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BEFORE THE WASHINGTON STATE  
UTILITIES AND TRANSPORTATION COMMISSION

CITY OF KENNEWICK,  
  
Petitioner,  
  
v.  
  
UNION PACIFIC RAILROAD,  
  
Respondent.  
.....

DOCKET NO. TR-040664

PREPARED TESTIMONY OF  
WAYNE G. SHORT

CITY OF KENNEWICK,  
  
Petitioner,  
  
v.  
  
PORT OF BENTON and TRI-CITY &  
OLYMPIA RAILROAD,  
  
Respondent.

DOCKET NO. TR-050967

PREPARED TESTIMONY OF  
WAYNE G. SHORT

**INTRODUCTION**

**1. Please state your full name, employer, and job title.**

My name is Wayne Gordon Short, HDR Engineering, Inc. Vice President,  
Western Region Rail Program Manager, and the Bellevue, WA office Rail  
Program Manager

**2. Please provide your education and railroad experience.**

1 I received a Bachelor of Sciences in Civil Engineering in 1981. After  
2 graduation, I joined the Missouri Pacific Railroad which subsequently merged with  
3 the Union Pacific Railroad. During three of my seven years as a civil engineer  
4 with the Railroad, I managed their at-grade crossing improvement program for the  
5 Southern Region. I was responsible to for the design and construction of crossing  
6 improvements in a territory covering most of Louisiana and half of Texas. Since  
7 1987 I have been a railroad consulting engineer working on numerous rail  
8 planning, operations, design and construction projects throughout the United  
9 States. I am a registered professional engineer in California, Oregon, and  
10 Washington States.

11

12 **3. How long have you been employed by HDR?**

13 I have been employed by HDR Engineering, Inc. since Septembers, 1993 (13  
14 years) when I was hired to start HDR's railroad consulting program in the Pacific  
15 Northwest.

16

17 **4. Please describe your work-related duties at HDR, including your present**  
18 **duties?**

19 As HDR's Western Rail Regional Manager, I am responsible for coordinating  
20 the actives of HDR's railroad programs in New Mexico, Alaska, Arizona,  
21 California, Idaho, Oregon, Montana, and Washington. As HDR's Bellevue  
22 Railroad program manager I manage 14 full time railroad professionals located in  
23 Bellevue and Spokane Washington providing administrative supervision, technical  
24 reviews, and business development functions. As a senior project manager I am  
25 directly responsible for rail planning and operations studies, and design of

1 numerous projects. I am currently the project manager for Sound Transit's  
2 Tacoma to Lakewood Commuter Expansion project which is rebuilding 8.2 miles  
3 of excepted track and 17 at-grade crossings to accommodate 60 mph passenger  
4 trains. I am also HDR's project manager to Cambridge Systematics on the  
5 Washington Transportation Commission's ongoing State Rail Study. I am  
6 responsible for analysis of rail congestion and capacity bottlenecks as part of the  
7 study team.

8

9 **5. *Have you had an opportunity to review the testimony of Lloyd Leather and***  
10 ***Randolph Peterson?***

11 Yes, I have thoroughly reviewed the testimony of Mr. Leather's and Peterson's  
12 testimony.

13

14 **6. *Mr. Leathers testified regarding the procedures and maneuvers used to***  
15 ***switch cars. Would extending the UP pass identified in Exhibit A of his***  
16 ***testimony, eastward and the Tri-City Railroad pass westward alleviate some***  
17 ***or all of the issues that would contribute to crossing delays?***

18 While Mr. Leathers accurately describes Union Pacific's switching operations  
19 if the roadway was constructed across all four tracks, he does not consider how the  
20 Union Pacific could operate under the proposals in Exhibit "A" developed by  
21 HDR in February 2002. HDR presented two track layouts that relocated the  
22 interchange tracks to the east side of the crossing. The design was based on the  
23 maximum railcar volumes in 2001.

24 Under the proposed configurations shown in Exhibit A, the Union Pacific  
25 switching procedures would change slightly, but not significantly increase the

1 amount of time the train crew would spend switching the railcars. In the proposed  
2 track layouts in Exhibit "A" Union Pacific trains could switch exactly as described  
3 in Mr. Leathers procedures for picking up 9 to 10 cars from the Tri-City and  
4 Olympia Railroad, except now they would be able to pick up 22 to 25 60-ft. rail  
5 cars while delivering the same amount to the Tri-City and Olympia Railroad. The  
6 switch crew would approach from the east and connect into the standing cars on  
7 the interchange track. The switch engine would then continue west until the cars  
8 being delivered clear the east end of the siding. The brakeman climbs down from  
9 the locomotive, lines the switch if needed, and then uncouple the cars. The  
10 locomotive engineer would continue across the new road crossing clearing the  
11 crossing circuits allowing the crossing arms to rise and clear traffic while the  
12 brakeman lines the switch for the return trip. This procedure will increase Union  
13 Pacific's switching time by the time it takes to reactivate the crossing circuits and  
14 the gates to come down, typically 55 to 60 seconds. This time includes 10 to 15  
15 seconds for the time to move into the crossing circuit island to reactivate the  
16 signals, 45 seconds for the gates to come down blocking traffic. The switch crew  
17 could allow traffic to clear for another minute or two if there is a significant traffic  
18 backup.

19 If Union Pacific is delivering their current maximum interchange capacity of  
20 42 (60-ft.) cars the switching operation would be the same as described above, but  
21 would required an additional move to spot the cars on the second track. The  
22 brakeman would line the switch into the second track. The locomotive engineer  
23 would shove the remaining cars to be delivered back into the second interchange  
24 track where the brakeman would uncouple the cars. The locomotive engineer  
25 would push back across the new road crossing clearing the crossing circuits

1 allowing the crossing arms to rise and clear traffic while the brakeman lines the  
2 switch for the return trip. The brakeman would walk both sides of the train  
3 performing the required inspections, climb onboard and cross the street one last  
4 time proceeding back home. Under this maximum use scenario the crossing would  
5 be blocked three times during the switching operation with a minimum of 55 to 60  
6 seconds of clear time for switching moves across the road. It would be blocked  
7 once more for a short time after the FRA mandated air test as it heads east back to  
8 base. If the Union Pacific Railroad was delivering/picking up 22 to 25 cars or less  
9 the crossing would only be blocked once for switching instead of three times.  
10 According to switching data provided in Mr. Leathers original testimony and  
11 subsequently updated Monday October 16, 2006 (Exhibits "D" and "E") this  
12 would have happen more than 90% of the time in 2005 and 2006.

13 The Tri-City and Olympia Railroad would perform the same procedure except  
14 their trains would arrive from the west.

15  
16 **7. *Would it also alleviate some or all of the problems associated with the***  
17 ***number of cars that could be picked up or dropped off?***

18 In my opinion given the car volumes supplied in Mr. Leathers testimony as  
19 Exhibits "B" and "C" switch operations would actually have been more efficient if  
20 the interchange tracks were relocated to the east per the Exhibit "A" drawing  
21 attached to my testimony.

22  
23 **8. *Could you describe how?***

24 This is because the setout tracks with the double ended configuration in line  
25 with the Tri-City and Olympia Railroad's main line does not have the problems

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associated with Union Pacific Railroad’s short tail track described previously. If railcar volumes grow as the Railroads hope, the Union Pacific will routinely be performing the time consuming switching process for picking up more than 9 to 10 railcars, described in Mr. Leathers testimony verses the switching procedures described herein.

One modification to the proposed layout would be to add a third track to provide the Union Pacific a total storage capacity 42 60-ft. cars as they have today without sharing the other track designated for BNSF Railway interchanges. This would match the current maximum capacity of the total interchange while moving it east away from residential development.

Mr. Peterson’s testimony reflects a concern that future rail growth not be constrained by the crossing. Mr. Peterson and Mr. Leathers both acknowledge current noise complaints with the surrounding neighborhood. With the proposed addition of a third track, the Exhibit “A” track configurations would equal or exceed the maximum capacity of the current interchange tracks while providing a more efficient switching operation. If the Union Pacific/Tri-City and Olympia traffic exceeds 42 cars per day, they would not be able to expand the current interchange given their stated concerns and would presumably relocate the interchange either closer to Richland or some other location on the Union Pacific Railroad’s line. It would not be economical to add a second train to the line when a train could move a 110 to 125 cars at a time. The proposed relocation of the interchange east of the proposed crossing can meet the needs of both the public and railroads without investing in an expensive grade separation.

1           **9.     *Mr. Leathers and Mr. Peterson both discuss the necessity of performing air***  
2           ***brake tests while the rail cars are sitting on top of the crossing. Can either a***  
3           ***UP or Tri-City Railroad crew move the cars a short distance off the crossing***  
4           ***and perform the air brake inspection before hauling the cars away?***

5           Yes, as described above the train would stop after clearing the crossing. The  
6           brakeman would walk the train performing the required inspection, climb onboard  
7           and proceed back home.

8  
9           **10.    *There has been testimony that there will be substantial delays during the***  
10          ***switching operations. Are you familiar with any other switching operations***  
11          ***in the state that impact at-grade crossings?***

12          Yes, there are many locations where switching operations block public streets  
13          throughout the state whether at industry spur tracks or yards. Two locations that I  
14          am personally familiar with is the BNSF Railways Stacy Street Yard in Seattle and  
15          their Tacoma Yard.

16  
17          **11.    *Can you describe how you are familiar with some of these operations.***

18          In Tacoma they currently switch across East 'D' Street, a major truck route  
19          into the port industrial area . The crossing has two main line tracks and one  
20          switching lead. On a daily basis over 45 freight and 10 passenger trains move  
21          across the road at 10 mph to 15 mph. Numerous switching movements occur  
22          across the road 24 hours a day as trains are assembled and disassembled. This  
23          street is currently being grade separated. Similarly at the Stacy Street Yard, BNSF  
24          switches across Royal Brougham, a major road access to the port and the sports  
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stadiums. Switching occurs across this crossing constantly, 24 hours a day, seven days a week.


**12. Are there crossings in existence that create similar delays in duration to those discussed by Mr. Leathers and Mr. Peterson.**

Yes there are many across the State and throughout the nation. Given the limited public resources it is not practical to grade separate every crossing.

**DECLARATION**

I, Wayne G. Short, declare under penalty of perjury under the laws of the State of Washington that the foregoing PREPARED TESTIMONY OF WAYNE G. SHORT is true and correct to the best of my knowledge and belief.

DATED this 17 day of October, 2006.

  
WAYNE G. SHORT