Amendment to Docket TR-Revised 143846
Berkeley Street At-Grade Crossing
USDOT Crossing No 085829U

April 3, 2017

City of Lakewood, Washington

Petitioner,

vs.

Central Puget Sound Regional Transportation Authority and the City of Lakewood

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Respondent

Burlington Northern Santa Fe

Tacoma Rail

WSDOT Rail

Amendment Summary:

The City of Lakewood has completed reconstruction of the Highway-Rail grade crossing. Following construction, a few items for clarification of the existing petition and safety and consistency with other crossings within the corridor have been identified as critical to address prior to putting the crossing into full service.

First, the initial petition did not make mention of the automated horn system to be implemented at the crossing. Second, a redundant set of flashers and crossbuck signage at the southeast bound approach of Berkeley Street was found to be distractive to the traveling public. Finally, a new ramp meter system was implemented following the petition. This system will contain an intertie to preempt the ramp meter clearing the queue prior to backup over the crossing.

Sincerely,

Don Wickstrom
City of Lakewood Public Works Director/City Engineer

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

City of Lakewood, Washington Petitioner, vs. **Central Puget Sound Regional Transportation Authority and the City of Lakewood** Respondent Burlington Northern Santa Fe Tacoma Rail WSDOT Rail	)	REVISED DOCKET NO. TR143846 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.: 085829U

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** ☐ **Reconstruction**

Project Summary:

The I-5 Madigan Access Improvements project will reduce congestion at the Berkeley Street interchange by adding an additional left turn lane on the southbound I-5 off-ramp and additional eastbound lane across the Berkeley Street over crossing of I-5. In addition, Berkeley Street will be widened west of I-5 through its intersection with Union Ave. to four lanes. The project will be constructed in two phases. The "City" phase (Phase 1) will involve the reconstruction of the intersection of Berkeley Street with Union Avenue. The "WSDOT" phase (Phase 2) will include the bridge, ramps, and Railroad crossing work.

Section 1 – Petitioner's Information

City of Lakewood, Washington

Petitioner

Signature

6000 Main Street SW

Street Address

Lakewood, WA 98499

City, State and Zip Code

Mailing Address, if different than the street address

Don Wickstrom

Contact Person Name

253-983-7795; dwickstrom@cityoflakewood.us

Contact Phone Number and E-mail Address

Section 2 – Respondent's Information

Central Puget Sound Regional Transportation Authority ("Sound Transit")

Respondent

401 South Jackson Street

Street Address

Seattle, WA 98104-2826

City, State and Zip Code

Mailing Address, if different than the street address

Jodi Mitchell

Contact Person Name

206-398-5080; Jodi.Mitchell@SoundTransit.org

Contact Phone Number and E-mail Address

Burlington Northern Santa Fe

Respondent

2454 Occidental Avenue S; Suite 2D

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

Tacoma Rail

Respondent

2601 SR 509 North Frontage Road

Street Address

Tacoma, WA 98421

City, State and Zip Code

Mailing Address, if different than the street address

Kyle Kellem

Contact Person Name

253-377-3554; kkellem@cityoftacoma.org

Contact Phone Number and E-mail Address

WSDOT Rail Division

Respondent

P.O. Box 47407

Street Address

Olympia, WA 98504

City, State and Zip Code

Mailing Address, if different than the street address

David Smelser

Contact Person Name

360-705-6916; David.Smelser@wsdot.wa.gov

Contact Phone Number and E-mail Address

Section 3 – Proposed or Existing Crossing Location

1. Existing highway/roadway **Berkeley St SW**

2. Existing railroad **Tacoma Municipal Belt Line**

3. Location of proposed crossing:
Located in the NW 1/4 of the SE 1/4 of Sec. 21, Twp.19N, Range 2EW.M.

4. GPS location, if known 47.118874,-122.557467

5. Railroad mile post (nearest tenth) 4.0

6. City **Lakewood** County **Pierce**

Section 4 – Proposed or Existing Crossing Information

1. Railroad company **Sound Transit**
Note: Sound Transit owns crossing property while Tacoma Rail and BNSF share a franchising agreement of the rail.

2. Type of railroad at crossing ⊗Common Carrier□ Logging□ Industrial

⊗ Passenger □ Excursion

3. Type of tracks at crossing ⊗ Main Line□Siding or Spur

4. Number of tracks at crossing **1**

5. Average daily train traffic, freight **2**

Authorized freight train speed **40mph** Operated freight train speed **40 mph**

6. Average daily train traffic, passenger **16**

Authorized passenger train speed **79 mph** Operated passenger train speed **79 mph**

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

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

_____

_____

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

Section 5 – Temporary Crossing

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

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 **N/A**

Approximate date of removal _____

Section 6 – Current Highway Traffic Information

1. Name of roadway/highway **Berkeley St SW**

2. Roadway classification **Arterial**

3. Road authority **City of Lakewood / WSDOT**

4. Average annual daily traffic (AADT) 6,800

5. Number of lanes **1 NB lane, 2 SB lanes**

6. Roadway speed **25 mph**

7. Is the crossing part of an established truck route? Yes ✓ No _____

8. If so, trucks are what percent of total daily traffic? **3% (PM Peak)**

9. Is the crossing part of an established school bus route? Yes ✓ 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:

AADT estimated to grow to 11,490 (in year 2020).

In addition, the roadway is being widened to improve access to the Madigan Hospital. Improvements relative to the rail crossing include the widening of Berkeley St SW to include an additional northbound lane and proper width for the two southbound lanes. The outside lanes in both the north- and southbound directions will be 11', while the inside lanes will be 10.5' wide.

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.

Views are partially obstructed by a business in the Northeast quadrant, and by trees and fencing around a military installation in the Northwest quadrant. The barriers only affect motorists approaching an intersection in a parallel direction to the tracks. Motorists would be required to slow to make the turn at the signalized intersection providing adequate sight distance for the rail signal. Trees could be removed. However, given the driver's sight aimed at the signalized intersection, and having clear sight distance at that intersection, removing the trees would be unnecessary.

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.

The existing site is surrounded by businesses, Interstate 5, and a military installation. Constructing an overcrossing or undercrossing would require elimination or relocation of some or all of these facilities. In addition, the frontage road (Union Avenue), which is lined with businesses and residences would also require raising or lowering in order to match the approach grades for the railroad grade separation.

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.

The railroad does pass over a low fill (approximately 5' high) in the vicinity of the Berkeley Street crossing; however, relocating the roadway under the railroad in this urban area would place the roadway at the same elevation as Interstate 5. This would require construction of not only Berkeley Street, but also Union Avenue, and Interstate 5, too. The cost, including property acquisition, would likely be in the range of $50-$100 million.

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. **"Number of feet from proposed crossing" is measured from the crossing gate along the centerline of the "outside" lane. Sight distance is measured from the edge of traveled way (edge of fog line or curb line) along the CL of track at the crossing. NOTE – for "Left" sight distances, the edge of traveled way is on the opposite side of the roadway.**
Note that sight distances from the I-5 Southbound Off Ramp are NOT reflected in the tables below. The I-5 Off Ramp is both parallel and very close to the tracks. Motorists on the Off-Ramp may have their forward visibility along the track, at certain angles, obstructed somewhat by the railroad crossing cantilever mast and gate mechanism. Since the tracks also extend behind motorists on the Off-Ramp, rearward visibility, though unlimited by obstacles, is likely to be zero, based on motorists' tendency to not look behind them.

a. Approaching the crossing from **EAST**, 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	10 (obscured by bridge railing)
Right	200	15 (obscured by bridge railing)
Right	100	490
Right	50	425
Right	25	425
Left	300	45 (obscured by bridge railing)
Left	200	55 (obscured by bridge railing)
Left	100	360
Left	50	320
Left	25	320

b. Approaching the crossing from **WEST**, 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	20 (obscured by trees)
Right	200	40 (obscured by trees)
Right	100	70 (obscured by trees, fence)
Right	50	140
Right	25	270
Left	300	100 (obscured by structure)
Left	200	125 (obscured by structure)
Left	100	220
Left	50	300
Left	25	310

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 ____

3. If not, state in feet the length of level grade from the center of the railway on both approaches to the crossing. _____

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

Yes ✓ 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.

This project will construct new sidewalks on both sides of the railroad crossing. At the railroad crossing the pedestrian sidewalks will contain a buffer strip between the sidewalk and the concrete curb that will be used for the railroad warning devices. In advance of the pedestrian track crossing, truncated domes will be installed on the sidewalk surface to delineate the boundary between sidewalk and travel way for visually impaired pedestrians. Automatic gates will be installed at all four quadrants to separate pedestrians from the passing trains. Sidewalks will be maintained by WSDOT.

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.

The proposed warning device at the rail crossing will consist of a walk-out cantilever with flashing lights and automatic gates for the east- and westbound traffic. Consistent with FHWA's guidance for high-speed rail corridors, all quadrants of the rail crossing will be equipped with pole-mounted automatic pedestrian gates with special signing to remind pedestrians that they are crossing a rail facility.

Due to the close proximity of the railroad crossing to signalized intersections, the control equipment for the rail crossing will be interconnected with the traffic signal system using a 6-wire connection. Since there is a potential that adjacent signalized traffic operations may cause back-ups onto the rail crossing, a pre-emption sequence is proposed to facilitate track clearance and limited service operation during rail activity. The track green clearance pre-emption will extend green times to clear vehicles from the two railroad track approaches. The limited service operations will continue traffic signal operations during rail activity, avoiding movements towards the tracks.

A new highway ramp meter located nearby will also be interconnected to the railroad signals. This interconnection will send a preemption signal from the railroad bungalow to the ramp meter which will trigger the ramp meter to change operation to green or dark when activated. This interconnection will provide additional risk minimization for traffic backing up over the crossing from the freeway ramp. This interconnection is a one-direction signal from the railroad signals to the ramp meter signal. Constant-warning train detection will also be installed as part of the upgrades to the crossing.

A blank-out sign with the symbol "No Right Turn" is proposed at the intersection of Berkeley Street SW and the Southbound Off-Ramp from Interstate 5. This sign is illuminated when the railroad advanced pre-emption becomes effective, helping to discourage vehicular movements towards the tracks.

Additionally, vehicular traffic leaving Camp Murray will be restricted from making a right turn movement through the use of static regulatory signing to discourage queuing on or in front of the tracks.

Revised February 2017
An automated wayside horn system is installed at the crossing to alert vehicles and pedestrians audibly of an approaching train. The wayside horns will take the place of the engineer sounding the train horn when approaching the crossing. The wayside horns will be mounted on each approach to the crossing and directed toward vehicle traffic.

Pedestrian and vehicular LED lights and crossbuck signs are installed on the SE bound approach of the crossing. Having both the pedestrian and vehicle LED lights appear to be redundant and may cause confusion particularly for oncoming vehicular traffic on this

approach to the crossing. The City proposes to remove the vehicle LED light set and crossbuck sign, leaving the pedestrian LED lightsand crossbuck sign in place. This modification would not have any bearing on the crossing meeting all standards. The modification is strictly to remove redundant LED lights which may contributeto clutter detracting from proper notification.

Constant warning train detection was also installed at the crossing as part of the overall upgrades.

WSDOT installed a new highway ramp meter nearby on the highway entry ramp. The ramp meter will be interconnected to the railroad signals. This interconnection will send a preemption signal from the railroad bungalow to the ramp meter which will trigger the ramp meter to change operation to steady green when activated. This interconnection will provide additional risk minimization for traffic backing up over the crossing from the freeway ramp. This interconnection is a one-direction signal from the railroad signals to the ramp meter signal.

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 preemption is requested.

If advance preemption, what is the preemption time.

41s

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 proposedor modifying an existing crossing. Provide project specific information.

This section is intended to be left blank.

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.: 085829U

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 SEATTLE, Washington, on the 12th day of April, 2017

RICHARD W WEBER
Printed name of Respondent

Signature of Respondent's Representative

Manager, Public Projects
Title

BNSF
Name of Company

(206) 625-6413
RICHARD.WEBER@BNSF.COM
Phone number and e-mail address

2454 Occidental Avenue S; Suite 2D
Seattle, WA 98134
Mailing address

Section 14 – Waiver of Hearing by Respondent

Waiver of Hearing

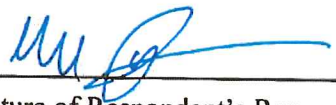
The undersigned represents the Respondent in the petition to construct or reconstruct a highway-railroad grade crossing and inter-tie the highway signal with the railroad crossing signal system.

USDOT Crossing No.: 085829U

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 Seattle, Washington, on the 13th day of March, 2017

Salah Al-Tamimi, P.E.
Printed name of Respondent


Signature of Respondent's Representative

Director of Safety and Quality Assurance
Title

Sound Transit
Name of Company

(206) 398-5006
salah.altamimi@soundtransit.org
Phone number and e-mail address

401 South Jackson Street
Seattle, WA 98104-2826
Mailing address

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.: 085829U

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 Tacoma, Washington, on the 5th day of ~~March~~ April, 2017

Alan Matheson for
Kyle Kellem
Printed name of Respondent

Alan Matheson
Signature of Respondent's Representative

Roadmaster
Title

Tacoma Rail
Name of Company

(253) 377-3554
KKellem@cityoftacoma.org
Phone number and e-mail address

2601 SR 509 North Frontage Road
Tacoma, WA 98421
Mailing address

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.: 085829U

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 TACOMA, Washington, on the 14th day of March, 2017

David Smelser
Printed name of Respondent

Signature of Respondent's Representative

ARRA Cascades HSR Program Manager
Title

WSDOT Rail Office
Name of Company

(360) 705-6916
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