

Exhibit No. ____ (KH-1T)
Dockets TR-110157, TR-110162
TR-110159, TR-110160, TR-110161
Witness: Kathy Hunter

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**PUGET SOUND & PACIFIC
RAILROAD,**

Petitioner,

v.

GRAYS HARBOR COUNTY,

Respondent.

**DOCKET TR-110157
DOCKET TR-110162**

.....
**PUGET SOUND & PACIFIC
RAILROAD,**

Petitioner,

v.

CITY OF ELMA,

Respondent.

**DOCKET TR-110159
DOCKET TR-110160
DOCKET TR-110161**

TESTIMONY OF

KATHY HUNTER

**STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

November 10, 2011

EXHIBIT LIST

- Exhibit No. ____ (KH-2) USDOT/FHWA Railroad-Highway Grade Crossing Handbook, August 2007 ed. (excerpts)
- Exhibit No. ____ (KH-3) Elma Aerial Photos
- Exhibit No. ____ (KH-4) WSDOT Local Agency Guidelines, Chapter 32 – Railroad/Highway Crossing Program, April 2007
- Exhibit No. ____ (KH-5) Satsop Aerial Photos
- Exhibit No. ____ (KH-6) Puget Sound & Pacific Railroad Responses to UTC Staff Data Requests 2 and 4
- Exhibit No. ____ (KH-7) UTC Staff Analysis of Elma N. 10th Street Crossing, September 17, 2009

1 I. INTRODUCTION

2

3 **Q. Please state your name and business address.**

4 A. My name is Kathy Hunter and my business address is 1300 South Evergreen Park Drive
5 Southwest, Olympia, Washington 98504-7250.

6

7 **Q. Where do you work?**

8 A. I work for the Washington Utilities and Transportation Commission (Commission).

9

10 **Q. How long have you worked for the Commission?**

11 A. I have worked for the Commission for 22 years.

12

13 **Q. What is your current title?**

14 A. I am the Deputy Assistant Director, Transportation Safety.

15

16 **Q. What is your work history at the Commission?**

17 A. I began my career working in agency-wide administration and management. I did that
18 for 12 years. In 2001, I was promoted to a manager position that included work in
19 Transportation Safety. In 2006, I transferred to a management position that focused
20 exclusively on Transportation Safety, including a workload of rail safety dockets. My
21 workload included petitions for new crossings, crossing closures, and crossing
22 modifications. In 2008, I was promoted to my current position of Deputy Assistant
23 Director, Transportation Safety. Since that time, I have been responsible for supervision

1 of the rail safety staff and for either directly working, or directing the work of, all rail
2 safety dockets.

3
4 **Q. How do your job duties relate to rail safety?**

5 A. I have worked on rail safety matters since 2006. My work in railroad safety has involved
6 a combination of field work, policy work, and supervision. I conduct field visits to
7 existing and potential crossing locations, high pedestrian trespass areas, locations of
8 potential quiet zones, and any other location that may affect the safety of the railroad or
9 the general public. I review the conditions at the location and make recommendations to
10 maintain or improve safety, generally by conducting a diagnostic review. My policy
11 work includes policy development and analysis performed at the direction of the Director
12 of Safety and Consumer Protection and the Assistant Director for Transportation Safety.
13 It generally involves research and analysis, including writing white papers or
14 memoranda, regarding rail safety issues such as national initiatives, conditions of
15 crossings, and similar issues. I also conduct policy work in evaluating applications for
16 grade crossing safety grant money. I directly supervise six railroad safety professionals.
17 These positions include four Federal Railroad Administration (FRA) certified inspectors,
18 a Program Specialist 5, and a Transportation Specialist 2.

19
20 **Q. Do you have any special training in rail safety?**

21 A. Yes.

1 **Q. What is that training?**

2 A. I attended several courses offered by the University of Wisconsin in Railroad
3 Engineering and Highway Rail Grade Crossing Safety. I've also attended several
4 national conferences related to railroad safety, as well as a course on Interconnection of
5 Highway Rail Grade Crossing Warning Signals and Highway Traffic Signals. Annually,
6 I attend the Association of State Rail Safety Managers' conference sponsored by the
7 Federal Railroad Administration.

8

9 **Q. How does your experience directly apply to this docket?**

10 A. Since June 2006, I have been the lead investigator in over 250 rail petitions and have
11 participated in more than 300 diagnostic reviews.

12

13 **II. SUMMARY OF TESTIMONY**

14

15 **Q. What is the purpose of your testimony?**

16 A. The purpose of my testimony is to make a recommendation on the petitions filed by
17 Puget Sound and Pacific Railroad (PSAP) in these dockets.

18

19 **Q. Would you please summarize your recommendations?**

20 A. I recommend that the Commission grant the petition to close the North 2nd Street crossing
21 in Docket TR-110159 with conditions. I recommend that the Commission deny the
22 petitions in Dockets TR-110157, TR-110160, TR-110161, and TR-110162.

23

1 **III. BACKGROUND**

2

3 **A. Nature of the Petitions**

4

5 **Q. What is the nature of the petitions that PSAP has filed?**

6 A. PSAP has filed petitions to close five grade crossings in Grays Harbor County. The
7 Commission assigned a separate docket number to each petition, but has consolidated the
8 matters for purposes of hearing and determination. From east to west, the proposed
9 closures, and the associated docket numbers, are:

- 10 1. Docket TR-110159, Closure of the North 2nd Street crossing, located in the City
11 of Elma (USDOT Crossing Number 096525J).
- 12 2. Docket TR-110160, Closure of the North 5th Street crossing, located in the City of
13 Elma (USDOT Crossing Number 096635U).
- 14 3. Docket TR-110161, Closure of the North 10th Street crossing, located in the City
15 of Elma (USDOT Crossing Number 096638P).
- 16 4. Docket TR-110162, Closure of the North 17th Street crossing, located in Grays
17 Harbor County (USDOT Crossing Number 096641X).
- 18 5. Docket TR-110157, Closure of the Hewitt Road crossing, located in Grays Harbor
19 County (USDOT Crossing Number 096649C).
- 20
- 21
- 22
- 23

1 **B. Absence of Diagnostic Review**

2

3 **Q. Earlier, you said that you had participated in more than 300 diagnostic reviews.**

4 **What is a diagnostic review?**

5 A. A diagnostic review is when a team of experienced and knowledgeable individuals from
6 interested organizations meet on-site at a crossing to evaluate its operational and physical
7 characteristics. The team determines whether a specific proposed modification is
8 warranted, such as a crossing closure, and whether measures can be taken to maintain or
9 improve safety at the crossing. Generally, the team consists of the road authority (in this
10 case, the City of Elma and Grays Harbor County), Commission staff, and the railroad,
11 though other organizations may also be involved. The team considers a number of
12 factors, including the crossing configuration and physical characteristics, vehicle and
13 train traffic patterns and operations at the crossing, pedestrian usage, the crossing
14 approach zones, traffic control devices such as pavement markings and signs or signals,
15 and the potential effect of future changes in the crossing area.

16

17 **Q. Patrick Kerr, one of PSAP's witnesses, refers on pages 3 and 4 of his testimony to**
18 **the Railroad-Highway Grade Crossing Handbook. Are you familiar with that**
19 **document?**

20 A. Yes.

21

22 **Q. Mr. Kerr states on page 4 of his testimony that the purpose of the Railroad-**
23 **Highway Grade Crossing Handbook is to provide a single reference document on**

1 **prevalent and best practices relative to highway-rail grade crossings. Do you agree**
2 **with that?**

3 A. Yes. That's what the handbook says in the Overview section on page 1.

4
5 **Q. Are diagnostic reviews a prevalent or best practice in the railroad industry?**

6 A. Yes.

7
8 **Q. How do you know that?**

9 A. Section III.C of the Railroad-Highway Grade Crossing Handbook, which begins at page
10 62, recommends the diagnostic review approach to examining conditions at crossings,
11 including an assessment of existing and potential hazards. The Commission follows that
12 recommendation. A copy of the relevant pages (62 through 70) is attached as part of
13 Exhibit KH-2. PSAP has submitted a copy of the entire Railroad-Highway Grade
14 Crossing Handbook as Exhibit PK-4.

15
16 **Q. During the past five years, has PSAP ever convened a diagnostic team review at any**
17 **of the five crossings at issue in these dockets?**

18 A. No. Not to my knowledge.

19
20 **Q. Is it typical for a railroad company to ask the Commission to approve a closure of a**
21 **crossing without a diagnostic review?**

22 A. No, it is not. In several other dockets that I have worked on, the railroad company
23 convened a diagnostic review at the crossing before it petitioned to close the crossing.

1 An example is Docket TR-090121, in which BNSF Railway Company petitioned to close
2 the Logen Road crossing in Snohomish County.

3
4 **IV. MATERIALS AND METHODS OF COMMISSION STAFF ANALYSIS**

5
6 **Q. Have you analyzed the crossing closures proposed in PSAP's petitions?**

7 A. Yes.

8
9 **Q. Did you rely on the Railroad-Highway Grade Crossing Handbook in conducting**
10 **your analysis?**

11 A. Yes.

12
13 **Q. Where there any particular sections that you relied upon?**

14 A. Yes. I relied in particular on Section III.D of the Grade Crossing Handbook, which is
15 entitled "Systems Approach." A copy of the relevant pages (72 through 74) is attached as
16 part of Exhibit KH-2. The same materials also appear in Exhibit PK-4 submitted by
17 PSAP.

18
19 **Q. What is the systems approach?**

20 A. The systems approach considers all crossings within the subject area as a whole. In this
21 case, we would consider all crossings together and determine the best outcome for the
22 entire segment of railroad track and road traffic. We would not look at each crossing
23 individually, without considering neighboring crossings, traffic counts, and traffic

1 patterns. Commission staff generally recommends a systems approach when considering
2 a docket or set of dockets that involve multiple neighboring crossings. I used that
3 approach in my analysis of these dockets.
4

5 **Q. Did you consider all five crossings together in your analysis?**

6 A. Not quite. I considered the following four crossings together, see Exhibit KH-3:

- 7 1. North 2nd Street, located in the City of Elma (USDOT Crossing Number
8 096525J).
- 9 2. North 5th Street, located in the City of Elma (USDOT Crossing Number
10 096635U).
- 11 3. North 10th Street, located in the City of Elma (USDOT Crossing Number
12 096638P).
- 13 4. North 17th Street, located in Grays Harbor County (USDOT Crossing Number
14 096641X).

15 I considered the Hewitt Road crossing separately from the other four. As shown
16 on Exhibit PK-5.3, the Hewitt Road crossing (USDOT Crossing Number 096649C) is
17 located in the Satsop area of Grays Harbor County. It is a few miles west of the other
18 four crossings, which are all in the Elma area. The Hewitt Road crossing is not located
19 within the same system or rail corridor as the other four crossings.
20

21 **Q. Did you use any other resource or reference materials in analyzing the proposals in
22 this docket?**

23 A. Yes, I did. I used the following resource or reference materials:

- 1 1. Revised Code of Washington (RCW) 81.53.020, Railroads – Crossings.
- 2 2. Revised Code of Washington (RCW) 81.53.060, Petition for alteration of crossing
- 3 – Closure of grade crossing without hearing.
- 4 3. “Guidance on Traffic Control Devices at Highway-Rail Grade Crossings”
- 5 published by the United States Department of Transportation, Federal Highway
- 6 Administration. It is available online at <http://www.fra.dot.gov/Pages/756.shtml>.
- 7 4. “Railroad-Highway Grade Crossing Handbook” published by the United States
- 8 Department of Transportation, Federal Highway Administration. See Exhibit
- 9 PK-4. This manual is available online at
- 10 http://safety.fhwa.dot.gov/xings/com_roaduser/07010/.
- 11 5. Manual on Uniform Traffic Control Devices, published by the United States
- 12 Department of Transportation, Federal Highway Administration. It is available
- 13 online at <http://mutcd.fhwa.dot.gov/>.
- 14 6. Washington State Department of Transportation Local Agency Guidelines
- 15 Manual. See Exhibit KH-4. This manual is available online at
- 16 <http://www.wsdot.wa.gov/publications/manuals/m36-63.htm>.
- 17 7. City of Elma State Environmental Policy Act Mitigated Determination of Non-
- 18 Significance for SEPA Application 2011-03.
- 19 8. Orders and other documents resulting from recent petitions to the Commission to
- 20 close other railroad crossings. These documents can be accessed at
- 21 www.utc.wa.gov:
- 22 a. TR-070696, Petition to close Hickox Road in Skagit County near Mount
- 23 Vernon.

- 1 b. TR-080957, Petition to close 2nd Street in Sumas.
- 2 c. TR-090121, Petition to close Logen Road in Snohomish County near
- 3 Stanwood.
- 4 d. TR-090434, Petition to close 2nd Avenue in Ferndale.
- 5

6 **Q. Did you conduct a staff site visit in order to gather information in your analysis of**

7 **these dockets?**

8 A. Yes, I did.

9

10 **Q. When did you conduct a staff site visit?**

11 A. I conducted an official site visit on March 2, 2011. I have also visited the area on several

12 other occasions.

13

14 **Q. Did any other staff accompany you on the official site visit?**

15 A. Yes. David Pratt, Assistant Director, and Paul Curl, Senior Transportation Safety Policy

16 Specialist, both of the Commission's Transportation Safety Section, accompanied me on

17 the site visit.

18

19 **Q. What did you do on your site visit?**

20 A. We visited each of the five crossings at issue in these dockets, as well as all other grade

21 crossings in or near the city of Elma, to review current conditions and make observations

22 at each crossing. In addition, we plotted, drove, and timed alternate routes pedestrians

23 and motorists would need to use in the event any or all of the five crossings were closed.

1 **Q. As part of your staff analysis, did you review the testimony and exhibits filed by**
2 **Steven L. Hefley, Patrick Kerr, and Cary Stewart on behalf of Puget Sound and**
3 **Pacific Railroad (PSAP)?**

4 A. Yes, I did.

5

6 **V. RESPONSE TO PSAP TESTIMONY**

7

8 **Q. In your review of the testimony and exhibits of Steven L. Hefley on behalf of PSAP,**
9 **did you find any testimony with which you disagree?**

10 A. Yes, in two instances.

11

12 **Q. Please explain the first instance where you disagree with Mr. Hefley's testimony.**

13 A. The PSAP crossings that are the subject of this docket involve tracks that run east-to-west
14 through Elma and the neighboring areas of Grays Harbor County. This means that to
15 intersect the tracks, a street must run north-to-south. On page 3, lines 4 and 5, Mr. Hefley
16 states that for the streets that run north-to-south, the streets intersect the tracks, forming a
17 grade crossing, "... at virtually every block" I believe this is inaccurate. There are at
18 least sixteen north-to-south streets in the vicinity of the PSAP tracks. Within those
19 sixteen streets, there are only seven grade crossings. Each of the other nine north-to-
20 south streets either dead ends short of the tracks or once had a grade crossing that is now
21 closed.

22

23

1 **Q. Please explain the second instance where you disagree with Mr. Hefley's testimony.**

2 A. On page 3, lines 22 and 23, Mr. Hefley speaks to the risks associated with the intersection
3 of streets and railroad tracks. These intersections, or at-grade crossings, are inherently
4 risky because vehicles must pass over the very tracks that trains travel on. Risk can be
5 reduced by installing safety devices such as improved signage, audible bells, flashing
6 lights, or gates that lower in front of a vehicle when a train is approaching, theoretically
7 blocking the vehicle's access to the tracks. In his testimony, Mr. Hefley states that PSAP
8 chooses to close crossings rather than improve them because, "Improving crossings does
9 reduce the risk, but closing crossings eliminates the risks entirely." I disagree. Closing a
10 crossing does not reduce the number of vehicles that cross the tracks. It simply diverts
11 those vehicles to another crossing.

12

13 **Q. Is there any way to eliminate the risks entirely?**

14 A. The only way to completely eliminate the risks of an at-grade crossing is to divert the
15 traffic to a grade-separated crossing. A grade-separated crossing means the road passes
16 either under or over the railroad tracks and does not directly intersect the tracks.

17

18 **Q. In your review of the testimony and exhibits of Patrick Kerr on behalf of PSAP, did
19 you find any testimony or exhibits with which you disagree?**

20 A. Yes. Several instances.

21

22

23

1 **Q. Please explain where you disagree with Mr. Kerr's testimony or exhibits.**

2 A. Because I found several statements in Mr. Kerr's testimony and exhibits where I
3 disagree, I have numbered them, below.

4 1. On page 4, beginning at line 18, Mr. Kerr describes the "Hazard Indices and
5 Accident Prediction Formulae" within the "Railroad-Highway Grade Crossing
6 Handbook." Apparently, however, Mr. Kerr did not run the calculation that
7 would help determine the relative level of safety risk for the five crossings that are
8 the subject of these dockets. I am also unaware of any engineering studies,
9 collision studies, or near-hits reports as described by Mr. Kerr on lines 20 – 22.
10 PSAP did commission a traffic study as evidenced by PSAP witness Cary
11 Stewart's direct testimony, but it is not focused on the relative safety of the
12 crossings as they exist today.

13 2. On page 13, lines 22 and 23, Mr. Kerr, in talking about closing the North 5th
14 Street crossing, describes the North 6th Street grade crossing as nearby and an
15 apparent alternative to the North 5th Street crossing. On page 15, lines 14 and 15,
16 Mr. Kerr again suggests that North 6th Street is an alternative route if the North 5th
17 Street crossing is closed. I disagree. North 6th Street is not a viable alternative
18 north of the tracks. The street serves a relatively small number of residences and
19 businesses on a dead end north of the railroad tracks. Motorists crossing North 6th
20 Street are not connected to the city's traffic grid north of the tracks.

21 3. On page 17, lines 9 and 10, Mr. Kerr states that ... "N. 10th dead ends a block
22 north of the crossing at Wakefield Street ..." Mr. Kerr appears to suggest that the
23 North 10th Street crossing could be closed because the street is a dead end. I

1 disagree. North 10th Street ends because it forms a T-intersection with Wakefield.
2 Motorists using North 10th Street can turn either left or right onto Wakefield. This
3 is not a dead end.

4 4. On page 17, line 23, and continuing on page 18, line 1, Mr. Kerr states that North
5 10th Street is within the limits of a PSAP switching yard. I disagree. There is a
6 PSAP switching yard in Elma, but North 10th Street is west of, and to my
7 knowledge outside of, the PSAP switching yard.

8 5. On page 18, lines 7 and 8, Mr. Kerr suggests that motorists using the North 10th
9 Street crossing must cross more than one railroad track. I disagree. North 10th
10 Street crosses only one PSAP track.

11 6. On page 19, line 10, Mr. Kerr, in talking about closing the North 10th Street
12 crossing, describes the North 6th Street grade crossing as nearby and an apparent
13 alternative to the North 10th Street crossing. I disagree. North 6th Street is not a
14 viable alternative north of the tracks. The street serves a relatively small number
15 of residences and businesses and dead ends north of the railroad tracks. Motorists
16 crossing North 6th Street are not connected to the city's traffic grid north of the
17 tracks.

18 7. On page 21, line 23, Mr. Kerr suggests that motorists using the North 17th Street
19 crossing must cross more than one railroad track. I disagree. North 17th Street
20 crosses only one PSAP track.

21 8. On page 25, lines 13 and 14, Mr. Kerr suggests that motorists using the Hewitt
22 Street crossing must cross more than one railroad track. I disagree. Hewitt Street
23 crosses only one PSAP track.

1 9. Exhibit PK-5.2 indicates that there are nine open grade crossings in Elma. I
2 disagree. Mr. Kerr's exhibit shows a crossing at 12th Street but there is no
3 crossing at this location. This exhibit also indicates a crossing at 17th Street,
4 which is open, but the 17th Street crossing is located in Grays Harbor County, not
5 within the city limits of Elma.
6

7 **Q. You mentioned that Mr. Kerr did not run the calculations that would help**
8 **determine the level of safety risk for the five crossings that are the subject of this**
9 **docket. Did you run any such calculations?**

10 A. Yes. I used the accident predictor model available from the Federal Railroad
11 Administration (FRA) website – the Web Accident Predictive System (WBAPS).
12

13 **Q. What results did you obtain from WBAPS?**

14 A. The results were inconclusive. WBAPS utilizes information contained in the railroad
15 crossing inventory database maintained by the FRA. The results are only as good as the
16 information contained in the inventory database. In this case, I noted immediately that
17 several data elements were inconsistent with information that PSAP has provided in
18 direct testimony filed by its witnesses in this case.
19

20 **Q. Please explain.**

21 A. The WBAPS model utilizes elements such as the type of warning devices, number of
22 trains, the number of railroad tracks, and speed of train, whether the highway is paved,
23 the number of traffic lanes, and the average annual daily traffic count (AADT). In every

1 single case, I noted that key elements were incorrect in the inventory database. For
2 instance, at the North 5th Street crossing the inventory says that the warning devices
3 consist of cross bucks only when in fact, the crossing is also protected by stop signs. The
4 inventory lists the total number of trains as eight when PSAP witnesses have testified that
5 the current number of trains is six. The inventory lists the train speed as 40 mph when
6 PSAP witnesses have testified that the maximum train speed is 25 mph. And, finally, the
7 inventory lists the AADT as 370 when PSAP witnesses have testified that the current
8 AADT at the North 5th Street crossing is 90. Each of these inconsistencies has a material
9 effect on the calculation, making the results essentially meaningless.
10

11 **Q. Did you attempt to run the model using accurate data elements?**

12 A. No. The WBAPS model does not allow the user to change any of the data elements. The
13 only way to change the data elements is to submit official inventory updates to the FRA,
14 a process that can take many months to complete.
15

16 **Q. Who is the responsible party for making sure that the information in the FRA
17 inventory database is accurate?**

18 A. The railroad company, PSAP in this case, is responsible for reporting railroad-related
19 information to the FRA. The Commission is responsible for reporting highway-related
20 information. Commission staff relies on the local road authority to provide it with
21 updated highway information, which Commission Staff then provides to the FRA.
22
23

1 **Q. Were you able to make any useful conclusions about the relative safety of the five**
2 **crossings that are subject to this case by running the accident predictor model?**

3 A. No.

4
5 **Q. In your review of the testimony and exhibits of Cary Stewart on behalf of PSAP, did**
6 **you find any testimony or exhibits with which you disagree?**

7 A. Yes, one instance.

8
9 **Q. Please explain where you disagree with Mr. Stewart's testimony or exhibits.**

10 A. Exhibit CS-3A indicates that there are eight open grade crossings in Elma. I disagree.
11 Mr. Stewart included 17th Street which is actually located in Grays Harbor County, not
12 within the city limits of Elma.

13

14 **Q. In your review of the testimony and exhibits filed by Steven L. Hefley, Patrick Kerr,**
15 **and Cary Stewart on behalf of PSAP, did you find any other testimony with which**
16 **you disagree?**

17 A. No, I did not.

18

19 **VI. FINDINGS AND RECOMMENDATIONS**

20

21 **A. Findings and Recommendations – Hewitt Road (Docket TR-110157)**

22

23

1 **Q. Based on your analysis of these dockets and all related site visits, materials,**
2 **documents, and information, do you have any recommendations as to whether the**
3 **Commission should grant the petitions in these dockets as filed?**

4 A. Yes, I do.

5
6 **Q. Which recommendation do you wish to address first?**

7 A. I will start with the Hewitt Road crossing, located in Grays Harbor County (USDOT
8 Crossing Number 096649C). Hewitt Road is not located within the same system or rail
9 corridor at the other four crossings, so I looked at this crossing in conjunction with the
10 nearby Monte-Elma Road (USDOT Crossing Number 096650W) crossing. See Exhibit
11 KH-5.

12
13 **Q. What is your recommendation for the Hewitt Road crossing?**

14 A. I recommend the Commission deny PSAP's petition to close the Hewitt Road crossing.

15
16 **Q. What is the basis for your recommendation regarding the Hewitt Road crossing?**

17 A. If this crossing were closed, motorists would be forced to drive an alternate route that
18 includes crossing the tracks at a crossing on Monte-Elma Road. For motorists, the
19 conditions at the Monte-Elma Road crossing pose a substantive challenge that does not
20 exist at Hewitt Road.

21

22

23

1 **Q. What are the conditions at the existing crossing on Hewitt Road?**

2 A. Hewitt Road is a two-lane, two-way rural road. The vehicle speed at Hewitt Road is 25
3 miles per hour. The average annual daily vehicle count is 95, according to the direct
4 testimony of PSAP witness Patrick Kerr at page 25, lines 9 and 10. Sight distance for
5 drivers, that is the number of feet down the tracks a driver can visually see while stopped
6 at the crossing, is good. A driver can see 300 feet in the southeast quadrant, 400 feet in
7 the southwest quadrant, and 1,200 feet in both the northeast and northwest quadrant of
8 the crossing. The road does not slope toward or away from the tracks, so the approach
9 for drivers is flat, giving drivers a good view of the tracks in advance of the crossing.
10 The angle of the crossing to the road is almost a perfect 90 degrees, giving motorists
11 plenty of approaching sight distance. The crossing is protected by railroad warning signs
12 in advance of the crossing and by cross bucks and stop signs at the crossing itself.
13 Commission records show no evidence of accidents at the Hewitt Road crossing.

14
15 **Q. Are there any flashing lights or gates that descend across the traffic lanes when a
16 train approaches the Hewitt Road crossing?**

17 A. No, there are not.

18

19 **Q. In your opinion, would flashing lights or gates be needed if this crossing remained
20 open?**

21 A. No.

22

23

1 **Q. Why not?**

2 A. Washington State Department of Transportation (WSDOT) publishes a document called
3 “Local Agency Guidelines” (LAG). See Exhibit KH-4. The stated purpose of the
4 document is “... to help Washington’s public agencies plan, design, construct, and
5 maintain transportation facilities ... The LAG manual ... is a reference source for
6 administrative and field personnel in any governmental agency.” Within that document,
7 on page 32-2, WSDOT describes when it is appropriate to consider lights and gates at a
8 crossing. WSDOT uses an “exposure factor” to determine when lights or lights or lights
9 and gates are appropriate. The exposure factor is calculated by multiplying the number
10 of trains per day by the number of vehicles per day that pass through the crossing.
11 WSDOT states that agencies should consider lights or lights and gates at a crossing with
12 an exposure factor of greater than 1,500. The exposure factor at the Hewitt Road
13 crossing is currently 570 (95 X 6), well below the 1,500 needed to consider lights or
14 lights and gates. Train traffic would have to increase to about 16 per day to trigger a
15 diagnostic review to determine whether lights or lights and gates are necessary to protect
16 motorists at this crossing.

17

18 **Q. What are the conditions at the crossing on Monte-Elma Road, where traffic would**
19 **be diverted if the Hewitt Road crossing is closed?**

20 A. Monte-Elma Road is also a two-lane, two-way rural road. The vehicle speed at Monte-
21 Elma Road is 30 miles per hour, with an estimated annual average daily vehicle count of
22 200. Sight distance for drivers is not as good as that at Hewitt Road. A driver can see
23 250 feet in the southeast quadrant, 80 feet in the southwest quadrant, 80 feet in the

1 northeast quadrant, and 120 feet in the northwest quadrant of the crossing. The road
2 slopes slightly both toward and away from the tracks at a 1% grade. The angle of the
3 crossing to the road is skewed at an angle of approximately 45 degrees. An angle this
4 acute severely restricts sight distance because a driver would have to look back over his
5 or her shoulder to see down the tracks. This crossing lacks the advantageous approaching
6 sight distance or sight distance at the crossing itself that is present at Hewitt Road. The
7 crossing is protected by flashing lights (at Ash Road and Foss Avenue) and flashing
8 lights and gates (at Monte-Elma Road) that descend across the traffic lanes when a train
9 approaches. Commission records show that one accident occurred at the Monte-Elma
10 Road crossing in 1987.

11 The biggest challenge for drivers at the Monte-Elma Road crossing is the fact that
12 three roads intersect with the railroad tracks simultaneously. The Monte-Elma Road, Ash
13 Road, and Foss Avenue form a four-legged intersection with the railroad tracks. The
14 presence of a highway intersection on top of a rail crossing is a relatively unique and
15 hazardous situation in and of itself, but this crossing is made more hazardous by the
16 skewed angle at which the tracks and the roads meet. The skewed angle of the tracks
17 relative to the road plus the fact that Ash Road and Foss Avenue are not directly opposite
18 each other, make the crossing gates at this crossing much less effective than we normally
19 would expect. The crossing gates are located 218 feet apart which make it very easy for
20 an impatient motorist to circumvent the gates by simply driving around them. Typical
21 crossings have gates that are located 30 to 40 feet apart, such as the 11th Street crossing in
22 Elma.

1 **Q. Does this conclude your testimony regarding Hewitt Road?**

2 A. Yes.

3

4 **B. Findings and Recommendations – Elma Crossings**

5

6 **Q. Let's turn to the other four petitions at issue. Based on your analysis of these**
7 **dockets and all related site visits, materials, documents, and information, do you**
8 **have any recommendations as to whether the Commission should grant the**
9 **remaining four petitions in these dockets as filed?**

10 A. Yes.

11

12 **Q. How did you arrive at your recommendations?**

13 A. In considering recommendations for the remaining four crossings, I used the systems
14 approach, as mentioned earlier. The systems approach considers all crossings within the
15 subject area as a whole. In this case, I considered all four remaining crossings, as well as
16 all other grade crossings in or near the city of Elma together, to determine the best
17 outcome for the entire segment of railroad track and road traffic.

18

19 **Q. Which of the four crossings did you consider using the systems approach?**

20 A. I considered the following four crossings together:

21 1. North 2nd Street, located in the City of Elma (USDOT Crossing Number
22 096525J).

23

- 1 2. North 5th Street, located in the City of Elma (USDOT Crossing Number
- 2 096635U).
- 3 3. North 10th Street, located in the City of Elma (USDOT Crossing Number
- 4 096638P).
- 5 4. North 17th Street, located in Grays Harbor County (USDOT Crossing Number
- 6 096641X).

7

8 **Q. Please describe the rail and road system in the Elma area.**

9 A. The city of Elma has an unusual lay-out of railroad tracks. As illustrated in Exhibit
10 PK-5.2, there are tracks that run both north-to-south and east-to-west through the city.
11 The north-to-south corridor (Elma to Centralia) has only two potential rail crossings, on
12 East Main Street and East Young Street, and both are grade separated. This means that
13 the street traffic travels over the railroad tracks, so there is no potential for vehicles and
14 trains to collide. The east-to-west corridor (Elma to Aberdeen), which includes the four
15 crossings listed above, is more problematic.

16 PSAP projects an increase in the number of trains and an increase in train speeds.
17 See Exhibit KH-6, the response to staff's data request on this subject. The ideal solution
18 is a grade separation somewhere along this corridor, with accompanying at-grade
19 crossing closures. None of the petitions filed by PSAP, nor any action on behalf of the
20 City of Elma or Grays Harbor County, has suggested any party is considering a grade
21 separation. Typically, the cost of a grade separation is quite high.

22

23

1 **1. North Second Street (Docket TR-110159)**

2
3 **Q. Do you have a recommendation as to whether the Commission should grant the**
4 **petition for the North 2nd Street crossing, located in the City of Elma (USDOT**
5 **Crossing Number 096525J) as filed?**

6 A. Yes.

7
8 **Q. What is that recommendation?**

9 A. I recommend the Commission approve PSAP's petition to close the North 2nd Street
10 crossing, with conditions.

11
12 **Q. What is the basis for your recommendation regarding the North 2nd Street crossing?**

13 A. Circumstances at the North 2nd Street crossing make it more hazardous than other
14 crossings in the area, as follows:

15 1. Two sets of tracks cross North 2nd Street – one PSAP main line and one siding.

16 This means potentially more train traffic with an increased possibility of a
17 collision.

18 2. It takes more time for a vehicle, particularly a commercial motor vehicle, to clear
19 the tracks, increasing the possibility of a collision.

20 3. Because this crossing is located adjacent to the PSAP rail yard, there are
21 considerable switching operations that take place across the main line and siding
22 tracks in this area. While there may only be six trains per day actually leaving the
23

1 yard, switching operations put many more trains on the tracks at this particular
2 location, again increasing the possibility of a collision.

- 3 4. Sight distance in the southeast quadrant, because of a building set close to the
4 tracks, is only 150 feet. The crossing on North 2nd Street runs between PSAP's
5 office on the west and its yard and shop area on the east. PSAP employees must
6 travel between the two locations, causing more vehicle and pedestrian traffic at or
7 near the crossing.

8
9 **Q. Did you consider any other factors in making your recommendation on the North
10 2nd Street crossing?**

- 11 A. Yes. The average annual daily traffic count at this crossing is 350 and includes 16.8
12 percent commercial vehicles, according to the direct testimony of PSAP witness Patrick
13 Kerr at page 10, lines 15 – 17. The exposure factor (see Exhibit KH-4) is 2100 (350 X
14 6), which is above the number where we would consider adding lights or lights and gates
15 to protect pedestrians and motorists at the crossing. In addition, the alternate routes
16 (North 3rd Street by way of West Pine Street on the north side and North 3rd Street by way
17 of West Martin Street on the south side) seem reasonable and relatively convenient.
18 West Pine Street between 2nd and 3rd appears to be in good shape and motorists should
19 have no problem using this alternate route.

20
21 **Q. Did you drive the presumed alternate route?**

- 22 A. Yes. I used Elma High School on Main Street as a starting point because of its apparent
23 prominence in the city of Elma. Initially, I drove from the corner of North 10th Street and

1 Main Street via Main Street and North 2nd Street to the north side of the North 2nd Street
2 grade crossing. The total elapsed time was two minutes and 28 seconds and covered 0.7
3 miles. The alternate route, starting at the same corner, but traveling via Main Street,
4 North 3rd Street and West Pine Street to the north side of the North 2nd Street grade
5 crossing, took two minutes and 46 seconds and covered 0.8 miles.
6

7 **Q. What conditions would you recommend before the crossing is closed?**

8 A. I recommend, from a systems approach perspective, the following conditions:

- 9 1. At both the north and south sides of the tracks PSAP should be required to
10 construct a cul-de-sac or hammerhead turnaround so that a driver confronted with
11 a closed crossing can safely turn the vehicle around.
- 12 2. PSAP and the city of Elma should be required to provide an emergency exit route
13 and emergency vehicle access for residents of North 6th Street north of the tracks
14 at PSAP expense. These residents are currently trapped when a stopped or slow-
15 moving train blocks the crossing, because they are not connected to the city's
16 traffic grid north of the tracks.
- 17 3. PSAP should be required to organize a diagnostic team meeting at the North 10th
18 Street crossing to determine if existing warning devices are adequate and to
19 implement the diagnostic team's recommendations, at PSAP's expense.
20

21 **Q. How are conditions two and three related to the closure of the North 2nd Street**
22 **grade crossing?**
23

1 A. As I mentioned previously, I used a systems approach in my analysis of PSAP's proposal
2 in these consolidated dockets. That means I looked at the whole rail corridor from North
3 2nd Street in the eastern part of Elma to North 17th Street to the west. From this
4 perspective, I noted two glaring crossing safety problems, North 6th Street and North 10th
5 Street. In my opinion, as a safety professional with training and experience in railroad
6 safety, correcting these problems is a priority over any crossing closures. Closing the
7 North 2nd Street grade crossing provides a benefit for PSAP financially by eliminating
8 annual maintenance and other expenses as well as improving overall rail crossing safety
9 in Elma. In exchange for the benefits accruing to the railroad and considering
10 inconvenience of many citizens of Elma, PSAP should be required to address obvious
11 crossing safety problems that Elma citizens now face every day. In my mind, it is an
12 equal and reasonable exchange.

13

14 **Q. Does this conclude your testimony regarding North 2nd Street?**

15 A. Yes, it does.

16

17 **2. North Fifth Street (Docket TR-110160)**

18

19 **Q. Let's turn to Docket TR-110160. Do you have a recommendation as to whether the**
20 **Commission should grant the petition to close the North 5th Street crossing, located**
21 **in the City of Elma (USDOT Crossing Number 096635U) as filed?**

22 A. Yes.

23

1 **Q. What is that recommendation?**

2 A. I recommend the Commission deny PSAP's petition to close the North 5th Street
3 crossing.

4
5 **Q. What is the basis for your recommendation regarding the North 5th Street crossing?**

6 A. I considered several factors in making my recommendation. The current North 5th Street
7 crossing is a relatively safe crossing. The testimony of PSAP's witness Patrick Kerr
8 suggests that North 6th Street is a viable alternative, but it is not on the north side of the
9 tracks. North 6th Street serves a relatively small number of homes and businesses north
10 of the tracks and dead ends. It is not tied into the city's traffic grid north of the tracks.
11 The only alternative route for traffic north of the tracks is North 3rd Street by way of West
12 Pine Street between North 5th and North 3rd Streets. This is not a good alternative.

13

14 **Q. You said the current North 5th Street crossing is relatively safe. On what do you
15 base that conclusion?**

16 A. North 5th Street is a two-lane, two-way city street. The vehicle speed at North 5th Street is
17 25 miles per hour, with an average daily vehicle count of 90 according to direct testimony
18 of PSAP witness Patrick Kerr at page 14, line 12. Sight distance for drivers is good. A
19 driver can see 1,000 feet in the southeast quadrant, 1,500 feet in the southwest quadrant,
20 and 1,000 feet in both the northeast and northwest quadrant of the crossing. The road
21 slopes toward and away from the tracks, at a slight slope of 1-2 degrees. The angle of the
22 crossing to the street is slightly skewed but close to a perfect 90 degrees, giving motorists
23 plenty of approaching sight distance. The crossing is protected by railroad warning signs

1 in advance of the crossing and by cross bucks and stop signs at the crossing itself.

2 Commission records show no evidence of an accident at the North 5th Street crossing.

3
4 **Q. Are there any flashing lights or gates that descend across the traffic lanes when a**
5 **train approaches?**

6 A. No, there are not.

7
8 **Q. In your opinion, would flashing lights or gates be needed if this crossing remained**
9 **open?**

10 A. No.

11
12 **Q. Why not?**

13 A. As with Hewitt Road, I used the WSDOT Local Agency Guidelines to determine the
14 exposure factor for North 5th Street. WSDOT uses an “exposure factor” to determine
15 when lights and gates are appropriate. WSDOT states that agencies should consider
16 lights and gates at a crossing with an exposure factor of greater than 1,500. The exposure
17 factor at the North 5th Street crossing is 540, well below the 1,500 needed to consider
18 lights and gates. Train traffic would have to increase to 17 per day before we would
19 convene a diagnostic team meeting to determine whether lights or lights and gates were
20 necessary to protect motorists at this crossing.

1 **Q. You previously said that the only other alternative route north of the tracks, North**
2 **3rd Street by way of West Pine Street between North 5th and North 3rd Streets, is not**
3 **a good alternative. Please explain.**

4 A. West Pine Street between North 5th and North 3rd Streets is not in good condition and it is
5 not a convenient and safe street for motorists and pedestrians to use as an alternative
6 route. I do not believe this stretch of West Pine Street would support commercial motor
7 vehicles or other large vehicles that serve the businesses north of the tracks. It is narrow
8 and curvy and more closely resembles an alleyway than a city street.

9
10 **Q. Did you drive the presumed alternate route for the North 5th Street crossing?**

11 A. Yes. I again used the high school as a starting point. From the corner of North 10th
12 Street and Main Street, I drove to the north side of the North 5th Street crossing via Main
13 Street and North 5th Street. The elapsed time was one minute and 59 seconds and
14 covered 0.6 miles. From the same starting point I drove the alternate route, via Main
15 Street, North 3rd Street and West Pine Street to the north side of the crossing. The
16 elapsed time was three minutes and 28 seconds and covered 0.9 miles.

17
18 **Q. Are there any circumstances under which you could support closure of the North 5th**
19 **Street crossing?**

20 A. Only under very specific conditions could I support its closure.

21

22 **Q. What are those conditions?**

23 A. Those conditions are:

- 1 1. At both the north and south sides of the tracks PSAP would agree to construct a
2 cul-de-sac or hammerhead turnaround so that a driver confronted with a closed
3 crossing can safely turn the vehicle around.
- 4 2. PSAP would agree to fund improvements to West Pine Street between North 5th
5 and North 3rd Streets to bring it up to standards that would allow pedestrians and
6 motorists, including commercial vehicles, to use the street safely and
7 conveniently.
- 8 3. PSAP would agree to work with the city to tie North 6th Street north of the tracks
9 into the city's traffic grid at PSAP's expense, so that pedestrians and motorists
10 have a reasonably convenient and safe alternative to the North 3rd Street crossing.
- 11 4. PSAP, at its own expense, agrees to install any upgrades to the crossing, as
12 determined by a diagnostic team, at the North 6th Street crossing.

13

14 **Q. But at this time, in this docket as filed, you are recommending the commission deny**
15 **closure of the North 5th Street crossing. Is that correct?**

16 **A. Yes, it is.**

17

18 **Q. Does this conclude your testimony regarding North 5th Street?**

19 **A. Yes, it does.**

20

21

22

23

1 **3. North Tenth Street (Docket TR-110161)**

2

3 **Q. Let's turn to Docket TR-110161. Do you have a recommendation as to whether the**
4 **Commission should grant the petition to close the North 10th Street crossing, located**
5 **in the city of Elma (USDOT Crossing Number 096638P) as filed?**

6 A. Yes.

7

8 **Q. What is that recommendation?**

9 A. I recommend the Commission deny PSAP's petition to close the North 10th Street
10 crossing.

11

12 **Q. What is the basis for your recommendation regarding the North 10th Street**
13 **crossing?**

14 A. On its face, it may seem reasonable to assume that any traffic from North 10th Street
15 could conveniently divert to North 11th Street, a much safer crossing because of superior
16 warning devices, but I do not believe that is reasonable. North 10th Street is a very
17 important crossing in Elma. It is the primary access road for a major city park and
18 athletic complex north of the tracks. The North 10th Street crossing appears to get
19 considerable traffic from both pedestrians, many of them children, and vehicles headed
20 for either the park or the sports venue. Spring through summer are peak use months for
21 the city park and athletic complex. In addition, it's my understanding that seasonal
22 special events are held at the athletic complex such as the State Little League
23 Championship tournament which was held last summer. I am particularly concerned

1 about the pedestrians, because between North 6th Street and North 10th Street there is no
2 legal access from the south (city center) to the park. There is already obvious illegal and
3 unsafe trespass activity occurring in this area. For example, on several occasions UTC
4 field staff has notified me that they observed children and adults climbing the fence near
5 the athletic complex and then proceeded to walk along and over the tracks. Closing the
6 North 10th Street crossing will only serve to move the sole legal access, the crossing on
7 North 10th Street, one block further west, to North 11th Street. For these reasons I do not
8 believe this is a reasonable crossing closure.
9

10 **Q. Earlier in your testimony, you described the North 10th Street crossing as a “glaring**
11 **crossing safety problem.” Have you calculated an exposure factor for the North 10th**
12 **Street crossing?**

13 A. No, I have not. I am very familiar with the North 10th Street crossing, however. UTC
14 staff has analyzed this crossing in the past as both a possible closure and a candidate for
15 upgrading warning devices. PSAP witness Patrick Kerr, in his direct testimony at page
16 18 line 3, states that AADT at this crossing is 136. According to PSAP witness Cary
17 Stewart, this count was taken in October or November of 2010. See Testimony of Cary
18 Stewart, P.E., page 6, line 9; Exhibit CS-3, page 4. I do not think this count is at all
19 accurate or meaningful because of heavy use of the park and athletic complex during the
20 good weather months, primarily spring and summer. PSAP witness Cary Stewart, in an
21 exhibit supplementing his direct testimony (Exhibit CS-3, “Report” at page 4 of 7),
22 attempts to calculate an assumed AADT using an unproven theory of hypothetical use
23 during peak months. While I do not necessarily disagree with his calculation, I do not

1 agree either. I simply do not have an AADT number in which I have complete
2 confidence and therefore cannot calculate an exposure factor.

3
4 **Q. You mentioned that UTC staff has previously analyzed the North 10th Street grade
5 crossing as a possible candidate for closure or upgrade of the warning devices.**

6 **Please explain.**

7 A. Members of UTC staff inspect every grade crossing in Washington at least once every
8 three years. A normal part of the process is identifying grade crossings that stand out as
9 candidates for closure or that appear to be under-protected. Because of the heavy
10 seasonal use of this crossing as well as the proximity of the signalized 11th Street
11 crossing, it has been brought to my attention on several occasions.

12
13 **Q. Have you, or any member of UTC staff, completed a written report on the
14 possibility of closing the North 10th Street crossing?**

15 A. Yes. Paul Curl, a senior member of our staff, wrote a report on the possibility of closing
16 this crossing as recently as 2009. He concluded that closure was not a viable option and
17 recommended that UTC staff not pursue that course of action. See Exhibit KH-7.

18
19 **Q. Do you have any concerns, if the Commission ultimately decides to deny PSAP's
20 petition to close the North 10th Street crossing, about the level of protection at this
21 crossing?**

1 A. Yes. As I have mentioned earlier in my recommendations about closure of the North 2nd
2 Street crossing, I believe that a diagnostic team needs to convene to make a
3 recommendation about the level of protection at the North 10th Street crossing.
4

5 **Q. Does this conclude your testimony regarding North 10th Street?**

6 A. Yes.
7

8 **4. North Seventeenth Street (Docket TR-110162)**
9

10 **Q. Let's turn to Docket TR-110162 and the final crossing we are considering today. Do**
11 **you have a recommendation as to whether the Commission should grant the petition**
12 **for the North 17th Street crossing, located in Grays Harbor County (USDOT**
13 **Crossing Number 096641X) as filed?**

14 A. Yes.
15

16 **Q. What is that recommendation?**

17 A. I recommend the Commission deny PSAP's petition to close the North 17th Street
18 crossing.
19

20 **Q. What is the basis for your recommendation regarding the North 17th Street**
21 **crossing?**

22 A. North 17th Street is a two-lane, two-way rural road. The vehicle speed at North 17th
23 Street is 25 miles per hour, with an average daily vehicle count of 90 according to the

1 direct testimony of PSAP witness Patrick Kerr at page 21, lines 18 and 19. Sight distance
2 for drivers is adequate. A driver can see 160 feet in the southeast quadrant, 150 feet in
3 the southwest quadrant, and 120 feet in the northeast quadrant, and 400 feet in the
4 northwest quadrant of the crossing. The road slopes toward and away from the tracks, at
5 a slope of 3-5 degrees, which is not ideal but manageable. The angle of the crossing to
6 the road is almost a perfect 90 degrees, giving motorists plenty of approaching sight
7 distance. The crossing is protected by railroad warning signs in advance of the crossing
8 and by cross bucks and stop signs at the crossing itself. Commission records show no
9 evidence of accidents at the North 17th Street crossing.
10

11 **Q. Are there any flashing lights or gates that descend across the traffic lanes when a**
12 **train approaches?**

13 A. No, there are not.
14

15 **Q. In your opinion, would flashing lights or gates be needed if this crossing remained**
16 **open?**

17 A. No.
18

19 **Q. Why is that?**

20 A. As with Hewitt Road and North 5th Street, I used the WSDOT Local Agency Guidelines
21 to determine the exposure factor for North 17th Street. WSDOT uses an “exposure
22 factor” to determine when lights and gates are appropriate. WSDOT states that agencies
23 should consider lights and gates at a crossing with an exposure factor of greater than

1 1,500. The exposure factor at the North 17th Street crossing is 540 (90 X 6), well below
2 the 1,500 needed to consider lights and gates. Train traffic would have to increase to 17
3 per day to trigger a diagnostic team meeting to determine whether lights or lights and
4 gates would be necessary to protect pedestrians and motorists at this crossing.
5

6 **Q. Are there alternate routes for the North 17th Street crossing?**

7 A. Yes. There are several alternatives south of the tracks but even the shortest, to or from
8 North 13th Street via West Martin Street, is approximately a six-block detour. There is
9 only one alternative route north of the tracks and I do not consider it a good one.
10

11 **Q. Did you drive the presumed alternate route for traffic north of the tracks?**

12 A. Yes. As before, I used the high school as a starting point. From the corner of North 10th
13 Street and Main Street, I drove to the north side of the crossing via Main Street and North
14 17th Street. The total elapsed time was two minutes and 12 seconds and covered 0.7
15 miles. For the alternate route, I started at the same point and drove to the north side of
16 the crossing via Main Street, North 13th Street, and Bailey Road. The elapsed time was
17 three minutes and 28 seconds and covered 1.2 miles.
18

19 **Q. You mentioned that you do not consider this alternate route a good one. Why is
20 that?**

21 A. The alternate route is long, circuitous, and inconvenient.
22
23

1 **Q. Does this conclude your testimony regarding North 17th Street?**

2 A. Yes.

3

4 **Q. Does this conclude your testimony in these dockets?**

5 A. Yes.

6

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