridge Inspection Report*, dated March 2023, is published by the City of Tukwila Public Works Department, and the information contained herein is the best available at the time of publication. It is to be used as an information tool for planning and maintenance activities, and reflects the general condition of the City's bridges. The repairs indicated are summarized for brevity from actual bridge inspection reports.

Background

The FHWA (Federal Highway Administration) issued the NBIS (National Bridge Inspection Standards) in 1971. These standards established a comprehensive inspection for all federal highway system bridges. Minimum qualifications were set forth for bridge inspectors. Specific types and frequencies of inspections for bridges were established, and the reporting of certain standard information about each bridge was required. In 1978, these requirements were extended to all public bridges carrying vehicular traffic.

A national bridge inspection program has been in place ever since, and state and local agencies have performed bridge inspection in accordance with these guidelines. Inspections for the City of Tukwila's bridges are conducted every two years unless conditions warrant additional inspections or frequencies as dictated by the NBIS.

Bridge Quick Check Informational Sheet

Bridge Number	Name	Year Built	Suff. Rating	WSDOT Bridge ID	ADT	Next ADT Reqd	Last Inspection	Next Inspection Date	UBIT Required	Last UBIT Inspection	Next UBIT Insp Reqd	Fracture Critical	Special Notes
Tukwila 01	Macadam Road	1997	80.58	08674200	3,600	2024	4/27/2021	2023	N	-	-	N	
Tukwila 02	Frank Zepp	1968	75.37 FO	08561400	36,000	2022	4/7/2021	2023	Y	2021	2025	N	
Tukwila 03	Lois T Newton	1973	79.56	08544400	18,900	2021	4/27/2021	2023	Y	2017	2023	N	
Tukwila 05	South-center Blvd	1994	96.98	0014269D	10,616	2023	8/16/2022	2024	Y	2020	2026	N	
Tukwila 06	Foster 56th Ave	1985	58.05	08166200	2,850	2024	4/22/2021	2023	Y	2017	2023	N	Scour analysis was performed
Tukwila 07	51st Ave South	1996	69.09	08634500	4,600	2024	4/22/2021	2023	N	-	-	N	
Tukwila 08	Grady Way	1986	64.86 FO	08543600	26,000	2024	4/13/2021	2023	Y	2018	2023	N	Jointly owned with City of Renton
Tukwila 09	E Marginal Way	1989	89.83	08110200	13,000	2024	4/13/2021	2023	Y	2017	2023	N	
Tukwila 11	BAR Airport Way	1952	47.22 SD	08001800	40,000	2024	4/14/2021	2023	N	-	-	N	*See note below
Tukwila 12	BAR BNSF	1945	62.15 FO	08002500	40,000	2021	4/14/2021	2023	Y	2017	2023	N	*See note below
Tukwila 13	Beacon Ave S	1971	78.36	7996800	500	2020*	4/8/2021	2023	N	2017	2019	Y	
Tukwila 14	42nd Ave S	1949	6.00 SD	08651500	10,300	2023	9/13/2022	2023	Y	2021	2023	Y	30% design currently in review
Tukwila 15	Pacific Hwy	2000	89.4	08651500	22,406	2025	8/16/2022	2024	Y	2020	2026	N	
Tukwila 16	S 119th	1965	--	08104300	NA	NA	4/27/2021	2023	N	-	-	N	
Tukwila 17	Foster Golf Course	1987	--	08584100	NA	NA	4/11/2019	2024	N	-	-	N	
Tukwila 18	Green River Ped & Utility	1983	--	08584200	NA	NA	8/18/2020	2026	N	-	-	N	
Tukwila 19	Inter-urban Trail	2006	--	08742500	NA	NA	9/11/2018	2023	N	-	-	N	
Tukwila 20	180th Street Trail	2001	--	08742600	NA	NA	8/19/2020	2026	Y	2016	2022	Y	
Tukwila 21	Fort Dent Road	1975	62.59	08328300	1,150	2025	8/18/2022	2024	Y	2018	2024	N	
Tukwila 22	Fort Dent Trail	2002	--	8718400	NA	NA	8/19/2020	2026	N	-	-	N	
Tukwila 24	Klickitat	2012	93.93 FO	08853600	14,024	2023	4/25/2019	2023	N	-	-	N	
Tukwila 25	TUC Ped Bridge	2018	-	8919000	-	-	2020	2025	Y	2019	2024	Y	
Tukwila 26	Riverton Creek Ped	2021	-	8931100	NA	-	8/16/2022	2027	N	-	-	N	New structure on the Green River Trail constructed during the Riverton Flapgate
4001	196-200th	1998	89.80 FO	08712100	17,406	2023	4/7/2021	2023	Y	2021	2027	N	Jointly owned with City of Kent

NOTES:
 Sufficiency Rating is out of 100.
 SD - Indicates the bridge structure is "Structural Deficient" as defined by the WSDOT (Washington State Department of Transportation) bridge inspection program. The structure is still safe for use by the public and the condition is being monitored.
 FO - Indicates the bridge structure is "Functionally Obsolete" as defined by the WSDOT (Washington State Department of Transportation) bridge inspection program. This designation only indicates the roadway geometrics do not meet current standards for bridge design.
 UBIT - Under Bridge Inspection Truck. This indicates the bridge needs special equipment in order to reach portions of the structure for inspection.
 ADT - Average Daily Traffic
 NA - Sufficiency ratings are not given on pedestrian facilities since they are not a part of the NBI system, a Suff. Rating of NA is given in that location.
 All pedestrian bridges do not have a calculated sufficiency rating - they are not traffic loaded bridges and the rating numbers are not calculated per Federal Requirements.
 *Traffic counts were not recorded in 2020 due to inconsistencies in traffic volumes.

Bridges Recommended for Replacement or Rehabilitation

Bridge Number	Bridge Name	Location	Reason
Tukwila 14	42nd Ave South*	Allentown (42nd Ave)	Deteriorating Structural Condition of the steel superstructure

Note: See individual bridge reports in Public Works for detailed repair work.

* The City has been awarded three federal grants from PSRC, state transportation funds, and the Local Bridge Program for a total of \$27 M

Bridges Recommended for Major Maintenance

Bridge Number	Bridge Name	Location	Reason
Tukwila 16	South 119th Pedestrian Bridge	119th Str (Allentown)	Painting/Epoxy of entire structure with possible rot repair as encountered
Tukwila 18	Green River Pedestrian and Utility	Interurban Trail near 180th	Rehabilitation of structure coating and timber rot repair and replacement

Posted Bridges

Bridge Number	Bridge Name	Location	Reason
Tukwila 03	Lois T Newton (Strander Blvd)	Southcenter	Bridge is posted for reduced weight for single vehicle three axel ladder fire trucks.
Tukwila 14	42nd Ave South	Allentown	Bridge is posted for reduced truck speed and posted for reduced loading on AASHTO Type 3 trucks and 6 and 7 axle vehicles.

Note: See individual bridge reports in Public Works for detailed repair work.

Bridges Recommended for Rail Retrofit

Bridge Number	Bridge Name	Location	Reason
Tukwila 1	Macadam	Macadam Road	Provide Guardrail, terminal and transitions that meet current standards
Tukwila 2	Frank Zepp	180th Street	Provide bridge rail that meet current standards
Tukwila 3	Lois T Newton	Stander Boulevard	Provide bridge rail, guardrail, terminal and transitions that meet current standards
Tukwila 6	Foster 56th Ave South	56th Avenue South	Provide bridge rail, guardrail, terminal and transitions that meet current standards
Tukwila 8	Grady Way	Grady Way	Provide Guardrail, terminal and transitions that meet current standards
Tukwila 9	East Marginal Way	East Marginal Way	Provide bridge rail, guardrail, terminal and transitions that meet current standards
Tukwila 11	Boeing Access Road - Airport Way	Boeing Access Road	Provide bridge rail, guardrail, terminal and transitions that meet current standards
Tukwila 13	Beacon Ave South	Victor Street	Provide bridge rail, guardrail, terminal and transitions that meet current standards
Tukwila 14	42nd Avenue South	42nd Avenue South	Provide Guardrail, terminal and transitions that meet current standards

Note: See individual bridge reports in Public Works for detailed repair work.

Bridges Repair Recommendations

Bridge Number	Bridge Name	Location	Repair Recommendations	Priority	Inspection Date
<p>PRIORITY CODE 'A' Highest Priority - Structural integrity and safety involved.</p> <p>PRIORITY CODE 'B' Regular Priority - General bridge structural repair work not requiring immediate response.</p> <p>PRIORITY CODE 'C' Low Priority - General minor maintenance or other work to be accomplished as time and money permit.</p> <p>PRIORITY CODE 'M' Monitor - The repair or item described needs to be monitored at the rate indicated.</p> <p>Note: See individual bridge reports in Public Works for detailed repair work.</p>					
Tukwila 1	Macadam	Macadam	1. No repairs recommended at this time.	NA	27-Apr-21
Tukwila 2	Frank Zepp	180th Street	1. Remove timber planks and plywood between stringers at span 3. 2. Replace bearings at Pier 3 girders I, J, and K	B B	7-Apr-21
Tukwila 3	Lois Newton	Strander Blvd	1. No repairs recommended at this time.	NA	27-Apr-21
Tukwila 5	South center Blvd	SC Blvd	1. Rreplace missing block spacer on guardrail post 2. Fix broken light above pile 2c 3. Trim the trees on the north side of the bridge.	C B B	16-Aug-22
Tukwila 6	Foster 56th Ave S	56th Ave S	1. Fill scour void under SE wingwall 2. Replace expansion joint material 3. Repair damaged guardrail terminal end 4. Develop scour action plan	B B B B	22-Apr-21
Tukwila 7	51st Ave S	51st Ave S	1. Apply deck sealer to prevent ponding water to leak in to the box girders 2. Repair spalls at north expansion joint 3. Investigate waterline in box girder 4. Repair northwest rail terminal 5. Remove trees at Pier 2	B B A B B	22-Apr-21
Tukwila 8 (Renton-Tukwila Joint Ownership)	Grady Way	Grady Way	1. Repair vertical sliding surfaces on columns 2. Repair damage bridge rail (spalling and delamination's) 3. Clean plugged Drains at NW approach 4. Repair pedestrian fencing 5. Clear out material between bearings at Abutment 1 6. Repair metal bridge rail at NW approach 7. Remove vegetation on retaining wall 8. Clear sidewalk debris	B B B B B B C C	13-Apr-21
Tukwila 9	E Marginal Way	E Marginal Way	1. Replace compression seals at expansion joints 2. Develop scour plan 3. Secure access hatch at south side	B C A	13-Apr-21
Tukwila 11	BAR Airport Way	Boeing Access Road	1. Repair bridge rail damage 2. Roughen approach slabs	B C	14-Apr-21
Tukwila 12	BAR BNSF	Boeing access road	1. Repair the southeast approach rail. 2. Clean bridge deck and sidewalk	B M	14-Apr-21
Tukwila 13	Beacon Ave South	At Victor Street	1. Repair interior lighting.	B	8-Apr-21
Tukwila 14	42nd Ave S	42nd Ave S	1. Clean out open joints over floor beams thoroughly and fill with a flexible sealant, priority 1 due to corrosion at top flanges of floor beams from leaking joints. 2. Rework the sliding plate expansion joint so it is smooth with sidewalk and patch spalls near panel points, seal open cracks. 3. Replace missing guard rail and terminal at SW corner, replace damaged rail at SE corner, reset NW rail and posts to bring rail up to standard height. 4. Thoroughly pressure wash clean truss of all dirt/algae/guano, prepare surface, paint bridge to encapsulate pack rust and protect truss members. Add bird deterrent at all panel points, upper and lower chords. 5. Replace steel sliding plate expansion joints with either a strip seal with steel header or modular joint to eliminate water intrusion onto steel bearings. 6. Recommend design seismic retrofit steel collar and construct around bearing columns, anchored to cap, then fill tight with epoxy. 7. FRP wrap columns 4 A-C. Reinforce west wingwall. Add quarry spall along abutment 4 and under span 3 to retain fill and discourage transient activity. 8. Replace missing riprap along banks and in front of piers. 9. Recommend raising portals and sways due to the high volume of truck traffic and existing damage to sway members. 10. Replace sliding plates with elastomeric dynamic isolation bearings. 11. Chip any delaminated concrete from exposed rebar, clean and seal exposed bar and patch spalls. Sack honeycombed areas throughout soffit. Shotblast deck surface, patch spalled areas and apply epoxy overlay. 12. Replace broken gas pipe couplers.	B B B B B B B B B B B C	13-Sep-22
Tukwila 15	Pacific Hwy	Pacific/TIB at Duwamish	1. Repair scour along Green River Trail 2. Arrest channel erosion along the south bank 3. Repair the approach guardrails at the southwest, southeast, and northeast ends 4. Apply epoxy overlay on the bridge deck 5. Spot paint at slice locations to extend paint life 6. Trim brush growing along Ped trail	A A B C B B	16-Aug-22
Tukwila 16	S 119th Pedestrian	S 119th Street	1. Repair warped and twisted deck planks, deck has non-skid coating but timber is still weathered 2. Major rehabilitation or replacement in near future 3. Special inspection requested to inspect the underside of the superstructure 4. Replace areas of top boards	B A A A	27-Apr-21
Tukwila 17	Foster Golf Course	Foster GC	1. Monitor bearing movement at Abutment 1 2. Remove blackberry bushes under the bridge	M C	11-Apr-19
Tukwila 18	Green River	Interurban trail near 180th	1. Monitor utility pipe alignment 2. Repair chord patching material debonding 3. Repair and replace rotting timber pedestrian rail 4. Paint entire superstructure 5. Perform in-depth inspection	M B B B	16-Aug-22
Tukwila 19	Interurban Trail	Interurban Trail	1. No repairs noted	-	18-Aug-22
Tukwila 20	180th Ped	Interurban trail at 180th	1. Monitor leaching cracks in abutment and retaining walls 2. Remove debris from bearing seat 3. Repair approach settlement 4. Repair broken conduit splices 5. Replace approach bollards	M C B B B	16-Aug-22
Tukwila 21	Fort Dent Road	Fort Dent Road	1. Trim vegetation overhanging along sidewalk 2. Repair/replace wire cover plate at the NE approach 3. Post clearance at trail undercrossing under Span 3	C C C	18-Aug-22
Tukwila 22	Fort Dent Trail	Interurban trail	1. Trim overgrowing vegetation at approaches 2. Replace missing safety chains at corners of bridge 3. Replace popped bolts at diagonal bracing 4. Smooth out approach pathway at approach header 5. Rope access inspection	C M B B B	18-Aug-22
Tukwila 24	Klickitat Drive	Klickitat Drive	1. No repairs noted	NA	22-Apr-21
Tukwila 25	Tuk Urban Ped Bridge	Green River Trail	1. No repairs noted	NA	27-Oct-20
Tukwila 26	Riverton Creek Ped	Green River Trail	1. No repairs noted	NA	16-Aug-22
4001 (Kent-Tukwila Joint Ownership)	196-200th	196th Street	1. Repair joints and seals 2. Clean deck drains	B B	7-Apr-21

Bridge Average Daily Traffic (ADT)					
Bridge Number	Name	Year Built	Structure ID	ADT	Next ADT Reqd (5 yr Cycle)
Tukwila 01	Macadam Road	1997	08674200	3,600	2024
Tukwila 02	Frank Zepp	1968	08561400	36,000	2027
Tukwila 03	Lois T Newton	1973	08544400	18,900	2027
Tukwila 05	South-center Blvd	1994	0014269D	10,616	2023
Tukwila 06	Foster 56th Ave	1985	08166200	2,850	2024
Tukwila 07	51st Ave South	1996	08634500	4,600	2024
Tukwila 08	Grady Way	1986	08543600	26,000	2024
Tukwila 09	E Marginal Way	1989	08110200	13,000	2024
Tukwila 11	BAR Airport Way	1952	08001800	40,000	2024
Tukwila 12	BAR BNSF	1945	08002500	40,000	2027
Tukwila 13	Beacon Ave S	1971	7996800	550	2027
Tukwila 14	42nd Ave S	1949	08651500	10,300	2023
Tukwila 15	Pacific Hwy	2000	08651500	22,406	2027
Tukwila 21	Fort Dent Road	1975	08328300	1,150	2025
Tukwila 24	Klickitat	2012	08853600	14,024	2023
4001	196-200th	1998	08712100	17,406	2023

2010 - 2020 Bridges Maintenance and Repair History				
Bridge Number	Bridge Name	Year	Amount	Repair/Maintenance
Tukwila 2	Frank Zepp	2015	\$2.6M	Paint steel, deck overlay, replace deck joint, seismic protection
Tukwila 6	Foster 56th Ave S	1985	\$4.5K	Scour report and plan of action
Tukwila 8	Grady Way	2015	\$350K	Seismic protection
Tukwila 11	Boeing Access Road - Airport Way	2021	\$1.6M	Siesmic Retro Fit
Tukwila 12	Boeing Access Road BNRR	2019	\$10M	Siesmic Retrofit and deck repair
Tukwila 13	Beacon Ave South	2015	\$1.1M	Replace bridge deck and paint steel
Tukwila 14	42nd Avenue South	1994	*	Paint Truss
Tukwila 14	42nd Avenue South	2017	\$17K	42nd Ave S Bridge Structural Assessment
Tukwila 14	42nd Avenue South	2020	\$39K	In-depth inspection beyond the King County inspections
Tukwila 16	S 119th St	2015	\$100K	Paint and timber repair
Tukwila 18	Green River	2007	\$100K	Paint and timber repair
Tukwila 18	Green River	2008	\$126K	Paint and timber repair
4001	196th/200th	2019	\$500K	Approach Slab repair

* Unable to verify cost as project cost data is typical kept for 6 years and project was performed before the City's current project tracking system



King County

Road Services Division

Department of Local Services
201 South Jackson Street
KSC-LS-0313
Seattle, WA 98104-3856
www.metrokc.gov/roads

December 7, 2022

Adam Cox, P.E.
Transportation Project Manager
6300 Southcenter Blvd., Suite 100
Tukwila, WA 98188-2544

RE: Inspection of City of Tukwila Bridges

Dear Mr. Cox:

King County bridge engineers inspect the bridges owned by the City of Tukwila, in accordance with agreements between the City of Tukwila and King County Department of Local Services. The bridge inspections were conducted as follows:

Interim Inspection
February 26, 2022 No. TUKxNx14, 42nd Ave South Bridge

Routine Inspections
August 16, 2022 No. TUKxNx05, SC Blvd. Green River Bridge
No. TUKxNx15, Tukwila International Boulevard
No. TUKxNx18, Green River Ped & Utility Bridge
No. TUKxPx20, 180th Pedestrian Bridge
No. TUKxPx26, Riverton Creek Ped Bridge

August 18, 2022 No. TUKxPx19, Interurban Trail Bridge
No. TUKxNx21, Fort Dent Park Bridge
No. TUKxPx22, Fort Dent Trail Bridge
No. TUKxPx25, Tukwila Urban Center Ped Bridge

Enclosed are the reports from the bridge inspections and the actions we recommend you take to maintain the bridges. We submit the data in the report to Washington State Department of Transportation (WSDOT), in accordance with state and federal laws, to inform them of the bridge's condition and to assure them the bridge has been inspected on a timely basis. The information is incorporated into state and federal databases.

Adam Cox, P.E.
December 7, 2022
Page 2

The bridge inspection report is divided into three main sections. The first section consists of three parts: the National Bridge Inspection Standards (NBIS) elements, Load Capacity Information, and Inspections Performed. The NBIS fields, which are numbered 1657 to 1687 are used for rating the components of the bridge. In general, the codes rate the components from eight (best) to one (worst); however, other rating scales apply to some of the fields in this first section. Explanations of these codes are found in the Washington State Bridge Inspection Manual (<https://www.wsdot.wa.gov/publications/manuals/fulltext/m36-64/BridgeInspection.pdf>).

The second section of the report, Bridge Management System (BMS) Elements, lists quantities and rates them, breaking down the condition of each component into categories that indicate how widespread a component is deteriorated. State 1 is best; State 4 is worst.

The third section consists of three parts: Notes, Repairs, and Inspection Resources Required. The Notes section is comprised of information that provides details of the numbered fields in the first two sections. Please note that any deficiencies listed in the “Repairs” section are prioritized between 1 - High priority, and 3 - Low priority. The Resources Required section indicates any special equipment or tools used to inspect the bridge.

I hope this letter helps you in reviewing these inspection reports. We recommend that the City of Tukwila bridges continue to be inspected on a 24-month schedule. Our next scheduled inspections of the City of Tukwila Bridges will be in spring 2023. Please call Margaret Germeaux at 206-477-3539 if you need any additional information. We appreciate assisting your city with bridge engineering and inspection services.

Sincerely,

DocuSigned by:


FE39162CC8FA453...

Jessy Jose, P.E. for Larry Jamillo
Larry Jaramillo, P.E.
Managing Engineer
Bridge and Structural Design Unit

LJ:MG:

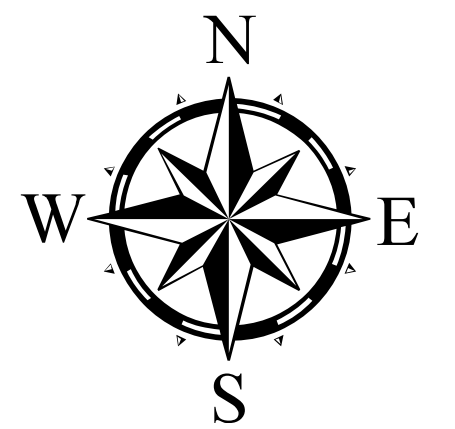
Enclosures

cc: Rey Sugui, Program Analyst, Road Services Division (RSD), Department of
Local Services (DLS)
Margaret Germeaux, Engineer III, Bridge and Construction Unit,
RSD, DLS
(w/ enclosures)



City of Tukwila

Bridges



Not to Scale

NBIS Vehicle Bridges

- 1) Macadam Road
- 2) Frank Zapp Bridge (S 180th St)
- 3) Louis T. Newton Bridge (Strander Blvd)
- 4) Southcenter Green River Bridge
- 5) Foster 56th Ave S
- 6) 51st Ave S
- 7) East Marginal Way
- 8) Boeing Access Road Bridge over Airport Way
- 9) Boeing Access Road Bridge over BNSF
- 10) Beacon Ave S
- 11) 42nd Ave S
- 12) Pacific Highway/TIB
- 13) Fort Dent Park Bridge
- 14) Klickitat Drive

Jointly Owned NBIS Vehicle Bridges

- 15) Grady Way (Renton)
- 16) S 196th St/S 200th St (Kent)

Pedestrian Bridges

- 17) S 119th Pedestrian Bridge
- 18) Foster Golf Course Bridge
- 19) Green River Pedestrian and Utility Bridge
- 20) Interurban Trail Bridge
- 21) S 180th Pedestrian Bridge
- 22) Fort Dent Trail Bridge
- 23) TUC Pedestrian Bridge
- 24) Klickitat Elevated Walkway

Vicinity Map



Disclaimer:
The location of features and boundaries are approximate and are intended for reference only. Data is based on best information available.

