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Staff Memorandum
Arizona Corporation Commission

AZ CORP COMMISSION
DOCKET CONTROL

To: THE COMMISSION

DOCKETED

DOCKET NO. RR-03639A-07-0520

From: Safety Division

JUL 25 2008

Date: July 25, 2008

DOCKETED BY

RE: IN THE MATTER OF THE APPLICATION OF THE UNION PACIFIC RAILROAD COMPANY TO ALTER THREE CROSSINGS OF THE UNION PACIFIC RAILROAD, IN THE CITY OF CASA GRANDE, PINAL COUNTY, ARIZONA AT SACATON, FLORENCE, AND HERMOSILLO STREETS.

Background

On September 7, 2007, the Union Pacific Railroad Company ("Railroad") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Railroad to alter three crossings of the Railroad in Pinal County ("County"), Arizona by adding a second set of mainline tracks. The three crossings are in the City of Casa Grande ("City") as follows: Sacaton Street AAR/DOT No. 741-362-G; Florence Street, AAR/DOT No. 741-363-N; and Hermosillo Street, AAR/DOT No. 741-364-V and 741-365-C. Commission Safety Division Staff ("Staff") issued data requests and those data requests and the Railroad's responses (without attachments), are included as attachments to this memorandum.

All three of these grade crossings are in the jurisdiction of the City of Casa Grande. Flashing lights and automatic gates date back to 1974 for all three of these crossings.

Union Pacific's filing in this application requests approval for the Railroad to add a second main track, twenty feet from the center of the existing main track. This application is part of the Railroad's double tracking effort for their Sunset Route across Arizona.

On February 21st, and 22nd, 2007, Staff, the Railroad, the City and County, participated in a diagnostic review of the proposed improvements at Sacaton, Florence and Hermosillo Streets. All parties present were in agreement to the proposed improvements at the previously mentioned crossings. The following is a break down of each of the three crossings in this application, including information about each crossing that was provided to Staff by the Railroad and its contractors.

Geographical Information

All three crossings in this application are located within Pinal County. The rail line runs in a south-east to north-west direction, parallel to East Main Avenue within the city limits of Casa Grande. The first crossing (starting at the most western end and working east) is Sacaton Street, which runs in a north - south direction. Sacaton ends approximately one block south of the railroad tracks in a residential area. From Sacaton to the east .10 miles is Florence Street. Florence runs through the middle of downtown Casa Grande, with access to local businesses and parks. From the downtown area, Florence Street becomes Florence Boulevard, which connects to I-10 approximately 5 miles from the downtown area. From Florence Street to the east .32 miles is Hermosillo Street which runs in a north-south direction. A grain elevator and storage facility is located just south of the tracks on Hermosillo which draws considerable truck traffic across the Hermosillo crossing.

Sacaton Street

The proposed second main track at this crossing will be located north of the existing main track. The Railroad will re-profile a portion of the two lane asphalt road to meet the new track. The Railroad's proposed upgrades will replace the existing incandescent flashing lights, gate mechanisms, bells and detection circuitry, with the latest in industry standards to include: 12 inch LED flashing lights, gates, bells, and constant warning time circuitry. A new concrete crossing surface will be added, along with replacing any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state. The estimated cost of the proposed railroad crossing upgrade is \$273,461. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface work, with the signal work costing \$227,141 and the crossing surface \$46,320.

Traffic data for Sacaton Street was provided to the Railroad by Gwen Geraci, a City of Casa Grande engineer, and Jennifer Crumbliss of HDR (a Railroad contractor). Data provided shows the Average Daily Traffic (ADT) for 2007 to be 1,325 vpd. No future ADT's were provided. The current Level of Service ("LOS") for this two lane road is LOS A, for both north and south bound traffic.

Note: The American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, 2004, states that the Level of Service characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. This is a measure of roadway congestion ranging from LOS A--least congested--to LOS F--most congested. LOS is one of the most common terms used to describe how "good" or how "bad" traffic is projected to be.

The posted speed limit on Sacaton Street is 25 MPH. Commission Rail Safety Section, as well as Federal Railroad Administration ("FRA") accident/incident records indicate three accidents at Sacaton, resulting in four injuries and two fatalities. On

10/03/88, a pedestrian ignored the flashing lights and gates, and was struck and killed. The second incident occurred on 02/07/99, resulting in one fatality and 3 injuries. The accident/incident report indicates the driver, drove around the downed gate arm. On 09/23/99, a third incident occurred when the driver drove thru the downed gate arm resulting in one injury to the driver.

Additionally, a trespasser fatality occurred on 05/18/06, near the Sacaton crossing. A report from the train crew involved in the incident indicates the individual jumped in front of the train.

Alternative routes from this crossing are as follows: to the west .60 miles to an underpass on US 84, and to the east .10 miles to Florence Street.

Florence Road

The proposed second main track at this crossing will be north of the existing main track. The Railroad will re-profile a portion of the two lane asphalt road to meet the new track. The Railroad's proposed upgrades will replace the existing incandescent flashing lights, gate mechanisms, bells and detection circuitry, with the latest in industry standards to include: 12 inch LED flashing lights, gates, bells, and constant warning time circuitry. A new concrete crossing surface will be added, along with replacing any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state. The estimated cost of the proposed railroad crossing upgrade is \$288,901. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface improvements, with the signal improvements costing \$227,141, and the crossing surface \$61,760.

Traffic data was provided to the Railroad by Gwen Geraci, a City of Casa Grande engineer, and Jennifer Crumbliss of HDR. Data provided shows the ADT in 2007, for this crossing to be 3,048 vpd. The projected ADT for the year 2025 is 41,798 vpd. The current LOS for the two lane road is LOS A, for both north and south bound traffic.

The posted speed limit on this road is 25 MPH. Commission Rail Safety Section, as well as FRA accident/incident records indicate three accidents, resulting in two injuries and three fatalities. The first incident occurred on 07/20/75 and was a pedestrian fatality. According to the accident/incident report, the pedestrian failed to obey the flashing lights and gates and was struck and killed. A second pedestrian incident occurred on 02/17/79, resulting in a fatality, as a result of failure to obey the warning devices. The third incident happened on 12/16/92, which resulted in 2 injuries and one fatality. The accident/incident report indicates the driver disobeyed the warning devices, by driving around the downed gate arm.

Alternative routes from this crossing are as follows: to the west .10 miles to Sacaton Street, and to the east .32 miles to Hermosillo Street, both are at-grade crossings.

Hermosillo Street

The proposed second main track at this crossing will be located south of the existing main track. It should be noted that after construction is completed at this crossing, there will ultimately be four sets of tracks at this crossing, two mainline tracks, a siding track and an industrial track. The Railroad will re-profile a portion of the two lane asphalt road to meet the new track. The Railroad's proposed upgrades will replace the existing incandescent flashing lights, gate mechanisms, bells and detection circuitry, with the latest in industry standards to include: 12 inch LED flashing lights, gates, bells, and constant warning time circuitry. A new concrete crossing surface will be added, along with replacing any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state. The estimated cost of the proposed railroad crossing upgrade is \$452,649. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface improvements, with the signal work costing \$290,529, and the crossing surface \$162,120.

Traffic data provided to the Railroad by Gwen Geraci, a City of Casa Grande engineer, and Jennifer Crumbliss of HDR, estimates the ADT for this crossing to be 1,837 vpd. This count was taken in 2007. No future traffic count was given. The current LOS for the two lane road is LOS A, for both north and south bound traffic.

The posted speed limit is 25 MPH. Commission Rail Safety Section, as well as FRA accident/incident records indicate one incident with no injuries. The accident/incident report indicates the motorist drove around the gates and was struck by a train consisting of four locomotives.

Alternative routes from this crossing are as follows; to the west .32 miles to Florence Street, and to the east .72 miles to Trezell Road, both are at-grade crossings.

Train Data

Data provided by the railroad regarding train movements through these three crossings are as follows and are the same for all the crossings:

Train Count: 48 total average trains per day (46 freight, and 2 passenger trains)

Train Speed: 79 mph passenger / 70 mph freight

Thru Freight/Switching Moves: All train movements through these crossings are thru movements with no switching operations, according to Union Pacific, Manager of Train Operations, Rob Henderson. However, Staff has observed switching operations on numerous occasions that effect both crossings at Hermosillo and Florence. These crossings are used by Amtrak twice per day, three days per week.

Schools and Bus Routes

Information about schools and school buses in the area was provided by HDR Engineering, Sandy Brown (Assistant Transportation Supervisor for the Casa Grande Elementary District) and Brenda Hanson (Transportation Supervisor for Casa Grande High Schools). There are several schools in the City of Casa Grande to the northwest of these crossings that serve the public to the southeast of the crossings in this application. They are as follows:

- ✓ Saguaro Elementary School @ 1801 N Center, Casa Grande, AZ 85222
- ✓ Evergreen Elementary School @ 1000 N Amarillo, Casa Grande, AZ 85222
- ✓ Cholla Elementary School @ 1180 E Kortsen, Casa Grande, AZ 85222
Mesquite Elementary School @ 129 N Arizona, Casa Grande, AZ 85222
- ✓ Mesquite Elementary School @ 129 N Arizola, Casa Grande, AZ 85222
- ✓ Palo Verde Elementary School @ 40 N Roosevelt, Casa Grande, AZ 85222
- ✓ Casa Grande Middle School @ 300 W Mc Murray, Casa Grande, AZ 85222
- ✓ Cactus Middle School @ 1220 E Kortsen, Casa Grande, AZ 85222
- ✓ Desert Winds High School @ 1362 N Casa Grande Ave, Casa Grande, AZ 85222
- ✓ Casa Verde High School @ 1362 N Casa Grande Ave, Casa Grande, AZ 85222

Although the number of school bus crossings can vary, on average the City school buses, combined, cross Florence Street 142 times per day during the week due to the bus yard location on Florence, to the south of the tracks. The majority of these crossings are to retrieve and return busses to the storage facility and therefore, students are not typically in the buses when they travel through this crossing. Sacaton and Hermosillo Streets are not currently used for busing.

On 6/10/08 Commission Staff verified information regarding the number of school bus trips over the crossings in this application. Staff spoke with Sandy Brown, Assistant Transportation Supervisor for the Casa Grande Elementary District, as well as Brenda Hanson, the Transportation Supervisor for Casa Grande High Schools. Ms. Brown indicated that there was minimal disruption to school bus service due to train

blockages. Additionally, she stated the majority of the drivers prefer to use the underpass, located approximately 1 mile west of the bus facility to avoid using the crossings. Ms. Brown also indicated that Arizona Operation Lifesaver had given presentations to her drivers the last two years. The elementary school bus storage and maintenance facility is south of the railroad tracks, and all of the schools are on the north side of the tracks. Similarly, Ms. Hanson stated that her drivers had experienced minimal crossing blockage due to the trains. Ms. Hanson indicated she would welcome an Operation Lifesaver presentation for their drivers. Staff is following-up to provide the presentation as requested.

Hospitals

The nearest hospital to these crossings is Casa Grande Hospital. The following are the distances from the crossings to the hospital:

- Sacaton Street – 2.6 miles
- Florence street – 2.54 miles
- Hermosillo Street – 2.6 miles

Hazardous Materials

The railroad gave the following response when asked about hazardous materials crossing these three crossings:

Union Pacific has been unable to obtain any information responsive to this request. It is Union Pacific's understanding that any vehicle carrying hazardous materials may utilize public crossings unless otherwise posted, but Union Pacific knows of no way it can investigate or determine whether such vehicles use these crossings or with what frequency.

Zoning

Staff requested the Railroad provide information regarding the type of zoning in adjacent areas from these crossings. The following was their response:

Union Pacific believes that the second part of CW 1.7 calls for speculation as to whether new housing developments, industrial parks, or other developments will occur in the future. In addition, Union Pacific does not have access to such information, but instead must rely on information provided by others. With those caveats, Union Pacific responds as follows:

Pinal County has a 2006 Land Use Map that matches the field diagnostic observations. The CAAG does not have an existing land use map completed at this time. The future planned zoning and the possible developments in the area of these crossings are shown on the City of Casa Grande 2010 Zoning Map and the

Development Map on their website. The observed land use from the field diagnostics are shown below:

<i>Crossing</i>	<i>2007 Observed Land Use</i>	<i>2010 Land Use</i>
<i>Sacaton Street</i>	<i>Residential and Commercial</i>	<i>Revitalization Area</i>
<i>Florence Street</i>	<i>Residential, Industrial & Commercial</i>	<i>Revitalization Area</i>
<i>Hermosillo Street</i>	<i>Industrial, Commercial</i>	<i>Revitalization Area</i>

The The City of Casa Grande and Pinal County planning departments can better answer the question of future developments. They review development impact studies and regulate zoning.

Spur Lines

The Union Pacific gave the following answer regarding spur lines located in the area:

Using the definition of a “spur line” or “spur track” as “a stub track of indefinite length diverging from a main track or other track,” ACC Regulation R14-5-101(20), the following spur lines have been removed inside a 10-mile radius of the crossings covered in this application.

Spur Line Removed	Reason for Removal	Date of Removal
* AS&R spur at MP 913.82	Track no longer needed to serve industry	Approximately November, 2005
Apex Bulk 999-ft. spur at MP 916.00	Track no longer needed to serve industry	Unknown
Apex Bulk 109-ft. spur at MP 917.13	Track no longer needed to serve industry	Unknown
Casa Grande Dispatch 999-ft. spur at MP 918.00	Track no longer needed to serve industry	Unknown

*** This was the only at-grade crossing removed in order to remove a spur line. See Arizona Corporation Commission Decision No. 68111 docketed September 9, 2005 authorizing closure of this spur crossing.**

FHWA Guidelines Regarding Grade Separation

The Federal Highway Administration (FHWA) Railroad-Highway Grade Crossing Handbook (Revised Second Edition August 2007) provides nine criteria for determining whether highway-rail crossings should be considered for grade separation or otherwise eliminated across the railroad right of way. The Crossing Handbook indicates that grade separation or crossing elimination should be considered whenever one or more of the nine conditions are met. The nine criteria are applied to this crossing application as follows:

		Sacaton	Florence	Hermosillo
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
AADT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030 ¹	N/A	No	N/A
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030 ²	Yes	Yes	Yes
Crossing exposure (trains/day x AADT) exceeds 1M in urban or 250k in rural; or passenger train crossing exposure exceeds 800k in urban or 200k in rural	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030 ³	N/A	Yes	N/A
Expected accident frequency for active devices with gates, as calculated by the US DOT Accident Prediction Formula including five-year accident history, exceeds 0.5	Crossing Currently meets the criteria ⁴	No	No	No
	Crossing meets the criteria by 2030	Unknown	Unknown	Unknown
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030 ⁵	N/A	Yes	N/A

N/A = Information not available

¹ This table utilizes the most recent projected ADT data as follows: Sacaton – N/A, Florence – 41,798, Hermosillo – N/A.

² The Railroad is projected to exceed 300 million gross tons as of 2016. This projection is based on the fact that the Railroad is currently exceeding 217 million gross tons with 46 trains per day and is projected to run twice the number of trains (at lengths of up to 8,000 feet instead of the current length of 6,000 feet) by 2016.

³ The projected crossing exposures utilizing the most recent projected VPD data are as follows: Florence – 3.5 million.

⁴ The expected accident predictions for these crossings are as follows: Sacaton- .028, Florence - .031, Hermosillo - .0004.

⁵ Projected vehicle delay per day utilizing the most recent projected VPD data are as follows: Sacaton –N/A hours, Florence – 71.0 hours, Hermosillo –N/A hours.

Vehicular Delays at Crossings

Based on the current single track configuration, the railroad gave the following response about delay time for vehicles at the crossings in this application. The delay time is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.

Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at the crossings involved in this application operate at timetable speeds of 65 mph and the average length of trains is approximately 6,000 feet. At that train length and speed, the average delay for vehicular traffic (1) to allow the train to pass at these crossings, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is approximately 1.549 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

Based on the railroad's double tracking project, and the projected number of 84 trains per day through this crossing by the year 2016, the railroad gave this response as to what future delay times would be for vehicles at the crossings in this application.

Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at the crossings involved in this application are projected to operate at timetable speeds of 65 mph and the average length of trains is projected to be approximately 8,000 feet. At that train length and speed, the average delay for vehicular traffic at these crossings in 2016 (1) to allow the train to pass at the crossing, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is projected to be approximately 1.899 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

A traffic delay and queuing analysis was performed for all three crossings in this application utilizing formulas found in the Transportation and Traffic Engineering Handbook, Second Edition. This document is published by the Institute of Transportation Engineers (ITE). There are no future traffic projections for Hermosillo and Sacaton. Staff verified this information on 6/10/08 with John Kraft from the County and Paul Tober from the City. Using the most current ADT data available, it was determined that the current daily vehicle delays at the crossings are as follows:

Hermosillo Street	0.73 hours of delay per day
Florence Street	1.20 hours of delay per day
Sacaton Street	0.50 hours of delay per day

Using the most current data regarding projected future ADT and the Railroad's projection of 84 trains per day, it was determined that daily vehicle delays in the year 2025 may be as follows:

Hermosillo	N/A
Florence Street	71.0 hours of delay per day
Sacaton	N/A

Current delays fall well below the FHWA recommended threshold of 40 delay hours per day. Florence Street is projected (2025) to have delays in excess of the 40 hours specified in the FHWA Guidelines. It would be highly likely that the road authority would undergo a project to widen Florence Street before vehicle delays reach this point. Roadway widening would be one alternative for reducing the delay times for vehicles at the crossing.

Another commonly used measure outlined in the FHWA Guidelines, the so-called Crossing Exposure Index (which is simply the product of the number of trains per day multiplied by the number of vehicles crossing daily) is currently not met at any of the three crossings. Using future projected traffic volumes for 2025, Florence Street is not likely to exceed the FHWA threshold for urban areas of 1 million. It should be noted that the criteria identified in the FHWA material are not mandates, but Guidelines established by the Federal Highway Administration, which serve to alert those having jurisdiction that potential problems may arise.

Grade Separation

With regard to grade separating any of these three crossings, the Railroad gave the following response:

Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. With that caveat, Union Pacific responds as follows:

In addition to the foregoing, grade separation is not appropriate for determination at this time because the local communities and roadway authorities have not finally determined whether grade separations at these crossings are desired by those communities and authorities, what priority grade separations would have with respect to other public projects, when construction of grade separations could be begun and finished, and how grade separations would be funded. Union Pacific is aware that the local communities and roadway authorities are studying these matters (including

ADOT's study concerning Maricopa Road) outside of the context of Union Pacific's applications for grade crossing alterations.

Furthermore, Union Pacific believes the three crossings involved in this application are safe without constructing grade separations. This conclusion is supported by the fact that the Federal Highway Administration authorizes the use of gates and lights at multiple-track grade crossings as proposed in this application.

Staff has utilized the FHWA Guidelines to determine the potential need for grade separation at these crossings. Based on currently existing conditions, none of the three crossings in this application meet any of the nine criteria for consideration of grade separation. Therefore, Staff does not recommend that grade separation be seriously considered for any of these crossings at this time.

Projected data indicates that Florence Street is likely to meet three of the nine criteria and Hermosillo and Sacaton are likely to meet one of the nine criteria by the year 2030. Staff would encourage the City and the Railroad to monitor these crossings to determine the need for grade separation at a future time.

Crossing Elimination

All three of the crossings in this application were given consideration regarding elimination. Staff utilized the Federal Highway Administration's; "Railroad-Highway Grade Crossing Handbook" and the Federal Railroad Administration's; "A Guide to Crossing Consolidation and Closure," as a reference and guide to determine whether any of the three crossings are candidates for elimination. Staff used the following criteria as an initial guide during the assessment:

- Low highway traffic counts
- More than 4 crossings per mile (redundancy)
- Crossing maintenance costs
- Accident history
- Impact on neighborhoods and local businesses
- Emergency vehicle routes (fire, police, rescue)

While there are other considerations such as: layout of local streets, presence of active warning devices and community perception of the railroad, the six bulleted criteria were viewed by Staff as the most significant.

Using the aforementioned criteria, Staff determined that the Sacaton Street crossing is the most likely candidate for elimination. This determination is based on the following factors:

- Redundancy: Sacaton Street is in close proximity to Florence Street (.1 of a mile), which is the primary route to the south part of the City. Also Sacaton Street is .6 of a mile from the State Route 84 underpass.
- Accident history: 2 fatalities and four injuries have occurred at the Sacaton Street crossing between 1988 and 1999. Also, a trespasser fatality occurred in 2006, near the Sacaton Street crossing.
- Sacaton Street dead-ends less than a ¼ of a mile south of the crossing.
- A sight obstruction exists on the northwest quadrant for motorist traveling southbound on Sacaton Street.
- Monthly costs are incurred for the Railroad to maintain the crossing warning devices at Sacaton Street. Staff is working with the Railroad to determine a cost estimate, but the estimate had not yet been determined at the time of this Staff Report.

In December of 2007, Staff met with City officials to discuss the possibility of crossing eliminations. Staff informed the City, that an assessment of the crossings for elimination was only in the concept stage and that no assessment had been made at that point. The City made it very clear that they would not be in favor of any elimination including Sacaton Street in the near future. The City and Staff agreed that a future meeting would be necessary as Staff progressed with the assessment.

On July 14, 2008, Staff and the City met again to discuss the possibility of crossing eliminations. Staff requested the meeting in order to obtain additional information needed for the assessment. City officials attending the meeting included the City Manager, Public Works Director, Planning and Development Director, Fire Chief and Chief of Police. As part of the assessment, Staff required input from the emergency service agencies of the City. The City's fire and police departments stated that elimination of any of the three crossings would greatly hamper their response times to an emergency south of the Railroad. City officials based their concerns on current and projected rail traffic occupying the crossings. The Planning and Development Director, along with the Fire and Police Chiefs stated that the City is aware of the need for an additional emergency services facility south of the Railroad as future development occurs. Additionally, the Fire and Police Chiefs stated that Sacaton Street allows a direct route south of the Railroad, when occasional crossing blockages at Hermosillo and Florence Streets occur due to Railroad switching operations.

Staff also requested information regarding development in the area, south of the Railroad, which would have an effect on the three crossings. Industrial and commercial developments are currently under way directly south of the Railroad. City planners stated that keeping all three crossings open is crucial to the developing area. Additionally, residential housing is also being proposed in an area, further to the southeast of the current industrial development. The City is planning a re-vitalization of the old downtown area, just north of the Railroad. City planners indicated elimination of any of the three crossings could alienate citizens living south of the Railroad wishing to travel to the downtown area. Maps indicating current and proposed future development, plus a map indicating proposed roadway improvements, were furnished to Staff by the Planning

and Development Director. A Staff review of these maps does indicate considerable development both current and proposed.

The City Manager informed Staff, that a new transportation study for the City will get under way in the near future. The updated transportation plan will address possible grade separations of the roadway and railroad. The City Manager went on to say the study would give City planners a better idea where grade separations and crossing eliminations would be best utilized.

Staff is in acceptance of the City's proposed future plans for development and realizes the potential impact it will have on all three crossings in this application. Until a future transportation study is completed and reviewed by Staff, Staff will not recommend elimination of any of the three crossings in this application.

However, Staff recommends that the City construct a center barrier, (preferable a concrete median) at Sacaton Street to discourage southbound motorists from driving around the crossing gate arm when in the down position. Accident history does indicate a problem with southbound motorist circumventing the warning devices. Staff contends the circumventing of the warning devices is partially due to the sight obstruction on the northwest quadrant of the crossing. Staff recommends the City and Railroad share in the cost of the engineering, materials and construction of the concrete median barrier.

Pinal County Support

According to a letter dated January 9, 2008 by David Snider, Chairman, Pinal County Board of Supervisors, Pinal County is in full support of Union Pacific's double track project. Specifically, Pinal County fully supports and approves Union Pacific's construction of one additional main track over and across public roadway crossings of the Union Pacific tracks within Pinal County. Additionally, the letter requests the Arizona Corporation Commission approve each application filed by Union Pacific for authority to install a second main track, at grade for all crossings within Pinal County.

Agreement for Construction and Funding of Grade Separations

On May 27, 2008, Pinal County and the Cities of Eloy, Casa Grande and Maricopa entered into an agreement with Union Pacific for the construction and funding of future grade separations. According to the agreement, Union Pacific will contribute a total of \$35 million toward the construction of four separate grade separations. The identity of the four grade separations and the amount to be contributed by Union Pacific for each grade separation shall be determined by the County or by the individual City. However, the four grade separations are to replace four existing at grade crossings that are equipped with warning devices and shall be a grade crossing listed on "Exhibit A" (see attached Exhibit A). The agreement further states; that the construction of a grade separation shall result in the closure of the crossing that the grade separation is to replace, or at another crossing location determined by the County or the City. When an application to construct a grade separation is submitted to the Commission for approval,

the application must include the closing of a crossing determined by the applicant. If the Commission denies the grade crossing closure, the grade separation will not qualify for funding by the Union Pacific.

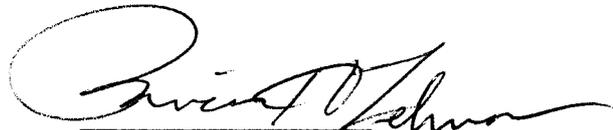
Staff Conclusions

Having reviewed all applicable data, Staff generally supports the Railroad's application. Staff believes that the upgrades are in the public interest and are reasonable. Having said that, Staff believes that the measures proposed by the Railroad are consistent with other similar at-grade crossings in the State and will provide for the public's safety. Staff does recommend the addition of a raised median barrier at the Sacaton Street crossing to prevent motorists from circumventing the warning devices and creeping forward in their vehicle in attempt to see around the sight obstruction at this crossing. With that exception, Staff recommends approval of the Railroad's application.

In addition, Staff does not recommend elimination of any of the three crossings included in this application at this time.



Dave Raber
Director
Safety Division



Brian H. Lehman
Railroad Supervisor
Safety Division



Google

Eye alt 5912 ft

Image © 2008 DigitalGlobe
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Streaming 100%

Pointer 32°52'28.73" N 111°45'13.73" W elev 1400 ft

1276 ft

287

ARIZONA CORPORATION COMMISSION
UNION PACIFIC'S RESPONSES TO REVISED FIRST SET OF DATA REQUESTS
DOCKET NO. RR-03639A-07-0520
Sacaton Street, Florence Street, and Hermosilla Street in City of Casa Grande, AZ
DECEMBER 7, 2007

CW 1.1 Provide Average Daily Traffic Counts ("ADT") for each of the three locations.

Response: *With the exception of Sacaton Street and Hermosilla Street, as to which HDR provided the information, Union Pacific Railroad Company ("Union Pacific") must rely on information provided by others to provide ADT's. With that caveat, Union Pacific responds as follows:*

<i>Crossing</i>	<i>Current ADT</i>	<i>Source</i>
<i>Sacaton Street</i>	<i>1,325</i>	<i>2007 Traffic Counts By HDR</i>
<i>Florence Street</i>	<i>3,048</i>	<i>CAAG 2007 Traffic Count data provided by Gwen Geraci</i>
<i>Hermosilla Street</i>	<i>1,837</i>	<i>2007 Traffic Counts by HDR</i>

Source: *1) Jennifer Crumbliss, HDR Engineering, 8404 Indian Hills Drive, Omaha, NE 68114. (HDR Traffic Counts)*
2) Gwen Geraci, City of Casa Grande Civil Engineer, 3181 N. Lear Avenue, Casa Grande, AZ (520) 421-8625 (City of Casa Grande Traffic Counts)

CW 1.2 Please describe the current Level of Service ("LOS") at each intersection.

Response: *Union Pacific believes that the level of service analysis is concerned with mobility rather than safety. In addition, with the exception of Sacaton Street and Hermosilla Street, as to which HDR provided the information, Union Pacific must rely on information provided by others to calculate the level of service. With those caveats, Union Pacific responds as follows:*

<i>Crossing</i>	<i>LOS</i>
<i>Sacaton Street</i>	<i>Northbound (LOS=A), Southbound (LOS=A)</i>
<i>Florence Street</i>	<i>Northbound (LOS=A), Southbound (LOS=A)</i>
<i>Hermosilla Street</i>	<i>Northbound (LOS=A), Southbound (LOS=A)</i>

Source: *Traffic level of service calculations were performed using Synchro and SimTraffic programs under the direction of Heidi Schneider with HDR Engineering, Inc at 5210 E Williams Circle, Suite 503, Tucson, AZ 85711, (520) 584-3600. The train delay times utilized in the analysis were provided by Tom Domres, with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110 via Union Pacific.*

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CW 1.3 Provide any traffic studies done by the road authorities for each area.

Response: 1) *The 2007 Pinal County Comprehensive Plan on <http://www.co.pinal.az.us/PlanDev/PDCP/CPInfo.asp>*
 2) *2006 Pinal County SATS (Small Area Transportation Study) on <http://www.co.pinal.az.us/PubWorks> under "Downloads"*
 3) *2007 Final City of Casa Grande SATS on http://www.ci.casa-grande.az.us/dev_center/development_center.php*
 4) *Other development traffic studies contact:*
Leila A. DeMaree, Senior Planner
City of Casa Grande
510 E. Florence Blvd.,
Casa Grande, AZ 85222

CW 1.4 Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?

Response: *Union Pacific believes that the last question in CW 1.4 raises an issue that is irrelevant, namely, whether either of the next public crossings is a grade separation. With that caveat, Union Pacific responds as follows:*

<i>Crossing</i>	<i>TO THE WEST</i>	<i>TO THE EAST</i>
<i>Sacaton Street</i>	<i>0.40 miles to US 84</i>	<i>0.10 miles to Florence Street</i>
<i>Florence Street</i>	<i>0.10 miles to Sacaton Street</i>	<i>0.32 miles to Hermosilla Street</i>
<i>Hermosilla Street</i>	<i>0.32 miles to Florence Street</i>	<i>0.72 miles to Trekell Road</i>

The only adjacent crossing that is a grade separation is at US 84 (Gila Bend Hwy) west of Sacaton Street.

Source: *HDR's use of the Union Pacific Straight-line Diagrams and www.MapQuest.com.*

CW 1.5 How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.

Response: *Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. With that caveat, Union Pacific responds as follows:*

In addition to the foregoing, grade separation is not appropriate for determination at this time because the local communities and roadway authorities have not finally determined whether grade separations at these crossings are desired by those communities and authorities, what priority grade separations would have with respect to other public projects, when construction of grade separations could be begun and finished, and how grade separations would be funded. Union Pacific is aware that the local communities and roadway authorities are studying these matters (including ADOT's study concerning Maricopa Road) outside of the context of Union Pacific's applications for grade crossing alterations.

Furthermore, Union Pacific believes the three crossings involved in this application are safe without constructing grade separations. This conclusion is supported by the fact that the Federal Highway Administration authorizes the use of gates and lights at multiple-track grade crossings as proposed in this application.

CW 1.6 If this crossing were to be grade separated, provide a cost estimate of the project.

Response: Again, Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. In addition, any attempt to estimate the cost to construct a grade separation would be speculative in the absence of a detailed study of the particular crossing in question. With those caveats, Union Pacific responds as follows:

In connection with its recent application to upgrade the crossing of Union Pacific tracks at the intersection of Power and Pecos Roads, RR-03639A-07-0398, the Town of Gilbert estimated that a grade separation at that location would cost \$22 million. Depending on the particular crossing involved, a reasonable range for the costs of constructing a grade separation would be between \$20 million and \$40 million.

CW 1.7 Please describe what the surrounding areas are zoned for near this intersection. i.e. Are there going to be new housing developments, industrial parks, etc.?

Response: Union Pacific believes that the second part of CW 1.7 calls for speculation as to whether new housing developments, industrial parks,

or other developments will occur in the future. In addition, Union Pacific does not have access to such information, but instead must rely on information provided by others. With those caveats, Union Pacific responds as follows:

Pinal County has a 2006 Land Use Map that matches the field diagnostic observations. The CAAG does not have an existing land use map completed at this time. The future planned zoning and the possible developments in the area of these crossings are shown on the City of Casa Grande 2010 Zoning Map and the Development Map on their website. The observed land use from the field diagnostics are shown below:

<i>Crossing</i>	<i>2007 Observed Land Use</i>	<i>2010 Land Use</i>
<i>Sacaton Street</i>	<i>Residential and Commercial</i>	<i>Revitalization Area</i>
<i>Florence Street</i>	<i>Residential, Industrial & Commercial</i>	<i>Revitalization Area</i>
<i>Hermosilla Street</i>	<i>Industrial, Commercial</i>	<i>Revitalization Area</i>

The City of Casa Grande and Pinal County planning departments can better answer the question of future developments. They review development impact studies and regulate zoning.

Source: 1) 2006 Pinal County SATS (Small Area Transportation Study) on <http://www.co.pinal.az.us/PubWorks> under "Downloads"
2) The Central Arizona Association of Governments' Planning Department(CAAG) <http://www.caagcentral.org/GIS/gishome.html>
3) The City of Casa Grande <http://www.ci.casa-grande.az.us/gis/maps.php>
Leila A. DeMaree, Senior Planner
City of Casa Grande
510 E. Florence Blvd.,
Casa Grande, AZ 85222

CW 1.8 Please supply the following: number of daily train movements through the crossing, speed of the trains, and the type of movements being made (i.e. thru freight or switching). Is this a passenger train route?

Response: The movements are the same for these three crossings.

Train Count: 48 total average trains per day (46 freight, 2 passenger)
Train Speed: 79 mph passenger / 70 mph freight
Thru Freight/Switching Moves: All moves through these three crossings are thru freight. (According to MTO Rob Henderson there are no switching moves at these crossings.)

These crossings are used by Amtrak twice per day, three times per week.

Source: *Union Pacific's Manager of Train Operations, Rob Henderson.*

CW 1.9 Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.

Response:

There are several schools in the City of Casa Grande within the area of the three crossings in this application, as follows:

*Saguaro Elementary School @ 1801 N Center, Casa Grande, AZ 85222
Evergreen Elementary School @ 1000 N Amarillo, Casa Grande, AZ 85222
Cholla Elementary School @ 1180 E Kortsen, Casa Grande, AZ 85222
Mesquite Elementary School @ 129 N Arizola, Casa Grande, AZ 85222
Palo Verde Elementary School @ 40 N Roosevelt, Casa Grande, AZ 85222
Casa Grande Middle School @ 300 W Mc Murray, Casa Grande, AZ 85222
Cactus Middle School @ 1220 E Kortsen, Casa Grande, AZ 85222
Desert Winds High School @ 1362 N Casa Grande Ave, Casa Grande, AZ 85222
Casa Verde High School @ 1362 N Casa Grande Ave, Casa Grande, AZ 85222*

Source: *1) Jennifer Crumbliss, Senior Transportation Engineer with HDR, Engineering, Inc. at 8404 Indian Hills Drive, Omaha, NE 68114, (402) 926-7049 used the internet site www.GoogleEarth.com also, Juan Cruz, Roadway Designer with HDR in Tucson, physically verified hospital and school locations on June 14, 2007.
2) Sandy Brown, Assistant Transportation Supervisor for Casa Grande Elementary District #4 located at 1400 N. Pinal Ave, Casa Grande, AZ 85222, (520) 836-5231.
3) Brenda Hanson, Transportation Supervisor for Casa Grande High School @ 300 W McMurray, Casa Grande, AZ 85222, (520) 316-3382.*

CW 1.10 Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.

Response: *Although the number of school bus crossings can vary, on average the City of Casa Grande School buses, combined, cross Florence Street 142 times per day during the week due to the bus yard location to the south of the tracks. Sacaton Street and Hermosilla Street are not currently used for busing to our knowledge.*

Source: *Sandy Brown, Assistant Transportation Supervisor for Casa Grande Elementary District #4 located at 1400 N. Pinal Ave, Casa Grande, AZ 85222, (520) 836-5231.
Brenda Hanson, Transportation Supervisor for Casa Grande High School @ 300 W McMurray, Casa Grande, AZ 85222, (520) 316-3382.*

CW 1.11 Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles.

Response: *The nearest hospital to these crossings is Casa Grande Regional Hospital (approximately 2.54 miles northeast of Florence Street). To our knowledge, none of these crossings are used extensively by emergency service vehicles.*

Source: *Jennifer Crumbliss, Senior Transportation Engineer with HDR, Engineering, Inc. at 8404 Indian Hills Drive, Omaha, NE 68114, (402) 926-7049 used the internet site www.GoogleEarth.com also, Juan Cruz, Roadway Designer with HDR in Tucson, physically verified hospital and school locations on June 14, 2007.*

CW 1.12 Please provide the total cost of improvements to each crossing.

Response:

<i>Crossing</i>	<i>Crossing Surface</i>	<i>Signal</i>	<i>Total</i>
<i>Sacaton Street</i>	<i>\$ 46,320.00</i>	<i>\$227,141.00</i>	<i>\$273,461.00</i>
<i>Florence Street</i>	<i>\$ 61,760.00</i>	<i>\$227,141.00</i>	<i>\$288,901.00</i>
<i>Hermosilla Street</i>	<i>\$162,120.00*</i>	<i>\$290,529.00</i>	<i>\$452,649.00</i>

**This is the total projected cost of three sets of new crossing surfaces proposed at the Hermosilla Street crossing, each costing \$54,040.00*

Source: *Union Pacific's Engineering.*

ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this 7th day of
December, 2007, with:

Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

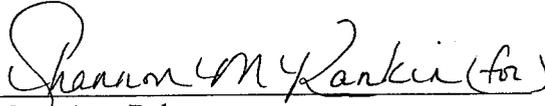
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COPY of the foregoing e-mailed and
mailed this 7th day of December, 2007, to:

Mr. David Raber
Mr. Brian Lehman
Mr. Chris Watson
Railroad Safety Section
Arizona Corporation Commission
2200 North Central Avenue, #300
Phoenix, Arizona 85004

COPY of the foregoing hand-delivered
this 7th day of December, 2007, to:

Janice M. Alward, Esq.
Charles H. Hains, Esq.
Kenya Collins, Esq.
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007


Mary Ann Palmer

COPY

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AZ CORP COMMISSION
DOCKET CONTROL

**ARIZONA CORPORATION COMMISSION
UNION PACIFIC'S RESPONSES TO STAFF'S SECOND SET OF DATA REQUESTS
DOCKET NO. RR-03639A-07-0520
Sacaton Street, Florence Street, Hermosilla Street
APRIL 4, 2008**

CW 2.1 Based on the current single track configuration at the crossings specified by this application, please provide the current traffic blocking delay per train. Please indicate the time in which vehicular traffic is delayed (1) to allow the train to pass at a crossing and (2) due to trains stopped on the track for any purpose. The delay is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.

Response: Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at the crossings involved in this application operate at timetable speeds of 65 mph and the average length of trains is approximately 6,000 feet. At that train length and speed, the average delay for vehicular traffic (1) to allow the train to pass at these crossings, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is approximately 1.549 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be

stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

Source: Union Pacific's Engineering, in consultation with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110

CW 2.2 Based on anticipated double tracking at the crossings covered by this application and projected train traffic of 84 trains per day by 2016, please provide the projected (2016) blocking delay per train. Please indicate the time in which vehicular traffic is delayed (1) to allow the train to pass at a crossing and (2) due to trains stopped on the track for any purpose. The delay is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.

Response: Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at the crossings involved in this application are projected to operate at timetable speeds of 65 mph and the average length of trains is projected to be approximately 8,000 feet. At that train length and speed, the average delay for vehicular traffic at these crossings in 2016 (1) to allow the train to pass at the crossing, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is projected to be approximately 1.899 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the

warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

Source: Union Pacific's Engineering, in consultation with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110

CW 2.3 Please provide the posted vehicular speed limit for the roads intersecting each crossing covered in this application.

Response:

Crossing	Posted Vehicular Speed Limit
Sacaton Street	25 mph *
Florence Street	25 mph *
Hermosilla Street	25 mph *

* The speed limits given are those posted for the roads intersecting these crossings. However as a practical matter, maximum speed for vehicular traffic at these crossings is approximately 15 mph because these crossings are within 150 feet of a stop condition.

Source: Jennifer Crumbliss, Senior Transportation Engineer with HDR Engineering, Inc. at 8404 Indian Hills Drive, Omaha, NE 68114

CW 2.4 Please provide information as to whether passenger buses (other than school buses) utilize th[ese] crossing[s] and the number of times a day a passenger bus crosses.

Response: Union Pacific does not have access to such information, but instead must rely on information provided by others. With that caveat, Union Pacific responds that it is not aware of any public passenger buses that utilize the crossings involved in this application.

Source:

- 1) Christine McMurdy, Public Works Department, City of Goodyear, 190 N. Litchfield Road, Goodyear, AZ 85338, (623) 932-1637
- 2) Karen Thomas, GIS Services Department, City of Maricopa, 45145 W. Madison Avenue, P.O. Box 610, Maricopa, AZ 85239, (520) 568-9098
- 3) Aaron Cart, GIS Department, City of Casa Grande, 510 E. Florence Blvd., Casa Grande, AZ 85222, (520) 421-8625
- 4) Belinda Cota, Planning Department, City of Eloy, 628 N. Main Street, Eloy, AZ 85231, (520) 466-2578

CW 2.5 Please provide information as to whether vehicles carrying hazardous materials utilize th[ese] crossing[s] and the number of times a day a vehicle carrying hazardous materials crosses.

Response: Union Pacific has been unable to obtain any information responsive to this request. It is Union Pacific's understanding that any vehicle carrying hazardous materials may utilize public crossings unless otherwise posted, but Union Pacific knows of no way it can investigate or determine whether such vehicles use these crossings or with what frequency.

CW 2.6 Please indicate whether any spur lines have been removed within the last three years inside a 10 mile radius of any crossings covered in this application. Please include the reason for the removal, date of the removal and whether an at-grade crossing or crossings were removed in order to remove the spur line.

Response: Using the definition of a "spur line" or "spur track" as "a stub track of indefinite length diverging from a main track or other track," ACC Regulation R14-5-101(20), the following spur lines have been removed inside a 10-mile radius of the crossings covered in this application.

Spur Line Removed	Reason for Removal	Date of Removal
* AS&R spur at MP 913.82	Track no longer needed to serve industry	Approximately November, 2005
Apex Bulk 999-ft. spur at MP 916.00	Track no longer needed to serve industry	Unknown
Apex Bulk 109-ft. spur at MP 917.13	Track no longer needed to serve industry	Unknown
Casa Grande Dispatch 999-ft. spur at MP 918.00	Track no longer needed to serve industry	Unknown

*** This was the only at-grade crossing removed in order to remove a spur line. See Arizona Corporation Commission Decision No. 68111 docketed September 9, 2005 authorizing closure of this spur crossing.**

Source: Union Pacific's Engineering

CW 2.7 Please indicate which, if any, spur lines have been removed within the last three years inside a 10 mile radius of any crossings covered in this application were done at the direction or request of (1) the relevant road authority, (2) the industry served by the spur line, or (3) by the railroad.

Response: To the best of Union Pacific's present knowledge, all of the spur lines shown above were removed at the direction or request of the railroad.

Source: Union Pacific's Engineering

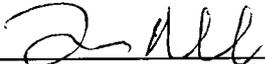
ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this ___ day of
April, 2008, with:

Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

COPY of the foregoing e-mailed and
mailed this 3 day of April, 2008, to:

Mr. David Raber
Mr. Brian Lehman
Mr. Chris Watson
Railroad Safety Section
Arizona Corporation Commission
2200 North Central Avenue, #300
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Dan Norkol