SR 30: Tres Rios

Contract Number 2024-018.01: 97th Ave – 71st Ave New Freeway
Contract Number 2024-018.02: 71st Ave – SR 202L South Mountain New Freeway and System Interchange

Arizona Department of Transportation | Engineering Consultants Section
205 South 17th Avenue, Mail Drop 616E
Phoenix, Arizona 85007

Dear Selection Panel Members:

Since 2000, the population of Phoenix has grown more than 22% and Avondale has tripled. Goodyear and Buckeye have both joined the list of the top 10 fastest growing cities with populations greater than 50,000. The West Valley's success and growth has led to heavy traffic, delays, and safety issues on I-10. Two SR 30 projects from 97th Avenue to SR 202L South Mountain Freeway (SMF) will begin final design of the Valley's newest freeway, better connecting communities between SR 202L and SR 303L and providing a much-needed reliever route for I-10.

WSP provides ADOT with proven experience completing final design of new freeways and system interchanges. We have united with Kimley-Horn & Associates (KHA) and other subconsultants to provide ADOT a solution-driven and critical-path-focused partner that can deliver the SR 30 projects. WSP and KHA have completed some of ADOT's largest, most challenging projects, including SR 202L SMF, the SR 101L/SR 202L System Interchange (which also sits adjacent to the Salt River), and I-10, SR 85 to Verrado Way Improvements. Together, we provide the depth of knowledge and experience necessary to successfully manage this project and coordinate with stakeholders, while developing a design that will save ADOT money today, as well as in the future when it's time to build SR 30's ultimate improvements.

Our team is focused on supporting ADOT with design solutions that optimize operations and maximize value. We've developed an alternative interim SR 30/SR 202L system interchange configuration that improves LOS F performance for 2033 and eliminates throwaway improvements. We've also identified an additional $60+ million in project-wide savings.

Greg Fly led our design team on the connnecting SMF project and will be our project manager (PM) for SR 30 as well. He brings 20 years of experience managing high-profile urban freeway projects with sensitive stakeholder issues, leading WSP's Arizona design-build projects, and supporting our value engineering (VE) efforts. To position Greg, our team, and ADOT to succeed on this project, we've identified two segment leads to manage design. Jessica Fly (WSP) and David Rutkowski (KHA) will focus on the SR 30/System Interchange and SR 202L areas, respectively. Similar to Greg, each of them has more than two decades of design experience in leadership roles on ADOT freeways throughout the Valley. With careful consideration of specific SR 30 needs and opportunities, we also selected reliable discipline leads Jason Carlaftes (Structures), Greg Bambauer (Drainage), Sandy Thoms (Traffic Analysis), John Kissinger (Traffic), and Jennifer Simpkins (Environmental).

WSP is very interested in being selected to support ADOT in delivering the SR 30 projects. I, Joy Melita, AZ PE #31131, confirm that our key personnel are committed to meeting or exceeding all quality and schedule expectations. While WSP is not a certified DBE and these projects are designated Race Neutral with a 0% DBE goal, we are dedicated to assisting ADOT in reaching its overall goal through significant and meaningful inclusion of DBE subconsultants. If you have any questions or require additional information related to our proposal, please contact me at 480-921-6875 or joy.melita@wsp.com.

Sincerely,
WSP USA Inc.

Joy Melita, AZ PE #31131
Senior Vice President, Project Principal
Authorized Representative

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Engage Stakeholders/Public | **Refine** Ultimate TI | **Select** Interim TI | **Deliver** PS&E

Engage. Our team's experience leading projects in this corridor, including SR 202L SMF, is a powerful base of knowledge when paired with our award-winning stakeholder engagement and public involvement team who have demonstrated their value through the exceptionally well-received work on I-10 Broadway Curve. Through thoughtful engagement, we will build the consensus among key stakeholders and provide the public outreach needed to make this project a success in everyone's eyes.

Refine. To optimize the interim design, the ultimate will need to be better defined. Our team brings extensive system interchange design experience. In addition to Greg Fly, our PM, we've included experienced leads at the segment and discipline level, each with more than two decades of experience on complex freeway designs with ADOT. Jessica Fly and David Rutkowski will oversee the SR 30/System Interchange and SR 202L SMF design segments of the project.

Select. Our design for SR 202L SMF saved ADOT hundreds of million dollars in earthwork, bridges, and R/W. Working on alternative delivery projects has enhanced our team's ability to innovate creative solutions and help ADOT select alternatives that meet needs and budget. That experience has been recognized throughout WSP and KHA's value engineering (VE) work on ADOT's Alternative Delivery On-Call contract. We are your trusted partners to develop effective, efficient solutions to complex engineering challenges.

Deliver. Greg led delivery of SR 202L SMF final design with support of seven key personnel team members proposed on this project. In addition, this team has completed final design for numerous freeway widening projects on SR 101L, SR 202L, SR 303L, and I-10. We are a final design team with proven capability to deliver a quality project on schedule.

Rendering of projected SR 30/SR 202L SMF ultimate design

Engineering Consultants Section
SOQ Proposal Certifications Form

Contract #: 2024-018.01 & 2024-018.02 Consultant Name: WSP USA Inc.

Please read the fifteen (15) statements below. The statements are to ensure Consultants are aware and in agreement with Federal, State and ECS guidelines related to the award of this contract. Consultants shall submit the specific Certification form attached to each RFQ advertised, as revisions to the form may occur from time to time. Failure to sign and submit the certification form specified in the RFQ with the SOQ proposal will result in the SOQ proposal being rejected.

Submission of the SOQ by the Consultant certifies that to the best of its knowledge:

1.	The Consultant and its subconsultants have not engaged in collusion with respect to the contract under consideration.
2.	The Consultant, its principals and subconsultants have not been suspended or debarred from doing business with any government entity.
3.	The Consultant shall have the proper Arizona license(s) and registration(s) for services to be performed under this contract. Furthermore, the Consultant shall ensure that all subconsultants have the proper Arizona license(s) and registration(s) for services to be performed under this contract.
4.	The Consultant's signature on any SOQ proposal, negotiation document or contract constitutes that a responsible officer of the Consultant has read and understands its contents and is empowered any duly authorized on behalf of the Consultant to do so.
5.	The Consultant's Project Team members are employed by the Consultant on the date of submittal.
6.	All information and statements written in the proposal are true and accurate and that ADOT reserves the right to investigate, as deemed appropriate, to verify information contained in proposals.
7.	Key members of the Project Team, including subconsultants, are currently licensed to provide the required services as requested in the RFQ package.
8.	All members of the Project Team who are former ADOT employees did not have or provide information that gives the Consultant a competitive advantage; and either (1) concluded their employment with ADOT at least 12 months before the date of the SOQ or (2) have not made any material decisions about this project while employed by ADOT.
9.	Work, equating **at least 51%** of the contract value, shall be completed by the Consultant unless otherwise specified in the SOQ or contract.
10	No Federally appropriated funds have been paid or shall be paid, by or on behalf of the Consultant for the purpose of lobbying.
11.	The Consultant understands that it is required to have a compliant accounting system, in accordance with Generally Accepted Accounting Principles (GAAP), Federal Acquisition Regulation (FAR) of Title 48, Code of Federal Regulations (CFR)-Part 31, applicable Cost Accounting Standards (CAS), and ADOT Advance Agreement Guideline.
12.	If project is funded with Federal Aid funds, the Consultant affirmatively ensures that in any subcontract entered into pursuant to this advertisement, Disadvantaged Business Enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations.
13.	The Consultant shall utilize all Project Team members, subconsultants and DBE firms, if applicable, submitted in the SOQ, and shall not add other Project Team members or subconsultants, unless the Consultant has received prior written approval from ADOT.
14.	The Consultant shall either meet its DBE goal commitment and any other DBE commitments or make Good Faith Efforts to meet the DBE goal commitments as stated in its SOQ proposal or Cost Proposal and shall report on a timely basis its DBE utilization as detailed in the contract.
15.	If selected, the Consultant is committed to satisfactorily carry out the Consultant's commitments as detailed in the contract and its SOQ proposal.

I hereby certify that I have read and agree to adhere to the fifteen (15) statements above and/or that the statements are true to the best of my knowledge as a condition of award of this contract.

Print Name: Joy Melita, PE Title: Senior Vice President, Project Principal

Signature: Melita Date: April 30, 2024

Revised 2/11/2022

ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION
PARTICIPATION IN BOYCOTT OF ISRAEL - CONSULTANT CERTIFICATION FORM
ADOT ECS Contract No.: 2024-018.01 & 2024-018.02

This Certification is required in response to legislation enacted to prohibit the State from contracting with companies currently engaged in a boycott of Israel. To ensure compliance with A.R.S. §35-393, this form must be completed and returned with any response to a solicitation (SOQ), Contract Cost Proposals, and Contract Time Extensions. The Consultant understands that this response will become public record and may be subject to public inspection.

Please note that if any of the following apply to this Solicitation, Contract, or Contractor, then the Offeror shall select the "Exempt Solicitation, Contract, or Contractor" option below:

- The Solicitation or Contract has an estimated value of less than $100,000;
- Contractor is a sole proprietorship;
- Contractor has fewer than ten (10) employees; OR
- Contractor is a non-profit organization.

Pursuant to A.R.S. §35-393.01, public entities are prohibited from entering into contracts "unless the contract includes a written certification that the company is not currently engaged in, and agrees for the duration of the contract to not engage in, a boycott of goods or services from Israel."

Under A.R.S. §35-393:

1. "Boycott" means engaging in a refusal to deal, terminating business activities or performing other actions that are intended to limit commercial relations with entities doing business in Israel or in territories controlled by Israel, if those actions are taken either:

   (a) Based in part on the fact that the entity does business in Israel or in territories controlled by Israel.
   (b) In a manner that discriminates on the basis of nationality, national origin or religion and that is not based on a valid business reason.

2. "Company" means an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate, that engages in for-profit activity and that has ten or more full-time employees.

…

5. "Public entity" means this State, a political subdivision of this State or an agency, board, commission or department of this State or a political subdivision of this State.

The certification below does not include boycotts prohibited by 50 United States Code Section 4842 or a regulation issued pursuant to that section. *See* A.R.S. §35-393.03.

In compliance with A.R.S. §§35-393 *et seq*., all offerors must select one of the following:

☑ The Company submitting this Offer **does not** participate in, and agrees not to participate in during the term of the contract, a boycott of Israel in accordance with A.R.S. §§35-393 *et seq*. I understand that my entire response will become public record in accordance with A.A.C. R2-7-C317.

☐ The Company submitting this Offer **does** participate in a boycott of Israel as described in A.R.S. §§35-393 *et seq*.

☐ **Exempt Solicitation, Contract, or Contractor.**
Indicate which of the following statements applies to this Contract:
☐ Solicitation or Contract has an estimated value of less than $100,000;
☐ Contractor is a sole proprietorship;
☐ Contractor has fewer than ten (10) employees; and/or
☐ Contractor is a non-profit organization.

WSP USA Inc.	Melita
Company Name	Signature of Person Authorized to Sign
1230 W. Washington Street, Suite 405	Joy Melita, PE
Address	Printed Name
Tempe Arizona 85288	Senior Vice President, Project Principal April 30, 2024
City State Zip	Title Date

Participation in Boycott of Israel – Consultant Certification
Form Revised - 4/28/2020

FORCED LABOR OF ETHNIC UYGHURS BAN
Certification Form

Infrastructure Delivery and Operations

Forced Labor of Ethnic Uyghurs Ban

Please note that if any of the following apply to the Consultant, then the Offeror shall select the "Exempt Consultant" option below:

- Consultant is a sole proprietorship;
- Consultant has fewer than ten (10) employees; OR
- Consultant is a non-profit organization.

Pursuant to A.R.S. § 35-394, the State of Arizona prohibits a public entity from entering into or renewing a contract with a company unless the contract includes written certification that the company does not use the forced labor, or any goods or services produced by the forced labor, or use any consultants, subconsultants, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China.

Under A.R.S. §35-394:

1. "Company" means an organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, limited liability company or other entity or business association, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate, that engages in for-profit activity and that has ten or more full-time employees.

   (a) Based in part on the fact that the entity does business in Israel or in territories controlled by Israel.
   (b) In a manner that discriminates on the basis of nationality, national origin or religion and that is not based on a valid business reason.

2. "Public entity" means this State, a political subdivision of this State or an agency, board, commission or department of this State or a political subdivision of this State.

In compliance with A.R.S. §§ 35-394 et seq., all offerors must select one of the following:

☑	The Company submitting this Offer does not use, and agrees not to use during the term of the contract, any of the following: • Forced labor of ethnic Uyghurs in the People's Republic of China; • Any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China; or • Any Consultants, Subconsultants, or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China.
☐	The Company submitting this Offer **does** participate in use of Forced Uyghurs Labor as described in A.R.S. § 35-394.
☐	**Exempt Consultant.** Indicate which of the following statements applies to this Consultant (may be more than one): ☐ Consultant is a sole proprietorship; ☐ Consultant has fewer than ten (10) employees; and/or ☐ Consultant is a non-profit organization.

WSP USA Inc.
Company Name

1230 W. Washington Street, Suite 405
Address

Tempe | Arizona | 85288
City | State | Zip

Melita
Signature of Person Authorized to Sign

Joy Melita, PE
Printed Name

Senior Vice President, Project Principal
Title

Final design of the SR 30 Tres Rios Freeway has been eagerly awaited by local agencies, industry, and travelers. When activities to design the **ultimate** west connection to South Mountain Freeway (SMF) and **interim** SR 30 facility to 97th Avenue initiated in 2022, our team was formed. WSP/KHA worked hard to understand stakeholder interests, develop refined system traffic interchange (TI) configurations, and analyze value engineering (VE) opportunities to bring fresh eyes on SR 30. Since 2022, ADOT and MAG have examined ways to improve capacity and travel options at the lowest possible cost by considering an **interim** approach to the system TI developed in the 2019 Final Design Concept Report (DCR) and Environmental Assessment (EA). A January 2024 Technical Memo provides possible options and serves as the basis for advancing two SR 30 projects, both to be led by **ADOT PM Rashidul Haque**.

PROJECT 1 **SR 30, 97th Ave to 71st Ave.** New interim six-lane freeway, 91st Ave TI, 83rd Ave TI, 75th Ave crossroad overpass, and drainage outfall channel.

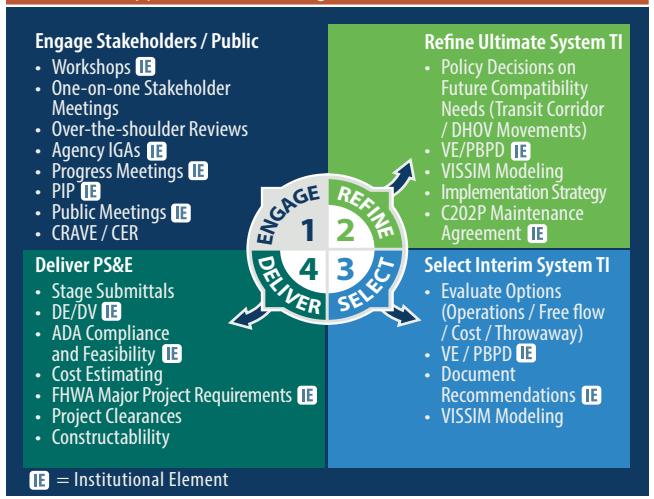
PROJECT 2 **SR 30, 71st Ave to SR 202L SMF.** New interim SR 30/SR 202L TI, SR 202L widening to accommodate the TI, 67th Ave TI, and interim six-lane freeway.

Our team has taken a deep dive into addressing the objectives of an interim system TI connection, advancing work started in the 2024 memo by **creating a VISSIM model to better understand traffic operations when SR 30 connects to SR 303L (2033).** In addition, we evaluated cost savings associated with the SR 30 mainline and service TIs. Through these efforts, we have developed a design alternative with improved operations and no throwaway work while increasing the overall cost savings.

Major Tasks & Special Issues

WSP/KHA's approach to executing the tasks and technical/ institutional elements required for Project 2 is shown in *Exhibit 1*.

Exhibit 1. *Approach to Delivering Cost Effective Solutions*



1. Engage Stakeholders/Public

MAG and ADOT Project Management Group (PMG) have made it clear that effective engagement with agencies, stakeholders, and the public will be a key factor to project success. Synthesizing information gathered from our SR 30 reconnaissance meetings and best practices used on other projects, we have developed a communication strategy that aims to create partnerships, identify needs, establish expectations, and allow for flexibility during project discovery. The strategy objectives are:

- **Information sharing** to establish expectations, foster inclusion, and provide transparency.
- **Design integration** to progressively incorporate agency requirements into design elements, eliminating scope creep and rework.
- **Decision-making** to drive forward direction and document decisions, keeping the project on schedule.

Another important aspect of the communication plan is sharing information with the public. While NEPA requirements were fulfilled with the EA, the interim system TI concept is new and the project area has changed; new people moved in, information was forgotten, and development has occurred over the last decade. Working closely with ADOT Communications, the same award-winning I-10 Broadway Curve WSP staff members will support the SR 30 public involvement and communication activities.

- **Public Information Plan (PIP)** that effectively performs a Four-Factor Analysis, communicates objectives, provides involvement strategies, and addresses environmental justice and limited English proficient (LEP) populations.
- **Public meeting support** with staff, presentations, visualizations, and other materials.
- Frequent **website updates** to keep people informed of design status.
- **Visualizations** of the new facility through animations and simulations.
- Daily **monitoring of the project hotline/email** to ensure prompt responses to public inquiries.
- **Social media** polling, monitoring, and outreach.

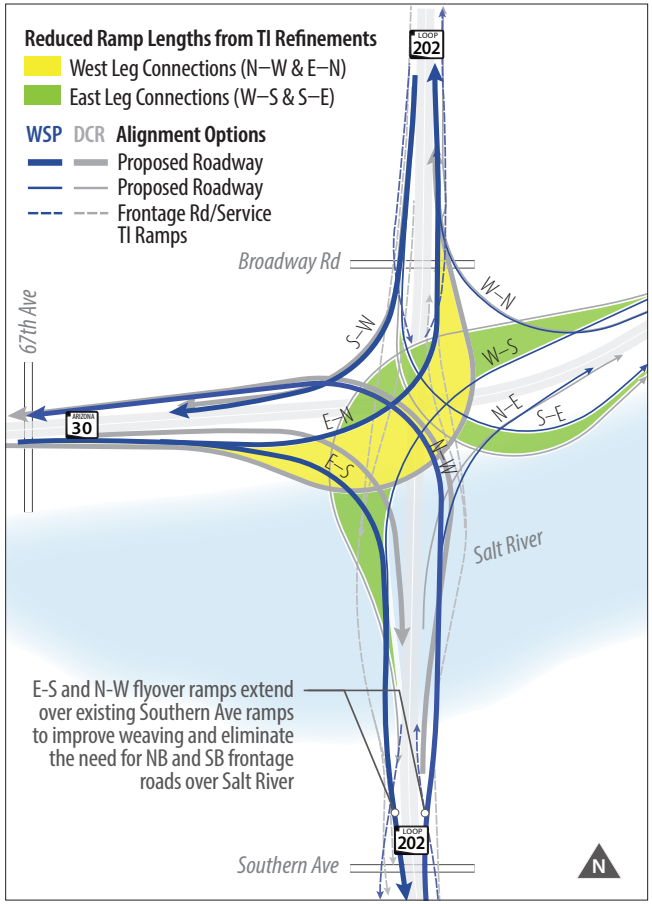
2. Refine Ultimate System TI

In order to determine the full scope of work for Project 2, the ultimate system TI configuration needs to be optimized from the DCR concept to maximize the use of funding in the future. The DCR ultimate system TI included the following:

- **High-capacity transit corridor** in the median with a 50-foot-wide by 23-foot-high envelope.
- **Two direct high-occupancy vehicle (DHOV) movements** when typically, only one movement is provided.
- **Flyover ramps that cross other flyovers multiple times** as they traverse the interchange.

Our team has developed a refined ultimate configuration (*Exhibit 2*) that addresses the above items and **improves operations**, reduces DE/DVs required (**by 3**), reduces bridge areas (**by over 200k square feet**), reduces embankment by lowering profiles, and allows a future transit corridor as necessary. These adjustments result in significant overall cost savings (**$113M in bridge area reductions alone**). The smaller footprint of the refined TI provides additional area to sell back/turnback to City of Phoenix (COP) for Rio Reimagined, lessens river impacts, reduces reconstruction needed on SMF, improves constructability, and reduces utility relocations.

Exhibit 2. *WSP/KHA Refined Ultimate System TI Configuration*



3. Select Interim System TI

An **optimized system TI** is the critical blueprint for interim improvements to avoid/minimize throwaway. The 2024 Technical Memo recommended an interim alternative (**Option B**) that constructs features not necessary in the ultimate condition or until the east leg is constructed, including a dual temporary two-lane loop ramp system and an SR 30 mainline bridge over SR 202L. This concept also requires a 17-span bridge for the SB frontage road that crosses the Salt River. Unfortunately even with these improvements, SMF will experience operational failure within the first few years. The memo showed $467M in savings (2026 year of expenditure); **however, the estimate did not include costs associated with the SB frontage road and bridge, reducing the actual savings to approximately $368M.**

We modeled additional interim options using VISSIM to create a detailed operational analysis that builds on the memo efforts. **Based on these efforts, we recommend an interim interchange configuration that utilizes the ultimate direct connect ramps** (see *Exhibit 3* for Recommended Option and Option Evaluation). The memo showed operational failure on SMF and thus recommended building the SB frontage road between Broadway Road and Southern Ave. However, the memo did not evaluate traffic operations of this recommendation. To validate this assumption, we modeled Option B and observed that traffic would back up on the frontage road from Southern Ave to Broadway Road. Therefore, in addition to reducing the project cost, **our focus when evaluating interim configurations was to also improve failing traffic operations.** Furthermore, during our reconnaissance meetings with FHWA and ADOT Central District, they noted that providing a **phased implementation plan, without throwaway, is their top priority**. With these objectives in mind, we developed an alternative that:

- **Improves operations.** This option provides a LOS C or better on SMF mainline and on all ramps without building the SB frontage road.
- **Eliminates throwaway.** All funds will be spent on ultimate improvements including the high volume movements.
- **Reduces overall costs.** $61.1M additional savings above the 2024 Technical Memo considering overall Project 1 and Project 2 cost reductions (+$27.0M for recommended option—$88.1M for project-wide savings = -$61.1M).

While this SOQ focuses on Project 2, **refinements to SR 30 in both Projects 1 and 2 can reduce overall costs, allowing more of the ultimate facility to be built now** and optimizing operational performance. We have analyzed potential savings on both projects and summarized highlights in *Table 1* (Page 7).

At the project start, the WSP/KHA team will hold a VE style workshop with ADOT and stakeholders to efficiently work through optimizing the ultimate system TI and select the preferred interim configuration. It's important that **stakeholders understand the interchange complexities and provide their consensus** on recommendations early. The technical analysis and decisions made will be documented in a memorandum.

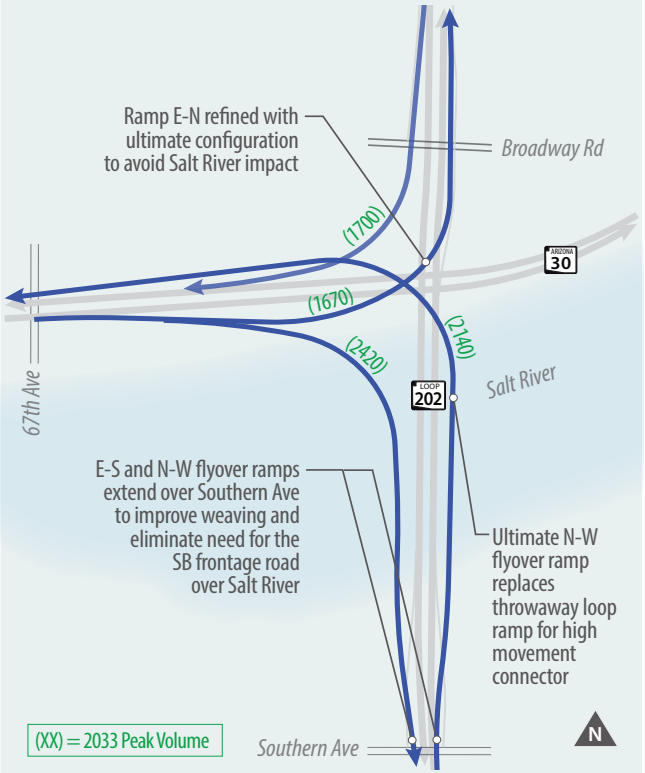
Exhibit 3 compares the cost of interim options in a simplistic way by computing pavement and bridge areas. We use the same unit costs and 'below the line' factors as the 2024 Technical Memo (pavement at $135/SY, bridge at $277/SF). We consider Option B the baseline cost.

COST SAVINGS

SMF proves the importance of refinement. *With Greg Fly leading the design, our team improved the SMF DCR design to reduce the total excavation from 12.8M CY to 6.4M CY and reduce the total embankment from 19.8M CY to 10.6M CY. This was achieved by prioritizing cost savings in the design phase, optimizing vertical geometry, and meeting ADOT RDG requirements. The SR 30 DCR utilized similar concepts and configurations for vertical geometry as the SMF DCR. WSP sees an opportunity for ADOT to capitalize on several major item savings as the project moves into final design.*

Exhibit 3. *WSP/KHA Interim System TI Evaluation*

Recommended Option: Ultimate Flyover Ramps for N-W, E-S, S-W, E-S

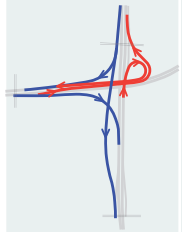


- **No throwaway**, phased implementation of the TI
- All ramps **meet RDG design speed**
- Maintains mainline operations LOS C (or better) without SB frontage road
- **Minimal MOT impacts** to SMF when constructing ultimate
- **Highest cost** option considered for SOQ

Total = $379.7M (+$27.0M baseline) Pvmt = $22.3M Structures = $357.4M

**Includes SB Frontage Road not included in the 2024 Tech Memo Estimate*

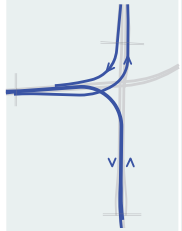
2024 Technical Memo Option B



- **Throwaway** N-W and E-N
- Design speed is **30 mph** for N-W (high volume) and **35 mph** for E-N
- **SB frontage road needed** to meet required weave distance between E-S entrance and Southern Ave exit on SMF
- SB frontage road **operates at LOS F** due to partial implementation
- Increased lifecycle costs to build ultimate later with more traffic

Total = $352.7M (baseline cost) Pvmt = $25.3M Structures = $327.4M*

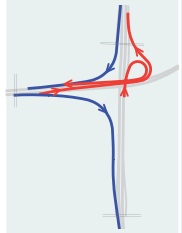
Considered Option: Ultimate DHOVs used for N-W, E-S



- **No throwaway**, phased implementation of ultimate
- All ramps **meet RDG design speed**
- Lowest cost option that meets design speed
- **Unconventional** left exit for N-W, left entrance for E-S
- **Requires converting HOV lane** on SMF to GPL for a short distance
- Commits to future N-W and E-S DHOVs

Total = $330.3M (-$22.4M baseline) Pvmt = $22.3M Structures = $308.0M

Considered Option: 2024 Technical Memo Option B with Improved E-S



- ES connects to SMF south of Salt River bridge abutments, **eliminating the need to widen over the Salt River** (in ultimate) and **build SB frontage road** (interim)
- Lowest cost option
- Throwaway N-W and E-N
- Design speed is **30 mph** for N-W (high volume) and **35 mph** for E-N
- Increased lifecycle costs to build ultimate later with more traffic

Total = $310.7M (-$42.0M baseline) Pvmt = $26.6M Structures = $284.1M

Ultimate *Throwaway* *Pro* *Con*

Table 1. *SR 30 Potential Project-wide Savings*

PBPD/VE Options	Project 1	Project 2	Total
Lower mainline profile to remove excess vertical clearance*	$12.58M	$7.19M	$19.77M
Steepen median ditch grade from 10:1 to 6:1 to reduce borrow	$1.45M	$0.66M	$2.11M
Install 4 ft AC shoulders vs. 12 ft PCCP shoulders in median	$11.22M	–	$11.22M
Reduce bridge median shoulders from 12 to 10 ft	$2.13M	–	$2.13M
Use superboxes vs. girder bridges at 75th Ave	$9.55M	–	$9.55M
Construct interim 67th Ave crossroad to tie into 2-lane road (*Exhibit 4*)	N/A	$3.16M	$3.16M
Construct 83rd Ave crossroad to tie into 2-lane road	$1.69M	–	$1.69M
Build SR 30 to ultimate outer width but eliminate excess median PCCP and bridge width from 75th to 67th Ave	$5.02M	$30.44M	$35.46M
Implement channel outfall (Page 10)	$2M	–	$2M
Water quality treatment devices on piers vs. deck drains (Page 12)	–	$1M	$1M
TOTAL SAVINGS	**$45.64M**	**$42.45M**	**$88.09M**

Any footprint reduction also **reduces the areas for cultural data recovery field work prior to construction, which will be a considerable savings for this project along the Salt River where significant cultural work is expected.*

4. Deliver PS&E

We bring extensive freeway final design experience as the prime consultant with continued responsiveness through post-design services. We will complete stage submittals in compliance with checklists, allocate agency/stakeholder review time, and promptly resolve submittal comments within the agreed-upon schedule. We will also support Cost Risk Assessment (CRA) and VE efforts with design materials and cost estimates. Workfront will be used to provide schedule updates, store project documents, and perform submittal reviews/comment resolution using the Proofing Tool.

Our team recognizes that significant coordination between Project 1 and Project 2 will be required during their concurrent development to **gain efficiencies** (traffic modeling, air quality, change of access) and **unify public messaging**. We can provide ADOT and stakeholders with combined project meetings, communications, design package coordination, agency submittals, and agreements for a streamlined delivery of both projects. **From conversations with ADOT and MAG**, we also understand that PS&E documents developed separately for Projects 1 and 2 may be combined into one construction advertisement. This will avoid the perception of a "road to nowhere" and eliminate construction conflicts.

Should a single advertisement occur, several items must be unified prior to bidding including:

- PS&E
- Project Clearances
- Construction Schedule/MOT Sequencing
- Transportation Management Plan (TMP)

Cost estimating will occur as part of the stage design deliverables, MAG CRA, and ADOT VE activities. We see an opportunity to streamline these efforts through regularly tracking the cost estimate and combining the CRA and VE (CRA/VE). **WSP and KHA support ADOT VE workshops for urban projects within Arizona's two metropolitan areas** through the Alternative Delivery On-Call. Together, we bring unmatched experience in identifying viable cost-effective solutions and determining overall project cost estimates. Using this expertise, we will update cost information monthly with oversight from Infrastructure Mavens. This will keep funding partners continually apprised and allow for adjustments if needed. WSP will also coordinate with ADOT Central District and Construction Group to establish the Road User Cost and Average User Delay for the special provisions.

FHWA Major Project Requirements must be met for the SR 30 corridor to be eligible for federal funding since project costs will exceed $500M. WSP met the same requirements for SR 303L, MC 85 to Van Buren and I-10 Broadway Curve. Efforts include two Cost Estimate/Risk (CER) workshops, a Project Management Plan (PMP), and an Initial Financial Plan (IFP), which must occur at specific milestones (see Schedule on Page 14). Updates to the PMP and IFP will be required during construction. Working closely with Rashidul, ADOT Financial Management Services, and FHWA, we will assist in preparing and updating the documents.

Additional Special Issues *(Exhibit 4)*

SRP Infrastructure and Land Rights

ISSUE: *SRP facilities in the project area will be impacted.* U1 U4 U5

SRP has transmission (230kV, 69kV), distribution (12kV, services), and irrigation facilities (open channel, underground, private) within the project. Their facilities include underlying land rights. Knowing this, ADOT has started meetings to discuss constraints, relocations, and R/W acquisitions. Items of interest include finalizing roadway design to assess pole/line clearances and providing access to facilities. Specifically, access to 69 kV transmission custom poles (south side of Broadway Road) will be a challenge given the system interchange ramp configuration, many existing utilities relocated with SMF, and transmission/underbuilt distribution line clearances on the north side of Broadway Road. Irrigation facilities will be reviewed and account for additional reviews/approvals by BOR if relocations are required. Private irrigation may also be impacted based on customers that SRP serve and any requirements will be documented in project specifications. To mitigate schedule slippage and potential claims during construction, our team will 1) advance design in critical areas to allow max time for SRP design/environmental, 2) assist ADOT with proactive SRP coordination during design and construction, and 3) ensure SRP standards are met for clearances, land rights, constructability, future maintenance access, and potential SRP release of water into the Salt River.

UNIQUE KNOWLEDGE

WSP, through the design of SMF and oversight on I-10 Broadway Curve, has recent and in-depth knowledge of SRP requirements and expectations on ADOT projects, including clearance envelopes, power pole setup areas, easement widths, point load calculations of underground pipes, access rights, relocation lead times, and service connections.

Future Compatibility

ISSUE: *SR 30 needs to be optimized to accommodate future compatibility while making efficient use of today's funds.* R3

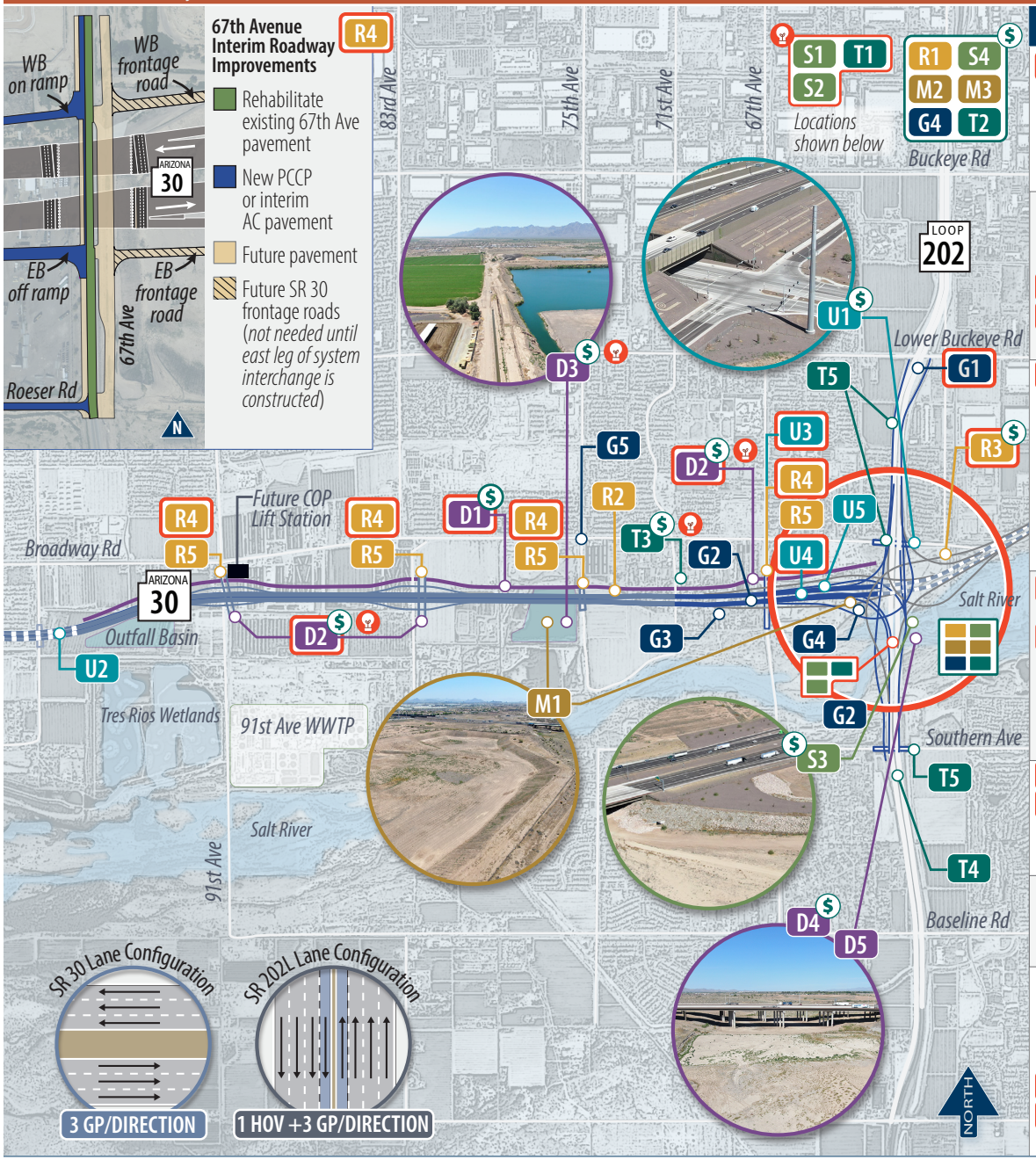
The SR 30 footprint should be defined beyond just the needs of today. We will work with ADOT and stakeholders to understand the projections and limitations of the surrounding roadway network and project area. Planning for every possible scenario is not cost effective as this projects moves into the final design phase. Through our prework, we understand ADOT is no longer considering the transit corridor, which is also not included in the MAG Investment Plan for Prop 479. Upon NTP, we will confirm this policy direction with project partners. If the transit corridor is removed, the 50-foot corridor could be eliminated. This is an excellent R/W sell back opportunity for areas already purchased. For other areas, we will work with ADOT R/W for updated delineation, reducing the project footprint and providing more space for community initiatives like Rio Reimagined.

We will also explore desired DHOV connectivity with project partners. For the SR 30/SR 202L TI, the heaviest predicted traffic movements are to and from the south and west legs. The interchange configuration can be optimized accordingly with this decision, maximizing potential savings.

COST SAVINGS

Removing the transit corridor from consideration allows vertical and horizontal refinements to the system TI ramps that minimize roadway and bridge construction, reducing overall project costs significantly.

Exhibit 4. *SR 30 Project Features*



WSP/KHA SOLUTIONS AND ACTIONS TO PROJECT ISSUES

GENERAL

- G1 Address improvements to SMF in the C202P Maintenance Agreement
- G2 Support R/W acquisition; complex parcels include Florida Rock
- G3 Transition aesthetic theme from SMF (System TI) to Riparian (SR 30)
- G4 Prepare required Section 404 permit
- G5 Future MCDOT project on Broadway Rd (75th–51st Ave)

ROADWAY

- R1 Improve DCR geometry requiring unnecessary DEs, bridge lengths, and costs ($)
- R2 Consider cost savings from Project 1 to offset building more ultimate system TI features, improving operations, and reducing future impact to SR 202L ($)
- R3 Plan for cost-effective future DHOV and SR 30 east leg improvements ($)
- R4 Coordinate EOF/crossroads with COP/MCDOT so local road system can accommodate
- R5 Meet access control limits per current RDG where possible

TRAFFIC/ITS/FMS

- T1 Existing ADOT and GRIC fiber located in Salt River Bridge (SRB) barrier, avoid widening SRB existing bridge to protect in place to avoid outages
- T2 Incorporate high-mast foundations into system TI piers to accommodate overall height of flyover ramps
- T3 Consider broadband needs and joint trenching for lighting/FMS ($)
- T4 Minimize impacts to existing FMS system (on SMF)
- T5 Modify existing ADOT signals, poles, and timing at Lower Buckeye, Broadway, and Southern to accommodate changes in traffic patterns.

DRAINAGE

- D1 Incorporate FLO-2D modeling that shows outfall channel is oversized, and use linear basins to accommodate design flows (*See page 9*) ($)
- D2 Eliminate impacts to 91st Ave WWTP using north-south outfalls along arterials ($)
- D3 Potentially utilize existing pits as outfall sites ($)
- D4 Treat first flush on bridges and discharge to river ($)
- D5 Run concurrent 1D and 2D models for river hydraulic/scour analysis to assess FEMA impacts (CLOMR/LOMR)

STRUCTURES

- S1 Adjust bridge layout to reduce number of ramp crossings
- S2 Evaluate the use of steel superstructure to eliminate straddle bents over SR 202L Traffic
- S3 Reduce shaft lengths through bank scour erosion analysis ($)
- S4 Evaluate local resources for MSE backfill (LASR), as applicable ($)

MATERIALS

- M1 Develop strategy plan for addressing material pits
- M2 Use SMF load test shaft data for improved designs (drilled shaft resistance) ($)
- M3 Evaluate AC vs PCCP for widening areas on SMF as well as identification of maintenance limits

UTILITIES

- U1 Modify DCR ramp geometry to avoid existing SRP transmission poles and provide necessary line clearance ($)
- U2 Consider agreement with APS for encasement of reclaimed water line that services Palo Verde Generating Station, which may occur with project construction
- U3 Provide lead time for acquisitions within underlying BOR easements (67th Ave to SMF)
- U4 Address SRP irrigation and SRP distribution conflicts with 67th Ave crossroad and SR 30 mainline
- U5 Maintain/address private irrigation and tailwater ditches during R/W acquisition process

PROJECT 1 97th Ave to 71st Ave

PROJECT 2 71st Ave to SR 202L

Future SR 30 Alignment

Future Interchange Ramps

Drainage Outfall Channel

Key Risks

($) Cost Savings

Innovation

Unique Knowledge

Connectivity to Local Network

ISSUE: *Traffic will travel on SR 30 to an interim end of freeway condition at 91st Ave; however, there are no current plans to improve capacity on 67th, 83rd, or 91st Ave.* G5 R4

We will coordinate with the COP, MCDOT, MAG, and ADOT to evaluate short term improvements that can be implemented on the local network and crossroads connecting to SR 30. We will also delineate new R/W (not accounted for in the DCR footprint) required to connect the crossroad section within ADOT's access control limits to the existing facility. Access control limits will also be important to establish where existing crossroad features and/or proximity to Broadway Road may challenge RDG compliance. MCDOT is planning to improve Broadway Road from 51st Ave to 75th Ave by providing additional travel lanes and upgrading intersections, which will help accommodate future traffic demand. Once future segments of SR 30 are constructed to the west and connect to SR 303L, a reduction in the traffic demand is likely to occur on these local roadways.

SMF MOT Impacts

ISSUE: *While SR 30 is a new facility that can be built offline, SMF is not. More than 78,000 vehicles a day will travel through an active construction site with closures on mainline freeway, existing ramps, and local roads.* S2

Our approach to MOT starts with incorporating design elements that simplify construction and reduce impacts to travelers. With MOT-sensitive designs in place, we will focus on strategies that maintain all travel lanes and keep traffic flowing. We propose reducing SMF mainline shoulders to two feet and utilizing 11-foot lanes to create an outside work zone, a strategy that has been successfully implemented on many other urban projects. Most of the project improvements can be constructed offline, which minimizes impacts to SMF traffic. We will use insights gained from SMF and I-10 Broadway Curve TMP to incorporate active traffic management and Smart Work Zone (SWZ) applications. Additionally, we will explore MOT phasing concepts for reconnecting SMF service interchange ramps to the widened SMF mainline. Some concepts may include:

- Phased construction and temporary shifting of service interchange ramp traffic, (used on SR 202L Red Mountain Freeway DB project).
- 60-day short-term closures on non-successive ramps during off peak seasons (used on SR 101L, Princess to Shea project).

Throughout MOT development, we will coordinate with ADOT, COP, MCDOT, and project stakeholders to evaluate allowable closures, liquidated damages, and local road usage as detour routes for night/weekend closures. A detailed TMP will be prepared with input from ADOT/stakeholders and will be a living document and resource throughout construction.

SMF Maintenance Agreement Update

ISSUE: *New project improvements on SMF abut, overlap, or reconstruct improvements maintained by C202P, requiring new maintenance responsibilities to be established.* G1 M3

ADOT has a 30-year maintenance agreement with Connect 202 Partners (C202P) to maintain existing SMF, which includes pavement preservation, landscape, drainage, and trash removal. Upon confirming the project improvements and impacts, we will support ADOT in modifying the existing agreement to assume maintenance during construction, as well as negotiate which portions of the new improvements will be maintained by C202P vs. ADOT. Prior to finalizing the maintenance agreement update, we will prepare maintenance limit exhibits, like we created for the I-10 (Papago)/SR 202 TI. Other items such as AC and PCCP limits, will also need to be coordinated. In accordance with Sections 8.13 and 8.14 in the Public Private Partnership (P3) Design-Build-Maintain Agreement (DBMA) between ADOT and C202P, ADOT has the right to issue a supplemental agreement requiring C202P to take over the maintenance and rehabilitation of any project reconfiguration, expansion, or extension. ADOT can utilize the DBMA and contract documents to negotiate maintenance limits and prices to optimize and balance upfront and long-term project cost. To facilitate these likely challenging negotiations, we will use our unique experience as SMF prime designer to:

- Design widening elements in a way that keeps division of responsibilities simple and easy to identify in the future (WSP/KHA recommended interim option removes any widening activities to the Salt River Bridge, keeping bridge maintenance responsibilities with C202P).
- Create a draft of agreement revisions accompanied by exhibits as a living document to advance throughout design development.
- Conduct regular coordination with PMG, Central District, and Major Projects Group to ensure comprehensive input.

UNIQUE KNOWLEDGE

This approach and our SMF history will help provide the basis for agreement amendment, reduce ADOT's future maintenance/cost as much as reasonably possible and streamline negotiations with C202P.

Sand & Gravel Pit Mitigation

ISSUE: *SR 30 crosses several sand and gravel (S&G) pits that need to be backfilled, bridged, and/or accessed.* M1

The west leg of the system TI will be constructed above the inactive pit located east of 67th Ave, which has been acquired by ADOT from the COP. In reviewing historical aerials and visiting the site, it appears the pit has been backfilled approximately 10-15 feet and regraded to provide gentle side slopes.

Our approach includes:

- Discussing how the pit was closed with the COP and performing a thorough geotechnical exploration.
- Recommending if the pit is suitable to be backfilled or if it needs to be spanned with bridges via cost comparison and selected mitigation strategies. Mitigation strategies will likely include removal and replacement of unsuitable material, geosynthetic stabilization, or other ground improvement techniques. Ultimate facilities, maintenance activities, and future property uses will be considered.

We performed a preliminary cost estimate (*Table 2*) that indicates bridging the pit is substantially more expensive. We will work with ADOT PMG, Central District, and Technical Groups to evaluate tradeoffs and make a final recommendation.

Table 2. *Cost Comparison for Pit Treatments*

67th Ave Pit	FIll	Bridges
Fill ($18/CY)	3,800,000 CY	–
Pavement ($135/SY)	87,000 SY	–
Bridge ($277/SF)	–	780,000 SF
Cost	$80M	$216M

Project 1 is impacted by the pit between 75th and 83rd Avenues. Once ADOT acquires this R/W, Florida Rock/Vulcan will continue mining operations. Issues to resolve include analysis to fill or span the pit (now partially filled with groundwater) and access across SR 30 (via an equipment pass) for mining operations north and south of mainline.

Drainage Channel Outfall

ISSUE: *The channel outfall west of 91st Ave will create problems for COP if implemented as shown in the DCR. The DCR proposed siphon connecting the outfall channel to the Salt River will introduce maintenance issues within the structure. This approach will also adversely impact the wetlands and current agreements between the COP, USACE, and others.* D1 D2

Our solution to address outfall and SR 30 channel alignment conflicts starts with the **hydrologic analysis for the off-site watershed**, which will be the basis for design. The DCR hydrology from Flood Control District of Maricopa County's (FCDMC) 2005 Durango ADMS (HEC-1) is outdated. The watershed has changed significantly since its completion due to development and SMF construction. **FCDMC will update the Durango Study starting in 2025 using FLO-2D**; however, it is unlikely that results will be ready for this project. Our team will coordinate with the FCDMC on all current and recent studies like the Sunland Avenue Floodplain Delineation Study (in progress) that falls within the Durango watershed. Use of these studies will

eliminate unnecessary work for our design effort. Since FLO-2D is an accepted methodology with ADOT, our approach is to **conduct an independent FLO-2D model for this offsite watershed.**

We performed a preliminary FLO-2D analysis for the contributing area along SR 30 that shows an approximate 50% flow rate reduction compared to the DCR. Further refinements during design will update the hydrology and confirm flow rate reductions. Other opportunities we will investigate to reduce the channel footprint and eliminate the Tres Rios wetland outfall include:

- Linear retention/detention basins built into the channel alignment to attenuate flows and address water quality needs within the channel.
- S&G pits as outfalls to address lack of off-site channel continuity through the pits and water quality requirements. Site infiltration studies will determine viability.
- North-South arterial roadways as channel outfalls. Review ability to use excess capacity of existing City storm drains (land use changes may have reduced existing flows) and if needed, develop new storm drain outfalls parallel to the roadways.
- Drainage structures at 67th, 75th, 83rd, and 91st Avenues reduced in size or eliminated. This will be possible when implementing the previous bullets.

Our approach may eliminate the need for a channel outfall and Section 408 permit at the Tres Rios Wetlands. If it is required, we will prioritize obtaining the permit from USACE Los Angeles District as part of our critical path, as we've done on other ADOT projects.

COST SAVINGS $

Using FLO-2D and other opportunities noted above saves $2M+ in drainage infrastructure, potentially eliminates the need for a Section 408 permit, reduces the size or eliminates the detention basin near the City's Tres Rios Wetlands, and minimizes impacts to underground utilities on the SR 30 arterial crossings.

Technical Tasks & Issues

Utility Coordination/Clearance

Extensive utility coordination will be required on this project. Our team has significant experience in the project area and with key utility stakeholders. To advance coordination efforts, we have already:

- Sent an Arizona 811 Blue Stake Design Ticket to identify the utilities within the project limits.
- Requested and received the ADOT Permit Log from Ayman Ghadban, ADOT Utility Engineering Coordinator.
- Met with utility owners to discuss their facilities and ways to mitigate potential conflicts (*Table 3*).

In addition to the SRP meetings already taking place, we will hold regular utility meetings with the project team, stakeholders, and utilities to confirm utility locations, planned improvements, requirements when working near facilities, prior rights documentation, and utility conflicts. Working with Ayman, we will determine Subsurface Utility Engineering (SUE) Phase I (utility designation) limits and SUE Phase 2 (utility potholing) locations. We will also identify long lead items necessary for utility work and permitting tasks so these activities can start first. Coordination efforts will continue until utility clearance for the project is secured.

Environmental Clearance

Clearance under NEPA will require a re-evaluation of the EA, as well as updates and re-approvals of supporting technical documents. KHA serves on the ADOT Environmental On-Call and recently completed EA re-evaluations of I-10 Gap and US 95 projects. They are familiar with EP's October 2023 NEPA EA and EIS Guidance and the current EA re-evaluation template. Based on our review of Project 2 and discussions with ADOT, the most critical elements are detailed below with considerations summarized in *Table 4* on the next page.

Section 404/401 Permitting. We recommend revisiting the Salt River Preliminary Jurisdictional Determination (August 2019) based on construction of SMF, which altered the river channel. The revised delineation could result in less impact to the Waters of the U.S. (WOTUS). Although the RFQ and EA estimated that an Individual Permit may be required, **we think a Regional General Permit 96 could be utilized for geotechnical work and potentially for the overall project due to the reduced WOTUS impact.** We will work with ADOT EP early in the design process to determine the permitting approach based on the final project configuration.

Air Quality. Bringing experience from the SR 101L Princess to Shea project, we understand how to address EPA/FHWA changes to air quality (AQ) conformity without schedule impact. The AQ analysis must demonstrate that PM10 concentrations with the project are less than or equal to PM10 concentrations without the project.

Our approach to obtaining conformity approval is:

- **Obtain consensus from all reviewing agencies and agree upon the analysis basis** within 30 days of kickoff, including traffic data design year, modeling locations, ambient PM10 clarification, exclusion days, and model input parameters.
- **Meet with FHWA/EPA prior to completing AQ questionnaires** regarding project scope, AQ analysis requirements, and schedule.
- **Complete AQ questionnaires** (with Initial Traffic Report), confirming if CO Hot Spot/PM 10 modeling analysis is required with FHWA/EPA prior to distribution.
- After AQ questionnaire is reviewed, discuss CO Hot Spot/PM 10 modeling locations, process details, and documentation requirements with FHWA/EPA.
- **Submit Draft AQ Report with Stage III.**
- **Provide six months in schedule** for the overall AQ process.

Noise. We will update the model from the 2018 Final Noise Report with the interim system TI configuration. In addition, we will document any residential building permits submitted after the project's Date of Public Knowledge to determine noise wall locations.

Cultural Resources. In conjunction with R/W acquisition, ADOT EP is already proceeding with cultural work and will continue those efforts under a separate contract. Our team will support these efforts as needed. We will also seek to minimize the project footprint to reduce Phase 1 and Phase 2 data recovery work.

Environmental Management Plan (EMP). The EMP gives ADOT a tool to remain compliant during 327 NEPA reviews. We will populate an environmental compliance matrix that tracks Final EA commitments, permitting requirements, and project status. This matrix will feed into a streamlined EMP outlining compliance roles and reporting responsibilities. The EMP will describe procedures defining how contractor communications distributed and received are documented and handled, including ADOT involvement.

Table 3. *Utility Information*

	SRP Transmission	SRP Irrigation	Phoenix – Wastewater	Phoenix – Water
Issues	Recently installed 69kV pole at Broadway Road and SMF (NE quadrant) is impacted by the SR 30 DCR ultimate system TI design.	Impact to an SRP 48" irrigation pipe in the USA Fee parcel between 67th and 63rd Aves results in a long duration for a new BOR easement.	COP has planned utility projects in the vicinity, including a new lift station on 91st Ave and Broadway that is ready for construction once reviewed for potential conflicts with SR 30.	DCR proposed SR 30 offsite channel and culvert would require vertical relocation of the 54" transmission waterline along the east side 67th Ave, which would be costly and affect customers.
Next Steps	Our team has improved the ultimate Ramp E-N geometry to avoid relocation. We have evaluated SRP "setup zones" and will coordinate access requirements with SRP.	Design plans in USA Fee parcels will be accelerated and coordinated early with SRP. This will help advance SRP irrigation relocation design and legal description/exhibit preparation.	We have developed a list of upcoming projects with COP. Upon NTP, we will continue gathering details to avoid conflicts with sewer lines and pipe rehab work planned on Broadway Road.	We've determined the 54" waterline is 10' deep, the same depth as the 96" FCDMC storm drain invert. New storm drain connections will avoid impact to the waterline by connecting into the middle of the 96" storm drain.

ADOT will remain the point of contact (unless otherwise directed by ADOT) with the public, local jurisdictions, and regulatory agencies for environmental and permit coordination. ADOT will also lead communications related to cultural resources and Section 106 of the National Historic Preservation Act process with our team supporting.

Geotechnical and Potholing Clearances. We recommend preparing separate technical documents for biological, hazardous materials, and cultural resources to streamline clearances for field investigations. Coordinating with ADOT EP and R/W, we will ensure the team can perform field investigations on schedule.

Table 4. *Environmental Technical Resource Updates*

Area	Considerations and Approaches
Biological Resources (BE)	➤ Final EA BE determined "may affect but is not likely to adversely affect" the southwestern willow flycatcher, yellow-billed cuckoo, and Yuma Ridgway's rail. Marginal stopover habitat remains in the Salt River and SMF traffic noise levels likely dissipate prior to reaching suitable habitats. ➤ Complete an updated BE to determine potential impacts to these species and others.
Hazardous Materials	➤ Parcel-specific initial site assessments have been performed with R/W acquisition and will continue. ➤ Conduct Preliminary Initial Site Assessment (PISA) and sampling for asbestos/lead. ➤ Sample soil from acquired agricultural land.
Social and Economic Resources	➤ Demographics have changed, warranting an environmental justice analysis per ADOT guidance. ➤ Meet with the ADOT Civil Rights Office (CRO) and EP to address comments and expedite the EA re-evaluation review.
Historic Properties Treatment Plan	➤ Many known sites; data recovery may occur prior to SR 30 project due to their scale. ➤ Work to be performed by a separate contract per ADOT EP (e.g. Class III survey, boundary testing, data recovery). ➤ Archaeological monitoring and tribal coordination during construction.

R/W Acquisition/Clearance

R/W efforts for SR 30 are well underway—over 200 parcels have already been acquired. Although R/W acquisition limits have been set with the DCR for mainline, our team will **strive to reasonably reduce R/W needs for potential sellback/turnback opportunities**, like the transit corridor. We understand that discussions relating to several parcels have been escalated due to complexities ranging from future park plans (COP concessions) to Boschman Dairy relocation (three-year timeline) to commercial property needs (active Florida Rock/Vulcan mining operations divided by the freeway). Our team is ready to support this work to ensure timely completion, maximize potential sellback opportunities, and reduce the future maintenance footprint. This includes support with GIS updates to the platform currently being used by ADOT R/W and EP Groups for ongoing acquisitions.

Footprint. Through our unique experience working closely with the R/W Group on I-10 Broadway Curve and optimizing the project design to reduce the footprint of SMF, we see similar opportunities on SR 30. For some parcels, it may be advantageous to modify the R/W limits to help with acquisition negotiations—even slight adjustments can make a difference (e.g., preserving existing features). Working closely with the ADOT R/W Group, we can evaluate if flexibility exists and simplify acquisition. **We also anticipate New R/W needs not yet identified on the crossroads** needed to transition TI improvements back into the existing roadways. We will advance design in these areas to plan for impacts early in the process.

R/W Clearance. We will confirm the project footprint by Stage II (30%) and provide supporting documentation to assist ADOT in issuing the R/W Clearance.

COST SAVINGS $

Purchased R/W not needed for the ultimate facility becomes potential money returned to the project or a turnback opportunity to local jurisdictions. During I-10 Broadway Curve, more than $20M was saved on the project budget through a similar effort.

Roadway

We will complete geometric refinements at Stage II (30%) when horizontal and vertical alignments will be set to confirm the project footprint. Our design will utilize the 2021 ADOT Roadway Design Guidelines (RDG) (revised February 2022) and we will prepare documentation requesting ADOT/FHWA approval of any DE/DVs required. We will also prepare an Americans with Disabilities Act (ADA) inventory and Compliance and Feasibility Report.

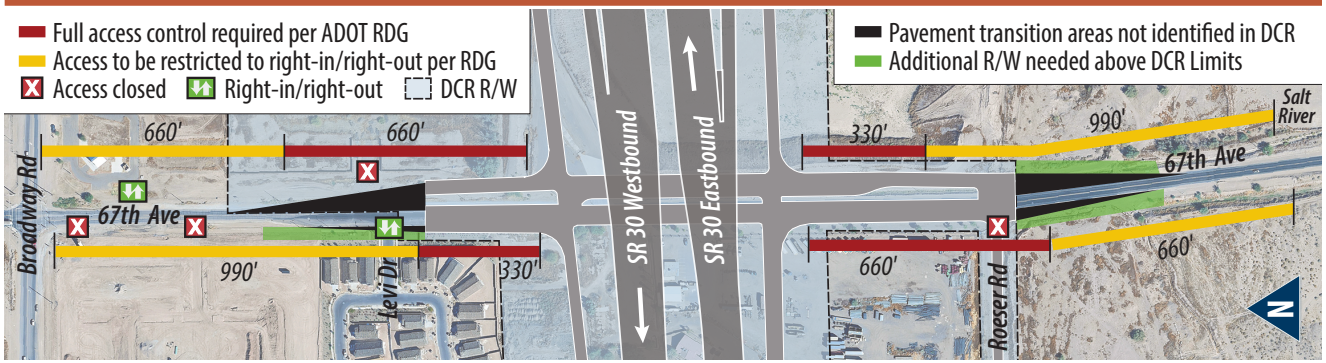
Access Control. Access control needs along the crossroads will be addressed through coordination with multiple ADOT Groups and stakeholders. Improvements to connect to the existing roadway extend outside of the DCR-defined footprint. Access control set by SMF and the DCR does not comply with the most recent RDG guidance. MCDOT and COP will want to protect in place existing access to the crossroads. Based on discussions with ADOT Central District and R/W, the existing access control conditions along SMF will be generally protected in place where access already exists. Where access control is deficient, DVs will be developed for approval. Our team will work with ADOT District and R/W to explore extending access control to comply with the latest standards.

67th Ave. A recent residential development with approximately 140 homes has been constructed on the NW corner of SR 30 and 67th Ave (*Exhibit 5*). That development contains a full access intersection on 67th Ave that is within the ADOT access control limits. Our team will coordinate with ADOT Central District and ADOT R/W to evaluate the cost benefits of purchasing the access control or providing an exception to the RDG.

Traffic

The DCR traffic analysis evaluated 2040 operations of SR 30 mainline, ramps, intersections, and the new system TI. That analysis will need to be updated with 2050 volumes to support the Noise and Air Quality studies using MAG's latest Conformity Model, covering all improvements along SR 30 and SMF to satisfy NEPA requirements, ensure acceptable operational performance, and vet applicable PBPD innovations. As this project will implement an interim system TI, **we will continue using VISSIM to ensure operations meet demand when SR 30 connects to SR 303L**, similar to what we are currently doing on SR 303L, MC 85 to Van Buren. The 2024 Technical Memo briefly evaluated an interim system TI concept, but that configuration needs to be properly vetted looking at impacts to SMF mainline, as well as the Broadway Road and Southern Ave TIs.

Exhibit 5. *67th Avenue Access Control*



Signing/Marking/Signals. Our team understands signing/marking requirements at major interchanges and the challenges of adequately signing interchanges while minimizing sign clutter. We have designed many Valley freeways and system interchanges and know that overhead guide sign placement and spacing will be a critical component, particularly regarding spacing to dynamic message signs (DMSs). When we designed SMF in this vicinity, the sequential guide signs were ground-mounted instead of overhead, knowing that it was an interim condition and SR 30 would impact sign placement. We will design a final signing concept that includes SR 30 and moves these signs overhead—the standard for urban freeways. New traffic signals will be needed at 67th Ave, as well as at the Project 1 crossroads. Similar to SMF, we expect ADOT to maintain the signals on this project and will apply our prior experience to ensure consistency throughout the ADOT system.

Lighting. Our approach focuses on providing uniform lighting along SR 30 and through the system TI, minimizing the number of light poles in a way that is sensitive to nearby residents. To mitigate residential concerns, we will explore shielding and low heat LEDs (3,000 Kelvin or less). With the system TI located over the Salt River, high-mast pole placement between ramps is not possible. We will design foundations for either high-mast light poles or 69-foot poles to be constructed directly into the bridge superstructure. Taller poles would allow us to illuminate multiple bridges at once and eliminate the need for dozens of side-mounted ramp poles.

FMS/ITS. Keeping the existing fiber networks operational during construction by minimizing cutovers and intensely planning each relocation will be a project priority. **Down times don't just affect ADOT, they affect multiple stakeholders, including emergency responders** as outlined in *Table 5*.

Table 5. *Fiber Networks in the Project Area*

Stakeholder	FMS/ITS Components Affected
ADOT	Field Devices, ADOT FO Node to Node Communications
Gila River Indian Community	FO Communications in their own conduit and fiber network along SMF
Department of Public Safety	FO Communications to Node 19 and the radio tower at Node 19
City of Phoenix	FO Communications between 83rd Ave/I-10 to all their traffic signals in Ahwatukee

Our recommended interim configuration avoids the need to widen the Salt River Bridge, which has FMS conduit running through the outside barrier. If another alternative progresses to design and requires widening of the Salt River Bridge, the existing fiber would need to be maintained during construction. It carries critical networks along SMF, as identified above, and would be affected by construction. Potential options to maintain connectivity include:

- Use temporary fiber in the construction zone (e.g., underside of Salt River Bridge, 288 aerial fiber with messenger/strength cable).
- Reroute live fiber networks to provide separate network north and south of the Salt River bridge. Potential routes are I-10/SR 202L (north side)/SR 101L/SR 202L (south side), newly constructed I-10 Broadway Curve, and City of Phoenix Baseline Road (SMF to I-10).

We also spoke with TSMO staff and determined key initiatives to be considered during the design of this project (*Table 6*). These issues will guide our team to resolving conflicts early and solidifying the scope of the improvements.

Table 6. *FMS Initiatives for this Project*

Feature	Design Considerations
Interim Trunkline Relocation	➤ Reroute conduit early to prepare for simultaneous cutovers ➤ Install temporary conduit to minimize downtime
Ultimate Trunkline Relocation	➤ Consider broadband expansion working with ADOT to implement the Arizona Broadband Statewide Middle-Mile Strategic Plan
Wrong Way Detection (WWD)	➤ SMF was plumbed for illuminated wrong way signs ➤ Incorporate refined WWD configurations, installing multiple cameras on one pole
DMS Structures	➤ Relocate the NB DMS at Broadway due to construction impacts ➤ Replace staple structure with less expensive roadside T-Mount structure
CCTV	➤ Install new CCTV camera to provide complete system TI camera coverage ➤ Combine detection and CCTV into a single cabinet (where feasible) to save cost, like SMF
Ramp Meters	➤ Replace existing meters impacted by construction

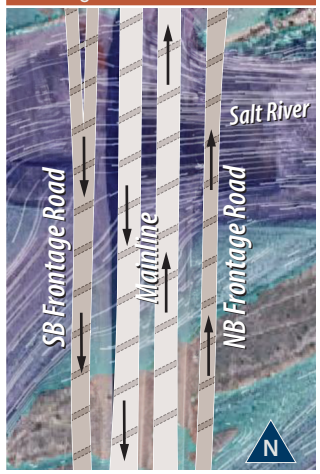
INNOVATION

Identifying the need for temporary network connectivity early will ensure adequate time for coordination with impacted agencies and to implement the solution.

Drainage

Our approach is based on standard ADOT design criteria for onsite/offsite drainage, bridge hydraulics, and scour analyses. For areas outside of ADOT R/W, COP (the Flood Plain Manager) and/or FCDMC criteria will apply. We will coordinate with ADOT Roadway Drainage and ADOT EP to address relevant drainage aspects pertaining to permitting and stormwater quality.

Exhibit 6. *Preliminary 2D Modeling of Salt River*



The proposed bridge columns in the Salt River will be a key drainage issue that our team will analyze. Detailed hydraulic modeling will be necessary to determine any adjustments to FEMA Flood Maps. Given the number of columns that will be located in the Salt River, it is likely that a CLOMR/LOMR will be required. **We developed a preliminary 2D model for the ultimate system interchange** (*Exhibit 6*) to determine the interaction of the bridge column configurations and anticipate a slight rise (0.2'+/-) in WSE without channel modification.

Our preliminary 2D model provides refined hydraulics of the complex pier configuration and assessment of the upstream impact at Riverwalk Estates, which was a key discussion item with FCDMC during the SR 202L SMF project.

We will utilize SRH-2D (Sedimentation and River Hydraulics) modeling to address the complex flow interaction within the Salt River Floodway that is created by multiple columns in the conveyance area. SRH-2D results will also assist in determining ultimate scour depths at bridge columns located outside of the existing floodway. We used this approach on I-10 Gap (Ina to Ruthrauff) to eliminate a span and reduce the number of columns, reducing cost as well.

Onsite drainage from the system TI bridges outside of the Salt River will be routed to the existing retention basins east of SMF, which have reserve storage capacity and provide water quality mitigation. Over the Salt River, we will implement water quality treatment devices on the piers prior to discharging into the Salt River, similar to the stormceptors used on SMF.

COST SAVINGS

The project will save approximately $1M by using water quality treatment devices on the piers and eliminating the bridge deck drain system.

Rio Reimagined is a 58-mile urban river restoration initiative on the Salt River. Coordination with the COP is critical to successful implementation of both the Rio Reimagined and SR 30 efforts. Our team has prior experience with the U.S. Army Corps of Engineers (USACE) and will work with the COP to preserve funding opportunities.

Structures

Based on discussions with ADOT Bridge Group (BG), their involvement during the DCR was limited and they are open to innovation. We will balance bridge limits with consideration of roadway and drainage impacts, MOT concerns, and constructability. Our team will coordinate with BG to review structure alternatives and the Accelerated Bridge Construction (ABC) matrix, prerequisites for the Bridge Selection Report (BSR). We identify several PBPD opportunities:

- Improve MOT by eliminating straddle bents (use steel girders).
- Eliminate steel beams at Salt River by using 2D Flow analysis or live load continuity efficiencies.
- Evaluate available fill to balance bridge spans with wall fill sections or utilize cast-in-place box sections.
- Evaluate wall types based on phasing and available fill.

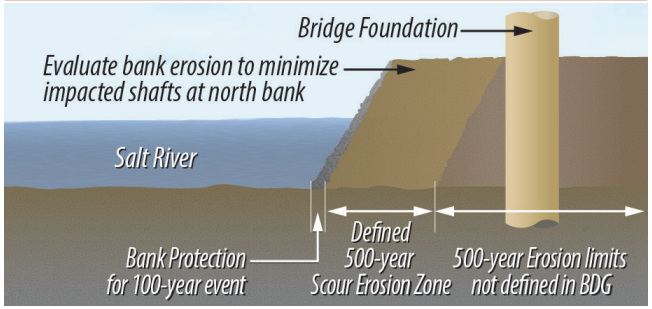
The existing prestressed concrete girder SMF bridges over the Salt River use 170-ft span lengths and were designed with live load continuity for load rating. This allowed the SMF design-build project to stretch the spans above what guidelines allow. ADOT Bridge Design Guidelines require that the live load design and load rating assume simple spans, which results in shorter maximum span lengths. To match the existing span lengths and pier placement alignments over the Salt River, the SR 30 DCR utilized continuous steel girders, which is substantially more expensive and requires additional inspection and maintenance. To utilize a prestressed concrete girder concept, either the pier spacing will not match the existing Salt River Bridges or the design team will need a waiver from ADOT BG to use live load continuity for load rating. The WSP drainage team is prepared to use 1D and 2D hydraulic flow analysis at the piers to evaluate shorter spans and anticipates negligible impacts to the water surface elevation.

Many of the system TI bridge foundations will sit within the undefined 500-year lateral erosion zone of the Salt River (behind the north bank). Per the bridge design guidelines, the Extreme Event assumes bank failure for the 500-year event with undefined limits beyond the bank (*Exhibit 7*). To reduce costs and drilled shaft depths, we will define the 500-year bank lateral erosion/scour limits using a lateral erosion assessment. After defining the 500-year scour erosion zone, any foundations within the zone will be designed to the increased scour depth, any foundations outside the zone will be designed without increased scour depth. Any bridge foundations falling within the 100-year bank protection zone will also be evaluated based on this assessment in coordination with ADOT BG and Roadway Drainage.

INNOVATION

Defining the bank erosion zone will minimize impacts due to scour while reducing drilled shaft depths. Reductions in 100-year bank protection improvements is also be a secondary benefit.

Exhibit 7. *Scour Considerations*



Geotechnical/Pavement

As the geotechnical engineers for SMF, **WSP and Ethos have worked in this project area for six years** through design and construction—we have comprehensive knowledge of the conditions and challenges anticipated for Project 2. Primary geologic challenges within the project area include:

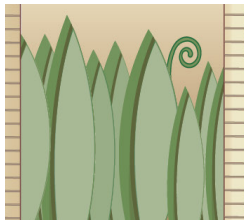
- Alluvial soils that are sensitive to changes in moisture content, including collapsible and swelling soils, which could provide localized poor subgrade support characteristics for project improvements.
- Undocumented and uncontrolled S&G pit backfill may also exist. Mitigation strategies for unsuitable soils will consist of over-excavation and/or stabilization techniques.

We will evaluate geologic conditions by exploratory borings drilled per ADOT and AASHTO guidelines to define subsurface characteristics. We will also assess the suitability of using load test data performed in the Salt River during the SMF project and take advantage of improved drilled shaft resistance and cost savings for this project. All conditions and recommendations will be provided in the Geotechnical Report.

Pavement design will follow the ADOT Pavement Design Manual. Rigid pavement (PCCP) for SR 30 mainline and ramps is anticipated; however, flexible pavements (AC) will be considered for widening SMF to match the existing condition. Pavement recommendations will be presented in a Pavement Design Summary and Materials Design Report.

Landscaping/Aesthetics

Partnering with ADOT and stakeholders, our team member KHA developed the SMF Landscape Architecture and Aesthetics DCR, making us uniquely qualified to collaborate on developing an SR 30 theme that smoothly blends with the existing SMF theme. During the development of the DCR, effort was made to establish character area guidelines for SR 30. The SMF to 99th Ave segment is planned to transition from the Estrella Village to Riparian. We will work with Rashidul, COP, Central District, and Roadside Design to build consensus on an aesthetics approach that complies with the Arizona's State Highway System Standard Aesthetics document while establishing a new theme for the SR 30 corridor.



A plant inventory will be conducted to catalog existing trees and cacti suitability for salvage and reuse. We will also mitigate impacts to existing landform graphics and bridge aesthetics. In SMF widening areas, landform graphics will be recreated and proportionally adjusted on the slope, working within the available area to maximize visual appearance.

Project improvements will impact the existing SMF irrigation system and include new construction outside of the existing corridor. We will develop the Irrigation Master Plan in coordination with ADOT and COP to identify what zones/areas will extend from the existing system, what zones/areas will require a new irrigation point-of-connection (POC), new POC locations, and responsible parties for maintaining these systems. An IGA may be developed to clarify landscape maintenance responsibilities and water costs

3D Modeling & Visualization

Our team will incorporate Bentley software to merge our design information into a contextual 3D model, which can be progressed into 4D/5D applications. This 3D model can be used to gain stakeholder feedback earlier in the design process. **WSP developed 3D and 4D models for existing and proposed improvements for SMF, which is a great starting point for SR 30** and would significantly reduce the time and effort associated with creating models of the existing infrastructure and utilities.

Quality

WSP meets rigorous ISO 9001:2015 international standards, demonstrating our commitment to consistently provide products that meet client and regulatory requirements for quality. Greg will prepare a project specific Quality Management Plan (QMP) that defines the quality procedures to be followed by the team. Frank Fry, PE, with over 20 years of ADOT technical experience, will be WSP's independent internal quality champion for this project. Frank will:

- Ensure the QMP is followed.
- Schedule time for the team to perform thorough Quality Control reviews four weeks in advance of submittals.
- Assure reviews are completed by a qualified reviewer.
- Perform inter-discipline cross checking not only during Quality Control periods, but also through day-to-day review of project activities.
- Stay on top of changes to guidelines and the risk register.

Schedule

Our proposed schedule shows the duration and functional relationship of major tasks and key events. Greg will provide Rashidul with the baseline schedule after NTP and communicate changes upon identification.

Strategies to Avoid Slippage

The WSP team recognizes that schedule adherence depends on managing concurrent tasks and will keep the project on track by:

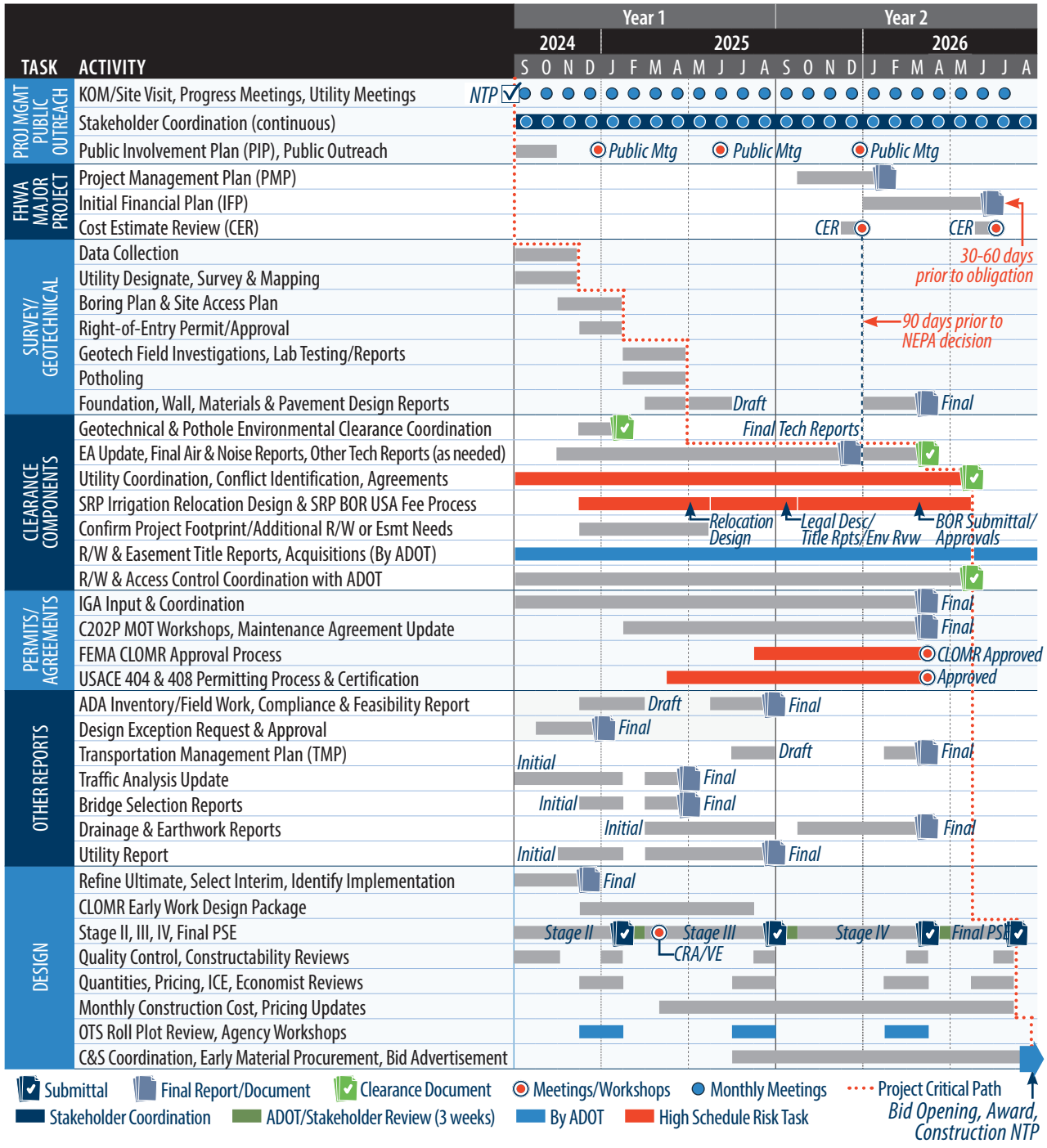
- Providing effective coordination and streamlining deliverables between the two concurrent design projects.
- Ensuring the project team and stakeholders understand their role with respect to the critical path items of the schedule.
- Providing timely issue resolution and proactively tracking action items.
- Facilitating over-the-shoulder reviews with stakeholders before milestones.

Our team has already assessed initial items from the schedule that could cause slippage and the ways we intend to address them:

- **SRP/BOR USA Fee Process.** Begin discussions early with SRP (they are already aware of the project) to outline impacts and timeline; provide project exhibit packets to start coordination with BOR (we have already obtained SRP design criteria and construction requirements).
- **FEMA CLOMR Process.** Initiate early work design packages in impacted areas upon receipt of survey; coordinate with FEMA at project onset to submit the CLOMR package for the System TI project; develop concurrent hydraulic models using 2D for design and 1D for FEMA review.
- **USACE 404 and 408 Permitting.** Ensure through coordination with the environmental team that all parties understand the limits of 404 impact to better guide the design in minimizing impacts and any revisions requested by USACE; avoidance of 408 impacts is key and will be the design team's first approach to eliminating impacts to USACE infrastructure.
- **Early Relocation Work with Affected Utility Companies.** Start known relocations ahead of construction to reduce construction schedule risk and mitigate costly delays.
- **Stakeholder Management.** Implement a change log process where all stakeholders agree on the approach and time frames; obtain buy-in early for maintenance, landscape, aesthetics, and IGA items.
- **TI Configuration.** Propose an interim TI configuration with supporting data analysis early in order to obtain consensus.
- **Air Quality Conformity Approvals.** Establish critical criteria and approval schedule with EPA, FHWA, and ADOT EP at onset of project; conduct regular meetings with Air Quality staff to document milestones.
- **Cultural Data Recovery.** Minimize project disturbance area within previously acquired R/W to reduce data recovery area; finalize disturbance area at 30% to allow data recovery to begin during design.

If slippage is projected, Greg will provide Rashidul a recovery plan to bring the schedule on track. This may include reallocating/increasing team resources and work hours, or fast-tracking critical path subtasks.

Exhibit 8. *WSP Proposed Project Schedule*



Risk Register

Our team completed a comprehensive review of the project and identified the project-specific risks shown in *Table 7*. Greg will lead the team in early identification, management, and mitigation of risks by implementing the CRA approach practiced by MAG and ADOT. This risk register will be a living document that is reviewed at progress and stakeholder meetings, updated monthly (at a minimum), and maintained on Workfront. By doing so, the project recognizes many benefits–a jump start on the formal CRA/VE and CER workshops, attention to issues/mitigations, and transparency with the project team and stakeholders.

Table 7. *Risk Register*

Risk (Likelihood and Severity: High Medium Low)	Impact			Initial		Mitigation	Final	
	Scope	Schedule	Budget	Likelihood	Severity		Likelihood	Severity
Additional R/W acquisitions are required outside of DCR/EA limits to accommodate crossroad tie-ins and access control needs not identified in DCR, results in an increase in project cost and utility relocations, as well as delay the schedule due to additional environmental process and acquisition time.	✓		✓	5	3 Score=15	Prioritize crossroad connection configurations early in design, to obtain consensus from stakeholders and funding agencies, so that environmental and R/W acquisition process can start early. R4	4	2 Score=8
SRP transmission lines at Broadway Rd need raised to accommodate DCR system interchange configuration.		✓	✓	4	4 Score=16	Lower system interchange height, by removing transit compatibility requirement, use steel girders in select locations rather than concrete straddle bents, and finalize decision to place future HOV direct connect on high volume legs (South and West). U1	5	2 Score=10
Air quality hot spot analysis may be required for the interim configuration, based off the 2050 conformity model.		✓	✓	4	4 Score=16	Work with ADOT EP to define air quality analysis scope and action items early to build time into schedule from lessons learned on recent expansion projects.	4	2 Score=8
Inflationary increases to material and construction costs.			✓	4	4 Score=16	Implement the cost estimating strategy outlined on Page 7, keeping continuous focus on unit prices and future trends. Subconsultant Infrastructure Mavens will track material costs and evaluate if alternatives are necessary.	4	2 Score=8
Obtaining stakeholder consensus on refinements to the ultimate TI configuration.	✓	✓		4	4 Score=16	Confirm future traffic needs and verify consensus on preferred alternatives at Stage II. R3	3	3 Score=9
Compatibility, biddability, and construction of both Project 1 and Project 2.	✓	✓	✓	4	4 Score=16	Identify common bid items, specifications, details; coordinate earthwork from beginning to optimize; consolidate coordination.	3	3 Score=9
Increased ADOT operations costs due to re-negotiation of C202P Maintenance Agreement.		✓	✓	5	3 Score=15	Develop defined plans and maintenance limit exhibits for C202P negotiations, match existing pavement structural sections for SMF, and minimize overall impacts to SMF. (Page 9 provides more detail) G1	5	2 Score=10
Interim design concept defers ultimate infrastructure, creating capacity and constructability issues with the ultimate improvements.	✓	✓	✓	3	5 Score=15	Refine the ultimate configuration, then scale it down to define the interim concept that best serves project needs considering traffic operations and overall cost. (Pages 5–6 provide more detail) R2	1	2 Score=2
SR 30 offsite channel/culvert conflicts with major utilites in the 67th Ave R/W.	✓	✓	✓	5	3 Score=15	Route outfall to the river using linear basins parallel to arterial roadways. (Page 9 provides more detail) D3	3	2 Score=6
Cultural sites discovered during testing and data recovery phase.		✓	✓	5	3 Score=15	Use SMF cultural testing and data recovery reports to establish budget and schedule for preconstruction testing and data recovery.	2	2 Score=4
MOT on SMF during construction leads to excessive delays.	✓	✓	✓	5	3 Score=15	Utilize ABC concepts and alternate superstructure types to eliminate overhead falsework and maximize offline construction. (Page 13 provides more detail) S2	3	2 Score=6
Drainage outfall may create water quality issues when combined with 91st Ave WWTP discharge into Salt River.	✓	✓	✓	4	3 Score=12	Discharge SR 30 drainage flows into Salt River at multiple locations before the 91st Avenue WWTP; avoid impacts to Tres Rios wetlands. (Page 9 provides more detail) D2	2	2 Score=4
Settlement of proposed embankments within S&G mining pits.	✓		✓	3	4 Score=12	Require contractor to field verify settlement locations shown in the plans; provide additional monitoring and testing during construction, etc. (Page 13 provides more detail)	1	3 Score=3
Detours and high-volume traffic could damage local roads and require repair.			✓	4	3 Score=12	Coordinate with COP and MCDOT to determine best detour routes, considering their respective maintenance programs.	2	2 Score=4
Relocation of impacted utilities results in construction schedule delays.		✓	✓	3	3 Score=9	Perform SUE prior to Stage III to determine conflicts; coordinate with utilities to relocate impacted utilities prior to Stage IV.	2	2 Score=4
ADOT Noise Policy interpretation creates concerns with existing/planned residential communities.	✓		✓	4	2 Score=8	Public Outreach during design; support ADOT EP Noise to clearly justify noise wall locations.	2	2 Score=4
Unknown costs associated with COP for utility relocations and water services.			✓	4	2 Score=8	Establish budgets early for COP relocations and water services; coordinate fee expectations between stakeholders.	3	1 Score=3
Lengthy USACE/404 permitting process with multiple structures in Salt River.		✓		4	2 Score=8	Prioritize design of Salt River structures and bank protection to allow early submittal of 404 permit. D5	1	2 Score=2
Lengthy USACE/408 permitting process for drainage channel outfall (Project 1).		✓		4	2 Score=8	Implement approach noted in Drainage Section (Page 10) to reduce infrastructure needs and potentially eliminate the need for a 408 permit. D1	1	2 Score=2
FEMA CLOMR approval time frame delays PS&E.		✓		4	3 Score=12	Work with COP and FEMA early to provide early work package submittals to accelerate modeling and processing of CLOMR. D5	3	1 Score=3

Project (Contract) Manager
Greg Fly, AZ PE #49430

75%/75%
20 Years
BSCE

Greg led the final design and post design for ADOT's most recent new urban freeway, SR 202L SMF. For the last two decades, he's been a leader and key designer on ADOT freeway work throughout the Valley, including his recent work widening the SR 101L between Princess Drive and Shea Boulevard. **Greg is leading our team because of the depth of his local freeway experience, but also because of his ability to navigate challenging stakeholder and budgeting concerns.** Greg has led multiple Design-Build pursuits as a roadway lead and a design manager, and understands how to optimize the design to facilitate a reduced construction cost. For SR 30, he'll bring his experience, as well as his history successfully partnering with contractors on design-build projects to evaluate design options and develop solutions. He's already leading our team through preliminary designs, considering ways to minimize throwaway by designing SR 30 for the ultimate conditions as much as possible (Page 5).

Greg Brings Value to This Project

- Design Manager for SR 202L SMF, which serves as the foundation of this project
- Previously worked with Rashidul Haque to deliver multiple projects including US 95 (16th Street Widening), SR 280 (Ave 3E), SR 101L (I-17 to Princess) DB Procurement, and SR 260 Lion Springs
- Senior developer of cost saving alternatives for ADOT projects as part of ADOT's VE Contract

Recent System & TI Experience

- SR 202/I-10 (Papago) on SR 202L SMF: Design Manager
- SR 202/I-10 (Maricopa) on SR 202L Santan HOV: Roadway Engineer
- SR 202L SMF: Design Manager

Concurrent Projects & Commitments at NTP

- I-10, SR 85 to Citrus: 20% (Stage III)
- SR 101L, Princess to Shea: <5% (Post Design)
- SR 260 Lion Springs: <1% (Shelf Project)

Project Availability/Commitment
Total Years of Experience
Education

SR 30/System TI Segment Lead
Jessica Fly, AZ PE #52512, PMP

70%/70%
20 Years
BSCE

Working closely with Greg, Jessica just served in a similar role on the SR 101L widening project from Princess to Shea. Responsible for design management, interdisciplinary coordination, and design task oversight on the SR 30 and system TI segment of Project 2, she has been selected for this role based on her experience leading final design teams, history completing urban freeway and interchange design for ADOT, comprehensive alternative technical and innovative concept development, and collaborative approach to successful stakeholder engagement. Jessica brings a range of transportation experience including ADOT corridor planning, scoping documents, preliminary engineering, final design, and construction administration—a unique skill set that gives ADOT value in a leader who understands how design components will affect construction schedule and life cycle costs. Her experience gained over 20 years on more than 25 projects align well with the leadership needs of this complex final design contract.

Segment & Design Management Experience

- SR 101L, Princess Drive to Shea Boulevard: North Segment Manager
- SR 101L, 75th Ave to I-17: East Segment Manager
- SR 202L SMF: Segment B Roadway Segment Manager
- SR 101L, I-17 to Princess DB Design/Construction: GEC Project Manager

SR 202L Segment Lead
David Rutkowski, AZ PE #43314

60%/60%
23 Years
BSCE

David's experience in the Valley spans over 23 years including more than 12 years of leading complex projects for ADOT and COP, demonstrating his ability to lead the SMF Widening Segment of Project 2. His career has focused on the Valley's most complex freeway and arterial street projects, with an emphasis on roadway design. He brings valuable lessons learned from past projects, such as the SR 30, SR 303L to SR 202L DCR (developed crossroad designs); Avenida Rio Salado/Broadway Road (designed SR 30 end of freeway condition); and SR 202L SMF (engineered cost effective, efficient designs on the I-10/SR 202L Interchange). Coupling this experience with David's recent work on SR 202L Lindsay Road TI and SR 303L 51st and 43rd Avenues TIs, he has the area knowledge and expertise to develop solutions that meet stakeholder expectations while finding options to better optimize ADOT's budget.

Segment & Design Management Experience

- SR 202L Lindsay Road TI: Project Manager
- SR 303L, 51st Ave and 43rd Ave TIs: Design Manager
- SR 101/Miller Road Final Design: Design Manager
- SR 202L, Santan Design-Build: Segment Design Manager
- SR 202L, Red Mountain Design-Build: Segment Design Manager

Exhibit 9. *WSP Team Organization Chart*

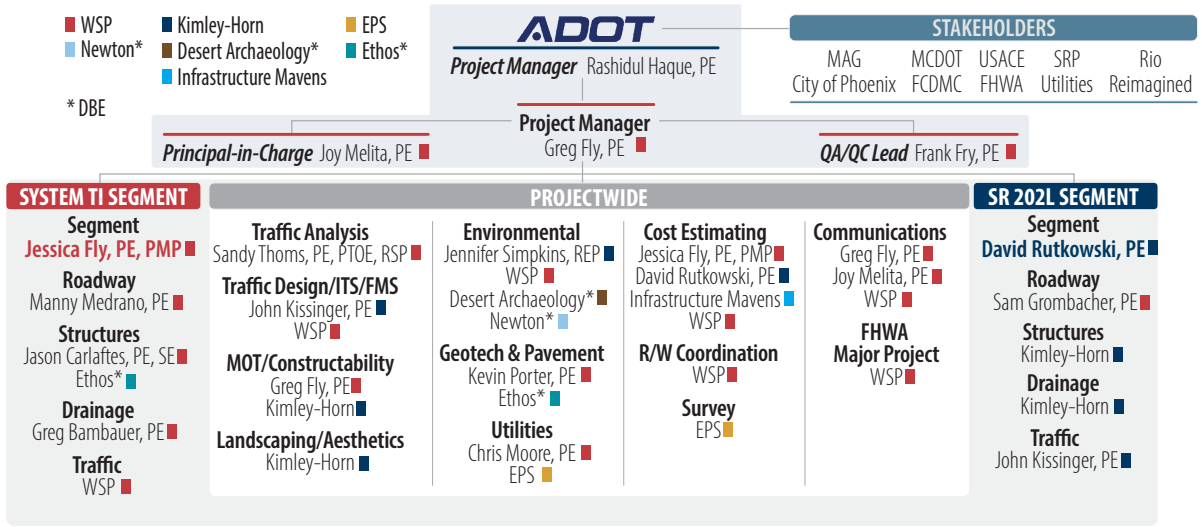


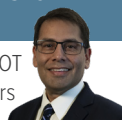
Table 8. *Additional Key Personnel*

QA/QC Frank Fry, AZ PE #37622
15%/15% | 27 Years | BSCE

- 27 years of freeway design, delivering projects like SR 202L South Mountain Freeway, I-10 Val Vista to I-8, I-19 Irvington Road TI, and I-10 Ruthrauff TI
- As a key team member on so many large projects, Frank knows ADOT's standards and expectations

Frank will work with Greg to develop and implement our quality management process. He's recently fulfilled a similar role as quality lead for the Pecos Segment of the SR 202L SMF.

Roadway/System TI Manny Medrano, AZ PE #37310
70%/70% | 25 Years | BSCE



- Extensive roadway engineering experience on over 55 ADOT projects, including final design on all MAG freeway corridors
- Lead engineer for numerous system and service TIs, both configuration concepts and final design

Manny has 25 years of ADOT design experience with over 22 years focused on freeway projects, including SR 202L SMF. His design expertise, modeling competency, and attentiveness to quality will bring great value to SR 30.

Roadway/SR 202L Sam Grombacher, AZ PE #62487
70%/70% | 12 Years | BSCE

- Involved in the final design of 15 traffic interchanges (TIs) in the Phoenix area
- Successfully developed cost-effective design solutions without cutting scope on several recent ADOT urban freeway projects

Sam has worked on nearly every urban freeway in the Phoenix area. His SR 202L SMF design experience and history of evaluating interim and ultimate conditions of urban freeways will help reduce costs for ADOT.

Structures Jason Carlaftes, AZ PE #45151, SE #50678
70%/70% | 22 Years | MSCE, BSCE

- 22 years of innovative urban bridge design with understanding of modern and ABC techniques
- 14 years of complex DB construction, specializing in construction risk and conflict identification and mitigation

Jason led structures for the I-10 Broadway Curve and SMF projects as well as multiple large scale complex freeway projects out of state. He understands the balance of innovation, constructability, and ADOT's requirements.

Utilities Chris Moore, AZ PE #41935
40%/40% | 24 Years | BSCE

- Extensive utility coordination on I-10 between Phoenix And Tucson
- Worked with Greg as utilities lead on SR 101L Princess Dr to Shea Blvd

Chris has provided design and roadway engineering services for multiple urban freeways for ADOT and was responsible for utility coordination on many of these projects, partnering with the same agencies he'll work with on SR 30.

Environmental Jennifer Simpkins, REP #6063
40%/40% | 23 Years | MS Env. Res.

- 23 years of experience in managing environmental regulatory compliance with a focus on ADOT
- Jennifer recently completed EA Re-evaluations for I-10 Gap and US 95 Rifle Range Road

Jennifer works with ADOT EP daily obtaining environmental clearances on many in-house design projects and on ADOT's environmental on-call contract. She regularly collaborates with design teams to ensure environmental tasks are coordinated to maintain project schedules.

Traffic Analysis Sandy Thoms, AZ PE #60181, PTOE, RSP$_1$
40%/40% | 13 Years | MSCE, BSCE

- Proficient with microsimulation modeling on complex urban freeway projects
- Her detailed approach to modeling traffic data yields reliable results that inform design

Sandy was responsible for the VISSIM modeling and Change of Access Report for I-10 Broadway Curve. She has already begun modeling this project, identifying the cost savings and operation issues on Page 7.

Traffic/ITS/FMS John Kissinger, AZ PE #27128, PTOE
40%/40% | 37 Years | BSCE

- 37 years of planning, design, and operation of transportation facilities
- Experience with urban corridor ITS infrastructure

John has experience with the design of urban corridor ITS infrastructure, including designs fiber optic and wireless communication, CCTV and Dynamic Message Signs (DMS) systems, ramp metering systems, and wrong way detection systems.

Drainage Greg Bambauer, AZ PE #37844
70%/70% | 27 Years | BS Hydrology

- Led drainage for two segments of the SR 202L SMF and overall drainage lead through construction
- Recent experience as a GEC reviewer associated with SR 101L GPL and the I-10 Broadway Curve widening

Greg will solve the drainage challenges faced by the outfall at the Tres Rios Wetlands. He's led similar, complicated efforts throughout the state, including his work on the adjacent drainage channel for the SR 202L SMF.

Geotechnical Kevin Porter, AZ PE #41716
50%/50% | 27 Years | MSCE, BSCE

- 27 years of experience with ADOT/AASHTO requirements
- Knowledge of geologic and geotechnical conditions in the area based on SR 202L SMF experience

Kevin is experienced in construction, earthwork, subsurface investigations, deep and shallow foundations, pavements, soil stabilization techniques, slope stability analyses, and other analyses and design.

Our Subconsultants

Kimley-Horn has partnered with ADOT on hundreds of projects and proven their commitment to the agency. Their experience in the SR 30 corridor area and strong relationships with project stakeholders make them ideal for **SMF widening segment design, FMS/ITS, traffic, environmental, and landscaping/aesthetics services** on this project. We previously worked with them on SR 101 L, I-17 to Princess Drive where we served as the GEC.

- **Relevant ADOT Experience:** SR 30, SR 303L to SR 202L DCR, SMF, and Environmental On-Call
- **Relevant COP Experience:** Avenida Rio Salado/ Broadway Road and NW Transportation Roadways
- **Relevant MCDOT Experience:** MC 85, 107th Avenue to 75th Avenue and Southern Avenue, 51st Avenue to 37th Lane.

EPS Group (EPS) will exclusively support the WSP team with utility and survey services. They have extensive ADOT and municipal experience with utility coordination and surveying on public works projects and serve on the ADOT Survey On-Call contract. Within the project area, they prepared MCDOT plans for Broadway Road adjacent to SR 30. Many of the same utility providers that EPS worked with on the Broadway Road project extend into Project 2 limits, including SRP with USA fee easements.

Ethos is a certified DBE firm who will assist with providing geotechnical and structural services. They also supported WSP with similar services on SMF (including Salt River Bridges).

Desert Archaeology is a certified DBE providing cultural resources support to our team. We have partnered on several ADOT projects together, including I-10 Broadway Curve.

Newton, a certified DBE, will perform hazardous materials consulting services. They have experience completing PISAs and ACM/LBP assessments for ADOT, MCDOT, and local public agencies.

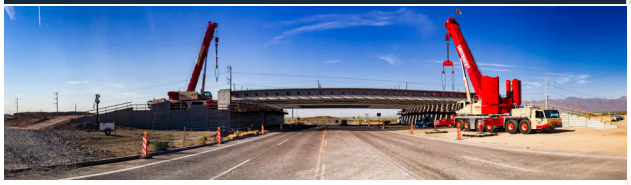
Infrastructure Mavens (IM) will serve as our ICE. They use In-Eight Estimating Software (common by heavy contractors) for cost estimating, which includes anticipated productions and breakdown of labor, equipment, materials, supplies, and subcontractor cost.

Relevant Experience

Our extensive ADOT freeway design experience on projects with similar features, complexities, cost, and stakeholders covers the spectrum of the SR 30 project needs is shown in *Table 9*.

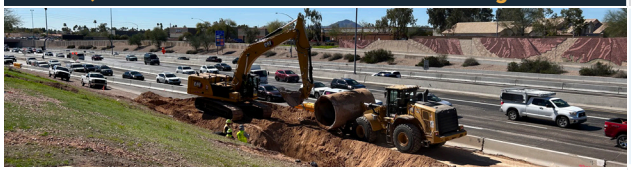
Table 9. *Our Team's Relevant Experience*

	DETAILS			SIMILAR TASKS & ELEMENTS													
	Owner	Role	Construction Cost	Freeway Final Design	Ramp Geometrics	DE – DV Approval	Maintenance of Traffic	Traffic/ITS/ FMS	Operations Analysis	Drainage	Bridge – Walls	Geotech	Utilities	Right-of-Way	NEPA	Stakeholder Coordination	Public Outreach
SR 202L South Mountain Freeway	ADOT	Prime Design	$1B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓



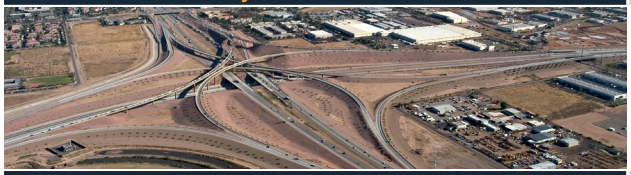
Within the SR 30 Project 2 corridor improvements, ADOT's largest project and first P3 constructed 22-miles of new urban freeway connecting I-10 (Papago Freeway) to I-10 (Maricopa Freeway) with 13 interchanges, 40 bridges, and five miles of I-10 widening. **WSP led the design team and oversaw all components and constraints within the SR 30 System TI project area.** Our work on SMF gives us a head start on Section 404 permitting, USACE coordination, utility relocation work, and corridor aesthetics/landscape design to streamline SR 30 approvals. WSP prepared detailed MOT/traffic control plans and presented them to stakeholders, including advanced notifications to the public. We also participated in engagement efforts with many of the same stakeholders, including MAG, COP, FHWA, FCDMC, and MCDOT.

SR 101L, Princess Dr to Shea Blvd GPL Widening	ADOT	Prime	$109M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



Greg was project manager for final design of the addition of a new general-purpose lane in each direction and the widening of four major structures. He led the effort with the coordination with City of Scottsdale, CAP, ADOT Air Quality, and other stakeholders. WSP's responsibilities include environmental documentation preparation, utility relocation coordination, roadway design, drainage design, geotechnical investigations and reports, structure analyses, traffic design, and construction bid document preparation. The first ADOT project approved under the EPA's new air quality practices, **WSP worked with ADOT PMG and EP in navigating detailed FHWA/EPA reviews to obtain AQ Conformity.**

I-10/SR 202L Santan System TI	ADOT	Prime	$90M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

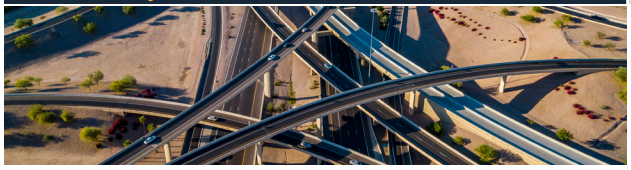


Similar to the SR 30/SR 202L System TI, **this new interchange consisted of a four-level, fully directional freeway-to-freeway connection between an existing facility (I-10) and a new corridor (SR 202L).** WSP led the final design that included the interchange flyover ramp geometric layouts, bridge design (10), retaining walls, MOT strategies, corridor signage, and utility relocations. Our team refined the SR 202L alignment to avoid R/W takes from the Gila River Indian Community and were able to realign the south ramps of the Chandler Boulevard TI to eliminate expensive temporary bridges during construction.

SR 101L/SR 202L System TI	ADOT	Prime	$91M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

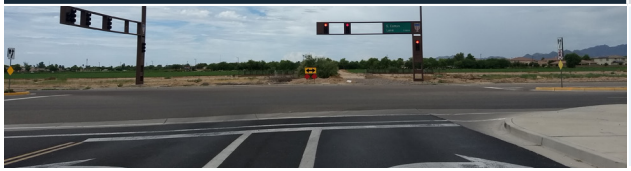
Situated within the Salt River bed, this new fully directional System TI connected the Pima, Red Mountain, and East Papago Freeways and handled many of the same challenges SR 30 will face. WSP led the interchange design that incorporated stack- and rotary-type geometrics, with principal traffic movements as flyover ramps, and lower-volume movements in a turbine configuration, as well as frontage road connections to local arterials. Design of pier foundations for the mainline crossings and ramps required a detailed scour analysis and consideration of scour depths, similar to ADOT's needs on SR 30. As part of this project, we designed the Price Road Drainage Tunnel Outfall, an extension of the drainage facility serving the Price Road/US 60 Interchange and an energy dissipation structure at the Salt River a part of this project. We are prepared to design and coordinate similar features and activities with FCDMC, FEMA and USACE for the SR 30 Outfall near 97th Ave.

I-10 Broadway Curve	ADOT	GEC	$616M		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



WSP is providing program management services for improvements associated with the I-10 Broadway Curve Project. The project limits stretch from the I-10/I-17 System TI east to I-10/SR 202L Santan System TI, involving 11 miles of widening, HOV lanes, SR 143 and US 60 System TI reconstruction, and collector-distributor roadways. **An FHWA Major Project like SR 30**, we were heavily involved in the foundational aspects that will be needed for successful SR 30 delivery: NEPA documentation (EA) and clearance; R/W parcel assessment, turnback, and coordination; FHWA Major Project processes; risk management; specification development; public outreach; and stakeholder engagement.

SR 303L, MC 85 to Van Buren Street	ADOT	Sub	$550M	✓	✓	✓			✓	✓	✓		✓				



To the west of the SR 30 project area, we led traffic engineering analysis to evaluate options on how to transition SR 303L into Cotton Lane. Our team provided a safety analysis, analyzing historical crash data (including crash rates), and summarized patterns and findings within the TIA report. Initial project designs **included various scenarios for the end-of-freeway conditions** and our analysis has expanded into multiple phases to provide greater support and justification for the final design.

Project (Contract) Manager
Greg Fly, AZ PE #49430

- 75%/75% Available/Committed
- 20 Years of Experience (20 with WSP)
- BS Civil Engineering

A PM that has completed final design for new freeways

- Design Manager for SR 202L SMF, which serves as the foundation of this project.
- Previously worked with Rashidul Haque to deliver multiple projects including US 95 (16th Street Widening), SR 280 (Ave 3E), SR 101L (I-17 to Princess) DB Procurement, and SR 260 Lion Springs.
- Has helped develop cost saving alternatives for ADOT projects as part of ADOT's VE Contract.

Greg is excited for the opportunity to serve as PM and support ADOT in completing design of the first segment of SR 30 and its connection to SR 202L—a corridor in which he has unmatched knowledge from his experience as the SMF design manager. He is committed and available to be responsible for scope, schedule, budget, and quality requirements, and be the primary point-of-contact for Rashidul. He has extensive ADOT project development and design experience and excels at urban freeway design. Greg has shown true team leadership skills in overseeing and coordinating design between multiple subconsultant disciplines. Greg has managed various design and coordination efforts on ADOT projects that represent over $1.5B of year-of-expenditure construction dollars and has partnered with over 50 Arizona stakeholder agencies. Greg has developed a solid reputation for delivering high-quality, comprehensive project deliverables on or ahead of schedule and within budget. He understands the significance of developing designs that are constructible within confined work zones and the importance of effective MOT strategies, which lead to competitively bid projects. Greg is schedule-driven and has developed effective working relationships with ADOT technical groups, Central District and stakeholder agency and utility company representatives, which are critical to keeping the project within budget and on schedule.

Corporate Title/Role: Senior Vice President

Current Commitments:

- I-10, SR 85 to Citrus: 20% (Stage III)
- SR 101L, Princess to Shea: <5% (Post Design)
- SR 260 Lion Springs: <1% (Shelf Project)

Professional Experience

ADOT SR 101L, Princess Drive to Shea Boulevard, Scottsdale, Arizona: Greg was project manager providing final design services for the addition of a new general-purpose lane in each direction and the widening of four major structures. He led coordination efforts with City of Scottsdale, CAP, Beverly Chenausky (ADOT Air Quality), and other stakeholders. WSP's responsibilities included environmental documentation preparation, utility relocation coordination, roadway design, drainage design, geotechnical investigations and reports, structure analyses, traffic design, and construction bid document preparation. *Greg and his team delivered this complex project on time within a very tight schedule, which included IGAs and cost-sharing with City of Scottsdale.*

"I want to express to you appreciation for the job Greg Fly and his team did to lead and deliver the 101L widening project, from Princess - Shea (F0123 01C).... he consistently communicated and followed up as necessary to keep things moving forward and responded when we needed him to. To say the team did a 'good' job navigating through some of the requests and changes is an understatement."

Derek B. Boland, PE, PMP
ADOT Project Management Group

ADOT SR 101L, I-17 to Pima Road GEC DB, Phoenix Metro, Arizona: Project manager that led the GEC services during procurement for this project. Greg worked with ADOT PMG and the ADOT Technical Groups to develop the procurement documents and provided support during the One-on-One and Alternative Technical Concept review process. In addition, Greg coordinated with COP and City of Scottsdale on allowable ramp closures and weekend detour routes. Major elements of the project include adding an additional GPL to SR 101L in each direction from I-17 to the Princess/Pima, 28 bridge widenings, and one new bridge.

ADOT SR 202L South Mountain Freeway, Phoenix Metro, Arizona: Design manager on this project that completed the SR 202L from I-10 (Maricopa Freeway) to I-10 (Papago Freeway). Greg's responsibilities included serving as the overall design manager and segment design manager for the Pecos construction segment, which included the management and oversight of all design disciplines and subconsultants for the preparation of final plans and specifications. He also was the overall roadway design lead during the design-build pursuit process that took the project to 30% plans prior to selection. WSP led the design of SR 202L South Mountain Freeway P3, a 22-mile, four-lane freeway that includes 13 interchanges; two half-diverging diamond interchanges; one double-roundabout interchange; 40 bridges; a 6-mile, 20-foot-wide adjacent shared-use path for pedestrians, bicyclists, and other non-vehicular traffic; five multi-use underpass crossings; and 4.5 miles of widening improvements for I-10. The project also included a rigorous quality control process to ensure compliance with the project's technical provisions. *With a construction cost in excess of $1 billion, Greg led the WSP design team and delivered nearly 8,000 plan sheets of technical information within 18 months.*

ADOT SR 101L, 75th Avenue to I-17 GPL Widening, Phoenix Metro, Arizona: Quality reviewer for adding a general-purpose lane from 43rd Avenue to I-17, approximately 3 miles of the 6-mile project corridor. Project design includes mainline widening, bridge widenings, traffic analyses, new retaining and sound walls, modifications to on-site and off-site drainage facilities, lighting, ITS, signing, pavement marking, landscaping and irrigation, utility coordination, ADA compliance, traffic signal modifications and maintenance of traffic. The project also includes ROW, utility and environmental clearance coordination, stakeholder coordination with COP, City of Glendale, City of Peoria, MAG, FHWA, and FDCMC. WSP is a subconsultant for the delivery of this project. Greg's responsibilities included checking roadway design elements, interdisciplinary conflicts, consistency with other SR 101L segments, and overall QA/QC.

Professional Experience Continued

ADOT SR 202L, SR 101L to Broadway Road GPL Widening Design-Build, Mesa, Arizona: Deputy project manager and roadway lead for WSP's work on this project to widen HOV lanes and add GPLs to SR 202L Red Mountain Freeway. Greg was involved from the proposal stage and was responsible for post-design coordination for WSP. WSP, as a subconsultant, provided design services for this ADOT project, which involved GP and HOV lane widening along SR 202L from SR 101L to Broadway. WSP's responsibilities included the design of 20 miles of GP and HOV lane PCCP widening, four bridge structure widenings, retaining walls, drainage, signing, striping, lighting, maintenance of traffic, landscaping, and freeway management system components of the project. *The WSP design widened SR 202L through 10 ramp gores and maintained ramp traffic without any long-term closures.*

ADOT SR 202L, I-10 to Gilbert Road Design-Build, Phoenix Metro, Arizona: Roadway lead for the I-10 to SR 101L segment of this project. Greg's responsibilities included geometric design, modeling, coordination with ADOT staff and stakeholders to deliver sealed plans in a compressed schedule. WSP was responsible for the design of two freeway-to-freeway HOV ramp bridge structures, and median widening of the existing freeway to accommodate new HOV lanes on SR 202L from I-10 to Gilbert Road. The project included the design of four freeway-to-freeway HOV ramp bridge structures; internal and external widening of the existing freeway to accommodate the HOV lanes and reconfigured interchange ramps; and more than 20 lane miles of PCCP, retaining walls, drainage, signing, and striping and lighting.

ADOT I-10, SR 87 to Picacho Peak Widening Design, Pinal County, Arizona: Greg served as roadway designer responsible for providing quality control reviews for roadway (geometric, earthwork, safety features), utility, and right-of-way portions of the construction documents. WSP provided final design of proposed improvements on Interstate 10, resulting in an interim widening from two lanes in each direction to three, by adding lanes generally on the outside of the roadways. The goal of the project was to increase capacity and improve traffic operations and safety for this segment of I-10, which extends from the SR 87 Interchange westbound entrance ramp connection to I-10 to the Picacho Peak State Park. WSP's responsibilities included utility relocation, right of way acquisition, construction of two new bridges, drainage facilities, traffic signals, and lighting.

ADOT US 60/Bell Road Interchange DB, Phoenix, Arizona: Project manager responsible for oversight of roadway and wall designs for US 60. Greg was the design lead during the DB pursuit process which took the project to 30 percent plans prior to selection. WSP provided final design services for the for the roadway improvements to US 60 portion of the project. The project provided a grade-separated crossing of US 60 with Bell Road elevated over US 60 and the Burlington North and Santa Fe Railroad Railway, with new access ramps connecting US 60 with Bell Road in the median area of US 60. *WSP delivered final sealed plans that were released for construction within four months of NTP.*

ADOT SR 202L, University Drive to Southern Avenue, Mesa, Arizona: Design engineer responsible for barrier calculations and the production of the plans and estimates on this 2.2-mile segment of depressed urban freeway for ADOT. WSP provided design services for a section of the Red Mountain Freeway, from University to Southern Avenue. The project also included the design of three cast-in-place box girder bridges in addition to other construction services. The scope of work involved widening of the existing section of urban freeway for ADOT between the on-and-off ramps in both the eastbound and westbound direction to facilitate the addition of the auxiliary lanes, as well as the relocation of drainage and FMS systems.

ADOT SR 51 DB HOV Lane Design Services, Phoenix, Arizona: Design engineer involved in the production of as-built plans for this DB project. WSP served as the lead designer for this 10-mile project to add HOV lanes and ramp improvements to widen SR 51 from McDowell Road to Shea Boulevard. The project consisted of the preparation of final design plans, including roadway, drainage, traffic, utility relocation, and landscape, as well as special provisions and cost estimates. The fiber network included 14 miles of fiber optic cable, the plan and equipment for field ITS equipment, CCTV, VMS, ramp meter, detector station, WIM and traffic signals.

SR 30/System TI Segment Lead

Jessica Fly, AZ PE #52512, PMP

70%/70% Available/Committed
20 Years of Experience (18 with WSP)
BS Civil Engineering

Jessica as Segment Lead

- Segment and roadway lead on SR 101L GPL widening projects with Greg, including gore geometrics, jointing details, and quantity calculations.
- Recent experience delivering DE/DV documentation, IGA exhibits/agreements, and Bentley OpenRoads.
- Design oversight experience with constructing GPLs/HOVs, bringing practical lessons learned to SR 30.

Working closely with Greg, Jessica recently served in a similar role on the SR 101L widening project from Princess to Shea. Responsible for all design management, interdisciplinary coordination, and design task oversight on the System TI Segment of Project 2, she has been selected for this role based on her experience leading final design teams, history completing urban freeway and interchange design for ADOT, comprehensive alternative technical and innovative concept development, and collaborative approach to support Greg in successful stakeholder engagement. Jessica brings a broad range of transportation experience including ADOT corridor planning, scoping documents, preliminary engineering, final design, and construction administration—a unique skill set that gives ADOT value in a designer who understands how design components of a project will affect construction schedule and life-cycle costs. Her experience gained over 20 years on more than 25 projects aligns well with the leadership needs of this complex final design contract.

Corporate Title/Role: Vice President

Professional Experience

ADOT SR 101L, Princess Drive to Shea Boulevard, Scottsdale, Arizona: Design segment manager for adding a new general-purpose lane in each direction and widening four major structures. Jessica led roadway design using OpenRoads, provided multidisciplinary coordination, prepared special provisions, and compiled the overall project cost estimate. She also supported Greg with stakeholder coordination, including City of Scottsdale, CAP, MAG, and FHWA. WSP's responsibilities include environmental documentation preparation, utility relocation coordination, roadway design, drainage design, geotechnical investigations and reports, structure analyses, traffic design, and construction bid document preparation.

ADOT SR 101L, 75th Avenue to I-17 GPL Widening, Phoenix Metro, Arizona: Design segment manager responsible for scoping and final design for improvements associated with adding one lane in each direction, system and service TI ramp and gore reconstruction, bridge widenings, on-site drainage, and signing/pavement marking infrastructure. Other corridor improvements include lighting, ITS, and landscaping. WSP is providing roadway, wall, drainage, signing, pavement marking, and bridge design services. Jessica's responsibilities include segment design management, roadway design, OpenRoads modeling, alternative analyses, stakeholder coordination, utility coordination, risk management, quality control, and interdisciplinary coordination.

ADOT SR 101L, I-17 to Pima Road DB, Phoenix Metro, Arizona: Project manager for GEC services during design and construction on this GPL widening project that included 13 miles of urban freeway widening, 12 bridge widenings, reconstruction of service TI ramps and gores, and other corridor signing, lighting, and landscape improvements. Jessica was responsible for project scope development, contract development, design oversight, and construction management services. Her responsibilities included stakeholder coordination, alignment of project scope to available budget, preparing requests for qualifications/requests for proposal documents, design phase oversight and plan reviews, project document control, and construction administration tasks including RFI response, resolving field issues, reviewing change orders, and assisting the ADOT RE and inspection staff.

ADOT SR 202L South Mountain Freeway, Phoenix Metro, Arizona: Design segment manager for the design of a new 22-mile, four-lane freeway facility including 13 new interchanges; two half-diverging diamond interchanges; one double-roundabout interchange; 40 bridges; a six-mile, 20-foot-wide adjacent shared-use path for pedestrians, bicyclists, and other non-vehicular traffic; five multi-use underpass crossings; and 4.5 miles of widening improvements for I-10. Jessica's responsibilities included roadway segment management, roadway design, InRoads modeling, alternatives analyses, interdisciplinary coordination, plan production, and quality control.

ADOT SR 202L, SR 101L To Broadway Road GPL Widening, Mesa, Arizona: Roadway engineer for WSP's work on this project to widen HOV lanes and add GPLs to SR 202L Red Mountain Freeway. Greg was involved from the proposal stage and was responsible for post-design coordination for WSP. WSP, as a subconsultant, provided design services for this ADOT project, which involved GP and HOV lane widening along SR 202L from SR 101L to Broadway. WSP's responsibilities included the design of 20 miles of GP and HOV lane PCCP widening, four bridge structure widenings, retaining walls, drainage, signing, striping, lighting, maintenance of traffic, landscaping, and freeway management system components of the project.

ADOT I-10 Broadway Curve (I-17 to SR 202L), Maricopa County, Arizona: WSP is providing GEC services for this regionally significant project. The project realigns I-10 from I-17 to SR 202L, including reconstruction of the I-10/SR 143/US60 System TI and 11 miles of general-purpose lane widening. Other improvements include corridor signing, lighting, ITS, and landscaping. Jessica's procurement phase responsibilities included scope evaluation and development, urban freeway schematic design, program management (cost estimate and schedule development), procurement documents development, specification development, FHWA Major Project document development, risk management, and stakeholder coordination.

ADOT SR 202L, I-10 to Gilbert Road Design-Build, Phoenix Metro, Arizona: WSP was responsible for the design of two freeway-to-freeway high occupancy vehicle ramp bridge structures within the I-10 system TI, and median widening of the existing freeway to accommodate new high occupancy vehicle lanes on SR 202L from I-10 to Gilbert Road. The project included the design of four freeway-to-freeway high occupancy vehicle ramp bridge structures; internal and external widening of the existing freeway to accommodate the high occupancy vehicle lanes and reconfigured interchange ramps; and more than 20 lane miles of Portland cement concrete pavement, retaining walls, drainage, signing, and striping and lighting. Jessica's responsibilities included roadway design, InRoads modeling, interdisciplinary coordination, plan preparation, post design services, and project documentation and quality control tasks.

SR 202L Segment Lead

David Rutkowski, AZ PE #43314

60%/60% Available/Committed
23 Years of Experience (8 with KHA)
BS, Civil Engineering

David as Segment Lead

- David has been a roadway design engineer since day one of his career, designing everything from simple sidewalk projects to directional traffic interchanges for ADOT.
- He has worked for or with virtually every municipality and utility company in the Valley and understands their goals, objectives, and design standards, which allows him to create alternatives that easily gain consensus.
- David's experience includes working on more than a dozen alternative delivery projects including CMAR and Design-Build projects for ADOT, and he has worked side by side with contractors to understand exactly how things are constructed and the space needed to construct them.
- David is currently Kimley-Horn's contract manager for their alternative delivery on-call contract with ADOT and has led multiple value engineering sessions to provide viable alternatives to reduce cost and add value to each project.

David's experience in the Valley spans over 23 years including more than 12 years of leading complex projects for ADOT and COP projects demonstrating his ability to lead the SMF Widening Segment of Project 2. His career has focused on the Valley's most complex freeway and arterial street projects, with an emphasis on roadway design. He brings valuable lessons learned from past projects, such as the SR 30, SR 303L to SR 202L DCR (developed crossroad designs); Avenida Rio Salado/Broadway Road (designed SR 30 end of freeway condition); and SR 202L SMF (engineered cost effective, efficient designs on the I-10/SR 202L Interchange). Coupling this experience with David's recent work on SR 202L Lindsay Road TI and SR 303L 51st and 43rd Avenues TIs, he has the area knowledge and expertise to develop solutions that meet stakeholder expectations while finding options to better manage ADOT's budget.

Corporate Title/Role: Vice President

Professional Experience

Kimley»Horn

ADOT/Town of Gilbert SR 202L Lindsay Road TI, Gilbert, Arizona: PM for this new full-access diamond TI at Lindsay Road and SR 202L. The Town of Gilbert administered the design of the project in coordination with ADOT, who constructed the TI using federal funding. The design was completed to ADOT standards and specifications within ADOT R/W and followed the normal ADOT design process. Prior to this project, David and his team participated in an early utility relocation project that set the stage for the TI construction. The project scope included reconstruction of Lindsay Road to provide additional capacity, the relocation of the adjacent Zanjero Park parking lot, right-of-way acquisition and turnback's, the construction of a frontage road between Gilbert Road and Lindsay Road, and the relocation of 69kv APS overhead powerlines that crossed over the SR 202L freeway.

ADOT SR 303L 51st Avenue and 43rd Avenue Interchanges, Phoenix, Arizona: Subconsultant PM for this project that included the design and construction of two TIs to serve the Taiwan Semiconductor Manufacturing Company's (TSMC's) new plant in the North Valley. The 51st Avenue TI was shifted 1,500 feet to the west of the original location planned when the interim SR 303L was constructed. Kimley-Horn provided crossroad design services for drainage, roadway, and traffic signals in addition to designing all roadway lighting, landscape, and aesthetics. This project required the installation of multiple box culverts and a Conditional Letter of Map Revision to remap the adjacent flood plain. David also managed the design of 5.5 miles of arterial street for the COP that ties into these TIs to complete the roadway network adjacent to the plant.

ADOT City of Scottsdale, SR 101L Miller Road CAA and Final Design, Scottsdale, Arizona: PM for this project to provide an alternative analysis and preliminary design for a grade-separated crossing of SR 101L over Miller Road. The team completed detailed construction cost estimating, phasing, structure type selection, and MOT designs to allow the City of Scottsdale to demonstrate to ADOT that building a new roadway under SR 101L could be done with minimal impact to the traveling public. At the completion of this project, David and the team provided final design services to ADOT for the Miller Road crossing as part of the SR 101L, I-17 to Pima Road Design-Build. The Miller Road alignment below SR 101L will be used once future development occurs on adjacent ASLD parcels. This project is the recipient of the 2019 Arizona Transportation Partnering Excellence Award.

ADOT I-40/US 93 West Kingman TI VE, Kingman, Arizona: PM for this value engineering study that included the review of roadway/drainage, structural and traffic design features, and significant cost estimating services to provide alternatives to minimize project cost, streamline constructability, and enhance safety. Some of the alternatives included reversing grade-separated crossings, shifting bridge column locations, realigning and existing wash, and revising extra bridge spans to roadway on embankment. This value engineering study was a four-day exercise which included information, function analysis, evaluation, development, creativity, and report out phases.

ADOT SR 202L Santan Freeway, I-10 to Gilbert Road HOV Lanes DB, Chandler, Arizona: Design manager/ project engineer. David provided design management and roadway design services for this $85M design-build project for the Pulice-Granite Joint Venture. This project provided new HOV lanes within the median of SR 202L for each travel direction including major HOV directional ramp structures at the I-10/ SR 202L TI and the SR 101L/SR 202L TI. Additional tasks included the widening of a service interchange bridge that is embedded within the SR 101L/SR 202L TI, numerous retaining walls including heights exceeding 45 feet, on-site drainage improvements, upgraded freeway signing, pavement marking and lighting, concrete median barriers, landscaping modifications and restorations, a new utility crossing, and comprehensive design surveys. Nearly 25 lane miles of new HOV access has improved traffic flow, reduced freeway congestion, encouraged carpooling, and facilitated an ever-expanding regional transportation network.

ADOT SR 202L Red Mountain Freeway, SR 101L to Broadway Road DB, Mesa, Arizona*: Design manager for the design of Segments 2 and 3 for the lead design firm for the fast-track design which added over 20 miles of HOV/ GPL lanes on this section of the SR 202L. The final design was completed in four months, while working directly for the Pulice-Granite Joint Venture. Project features included four bridge widenings, retaining walls, drainage improvements, MOT, signing, lighting, landscaping, noise walls, mainline lighting, FMS, utility relocations, and survey. The construction and design team successfully provided ADOT and the Pulice-Granite Joint Venture with rapid implementation of the project's design and construction documents while maintaining cost, quality, and safety. The team integrated design concepts and construction techniques to facilitate an MOT and phasing plan that maintained access for freeway and local commuters, is mindful of the local adjacent businesses, and served to balance the interests of the surrounding communities and many project stakeholders.

***Prior to joining Kimley-Horn**

QA/QC
Frank Fry, AZ PE #37622

15%/15% Available/Committed
27 Years of Experience (9 with WSP)
BS Civil Engineering

Why Frank

- Leads WSP's roadway group in southern Arizona.
- Extensive experience in roadway design, drainage systems, and utility coordination.
- Versatile skill set and knowledge of ADOT's project development process, from standards and submittals to federal requirements.

Frank will work with Greg to develop and implement our quality management process. He's recently fulfilled a similar role for ADOT as quality lead for the Pecos Segment of the SR 202L SMF Pecos Segment. For the last year, he's served as a supplemental PM in ADOT's Project Management Group, which has given him further insight into ADOT's expectations and needs. He is a seasoned senior civil engineer with WSP who will bring the knowledge and expertise of an over 25-year career in Arizona. He understands the concerns and local issues associated with the development of this area.

Frank has successfully delivered public infrastructure projects of varying complexities, from safety enhancement projects to intricate 12-lane freeway widening. With a proven record of following projects to completion, Frank consistently prioritizes clients' best interests and expertly manages risks that may impact schedule and budgets.

Corporate Title/Role: Assistant Vice President

Professional Experience

ADOT Loop 202 South Mountain Freeway, Phoenix, Arizona: Frank led the roadway design and production for the easternmost 6.5-mile segment of the proposed extension, which included new traffic interchanges at 40th Street, 32nd Street, 24th Street, and Desert Foothills Parkway. WSP was lead designer for Loop 202 South Mountain Freeway. The 22-mile, four-lane freeway included 13 interchanges; two half-diverging diamond interchanges; one double-roundabout interchange; 40 bridges; a 6-mile, 20-foot-wide adjacent shared-use path for pedestrians, bicyclists, and other non-vehicular traffic; five multi-use underpass crossings; and 4.5 miles of widening improvements for Interstate 10. The project also included a rigorous quality control process to ensure compliance with the project's technical provisions.

ADOT SR 101L, I-17 to Pima Road DB GEC, Phoenix Metro, Arizona: Frank prepared design requirements based on the DCR before advertisement for contractor selection. After selection, his role shifted to design oversight and coordination with the contractor's design team. He was responsible for reviewing drainage plans in accordance with the DRs and provided comments and/or approval accordingly.

ADOT I-10 Widening, Earley Road to I-8, Casa Grande, Arizona: Lead roadway engineer for the reconstruction and widening of I-10. Frank was responsible for roadway design, specifications, engineer's estimate, and post design services. The project included 4-miles of reconstruction to widen I-10 from four lanes to six, replacement of the bridge over Jimmie Kerr Boulevard, and drainage improvements without ROW acquisitions. WSP was responsible for identifying options to reduce costs while maintaining safety and increasing capacity. Approximately two-thirds of the project consisted of inside widening to reduce costs. Due to the extremely flat grades and cross slopes throughout the corridor, the project included detailed vertical profiling to match the existing cross slopes to ensure the proposed median barrier would be constructed at the correct elevation, and also included several segments that were designed to improve the deficient superelevation.

ADOT I-19 Irvington Road TI, Tucson, Arizona: Frank serves as deputy project manager, lead roadway, and utility coordinator for the reconstruction of the traffic interchange at Irvington Road and I-19. He oversees a team of designers and coordinates with ADOT, City of Tucson, SunTran, and various utility companies. The design includes 30% Roll Plot submittal and development of a preferred design for the overpass, cross road, and ramps while mitigating impacts to existing large-scale developments and minimizing ROW acquisitions. Frank is working alongside the project manager leading the design team, tracking the budget and schedule of this fast-track design delivery.

ADOT I-10 Ruthrauff Traffic Interchange, Tucson, Arizona: As the utility coordinator for the Ruthrauff Road TI project, Frank oversaw the utility relocation effort through detailed scheduling and coordination with the contractor and stakeholders. He prepared a linear phase diagram with utility relocations to ensure timely and efficient relocation efforts. As lead roadway engineer, he conducted roadway design and earthwork calculation reviews to minimize the impact of utility relocation on the project schedule and budget.

ADOT SR 189, International Border to Grand Avenue DB Pursuit, Nogales, Arizona: Lead roadway engineer and utility coordinator in the Sundt/WSP team's design proposal for this DB project. He utilized his expertise to quickly evaluate design options, prioritize construction sequencing, and reduce costs and schedules while keeping the project within the current right-of-way (ROW). Frank also paid close attention to the impacts of each design option on adjacent developments and worked to ensure safe access, mobility, and pedestrian safety at driveways and intersections. He coordinated with utility companies to understand their needs and mitigate potential impacts, with an eye towards expediting future relocation design efforts.

ADOT I-10 Val Vista to I-8 Final Design Services, Phoenix, Arizona: Roadway engineer for WSP as we delivered final design of highway widening and roadway improvements for I-10, from Val Vista Road to Junction I-8. Improvements included adding lanes to both the inside and outside of I-10, which included 12-foot shoulders in addition to reconstructing the ramps at an existing interchange. The project consisted of a continuous 2.6-mile section in which the widening only occurs within the median to avoid impacting three existing overpasses. The project was designed to increase capacity and improve traffic operations and safety in the surrounding area.

Roadway/System TI

Manny Medrano, AZ PE #37310

70%/70% Available/Committed
25 Years of Experience (23 with WSP)
BS Civil Engineering

Why Manny

- Extensive project development experience on over 55 ADOT projects.
- Experienced at confirming compliance and adhering to requirements of a project-specific Quality Management Plan.
- Key contributor of cost saving solutions developed as part of VE, interdisciplinary and constructability reviews.

Manny has 25 years of ADOT design experience with over 22 years focused on freeway projects, including SR 202L SMF. His design expertise, modeling competency, and attentiveness to quality will bring great value to SR 30.

Throughout his career, Manny has gained well-rounded urban freeway project experience, responsible for designing and preparing project construction plans and design calculations utilizing the latest CADD platforms and standards for over 55 ADOT projects. He is well-versed in current ADOT and AASHTO design standards and has performed tasks covering the collection and evaluation of project data, project initial and final design, CADD plan production, and quality control/quality assurance. Manny's experience on several large-scale urban ADOT projects makes him the ideal team member for the raodway design lead for the system TI.

Corporate Title/Role: Assistant Vice President

Professional Experience

ADOT I-10 Broadway Curve, Phoenix, Arizona: Senior roadway lead for the general engineering consultant contract during the procurement, design, and construction phases, assisting ADOT with delivering best-value, high quality I-10 corridor improvements between I-17 and SR 202L Santan/SMF via a P3 project. GEC services started in May 2018 and will conclude with the completion of construction. Tasks relevant to SR 30 that Manny was involved with include schematic design, R/W delineation, contract development, environmental clearance, risk management, public outreach, design oversight, and construction support. Manny is currently overseeing contract management through design and construction, performing design reviews, and assisting ADOT in resolving construction issues.

ADOT I-10 Ruthrauff System TI, Tucson, Arizona: Senior roadway engineer responsible for oversight of final roadway design, quantities, and quality control for this project that widened I-10 to an eight-lane roadway and reconfigured the I-10, Ruthrauff Road Traffic Interchange to eliminate the at-grade crossing of the UPRR. This project "flipped" the roadway by lowering Interstate 10 and raising Ruthrauff Road over Interstate 10, the UPRR, and Davis Avenue/Highway Drive, while also raising the connecting frontage roads.

ADOT SR 101L, I-17 to Pima Rd, DB, Maricopa County, Arizona: WSP provided GEC services for this GPL widening project that included 13 miles of urban freeway widening, 12 bridge widenings, reconstruction of service TI ramps and gores, and other corridor signing, lighting, and landscape improvements. Manny was the Roadway technical lead responsible for oversight plan and constructability reviews, RFI response, and assisting ADOT in resolving construction issues.

ADOT SR 24 Final Design Services, Mesa, Arizona: Senior roadway engineer responsible for developing project plans, quantities, and quality control on the 2.4-mile widening of SR 202L from Power Road to Elliot Road. WSP provided final design services as a subconsultant for the system interchange along SR 24 (formerly SR 802), from SR 202L to Ellsworth. The project involved a three-span precast, prestressed concrete American Association of State Highway and Transportation Officials Type VI Girder Bridge (SR 24) over the Powerline Floodway, Powerline Floodway hydraulics, environmental clearance for geotechnical investigations, and overall utility coordination.

ADOT SR 303L, SR 30 to I-10 and I-17, Maricopa County, Arizona: Senior roadway engineer responsible for initial design and plan development for the $1.42-billion SR 303L corridor and the $1.37-billion improvements to I-17. Manny assisted with engineering elements, preliminary design, and quality control for the corridors to Stage II. He also prepared cost estimates for the design, R/W acquisition, and construction of defined segments within the freeway corridors.

ADOT US 60 (Superstition)/SR 202L (Red Mountain Freeway)/SR 202L (Santan) System TI, Phoenix, Arizona: Senior roadway engineer responsible for developing project plans and quantities on the four-mile widening of US 60 from Power Road to Crismon Road. As subconsultant, WSP provided roadway, drainage, and traffic design for widening the U.S. Route 60 and crossroad improvements. WSP also provided structure design of service ramps and retaining walls. The project required significant multi-agency coordination, as well as public involvement.

ADOT SR 202L (Red Mountain Freeway) University Drive to Southern Avenue, Mesa, Arizona: Senior roadway engineer responsible for development and quality control of final design project plans and quantities on this 2.2-mile section of depressed urban freeway. The project included the design of two diamond interchanges, as well as a one-way collector-distributor road system to service Apache Boulevard. The project also included the design of three cast-in-place, post-tensioned concrete box girder bridges and off-site and on-site drainage facilities, as well as signal, lighting, signing, and striping design for the freeway and three city street crossings of the depressed facility.

Roadway/SR 202L

Sam Grombacher,

AZ PE #62487

70%/70% Available/Committed
12 Years of Experience (1 with KHA)
BS Civil Engineering

Why Sam

- Involved in final design of 15 TIs in the Phoenix area.
- Career focused on design, management, and construction of complex ADOT projects.
- Established ADOT and stakeholder relationships.
- History of implementing Performance-Based Practical Design approach to deliver budget-friendly projects.

Sam has worked on nearly every urban freeway in the Phoenix area, demonstrating his ability to work through details, develop design solutions, and clearly communicate them. His SR 202L SMF design background and experience evaluating interim and ultimate conditions of ADOT urban freeways will help foster collaboration and decision making. His career has been focused on the design, management, and construction of complex ADOT projects, having worked on nearly every urban freeway in the Phoenix area. His demonstrated ability to work through details, develop design solutions, and clearly communicate them makes him the perfect person to lead roadway design for this project. Sam's established ADOT and stakeholder relationships, proven success with this design team, SR 202L South Mountain Freeway design background, and his experience evaluating interim and ultimate conditions of ADOT urban freeways will help foster collaboration and decision making.

Corporate Title/Role: Associate

Professional Experience

Kimley»Horn

ADOT SR 202L (Red Mountain Freeway), SR 101L to Broadway Road DB, Mesa, Arizona*: Roadway design lead for the widening of about 3.5 miles of urban freeway, including reconstruction and entrance and exit ramps at four traffic interchanges. This widening required thousands of feet of new retaining walls and sound walls that Sam developed the profiles for based on his roadway design and model. Additionally, Sam coordinated with the bridge design team to widen four overpasses and worked with the drainage lead to develop a grading plan to compliment the new TI layouts. Sam also designed ADA facilities at one of the traffic interchange crossroads.

ADOT SR 303L, Lake Pleasant Pkwy to 51st Ave, Peoria and Phoenix, Arizona: Sam served as the project manager for final design of five miles of freeway improvements to provide a third general purpose lane in each direction along SR 303L, as well as drainage and landscape improvements. This project includes mainline widening, new bridges to accommodate the future 67th Avenue TI and project wide ITS improvements. Sam is coordinating with ADOT, Maricopa Association of Governments (MAG), FHWA, City of Peoria, COP, ASLD, and other project stakeholders to ensure the project addresses both the short-term capacity issue and accounts for future improvements along the SR 303L corridor.

ADOT SR 303L, 51st Ave to I-17 VE, Phoenix, Arizona: Sam served as project manager providing roadway/drainage, structural, traffic, and cost estimating services to develop alternatives to minimize project cost, streamline constructability, and enhance safety of the I-17/SR 303L system interchange and SR 303L mainline extension. Alternatives included refined system-to-system ramp alignments, modifications to the SR 303L roadway section, and reconfiguration of the frontage road system. This VE included information, function analysis, evaluation, development, creativity, and report out phases.

ADOT SR 202L South Mountain Freeway P3, Phoenix, Arizona*: This project included a 22-mile extension of SR 202L, 4.5 miles of I-10 mainline widening, 15 TIs, and 41 bridges. While he was working at WSP prior to joining Kimley-Horn, Sam transitioned from roadway engineer to lead designer, ultimately managing the roadway design task for nine miles of the corridor, including mainline improvements through rural and mountainous terrain, as well as tight diamond, diverging diamond, and roundabout traffic interchanges. Sam visited the project site many times to understand the existing terrain and worked closely with the contractor so that the roadway and bridges would be designed to optimize constructability and cost. He also reviewed design concepts with the local community at public meetings and collaborated with ADOT management and stakeholders to ensure all parties were heard and goals were achieved.

ADOT I-10 Broadway Curve (I-17 to SR 202L) P3, Maricopa County, Arizona*: Guiding a multi-discipline, multi-firm team, Sam oversaw the schematic design development of two system TIs at I-10/SR 143 and I-10/US 60, as well as widening of I-10 to provide six GPLs and two HOV lanes in each direction from 24th Street to US 60, and four GPLs and one HOV lane from US 60 to Ray Road. The schematic design was valuable in establishing the project scope of work, environmental footprint, ROW needs, and project funding prior to procuring a developer. Sam and his design team took part in a CRA workshop led by MAG and collaborated with FHWA to gain approval of design exceptions and a COAR. Throughout this project, Sam met almost daily with ADOT and coordinated regularly with FHWA, MAG, COP, and other project stakeholders.

ADOT US 60/Bell Road Interchange DB, Surprise, Arizona*: Prior to joining Kimley-Horn, while working for WSP, Sam designed the US 60 mainline and ramp improvements for this $41 million conversion form an at-grade intersection to grade-separated interchange. Collaborating with ADOT, the contractor, and multiple consulting firms, Sam and the team developed a design solution to improve constructability and reduce impact to the traveling public, saving ADOT tens of millions of dollars. In addition to the roadway geometrics, Sam developed retaining wall layouts and designed temporary detours and ADA facilities.

ADOT SR 303L, 51st Ave and 43rd Ave TIs, Phoenix, Arizona*: Roadway design lead and project manager. Sam led the roadway design for the Project Assessment (PA), developing the concept that was carried forward into final design. Subsequently, Sam managed the final design phase of these two TIs based on the original design he developed during the PA. This work included widening and extension of mainline, ramp, frontage road, and crossroad improvements; four bridges; a CLOMR; utility coordination to mitigate conflicts; new ROW and access control; department furnished items; and agency/stakeholder agreements. The project required extensive coordination between ADOT, COP, ASLD, FEMA, and Taiwan Semiconductor Manufacturing Company (TSMC) to meet the aggressive schedule to open the TIs in anticipation of the opening of the semiconductor plant. Despite a significant scope add during final design, the CLOMR was approved in less than seven months and the project advertised for construction in 11 months, ahead of the originally scheduled date.

***Prior to joining Kimley-Horn**

Structures

Jason Carlaftes,

PE, SE #45151, #50678

70%/70% Available/Committed
22 Years of Experience (6 with WSP)
MS, BS Civil Engineering

Why Jason

- 22 years of experience in delivering technically challenging urban design bridge projects with understanding of modern and ABC construction.
- Understands AASHTO and ADOT requirements, having provided oversight over the State's two largest projects in ADOT's history.
- 14 years of design-build experience providing knowledge of constructability approach, conflict identification, and risk mitigation to ensure successful project delivery.

Jason's broad technical expertise and commitment to schedule has provided him opportunities to lead a wide range of projects, including rural bridge rehabilitation, arterial roadway projects, urban TIs, and several fast-track DB projects in Arizona, Colorado, Nevada, and Utah. He has expertise in managing structural design for these types of projects, serving as structures task lead, bridge design lead, and structural technical pursuit lead. Recently, Jason has added experience as part of the GEC team for ADOT, assisting the State in managing complex DB projects.

Jason is flexible and uses an open communication management style to quickly resolve issues to minimize schedule and cost impacts. He goes above and beyond to ensure successful project delivery, such as his efforts on the Ruthrauff Road TI project, where he served as structures task lead, ensuring coordination between three firms as well as discipline coordination between structures, roadway, drainage, utilities, and railroad to minimize redesign, and rework.

Corporate Title/Role: Senior Vice President

Professional Experience

ADOT I-10 Ruthrauff Traffic Interchange Design Services, Tucson, Arizona: The Ruthrauff Road TI project involved the widening of approximately one mile of I-10 through Tucson and the complete reconstruction of the existing TI, flipping the interchange to carry Ruthrauff Road over the Interstate and the Union Pacific Railroad (UPRR) mainline tracks, creating a new grade separated crossing for the railroad. There was a total of three major bridge structures on this project: the structure over the interstate, the structure over the UPRR mainline tracks, and a cast-in-place concrete super box structure carrying Davis Avenue under Ruthrauff Road, along with associated MSE retaining walls. The project involved re-evaluation of the Davis structure as part of a value engineering review, which led to the super box concept at Davis, which was originally proposed as a typical AASHTO Precast Girder Bridge. Key challenges included coordination with drainage and utilities, MOT, and coordination with the railroad for the bridge and retaining walls adjacent to the UPRR R/W. Jason was responsible for overseeing the design of the two-span TI bridge over I-10, the Davis Avenue Superbox, design of roadway and drainage details, and coordination with the design teams for the UPRR bridge and the project retaining walls. Conflict identification and mitigation was also a critical part of Jason's role.

ADOT I-10 Broadway Curve, Phoenix, Arizona: Structural Lead. The Broadway Curve project will modify a stretch of I-10 from the I-17 split to the SR 202L. This 11-mile stretch of roadway is a key commerce corridor and has seen increasing levels of traffic over the past few years, especially during the heavily traveled morning and evening peak hours. Proposed improvements include adding general purpose and HOV lanes to improve traffic flow, adding a collector-distributor road system to reduce the number of lane changes on the mainline and improve traffic flow, modifying connections between I-10 and the SR 143 and Broadway Road to improve HOV lane connections and traffic flow at the interchanges, and more. Jason is also overseeing contract management through design and construction, overseeing design reviews and aiding to resolve construction issues as they arise.

Loop 202 South Mountain Freeway Design, Phoenix, Arizona: Served as structural engineer. Jason provided oversight and guidance related to structural issues that arose during construction, supporting the design services during construction group. WSP is the lead designer for the Loop 202 South Mountain Freeway. The 22-mile, four-lane freeway includes 13 interchanges; two half-diverging diamond interchanges; one double-roundabout interchange; 40 bridges; a 6-mile, 20-foot-wide adjacent shared-use path for pedestrians, bicyclists, and other non-vehicular traffic; five multi-use underpass crossings; and 4.5 miles of widening improvements for Interstate 10. The project also includes a rigorous quality control process to ensure compliance with the project's technical provisions.

ADOT SR 101L I-17 to Pima DB, Phoenix, Arizona: This project was a GPL widening project to widen and improve the SR 101L (Pima Freeway) from I-17 to Pima Road. Improvements addressed growing traffic demands in the northeast Valley and relieved traffic congestion on the SR 101L during the morning and evening peak travel periods. Major elements of this project included adding one GPL in each direction, adding an auxiliary lane in each direction between Seventh Street and Cave Creek Road, constructing a new overpass structure at the future Miller Road alignment, and modifying freeway ramps and frontage road connections at 11 interchanges. Additional components included construction of noise or retaining walls where warranted, improvements to drainage and new rubberized asphalt resurfacing, and pavement markings. Jason served as the structural technical lead as part of the GEC, helping ADOT develop the procurement documents, evaluating alternative technical concepts, and providing reviews on design documents and insight on construction issues during the life of the project.

Nevada Department of Transportation Project NEON DB, Las Vegas, Nevada*: Prior to joining WSP, Jason served as the lead bridge engineer for the analysis of a retrofit to one of the flyover ramps, Ramp I-940 DC. A portion of this bridge was being removed to accommodate the construction of an MSE retaining wall that would allow the roadway to be widened as it approached the bridge. NDOT was concerned that removing 25% of the spans would cause a change in the seismic response. Jason analyzed the existing structure and the modified structure to evaluate changes to the modal response and developed details for the modified structure. Jason worked in a short time frame to complete this work and was able to analyze the structure and develop construction documents on a short schedule to meet one of the project deadlines. This ramp modification was key to project schedule and approach as part of the proposal and successful execution of design was critical to project success.

ADOT I-19 Irvington Road TI, Tucson, Arizona: Structural engineer for the reconstruction of the traffic interchange at Irvington Road and I-19. Complexities of this final design project include converting the spread diamond interchange into a partial cloverleaf interchange to better accommodate the heavy directional traffic, while minimizing impacts to adjacent businesses.

***Prior to joining WSP**

Environmental
Jennifer Simpkins, REP #6063

- 40%/40% Available/Committed
- 23 Years of Experience (23 with KHA)
- MS, Environmental Resource Management

Why Jennifer

- Recently completed EA Re-evaluations for I-10 Gap and US 95 Rifle Range Road and works with ADOT EP on a daily basis obtaining environmental clearances on many in-house design projects through Kimley-Horn's ADOT Environmental On-Call Contract.
- 23-year career includes a focus on managing environmental regulatory compliance on ADOT and federally funded projects.
- Regularly collaborates with our roadway team on ADOT projects to ensure environmental tasks are effectively coordinated to maintain project schedules.

Jennifer works with ADOT EP daily obtaining environmental clearances on many in-house design projects and on ADOT's environmental on-call contract. She regularly collaborates with design teams to ensure environmental tasks are coordinated to maintain project schedules. She has 23 years of experience in managing environmental regulatory compliance with a focus on ADOT. She completed environmental clearance for the ADOT I-10: Ina Road Traffic Interchange (TI) to Ruthrauff Road TI and ADOT US 95, Rifle Range Road to Wellton-Mohawk Canal projects which were both Environmental Assessment (EA) Re-evaluations and works with ADOT Environmental Planning (EP) on a daily basis obtaining environmental clearances on many in-house design projects through Kimley-Horn's ADOT Environmental On-Call Contract. She is also well versed in Section 404 permitting with extensive experience preparing Preliminary Jurisdictional Delineations (PJDs), Approved Jurisdictional Delineations (AJDs), as well as individual and general (regional and nationwide) permit applications. Jennifer has experience in conducting Preliminary Initial Site Assessments (PISAs) and Phase I/II Environmental Site Assessments (ESAs). Her National Environmental Policy Act (NEPA) experience includes Categorical Exclusions (CEs), EAs, EA Re-evaluations, and Environmental Impact Statements (EISs). Jennifer regularly collaborates with the Kimley-Horn design team on ADOT projects to ensure environmental tasks are effectively coordinated to maintain project schedules.

Corporate Title/Role: Vice President

Professional Experience

Kimley»Horn

ADOT I-10, Ina Road TI to Ruthrauff Road TI (I-10 Gap), Tucson, Arizona: The I-10 Gap project is a four-mile-long reconstruction project along I-10 and provides four PCCP lanes in each direction, including auxiliary lanes and dual-lane entrance and exit ramps. Jennifer led the environmental team in preparation of scoping letters, BESF for geotech/potholing; a BE Re-evaluation for the overall project; PISA and testing for asbestos/lead; noise and air analysis; substantial cultural resources work including a Historic Properties Treatment Plan, and Phase 1 and 2 testing and data recovery; Section 404 delineations and permitting; Section 408 permitting; and the EA Re-evaluation. The EA Re-Evaluation was completed within one year. The project will also reconstruct two existing TIs to increase capacity, provide adequate vertical clearance, and improve traffic operations. Sunset Road will be reconstructed and "flipped" to go over I-10 for a future structure to span the UPRR. New bridges will also be reconstructed at the Cañada del Oro Wash and Rillito River bridges. This project also included improvements to drainage, lighting, FMS, and landscape architecture design.

ADOT US 95, Rifle Range Road to Wellton-Mohawk Canal Roadway Widening, Yuma, Arizona: The purpose of this project is to add capacity, enhance traffic operations, and improve safety by widening the existing two-lane roadway to a five-lane roadway including a two-way-left-turn-lane and 8′ paved shoulders. The existing bridge over Wellton-Mohawk Canal is 70 years old and will be replaced to accommodate the wider roadway. The design includes refined horizontal alignment of US 95 and vertical grades and adjusting the existing turnouts. Jennifer led the environmental team in preparation of scoping letters, a BESF for geotech/potholing; a BE Re-evaluation for the overall project; a PISA and testing for asbestos/lead; noise and air analysis; a Class III cultural resources survey; a Section 404 delineation and permitting; and the EA Re-evaluation. The EA Re-evaluation was completed within one year. Jennifer led the preparation of an EA re-evaluation, and has completed a Biological Evaluation re-evaluation, Class III Cultural Resources Survey, noise and air analysis, sampling for asbestos and lead, and Section 404 permitting for NEPA compliance.

ADOT I-10, SR 85 to Verrado Way DCR and Final Design, Buckeye, Arizona: This project provides additional GPL on the Papago Freeway/I-10 from SR 85 to Verrado Way. The purpose of this project was to reduce congestion, enhance regional mobility, improve movement of goods and services, and improve access to residential and commercial developments. The Kimley-Horn team provided design and environmental services. Jennifer led the environmental team to complete the agency/public scoping, an expedited separate geotechnical clearance, BESF, PISA, cultural resources survey, air/noise analysis, Section 4(f) review, Section 404 permitting (Regional General Permit [RGP] No. 96) compliance documentation, and an ICE.

ADOT SR 101L Price GEC Phases I and II, US 60 to SR 202L, Tempe, Arizona: Led by ADOT in cooperation with MAG and FHWA, this project added GPLs in each direction on SR 101L mainline from north of Baseline Road to the SR 202L to improve freeway capacity and help alleviate increased levels of traffic congestion in the future. KHA updated the technical environmental documents prior to contract award (PISA), asbestos/lead-based paint sampling, biology, air, and noise.

ADOT SR 101L (Chaparral Road to SR 202L) GPL Design, Scottsdale, Arizona: Kimley-Horn designed much needed additional GPL capacity on this five-mile section of the Pima Freeway (SR 101L) between Chaparral Rd and SR 202L. The purpose of this project was to improve freeway capacity and reduce congestion of future traffic volumes. The scope included roadway design, structural design, drainage, traffic, lighting, geotechnical, environmental, landscape architecture, utilities, and public involvement.

ADOT SR 101L, Baseline Road to SR 202L, Maricopa County, Arizona: Kimley-Horn provided design and environmental services for additional GPLs in each direction on SR 101L from north of Baseline Road to the SR 202L. Kimley-Horn was responsible for PISA, asbestos/lead-based paint sampling, biology, air, and noise. Kimley-Horn also led the Migratory Bird Treaty Act surveys that were conducted along the six-mile corridor over multiple surveys.

Traffic Analysis

Sandy Thoms, AZ PE #60181, PTOE, RSP1

40%/40% Available/Committed
13 Years of Experience (6 with WSP)
MSE, BSE, Civil Engineering

Why Sandy

- Well-rounded expertise in traffic operations, safety, and design.
- Extensive experience using the MAG Travel Demand Model to inform traffic analyses.
- Experience as an ADOT Project Manager lending insight into overall project priorities as well as processes.

Sandy was responsible for the VISSIM modeling and Change of Access Report for I-10 Broadway Curve. **She has already begun modeling this project, identifying the cost savings and operation issues on Page 7.** She is an experienced traffic engineer having done work for various valley municipalities, ADOT, MAG, and MCDOT. She brings a holistic, full circle approach to projects by incorporating her experience in traffic engineering analysis, safety, and design. Sandy is responsive and quick to turn things around while still maintaining the high quality of work that meets both her standards and those of the client.

Sandy is well versed in conducting traffic analyses and simulations, as well as developing traffic signal timing plans. She specializes in the use of Synchro/SimTraffic, HCS, and VISSIM. Her experience in simulation and analysis varies from small TIAs and signal warrant analyses to larger multimodal simulations using VISSIM. Sandy's design skills include traffic signal design, signing, pavement marking, ITS, and street lighting design in both urban and rural environments.

Corporate Title/Role: Assistant Vice President

Professional Experience

ADOT I-10 Inner Loop Active Traffic Demand Management Planning Study, Phoenix, Arizona: This project involved developing a high-level concept of operations on I-10 from 35th Avenue to Sky Harbor Boulevard. The study was based on the results of a safety and mobility analysis and included a variety of Active Traffic Demand Management (ATDM) strategies. A series of alternatives were developed ranging from signing upgrades and ITS solutions to major roadway reconfigurations and managed motorway systems that would help improve the safety and operational efficiency of the corridor. Sandy and the team provided qualitative evaluations of these alternatives and also developed a VISSIM model to provide a quantitative determination of their feasibility. Conceptual design layouts were developed for the alternatives to help formulate cost estimates. The long-term recommendations were then summarized with a timeline for next steps and an implementation plan.

ADOT I-10 Broadway Curve General Engineering Consultant Services, Phoenix, Arizona: WSP is providing program and project management services for the design and realignment of the I-10 Broadway Curve. The project area stretches from the I-10 and I-17 Interchange to SR 202L and involves widening and reconstructing the connections to SR 143 and US 60 and installing new collector-distributor roads. WSP was responsible for the development of schematic plans and environmental approvals for the project, as well as oversight during construction. Sandy is the traffic discipline lead responsible for delivering on all traffic elements of this project, including the VISSIM operations modeling to inform design decisions, collecting and analyzing origin-destination data, performing the operational analysis for the environmental assessment, and developing the change of access report. Sandy also developed all schematic (30%) design elements for signing, pavement marking, traffic signals, and lighting, as well as developing cost estimates for these items. Sandy also led traffic oversight during design by reviewing the design plans for accuracy and contract compliance. She worked closely with staff in ADOT Traffic Design and Regional Traffic to ensure the resulting design met their expectations as well.

ADOT I-19 Irvington Road TI, Tucson, Arizona: Sandy serves as the traffic lead for the reconstruction of the traffic interchange at Irvington Road and I-19. Complexities of this final design project include converting the spread diamond interchange into a partial cloverleaf interchange to better accommodate the heavy directional traffic, while minimizing impacts to adjacent businesses. Sandy is responsible for conducting the traffic analysis, preparing a Change of Access Report, and designing the signing, pavement marking, and lighting.

ADOT I-10, I-19 to Kolb Road and SR 210, Broadway Boulevard to Alvernon Way DCR, Tucson, Arizona: This project involved developing a DCR for I-10 between I-19 and Kolb Road and SR 210 from Broadway Boulevard to Alvernon Way. The project will widen I-10 to accommodate future traffic demand as well as reconstruct the interchanges to bring them up to current design standards. Sandy was responsible for modeling the study corridor in VISSIM to evaluate the various improvement scenarios for the AM and PM peak hours based on 2040 growth projections. The VISSIM model included the freeway mainline, interchanges, ramps, and ramp intersections. Sandy prepared a traffic analysis report as part of the DCR to document the operational results of the modeling as well as an in-depth crash analysis of the corridor.

ADOT Valley Metro Gilbert Road Light Rail Extension, Mesa, Arizona: Sandy was responsible for modeling traffic operations and designing the traffic signals and ITS facilities along the new 1.9-mile light rail extension through the City of Mesa. This extension included two light rail stations, a park-and-ride/transit center facility, and a roundabout. Sandy designed five of the project's traffic signals incorporating light rail operations. She then worked in the City of Mesa's traffic signal shop to assist in assembling, programming, and testing the signal controller cabinets prior to field installation.

ADOT SR 303L, MC 85 to Van Buren Street, Goodyear, Arizona: WSP is a subconsultant designing the new SR 303L freeway south of I-10 along the Cotton Lane alignment between MC 85 and Van Buren. Sandy is leading the traffic analysis efforts to update the DCR with current traffic projections. Her analysis will also be utilized for the Air Quality and Noise Analysis as part of the environmental clearance process. The traffic analysis is evaluating 12 different scenarios including existing, 2050 No Build, 2050 Build, and 9 different interim alternatives for year 2030. The analysis is being conducted using HCS and Synchro and includes 4 miles of freeway mainline and ramps as well as five freeway interchanges/intersections.

ADOT SR 101L, Princess Drive to Shea Boulevard, Scottsdale, Arizona: Sandy supported this final design project by developing a design exception request to improve traffic operations and safety. The design exception was for reduced lane widths and shoulder widths to allow addition of another GPL for a mile-long stretch to facilitate merging and weaving maneuvers. Sandy modeled the project in VISSIM to quantitatively prove that there was an operational benefit of providing the additional lane, and also performed a predictive safety evaluation to assess the expected changes to crash frequency. The design exception was ultimately approved by ADOT and FHWA.

Traffic Design

John Kissinger, AZ PE #27128, PTOE

- 40%/40% Available/Committed
- 37 Years of Experience (27 with KHA)
- BS Civil and Environmental Engineering

Why John

- John's career has grown up alongside ADOT's FMS—he has extensive experience designing multiple phases of the FMS and has led several FMS expansion projects.
- John has extensive nationwide experience in designing traffic signal systems at freeway interchanges.
- John has developed strong relationships with the construction community, adding value to ensuring constructable plans and reliable cost estimates.
- John has worked with ADOT and other DOTs to deploy and integrate advanced technical systems like variable speed limits, truck roll-over warning systems, smart roadside inspection systems, and wrong-way detection.

John's experience designing ITS infrastructure includes fiber optic and wireless communication, CCTV and dynamic message signs systems, ramp metering systems, and wrong way detection systems. He is a senior design engineer with a full range of traffic and intelligent transportation systems (ITS) engineering experience, bringing more than 35 years of experience in planning, design, and operation of transportation facilities. His experience includes traffic signal and signal system design, traffic operations, traffic signal timing, geometric analyses, signing and marking, lighting, and construction traffic control plans preparation. John has been designing ADOT projects, intersection geometrics, and traffic signals throughout his career. He also has significant experience with the design of urban corridor ITS infrastructure, including designs fiber optic and wireless communication, closed-circuit television (CCTV) and Dynamic Message Signs (DMS) systems, ramp metering systems, and wrong way detection systems.

Corporate Title/Role: Senior Vice President

Professional Experience

Kimley»Horn

ADOT I-10 from SR 85 to Verrado Way General Purpose Lanes (GPLs), Buckeye, Arizona: This project provides additional GPL on the Papago Freeway/I-10 from SR 85 to Verrado Way. The project also included the reconstruction of two existing traffic interchanges (TIs) at Miller Road and Watson Road to a diverging diamond interchange (DDI) configuration to increase capacity and improve traffic operations. The Kimley-Horn team completed the design concept report (DCR) and environmental documents. John oversaw the design of the traffic signals at the Miller Road and Watson Road interchanges and led the quality control effort for all traffic engineering and ITS tasks on this project.

ADOT Freeway Management System (FMS) Design on I-17 from SR 101L to SR 74, Phoenix, Arizona: John led the design of this 14-mile FMS field equipment installation project located along I-17 that extended the ADOT FMS north to Anthem. The work included the installation of conduit and fiber optic cables, CCTV cameras, a ramp meter system, mainline detection and four DMS. Kimley-Horn provided construction administration services on this phase. Securing the environmental clearance among several sensitive historical sites within the corridor was critical to the project.

ADOT Camelback Road 51st Avenue to 91st Avenue ITS, Glendale, Arizona: John led the design for new fiber optic infrastructure along five miles of Camelback Road, an urban corridor in Glendale, AZ. The project consists of new fiber optic infrastructure, connecting nine existing traffic signal controller cabinets to the new fiber, and installing new CCTV cameras to five signalized intersections. Project tasks included field survey, preliminary design, final design, fiber optic splice details, equipment upgrades and post design engineering support. Specific issues included the need to avoid placing vaults in recently paved areas and obtaining permission to extend the trunkline under the Salt River Project (SRP) Arizona Canal.

ADOT I-40/US 93 West Kingman TI VE, Kingman, Arizona: As part of the VE session, Kimley-Horn provided roadway/drainage, structural, traffic, and cost estimating services to provide alternatives to minimize project cost, streamline constructability, and enhance safety. Some of the alternatives included reversing grade separated crossings, shifting bridge column locations, realigning and existing wash, and revising extra bridge spans to roadway on embankment. This VE was a four-day exercise which included information, function analysis, evaluation, development, creativity, and report out phases.

ADOT I-10, Sunshine Boulevard to Picacho Peak Dust Safety Improvement Project (I-10 Dust Control), Pinal County, Arizona: John led the development of a project assessment and final design of a dust warning and response system along a 10-mile section of I-10 near Picacho Peak. The project added ITS infrastructure to detect and monitor dust storm activity and low-visibility conditions along this route. The system has the capability to automatically detect low -visibility conditions and automatically reduce the speed limit along I-10 through the use of VSL signs. The project includes DMS, VSL signs, CCTVs, a weather detection station, forward scatter spot visibility detection stations, and detector locations. John also developed the system thresholds for lowering the speed limit based on minimum visibility conditions.

ADOT SR 101L GEC Phases I and II, Tempe, Arizona: Led by ADOT in cooperation with MAG and FHWA, this project added GPLs in each direction on SR 101L mainline from north of Baseline Rd to the SR 202L to improve freeway capacity and help alleviate increased levels of traffic congestion in the future. The project also includes widening of the existing northbound bridge structure at Chandler Boulevard traffic interchange overpass, new retaining walls, existing retaining wall removals, on-site drainage improvement, and traffic design.

ADOT I-17 Spine Project Near-Term Deployment, Phoenix, Arizona: ADOT selected Kimley-Horn to develop the concept of operations and project assessment for active traffic management and integrated corridor management system that provides variable speed limits (VSK), lane control, adaptive ramp metering, wrong-way warning, arterial detour ITS infrastructure, and other ITS technologies to manage traffic operations. The project is located within Maricopa County, Arizona along the I-17, from I-10 to SR 101L, approximately 16 miles. Kimley-Horn worked with ADOT, the COP, and regional partner agencies to review best practices from around the world in the implementation of ATM and ICM functionality to determine feasible applications for the freeway corridor and adjacent arterials.

ADOT Agua Fria Freeway/Pima Freeway (SR 101L), I-10 to Tatum Boulevard HOV Lanes (Design-Build), Phoenix, Arizona: This Design-Build project was located in Maricopa County on a portion of the Agua Fria/Pima Freeways from I-10 to Tatum Boulevard. The project included construction of new High Occupancy Vehicle (HOV) lanes and additional general purpose lanes (GPL) through the SR 101L/I-17 system interchange. The work involved constructing the widening of three existing bridges, noise walls, retaining walls, drainage improvements, signing, lighting, barrier, and landscaping. John served as task manager for traffic, lighting, and FMS.

Drainage

Greg Bambauer, PE, #37844

70%/70% Available/Committed
27 Years of Experience (16 with WSP)
BS Hydrology

Why Greg

- 27-years ADOT Freeway Drainage experience, I-10 Broadway Curve and South Mountain Freeway.
- Recent experience coordinating with USACE and the Gila River Indian Community on South Mountain Freeway.
- Experienced leading multi-company design teams
- Recent knowledge of the project area through his work on South Mountain Freeway.

Greg will play a key role in solving the drainage challenges faced by the outfall on the 97th Avenue to 71st Avenue project. He's led similar, complicated efforts throughout the state, including his work on the adjacent drainage channel for the SR 202L SMF. He has extensive experience as a drainage engineer/hydrologist, mostly in association with roadway improvement projects. His experience includes hydrologic and hydraulic analyses and design of storm drain, detention basin, cross drainage culvert and channel design, and river hydraulics (including scour analysis and flood-plain mapping). He has worked with assessing CLOMRs, LOMRs, and FEMA regulated watercourses, as well as designing to mitigate increases within the FEMA watercourse. He is proficient in using computer programs such as HEC-1, HEC-2, HECRAS, and StormCAD. His work typically includes preparing and reviewing drainage reports and plans.

Corporate Title/Role: Senior Vice President

Professional Experience

ADOT SR 202L SMF DB, Phoenix, Arizona: Drainage Lead for three segments on this design-build project that completed the SR 202L from I-10 (Maricopa Freeway) to I-10 (Papago Freeway). As the drainage design lead for three segments of the project, Greg oversaw the day-to-day design activities for approximately 14 miles of the total 22-mile project. He coordinated with segment managers, corridor leads, contractors, and owners. From a drainage perspective, the project included culvert and pavement drainage design using HECRAS, HY-8 and InRoads storm and sanitary to compute the hydraulic analyses. FLO-2D modeling was used to confirm the design had no adverse downstream impacts to the Gila River Indian Community. WSP is lead designer for SR 202L SMF. The 22-mile, four-lane freeway will include 13 interchanges; two half-diverging diamond interchanges; one double-roundabout interchange; 40 bridges; a 6-mile, 20-foot-wide adjacent shared-use path for pedestrians, bicyclists, and other non-vehicular traffic; five multi-use underpass crossings; and 4.5 miles of widening improvements for I-10. ADOT, I-10/Ruthrauff Road Traffic Interchange, Tucson Arizona: Responsible for the oversight and design of drainage facilities for the new TI and interstate widening project. Project included onsite drainage for the TI, mainline and local roads. Design included local offsite and I-10 cross drainage design. Greg's responsibilities included oversight for the hydrologic and hydraulic analyses and design of cross drainage culverts, roadside channels and outlet scour protection. A key component of this project was the use and updating of a planning level FLO-2D model to establish the pre- and post-project drainage patterns.

ADOT I-10 Ruthrauff Road Traffic Interchange, Tucson Arizona: Responsible for the oversight and design of drainage facilities for the new TI and interstate widening project. Project included onsite drainage for the TI, mainline and local roads. Design included local offsite and I-10 cross drainage design. Greg's responsibilities included oversight for the hydrologic and hydraulic analyses and design of cross drainage culverts, roadside channels and outlet scour protection. A key component of this project was the use and updating of a planning level FLO-2D model to establish the pre and post project drainage patterns.

ADOT I-19 Irvington Road TI, Tucson, Arizona: Drainage engineer for the reconstruction of the traffic interchange at Irvington Road and I-19. Complexities of this final design project include converting the spread diamond interchange into a partial cloverleaf interchange to better accommodate the heavy directional traffic, while minimizing impacts to adjacent businesses.

ADOT I-10 Val Vista to I-8 Final Design Services, Phoenix, Arizona: Responsible for the oversight and design of drainage facilities for a nine-mile-long interstate widening project. Responsibilities included hydrologic and hydraulic analyses, and design of cross drainage culverts, roadside channels and outlet scour protection. Greg also provided oversight of a subconsultant conducting the onsite drainage design in addition to utility conflict identification and coordination. WSP provided ADOT with final design of highway widening and roadway improvements for I-10, from Val Vista Road to Junction I-8. Improvements included adding lanes to both the inside and outside of I-10, which includes 12-foot shoulders in addition to reconstructing the ramps at an existing interchange. The project consists of a continuous 2.6-mile section in which the widening only occurs within the median in order to avoid impacting three existing overpasses. The project was designed to increase capacity and improve traffic operations and safety in the surrounding area.

ADOT I-10 Broadway Curve, Phoenix, Arizona: Responsible for the oversight of the schematic design and estimated construction costs of drainage facilities. Greg coordinated with ADOT and other disciplines to develop Technical Provisions and design criteria for the future DB project. After the DB Team was selected, Greg provided design review through construction to ensure design elements were compliant with the technical provisions, and attended bi-weekly Technical Workgroup meetings with the DB Team and other GEC team members.

ADOT I-10 Widening Picacho Peak Traffic Interchange to Pinal Air Park Design Services, Pinal County, Arizona: Project Engineer for post design services along I-10, from Grant Road to St. Mary's Road. Greg was responsible for addressing requests for information regarding the drainage portion of the project. WSP provided design services under an advance notice to proceed and an accelerated final design schedule to prepare construction documents for a section of I-10, from the Picacho Peak TI to Pinal Air Park. The design included widening I-10 from four lanes to six lanes, and total reconstruction of the Picacho Peak TI. The firm's responsibilities included extending 42 drainage structures, installing a median barrier, and sign rehabilitation.

Utilities
Chris Moore, AZ PE, #41953

40%/40% Available/Committed
24 Years of Experience (18 with WSP)
BS Civil Engineering

Why Chris

- Chris has managed 30+ Studies and Final Design projects for ADOT, government agencies, and local municipalities across Arizona and Virginia in the past 15 years.
- Chris was able to successfully lead the design and utility coordination efforts for both two ADOT I-10 widening projects: Picacho Peak – to Pinal Air Park and Val Vista Road to Early Road, that met accelerated schedules from Kick-off to bid ready documents in under 10 months.

Chris Moore is a senior supervising civil engineer. In this role, he has provided roadway design, site design, utility relocation and design, stormwater management permitting, and construction phasing oversight for municipal and departments of transportation projects. Prior to his return home to Arizona, he led the Civil Department in WSP's Virginia Beach office and was responsible for supervising the design of two warehouse projects in Europe that consisted of five individual buildings on 20-acre sites. Chris worked in WSP's Tucson office for seven years as a roadway engineer working on projects across Arizona. Before joining WSP, Chris spent six years with the Arizona Department of Transportation. Chris is a registered professional engineer in Arizona, Maryland, North Carolina, and Virginia in addition to being an accredited Envision Sustainability Professional and Project Management Professional.

Corporate Title/Role: Vice President

Professional Experience

ADOT SR 101L, Princess Drive to Shea Boulevard, Scottsdale, Arizona: Utility coordinator for this 4.5-mile section of urban freeway widening that includes interchange improvements on five crossroads. Chris reviewed ADOT permit logs, record drawings, and obtained utility maps and GIS data from the utilities to verify utility locations and identify potential conflicts before the Stage II (30%) design was submitted. Once SUE Level 'B' survey results were obtained he worked to verify conflicts and develop utility pothole plans to confirm these conflicts. Chris worked closely with designers, utility representatives, and ADOT U&RR to identify conflicts, develop mitigation strategies, and develop conceptual relocation layouts. He tracked progress on the required relocation designs and schedules as the project approached advertisement to ensure the utility clearance was obtained on time.

ADOT I-10 Widening, Val Vista Road – Early Road, Casa Grande, Arizona: Chris served as the deputy design manager and lead roadway engineer for this 11-mile main line widening segment of I-10 located in Casa Grande, AZ. The improvements included adding lanes to both the inside and outside of I-10 that included 12-foot shoulders in addition to reconstructing the ramps at an existing interchange. The project consisted of a continuous 2.6-mile section in which the widening only occurred within the median to avoid impacting three existing overpasses. Chris was also responsible for utility coordination and developing MOT concepts that limited traffic shifts and maintained the existing two lanes of traffic. The project included maintaining the existing 4-lanes of traffic during construction; the extension of twenty-four (24) concrete box culverts using precast elements; aesthetic treatments that included landform graphics with slope flattening, two (2) noise barriers, twenty (20) pipe extensions, twenty-seven (27) median inlet adjustments. Chris served as the design manager during construction by coordinating RFI responses, shop drawing reviews and verifying design changes based upon field conditions or changes.

ADOT US 70 Widening Design Services, Safford, Arizona: Led the utility coordination efforts as a civil engineer. WSP provided design services to widen a three-lane roadway to a five-lane arterial for 4.5 miles, from Safford to Solomon. The firm was also responsible for documenting the environmental process by performing an environmental assessment.

ADOT SR 303L, MC 85 to Van Buren Street, Goodyear, Arizona: Roadway lead for the southern segment (as a subconsultant) of new urban freeway whose responsibilities included establishment and initiation; scope, schedule, budget and workplan and risk registry development; negotiation of contract; providing regular project and schedule updates; team, agency, and stakeholder coordination; working proactively with stakeholders to identify and resolve technical issues; working closely with District staff and key stakeholders to make sure the intentions of the project are verified and met. The project has required coordination with the FCDMC due to storm drain connections in their existing outfall channel and construction of a first flush stormwater basin are included with the project. Coordination with the City of Goodyear has been ongoing as the project includes improvements to Lower Buckeye Road and impacts an existing well site.

ADOT I-10 Widening, SR 87 to Picacho Peak, Pima County, Arizona: Chris was the lead civil engineer responsible for developing the Stage II (30%) plan submittal for the project. He was responsible for generating vertical alignments, and cost estimates for this proposed traffic interchange and 4.2-mile realignment of I-10. WSP provided final design of proposed improvements on I-10, resulting in an interim widening from two lanes in each direction to three, by adding lanes generally on the outside of the roadways. The goal of the project was to increase capacity and improve traffic operations and safety for this segment of I-10, which extends from the SR 87 Interchange westbound entrance ramp connection to I-10 to the Picacho Peak State Park.

ADOT SR 92 Design Services, Hunter Canyon, Arizona: Lead civil engineer for the widening of approximately four miles of State Route 92. Chris's responsibilities included developing several alternative highway relocation alignments as the project addresses drainage and substandard roadway geometrics. The project involved an urban section with limited right-of-way and rural segments that required maintaining driveway access in super elevated curves. As a project manager during post design, he was responsible for coordinating submittal reviews and RFIs with ADOT and subconsultants. WSP provided general design services to the ADOT for widening a 3.5-mile segment of state Route 92, from Carr Canyon Road to Hunter Canyon. This project turned SR 92 into a five-lane roadway section involved the installation of a new wildlife crossing, drainage improvements, utilities, and other infrastructure improvements.

Geotechnical

Kevin Porter, PE, #41716

50%/50% Available/Committed
27 Years of Experience (6 with WSP)
MS BS Civil Engineering

Why Kevin

- Kevin was a senior engineer for SMF which crosses the Salt River at the SR 30 location and understands the challenges associated with the geotechnical conditions.
- Kevin knows the ADOT Pavement Design procedure and recently provided pavement requirements for I-10 Broadway Curve project.

Kevin is experienced in construction, earthwork, subsurface investigations, deep and shallow foundations, pavements, soil stabilization techniques, slope stability analyses, and other geotechnical-related analyses and design. He is a registered civil engineer with extensive experience in geotechnical design and management of various projects, with an emphasis in transportation-related projects. Kevin has performed numerous bridge investigations and provided recommendations for such clients as the ADOT, the California Department of Transportation, the Nevada Department of Transportation, and various cities and counties. His experience also encompasses various field activities, including subsurface investigations, drilled shaft installation, rock coring, over-water drilling, soil and groundwater sampling, slope stability assessments, inclinometer and rock anchor installation, foundation inspection, geophysical surveys, and pile driving.

Corporate Title/Role: Vice President

Professional Experience

ADOT SR 202L SMF, Phoenix, Arizona: Lead designer for Loop 202 South Mountain Freeway. The 22-mile, four-lane freeway will include 13 interchanges; two half-diverging diamond interchanges; one double-roundabout interchange; 40 bridges; a 6-mile, 20-foot-wide adjacent shared-use path for pedestrians, bicyclists, and other non-vehicular traffic; five multi-use underpass crossings; and 4.5 miles of widening improvements for I-10. The project also includes a rigorous quality control process to ensure compliance with the project's technical provisions.

ADOT I-10 Broadway Curve, Phoenix, Arizona: WSP is providing program and project management services for the design and realignment of the I-10 Broadway Curve. The project area stretches from I-10 and I-17 Interchange to SR 202 and involves widening and reconstructing the Broadway Curve Interchange, which is described by the ADOT as being rush-hour-challenged. The firm is responsible for the development of schematic plans and environmental approvals for the project.

ADOT I-10 Widening, Verrado Way to Sarival Ave, Maricopa County, Arizona: Senior engineer for the geotechnical evaluation of the design of approximately 5.9 miles of freeway improvements along I-10, from Verrado Way to Sarival Avenue. The improvements included roadway and bridge widening. The geotechnical evaluation consisted of drilling soil borings to depths up to approximately 120 feet through fill and alluvial materials. The analyses included drilled shaft capacities, slope stability analysis of embankments, pavement design, and settlement calculations of the bridges and roadway. The project also included preparing reports for the improvements consisting of a geotechnical evaluation, a foundation report, a pavement design summary, and materials design report.

ADOT I-17, SR 101L to Jomax Rd, Phoenix, Arizona: Senior project engineer for the geotechnical evaluation of the design of approximately 4.3 miles of freeway improvements along I-17, from SR 101L to Jomax Road. The planned improvements included roadway and bridge widening and replacement, retaining and sound wall construction, and drainage improvements. The geotechnical evaluation consisted of drilling soil borings to depths up to approximately 100 feet through alluvial materials. The analyses included drilled shaft capacities, slope stability analysis of embankments, pavement design, and settlement calculations of the proposed bridges and roadway. The project included preparing reports for the planned improvements consisting of a geotechnical evaluation, a foundation report, a pavement design summary, materials design report for improvements associated with the roadway, and a geotechnical evaluation for planned drainage improvements.

ADOT SR 101L HOV DB, Phoenix, Arizona: Senior engineer for geotechnical evaluation of the design of approximately 30 miles of freeway improvements along SR 101L. The improvements included the addition of a high occupancy vehicle lane in each direction of travel, three bridge widenings, various retaining and noise walls, subgrade stabilization using compaction grouting at Camelback Road Traffic Interchange, and Portland cement concrete pavement and continuously reinforced concrete pavement design. The geotechnical evaluation consisted of the drilling and sampling of soil borings through fill and alluvial materials. The analyses included drilled shaft capacities; pavement design; settlement calculations of the bridges and roadway; and subgrade improvement techniques, which included over-excavation, geogrid stabilization, and lime treatment. Kevin was responsible for final reports for the improvements, which consisted of a geotechnical evaluation, a foundation report, and a pavement design summary and materials design report.

ADOT SR 303L, Waddell to Mountain View, Maricopa County, Arizona: Senior engineer for the geotechnical engineering services for the design of SR 303L, roughly between Waddell Road and Mountain View Boulevard in Maricopa County. The project included the design of about 3.5 miles of new roadway with an alignment generally at-grade or depressed, a new bridge structure at Greenway Road, retaining walls, noise walls, drainage improvements, and new pavement for the mainline, ramps, and crossroads. Kevin was responsible for geologic reconnaissance of the project site; drilling borings and test pits; performance of laboratory testing; geotechnical engineering analysis of the data collected; and preparation of a report presenting findings, conclusions, and geotechnical recommendations for construction of the improvements.

Hebert, Vernon

From: ADOT Business Engagement and Compliance Office <AZUTRACS-Support@azdot.gov>
Sent: Tuesday, April 30, 2024 10:50 AM
To: Hebert, Vernon
Cc: ContractorCompliance@azdot.gov
Subject: Bidders List for WSP USA Inc.

WSP USA Inc., AZUTRACS Number: 16571 has submitted a Bidder/Proposer list for **2024-018** on 04/30/2024 at 10:49 AM MST (UTC - 07:00).

Bidders/Proposers for this firm include:

Firm Name	AZUTRACS #	Expiration Date	Email Address	Phone Number
Desert Archaeology, Inc.	10265	01/20/2026	trish@desert.com	520-881-2244
EPS Group, Inc	10354	01/04/2027	greg.froehlich@epsgroupinc.com	480-503-2250
Ethos Engineering, LLC	10363	01/25/2027	pgarza@ethosengineers.com	480-326-8487
Infrastructure Mavens, LLC	10537	04/25/2026	sbasila@infrastructuremavens.com	602-376-3782
Kimley-Horn & Associates, Inc.	10608	09/13/2025	raj.christian@kimley-horn.com	602-371-4560
Newton Environmental Consulting, LLC	10770	03/09/2026	angie@newtonec.com	602-332-9642

CONSULTANT INFORMATION PAGES (CIP)

CONTRACT NO.: 2024-018.01 & 2024-018.02

CONTACT PERSON: Joy Melita, PE

E-MAIL ADDRESS: joy.melita@wsp.com

TITLE: Senior Vice President

CONSULTANT FIRM: WSP USA Inc.

ADDRESS: 1230 W Washington Street, Suite 405

CITY, STATE ZIP: Tempe, Arizona 85288

TELEPHONE: 480-966-8295

FAX NUMBER: 480-966-9234

DUNS #: 05-666-8700

ADOT CERTIFIED DBE FIRM? (YES/NO)

No

SUBCONSULTANT(S):	TYPE OF WORK	ADOT CERTIFIED DBE FIRM (YES/NO)
Kimley-Horn & Associates, Inc.	Roadway, Environmental, Traffic, and Structures	No
EPS Group, Inc	Utilities, Irrigation, and Survey	No
Ethos Engineering, LLC	Geotechnical/Structures	Yes
Infrastructure Mavens, LLC	Independent Cost Estimating	No
Desert Archaeology, Inc.	Cultural	Yes
Newton Environmental Consulting, LLC	HazMat	Yes

NOTE: This page is not evaluated by the Selection Panel but is used by Engineering Consultants Section for administrative purposes.

Revised 11/23/2021

SUBCONSULTANT(S) TABLE:

SUBCONSULTANT FIRM NAME:	Kimley-Horn & Associates, Inc.
CONTACT PERSON:	David Rutkowski, PE
E-MAIL ADDRESS:	david.rutkowski@kimley-horn.com
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DUNS #:	06-109-9131

SUBCONSULTANT FIRM NAME:	EPS Group, Inc
CONTACT PERSON:	Greg Froehlich, PE
E-MAIL ADDRESS:	greg.froehlich@epsgroupinc.com
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	Suite 120
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FAX NUMBER:	480-503-2258
DUNS #:	14-546-1625

NOTE: Each Subconsultant listed in the SOQ must be included in the Subconsultant Table of the CIP. Add additional Subconsultant Table pages as necessary. The CIP is not evaluated by the Selection Panel but is used by Engineering Consultants Section for administrative purposes.

SUBCONSULTANT(S) TABLE:

SUBCONSULTANT FIRM NAME:	Ethos Engineering, LLC
CONTACT PERSON:	Keith Dahlen
E-MAIL ADDRESS:	kdahlen@ethosengineers.com
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	Suite 104
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TELEPHONE:	602-573-0000
FAX NUMBER:	N/A
DUNS #:	03-082-8918

SUBCONSULTANT FIRM NAME:	Infrastructure Mavens, LLC
CONTACT PERSON:	Andrew Flecky
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TITLE:	Manager/Independent Construction Expert
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	Sue 1630-603
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FAX NUMBER:	N/A
DUNS #:	00-972-7112

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*Please confirm that each Subconsultant listed is in the eCMS database. If a Subconsultant's name is not in the eCMS database, contact ECS at E2@azdot.gov and allow two (2) business days to have the Subconsultant added to eCMS. Click Here check the eCMS database or go to ECS Website.

SUBCONSULTANT(S) TABLE:

SUBCONSULTANT FIRM NAME:	Desert Archaeology, Inc.
CONTACT PERSON:	Patricia Castalia
E-MAIL ADDRESS:	trish@desert.com
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ADDRESS:	3975 N Tucson Boulevard
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DUNS #:	62-387-7651

SUBCONSULTANT FIRM NAME:	Newton Environmental Consulting, LLC
CONTACT PERSON:	Angela Newton
E-MAIL ADDRESS:	angie@newtonec.com
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TELEPHONE:	602-332-9642
FAX NUMBER:	N/A
DUNS #:	08-039-1343

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DBE GOAL ASSURANCE/DECLARATION

This Contract is Race Neutral (No DBE Goal-DBE use encouraged).

By signing below, and in order to submit an SOQ proposal and be considered to be awarded for this contract, in addition to all other pre-award requirement, the consultant/Proposer certifies that they will meet the established DBE goal or will make good faith efforts to meet the goal for the contract and that arrangements with certified DBEs have been made prior to SOQ and/or Cost Proposal submission. The proposer will meet the established DBE goal or will make good faith efforts to meet the goal on each Task Order assignment associated with the contract and that arrangements with certified DBEs have been made prior to SOQ and/or Task Order proposal submission.

Melita	April 30, 2024
Signature	Date
	Senior Vice President
Joy Melita, PE	
Printed Name	Title

SOQ SUBMITTAL CHECKLIST

Place a check mark on the left side of the table indicating compliance with the following:

✓	Required Page Limit Met
✓	One PDF Document no larger than 15 MB
✓	All Amendments Included
✓	Introduction Letter (Including all required elements/statements)
✓	SOQ Proposal Formatted According to Requirements Listed in Part C and any applicable amendments
✓	Correct SOQ Certification List Signed and Dated by a Principal or Officer of the Firm
✓	Completed Consultant Information Page (Including listing DBE firms, if applicable)
N/A	Supplemental Services Disclosure Form (REQUIRED for Supplemental Services Contract)
✓	All Subconsultants & Proposed Work Type (Including listing DBE firms, if applicable)
✓	Any Additional Required Documents (Specific Requirements in RFQ such as Resumes, etc.)
✓	Commenting or User Rights Feature Enabled in SOQ PDF Document
✓	DBE Goal Assurance/Goal Declaration completed

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Revised 11/23/2021