

**A General Guide for
The Railroad
&
Corporation Commission
Application/Construction Process**



Prepared by Kelly Roy
For the
Maricopa County Department of
Transportation Utility Branch

Note to the user of this guide!

This is only a manual produced to assist people who are new, or not too familiar with, the many facets involved in working around railroad tracks and railroad crossings. All the information provided is as accurate as possible but certainly not without possible flaws, amendments or misspellings. The timelines, contacts and process can change at any time – and often do.

The writers, contributors, agencies included in this manual cannot be held liable for any of the “guide’s” contents in that they are only samples, examples and suggestions. Use the Guide as-is and feel free to update with your own information as necessary and hopefully it will be a useful tool.

With that said, a special Thank You to Robert Travis, ADOT Railroad Liaison, who contributed to both the “Overview” and “Resources & Sources” portions of the Guide.

Maricopa County DOT Utility Coordinator & Railroad Liaison
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Table of Contents

Overview

Flowchart

Section I

1. **Initial Diagnostic Meeting**
 - Attendees
 - Information to discuss
2. **Written Notification to RR to Initiate Preliminary Design & Estimate**
 - What to provide and how
 - Time to process
3. **RR Crossing Agreement**
 - What to do once it arrives

Section II

4. **ACC Application**
 - How to start the process
 - What to include
 - Who, when and where to send correspondence
5. **ACC Staff's Data Requests**
 - What these questions are generally about
 - How to respond
 - Staff's Memorandum
6. **ACC Administrative Law Judge Hearing**
 - The Procedural Order
 - Follow all Orders accordingly
 - Who needs to attend this hearing
 - What kind of hearing is this and how to prepare
7. **Opinion and Order of Application**
 - What kind of hearing is this
 - Who needs to attend this hearing
8. **Final ACC Approval or Rejection**
 - How long this process takes
 - Who to contact with questions
9. **Encroachment, ROE, Temporary Occupancy**
10. **Resources & Sources**

Overview

Section 1

This section will give a brief overview of the Railroad Perspective and a rough timeline to clear the project for construction.

Railroad Overview

If the project is proposing work above, at or below track elevation and within the railroad right of way, railroad permission is required. There have been several projects where the road authority thought it would be easy to get railroad permission to construct or modify an existing bridge on railroad right of way, and in the end it took at least 18 months to be cleared to construct. When in doubt, talk to the Railroad representative once you have a concept. They will let you know what kind of permits and/or agreements will be required and how long it will take to clear the project.

For the Union Pacific Railroad and the Burlington Northern Railway, the Manager of Public Projects will be the primary railroad representative. Other personnel you may work with include the Manager of track maintenance, manager of signal installation/ maintenance and railroad police. For other railroads, your primary contact may be the Railroad operations manager. A list of all railroads in Maricopa County and the primary contacts are listed in the Resources & Sources.

Remember, the Railroad is in the business to move freight traffic safely and efficiently. They are very protective of their right of way from all types of encroachments. Early communication is key to a timely clearance to build on the railroad right of way. Sometimes decisions are made by corporate offices in another state. These Railroad companies are multi-state corporations and have 80+ road crossing project reviews active most of the time.

When communicating with the railroad; always use the AAR/DOT crossing number, rail mile and subdivision and nearest town/city. This helps the railroad keep the different projects separated. Please include this information in the subject line of correspondence to the Railroad.

The AAR/DOT #, Rail Mile and Name of the crossing should be posted at an existing at-grade crossing, or is available from the Railroad. An Example of this information is as follows:

AAR/DOT # 741 782 L
Sarival Road Crossing
Rail Mile 886.06 Phoenix Subdivision
Located in Goodyear, AZ

Railroads want to minimize impact to their current and future rail operations. This may require a new overpass to span the entire right of way, or at the least, only allow bridge piers within the railroad right of way. Do not plan on having any abutments or embankment inside the railroad right of way. Railroads also have their own communication lines, as well as leasing their right of way to other communication and petroleum pipeline companies. These utilities may not be listed on the Arizona blue stake database. Contact the railroad to determine what utility companies may be in the right of way.

Railroads are under Federal, State and Company policies and guidelines to remove existing at-grade crossings. If your project proposes a new at-grade crossing, be prepared to allow closure of other, existing crossings. If your project involves closing an existing at-grade crossing and replacing it with a grade separated structure, the Railroad is usually willing to contribute money to the new structure.

Any work to the existing track, ballast or railroad signals will be done by the railroad company at the road project's cost. This includes signal and track design, materials and construction. A Construction & Maintenance agreement will be executed by the road authority and the railroad authorizing the railroad to do the track and signal work and to allow the road authority to construct and maintain their road crossing. Insurance, indemnification, notification and track protection will also be covered in the agreement. The road authority will be responsible to construct and maintain the road crossing outside of 2 feet from the tracks (for an at-grade crossing). The agreement will determine who will maintain the different parts of a grade separated structure.

For at-grade crossings, typical railroad work will consist of road crossing signal work, crossing surface installation and installing road traffic signal interconnects with their crossing signals. For grade separation projects, railroad work normally consists of communication line relocation and installing temporary shoe fly tracks to allow excavation under the existing track if needed.

The Construction & Maintenance agreement will only be between the Railroad and the Roadway Authority. If the Roadway Authority will use a Contractor, a "right of entry agreement" will be required between the Contractor and the Railroad.

Where Utility Agreements exist, a "Contractor's Endorsement" will be required between the contractor and the railroad (effective September 1, 2008).

This right of entry will include insurance, indemnification, notification, safety practices, etc. It may take from 1 to 2 months to get this right of entry executed. The contractor is not allowed into railroad right of way until this right of entry is executed.

Road work within 25 feet of the track (horizontal distance) normally requires railroad flagging. The Railroad Company will advise the project if flagging is needed and only the railroad company will provide the flaggers. These flaggers will monitor the project and notify the construction project if a train is approaching. At the same time, the railroad flagger will also monitor the road project and can stop train traffic if an incident occurs. These 25 feet will include work above the tracks that may allow debris to fall onto the tracks. The 25 feet window can also be expanded to include equipment that could tip and impact the tracks from farther away.

The Railroad may require road work to occur during specific times based on their train schedules. All road work and or bridge work normally has to stop and equipment stay at least 25 feet away from tracks while the train goes thru the work site.

RR Process Summary

1. Road authority notifies Railroad about the project. The project concept is given to the railroad for their initial comments. The Railroad may require an authorization for preliminary engineering and plan review at this time. This authorization commits the road authority for paying for railroad review of their project. Discuss how much the railroad review will cost at your initial meeting.
2. A Diagnostic meeting is held onsite. After this meeting, the railroad may be given specific requests for what type of at-grade crossing improvements they need to design. This meeting is generally held within 2 months of the initial railroad contact.
3. Preliminary Engineering authorization is given to the railroad outlining exactly what they need to design for. Examples are signals and track crossing surfaces for an expanded at-grade crossing, or installing temporary shoe fly tracks if new roadway underpass structures are planned. New Overpass structures normally only require plan review and possible relocating overhead communication lines. Railroad design can take 2-4 months for each submittal and will include an estimate for the construction work.
4. Road authority will also determine how much new permanent and temporary construction easement is needed. Provide this information to the railroad. Final price of the easements and terms will be incorporated into the agreement.

5. If Geotechnical drilling/ investigation, surveying or utility designation is needed within the railroad right of way, obtain right of entry permits from the railroad. If new utilities need to be installed in the railroad right of way, obtain permits for them as well. Examples of this include storm drains, conduits for traffic signal lines, electrical lines, etc. Most railroads will require boring under the tracks unless a large pipe is proposed. Open cut installations may require a temporary shoe fly track. Websites for utility and survey/ geotechnical permits are included in the Resources & Sources. The costs of these permits are usually separate from the Construction & Maintenance Agreement and can be applied for before the Construction & Maintenance Agreement is submitted.

6. Once the railroad design and estimates are provided, a draft Construction & Maintenance agreement may be prepared by the railroad. Once an underpass or overpass structure has its 60% plans approved by the railroad that will trigger the new agreement formation.

The Railroad will require final 100% signed and sealed engineered plans before they can send the Road Authority the Agreement. It normally takes a minimum of 4 to 6 months after designs and estimates are received to finalize the Agreement. **Any change in language will increase the approval timeline.** Once the Road Authority and the Railroad execute the Agreement, the initial ACC application for an Opinion and Order can be filled out.

7. Once you receive the Opinion and Order, you then provide an Authorization to construct to the Railroad. Include a copy of the Opinion and Order for their review. The Railroad will then order supplies and start to schedule the work. For a signal project with new roadway crossing signals, etc., it may take 3 to 6 months to receive the supplies. Railroads also may change the installation schedule based on emergencies and internal projects. Keep in touch with the Railroad representative to see when they will do the work. It may take as much as a year from Notice to Construct to when the Railroad work is completed.

8. If the project involves roadwork that will be done by a contractor, have the contractor notify the Railroad representative once the contractor is allowed to proceed with the work. This will allow the contractor to start the right of entry agreement process, coordinate their work with the railroad and request railroad flagging and track work windows. There will be a lot of coordination with the Manager of Public projects and with the manager of track maintenance during this phase.

Section 2

This section will give a brief overview of the ACC actions and a rough timeline to clear the project for construction.

Arizona Corporation Commission

The Arizona Corporation Commission (ACC) is responsible for oversight of railroad operations and making sure the railroad-public roadway crossings are constructed and maintained in a safe manner. The ACC has no jurisdiction over private crossings.

If there are proposed changes to existing crossing signals, signs or crossing surfaces, an Opinion and Order may be required. This would include installing a new at-grade crossing, major modification of an existing at-grade crossing or to remove an existing at-grade crossing.

ACC Staff are available to discuss the Opinion and Order process. Like the Railroad, it is highly recommended to talk to ACC staff early in the project process to see how much they may need to be involved. ACC Staff contacts are listed in the Resources & Sources section.

If an Opinion and Order is expected for the project, the first formal action with the ACC will be the onsite Diagnostic Meeting. This meeting involves the railroad, the ACC, the road authority and other parties. This meeting will go over what the road project proposes to do in the right of way, with input from all parties on what work by the Railroad and by the Road Authority will be needed.

ACC Process Summary

1. The ACC application is filled out. The ACC process is detailed later in this guideline. A **minimum** of 90 days is needed to obtain the Opinion and Order.

Section I
Railroad Crossing
Application Process

Initial Diagnostic Meeting

It is essential that you as the “Applicant” of the project invite all parties involved:

- The Local Railroad Representative
- The ACC Rail Safety Section
- All interested Governmental agencies not only having jurisdiction over the roadway, but any who may have a financial interest (i.e. multijurisdictional IGAs and or projects.)
- Your agency’s Utility Coordinator
- Your agency’s Design Engineer
- The ADOT Railroad Liaison for Quiet Zone issues and coordinated maintenance of their statewide railroad crossing inventory.

The information you need to discuss:

- The exact location of the proposed new grade crossing (if possible, bring the specific plan sheet so everyone can look at your plan as you discuss options)
- Upgrades being considered to the existing crossing
- Discussion of grade separation (over or underpass). Why or Why not?
- Application must state who is paying for the crossing construction and maintenance
- Proposed types of warning devices to be installed.
- ACC Staff’s Data Request
- ACC Staff Report and Recommendations

Timing:

- Once design is complete, there is appropriate funding available and your agency is ready for an agreement, the meeting should be set up.

Good afternoon Aziz-

Thank you for meeting us in the field last week. Per our discussion, I am sending you the written request to initiate the design and estimate of the 107th Ave, RR MP 893.51, Phoenix Sub, Cashion, AZ. DOT No. 741800G. This will be an at-grade crossing. Attached are both our road improvement design and the legal description of the location.

We understand there will be a design fee assessed for this request not to exceed \$15,000.00.

Please accept this as our official request. Please contact me if you will need any additional information.

Respectfully,

Kelly Roy
MCDOT Utility Project Coordinator
602-506-5992
2901 W. Durango St.
Phoenix, Az. 85009

**EXHIBIT A
LEGAL DESCRIPTION
UNION PACIFIC RAILROAD**

A PART OF THE NORTH 22.00 FEET OF THE SOUTH 55.00 FEET OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 2 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE MERIDIAN, MARICOPA COUNTY, ARIZONA, THAT LIES WITHIN THE EXISTING 100.00-FOOT WIDE RAILROAD RIGHT-OF-WAY AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 34, A FOUND BRASS CAP IN A HANDHOLD, FROM WHICH THE SOUTHWEST CORNER OF SAID SECTION 34, ALSO BEING A FOUND BRASS CAP IN A HANDHOLD, BEARS NORTH 89° 53' 51" WEST 2647.69 FEET; THENCE ALONG THE SOUTH LINE OF SAID SOUTHWEST QUARTER NORTH 89° 53' 51" WEST 50.01 FEET; THENCE NORTH 00° 06' 09" EAST 33.00 FEET TO THE EASTERLY LINE OF SAID RAILROAD RIGHT-OF-WAY, SAID POINT ALSO BEING THE TRUE POINT OF BEGINNING:

THENCE ALONG A LINE PARALLEL TO AND 33.00 FEET NORTH OF THE SOUTH LINE OF SAID SOUTHWEST QUARTER NORTH 89° 53' 51" WEST 134.07 FEET TO THE SOUTHEAST CORNER OF THE CORRECTIVE FINAL PLAT FOR SANTAN VISTA RECORDED BOOK OF MAPS 523, PAGE 06 OFFICE OF THE MARICOPA COUNTY RECORDS AND TO THE WESTERLY LINE OF SAID RAILROAD RIGHT-OF-WAY AND A NON-TANGENT CURVE CONCAVE NORTHWESTERLY WHOSE RADIUS BEARS NORTH 48° 55' 43" EAST A DISTANCE OF 4347.21 FEET;

THENCE ALONG THE EASTERLY LINE OF SAID PLAT AND THE WESTERLY LINE OF SAID RAILROAD RIGHT-OF-WAY AND THE ARC OF SAID NON-TANGENT CURVE 29.15 FEET, THROUGH A CENTRAL ANGLE OF 00° 23' 03";

THENCE ALONG A LINE PARALLEL TO AND 55.00 FEET NORTH OF THE SOUTH LINE OF SAID SOUTHWEST QUARTER SOUTH 89° 53' 51" EAST 133.26 FEET TO THE EASTERLY RAILROAD RIGHT-OF-WAY LINE AND A NON-TANGENT CURVE CONCAVE SOUTHEASTERLY WHOSE RADIUS BEARS NORTH 48° 08' 17" EAST A DISTANCE OF 4247.21 FEET;

THENCE ALONG THE EASTERLY LINE OF SAID RAILROAD RIGHT-OF-WAY AND THE ARC OF SAID NON-TANGENT CURVE 29.67 FEET, THROUGH A CENTRAL ANGLE OF 00° 24' 01" TO THE POINT OF BEGINNING:

SAID PARCELS CONTAIN 2,941 SQUARE FEET OR 0.0675 ACRES OF LAND, MORE OR LESS.

SAMPLE 2

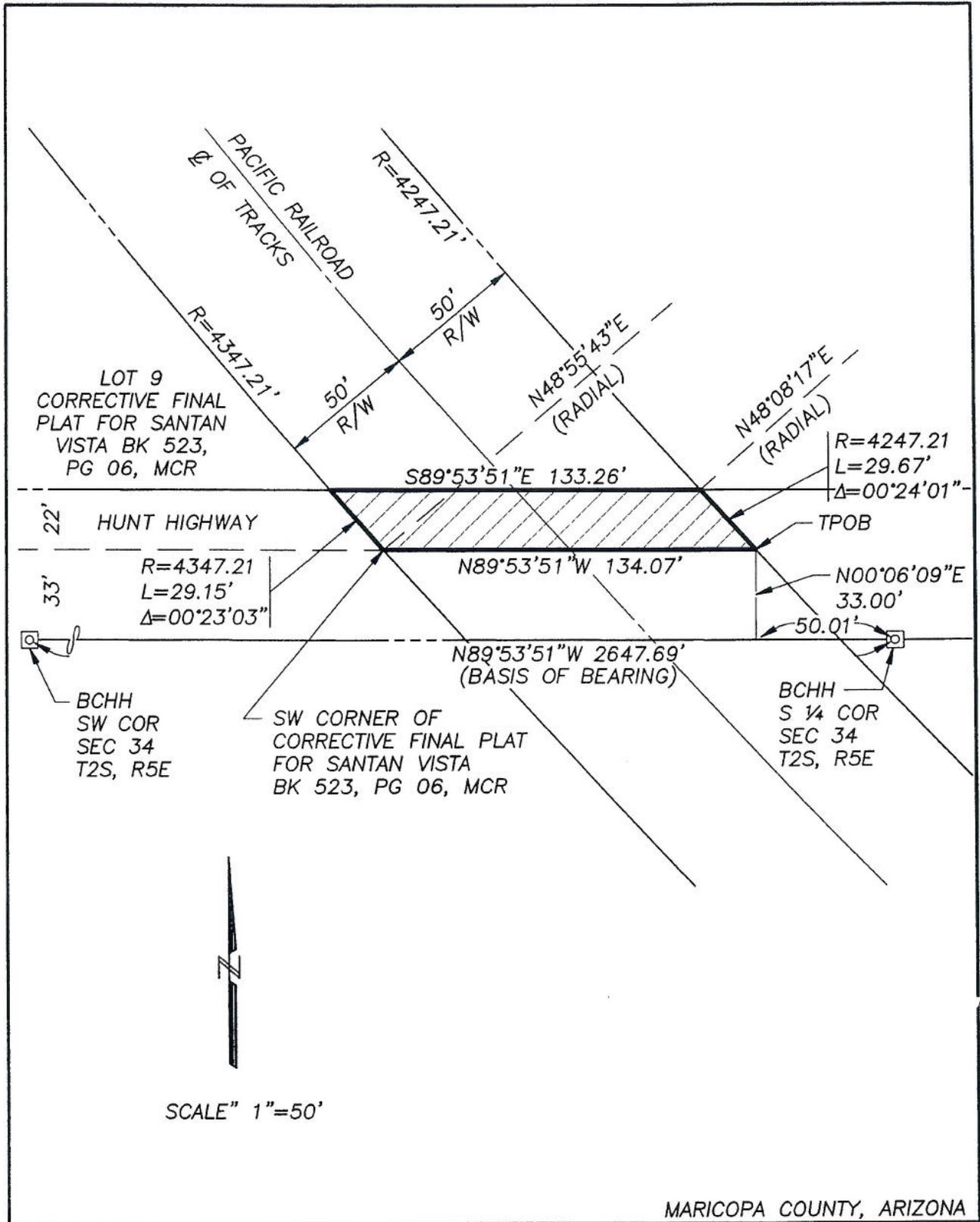


EXHIBIT A
LEGAL DESCRIPTION
UNION PACIFIC RAILROAD

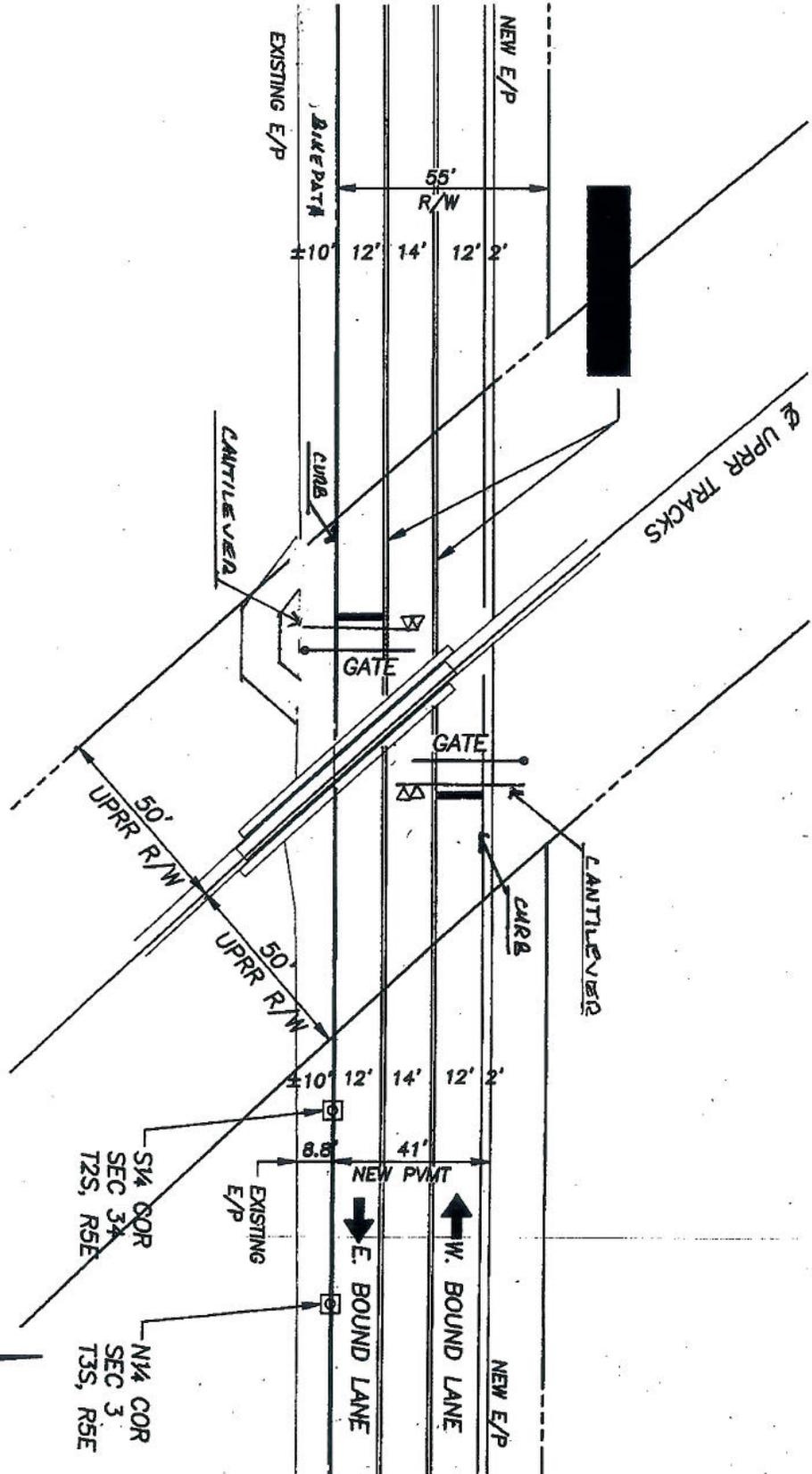
09/07

SAMPLE 3

5/8/06

HUNT HIGHWAY EXHIBIT LANE STRIPING AT UPRR CROSSING MARICOPA COUNTY, ARIZONA

SCALE 1"=40'



SAMPLE #4

DATE: 2007-05-30

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
 BY THE
 UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2007-11-30

DESCRIPTION OF WORK:
 INSTALL LED FL SIGNALS W/GATES AND CNT IN NEW CABIN AT HUNT HWY. IN
 CHANDLER HEIGHTS, AZ. M.P. 936.14 ON THE CHANDLER IND. LEAD
 SIGNAL PROJECT MANAGER: LEE BURDEN 935-7680
 RAILROAD TO PERFORM ALL WORK / COST DISTRIBUTED AS FOLLOWS:
 SIGNAL - MARICOPA COUNTY 100%

PID: 56273 AWO: 58242 MP, SUBDIV: 936.14, CHANDLER
 SERVICE UNIT: 16 CITY: CHANDLER HEIGHT STATE: AZ

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING WORK							
ENGINEERING			2044		2044		2044
LABOR ADDITIVE 1744			10890		10890		10890
SIG-HWY XNG			4215		4215		4215
TOTAL ENGINEERING			17149		17149		17149
SIGNAL WORK							
BILL PREP			900		900		900
CONTRACT				7640	7640		7640
EARTH FILL/ROCK				950	950		950
LABOR ADDITIVE 1744			87311		87311		87311
METER SERVICE				15000	15000		15000
PERSONAL EXPENSES				38437	38437		38437
SALES TAX				2820	2820		2820
SIGNAL			50178	70539	120697		120697
TRANSPORTATION CHARGES				4513	4513		4513
WZ TRAFFIC CONTROL				10993	10993		10993
TOTAL SIGNAL			138389	150872	289261		289261
LABOR/MATERIAL EXPENSE			155538	150872			
RECOLLECTIBLE/UPRR EXPENSE					306410	0	
ESTIMATED PROJECT COST							306410
EXISTING REUSEABLE MATERIAL CREDIT					0		
SALVAGE NONUSEABLE MATERIAL CREDIT					0		
RECOLLECTIBLE LESS CREDITS							

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

S-4

DATE: 2007-05-23

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2007-11-21

DESCRIPTION OF WORK:
2007 RECOLLECTIBLE PROJECT
M.P. 936.14 CHANDLER INDUSTRIAL LEAD
HUNT HIGHWAY, CHANDLER HEIGHTS, AZ. DOT #741683N
INSTALL 64 T.F. OF CONCRETE CROSSING SURFACE
COST: 100% MARICOPA COUNTY (STANDARD)

FID: 56272 AWO: 58241 MP,SUBDIV: 936.14, CHANDLER
SERVICE UNIT: 16 CITY: CHANDLER HEIGHT STATE: AZ

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING WORK							
BILL PREP				900	900		900
CONTINGENCIES - 10%				10144	10144		10144
CONTRACT - TRAFFIC CONTROL				10000	10000		10000
ENGINEERING		1000			1000		1000
FOREIGN LINE FREIGHT				554	554		554
HOME LINE FREIGHT				900	900		900
LABOR ADDITIVE 232%		2320			2320		2320
PRELIMINARY ENGINEERING				10000	10000		10000
TOTAL ENGINEERING			3320	32498	35818		35818
SIGNAL WORK							
LABOR ADDITIVE 232%			2940		2940		2940
SALES TAX				7	7		7
SIGNAL			1267	176	1443		1443
TOTAL SIGNAL			4207	183	4390		4390
TRACK & SURFACE WORK							
BALAST	1.00	CL	2005	666	2671		2671
FIELD WELD			249		249		249
LABOR ADDITIVE 232%			24539		24539		24539
MATL STORE EXPENSE				570	570		570
OTM			2486	4634	7120		7120
RAIL	240.00	LF	650	4132	4782		4782
ROCKING	64.00	TF	2805	10327	13132		13132
SALES TAX				1099	1099		1099
TRK-SURF,LIN			2375		2375		2375
WELD			3004	776	3780		3780
XTIE	99.00	EA	4082	6979	11061		11061
TOTAL TRACK & SURFACE			42195	29183	71378		71378
LABOR/MATERIAL EXPENSE			49722	61864			
RECOLLECTIBLE/UPRR EXPENSE					111586	0	
ESTIMATED PROJECT COST							111586
EXISTING REUSEABLE MATERIAL CREDIT					0		
SALVAGE NONUSEABLE MATERIAL CREDIT					0		
RECOLLECTIBLE LESS CREDITS							

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

□

S-4

Written Notification to RR to Initiate Preliminary Design & Estimate

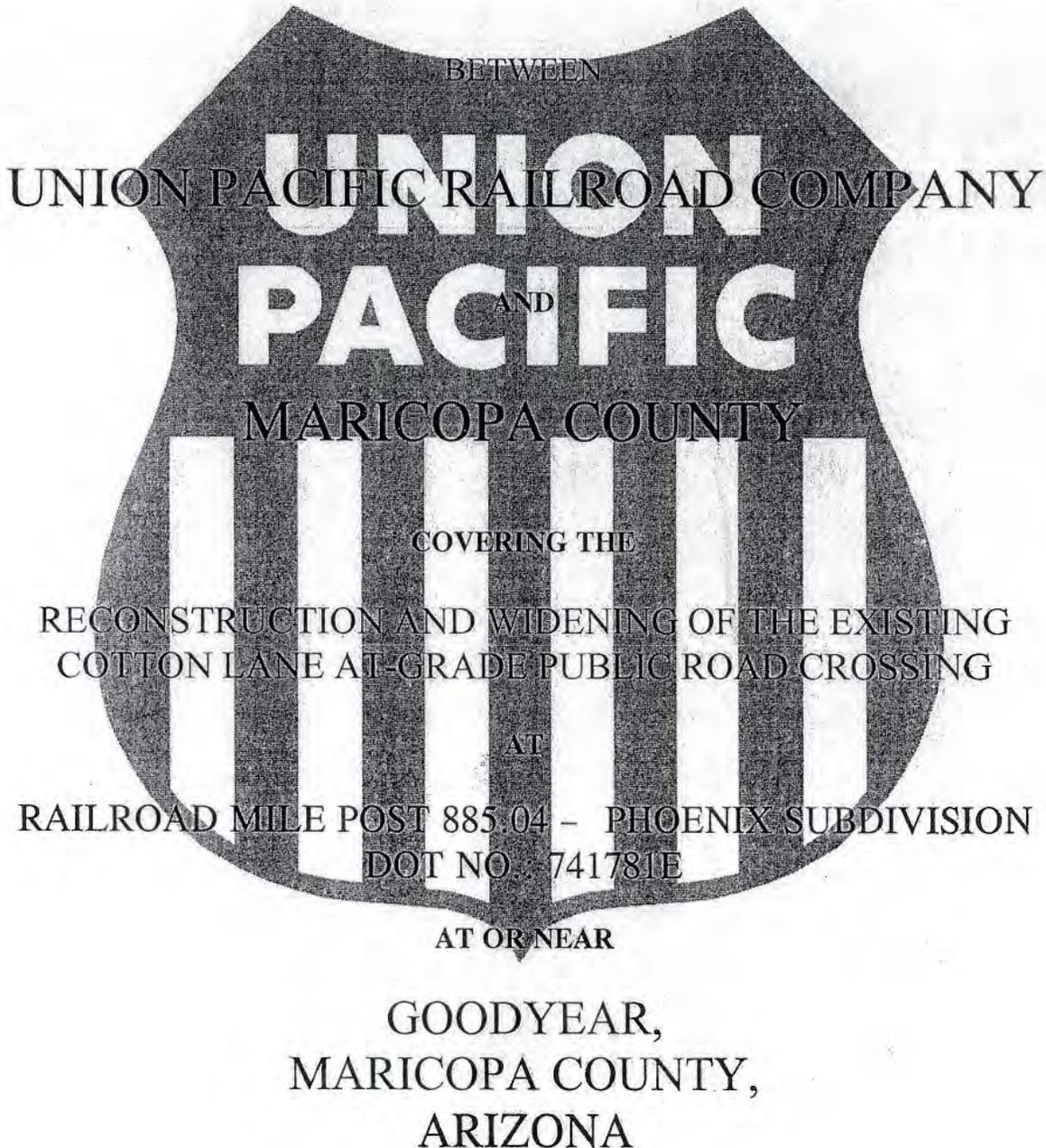
What to Provide and How:

- You must send a written request for the design either by e-mail or regular mail (UPRR requires a preliminary engineering/design authorization that they may charge up to \$15,000.00 for their design services. BNSF does not charge for their design work)
 - *Sample #1*
- It must include a Right-of-Way legal description
 - *Sample #2*
- It must include an engineered designed crossing plan sheet
 - *Sample #3*
- It must include photos of all four directions North, South, East & West and identify the RR mile post on each photo.
- **KEEP IN CONTACT WITH YOUR CONTACT AT THE RAILROAD COMPANY**
 - They may have questions and possible redesign or tweaking of the original design
 - *Sample #4*
- Final written acceptance, either by e-mail or regular mail, of the cost estimate is essential to get the Railroad started on their design
- Railroad reference information.
- *Sample #5*

Timing:

- Once the acceptance of the estimate is sent, it can take up to 15 months to get a Crossing Agreement
- Update design plans and estimates before final execution as the Railroad cost estimates are only good for 6 months from the time they are sent out.

NEW PUBLIC ROAD AT-GRADE CROSSING AGREEMENT



SAMPLE #5

Railroad Original



UPRR Folder No.: 2404-96

UPRR Audit No.: _____

NEW PUBLIC ROAD AT-GRADE CROSSING AGREEMENT

Cotton Lane – DOT No.: 741781E
UPRR Mile Post 885.04 – Phoenix Subdivision
Goodyear, Maricopa County, Arizona

THIS AGREEMENT is made and entered into as of the ____ day of _____, 200__, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation, to be addressed at Real Estate Department, 1400 Douglas Street, Mail Stop 1690, Omaha, Nebraska 68179 (the "Railroad") and **MARICOPA COUNTY**, a political subdivision of the State of Arizona, to be addressed at 2901 West Durango, Phoenix, AZ 85009 (the "Political Body"),

RECITALS:

By instrument dated February 20, 1929, the Arizona Eastern Railroad Company and the Political Body entered into an agreement (the "Original Agreement") covering the construction, use, maintenance and repair of an at grade public road crossing over Cotton Lane, DOT No. 741781E, at Railroad's Mile Post 885.04 on it's Phoenix Subdivision, near Goodyear, Maricopa County, Arizona.

The Railroad named herein is successor in interest to the Arizona Eastern Railroad Company.

The Political Body now desires to undertake as its project (the "Project"):

- the reconstruction and widening of the road crossing that was constructed under the Original Agreement. The structure, as reconstructed and widened is hereinafter the "Roadway" and where the Roadway crosses the Railroad's property is the "Crossing Area."

The right of way granted by Arizona Eastern Railroad Company to the Political Body under the terms of the Original Agreement is not sufficient to allow for the reconstruction and widening of the road crossing constructed under the Original Agreement. Therefore, under this Agreement, the Railroad will be granting an additional right of way right to the Political Body to facilitate the reconstruction and widening of the road crossing. The portion of Railroad's property that Political Body needs a right to use in connection with the road crossing (including the right of way area covered under the Original Agreement) is shown on the location print marked **Exhibit A**, the detailed print marked **Exhibit A-1**, described in the legal description marked **Exhibit A-2**, and illustrated in the print marked **Exhibit A-3**, with each exhibit being attached hereto and hereby made a part hereof (the "Crossing Area").

The Railroad and the Political Body are entering into this Agreement to cover the above.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between the parties hereto as follows:

ARTICLE 1 - LIST OF EXHIBITS

The exhibits below are attached hereto and hereby made a part hereof.

Exhibit A	Railroad Location Print
Exhibit A-1	Detailed Print
Exhibit A-2	Metes and Bounds Legal Description
Exhibit A-3	Illustrative Print of Legal Description
Exhibit B	Terms and Conditions
Exhibit B-1	Insurance Requirements
Exhibit C	Railroad's Track Material and Force Account Estimate
Exhibit C-1	Railroad's Signal Material and Force Account Estimate
Exhibit D	Railroad Form of Contractor's Right of Entry Agreement

ARTICLE 2 - EXHIBITS B AND B-1.

The general terms and conditions marked **Exhibit B**, and the Contractor's insurance requirements marked **Exhibit B-1**, are attached hereto and hereby made a part hereof.

ARTICLE 3 - RAILROAD GRANTS RIGHT.

For and in consideration **FIFTY-FOUR THOUSAND EIGHT HUNDRED THIRTY-THREE DOLLARS (\$54,833.00)** to be paid by the Political Body to the Railroad upon the execution and delivery of this Agreement and in further consideration of the Political Body's agreement to perform and abide by the terms of this Agreement including all exhibits, the Railroad hereby grants to the Political Body the right to establish or reestablish, construct or reconstruct, maintain, repair and renew the road crossing over and across the Crossing Area.

ARTICLE 4 - DEFINITION OF CONTRACTOR

For purposes of this Agreement the term "Contractor" shall mean the contractor or contractors hired by the Political Body to perform any Project work on any portion of the Railroad's property and shall also include the contractor's subcontractors and the contractor's and subcontractor's respective employees, officers and agents.

ARTICLE 5 - CONTRACTOR'S RIGHT OF ENTRY AGREEMENT - INSURANCE

A. If the Political Body will be hiring a Contractor to perform any work involving the Project (including initial construction and any subsequent relocation or maintenance and repair work), the Political Body shall require the Contractor to:

- execute the Railroad's then current Contractor's Right of Entry Agreement
- obtain the then current insurance required in the Contractor's Right of Entry Agreement; and
- provide such insurance policies, certificates, binders and/or endorsements to the Railroad before allowing any Contractor to commence any work in the Crossing Area



or on any other Railroad property. The Railroad's current insurance requirements are described in **Exhibit B-1**, attached hereto and hereby made a part hereof.

- B. The Railroad's current Contractor's Right of Entry Agreement is marked **Exhibit D**, attached hereto and hereby made a part hereof. The Political Body confirms that it will inform its Contractor that it is required to execute such form of agreement and obtain the required insurance before commencing any work on any Railroad property. Under no circumstances will the Contractor be allowed on the Railroad's property without first executing the Railroad's Contractor's Right of Entry Agreement and obtaining the insurance set forth therein and also providing to the Railroad the insurance policies, binders, certificates and/or endorsements described therein.
- C. All insurance correspondence, binders, policies, certificates and/or endorsements shall be sent to:
- Senior Manager - Contracts
Union Pacific Railroad Company
Real Estate Department
1400 Douglas Street, Mail Stop 1690
Omaha, NE 68179-1690
UPRR Folder No.: 2404-96*
- D. If the Political Body's own employees will be performing any of the Project work, the Political Body may self-insure all or a portion of the insurance coverage subject to the Railroad's prior review and approval.

ARTICLE 6 - FEDERAL AID POLICY GUIDE

- A. If the Political Body will be receiving any federal funding for the Project:
- the current rules, regulations and provisions of the Federal Aid Policy Guide as contained in 23 CFR 140, Subpart I and 23 CFR 646, Subparts A and B are incorporated into this Agreement by reference, and
 - construction work by the Political Body and Contractor shall be performed, and any reimbursement to the Railroad for work it performs, shall be made in accordance with the Federal Aid Policy Guide.
- B. If federal funding is involved, as provided in 23 CFR 646.210(b)(2), the Project is of no ascertainable benefit to the Railroad and the Railroad shall not be obligated to pay or contribute to any Project costs.

ARTICLE 7 - WORK TO BE PERFORMED BY THE RAILROAD

- A. The work to be performed by the Railroad, at the Political Body's sole cost and expense, is described in the Railroad's Material and Force Account Estimate(s):
- Track Surface Estimate of Material and Force Account Work dated April 18, 2006, in the amount of \$150,801.00, marked **Exhibit C**,
 - Signal Estimate of Material and Force Account Work Estimate dated July 25, 2006, in the amount of \$378,763.00, marked **Exhibit C-1**,
- each attached hereto and hereby made a part hereof (collectively the "Estimate"). As set forth in the Estimate, the Railroad's combined estimated cost for the Railroad's work



associated with the Project is (\$529,564.00).

- B. The Railroad, if it so elects, may recalculate and update the Estimate submitted to the Political Body in the event the Political Body does not commence construction on the portion of the Project located on the Railroad's property within six (6) months from the date of the Estimate.
- C. The Political Body acknowledges that the Estimate does not include any estimate of flagging or other protective service costs that are to be paid by the Political Body or the Contractor in connection with flagging or other protective services provided by the Railroad in connection with the Project. All of such costs incurred by the Railroad are to be paid by the Political Body or the Contractor as determined by the Railroad and the Political Body. If it is determined that the Railroad will be billing the Contractor directly for such costs, the Political Body agrees that it will pay the Railroad for any flagging costs that have not been paid by any Contractor within thirty (30) days of the Contractor's receipt of billing.
- D. The Political Body agrees to reimburse the Railroad for one hundred percent (100%) of all actual costs incurred by the Railroad in connection with the Project including, but not limited to, actual costs of preliminary engineering review, construction inspection, procurement of materials, equipment rental, manpower and deliveries to the job site and all of the Railroad's normal and customary additives (which shall include direct and indirect overhead costs) associated therewith.

ARTICLE 8 - PLANS

- A. The Political Body, at its expense, shall prepare, or cause to be prepared by others, the detailed plans and specifications and submit such plans and specifications to the Railroad's Assistant Vice President Engineering – Design, or his authorized representative, for review and approval. The plans and specifications shall include all Roadway layout specifications, cross sections and elevations, associated drainage, and other appurtenances.
- B. The final one hundred percent (100%) completed plans that are approved in writing by the Railroad's Assistant Vice President Engineering–Design, or his authorized representative, are hereinafter referred to as the "Plans". The Plans are hereby made a part of this Agreement by reference.
- C. No changes in the Plans shall be made unless the Railroad has consented to such changes in writing.
- D. Notwithstanding the Railroad's approval of the Plans, the Railroad shall not be responsible for the permitting, design, details or construction of the Roadway.

ARTICLE 9 - EFFECTIVE DATE; TERM; TERMINATION.

- A. This Agreement shall become effective as of the date first herein written, or the date work commences on the Project, whichever is earlier, and shall continue in full force and effect for as long as the Structure remains on the Railroad's property.
- B. The Railroad, if it so elects, may terminate this Agreement effective upon delivery of written notice to the Political Body in the event the Political Body does not commence construction on the portion of the Project located on the Railroad's property within twelve (12) months



from the date of this Agreement, or from the date that the Railroad has executed this Agreement and returned it to the Political Body for its execution, whichever is applicable.

- C. If the Agreement is terminated as provided above, or for any other reason, the Political Body shall pay to the Railroad all actual costs incurred by the Railroad in connection with the Project up to the date of termination, including, without limitation, all actual costs incurred by the Railroad in connection with reviewing any preliminary or final Project Plans.

ARTICLE 10 - CONDITIONS TO BE MET BEFORE POLITICAL BODY CAN COMMENCE WORK.

Neither the Political Body nor the Contractor may commence any work within the Crossing Area or on any other Railroad property until:

- The Railroad and Political Body have executed this Agreement.
- The Railroad has provided to the Political Body the Railroad's written approval of the Plans.
- Each Contractor has executed Railroad's Contractor's Right of Entry Agreement and has obtained and/or provided to the Railroad the insurance policies, certificates, binders, and/or endorsements set forth in the Contractor's Right of Entry Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY
(Federal Tax ID #94-6001323)

By _____
GREGORY L. PINKER
Director Contracts

WITNESS:

MARICOPA COUNTY

By _____

Title _____

(Seal)

Pursuant to Resolution/Order No. _____
dated: _____, 200____
hereto attached.

RR Crossing Agreement

When the Crossing Agreement Arrives:

- The Original Agreement must be signed and accepted by the person or entity at your agency who has the authority to encumber the funds that will be necessary for the work and materials
- The Railroad will not sign the Agreement until the Political Body/Road Authority has returned the signed originals back to the Railroad Company with the requested amount of money.
 - *Sample #5*
- Agreements are between the Railroad and the Road Authority/Political Body ONLY. (Contractors and the agents may need to fill out a separate Contractors Right of Entry referencing the construction and maintenance agreement depending on the work that is being completed and which RR line they are crossing.)
 - *UPRR, BNSF, Arizona & California RR reference links*

Timing:

- Once the Agreement has been signed and the initial down payment has been sent via regular mail (over-nighting is suggested), you will receive a copy of the Railroad's executed signed original. This turn around takes approximately two to three weeks.

Section II
Corporation Commission's
Application Process





4561 E. McDowell Road
Phoenix, AZ 85008
602.454.0402
602.454.0403 (fax)

Memo

To: Arizona Corporation Commission Office of
Railroad Safety

Date: January 17, 2008

Attn: Chris Watson
1200 W. Washington Street
Phoenix, AZ 85007

Subject: Arizona Corporation Commission Application
for UPRR and Queen Creek Road

Project: Queen Creek Road, Arizona Avenue to
McQueen Road

Project: MCDOT On-Call Contract, 2005-72, A
Number: MCDOT Project No. 68966 (TT087)
AZTEC Project No. AZE0718

From: Curt Slagell, P.E.

This memo is submitted to the Arizona Corporation Commission (ACC) as an application to request an upgrade to an existing Union Pacific Railroad (UPRR) crossing, on behalf of Maricopa County Department of Transportation (MCDOT).

i Location of Crossing

The Queen Creek Road, Arizona Avenue to McQueen Road project includes the improvements of Queen Creek Road to a six lane roadway with a 16-foot wide raised median across the UPRR right-of-way. The UPRR and Queen Creek crossing is approximately 1,370 feet east of Arizona Avenue and 1,260 feet west of Hamilton Street. Representatives from the ACC, UPRR, MCDOT, and consultants attended a field meeting on March 1, 2006.

ii Why the Crossing is Needed

The railroad crossing at Queen Creek Road is existing. This project is a roadway widening of the existing crossing.

iii Why the Existing Crossing Cannot be Grade Separated

With the proposed improvements to Queen Creek Road, the location of the at-grade crossing remains unchanged. A grade separation would have the following undesired consequences: 1) Access to existing farm roads and to anticipated development would be severed for approximately 2,000 feet (1,000 feet each side of the tracks) along Queen Creek Road; 2) There are several utilities in Queen Creek Road that cannot support 30 feet of additional embankment needed for a grade-separated crossing; 3) There is insufficient right-of-way to accommodate a 30-foot high embankment slopes along Queen Creek Road; and 4) There is inadequate distance between the railroad and the existing Arizona Avenue/Queen Creek Road intersection to raise the roadway grade over the railroad without violating sight-distance requirements.

iv Type of Warning Devices to be Installed

The warning devices for eastbound and westbound traffic included in the design are as follows: gates with flashing lights will be installed in the median and outside the roadway near the sidewalk; cantilever flashing railroad signals will be installed outside the roadway near the sidewalk; and railroad crossing warning signs will be placed per MUTCD, Part 8 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 City of Chandler will own and maintain the approaching surface, signing and movement markings on Queen Creek Road.

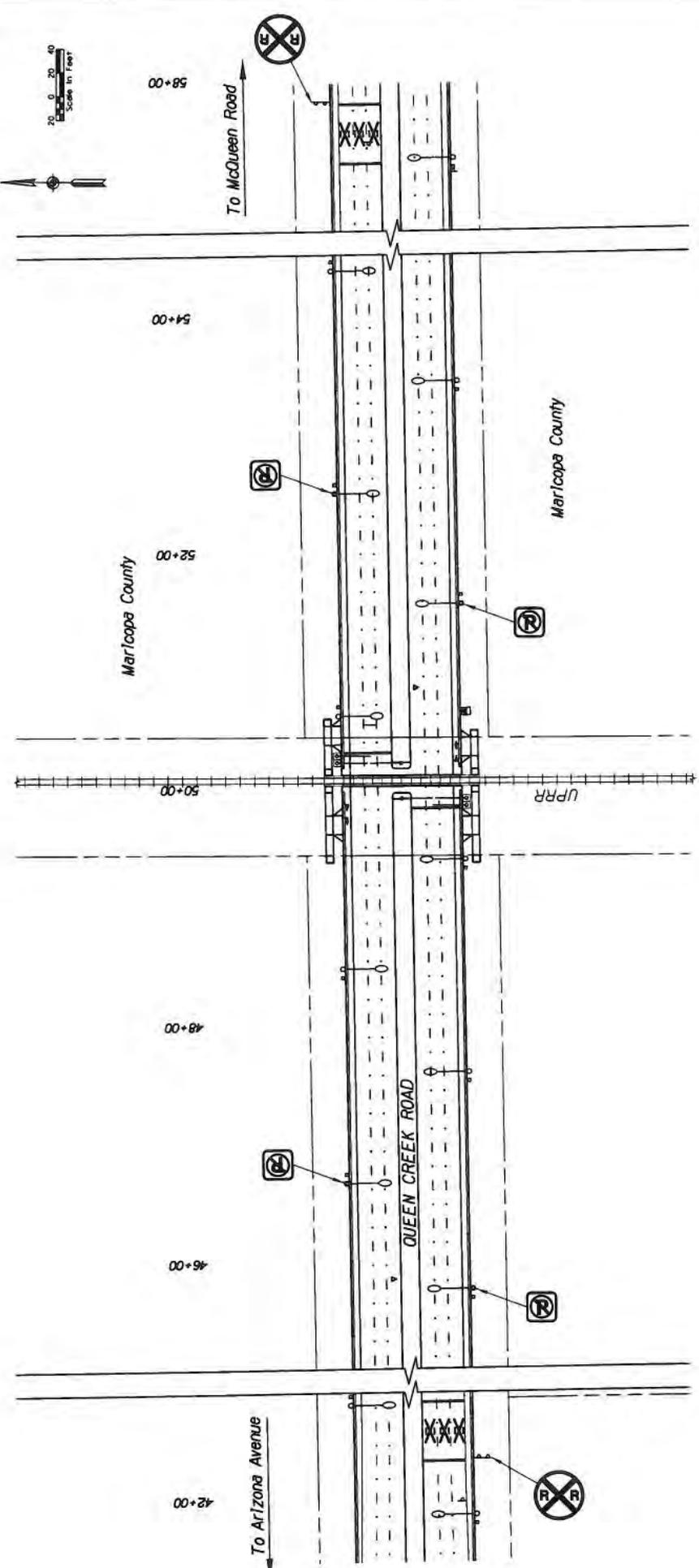
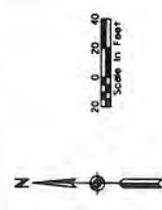
vi Who is Funding the Project

MCDOT and City of Chandler are funding this project.

c: Kelly Roy/MCDOT
Project File: AZE0718

SAMPLE # 6

FED. ROAD DISTRICT NO.	STATE	PROJECT NO.	SHEET TOTAL	RECORD DRAWING
9	AZ	11087	1	1



LEGEND

- RAILROAD SIGNAL CROSSING GATE
- PROPOSED STREET LIGHT
- RAILROAD SIGNAL
- RAILROAD SIGNAL CANTILEVER STRUCTURE

MARICOPA COUNTY
 DEPARTMENT OF TRANSPORTATION
 ENGINEERING DIVISION
 QUEEN CREEK ROAD
 ARIZONA AVENUE TO MCQUEEN ROAD
 PROJECT NO. 11087



4-5

ACC Application

How to start the Process:

- An application letter must be submitted describing the scope of the project to include but not limited to:
 - Location of crossing
 - Why the crossing is needed
 - Why the proposed or existing crossing can't be grade separated (**lack of funding is not an acceptable answer**)
 - Type of warning devices to be installed
 - Type of warning devices currently installed at crossing
 - Who will maintain the crossing warning devices
 - Who is funding the project

- A conceptual drawing (**not an engineered stamped plan sheet**) must be on 8 1/2" x 11" paper indicating changes to crossing including all warning devices and pavement markings
 - *Samples # 6*

- One original copy of the signed agreement between the Railroad and the Road Authority with jurisdiction at the crossing
- **One original copy of both the Application, conceptual drawing and the Railroad agreement AND thirteen (13) copies of each must be submitted to:**
 - Arizona Corporation Commission, Attn. Docket Control, 1200 W. Washington St. Phoenix, AZ. 85007

COMMISSIONERS
MIKE GLEASON - Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE



BRIAN C. McNEIL
Executive Director

ARIZONA CORPORATION COMMISSION

June 25, 2008

Kelly Roy
Utility Project Coordinator
Maricopa County DOT
2901 West Durango Street
Phoenix, Arizona 85009-6357

Sent via U.S. Mail & E-mail to:
kelly.roy@mail.maricopa.gov

Re: Staff's First Set of Data Requests to Union Pacific Railroad Company
Docket No. RR-03639A-08-0311

Dear Mrs. Roy:

Please treat this as Staff's First Set of Data Requests to Union Pacific Railroad Company in the above matter.

For purposes of this data request set, the words "Union Pacific Railroad," "Company," "you," and "your" refer to Union Pacific Railroad Company and any representative, including every person and/or entity acting with, under the control of, or on behalf of Union Pacific Railroad Company. For each answer, please identify by name, title, and address each person providing information that forms the basis for the response provided.

These data requests are continuing, and your answers or any documents supplied in response to these data requests should be supplemented with any additional information or documents that come to your attention after you have provided your initial responses.

Please respond within ten (10) calendar days of your receipt of the copy of this letter. However, if you require additional time, please let us know.

Please provide one hard copy as well as searchable PDF, DOC or EXCEL files (via email or electronic media) of the requested data directly to each of the following addressees via overnight delivery services to:

- (1) Chris Watson, Railroad Safety, Arizona Corporation Commission, 2200 North Central Avenue, Suite 300, Phoenix, Arizona 85004.
- (2) Charles H. Hains, Attorney, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles H. Hains".

Charles H. Hains
Attorney, Legal Division
(602) 542-3402

CHH:sab
Enclosure
cc: Chris Watson

SAMPLE # 7

**ARIZONA CORPORATION COMMISSION
STAFF'S FIRST SET OF DATA REQUESTS TO
UNION PACIFIC RAILROAD COMPANY
DOCKET NO. RR-03639A-08-0311
JUNE 25, 2008**

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

- CW 1.1 Provide Average Daily Traffic Counts for each of the locations.
- CW 1.2 Please describe the current Level of Service (LOS) at each intersection.
- CW 1.3 Provide any traffic studies done by the road authorities for each area.
- CW 1.4 Provide the population of the City the crossing is located in.
- CW 1.5 Provide what warning devices are currently installed at the crossing.
- CW 1.6 Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?
- CW 1.7 How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.
- CW 1.8 If this crossing was grade separated, provide a cost estimate of the project.
- CW 1.9 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.
- CW 1.10 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?
- CW 1.11 Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.
- CW 1.12 Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.
- CW 1.13 Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles, also how far away the hospitals are from the crossing.
- CW 1.14 Please provide total cost of the railroad improvements to each crossing.
- CW 1.15 Provide any information as to whether vehicles carrying hazardous materials utilize this crossing and the number of times a day they might cross it.

**ARIZONA CORPORATION COMMISSION
STAFF'S FIRST SET OF DATA REQUESTS TO
UNION PACIFIC RAILROAD COMPANY
DOCKET NO. RR-03639A-08-0311
JUNE 25, 2008**

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

- CW 1.16 Please provide the posted vehicular speed limit for the roadway.
- CW 1.17 Do any buses (other than school buses) utilize the crossing, and how many times a day do they cross the crossing.
- CW 1.18 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.
- CW 1.19 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).
- CW 1.20 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.

FHWA - GRADE SEPARATION GUIDELINES

Highway-rail grade crossings should be considered for grade separation or otherwise eliminated across the railroad right of way whenever one or more of the following conditions exist:

	Crossing 1	Crossing 2	Crossing 3	Crossing 4	Crossing 5	Crossing 6
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria Crossing meets the criteria by 2030					
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria Crossing meets the criteria by 2030					
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria Crossing meets the criteria by 2030					
AADT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria Crossing meets the criteria by 2030					
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria Crossing meets the criteria by 2030					
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria Crossing meets the criteria by 2030					
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 Crossing meets the criteria by 2030					
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					
	Crossing meets the criteria by 2030					
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria					
	Crossing meets the criteria by 2030					

#1-5



Maricopa County

Public Works

2901 W. Durango St
Phoenix, AZ 85009
Phone: 602-506-4889
Fax: 602-506-5969
www.maricopa.gov

July 1, 2008

Chris Watson
Railroad Safety, Arizona Corporation Commission
2200 N. Central Ave., Suite 300
Phoenix, AZ 85004

Charles H. Hains
Attorney, Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85004

Dear Mr. Watson & Mr. Hains:

Subject: MCDOT Project TT083 - Staff's **First** Set of Data Request to UPRR Company -
Docket No. RR-03639A-08-0311

We have received your Staff's **First** Set of Data Request to UPRR Company and are currently in the process of gathering the required information and documentation you have requested. We understand further that the information you have requested be provided to you within **ten** calendar days of receipt of your initial letter.

It is our intention to provide you with the clearest answers possible. In order to do this effectively we are requesting additional time to gather necessary information.

Should you have questions, I can be contacted at 602-506-5992.

This letter will be delivered via overnight delivery as directed in your initial letter.

Sincerely,

Kelly L. Roy
MCDOT Utility Project Coordinator

KR:amr

cc: Zahit Katz, PB Engineering

SAMPLE # 7A

Train in Movement Condition

Year	Meet Criteria (>40)?	Total Delay (veh*hours)	Train Passage Time (sec)	Gate Movement Time (sec)	Traffic Rate (veh/sec)	AADT	Train Length (ft)	Road Width (ft)	Train Speed (MPH)	No. of Daily Thru Train
2006	Not Met	1.266	246.55	35	0.02	1656	9000	40	25	3
2030	Not Met	4.699	247.64	35	0.07	6099	9000	80	25	3

Train Passage Time: $(\text{length of train} + \text{roadway width}) \times (3600) / (5280 \times \text{speed})$

Gate Movement Time: (Taken from "Preemption of Traffic Signals Near a Railroad Crossing", page 12)

Total Delay: $[\text{number of trains} \times \{(\text{traffic rate}) \times (\text{train passage time} + \text{gate movement time})^2 / (3600)\}]$

No. of Trains: Based on e-mail from Steve Newman (UPRR) on July 16, 2008.

Stopped Train Condition

Year	Meet Criteria (>40)?	Total Delay (veh*hours)	Train Stopped Time (sec)	Gate Movement Time (sec)	Traffic Rate (veh/sec)	AADT	Train Length (ft)	Road Width (ft)	Train Speed (MPH)	No. of Daily Thru Train
2006	Not Met	6.440	600.00	35	0.02	1656	9000	40	25	3
2030	Not Met	23.720	600.00	35	0.07	6099	9000	80	25	3

Based on field observations, trains were stopped at the crossing for a duration of less than 10 min. Ten minutes were used to calculate the stopped Condition Delay as shown in the table above.

Factors for Collision Prediction Calculations:

Parameters	Formula/Value	Description	Taken From
K=		Formula Constant	Table 16
c=		Annual # of highway vehicle per day	Design
t=		Annual average of trains per day	Design
MT=	$e^{(0.2912 \times mt)}$		Calculated
mt=	1	Number of main tracks	
DT=	1	Factor of number of through train per day during daylight	Table 16
HP=	1	Highway paved	Table 19
MS=	1	Maximum timetable speed	Table 16
HT=	1	highway type factor value	Table 16
HL=	$e^{(0.1036(hl-1))}$		Calculated
hl=		Number of highway lanes	Design

Note:

All factors and reference to tables are based on information shown at:

Railroad-Highway Grade Crossing Handbook, Section 3: Assessment of Crossing Safety and Operation

Online Link: <http://safety.fhwa.dot.gov/xings/07010/sec03.htm>

ATTACHMENT F

**FHWA GRADE SEPARATION GUIDELINES TABLE
AND SUPPORT CALCULATIONS**

ATTACHMENT E

CITY OF GOODYEAR POPULATION

Table 3.12: Reported MC-85 Crashes by Intersection or Driveway Relationship: October 1, 2001 through September 30, 2004

Intersection or Driveway Relationship	Angle	Number of Crashes							Total	
		Head-on	Left Turn	Rear End	Sideswipe	Pedestrian or Bicyclist	Collision with Fixed Object	Overturn		Other
Intersection	86	0	66	87	24	2	16	1	21	303
Driveway	8	0	6	6	3	2	1	0	0	26
No Relationship	2	6	15	38	29	5	24	11	15	145
Corridor Total	96	6	87	131	56	9	41	12	36	474

*Does not include the 44 additional crashes in the MC-85/Dysart Road area reported by the Avondale Police Department.

Source: Arizona Department of Transportation, 2004

Table 3.10: Reported MC-85 Motor Vehicle Crashes by Manner of Collision: October 1, 2001 through September 30, 2004

Segment	Number of Crashes											Total
	Single Vehicle	Two or More Vehicles	Rear End	Sideswipe (Same direction)	Sideswipe (Opposite direction)	Other Multi-Vehicle	Pedestrian/Bicyclist	Single Vehicle (Observed)	Overturn	Other Single Vehicle		
75 th -107 th Ave	28	1	33	51	13	1	10	3/0	8	6	5	159
107 th Ave-	32	1	25	31	9	3	3	2/0	8	1	8	123
Litchfield Rd ^{2,3}	3	1	8	9	1	3	0	0/1	7	1	2	36
Litchfield Rd-Estrella Pky ⁴	9	1	10	20	10	3	0	0/0	8	4	2	67
Jackrabbit Trail ⁵	6	1	2	7	3	0	1	0/1	9	0	0	30
Watson Rd ⁶	8	0	6	11	6	1	1	2/0	1	0	4	40
Watson Rd-Miller Rd ⁷	10	1	3	2	3	0	0	0/0	0	0	0	19
Miller Rd-SR 85 ⁸	96	6	87	131	45	11	15	7/2	41	12	21	474

¹Includes crashes at 107th Avenue intersection

²The City of Avondale provided dates and severity of 44 additional crashes that occurred in the MC-85/Dysart Road area from April 2003 through September 2004, but no data on the manner of collision; therefore, these crashes are not included here.

³Includes crashes at Litchfield Road intersection

⁴Includes crashes at Estrella Parkway intersection

⁵Includes crashes at Jackrabbit Trail intersection

⁶Includes crashes at Watson Road intersection

⁷Includes crashes at Miller Road intersection

⁸Includes crashes at SR 85 intersection

Source: Arizona Department of Transportation, 2004

Table 3.9: Year 2026 Signal Warrant Review

Intersection	Existing Signal?	Traffic Lanes		Estimated ADT		Planning Warrant Met?
		Major Street	Minor Street	Major Street	Minor Street	
75th Ave	Yes	-	-	-	-	N/A
83rd Ave	Yes	-	-	-	-	N/A
91st Ave	Yes	-	-	-	-	N/A
99th Ave	Yes	-	-	-	-	N/A
107th Ave	Yes	-	-	-	-	N/A
Avondale Blvd	Yes	-	-	-	-	N/A
El Mirage Rd	No	-	-	-	-	N/A
Dysart Rd	Yes	-	-	-	-	N/A
Litchfield Rd	Yes	-	-	-	-	N/A
Bullard Ave	No	-	-	-	-	N/A
Estrella Pkwy	Yes	-	-	-	-	N/A
Sarival Ave	No	-	-	-	-	N/A
Cotton Ln	No	-	-	-	-	N/A
Southern Ave	No	-	-	-	-	N/A
Perryville Rd	No	3	2	> 18,000	> 4,000	Yes
Jackrabbit Tr	Yes	-	-	-	-	N/A
Airport Rd	No	2	2	> 18,000	> 4,000	Yes
Dean Rd	No	2	2	> 18,000	> 4,000	Yes
Rainbow Rd	No	2	2	> 18,000	> 4,000	Yes
Watson Rd	No	2	2	> 12,000	> 4,000	Yes
Apache Rd	No	2	2	> 12,000	> 4,000	Yes
Miller Rd	No	2	2	> 12,000	> 4,000	Yes
Rooks Rd	No	2	2	> 12,000	> 4,000	Yes

Sources: MCDOT PPG and DMJM Harris

3.5 Recent Crash History

ADOT provided MCDOT with detailed information on 474 crashes (traffic accidents) reported along the MC-85 corridor during the three-year period beginning October 1, 2001 and ending September 30, 2004. It is important to note that at least one major gap exists in the ADOT data, so the list should not be viewed as all-inclusive. The ADOT records contain only two crashes at the busy MC-85/Dysart Road intersection in downtown Avondale—far fewer, for example, than the 39 reported at the Avondale Boulevard intersection or even the 18 reported at Litchfield Road over the same three years. The City of Avondale Police Department was able to supplement the ADOT data with limited information on 44 additional crashes that occurred at or near the MC-85/Dysart Road intersection from April 2003 through September 2004 only.

Table 3.10 presents the number of ADOT-reported crashes by manner of collision for each of the seven corridor segments. Multi-vehicle collisions were divided into eight categories: angle, head on, left turn/U-turn, rear end, sideswipe (same direction), sideswipe (opposite direction), pedalcyclist, and other (e.g., backing). The 76 single-vehicle collisions, representing 16% of the 474, consisted of two collisions with pedestrians, 41 crashes into fixed objects, 12 overturnings,

Table 3.7: ADT Volume Warrant

Lanes for Moving Traffic on Each Approach		Estimated ADT	
Major Street	Minor Street	Major Street	Minor Street
1	1	10,000	3,000
2 or more	1	12,000	3,000
2 or more	2 or more	12,000	4,000
1	2 or more	10,000	4,000
1	1	15,000	1,500
2 or more	1	18,000	1,500
2 or more	2 or more	18,000	2,000
1	2 or more	15,000	2,000

Source: MCDOT Traffic Engineering Policy/Procedure Guideline (PPG), Section 4, Subject 4.6

3.4.1 Signal Warrant Review

This project included a signal warrant review for intersections along MC-85. The signal warrants were evaluated based on traffic conditions expected in 2015 and 2026. The ADT volumes at the intersections are based on the traffic projections discussed earlier in this chapter.

Tables 3.8 and 3.9 show whether the warrants are expected to be met in 2015 and 2026, based on the traffic projections discussed earlier and on whether these projections exceed the minimum volumes shown in Table 3.7. Traffic signals will be installed at each intersection when MCDOT finds that the warrants have been met.

Table 3.5: Existing 2005 Peak Hour Intersection Level of Service and Delay (Cont)

Control	MC-85 Intersection	2005 LOS and Control Delay per Vehicle (seconds)	
		AM Peak Hour	PM Peak Hour
STOP	Dean Rd	B (10.8) ¹	B (12.5) ¹
		B (11.4) ²	B (13.1) ²
		A (0.2) ³	A (0.5) ³
		A (0.6) ⁴	A (0.7) ⁴
STOP	Rainbow Rd	C (15.2) ¹	C (17.8) ¹
		B (14.5) ²	C (19.3) ²
		A (2.2) ³	A (2.7) ³
		A (0.3) ⁴	A (0.1) ⁴
Signal	6 th St	A (8.4)	A (9.5)
STOP	Miller Rd**	B (10.3) ¹	B (12.4) ¹
		B (11.1) ²	B (13.2) ²
		A (9.7) ³	B (11.5) ³
		B (11.1) ⁴	C (15.2) ⁴
STOP	Rooks Rd	B (10.6) ¹	B (10.3) ¹

*Conditions may have changed owing to the recent opening of a fourth (south) leg at this intersection.

**Traffic control has recently been changed from a two-way to a four-way STOP.

¹Northbound traffic only

²Southbound traffic only

³Eastbound left turns only

⁴Westbound left turns only

Boldface denotes a level of service generally considered unacceptable.

Source: DMJM Harris, based on 2000 *Highway Capacity Manual* methodology.

3.3.2 Future Year Conditions and Level of Service

AM and PM peak hour intersection levels of service were estimated for future year 2015 and 2026 conditions, using the method described in Section 3.3.1. For the year 2015, major intersections along the existing MC-85 alignment were used (Figures 3-7 and 3-8); existing lane configurations were assumed to remain in place, except at the following locations where MCDOT has programmed improvements: 75th, 83rd, 91st, 99th and 107th Avenues, Estrella Parkway, Sarival Avenue, and Cotton Lane. For 2026, the study team used the existing MC-85 alignment from 75th Avenue to approximately Perryville Road, and the proposed South Bypass from that point to SR 85. The assumed intersection layouts are those shown in Figure 3-10.

Table 3.6 reports the resulting 2015 and 2026 peak hour intersection levels of service and average peak hour delay per entering vehicle. Existing (year 2005) signalized intersection data from Table 3.5 are also included for comparative purposes. In the year 2015, an unacceptable intersection LOS (E) is expected to occur only at the MC-85/Southern Avenue intersection, in both the AM and PM peak hours.

Table 3.4: Intersection Control Delay

Level of Service	Signalized Intersection Control Delay (seconds/vehicle)	STOP-Controlled Intersection Control Delay (sec/veh)
A	< 10	< 10
B	10 – 20	10 – 15
C	20 – 35	15 – 25
D	35 – 55	25 – 35
E	55 – 80	35 – 50
F	> 80	> 50

Sources: Exhibits 16-2 and 17-2, 2000 *Highway Capacity Manual*

These criteria were applied to a capacity analysis of existing AM and PM peak hour conditions at 20 signalized and unsignalized intersections along MC-85. The following assumptions were used in the operational capacity analysis of both existing and future conditions:

- “T” (percent heavy trucks): 8% (0.08)
- Peak hour factor (the peak hour volume divided by (four times the volume occurring in the peak 15-minute period)): 90% (0.9)

Table 3.5 reports the results of the analysis. At signalized locations, the reported LOS represents an aggregate for the intersection as a whole. At STOP-controlled intersections, it is not possible to compute a composite level of service for the entire intersection, because through movements on the MC-85 mainline flow freely. Therefore, an individual LOS for each minor (STOP-controlled) approach and for left turns from MC-85 was calculated instead.

Table 3.5 indicates that an unacceptable LOS (E or F) currently occurs at only one of the analyzed intersections: MC-85/El Mirage Road. Here the estimated LOS for northbound traffic is E during the AM peak hour and F in the PM peak, with average delay exceeding 45 seconds in the morning and 90 seconds in the afternoon. It should be noted that these are minor movements at an unsignalized intersection that MCDOT has programmed for signalization.

Figure 3-10 depicts the proposed lane configuration at each major intersection along MC-85 in 2026. From Perryville Road west to SR 85, MC-85 is assumed to have been rerouted along the South Bypass alignment, resulting in a "T" intersection wherever a north-south roadway terminates. All the intersections in Figure 3-10 are expected to be signalized by 2026. Along MC-85 itself, exclusive right-turn lanes are anticipated at 75th and 83rd Avenues, 91st Avenue (eastbound only), 99th and 107th Avenues (westbound only), Avondale Boulevard (westbound only), El Mirage Road, Dysart and Litchfield Roads, Estrella Parkway, Sarival Avenue, Southern Avenue, Perryville Road, existing MC-85, and Dean, Rainbow, Watson, Apache, Miller and Rooks Roads. Dual left turn lanes are expected to be warranted westbound at 99th Avenue and Jackrabbit Trail, and also on several cross roads.

The projected AM and PM peak hour turning volumes are shown in Figures 3-11 and 3-12. All volumes are rounded to the nearest multiple of 50, except that volumes below 50 are reported as 50. The Cotton Lane intersection is omitted from Figures 3-10 through 3-12 because its future status is unclear, in view of the potential routing of the SR 303 freeway along the Cotton Lane alignment. The turning movement volumes in Figures 3-11 and 3-12 were used as inputs to calculate the year 2026 levels of service reported in Section 3.3 below.

3.2.3 Additional Future Traffic Issues

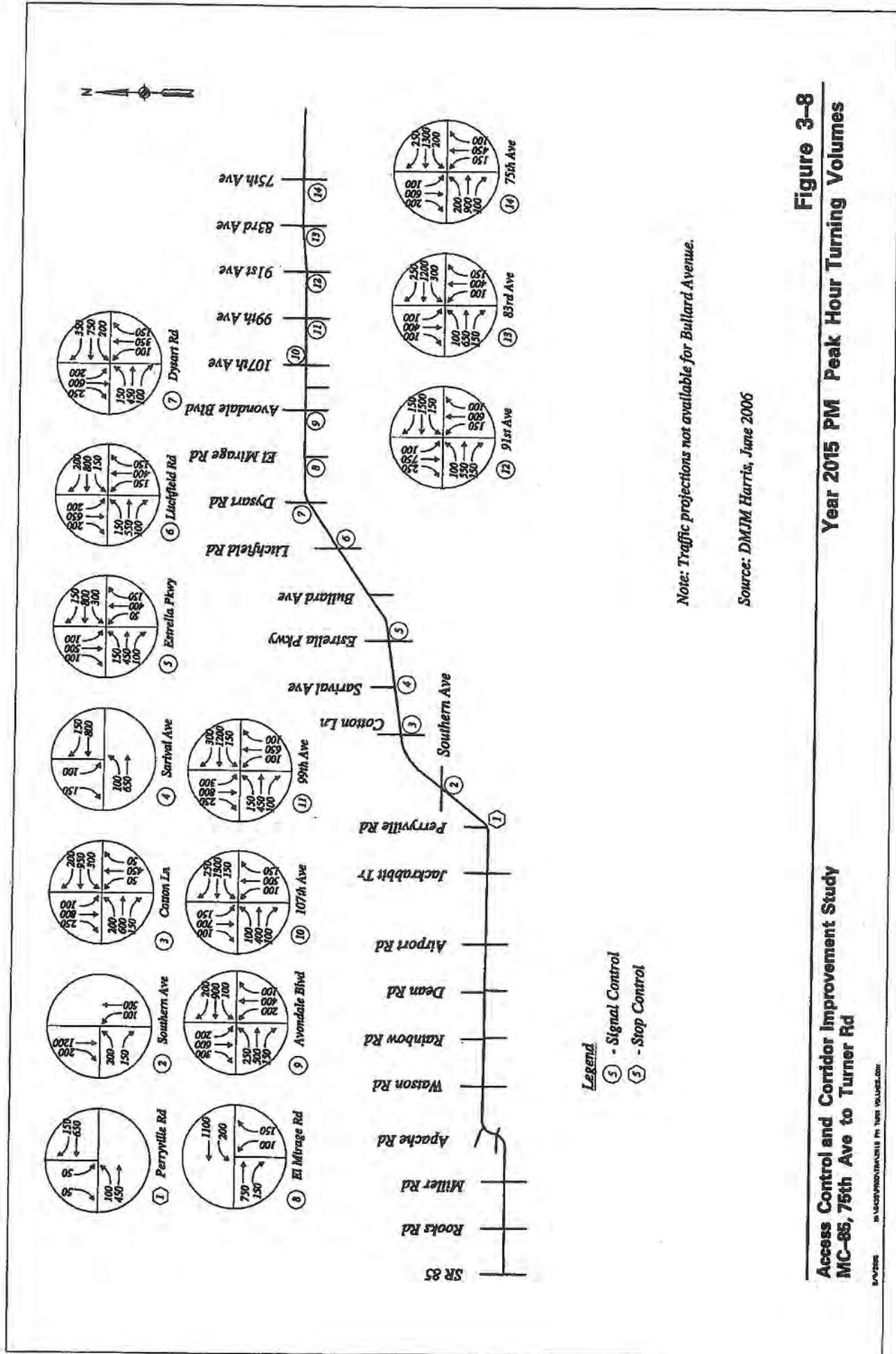
- The future alignment of the SR 303 freeway at its junction with MC-85 remains uncertain at this time. SR 303 could cross MC-85 either near Cotton Lane or farther west in the general vicinity of Perryville Road and Jackrabbit Trail. The absence of year 2026 turning movement projections for the MC-85/Cotton Lane intersection results from this uncertainty.
- The MAG socioeconomic projections used to generate the 2015 and 2026 traffic forecasts are much lower than the actual amount of planned and entitled development in West Valley, especially in the Town of Buckeye. MAG and the local jurisdictions are in the process of updating these projections to include the latest information. The revised projections were not completed in time for this study, but will be fully incorporated in such subsequent planning efforts as the Town of Buckeye General Plan Update and the MAG Interstate 10-Hassayampa Valley Roadway Framework Study. Meanwhile, because many of the available 2015 socioeconomic projections in the Buckeye area yield turning movement forecasts that are actually lower than today's counts, this report shows no 2015 turning movements or intersection levels of service west of Perryville Road.

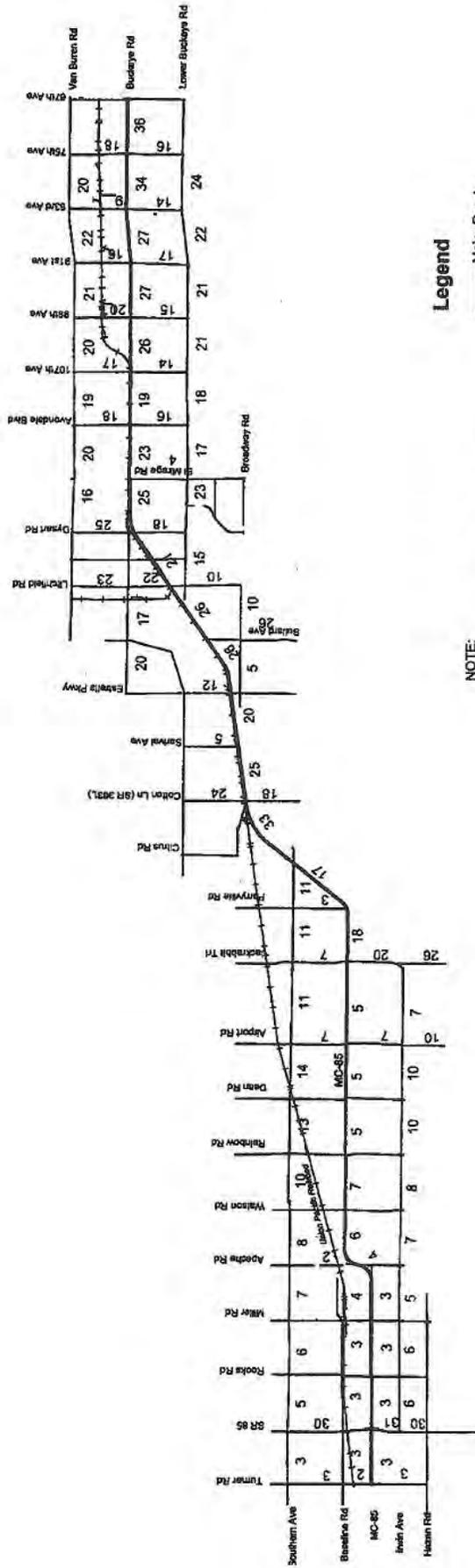
3.3 Traffic Operational Analysis

3.3.1 Existing Conditions and Level of Service

As described in Section 2.13.2, the concept of level of service (LOS) uses qualitative measures that characterize operational conditions within the traffic stream. The six levels of service are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. In urban areas, the minimum acceptable LOS is usually considered to be D.

Table 3.4 shows the level of service criteria contained in the *Highway Capacity Manual* for signalized and unsignalized (STOP-controlled) intersections. "Intersection control delay" means delay due to the operation of intersection traffic control devices.





Source: MAG Model Forecasts

Figure 3-6

Access Control and Corridor Improvement Study
 MC-85, 75th Ave to Turner Rd

Year 2015 Traffic Volumes

Table 3.2: Peak Hour Distribution of Entering Traffic: MC-85 versus Cross Streets

Percent of Peak Hour Traffic Entering from MC-85	Intersections
75% or more	--91 st Ave (PM) --107 th Ave (PM) --El Mirage Rd (AM and PM) --Dysart Rd (AM and PM) --Litchfield Rd (AM) --Bullard Ave (AM and PM) --Cotton Ln (AM and PM) --Perryville Rd (AM and PM) --Airport Rd (AM and PM) --Dean Rd (AM and PM) --Rainbow Rd (AM and PM) --Baseline Rd (PM) --6 th St (AM and PM) --Rooks Rd (AM and PM)
60% - 74%	--75 th Ave (AM and PM) --83 rd Ave (AM and PM) --91 st Ave (AM) --99 th Ave (AM and PM) --107 th Ave (AM) --Litchfield Rd (PM) --Jackrabbit Trail (AM and PM) --Baseline Rd (AM)
50% - 59%	--Avondale Boulevard (AM and PM) --Estrella Parkway (PM) --Miller Rd (AM and PM)
40% - 49%	--Estrella Parkway (AM)

Source: DMJM Harris, March and April 2005

3.2 Projected Traffic

3.2.1 Interim Forecast Year 2015

The MC-85 study team used the latest available MAG regional socioeconomic projections and traffic forecasts to estimate segment ADT and peak hour turning volumes for two future years: the interim year 2015 and the study horizon year 2026. The MAG model generated directional ADT volumes on each one-mile segment of every arterial roadway in the study area. From these daily segment-level traffic volumes, the study team derived year 2015 AM and PM peak hour turning movement volumes at key intersections along MC-85. The mathematical derivation process made use of existing turn movement percentages and applied appropriate balancing factors to equalize entering and departing volumes at each intersection.

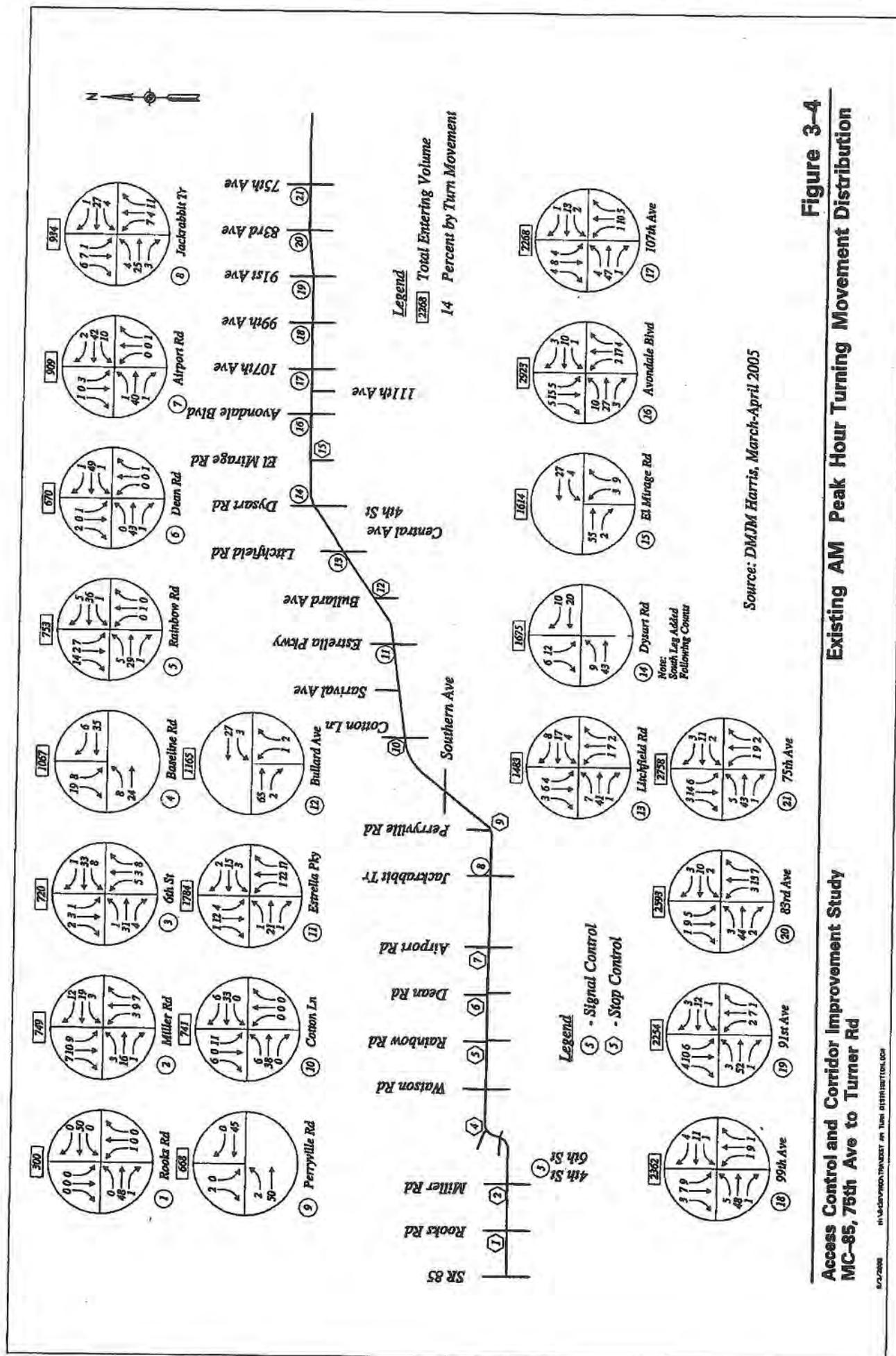


Figure 3-4
Existing AM Peak Hour Turning Movement Distribution

Access Control and Corridor Improvement Study
MC-85, 75th Ave to Turner Rd

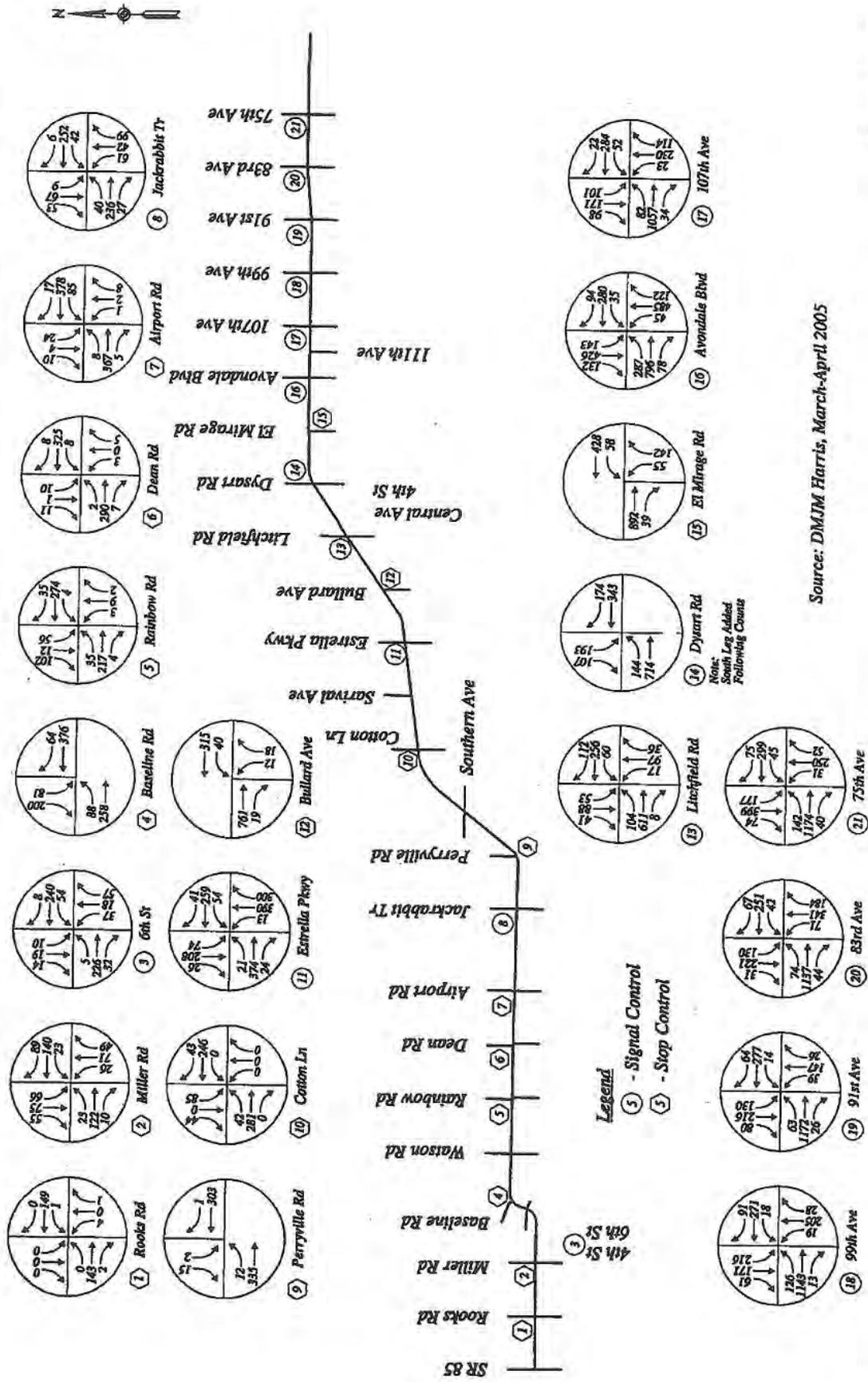
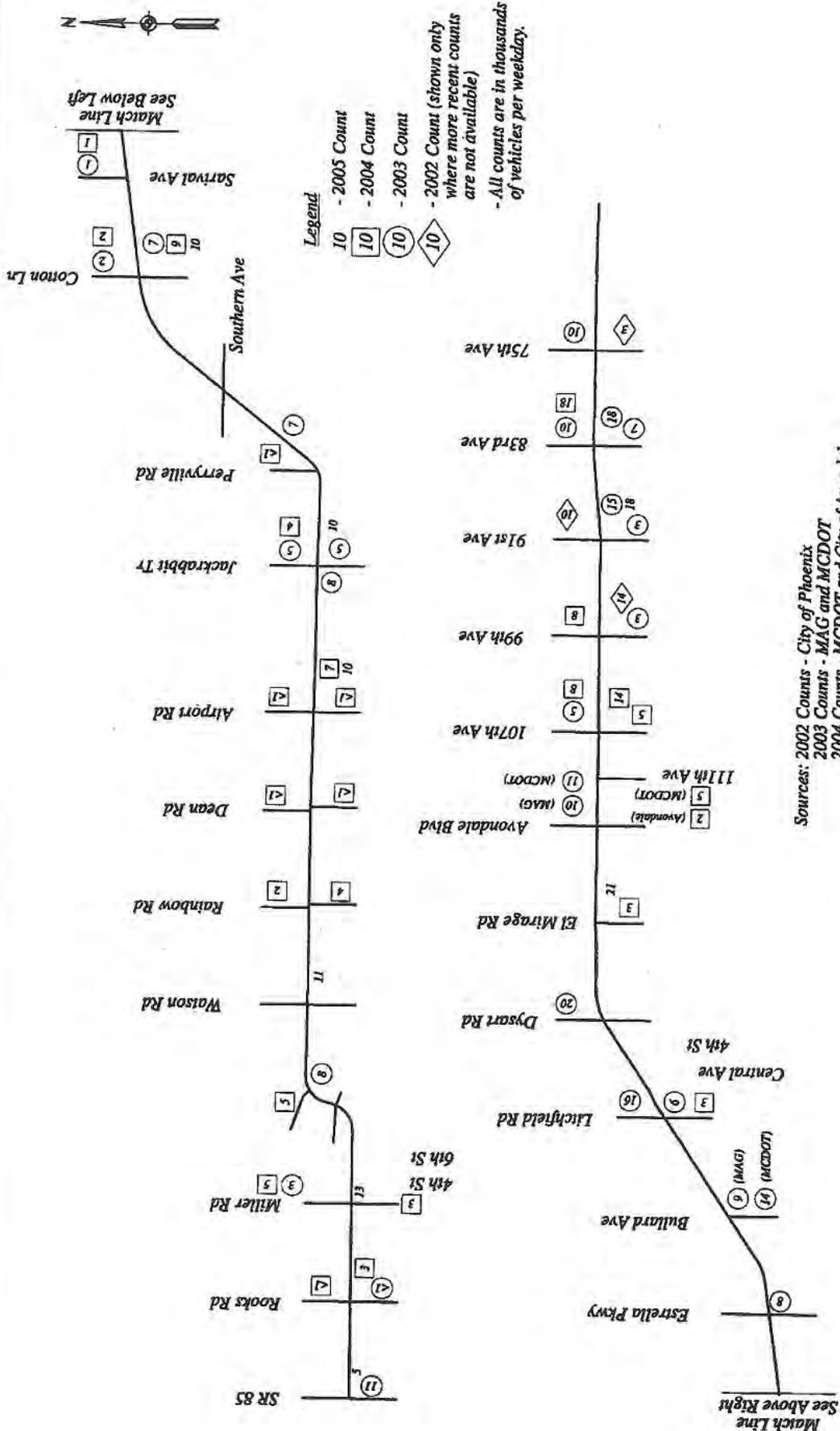


Figure 3-2
Existing AM Peak Hour Turning Volumes

Access Control and Corridor Improvement Study
MC-85, 75th Ave to Turner Rd



Sources: 2002 Counts - City of Phoenix
 2003 Counts - MAG and MCDOT
 2004 Counts - MCDOT and City of Avondale
 2005 Counts - DMJM Harris

Figure 3-1
Existing Daily Traffic Volumes

Access Control and Corridor Improvement Study
MC-85, 75th Ave to Turner Rd

ATTACHMENT D

**ACCESS CONTROL AND CORRIDOR
IMPROVEMENTS STUDY,
MC 85 75TH AVE TO TURNER RD**

CHAPTER 3 TRAFFIC ANALYSIS

3.6 2020 Level of Service

3.6.1 Unsignalized Intersections: 15 unsignalized intersections along the MC 85 corridor were analyzed for level of service using 2020 traffic projections. Significant intersection delays are projected to occur during peak periods at Baseline Road, Rainbow Road, Cotton Lane, Sarival Avenue, Estrella Parkway, and Lower Buckeye Road. Each of these locations has been identified as warranting consideration of traffic signal control.

3.6.2 Signalized Intersections: 14 signalized intersections along the MC 85 corridor were analyzed for LOS using 2020 traffic projections. All of the signalized intersections will operate under capacity except for Dysart Road and 75th Avenue. The Dysart Road intersection can be improved to acceptable level of service by adding a westbound right turn lane with continuous "free flow" yield operation. The 75th Avenue intersection can be improved to an acceptable level of service by adding a westbound right turn lane and adding an additional northbound through lane

3.6.3 Multi-Lane Highway Segments: It is assumed that the entire corridor will be improved to 4 through lanes and left turn lanes before the year 2020. All MC 85 roadway segments will operate at a LOS of A except the segments from Estrella Parkway to Bullard Avenue, from Litchfield Road to Dysart Road, and from 83rd Avenue to 75th Avenue, which will operate at a LOS of B.

3.7 Transyt-7f Analyses

3.7.1 General: Transyt-7f is a traffic operations modeling software program that was developed in the United Kingdom, and was adapted for the Federal Highway Administration by the University of Florida Transportation Research Center. This software was used to model and analyze the project study corridor. Transyt-7f calculates measures of effectiveness (MOEs), which are traffic performance indicators. The MOEs include intersection delays, stops, total travel time, and queuing. The corridor was analyzed for the peak hour traffic conditions.

3.7.2 1997 Existing: The corridor was analyzed for the 1997 traffic volumes for the existing geometry, peak hour volumes (PHVs), and existing signal phasing. The results indicate there are no problems with mainline through traffic on MC 85. There are, however, a few movements on side streets with LOS E. These include the southbound through movements on

TABLE 3.4
MC 85 GOODYEAR PROJECTED AVERAGE DAILY TRAFFIC (ADT)

Location	2020 Traffic (ADT)	Build out Traffic (ADT)
Perryville Road to Southern Avenue	25,000	35,000
Southern Avenue to Cotton Lane	25,000	35,000
Cotton Lane to Sarival Avenue	37,000	51,000
Sarival Avenue to Estrella Parkway	37,000	51,000
Estrella Parkway to Bullard Avenue	31,000	48,000
Bullard Avenue to Litchfield Road	31,000	48,000

3.4.2 Intersecting Roadways 2020 ADT's: The 2020 MAG ADT projections for the roadways intersecting MC 85 are summarized in Table 3.5 below. The highest volume locations are the north and south approaches of 75th Avenue, the north approach of Dysart Road and the west approach of Baseline Road. The traffic projections for Estrella Parkway at MC 85 seem to be underestimated based on current traffic and development activity. 2015 volumes from the Estrella Parkway Candidate Assessment Report indicate an ADT of 26,425 vehicles per day on Estrella Parkway south of MC 85 and 20,425 vehicles per day north of MC 85. A design value of 30,000 vehicles per day is currently being used to design improvements to Estrella Parkway.

TABLE 3.5
INTERSECTING ROADWAYS 2020 AVERAGE DAILY TRAFFIC (ADT)

Location	ADT (North)	ADT (South)
SR 85	8,700	12,100
Rooks Road	-	<1,000
Miller Road	7,300	<1,000
Baseline Road	16,000	-
Rainbow Road	8,800	-
Airport Road	2,100	1,600
Jackrabbit Trail	1,300	1,600

107th Avenue to 99th Avenue	11,200
99th Avenue to 91st Avenue	13,100
91st Avenue to 83rd Avenue	13,100
83rd Avenue to 75th Avenue	16,400

3.3.2 Unsignalized Intersections: Fifteen unsignalized intersections along the MC 85 corridor were analyzed for level of service using 2005 traffic projections. Significant intersection delays are projected to occur during peak periods at Baseline Road and Lower Buckeye Road. Each of these locations is identified in the traffic report for consideration for traffic signal control.

3.3.3 Signalized Intersections: Fourteen existing signalized intersections along the MC 85 corridor, and Estrella Parkway, Baseline Road, and Lower Buckeye Road intersections were analyzed for level of service. The MC 85 intersections will operate at LOS B or better with 2005 project volumes.

3.3.4 Two-Lane Highway Segments: The two-lane highway segment from SR 85 to Miller Road will operate at LOS A with the 2005 projected traffic volumes. The projected 2005 volumes indicate that the segment of MC 85 from Jackrabbit Trail to Sarival will provide a LOS B in the AM peak hour while the PM peak hour traffic will operate at LOS C. The two-lane segment from Sarival Avenue to Litchfield Road will operate at LOS C in the AM peak, while the PM peak hour traffic slips to LOS D. LOS C is generally considered to be the minimum acceptable level of service when designing rural and suburban roadways. Increasing the capacity of this segment of roadway prior to 2005 is recommended.

3.3.5 Multi-Lane Highway Segments: The multi-lane highway segments of the MC 85 corridor are located from Miller Road to Jackrabbit Trail and from Litchfield Road to 75th Avenue, and all segments will operate at LOS A with 2005 projected traffic volumes.

3.4 2020 Projected ADT's

3.4.1 MC 85 2020 ADT's: The 2020 MAG ADT projections for MC 85 are summarized in Table 3.3 below. The highest volume locations are from Cotton Lane to Litchfield Road and from 99th Avenue to 75th Avenue.

Sarival Avenue to Estrella Parkway	2	5,000
Estrella Parkway to Bullard Avenue	2	7,200
Bullard Avenue to Litchfield Road	2	7,200
Litchfield Road to Dysart Road	5	9,000
Dysart Road to El Mirage Road	5	8,200
El Mirage Road to 115th Avenue	5	8,200
115th Avenue to 107th Avenue	5	8,200
107th Avenue to 99th Avenue	4	8,200
99th Avenue to 91st Avenue	4	9,000
91st Avenue to 83rd Avenue	4	9,000
83rd Avenue to 75th Avenue	4	11,500

3.2.2 Unsignalized Intersections: Fifteen unsignalized intersections along the MC 85 corridor were analyzed for levels of service. Level of Service (LOS) A, which is the best level of service, requires an average total delay per vehicle of less than 5 seconds. All the intersections analyzed have average total delays considerably less than 5. The highest delays were in the AM and PM peak hours at the intersection of Miller Road (2.6 and 3.0 seconds, respectively), the PM peak at the intersection of Estrella Parkway (2.4 seconds) and the PM peak at the intersection of Baseline Road (2.1 seconds).

3.2.3 Signalized Intersections: Fourteen signalized intersections along the MC 85 corridor were analyzed for level of service. For LOS A, the average total delay per vehicle is less than 5 seconds, while LOS B, which still provides efficient traffic operation, the average total delay per vehicle is less than 15 and more than 5 seconds. Most of the intersections analyzed operate at a LOS B. The highest delays were in the AM and PM peak hours at the 83rd Avenue Intersection (7.2 and 9.2 seconds respectively), and the AM and PM peak hours at the 75th Avenue Intersection (7.3 and 8.0 seconds).

3.2.4 Two-Lane Highway Segments: The two-lane highway segments of the MC 85 corridor are located from SR 85 to Miller Road and from west of Jackrabbit Trail to Litchfield Road. These roadway segments generally operate at LOS A in the AM peak hour and LOS B in the PM peak hour.

ATTACHMENT C

**MC HIGHWAY 85
STATE ROUTE 85 AT OGLESBY TO 75TH AVENUE
FINAL CORRIDOR IMPROVEMENT STUDY**

SECTION 3 TRAFFIC AND ACCIDENT DATA



LINKS:
:vdf=15,55,10



WINDOW:
478996/ 842121
571760/ 911694
07-01-29 13:48
MODULE: 6.12
MAG.....k]

ENME/2 PROJECT: 2030KJ2030 Volumes on I303KJ2007/26/0112:20 PM
SCENARIO 7: 24-HR Hwy Assignment (validation)

5/1/2006	AVE	N	AVE	B	2076	600	193
6/15/2006	SARIVAL AVE	N	MC 85	B	1656	800	120
	SARIVAL AVE	S	MC 85	B	NC		
5/1/2006	SARIVAL AVE	N	OLIVE AVE	B	2170	600	288
	SARIVAL AVE / 163RD AVE	N	US 60	B	A		
	SARIVAL AVE	N	VAN BUREN ST	B	NC		
	SARIVAL AVE	N	YUMA RD	B	NC		
	SEVEN SPRINGS RD	N	BARTLETT DAM RD	B	A		
7/10/2006	SEVEN SPRINGS RD	S	CAVE CREEK RD	B	192	700	19
2/13/2006	SIGNAL BUTTE RD	N	BROADWAY RD	B	15627	1000	868
2/22/2006	SIGNAL BUTTE RD	N	BROWN RD	B	770	700	69
3/29/2006	SIGNAL BUTTE RD	N	OCOTILLO RD	B	3300	700	615
2/28/2006	SIGNAL BUTTE RD	N	UNIVERSITY DR	B	5298	700	396
2/28/2006	SIGNAL BUTTE RD	N	US 60	B	10081	800	624
10/31/2006	SISSION RD	E	363RD AVE	B	25	800	2
3/21/2006	SOSSAMAN RD	N	CHANDLER HEIGHTS RD	B	5328	700	408
	SOSSAMAN RD	N	ELLIOT RD	B	A		
3/21/2006	SOSSAMAN RD	N	OCOTILLO RD	B	6319	700	490
3/22/2006	SOSSAMAN RD	S	RIGGS RD	B	2912	600	201
5/23/2006	SOUTHERN AVE	E	35TH AVE	B	9573	700	542

For Average Daily Traffic counts for 2005-1999.



ATTACHMENT A

2006 ADT



Response: Per phone conversation with Lynn Rumble (Avondale Elementary School District Transportation Supervisor), there is one school bus that crosses the intersection twice daily.

CW 1.13 Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles, also how far away the hospitals are from the crossing.

Response: The main hospital in the area is West Valley Hospital located at 13677 W. McDowell Road, Goodyear, Arizona 85395, which is approximately 7.5 miles away from the intersection. Per a phone conversation with the hospital, we were advised that the emergency service vehicles select their route based on the shortest distance to their destination.

CW 1.14 Please provide total cost of the railroad improvements to each crossing.

Response: It is estimated that the cost for the railroad crossing improvements will be \$575,057.

CW 1.15 Provide any information as to whether vehicles carrying hazardous materials utilize this crossing and the number of times a day they might cross it.

Response: We are unable to provide specific traffic counts for vehicle carrying hazardous materials. Based on information from the Maricopa County department of Transportation, there are no restrictions on vehicles carrying hazardous materials on this roadway. Sarival Avenue is not registered in the National Hazardous Material Route Registry.

CW 1.16 Please provide the posted vehicular speed limit for the roadway.

Response: Posted speed is 45 mph.

CW 1.17 Do any buses (other than school buses) utilize the crossing, and how many times a day do they cross the crossing.

Response: Valley Metro does not have Sarival Avenue on its routes. The closest bus line route is along Litchfield Road, which is located approximately 4 miles east of the RR crossing.

CW 1.18 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: We were unable to get this information from the UPRR. As soon as this information becomes available, we will amend the response to this question.

CW 1.19 Please fill in the attached FHWA Grade Separation Guidelines Table, (from FHWA's 2007 revised second edition Railroad Highway Grade-Crossing



Response: Two design documents covering the crossing area were prepared for MCDOT and are listed below:

1. July 1998 *MC Highway 85, State Route 85 at Oglesby to 75th Avenue Final Corridor Improvement Study, Section 3 Traffic and Accident Data* prepared by Sverdrup Inc.
2. The July 2006 *Access Control And Corridor Improvements Study, MC 85 75th Ave to Turner Rd* prepared by DMJM Harris.

The traffic analysis sections from both reports are provided as Attachments C and D, respectively.

CW 1.4 Provide the population of the City the crossing is located in.

Response: From the City of Goodyear web site, the population in the City is 56,000. (See Attachment E).

CW 1.5 Provide what warning devices are currently installed at the crossing.

Response: The warning devices currently installed for northbound and southbound traffic include: gates with flashing lights and cantilever flashing railroad signals outside the roadway pavement; and railroad crossing warning signs.

CW 1.6 Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?

Response: Cotton Lane crossing is 1 mile to the west, and the Estrella Parkway crossing is 1 mile to the east. Both crossings are at-grade crossings.

CW 1.7 How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.

Response: No studies were performed to evaluate if an overpass was required. With the proposed improvements to the intersection of MC 85 and Sarival Avenue and the close proximity of the railroad crossing from the proposed intersection (approximately 200-ft north of MC 85) the location of the at-grade crossing remains unchanged. A grade separation would have the following undesirable consequences. 1) Access to existing businesses along Sarival Avenue would be severed for approximately 2,300-ft north of the railroad tracks; 2) Access to existing farm fields along MC 85 would be severed for approximately 4,600-ft along MC 85 (2,300-ft east and west of Sarival Avenue); 3) There are several existing utilities in Sarival Avenue that cannot support 30-ft of additional embankment needed for a grade-separated crossing; and 4) There is insufficient right-of-way to accommodate 30-ft high embankment slopes along Sarival Avenue and MC 85.

CW 1.8 If this crossing was grade separated, provide a cost estimate of the project.

Response: Our initial calculations yield a cost of \$20,000,000 to construct a grade separated crossing. The estimate includes the cost for a bridge over the UPRR tracks; the

COMMISSIONERS
MIKE GLEASON - Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE



ARIZONA CORPORATION COMMISSION

BRIAN C. MCNEIL
Executive Director

DAVID RABER
Director, Safety Division

Staff Memorandum

To: THE COMMISSION DOCKET NO. RR-03639A-08-0311

From: Safety Division

Date: August 11, 2008

RE: IN THE MATTER OF THE APPLICATION OF THE MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION TO UPGRADE AN EXISTING CROSSING OF THE UNION PACIFIC RAILROAD AT SARIVAL AVENUE IN THE CITY OF GOODYEAR, MARICOPA COUNTY, ARIZONA, AT AAR/DOT NO. 741-782-L.

Background

On June 19, 2008, the Maricopa County Department of Transportation ("MCDOT") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Union Pacific Railroad ("Railroad") to upgrade an existing crossing at the Railroad's tracks at Sarival Avenue, in the City of Goodyear, Maricopa County, Arizona at AAR/DOT No. 741-782-L. Commission Safety Division Staff ("Staff") issued data requests and those data requests and MCDOT's responses (without attachments), are included as attachments to this memorandum.

MCDOT's filing in this application requests approval for the Railroad to upgrade an existing crossing of the Union Pacific Railroad at Sarival Avenue. MCDOT is the controlling road authority for Sarival Avenue. Flashing lights and automatic gates were first put into service at this location by Commission Decision No. 50800 in 1980.

The following is a break down of the crossing in this application, including information about the crossing that was provided to Staff by the City and the Railroad.

Geographical Information

This railroad crossing is located at Sarival Avenue just north of Maricopa County Highway 85 ("MC 85") in Goodyear, Arizona (estimated population of 56,000 as of 2007). Sarival Avenue runs on a north-south trajectory with the rail line traversing Sarival Avenue on an east-west angle. For a map of the area, see Appendix A of this staff report.

The posted speed limit on Sarival Avenue is 45 MPH. Commission Rail Safety Section, as well as Federal Railroad Administration (“FRA”) accident/incident records indicate no train/vehicle accidents on Sarival Avenue.

Regarding alternative routes from this crossing, to the west approximately one mile is Cotton Lane and to the east approximately one mile is Estrella Parkway. Both crossings are at-grade crossings.

The estimated cost of the railroad crossing improvements is \$575,057. MCDOT and the City of Goodyear are sharing the cost of the crossing improvements.

Train Data

Data provided by the Railroad regarding train movements through this crossing are as follows:

Train Count: Average of 2-3 trains per day

Train Speed: 25 mph

Thru Freight/Switching Moves: There are thru train movements as well as switching movements at this crossing.

Schools and Bus Routes

Information about schools and school buses in the area was provided by MCDOT. There are ten schools near the Sarival Avenue crossing. The Sarival Avenue crossing is in the Avondale Elementary School District No. 44 and Agua Fria Union High School District. The following are the schools in the districts:

High Schools:

- ✓ Agua Fria Union High School, 750 East Riley Drive, Avondale 85323
- ✓ Estrella High School, 5100 N. Central Ave, Avondale, 85323

Elementary Schools:

- ✓ Centerra Mirage School , 15151 W Centerra Dr. South Goodyear, AZ 85338
- ✓ Desert Star School , 2131 South 157th Avenue Goodyear, AZ
- ✓ Desert Thunder School , 16750 W. Garfield Goodyear, AZ 85338
- ✓ Lattie Coor School , 1406 N. Central Avenue Avondale, AZ 85323
- ✓ Michael Anderson School, 45 S. 3rd Ave, Avondale, AZ 85323
- ✓ Wildflower School, 325 S. Wildflower Drive, Goodyear AZ 85338

With regard to grade separating Sarival Avenue, MCDOT gave the following response:

No studies were performed to evaluate if an overpass was required. With the proposed improvements to the intersection of MC 85 and Sarival Avenue and the close proximity of the railroad crossing from the proposed intersection (approximately 200-ft north of MC 85) the location of the at-grade crossing remains unchanged. A grade separation would have the following undesirable consequences:

- *Access to existing businesses along Sarival Avenue would be severed for approximately 2,300-ft north of the railroad tracks.*
- *Access to existing farm fields along MC 85 would be severed for approximately 4,600-ft along MC 85 (2,300-ft east and west of Sarival Avenue).*
- *There are several existing utilities in Sarival Avenue that cannot support 30-ft of additional embankment needed for a grade-separated crossing.*
- *There is insufficient right-of-way to accommodate 30-ft high embankment slopes along Sarival Avenue and MC 85.*

MCDOT's initial calculations yield a cost of \$20,000,000 to construct a grade separated crossing. The following are included in the cost for a bridge over the UPRR tracks;

- *The cost for retaining walls along the east and west legs of MC 85 and the north leg of Sarival Avenue in order to retain slopes within the existing right of way.*
- *The cost for new right of way along the south leg of Sarival Avenue as the County does not have any existing right of way along the south leg of Sarival Avenue.*
- *The cost to reconstruct Sarival Avenue as needed due to the bridge construction.*

FHWA GUIDELINES

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:

		Sarival Ave.
The highway is a part of the designated Interstate	Crossing Currently meets the criteria	NO

Staff Conclusions

Having reviewed all applicable data, Staff supports MCDOT's application. Staff believes that the upgrades are in the public interest and are reasonable. Therefore, Staff recommends approval of this application.

Dave Raber
Director
Safety Division

Brian H. Lehman
Railroad Supervisor
Safety Division

ACC Staff's Data Request

What these questions are generally about:

- Within approximately two weeks, you will receive by both e-mail and hard mail, an ACC Rail Safety Staff set of Data Requests to include but not limited to:
 - Average Daily Traffic Counts
 - Number and type of train movements per day along with the speed of the trains
 - *Federal Railroad Administration Safety Analysis reference link*
 - Completed traffic studies, including traffic projections and any Design Concept Reports (DCRs)

- A response to these Data Request questions must be completed within ten (10) calendar days. If you require additional time, send the ACC contacts both an e-mail and hard copy of your need for the additional time.
 - *Sample #7*

- **All evidence to support your answers must be included with your response.** Provide **one** hard copy, as well as searchable PDF, DOC or EXCEL files (via e-mail or electronic media), of the requested data directly to each of the following addressees via overnight delivery services:
 - Chris Watson**, Railroad Safety, Arizona Corporation Commission, 2200 N. Central Ave, Suite 300, Phoenix, Arizona 85004

 - Charles H. Hains**, Attorney, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007
 - *Sample #8*

Staff's Memorandum:

- This will be sent to you and to the Administrative Law Judge prior to the ACC ALJ Hearing
 - *Sample #9*

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF
THE MARICOPA COUNTY DEPARTMENT
OF TRANSPORTATION TO UPGRADE A
CROSSING OF THE UNION PACIFIC
RAILROAD AT QUEEN CREEK ROAD IN
MARICOPA COUNTY, ARIZONA, AAR/DOT
NO. 741-678-S.

DOCKET NO. RR-03639A-08-0066

PROCEDURAL ORDER

BY THE COMMISSION:

On February 4, 2008, the Maricopa County Department of Transportation ("MCDOT") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Union Pacific Railroad ("Railroad") to upgrade an existing crossing at Queen Creek Road in Maricopa County, Arizona at AAR/DOT No. 741-678-S.

Pursuant to A.A.C. R14-3-101, the Commission now issues this Procedural Order to govern the preparation and conduct of this proceeding.

IT IS THEREFORE ORDERED that the request of the Maricopa County Department of Transportation shall be considered an application for the Railroad to upgrade an existing crossing pursuant to A.R.S. § 40-337, *et seq.*

IT IS FURTHER ORDERED that the Railroad shall be considered as the Respondent in this proceeding.

IT IS FURTHER ORDERED that the hearing on the application shall be held on April 22, 2008, at 9:30 a.m., or as soon thereafter as is practical, at the Commission's offices, 1200 West Washington Street, Hearing Room 1, Phoenix, Arizona.

IT IS FURTHER ORDERED that within five business days of receipt of this Procedural Order, the MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION SHALL PROVIDE THE RAILROAD AND ANY MUNICIPALITY OR INTERESTED PARTY that

SAMPLE 10

1 may be affected by the application with a copy of the application and this Procedural Order by
2 certified mail.

3 IT IS FURTHER ORDERED that the Commission's Railroad Safety Section ("Staff") shall
4 prepare a written **Staff Report and associated exhibits** to be presented at hearing and file copies of
5 them with Docket Control on or before 4:00 p.m. on **March 28, 2008**.

6 IT IS FURTHER ORDERED that any **objections to the Staff Report and associated**
7 **exhibits** shall be reduced to writing and filed with Docket Control on or before 4:00 p.m. on **April**
8 **10, 2008**.

9 IT IS FURTHER ORDERED that **intervention** shall be in accordance with A.A.C. R14-3-
10 105, except that all motions to intervene must be filed on or before **April 11, 2008**.

11 IT IS FURTHER ORDERED that the **Maricopa County Department of Transportation**
12 shall provide **public notice** of the hearing in this matter, in the following form and style:

13 **IN THE MATTER OF THE APPLICATION OF THE MARICOPA COUNTY**
14 **DEPARTMENT OF TRANSPORTATION TO UPGRADE A CROSSING OF**
15 **THE UNION PACIFIC RAILROAD AT QUEEN CREEK ROAD IN**
16 **MARICOPA COUNTY, ARIZONA, AAR/DOT NO. 741-678-S.**
17 **(DOCKET NO. 03639A-08-0066)**

18 On February 4, 2008, the Maricopa County Department of Transportation
19 ("MCDOT") filed with the Arizona Corporation Commission ("Commission") an
20 application for approval for the Union Pacific Railroad ("Railroad") to upgrade an
21 existing crossing at Queen Creek Road in Maricopa County, Arizona at AAR/DOT
22 No. 741-678-S.

23 The application is available for inspection during regular business hours at the offices
24 of the Commission in Phoenix, at 1200 West Washington Street, Phoenix, Arizona,
25 and on the internet via the Commission website (www.azcc.gov) using the e-docket
26 function.

27 The Commission will hold a hearing on this matter commencing on **April 22, 2008,**
28 **at 9:30 a.m.,** at the Commission's offices, 1200 West Washington Street, Phoenix,
Arizona. Public comments will be taken on the first day of the hearing.

The law provides for an open public hearing at which, under appropriate
circumstances, interested parties may intervene. Intervention shall be permitted to
any person entitled by law to intervene and having a direct and substantial interest in
the matter. Persons desiring to intervene must file a written motion to intervene with
the Commission, which motion should be sent to Applicant or its counsel and to all
parties of record, and which, at the minimum, shall contain the following:

1. The name, address, and telephone number of the proposed intervener and of
any party upon whom service of documents is to be made if different than the

1 intervener.

- 2 2. A short statement of the proposed intervener's interest in the proceeding (e.g.,
- 3 a customer of Railroad, a neighboring property owner, a crossing user, etc.).
- 4 3. A statement certifying that a copy of the motion to intervene has been mailed
- to the Applicant or its counsel and to all parties of record in the case.

5 The granting of motions to intervene shall be governed by A.A.C. R14-3-105, except

6 that all motions to intervene must be filed on or before April 11, 2008. The granting

7 of intervention, among other things, entitles a party to present sworn evidence at

8 hearing and to cross-examine other witnesses. However, failure to intervene will not

9 preclude any customer from appearing at the hearing and making a statement on

10 such customer's own behalf.

11 If you have any questions about this application, you may contact the applicant at

12 [insert telephone number]. If you wish to file written comments on the application

13 or want further information on intervention, you may write the Consumer Services

14 Section of the Commission at 1200 West Washington Street, Phoenix, Arizona

15 85007 or call 1-800-222-7000 or appear at the hearing and make comment.

16 The Commission does not discriminate on the basis of disability in admission to its

17 public meetings. Persons with a disability may request a reasonable accommodation

18 such as a sign language interpreter, as well as request this document in an alternative

19 format, by contacting Linda Hogan, ADA Coordinator, voice phone number (602) 42-

20 3931, E-mail lhogan@azcc.gov. Requests should be made as early as possible to

21 allow time to arrange the accommodation.

22 **IT IS FURTHER ORDERED that the Maricopa County Department of Transportation**

23 **shall cause the above notice to be published at least once in a newspaper of general circulation in the**

24 **city/county where the crossing is located, with publication to be completed no later than March**

25 **21, 2008.**

26 IT IS FURTHER ORDERED that notice shall be deemed complete upon the

27 mailing/publication of same, notwithstanding the failure of an individual or entity to read or receive

28 the notice.

 IT IS FURTHER ORDERED that the MARICOPA COUNTY DEPARTMENT OF

TRANSPORTATION SHALL FILE CERTIFICATION OF NOTICE WITH THE

COMMISSION'S DOCKET CONTROL AS SOON AS PRACTICABLE after the

mailing/publication of notice ordered herein has been completed.

26 ...

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28 ...

1 IT IS FURTHER ORDERED that the presiding Administrative Law Judge may rescind, alter,
2 amend, or waive any portion of this Procedural Order either by subsequent Procedural Order or by
3 ruling at hearing.

4 DATED this 22nd day of February, 2008.

6
7 
8 MARC E. STERN
9 ADMINISTRATIVE LAW JUDGE

10
11 Copies of the foregoing mailed/delivered
12 this 22nd day of February, 2008 to:

13 James H. Smith
14 UNION PACIFIC RAILROAD COMPANY
15 10031 Foothills Boulevard
16 Roseville, California 95747

Brian Lehman, Chief
Railroad Safety Section of the Safety Division
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

16 Kelly L. Roy, Utility Coordinator
17 MARICOPA COUNTY
18 2901 West Durango Street
19 Phoenix, Arizona 85009-6357

ARIZONA REPORTING SERVICE, INC.
2200 North Central Street, Suite 502
Phoenix, Arizona 85004-1481

20 John Syers
21 Railroad Engineering Coordinator
22 ARIZONA DEPARTMENT OF
23 TRANSPORTATION
24 205 South 17th Avenue, M/D 618E
25 Phoenix, Arizona 85007

26 Dick Schaner
27 Special Transportation Project Manager
28 TOWN OF QUEEN CREEK
22350 South Ellsworth Road
Queen Creek, Arizona 85242

Christopher Kempley, Chief Counsel
Legal Division
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

By: 
Debra Broyles
Secretary to Marc Stern

1 IT IS FURTHER ORDERED that the presiding Administrative Law Judge may rescind, alter,
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3 ruling at hearing.

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1200 West Washington Street
Phoenix, Arizona 85007

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25 22350 South Ellsworth Road
26 Queen Creek, Arizona 85242

26 Christopher Kempley, Chief Counsel
27 Legal Division
28 ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

By: 
Debra Broyles
Secretary to Marc Stern

1 intervener.

- 2 2. A short statement of the proposed intervener's interest in the proceeding (e.g.,
3 a customer of Railroad, a neighboring property owner, a crossing user, etc.).
- 4 3. A statement certifying that a copy of the motion to intervene has been mailed
5 to the Applicant or its counsel and to all parties of record in the case.

6 The granting of motions to intervene shall be governed by A.A.C. R14-3-105, except
7 that all motions to intervene must be filed on or before April 11, 2008. The granting
8 of intervention, among other things, entitles a party to present sworn evidence at
9 hearing and to cross-examine other witnesses. However, failure to intervene will not
10 preclude any customer from appearing at the hearing and making a statement on
11 such customer's own behalf.

12 If you have any questions about this application, you may contact the applicant at
13 [insert telephone number]. If you wish to file written comments on the application
14 or want further information on intervention, you may write the Consumer Services
15 Section of the Commission at 1200 West Washington Street, Phoenix, Arizona
16 85007 or call 1-800-222-7000 or appear at the hearing and make comment.

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19 such as a sign language interpreter, as well as request this document in an alternative
20 format, by contacting Linda Hogan, ADA Coordinator, voice phone number (602) 42-
21 3931, E-mail lhogan@azcc.gov. Requests should be made as early as possible to
22 allow time to arrange the accommodation.

23 **IT IS FURTHER ORDERED that the Maricopa County Department of Transportation**
24 **shall cause the above notice to be published at least once in a newspaper of general circulation in the**
25 **city/county where the crossing is located, with publication to be completed no later than March**
26 **21, 2008.**

27 **IT IS FURTHER ORDERED that notice shall be deemed complete upon the**
28 **mailing/publication of same, notwithstanding the failure of an individual or entity to read or receive**
29 **the notice.**

30 **IT IS FURTHER ORDERED that the MARICOPA COUNTY DEPARTMENT OF**
31 **TRANSPORTATION SHALL FILE CERTIFICATION OF NOTICE WITH THE**
32 **COMMISSION'S DOCKET CONTROL AS SOON AS PRACTICABLE after the**
33 **mailing/publication of notice ordered herein has been completed.**

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1 may be affected by the application with a copy of the application and this Procedural Order by
2 certified mail.

3 IT IS FURTHER ORDERED that the Commission's Railroad Safety Section ("Staff") shall
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5 them with Docket Control on or before 4:00 p.m. on **March 28, 2008**.

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7 **exhibits** shall be reduced to writing and filed with Docket Control on or before 4:00 p.m. on **April**
8 **10, 2008**.

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13 **IN THE MATTER OF THE APPLICATION OF THE MARICOPA COUNTY**
14 **DEPARTMENT OF TRANSPORTATION TO UPGRADE A CROSSING OF**
15 **THE UNION PACIFIC RAILROAD AT QUEEN CREEK ROAD IN**
16 **MARICOPA COUNTY, ARIZONA, AAR/DOT NO. 741-678-S.**
(DOCKET NO. 03639A-08-0066)

17 On February 4, 2008, the Maricopa County Department of Transportation
18 ("MCDOT") filed with the Arizona Corporation Commission ("Commission") an
19 application for approval for the Union Pacific Railroad ("Railroad") to upgrade an
20 existing crossing at Queen Creek Road in Maricopa County, Arizona at AAR/DOT
21 No. 741-678-S.

22 The application is available for inspection during regular business hours at the offices
23 of the Commission in Phoenix, at 1200 West Washington Street, Phoenix, Arizona,
24 and on the internet via the Commission website (www.azcc.gov) using the e-docket
25 function.

26 The Commission will hold a hearing on this matter commencing on **April 22, 2008**,
27 at **9:30 a.m.**, at the Commission's offices, 1200 West Washington Street, Phoenix,
28 Arizona. Public comments will be taken on the first day of the hearing.

The law provides for an open public hearing at which, under appropriate
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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

IN THE MATTER OF THE APPLICATION OF
THE MARICOPA COUNTY DEPARTMENT
OF TRANSPORTATION TO UPGRADE A
CROSSING OF THE UNION PACIFIC
RAILROAD AT QUEEN CREEK ROAD IN
MARICOPA COUNTY, ARIZONA, AAR/DOT
NO. 741-678-S.

DOCKET NO. RR-03639A-08-0066

PROCEDURAL ORDER

BY THE COMMISSION:

On February 4, 2008, the Maricopa County Department of Transportation ("MCDOT") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Union Pacific Railroad ("Railroad") to upgrade an existing crossing at Queen Creek Road in Maricopa County, Arizona at AAR/DOT No. 741-678-S.

Pursuant to A.A.C. R14-3-101, the Commission now issues this Procedural Order to govern the preparation and conduct of this proceeding.

IT IS THEREFORE ORDERED that the request of the Maricopa County Department of Transportation shall be considered an application for the Railroad to upgrade an existing crossing pursuant to A.R.S. § 40-337, et seq.

IT IS FURTHER ORDERED that the Railroad shall be considered as the Respondent in this proceeding.

IT IS FURTHER ORDERED that the hearing on the application shall be held on April 22, 2008, at 9:30 a.m., or as soon thereafter as is practical, at the Commission's offices, 1200 West Washington Street, Hearing Room 1, Phoenix, Arizona.

IT IS FURTHER ORDERED that within five business days of receipt of this Procedural Order, the MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION SHALL PROVIDE THE RAILROAD AND ANY MUNICIPALITY OR INTERESTED PARTY that

SAMPLE # 10

A. Signature
Mauri Ramerz Agent Addressee

B. Received by (Printed Name) Date of Delivery
 JUL 21 2008

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

1. Article Addressed to:
 Janice Alward - ACC
 1200 W. Washington St.
 Phoenix, AZ 85007

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5937

PS Form 3811, February 2004

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 JOHN SYERS
 Railroad Engineering
 Coordinator ADOT
 205 S. 17th Ave. M/D 618E
 Phoenix, AZ 85007

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5753

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-1

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent Addressee

B. Received by (Printed Name) **C. Date of Delivery**
 JUL 21 2008

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 David Ramierz
 City of Goodyear
 195 N. 145th Ave., Bld D
 Goodyear, AZ 85338

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5760

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-1

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent Addressee

B. Received by (Printed Name) **C. Date of Delivery**
 John Berry

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Brian Lehman - ACC
 1200 W. Washington St.
 Phoenix, AZ 85007

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5944

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-1

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent Addressee

B. Received by (Printed Name) **C. Date of Delivery**
 Mauri Ramerz JUL 21 2008

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SAMPLE #11

1. Article Addressed to:

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature: *Rachael Betzale*

B. Received by (Printed Name): *Rachael Betzale*

C. Date of Delivery: *7/19/08*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes No

1. Article Addressed to:

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature: *[Signature]*

B. Received by (Printed Name): *[Signature]*

C. Date of Delivery: *7/19/08*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes No

1. Article Addressed to:

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature: *[Signature]*

B. Received by (Printed Name): *[Signature]*

C. Date of Delivery: *7/19/08*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes No

1. Article Addressed to:

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature: *[Signature]*

B. Received by (Printed Name): *[Signature]*

C. Date of Delivery: *7/19/08*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes No

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Sami Ayoub
2901 W. Durango St.
Phoenix, AZ 85009

2. Article Number (Transfer from service label): **7007 2680 0002 9601 5814**

PS Form 3811, February 2004 Domestic Return Receipt 102595-02

COMPLETE THIS SECTION ON DELIVERY

A. Signature: *X Charles Tusch* Age Add

B. Received by (Printed Name): *Charles Tusch* Date of Delivery: *JUL 22 2008*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

NOTIFY SENDER OF NEW ADDRESS
RUSSELL AD DEVELOPMENT
PO BOX 18
SCOTTSDALE AZ 85255-0150
*BC: 85255015316 *1614-17572-18-41*

2. Article Number (Transfer from service label): **7007 2680 0002 9601 5821**

PS Form 3811, February 2004 Domestic Return Receipt 102595-02

COMPLETE THIS SECTION ON DELIVERY

A. Signature: *X Janet Stewart* Age Add

B. Received by (Printed Name): *JANET STEWART* Date of Delivery: *JUL 22 2008*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ben-Horin Giora TR
3200 E. Camelback Ste 130
Phoenix Az 85018

2. Article Number (Transfer from service label): **7007 2680 0002 9601 5845**

PS Form 3811, February 2004 Domestic Return Receipt 102595-02

COMPLETE THIS SECTION ON DELIVERY

A. Signature: *X Mike Bentham* Age Add

B. Received by (Printed Name): *Mike Bentham* Date of Delivery: *7/21/08*

D. Is delivery address different from item 1? Yes No

If YES, enter delivery address below:

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

9-11

Item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:
 212 AMAN - UPRR
 301 E. HARRISON ST.
 PHOENIX, AZ. 85034-2936

Agent
 Addressee
 B. Received by (Printed Name)
 Ann's Butcher 7-21-08
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

1. Article Addressed to:
 Regency Place LLC
 Insight Holdings LLC / etal
 2200 Paseo Verde Pkwy Ste 330
 Henderson, NV 89052

3. Service Type
 Certified Mail
 Registered
 Insured Mail
 Express Mail
 Return Receipt for Merchandise
 C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5746
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:
 WR Meadows of Az, Inc.
 PO Box 338
 Hampshire, IL 60140

Agent
 Addressee
 B. Received by (Printed Name)
 Lisa DeBede 7/21
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail
 Registered
 Insured Mail
 Express Mail
 Return Receipt for Merchandise
 C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5838
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Adrian M. Gough, Esq
 Deputy County Attorney
 222 N. Central Ave,
 Suite 1100
 Phoenix, AZ 85004

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5968
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 X Holly Carlson

B. Received by (Printed Name)
 Holly Carlson

C. Date of Delivery
 7-21-08

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail
 Registered
 Insured Mail
 Express Mail
 Return Receipt for Merchandise
 C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Az. Reporting Services Inc.
 2200 N. Central St.
 Suite 502
 Phoenix, AZ 85004-1481

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5951
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 Marta Hetzer

B. Received by (Printed Name)
 MARTA HETZER

C. Date of Delivery
 7-21-08

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail
 Registered
 Insured Mail
 Express Mail
 Return Receipt for Merchandise
 C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 WR Meadows of Az, Inc.
 PO Box 338
 Hampshire, IL 60140

2. Article Number (Transfer from service label)
 7007 2680 0002 9601 5791
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 X John S. Dearden

B. Received by (Printed Name)
 John S. Dearden

C. Date of Delivery
 7-21-08

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail
 Registered
 Insured Mail
 Express Mail
 Return Receipt for Merchandise
 C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

5-11

IN THE MATTER OF THE APPLICATION OF THE MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION TO UPGRADE A CROSSING OF THE UNION PACIFIC RAILROAD AT SARIVAL AVENUE IN MARICOPA COUNTY, ARIZONA, AAR/DOOT No. 741-782-1 (DOCKET NO. 03639A-08-0311)

On June 11, 2008, the Maricopa County Department of Transportation ("MCDOT") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Union Pacific Railroad ("Railroad") to upgrade an existing crossing at Sarival Avenue in Maricopa County, Arizona at AAR/DOOT No. 741-782-1.

The application is available for inspection during regular business hours at the offices of the Commission in Phoenix, at 1200 West Washington Street, Phoenix, Arizona, and on the internet via the Commission website (www.azcc.gov) using the e-docket function.

The Commission will hold a hearing on this matter commencing on August 28, 2008, at 10:00 a.m., at the Commission's offices, 1200 West Washington Street, Phoenix, Arizona. Public comments will be taken on the first day of the hearing.

The law provides for an open public hearing at which, under appropriate circumstances, interested parties may intervene. Intervention shall be permitted to any person entitled by law to intervene and having a direct and substantial interest in the matter. Persons desiring to intervene must file a written motion to intervene with the Commission, which motion should be sent to applicant or its counsel and to all parties of record, and which, at the minimum, shall contain the following:

1. The name, address and telephone number of the proposed intervenor, and of any party upon whom service of documents is to be made if different than the intervenor.

2. A short statement of the proposed intervenor's interest in the proceeding (e.g., a customer of Railroad, a neighboring property owner, a crossing user, etc.).

3. A statement certifying that a copy of the motion to intervene has been mailed to the Applicant or its counsel and to all parties of record in the case. The granting of motions to intervene shall be governed by A.A.C. R14-3-105, except that all motions to intervene must be filed on or before August 8, 2008. The granting of intervention, among other things, entitles a party to present sworn evidence at hearing and to cross-examine other witnesses. However, failure to intervene will not preclude any customer from appearing at the hearing and making a statement on such customer's own behalf.

If you have any questions about this application, you may contact the applicant at 602-516-5992. If you wish to file written comments on the application or want further information on intervention, you may write the Consumer Services Section of the Commission at 1200 West Washington Street, Phoenix, Arizona 85007 or call 1-800-722-7000 or appear at the hearing and make comment.

The Commission does not discriminate on the basis of disability in admission to its public meetings. Persons with a disability may request a reasonable accommodation such as a sign language interpreter, as well as request this document in an alternative format, by contacting Linda Hagan, ADA Coordinator, voice phone number (602) 422-3931, E-mail lthagan@azcc.gov. Requests should be made as early as possible to allow time to arrange the accommodation. Published: July 24, 2008

Arizona Business Gazette

The business resource

PO BOX 194
Phoenix, Arizona 85001-0194
(602) 444-7315 FAX (602) 444-7364

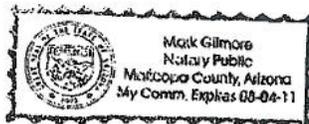
STATE OF ARIZONA
COUNTY OF MARICOPA

} SS.

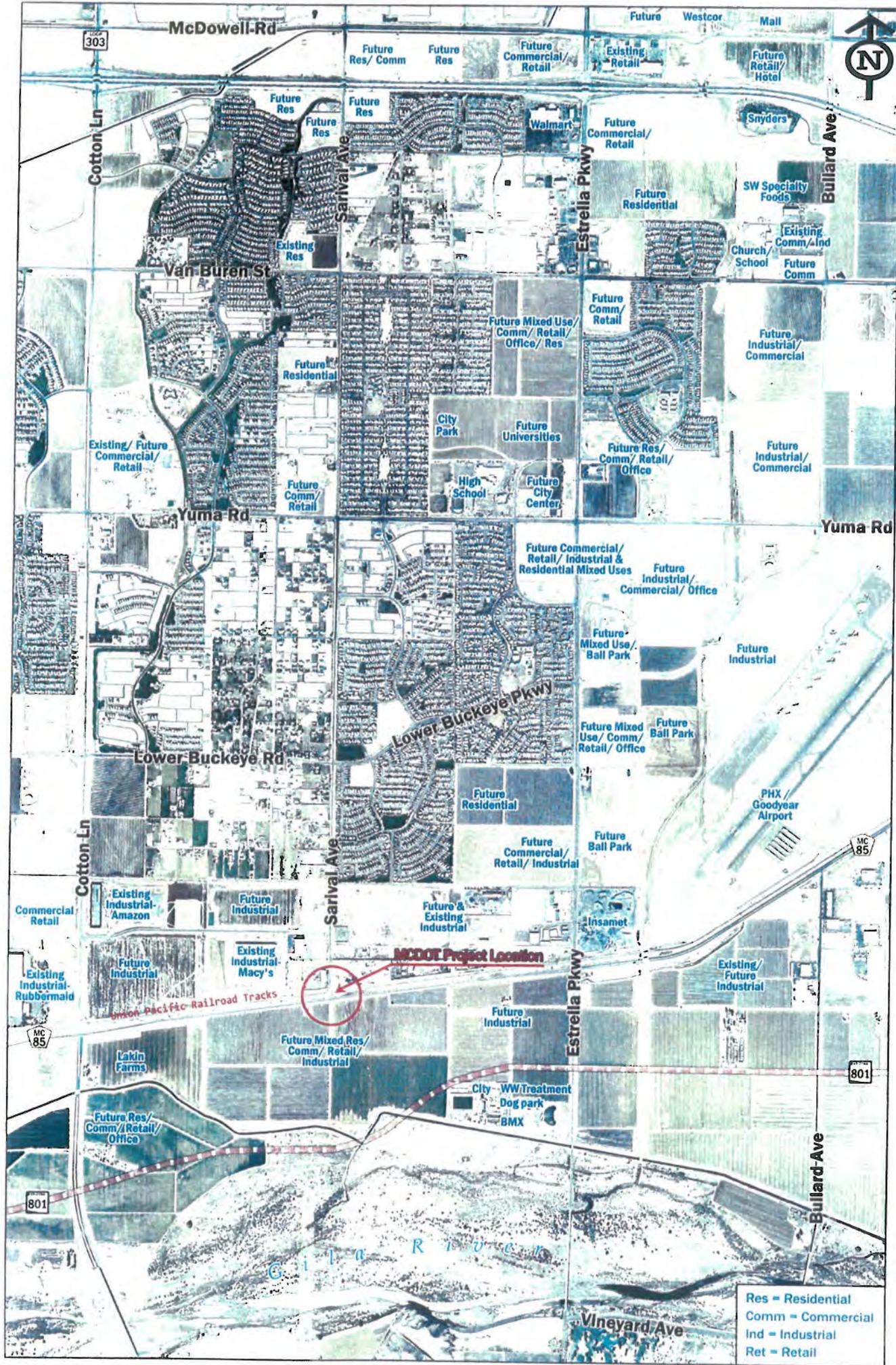
Ed Carlise, being first duly sworn, upon oath deposes and says: That of the Arizona Business Gazette, a newspaper of general circulation in the county of Maricopa, State of Arizona, published weekly at Phoenix, Arizona, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates indicated.

7/24/2008

Sworn to before me this
22ND day of
AUGUST 2008

Notary Public

SAMPLE # 12



Res = Residential
 Comm = Commercial
 Ind = Industrial
 Ret = Retail

ACC Administrative Law Judge Order & Hearing

The Procedural Order:

- The now Docketed application will also be scheduled for hearing by an Administrative Law Judge (ALJ). A Procedural Order will be issued by the ALJ with instructions to be followed. **Failure to follow the Procedural Order may result in delaying the hearing process.**
- *Sample #10*

Follow all Orders accordingly:

- It will be Ordered that within 5 business days of receipt of the Procedural Order that the Applicant SHALL provide the Railroad and any municipality or interested party that they may be affected by the application with a copy of the Application and the Procedural Order by certified mail. (This includes but is not limited to adjacent property owners, schools, hospitals, fire stations etc.)
- *Sample #11*
- Another important Order to note, states the Applicant SHALL provide public notice of the hearing in this matter, in the following form and style:....
- *Sample #12*
- **Thirteen (13)** copies of the followed Procedural Order along with copies of the required certified receipts and an Affidavit of publication must be submitted to:
 - **Chris Watson**, Railroad Safety, Arizona Corporation Commission, 2200 N. Central Ave, Suite 300, Phoenix, Arizona 85004
 - **Charles H. Hains**, Attorney, Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007

Who needs to attend the ALJ Hearing:

- As this is a formal legal hearing in front of a judge, the Applicant and legal counsel **MUST** both attend the hearing.
- It is essential also that the consultant engineer, municipal engineers and/or anyone else who participated in the gathering of information regarding the project and providing the answers to the ACC Staff's Data Requests attend this hearing.

How to prepare for the Hearing:

- At least two weeks prior to the hearing date, gather the people most familiar with the project and/or the area **and** your legal counsel.
 - Go over the questions and the responses you gave to the ACC Staff's Data Request
 - Determine who will speak on the different topics. (For example, the City Engineer regarding zoning in the City, the Consultant engineer regarding the results of the traffic impact study etc...)
 - Prepare a poster size expanded areal view of the crossing and label the surrounding area to use in court (Your Counsel should have an 8 ½" x 11" copy of the same areal to enter into court as an exhibit)
 - *Sample 12-A*
 - The Court will need copies of anything you use as evidence.
 - Wear appropriate business attire
 - Communicate with the ACC Staff. If you have questions on the application or hearing process please call Chris Watson or Brian H. Lehman at (602-262-5601)

Timing:

- At the conclusion of the hearing process a recommended Opinion and Order from the ALJ will be issued. The hearing before the Commission is set 1-2 months after the ALJ hearing.

Opinion and Order of Application

What kind of Hearing is this:

- This is a public hearing, not a formal hearing, in front of the Arizona Corporation Commissioners
- **Both the Applicant and Legal Counsel must attend**
- In the event the Commission has a specific question it is advisable to have the person most familiar with the scope of the project there as well

Final ACC Approval or Rejection

Timing:

- A decision will be mailed to the Applicant approximately 2 weeks after a decision has been formally entered and documented.
- The entire ACC process normally takes 90-120 days, depending on hearing and open meeting calendars.
- Note the Opinion and Order may contain a time limit for when the work must be completed by. If the project requires extra time, contact the ACC staff for an extension.

Encroachment, Right of Entry and Temporary Occupancy

UPRR's permitting process categorizes the various types of work to be done in their Right-of-Way and thus, have a variety of procedural outlines and application forms. Please see the link below for complete instruction, all necessary application forms and any applicable specifications.

<http://www.uprr.com/reus/index.shtml>

BNSF Railway has a similar permitting process of that of the UPRR, however, they have a third party Licensing Agent, Jones Lang LaSalle.

For any work that an agency will be performing (for survey work, geo-technical, field shots, boring, etc) will need a "Temporary Occupancy Permit". The permit will include the necessary requirements regarding insurance, flagman, safety, etc.

Please use the link below to be taken to the BNSF Property Permits and Licenses web page. You will find the "Temporary Occupancy" application along with others applications listed on that page. This application will be processed through BNSF Railway's Licensing Agent, Jones Lang LaSalle (formally, Staubach Global Services).

A review of your project by the BNSF Railway's Project Engineer in Albuquerque, NM will be requested by Jones Lang LaSalle, if necessary.

<http://www.bnsf.com/markets/services/realestate/permitslicenses.html>

**ARIZONA CORPORATION
COMMISSION**

Railroad Safety
2200 N. Central Ave, Suite 300
Phoenix, AZ 85004
(602) 262-5601

<http://www.cc.state.az.us/>

ARIZONA & CALIFORNIA RAILWAY

Arizona & California Railroad
1301 California Avenue
P.O. Box 3340
Parker, AZ 85344 USA

Phone: 928-669-6662

Tanya Cecil, General Manager

[www.railamerica.com/ShippingServices/
RailServices/ARZC.aspx](http://www.railamerica.com/ShippingServices/RailServices/ARZC.aspx)

**ARIZONA DOT UTILITY & RAILROAD
SECTION**

Railroad Liaison
Arizona DOT
205 S 17th Avenue, MD 618E
Phoenix, AZ 85007
(602) 712-6193

[http://www.azdot.gov/Highways/Utilities/i
ndex.asp](http://www.azdot.gov/Highways/Utilities/index.asp)

**BURLINGTON NORTHERN SANTE FE
RAILWAY**

Manager of Public Projects
Burlington Northern Santa Fe Railway
740 East Carnegie Drive
San Bernardino, CA 92408
909-386-4472

BNSF general website

<http://www.bnsf.com/>

BNSF Real Estate Section

**Website link - Guide for
accommodating Utilities**

[http://www.bnsf.com/markets/services/re
alestate/pdf/utility.pdf](http://www.bnsf.com/markets/services/realestate/pdf/utility.pdf)

**BNSF Website link - Applying for
permits for right of entry, utility
installation, etc.**

[http://www.bnsf.com/markets/services/re
alestate/permitslicenses.html](http://www.bnsf.com/markets/services/realestate/permitslicenses.html)

**FEDERAL RAILROAD
ADMINISTRATION**

**Website link-Office of Safety
Analysis**

[http://safetydata.fra.dot.gov/officeofsafet
y/publicsite/crossing/crossing.aspx](http://safetydata.fra.dot.gov/officeofsafety/publicsite/crossing/crossing.aspx)

UNION PACIFIC RAILROAD

Alexander Popovici
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(928) 373-8842
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Union Pacific Website

<http://www.up.com/>

For Guidelines & Specifications visit
[www.uprr.com/aboutup/operations/spec
s/index.shtml](http://www.uprr.com/aboutup/operations/specs/index.shtml)

**For Utility Exhibits and Guidelines
visit**

www.uprr.com/reus/pipeline/index.shtml

UPRR Real Estate Section

<http://www.uprr.com/reus/index.shtml>

The Manual Website

www.mcdot.maricopa.gov/manuals/

**The American Railway Engineering
and Maintenance-of-Way Association**

<http://www.arema.org/eseries/scriptcontent/index.cfm>