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Transcript Exhibit(s)

ARIZONA CORPORATION COMMISSION  
DOCKET CONTROL

Docket #(s): RR-03639A-14-0035

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Arizona Corporation Commission

DOCKETED

MAY 08 2014

DOCKETED BY	
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Exhibit #: A1-A4, S1

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## Memo

To **Arizona Corporation Commission** Project No. **AMEC 2220135002**  
**Office of Railroad Safety** **TOQC A0103**  
**Attn: Chris Watson**  
**1200 W. Washington Street**  
**Phoenix, AZ 85007**

From **Dick Yano, AMEC** cc **Tom Narva/TOQC**  
**File**

Date **10-15-2013**

**Subject** Arizona Corporation Commission Application for Ocotillo Road and UPRR Crossing

This memo is submitted to the Arizona Corporation Commission (ACC) as an application to request an upgrade to the existing Union Pacific Railroad (UPRR) crossing, on behalf of the Town of Queen Creek (TOQC).

i. **Location of Crossing**

The Ocotillo Road at UPRR Crossing project consists of widening the existing 2 lane roadway to a four lane roadway with a 14-foot wide raised median across the UPRR right-of-way. The Ocotillo Road and UPRR crossing is approximately 1,330 feet east of Rittenhouse Road and 430 feet west of 214<sup>th</sup> Place. Representatives from the ACC, UPRR, TOQC and consultants were present at a field meeting on August 29, 2013.

ii. **Why the Crossing is Needed**

The railroad crossing at Ocotillo Road is existing and this project proposes to widen the existing crossing.

iii. **Why the Existing Crossing Cannot be Grade Separated**

The location of the existing UPRR as-grade crossing will remain unchanged with the proposed improvements to Ocotillo Road. A grade separation would cause the following issues that would not be ideal: 1) There is inadequate right-of-way width to accommodate 30-foot high embankment or cut slopes along Ocotillo Road. 2) Access to existing businesses and a residential subdivision would be eliminated. 3) Several utility lines and access manholes in Ocotillo Road would require substantial upgrades and cause disruptions to existing services. 4) The distance between the railroad crossing and the existing intersection of Ocotillo Road and Rittenhouse Road is too short to provide adequate sight-distance requirements if the roadway were to go over or under the railroad.

iv. **Type of Warning Devices to be Installed**

The warning devices for eastbound and westbound traffic include gates with flashing lights in the median and outside of the widened roadway near the sidewalk, and railroad crossing warning signs and pavement markings, placed per MUTCD standards.

v. **Who will Maintain the Crossing Warning Devices**

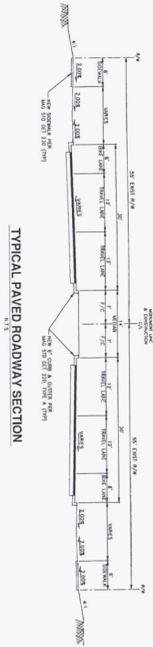
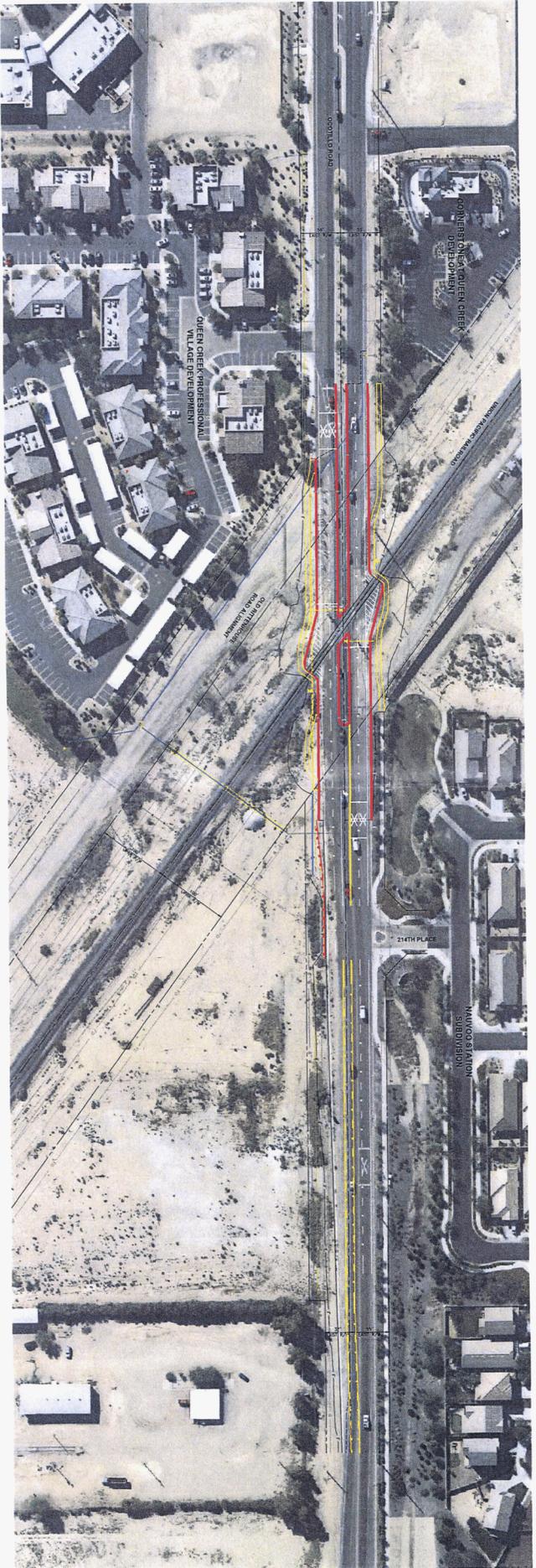
UPRR will own and maintain the physical elements of the crossing (crossing surface, gates, flashing lights). The TOQC will own and maintain the approaching surface, signing and pavement markings on Ocotillo Road.

vi. **Who is Funding the Project**

The TOQC is funding this project.







OCOTILLO ROAD AT UNION PACIFIC RAILROAD CROSSING  
 ROADWAY IMPROVEMENT PLAN  
 QUEEN CREEK, ARIZONA

EXHIBIT  
 A-3  
 ADMITTED





ARIZONA CORPORATION COMMISSION  
STAFF'S FIRST SET OF DATA REQUESTS TO  
TOWN OF QUEEN CREEK  
DOCKET NO. RR-03639A-14-0035  
FEBRUARY 28, 2014

**Subject:** All information responses should **ONLY** be provided in searchable PDF, DOC or EXCEL files via email or electronic media.

- CW1.1 Provide Average Daily Traffic Counts for each of the locations.  
**14,900 (per MAG 2011 AADT for Ocotillo Road West of Gantzel Road)**
- CW1.2 Please describe the current Level of Service (LOS) at each intersection.  
**The Ocotillo Road at UPRR Crossing is approximately 1,330 feet east of Rittenhouse Road and 430 feet west of 214<sup>th</sup> Place. The crossing currently consists of an existing 2 lane roadway with automatic flashing light crossing signals with gates and warning signs. The proposed project will widen the roadway to a four lane roadway with a 14-foot wide raised median across the UPRR right of way.**
- CW1.3 Provide any traffic studies done by the road authorities for each area.  
**See attached traffic studies.**
- CW1.4 Provide the population of the City the crossing is located in.  
**31,187 (per TOQC website)**
- CW1.5 Provide what warning devices are currently installed at the crossing.  
**Automatic flashing light crossing signals with gates, RR warning signs**
- CW1.6 Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?  
**Combs Road crossing: 3 miles to the southeast  
Ellsworth Road crossing: 0.9 miles to the northwest  
No grade separations**
- CW1.7 How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.  
**A grade separation would cause the following issues that would not be ideal:  
1) There is inadequate right-of-way width to accommodate 30-foot high embankment or cut slopes along Ocotillo Road. 2) Access to existing businesses and a residential subdivision would be eliminated. 3) Several**

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utility lines and access manholes in Ocotillo Road would require substantial upgrades and cause disruptions to existing services. 4) The distance between the railroad crossing and the existing intersection of Ocotillo Road and Rittenhouse Road is too short to provide adequate sight-distance requirements if the roadway were to go over or under the railroad.

CW1.8 If this crossing was grade separated, provide a cost estimate of the project.

N/A

CW1.9 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.

**NWC: C-2 General Commercial currently built out**

**SWC: C-1 Light Commercial, currently built out**

**NEC: R-2 Urban Development (Townhouses), currently built out**

**SEC: I-1 Light Industrial, currently undeveloped**

CW1.10 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?

**10 trains a day, switching included. No passenger train, freight only.**

CW1.11 Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.

**Queen Creek High School: approximately 1 mile east along Ocotillo Road**

**Queen Creek Middle School: approximately 1.2 miles NW of crossing**

**Jack Barnes Elementary School: approximately 0.8 miles north of crossing**

**Pickett Elementary School: approximately 1.3 miles south of crossing**

**Desert Mountain Elementary School: approx 1.7 miles west of crossing**

**Ben Franklin Charter School: approx 1.09 miles N of crossing**

CW1.12 Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.

**Per Carolyn Gaebler, Queen Creek Unified School District Transportation Route Coordinator, the following information is provided:**

- **High School Buses cross every school day approximately 20 times, two times per day (40 total crossings per school day) (6:45am-7:10am and 2:00pm-2:45pm)**

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- Elementary School Buses cross every school day approximately 10 times, two times per day (20 total crossings per school day) (7:00am–8:00am and 2:45pm–3:30pm)
- Middle School Buses cross every school day approximately 3 times, two times per day (6 crossings per school day) (8:00am–8:45am and 3:45pm–4:30pm)

CW1.13 Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles.

**Spoke with Ron Knight, Fire Chief, Town of Queen Creek Fire Department, who said the crossing is not used extensively for emergency service vehicles, in particular because emergency vehicles are dispatched out of the station at Ellsworth/Ocotillo and nearby hospitals are either to the west at Mercy Gilbert or the east at Banner Ironwood.**

**Contacted Katrina, Administration at Banner Ironwood and Robin Drake, Paramedic Coordinator at Banner Ironwood, who informed me that they have no private emergency vehicles that would use the crossing; emergency services would come from Southwest Ambulance.**

**Spoke with Billy Warren at Southwest Ambulance and he said that, on average, they use that crossing 2-4 times per day.**

CW1.14 Please provide total cost of the railroad improvements to each crossing.

<b>Design Cost:</b>	<b>\$ 144,795</b>
<b>UPRR Cost:</b>	<b>\$ 699,386</b>
<b>Engineer's Opinion of Probable Cost (Construction Cost):</b>	<b>\$1,100,902</b>
<b>Total Cost:</b>	<b>\$1,945,083</b>

CW1.15 Provide any information as to whether vehicles carrying hazardous materials utilize this crossing and the number of times a day they might cross it.

**The crossing is on the Town of Queen Creek's Haul Route Map, but no data is available for hazardous materials hauling.**

CW1.16 Please provide the posted vehicular speed limit for the roadway.  
**45 mph**

CW1.17 Do any buses (other than school buses) utilize the crossing, and how many times a day do they cross the crossing.

**No other buses use crossing.**

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CW1.18 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.

**No spurs removed.**

CW1.19 Please fill in the attached FHWA Grade Separation Guidelines Table, (from FHWA's 2007 revised second edition Railroad Highway Grade-Crossing Handbook, page 151) with a yes or no answer as to whether each item applies. Also, please provide all information to support your answers of yes or no (i.e. vehicle delay numbers, any calculations that were performed to get the answers).

**See attached table**

CW1.20 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.

- 1) 25-40 seconds, typical**
- 2) Only in case of emergency, the crossing would possibly be blocked for longer periods of time (case by case, depending on the type of emergency)**

### 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:

		Ocotillo Road			
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			
AADT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			
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			
	Crossing meets the Criteria by 2030	No			
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	No	See Attached "Crossing-Predicted-Accident" report		
	Crossing meets the Criteria by 2030	No			
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	No			
	Crossing meets the Criteria by 2030	No			



# *Annual WBAPS 2013*

WEB ACCIDENT PREDICTION SYSTEM

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## Accident Prediction Report for Public at-Grade Highway-Rail Crossings

*Including:*

Disclaimer/Abbreviation Key  
Accident Prediction List

*Provided by:*

Federal Railroad Administration  
Office of Safety Analysis  
Highway-Rail Crossing Safety & Trespass Prevention

***Data Contained in this Report:***

STATE: AZ  
CITY: QUEEN CREEK  
RAILROAD: UP

***Date Prepared:*** 2/25/2014



U.S. Department  
of Transportation  
Federal Railroad  
Administration

## USING DATA PRODUCED BY WBAPS (Web Accident Prediction System)

1200 New Jersey Avenue, SE  
Third Floor West  
Washington, DC 20590

WBAPS generates reports listing public highway-rail intersections for a State, County, City or railroad ranked by predicted collisions per year. These reports include brief lists of the Inventory record and the collisions over the last 10 years along with a list of contacts for further information. These data were produced by the Federal Railroad Administration's Web Accident Prediction System (WBAPS).

WBAPS is a computer model which provides the user an analytical tool, which combined with other site-specific information, can assist in determining where scarce highway-rail grade crossing resources can best be directed. This computer model does not rank crossings in terms of most to least dangerous. Use of WBAPS data in this manner is incorrect and misleading.

WBAPS provides the same reports as PCAPS, which is FRA's PC Accident Prediction System. PCAPS was originally developed as a tool to alert law enforcement and local officials of the important need to improve safety at public highway-rail intersections within their jurisdictions. It has since become an indispensable information resource which is helping the FRA, States, railroads, Operation Lifesaver and others, to raise the awareness of the potential dangers at public highway-rail intersections. The PCAPS/WBAPS output enables State and local highway and law enforcement agencies identify public highway-rail crossing locations which may require additional or specialized attention. It is also a tool which can be used by state highway authorities and railroads to nominate particular crossings which may require physical safety improvements or enhancements.

The WBAPS accident prediction formula is based upon two independent factors (variables) which includes (1) basic data about a crossing's physical and operating characteristics and (2) five years of accident history data at the crossing. These data are obtained from the FRA's inventory and accident/incident files which are subject to keypunch and submission errors. Although every attempt is made to find and correct errors, there is still a possibility that some errors still exist. Erroneous, inaccurate and non-current data will alter WBAPS accident prediction values. While approximately 100,000 inventory file changes and updates are voluntarily provided annually by States and railroads and processed by FRA into the National Inventory File, data records for specific crossings may not be completely current. Only the intended users (States and railroads) are really knowledgeable as to how current the inventory data is for a particular State, railroad, or location.

It is important to understand the type of information produced by WBAPS and the limitations on the application of the output data. WBAPS does not state that specific crossings are the most dangerous. Rather, the WBAPS data provides an indication that conditions are such that one crossing may possibly be more hazardous than another based on the specific data that is in the program. It is only one of many tools which can be used to assist individual States, railroads and local highway authorities in determining where and how to initially focus attention for improving safety at public highway-rail intersections. WBAPS is designed to nominate crossings for further evaluation based only upon the physical and operating characteristics of specific crossings as voluntarily reported and updated by States and railroads and five years of accident history data.

PCAPS and WBAPS software are not designed to single out specific crossings without considering the many other factors which may influence accident rates or probabilities. State highway planners may or may not use PCAPS/WBAPS accident prediction model. Some States utilize their own formula or model which may include other geographic and site-specific factors. At best, PCAPS and WBAPS software and data nominates crossings for further on-the-ground review by knowledgeable highway traffic engineers and specialists. The output information is not the end or final product and the WBAPS data should not be used for non-intended purposes.

It should also be noted that there are certain characteristics or factors which are not, nor can be, included in the WBAPS database. These include sight-distance, highway congestion, bus or hazardous material traffic, local topography, and passenger exposure (train or vehicle), etc. Be aware that PCAPS/WBAPS is only one model and that other accident prediction models which may be used by States may yield different, by just as valid, results for ranking crossings for safety improvements.

Finally, it should be noted that this database is not the sole indicator of the condition of a specific public highway-rail intersection. The WBAPS output must be considered as a supplement to the information needed to undertake specific actions aimed at enhancing highway-rail crossing safety at locations across the U.S. The authority and jurisdiction to appropriate resources towards the safety improvement or elimination of specific crossings lies with the individual States.



## ABBREVIATION KEY

for use with WBAPS Reports

The lists produced are only for public at-grade highway-rail intersections for the entity listed at the top of the page. The parameters shown are those used in the collision prediction calculation.

RANK:	Crossings are listed in order and ranked with the highest collision prediction value first.
PRED COLLS:	The accident prediction value is the probability that a collision between a train and a highway vehicle will occur at the crossing in a year.
CROSSING:	The unique sight specific identifying DOT/AAR Crossing Inventory Number.
RR:	The alphabetic abbreviation for the railroad name.
CITY:	The city in (or near) which the crossing is located.
ROAD:	The name of the road, street, or highway (if provided) where the crossing is located.
NUM OF COLLISIONS:	The number of accidents reported to FRA in each of the years indicated. Note: Most recent year is partial year (data is not for the complete calendar year) unless Accidents per Year is 'AS OF DECEMBER 31'.
DATE CHG:	The date of the latest change of the warning device category at the crossing which impacts the collision prediction calculation, e.g., a change from crossbucks to flashing lights, or flashing lights to gates. The accident prediction calculation utilizes three different formulas, on each for (1) passive devices, (2) flashing lights only, and (3) flashing lights with gates. When a date is shown, the collision history prior to the indicated year-month is not included in calculating the accident prediction value.
WD:	The type of warning device shown on the current Inventory record for the crossing where: FQ=Four Quad Gates; GT = All Other Gates; FL = Flashing lights; HS = Wigwags, Highway Signals, Bells, or Other Activated; SP = Special Protection (e.g., a flagman); SS = Stop Signs; XB = Crossbucks; OS = Other Signs or Signals; NO = No Signs or Signals.
TOT TRNS:	Number of total trains per day.
TOT TRKS:	Total number of railroad tracks between the warning devices at the crossing.
TTBL SPD:	The maximum timetable (allowable) speed for trains through the crossing.
HWY PVD:	Is the highway paved on both sides of the crossing?
HWY LNS:	The number of highway traffic lanes crossing the tracks at the crossing.
AADT:	The Average Annual Daily Traffic count for highway vehicles using the crossing.



## STAFF MEMORANDUM

To: THE COMMISSION RECEIVED

From: Robert Marvin  
Director  
Safety Division

Date: April 8, 2014

2014 APR -8 A 9:50

ARIZONA CORPORATION COMMISSION  
DOCKET CONTROL

Arizona Corporation Commission

DOCKETED

APR 08 2014

DOCKETED BY

RE: IN THE MATTER OF THE APPLICATION OF THE TOWN OF QUEEN CREEK TO  
UPGRADE AN EXISTING CROSSING OF THE UNION PACIFIC RAILROAD  
COMPANY AT OCOTILLO ROAD IN QUEEN CREEK, MARICOPA COUNTY,  
ARIZONA, USDOT NO. 741-837-W.

DOCKET NO. RR-03639A-14-0035

ORIGINAL

### Background

On February 5, 2014, the Town of Queen Creek ("Town") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Union Pacific Railroad ("Railroad") to upgrade an existing crossing at Ocotillo Road in the Town, Maricopa County, Arizona at USDOT No. 741-837-W.

The Safety Division's Railroad Safety Section, ("Staff"), the Town and the Railroad participated in several diagnostic review meetings of the proposed improvements to this crossing. All parties present were in agreement to the proposed improvements at the crossing. The following is a breakdown of the crossing in this application, including information about the crossing that was provided to Staff by the Town.

### Ocotillo Road

Ocotillo Road is an east-west two lane asphalt road. This project consists of widening the roadway to 4 lanes, as well as constructing a raised median in the roadway. Two automatic gates with LED flasher units will be installed on the curb sides of the roadway, and two automatic gates with LED flasher units will be installed within the new raised median. Constant Warning Time Circuitry will also be installed. Additionally, the Town will complete several civil improvements, including sidewalk adjustments, roadway approach improvements to accommodate the railroad signal and surface work, as well as signage and pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the State. The Railroad will maintain the warning devices and crossing surface after the upgrades are completed. The entire cost of the project is \$1,945,083 and will be funded by the Town.

Traffic data for Ocotillo Road was provided to Staff by the Town's contractor AMEC, Environment & Infrastructure, Inc. Per the Town, the average daily traffic counts for this crossing in 2011 were 14,900 vehicles per day ("vpd"). The Level of Service ("LOS") for this road was not available.

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 Ocotillo Road is 45 MPH. Staff records, as well as the Federal Railroad Administration's ("FRA") accident/incident records indicate no accidents at this crossing.

Alternative routes from this crossing are: to the southeast 3 miles is Combs Road, and to the northwest is Ellsworth Road .9 miles away. Both are at grade crossings.

### **Train Data**

Data provided by the Town from the FRA website, regarding train movements through this crossing are as follows:

Train Count: 10 trains per day with no passenger service

Maximum Train Speed: 60 mph

Thru Freight/Switching Moves: there are sporadic switching movements through the crossing

### **Schools and Bus Routes**

The following are schools near this crossing:

- Queen Creek High School – 1 mile east of Ocotillo Road
- Queen Creek Middle School – 1.2 miles northwest of the crossing
- Jack Barnes Elementary School – .8 miles north of the crossing
- Pickett Elementary School – 1.3 miles south of the crossing
- Desert Mountain Elementary School – 1.7 miles west of the crossing
- Ben Franklin Charter School – 1.09 miles north of the crossing

*Per Carolyn Gaebler, Queen Creek Unified High School District Transportation Coordinator: High School buses cross every day approximately 20 times, two times per day (40 total crossings per school day). Elementary School buses cross every school day approximately 10 times, two times per day (20 total crossings per school day). Middle School buses cross every school day approximately 3 times, two times per day (6 crossings per school day total).*

### **Hospitals**

The Town gave the following response about hospitals and emergency services vehicles:

*Hospitals are either to the west, Mercy Gilbert, or to the east Banner Ironwood.*

**AMEC spoke with Ron Knight, Fire Chief, Town of Queen Creek Fire Department, who said the crossing is not used extensively for emergency service vehicles, in particular because emergency vehicles are dispatched out of the station at Ellsworth/Ocotillo.**

**AMEC contacted Katrina, Administration at Banner Ironwood and Robin Drake, Paramedic Coordinator at Banner Ironwood, who informed them that they have no private emergency vehicles that would use the crossing; emergency services would come from Southwest Ambulance.**

**AMEC also spoke with Billy Warren at Southwest Ambulance and he said that on average, they use the crossing 2 – 4 times per day.**

### **Hazardous Materials**

The Town gave the following response when asked about vehicles transporting hazardous materials through this crossing:

***The crossing is on the Town of Queen Creek's Haul Route Map, but no data is available for hazardous materials hauling.***

### **Zoning**

Staff requested information from the Town regarding the type of zoning in adjacent areas from this crossing. The following was the response given:

***NWC: C-2 General Commercial currently built out***

***SWC: C-1 Light Commercial, currently built out***

***NEC: R-2 Urban Development (Townhouses), currently built out***

***SEC: I-1 Light Industrial, currently undeveloped***

### **Federal Highway Administration ("FHWA") Guidelines Regarding Grade Separation**

The 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:

		<b>Ocotillo Road</b>
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No

AADT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No
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
	Crossing meets the criteria by 2030	No
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	No
	Crossing meets the criteria by 2030	No
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No

### **Grade Separation**

The Town gave the following response about grade separation:

*A grade separation would cause the following issues that would not be ideal:*

**1) There is inadequate right-of-way width to accommodate 30-foot high embankments or cut slopes along Ocotillo Road. 2) Access to existing businesses and residential subdivisions would be eliminated. 3) Several utility lines and access manholes in Ocotillo Road would require substantial upgrades and cause disruptions to existing services. 4) The distance between the railroad crossing and the existing intersection of Ocotillo Road and Rittenhouse Road is too short to provide adequate sight distance requirements if the roadway were to go over or under the railroad.**

### **Vehicular Delays at Crossings**

Another commonly used measure outlined in the FHWA Guidelines; is 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 not currently met at this crossing. The current crossing exposure is 149,000 at Ocotillo Road, far below the 1,000,000 threshold for urban areas. It should be noted that the criteria identified in the FHWA material are not mandates, but guidelines established by the FHWA, which serve to alert those having jurisdiction that potential problems may arise.

Staff has utilized the FHWA Guidelines to determine the potential need for grade separation at this crossing. Based on existing conditions, Ocotillo Road meets none of the nine criteria for consideration of grade separation. Staff does not recommend a grade separation at the crossing.

**Crossing Closure**

The Town has stated they would not like to close this crossing because of negative impacts to numerous businesses and residential neighborhoods in the area. Staff agrees that closing the crossing would negatively affect local businesses and nearby residential areas.

**Staff Conclusions**

Having reviewed all applicable data, Staff supports the Town's application. Staff believes that the upgrades are in the public's interest and are reasonable. Staff believes that the measures proposed by the Town are consistent with other similar at-grade crossings in the State and will provide for the public's safety. Therefore, Staff recommends approval of the Town's application.



Brian H. Lehman  
Railroad Safety Supervisor  
Safety Division

Originator: BHL

Original and thirteen (13) copies  
of the foregoing were filed this  
\_8th\_ day of April, 2014 with:

Docket Control  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Copy of the foregoing mailed  
this 8th day of April, 2014 to:

Alex Popovici  
Union Pacific Railroad  
631 S. 7<sup>th</sup> Street  
Phoenix, AZ 85034

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Phoenix, Az. 85034-1917



 Ocotillo Railroad Crossing

