WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

REVISED

BNSF Rwy. Co. Petitioner, vs. City of Auburn, WA Respondent	)	DOCKET NO. TR-151861-P PETITION TO CONSTRUCT OR RECONSTRUCT A HIGHWAY-RAIL GRADE CROSSING AND INSTALL AN INTER-TIE BETWEEN A HIGHWAY SIGNAL AND A RAILROAD CROSSING SIGNAL SYSTEM USDOT CROSSING NO.: 085655A

Prior to submitting a Petition to **Construct** a highway-rail grade crossing and install an inter-tie between a Highway Signal and a Railroad Crossing Signal System to the Washington Utilities and Transportation Commission (UTC), State Environmental Protection Act (SEPA) requirements must be met. Washington Administrative Code (WAC) 197-11-865 (2) requires:

> **All actions of the utilities and transportation commission under statutes administered as of December 12, 1975, are exempted, except the following:**
>
> **(2) Authorization of the openings or closing of any highway/railroad grade crossing, or the direction of physical connection of the line of one railroad with that of another;**

Please attach sufficient documentation to demonstrate that the SEPA requirement has been fulfilled. For additional information on SEPA requirements contact the Department of Ecology.

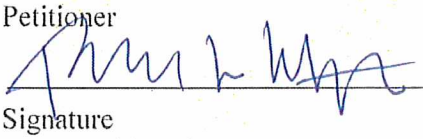
The Petitioner asks the Washington Utilities and Transportation Commission to approve construction or reconstruction of a highway-rail grade crossing and inter-tie the highway signal with the railroad crossing signal system.

☐ **Construction** **X Reconstruction**

Section 1 – Petitioner's Information

BNSF Rwy. Co.

Petitioner



Signature

2454 Occidental Ave. S.

Street Address

Seattle, WA 98134

City, State and Zip Code

Mailing Address, if different than the street address

Richard Wagner

Contact Person Name

206-625-6152, Richard.Wagner@bnsf.com

Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

City of Auburn, WA

Respondent

25 W. Main St.

Street Address

Auburn, WA 98001

City, State and Zip Code

Mailing Address, if different than the street address

Pablo Para

Contact Person Name

253-876-1958,ppara@auburnwa.gov

Contact Phone Number and E-mail Address

Section 3 – Proposed or Existing Crossing Location

1. Existing highway/roadway W Main St

2. Existing railroad BNSF Railway

3. Location of proposed crossing:
   Located in the ____ 1/4 of the ____1/4 of Sec. 13, Twp. 21N, Range 4E W.M.

4. GPS location, if known 47deg 18'27"N, 122deg 13'57"W

5. Railroad mile post (nearest tenth) 21.41X

6. City Auburn County King

Section 4 – Proposed or Existing Crossing Information

1. Railroad company BNSF Railway

2. Type of railroad at crossing x Common Carrier ☐ Logging ☐ Industrial

   ☐ Passenger ☐ Excursion

3. Type of tracks at crossing x Main Line ☐ Siding or Spur

4. Number of tracks at crossing 2

5. Average daily train traffic, freight 24

   Authorized freight train speed 60 Operated freight train speed 60

6. Average daily train traffic, passenger 23

   Authorized passenger train speed 79 Operated passenger train speed 79

7. Will the proposed crossing eliminate the need for one or more existing crossings?
   Yes ____ No X

8. If so, state the distance and direction from the proposed crossing.

9. Does the petitioner propose to close any existing crossings?
Yes ____ No X

Section 5 – Temporary Crossing

1. Is the crossing proposed to be temporary? Yes ____ No X

2. If so, describe the purpose of the crossing and the estimated time it will be needed

_____

_____

_____

3. Will the petitioner remove the crossing at completion of the activity requiring the temporary crossing? Yes ____ No ____

Approximate date of removal _____

Section 6 – Current Highway Traffic Information

1. Name of roadway/highway W. Main St

2. Roadway classification City Street

3. Road authority City of Auburn

4. Average annual daily traffic (AADT) 5100

5. Number of lanes 2

6. Roadway speed 25

7. Is the crossing part of an established truck route? Yes ____ No X

8. If so, trucks are what percent of total daily traffic? 3

9. Is the crossing part of an established school bus route? Yes X No ____

10. If so, how many school buses travel over the crossing each day? 16

11. Describe any changes to the information in 1 through 7, above, expected within ten years:

_____

Section 7 – Alternatives to the Proposal

1. Does a safer location for a crossing exist within a reasonable distance of the proposed location?
   Yes ____ No ____

2. If a safer location exists, explain why the crossing should not be located at that site.

   _____

   _____

   _____

   _____

3. Are there any hillsides, embankments, buildings, trees, railroad loading platforms or other barriers in the vicinity which may obstruct a motorist's view of the crossing?
   Yes ____ No ____

4. If a barrier exists, describe:
   - ♦ Whether petitioner can relocate the crossing to avoid the obstruction and if not, why not.
   - ♦ How the barrier can be removed.
   - ♦ How the petitioner or another party can mitigate the hazard caused by the barrier.

   _____

   _____

   _____

   _____

5. Is it feasible to construct an over-crossing or under-crossing at the proposed location as an alternative to an at-grade crossing?
   Yes ____ No ____

6. If an over-crossing or under-crossing is not feasible, explain why.

   _____

   _____

   _____

   _____

7. Does the railway line, at any point in the vicinity of the proposed crossing, pass over a fill area or trestle or through a cut where it is feasible to construct an over-crossing or an under-crossing, even though it may be necessary to relocate a portion of the roadway to reach that point?
   Yes ____ No ____

8. If such a location exists, state:
   - ♦ The distance and direction from the proposed crossing.
   - ♦ The approximate cost of construction.
   - ♦ Any reasons that exist to prevent locating the crossing at this site.

9. Is there an existing public or private crossing in the vicinity of the proposed crossing?
   Yes ____ No ____

10. If a crossing exists, state:
   - ♦ The distance and direction from the proposed crossing.
   - ♦ Whether it is feasible to divert traffic from the proposed to the existing crossing.

Section 8 – Sight Distance

1. Complete the following table, describing the sight distance for motorists when approaching the tracks from either direction.

a. Approaching the crossing from West, the current approach provides an unobstructed view as follows: (North, South, East, West)

Direction of sight (left or right)	Number of feet from proposed crossing	Provides an unobstructed view for how many feet
Right	300	33
Right	200	36
Right	100	45
Right	50	110
Right	25	Unobstructed
Left	300	75
Left	200	85
Left	100	120
Left	50	1330
Left	25	Unobstructed

b. Approaching the crossing from East, the current approach provides an unobstructed view as follows: (Opposite direction-North, South, East, West)

Direction of sight (left or right)	Number of feet from proposed crossing	Provides an unobstructed view for how many feet
Right	300	0
Right	200	33
Right	100	515
Right	50	1055
Right	25	155
Left	300	80
Left	200	90
Left	100	105
Left	50	145
Left	25	670

2. Will the new crossing provide a level approach measuring 25 feet from the center of the railway on both approaches to the crossing?

Yes ____ No X

3. If not, state in feet the length of level grade from the center of the railway on both approaches to the crossing. 10ft to the west, Unchanged to the East

4. Will the new crossing provide an approach grade of not more than five percent prior to the level grade?

Yes X No ____

5. If not, state the percentage of grade prior to the level grade and explain why the grade exceeds five percent.

Section 9 – Illustration of Proposed Crossing Configuration

Attach a detailed diagram, drawing, map or other illustration showing the following:

- ♦ The vicinity of the proposed crossing.
- ♦ Layout of the railway and highway 500 feet adjacent to the crossing in all directions.
- ♦ Percent of grade.
- ♦ Obstructions of view as described in Section 7 or identified in Section 8.
- ♦ Traffic control layout showing the location of the existing and proposed signage.

Section 10 – Sidewalks

1. Provide the following information:
   a. Provide a description of the type of sidewalks proposed.
   b. Describe who will maintain the sidewalks.
   c. Attach a proposed diagram or design of the crossing including the sidewalks.

Existing sidewalks will be replaced in kind.

Section 11 – Proposed Warning Signals or Devices

1. Explain in detail the number and type of automatic signals or other warning devices planned at the proposed crossing, including a cost estimate for each. If requesting pre-emption include the type of train detection circuitry, sequencing and advanced preemption time, justification for the changes and its effects on current warning devices and warning times for drivers.

Existing crossing protection will be relocated to the West to accommodate the new track. Will add a pedestrian crossing gate in the southeast quadrant of the intersection. Relocation of existing crossing protection and addition of pedestrian crossing will be done at BNSF expense.

Existing simultaneous pre-emption will be replaced with advanced pre-emption.

City of Auburn is responsible for any traffic signal upgrades required due to BNSF's advanced pre-emptions upgrades.

2. Provide an estimate for maintaining the signals for 12 months. _____

3. Is the petitioner prepared to pay to the respondent railroad company its share of installing the warning devices as provided by law?

Yes ____ No ____

Section 12 – Traffic Signal Preemption

Complete the attached Guide for Determining Time Requirements for Traffic Signal Preemption at Highway-Rail Grade Crossings.

1. Specify simultaneous or advance preemption requested.
   Advanced

If advance preemption, what is the preemption time.
   31 seconds

Section 13 – Additional Information

Provide any additional information supporting the proposal, including information such as the public benefits that would be derived from constructing a new crossing as proposed or modifying an existing crossing. Provide project specific information.

BNSF is constructing the third main line in this area to expedite train movement through the City of Auburn. The addition of the third main line will allow commuter trains to access the passenger platforms, just south of W. Main St, while other trains will be able to continue to move down the third track.

Section 14 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in the petition to construct or reconstruct a highway-railroad grade crossing and inter-tie the highway signal with the railroad crossing signal system.

USDOT Crossing No.: 085655A

We have investigated the conditions at the proposed or existing crossing site. We are satisfied the conditions are the same as described by the Petitioner in this docket. We agree that a crossing be installed or reconstructed and the highway signals inter-tied with the railroad crossing signal system and consent to a decision by the commission without a hearing.

Dated at _____ , Washington, on the _____ day of

_____, 20 ____.

Nancy Backus

Printed name of Respondent

Nancy Backus

Signature of Respondent's Representative

Mayor

Title

City of Auburn

Name of Company

253-931-3041,nbackus@auburnwa.gov

Phone number and e-mail address

25 W. Main St.

Auburn, WA 98001

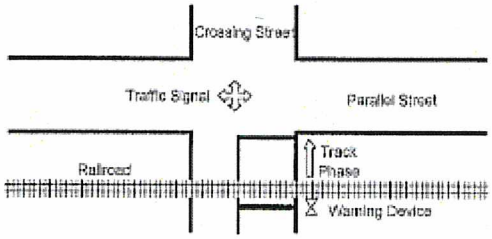
Mailing address

GUIDE FOR DETERMINING TIME REQUIREMENTS FOR TRAFFIC SIGNAL PREEMPTION AT HIGHWAY-RAIL GRADE CROSSINGS

City: Auburn
County: King
District:

Date: 08/25/15
Completed by: Scott Nutter
District Approval:

Show North Arrow



Parallel Street Name: C Street NW
Crossing Street Name: West Main Street

Railroad: BNSF
Crossing DOT#: 085655A

Railroad Contact: Richard Wagner
Phone: (206) 625-8152

SECTION 1: RIGHT-OF-WAY TRANSFER TIME CALCULATION

Preempt verification and response time

			Remarks
1. Preempt delay time (seconds)	1.		Econolite
2. Controller response time to preempt (seconds)	2.		Controller type: ASC III
3. Preempt verification and response time (seconds): add lines 1 and 2	3.	0.0	

Worst-case conflicting vehicle time

			Remarks
4. Worst-case conflicting vehicle phase number	4.	4	
5. Minimum green time during right-of-way transfer (seconds)	5.	5.00	
6. Other green time during right-of-way transfer (seconds)	6.		
7. Yellow change time (seconds)	7.	4.00	
8. Red clearance time (seconds)	8.	1.00	
9. Worst-case conflicting vehicle time (seconds): add lines 5 through 8	9.	10.0	

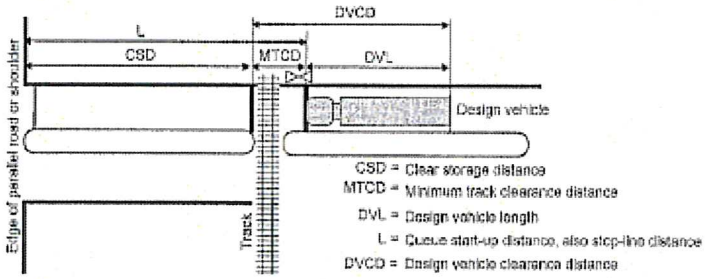
Worst-case conflicting pedestrian time

			Remarks
10. Worst-case conflicting pedestrian phase number	10.	8	
11. Minimum walk time during right-of-way transfer (seconds)	11.	0.0	
12. Pedestrian clearance time during right-of-way transfer (seconds)	12.	18.0	
13. Vehicle yellow change time, if not included on line 12 (seconds)	13.	4.0	
14. Vehicle red clearance time, if not included on line 12 (seconds)	14.	1.0	
15. Worst-case conflicting pedestrian time (seconds): add lines 11 through 14	15.	23.0	

Worst-case conflicting vehicle or pedestrian time

16. Worst-case conflicting vehicle or pedestrian time (seconds): maximum of lines 9 and 15	16.	23.0
17. Right-of-way transfer time (seconds): add lines 3 and 16	17.	23.0

SECTION 2: QUEUE CLEARANCE TIME CALCULATION



			Remarks
18. Clear storage distance (CSD, feet)	18.	120	Accounts for Future third rail -20 ft
19. Minimum track clearance distance (MTCD, feet)	19.	58	
20. Design vehicle length (DVL, feet)	20.	55	Design vehicle type: Truck restrictions in pla
21. Queue start-up distance, L (feet): add lines 18 and 19	21.	178	
22. Time required for design vehicle to start moving (seconds): calculate as 2*(L+20)	22.	10.9	Remarks
23. Design vehicle clearance distance, DVCD (feet): add lines 19 and 20	23.	113	
24. Time for design vehicle to accelerate through the DVCD (seconds)	24.	14.7	Read from Figure 2 in Instructions.
25. Queue clearance time (seconds): add lines 22 and 24	**25.**	25.6	

SECTION 3: MAXIMUM PREEMPTION TIME CALCULATION

			Remarks
26. Right-of-way transfer time (seconds): line 17	26.	23.0	
27. Queue clearance time (seconds): line 25	27.	25.6	
28. Desired minimum separation time (seconds)	28.	4.0	
29. Maximum preemption time (seconds): add lines 26 through 28	**29.**	52.6	

SECTION 4: SUFFICIENT WARNING TIME CHECK

			Remarks
30. Required minimum time, MT (seconds): per regulations	30.	20.0	
31. Clearance time, CT (seconds): get from railroad	31.	2.0	
32. Minimum warning time, MWT (seconds): add lines	32.	22.0	Excludes buffer time (BT)
33. Advance preemption time, APT, if provided (seconds): get from railroad	33.		
34. Warning time provided by the railroad (seconds): add lines 32 and 33	34.	22.0	
35. Additional warning time required from railroad (seconds): subtract line 34 from line 29, round up to nearest full second, enter 0 if less than 0	**35.**	31	

If the additional warning time required (line 35) is greater than zero, additional warning time has to be requested from the railroad. Alternatively, the maximum preemption time (line 29) may be decreased after performing an engineering study to investigate the possibility of reducing the values on lines 1, 5, 6, 7, 8, 11, 12, 13 and 14.

Remarks: _____

SECTION 5: TRACK CLEARANCE GREEN TIME CALCULATION (OPTIONAL)

Preempt Trap Check

36.	Advance preemption time (APT) provided (seconds):	36.	31.0	Line 33 only valid if line 35 is zero.
37.	Multiplier for maximum APT due to train handling	37.	1.60	See Instructions for details.
38.	Maximum APT (seconds): multiply line 36 and 37	38.	49.6	Remarks
39.	Minimum duration for the track clearance green interval (seconds)	39.	15.0	For zero advance preemption time
40.	Gates down after start of preemption (seconds): add lines 38 and 39	40.	64.6	
41.	Preempt verification and response time (seconds): line 3	41.	0.0	Remarks
42.	Best-case conflicting vehicle or pedestrian time (seconds): usually 0	42.	0.0	
43.	Minimum right-of-way transfer time (seconds): add lines 41 and 42	43.	0.0	
44.	Minimum track clearance green time (seconds): subtract line 43 from line 40	44.	64.6	

Clearing of Clear Storage Distance

45.	Time required for design vehicle to start moving (seconds), line 22	45.	10.9	
46.	Design vehicle clearance distance (DVCD, feet), line 23	46.	113	Remarks
47.	Portion of CSD to clear during track clearance phase (feet)	47.	120	CSD* in Figure 3 in Instructions
48.	Design vehicle relocation distance (DVRD, feet): add lines 46 and 47	48.	233	
49.	Time required for design vehicle to accelerate through DVRD (seconds)	49.	15.0	Read from Figure 2 in Instructions.
50.	Time to clear portion of clear storage distance (seconds): add lines 45 and 49	50.	25.9	
51.	**Track clearance green interval (seconds): maximum of lines 44 and 50, round up to nearest full second**	51.	65	

SECTION 6: VEHICLE-GATE INTERACTION CHECK (OPTIONAL)

52.	Right-of-way transfer time (seconds): line 17	52.	23.0	
53.	Time required for design vehicle to start moving (seconds), line 22	53.	10.9	
54.	Time required for design vehicle to accelerate through DVL (on line 20, seconds)	54.	10.0	Read from Table 3 in Instructions.
55.	Time required for design vehicle to clear descending gate (seconds): add lines 52 though 54	55.	43.9	
56.	Duration of flashing lights before gate descent start (seconds): get from railroad	56.	12.0	Remarks
57.	Full gate descent time (seconds): get from railroad	57.		Remarks
58.	Proportion of non-interaction gate descent time	58.	0.58	Read from Figure 5 in Instructions.
59.	Non-interaction gate descent time (seconds): multiply lines 57 and 58	59.	0.0	
60.	Time available for design vehicle to clear descending gate (seconds): add lines 56 and 59	60.	12.0	
61.	**Advance preemption time (APT) required to avoid design vehicle-gate interaction (seconds): subtract line 60 from line 55, round up to nearest full second, enter 0 if less than 0**	61.	32	