ARIZONA CORPORATION COMMISSION
UNION PACIFIC'S RESPONSES TO SECOND SET OF DATA REQUESTS
DOCKET NO. RR-03639A-08-0053
Prince Road in Tucson, AZ
September 26, 2008

CW 2.1 Provide Average Daily Traffic Counts ("ADT") for each of the locations.

Response: ***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:***

Crossing	*Current ADT*	*Source*
Prince Road	*26,600*	*Traffic Count provided by Tom Cooney, PAG Travel Forecasting Manager*

Source: ***1) Jennifer Crumbliss, HDR Engineering, 8404 Indian Hills Drive, Omaha, NE 68114.***
2) Tom Cooney, Travel Forecasting Manager,Pima Association of Governments,177 N. Church Ave, #405, Tucson, AZ 85701 (Emailed Traffic Counts)

CW 2.2 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, Union Pacific must rely on information provided by others to calculate the level of service. With those caveats, Union Pacific responds as follows:***

Crossing	*LOS(AM/PM)*
Prince Road	*Eastbound (LOS=C), Westbound (LOS=A)*

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.***

CW 2.3 Provide any traffic studies done by the road authorities for each area.

Response: ***1) 2030 Regional Transportation Plan (Pima Association of Governments) on http://www.pagnet.org/Programs/TransportationPlanning/PlansandPrograms/RegionalTransportationPlanandStudies/2030RegionalTransportationPlan/2030RTPDocuments/tabid/382/Default.aspx***

CW 2.4 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 2.4 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:***

Crossing	*TO THE WEST*	*TO THE EAST*
Prince Road	*1.81 miles to Ruthrauff Road*	*1.0 miles to Miracle Mile Strip Rd*

Miracle Mile Strip Road is the only adjacent crossing that is grade separated.

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

CW 2.5 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 this grade crossing. With that caveat, Union Pacific responds as follows:***

Union Pacific is aware that the Arizona Department of Transportation has proposed a grade separation at this crossing as part of its Interstate 10 traffic interchange project, according to the 2030 Regional Transportation Plan published by the Pima Association of Governments Regional Transportation Authority. It is Union Pacific's understanding that the roadway authority, other planning agencies, and surrounding communities are studying these matters outside the context of Union Pacific's applications for grade crossing alterations, but have not finally determined when the proposed grade separation at this crossing is to be designed, funded, and constructed. Grade separation was not decided

on at this time because these entities should decide the timing of the proposed grade separation. Before they have done so, it would be premature to consider grade separation now in connection with Union Pacific's application to double-track and improve this crossing.

Furthermore, Union Pacific believes the crossing involved in this application is currently safe without constructing a grade separation. 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 2.6 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 this grade crossing. 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 without a related traffic interchange would be between $20 million and $40 million.

CW 2.7 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 2.7 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:***

Pima Association of Governments has a 2007 Land Use Map that matches the field diagnostic observations. The observed land use from the field diagnostics are shown below:

Crossing	*2007 Observed Land Use*	*2007 Existing Pima County Land Use*
Prince Road	*Commercial/Industrial*	*Commercial/Industrial*

Pima Association of Governments planning department can better answer the question of future developments. They review development impact studies and regulate zoning.

Source: ***1) PAG Land Use Modeling 2007 Land Use Map on http://www.pagnet.org/Documents/LandUse/LandUse2007.pdf***

CW 2.8 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:

Train Count: 48 total average trains per day (46 freight, 2 passenger)
Train Speed: 75 mph passenger / 70 mph freight
Thru Freight/Switching Moves: All moves through this crossing are thru freight. (According to Senior MTO Sam Lopez Sr., there are no switching moves across this crossing.)

This crossing is used by Amtrak twice per day, three times per week.

Source: ***Union Pacific's Senior Manager of Train Operations, Sam Lopez, Sr.***

CW 2.9 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 Pima County and the City of Tucson within the area of the crossing in this application.

Walter Douglas Elem. School @ 3302 N Flowing Wells Rd, Tucson, AZ 85705.
Homer Davie Elementary School @ 4250 N Romero Rd, Tucson, AZ 85705.
Flowing Wells High School @ 3725 N Flowing Wells Rd, Tucson, AZ 85705.

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.GoggleEarth.com also,***

2) *Juan Cruz, Roadway Designer with HDR in Tucson, physically verified hospital and school locations on June 14, 2007.*

CW 2.10 Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.

Response: *The buses, combined, cross the Prince Road crossing 4 times per day, with occasional additional crossings for special field trips.*

Source: 1) *Rosie Aguilar, Tucson Unified School District located at 1010 E. 10th Street, PO Box 40400 Tucson, AZ 85717*
2) *Marc Lappitt, Amphitheater School District located at 241 E. Pastime Rd. Tucson, AZ 85704*
3) *Lewis Carloss, Transportation Director for Flowing Wells Unified School District located at 1556 W. Prince Rd., Tucson, AZ 85705.*

CW 2.11 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 this crossing is NW Medical Center in Marana (approximately 4 miles north of Prince Road). To our knowledge, this crossing is not 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.GoggleEarth.com also, Juan Cruz, Roadway Designer with HDR in Tucson, physically verified hospital and school locations on June 14, 2007.*

CW 2.12 Please provide the total cost of improvements to each crossing.

Response:

Crossing	*Crossing Surface*	*Signal*	*Total*
Prince Road	$ 88,008.00	$460,989.00	$548,997.00

Source: *Union Pacific's Engineering.*

CW 2.13 Please provide any information as to whether vehicles carrying hazardous materials utilize this crossing and the number of times a day they might cross it.

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 this crossing or with what frequency.***

CW 2.14 Please provide the posted vehicular speed limit for the roadway.

Response:

Crossing	*Posted Vehicular Speed Limit*
Prince Road	*25 mph*

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

CW 2.15 Do any buses (other than school buses) utilize the crossing, and how many times a day do they cross the crossing?

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 Prince Road.***

Source: ***1) Suntran website http://www.suntran.com/routes.php***
2) Pima County Department of Transportation's Rural Bus Route website http://www.dot.co.pima.az.us/transsys/bus *Contact 520-740-6403 - Patrick McGowan, Public Transportation Program Manager*

CW 2.16 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 crossing 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 this 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 approximately 1.864 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 2.17 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 crossing 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 this crossing 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 2.318 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 2.18 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), no spur lines have been removed within the last three years inside a 10-mile radius of the crossing covered in this application.

Source: ***Union Pacific's Engineering***

CW 2.19 Please indicate which, if any, spur lines that 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: ***Not applicable. See Response to CW 2.18.***

ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this 24th day of
September, 2008, with:

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COPY of the foregoing hand-delivered
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