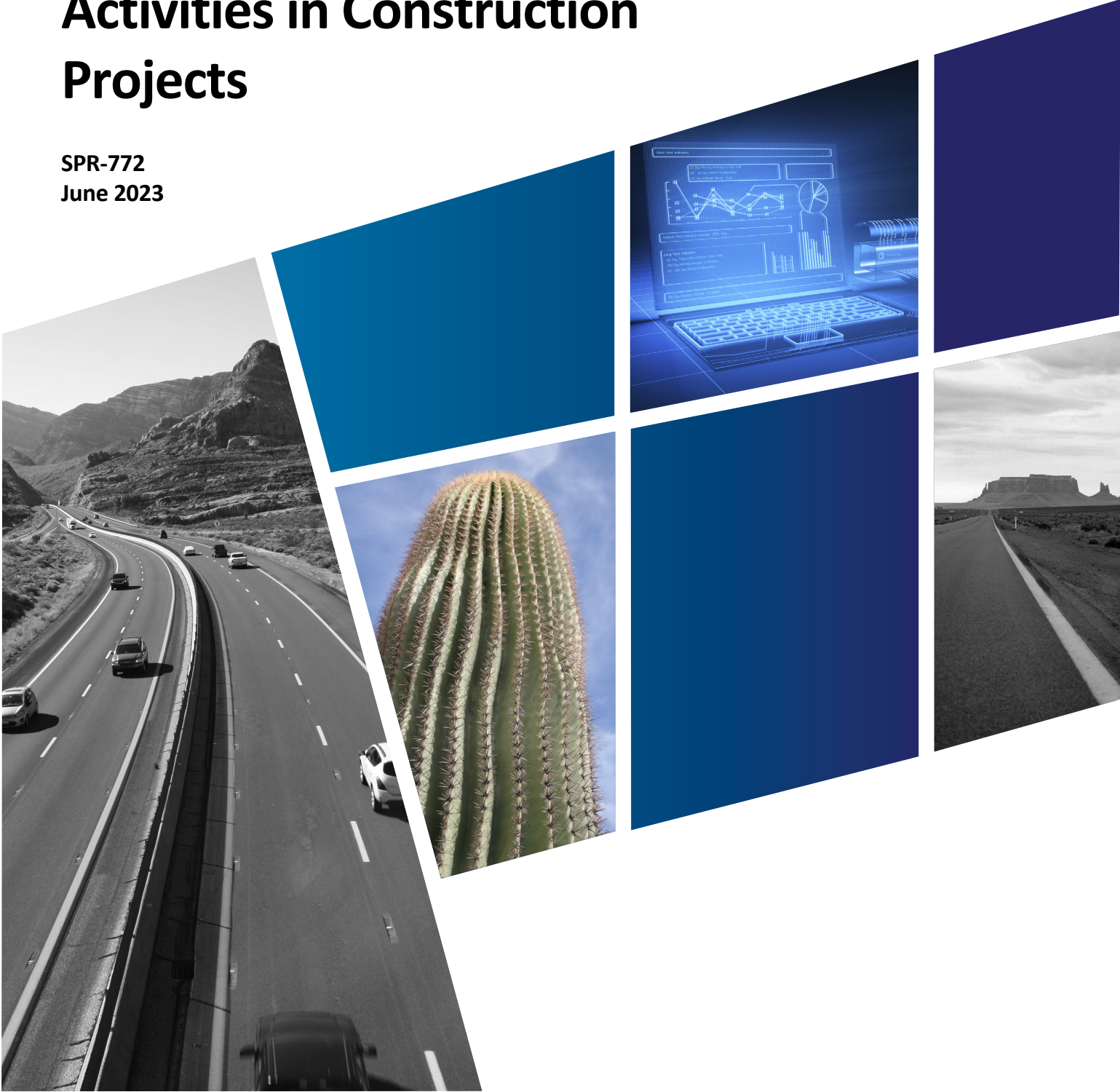# Research on Assessment of Arizona's Partnering Activities in Construction Projects

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ADOT

Research on Assessment of Arizona's Partnering Activities in Construction Projects

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16. Abstract

Keen Independent Research was engaged by the Arizona Department of Transportation (ADOT) to assess the effectiveness of its partnering program in construction projects. To achieve this objective, the study team analyzed and documented processes, tools, reporting, and other key elements of ADOT's current partnering program, explored partnering practices of six state departments of transportation and assessed their applicability to ADOT, and identified the overall perspectives of participants regarding successful and unsuccessful program elements. The findings provided in this report describe effective aspects of the partnering program, as well as those that are less effective or could be considered vulnerabilities within the program. These findings are followed by recommendations that provide methods ADOT could use to address potential issues. Finally, the report also includes a series of implementation guidelines that could be used by ADOT to carry out changes in its partnering program.

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Acronyms, Abbreviations, and Symbols

ADOT   Arizona Department of Transportation

DOT   Department of Transportation

PEP   Partnering Evaluation Program

Precon   Preconference meeting

Introduction

Background

The Arizona Department of Transportation (ADOT) supports a formal process of collaborative teamwork known as partnering. Partnering relationships are focused on common goals and are intended to be non-adversarial.

Established in the 1990s, ADOT's Office of Partnering manages the Department's partnering functions for all roadway construction projects. Partnering involves collaborative teamwork to achieve measurable results through agreements and productive working relationships. It provides a framework for teams to establish a mission, facilitate common goals and objectives, develop issue-resolution processes and evaluate the team's progress. Partnering Office staff establish and monitor partnerships among Department staff, local and tribal governments, contractors, and other groups.

For this study, ADOT engaged Keen Independent Research to help the Partnering Office better understand the needs and expectations of partnership members and to evaluate the Office's effectiveness in meeting those needs. While ADOT formally supports three different types of partnerships, the scope of this project is limited to partnering in construction projects.

Objectives

Keen Independent sought to develop recommendations that the Partnering Office could use to enhance the program's effectiveness. To do so, the study team:

- Analyzed and documented processes, tools, reporting, and other key elements of ADOT's current Partnering Office program.
- Explored partnering practices of six state departments of transportation and assessed their applicability to the Department.
- Identified the overall perspectives of participants regarding successful and unsuccessful program elements.

This final report summarizes study findings, provides recommendations based on the findings, and includes implementation guidelines that could be utilized by ADOT to carry out recommendations.

Terminology

Throughout the final report, some survey respondents and interview participants are referred to as "internal stakeholders" or "ADOT participants," meaning either ADOT personnel or Consultant Temp Techs. For survey analysis purposes, this group also includes other public sector representatives. Other survey respondents and interview participants are "external stakeholders" or "contractors," which refers to prime contractors, subcontractors, prime design consultants and subconsultants. Where the distinction is relevant, this report distinguishes between "prime contractor" and "subcontractor" participants.

The study team identified several findings about the effectiveness of ADOT's partnering program, including:

- Effective aspects of ADOT's partnering program.
- Potential areas in which the partnering program could be improved upon to increase effectiveness.
- Aspects that were less effective in meeting partnering goals or potentially detract from ADOT's partnering program objectives.

These findings are based on analyses of information developed by:

- Reviewing partnering policies, guidelines, training documents, and additional written partnering materials utilized by internal and external stakeholders.
- Reviewing partnering materials from six other state departments of transportation (DOTs) and conducting in-depth interviews with representatives from each DOT.
- Compiling feedback from ADOT/public sector stakeholders and contractor/consultant stakeholders provided through interviews and an online survey fielded from early November to early December 2022.

Effective Aspects of the Partnering Program

The following areas of ADOT's partnering program are strengths that the Department can utilize to promote more effective and cooperative partnering within its construction projects. Some of these program assets might be improved to increase effectiveness.

Support for Partnering as ADOT's Way of Doing Business

The practice of partnering offers many of the benefits and recommended practices of project management models. The approach provides a structured process for how teams can plan and work together and reinforces a philosophy of collaboration toward shared goals.

Overall, survey and interview results showed that both internal and external stakeholders value the partnering approach. A majority reported that partnering has a positive impact on the success of a project and a smaller portion of participants reported that partnering can have both positive and negative impacts and explained areas in which partnering could be improved. Notably, no participants indicated that partnering has only a negative impact on projects.

Table 1. Impact of Partnering

Impact of partnering	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Positive impact	64	52.9%	34	47.2%	30	61.2%
Negative impact	0	0.0%	0	0.0%	0	0.0%
Both positive and negative impact	45	37.2%	30	41.7%	15	30.6%
No impact	9	7.4%	5	6.9%	4	8.2%
Don't know	3	2.5%	3	4.2%	0	0.0%
Total	**121**	**100.0%**	**72**	**100.0%**	**49**	**100.0%**

Sample comments on the positive impacts of partnering:

> *"Partnering brings ADOT and the contractor together before a project begins to make sure they are working towards the same goal and to identify any problems beforehand."*
>
> *ADOT/public sector*

> *"Without [the partnering] process the construction team becomes focused on the individual goals in lieu of the project goals. Partnering makes the team accountable for their actions."*
>
> *Contractor/consultant*

> *"Partnering brings people together instead of ripping them apart. When you have a project that has issues, which most do, people tend to separate and fight instead of come together to resolve. So partnering allowed that and then the cost we spent to have meetings … was outweighed by the benefit …."*
>
> *Contractor/consultant*

Furthermore, in cases where participants responded that partnering has either no impact or a mixed impact, comments indicate that these stakeholders are not rejecting the concept of partnering, but that they have critiques about how partnering is implemented. Some of these comments are listed below:

> *"I do not feel that the partnering process is entirely effective as it is currently instituted. Every district of ADOT operates differently."*
>
> *Contractor/consultant*

> *"[Partnering is] beneficial, especially on large [projects, not] for every project though."*
>
> *ADOT/public sector*

> *"[Partnering] helps to resolve disagreements faster and at lower levels but [lessens] the quality of construction and cost more than it should."*
>
> *Contractor/consultant*

Participants who had experience with ADOT's construction projects before partnering are uniquely positioned to compare projects with partnering to those without. Comments from such participants underscore the value of maintaining the Department's commitment to partnering.

Belief in partnering as a sound way of doing business is an asset on which ADOT can build as it considers potential updates or changes to the program.

Kick-off Workshops

Kick-off workshops guide teams through the process of defining shared project goals, identifying potential risks and issues, establishing roles and responsibilities and ways of collaborating at the outset of a project, and defining a process for escalating and resolving issues. Workshops take place before teams begin working together on construction projects.

The analysis of policies and procedures as well as stakeholder comments found that the kick-off workshop has been the primary focus of the program over time and is the most well-developed aspect of the program.

Some participants noted ways in which kick-off workshops could be improved, but comments from interviewees and survey respondents generally reflected that kick-off workshops are where important foundations for partnering success are established. Some examples of these comments include:

> *"I think it would be more beneficial if [there were smaller] partnering groups instead of such large groups together. It doesn't even need to be anything formal. It could just be in a small conference room where it's [an opportunity to] get together and talk about some issues that are difficult issues to work through."*
>
> *Contractor/consultant*

> *"Partnerings have the same routine. They need to be specific to the project."*
>
> *ADOT/public sector*

> *"Partnering at the beginning is great. Perhaps a check-in/refresher meeting in the middle …?"*
>
> *Contractor/consultant*

> *" …not all disciplines are included in the process. Partnering needs to expand beyond the 'construction workers' and include all of the other disciplines that are critical to the success of any project."*
>
> *ADOT/public sector*

> *" …as a whole, I do believe the partnering program works. I just think maybe some refinements need to be made for … large projects, [having all the subcontractors at the partnering]."*
>
> *Contractor/consultant*

Partnering Monitoring

Participant survey and interview responses, comments, and the review of the partnering program procedures reveal that the Partnering Evaluation Program (PEP) is the primary means by which the Partnering Office monitors the work of teams after the kick-off workshop. Overall analysis finds that the PEP is somewhat effective but could be improved.

Participants were asked if satisfactory performance measures are implemented in partnerships to keep track of project success. Although some respondents reported that they did not know, most survey respondents responded "yes."

Table 2. Participant Opinion on Whether Satisfactory Performance Measures are Implemented

Response	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Yes	66	58.9%	32	49.2%	34	72.3%
No	10	8.9%	5	7.7%	5	10.6%
Don't know	36	32.1%	28	43.1%	8	17.0%
Total	**112**	**100.0%**	**65**	**100.0%**	**47**	**100.0%**

Overall, a majority (66%) of respondents rated PEP goals as at least somewhat useful in promoting a successful partnership. These ratings suggest that participants view the PEP as helpful but less effective than other aspects of partnering, such as the issue-escalation ladder, which most respondents rated as "frequently" or "always" useful.
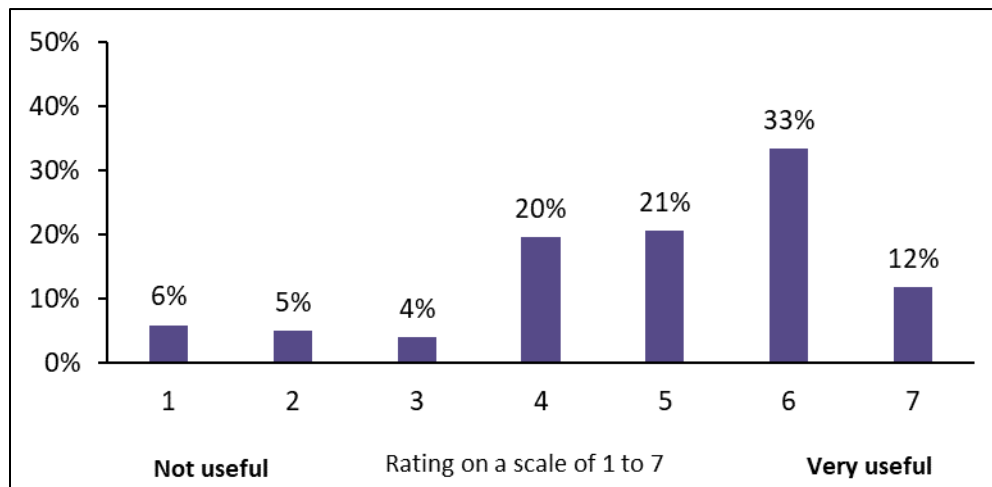
Figure 1. Participant Opinion on the Effectiveness of PEP Goals

The following are some of the positive comments provided by participants related to the PEP:

"These measures show the team if and where they need to focus attention to improve results."

Contractor/consultant

"It is helpful to see what people are feeling about a project. I have seen really good scores and then one individual really upset about a particular item. Because of those comments we were able to discuss and resolve the issue."

ADOT/public sector

In addition to positive feedback, survey and interview comments describe the limitations of the PEP, including:

- Ambiguity of ratings.
- Reluctance of participants to respond honestly and explain ratings with comments.
- Lack of participation by the correct parties.
- Inconsistent use and lack of follow-through on results.

Sample comments about opportunities to improve performance measures and the PEP are include:

"The PEP is a good tool. I feel project teams should discuss scores once a month at weekly meetings. The PEP is filled out, results are sent out but never discussed with the team."

Contractor/consultant

"Adding threshold triggers for 3rd-party intervention/assistance [would improve the PEP]."

ADOT/public sector

"More participation and quick and firm action when scores start to decline."

Contractor/consultant

"It's very hard to get everyone to [fill] out the PEP forms, so are the final scores … valid for each goal when you don't have full participation from all the project members? Nope!"

ADOT/public sector

Interviews with other state partnering contacts and interviews with ADOT stakeholders suggest that less formal methods of monitoring team partnering are minimally used in ADOT's program.

Issue Escalation Ladder and Dispute Resolution

Most respondents reported that partnering processes are helpful in resolving issues and escalations. Almost 87 percent of overall respondents indicated that these are "always," "frequently," or "sometimes" helpful. A small share of respondents (9%) said processes were "rarely" helpful, and no participants reported that these were "never" helpful.

Table 3. Participant Opinion on Partnering Processes' Helpfulness in Resolving Issues/Escalations

Frequency	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Always	14	12.3%	5	7.5%	9	19.1%
Frequently	44	38.6%	31	46.3%	13	27.7%
Sometimes	41	36.0%	19	28.4%	22	46.8%
Rarely	10	8.8%	8	11.9%	2	4.3%
Never	0	0.0%	0	0.0%	0	0.0%
Don't know	5	4.4%	4	6.0%	1	2.1%
Total	**114**	**100.0%**	**67**	**100.0%**	**47**	**100.0%**

As a tool and process to create clarity for how teams will resolve issues, the issue-escalation ladder might be the most effective tangible deliverable of the partnering process.

Survey ratings and participant comments indicate that the issue-escalation ladder is the most valued tool during a partnership. The majority of respondents across groups reported that the escalation ladder was "always" or "frequently" effective in resolving disputes. Few participants responded that it was "rarely" or "never" helpful when asked this question.

Table 4. Participant Opinion on the Escalation Ladder's Effectiveness in Resolving Disputes

Frequency	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Always	17	16.8%	7	12.5%	10	22.2%
Frequently	45	44.6%	24	42.9%	21	46.7%
Sometimes	28	27.7%	17	30.4%	11	24.4%
Rarely	7	6.9%	4	7.1%	3	6.7%
Never	1	1.0%	1	1.8%	0	0.0%
Don't know	3	3.0%	3	5.4%	0	0.0%
Total	**101**	**100.0%**	**56**	**100.0%**	**45**	**100.0%**

Sample comments about issues and escalations:

> *"I think issue resolution at ADOT is good, there are not as many claims as in other states."*
>
> *Contractor/consultant*

> *"When an issue is escalated, the issue is talked about in a more cordial way and with less animosity, because almost everyone is trying to partner with each other to get the problem resolved in the most fair way possible."*
>
> *ADOT/public sector*

Overall, the escalation ladder is believed to be an important and effective tool. Critiques of the issue-escalation ladder communicate belief in the tool but point out limitations regarding inconsistent implementation or enforcement of proper use of the tool. Comments and ratings suggest that most participants would welcome opportunities such as training and enforcement regarding proper use of the ladder.

Sample comments about opportunities to improve issues and escalations:

> *"If used correctly or timely, it does well. Problems arise quickly when staff jumps levels or confuses multiple issues or brings up items that were previously understood to be resolved or not even known at the time of occurrence."*
>
> *ADOT/public sector*

> *"ADOT's leadership … has been a revolving [door], so it's difficult to have consistency on policy stances …. I'm sure it's frustrating for the contractor as well, and it has a bad effect on the job. We're told either issues are going to cost more to escalate/if they go to litigation or we won't be backed up at the state engineer's level if we hold a stance based upon a 'business decision,' so it diminishes [decision-making] power and the partnering process is exploited."*
>
> *ADOT/public sector*

> *"People need to be willing to escalate issues. It is too often thought of as a failure on the project. Escalating items keeps the relationships intact and allows project to move forward."*
>
> *Contractor/consultant*

Dispute resolution in ADOT's partnering program relies on the use of the issue escalation ladder consistent with the program's commitment to collaborative problem solving. As previously noted, these aspects of the program are generally viewed as valuable. Participants in ADOT's program and other state partnering programs point to a reduction in the number of disputes that result in litigation as a key indicator of partnering success.

Aside from administering the PEP, ADOT's partnering program places little emphasis on engaging partnering staff in ongoing support or monitoring of project teams. The review of procedures found that the PEP is likely a lagging indicator that some teams might benefit from support. Partnering staff typically learn of issue escalations only after they are resolved (i.e., when the Partnering Office receives

a copy of the issue resolution routing form). Partnering staff may lack the information needed to provide early direct support in dispute resolution when teams encounter challenges.

In some state programs, dispute resolution options include alternative dispute resolution by engaging an advisor or board to provide guidance or mediation. ADOT's program identifies ways for teams to resolve issues themselves through the escalation ladder but offers no formal options other than litigation for dispute resolution if those efforts are unsuccessful.

Less Effective Aspects or Vulnerabilities of the Partnering Program
The following section identifies areas of the partnering program that are less effective or may be important vulnerabilities for ADOT to address.

Distrust
Distrust was a recurring theme among both internal and external stakeholders responding to the study survey and interviews. Because effective partnering relies on a commitment to mutual benefit and collaborative problem solving, the level of distrust reflected in many participant comments signals a potential program vulnerability.

Individual survey responses about the program frequently directed blame toward the other party (i.e., ADOT personnel referring to contractors and contractors referring to ADOT personnel). For example, comments from some internal stakeholders within ADOT indicated the belief that partnering favors contractors and that contractors manipulate the program to their advantage. Some external stakeholder comments from contractors indicated the opposite: that partnering favors ADOT instead of contractors/consultants.

Sample comments of distrust in partnering:

> *"ADOT consultants seem to abuse their power with no skin in the game except billable hours."*
>
> *Contractor/consultant*

> *"There are some consultants that are good, however many seem to be [adversarial]. Think of the dynamic. Consultants want to impress the owner. 'How much money can I save the owner? How can I shift risk off of the owner? How can I push schedule, etc.?' And, if the project has a claim or the consultant creates a claim then they get paid their hourly rate to go defend it. All of this results in a non-contractor friendly dynamic that ADOT either ignores or supports."*
>
> *Contractor/consultant*

> *"Get legitimate buy in from ADOT management and have that approach and mindset permeate down through the ranks. I think consultants on ADOT's payroll dumb down the process. We all know that consultants must prove their worth to ADOT to be able to stick around. The simplest way for consultants to do this is through cost savings and arguing with the Contractor about paying the bill."*
>
> *Contractor/consultant*

Internal and external stakeholder belief in the program is an asset. However, ADOT participants were less likely to report the program as having a positive impact than were contractors/consultants.

ADOT participants tended to report higher levels of skepticism about the program based on qualitative analysis of interview and survey comments. The study team also observed that more ADOT participants were critical of specific aspects of the program than were contractors/consultants.

- 80 percent of those who scored PEP goals as not useful were ADOT/public sector participants.
- About 75 percent of those who rated the *Partnering 101* manual as not useful were internal stakeholders (refer to Figure 2, below).
- 92 percent of survey participants who rated the partnering orientation course as not useful were ADOT/public sector participants (refer to Figure 3, below).
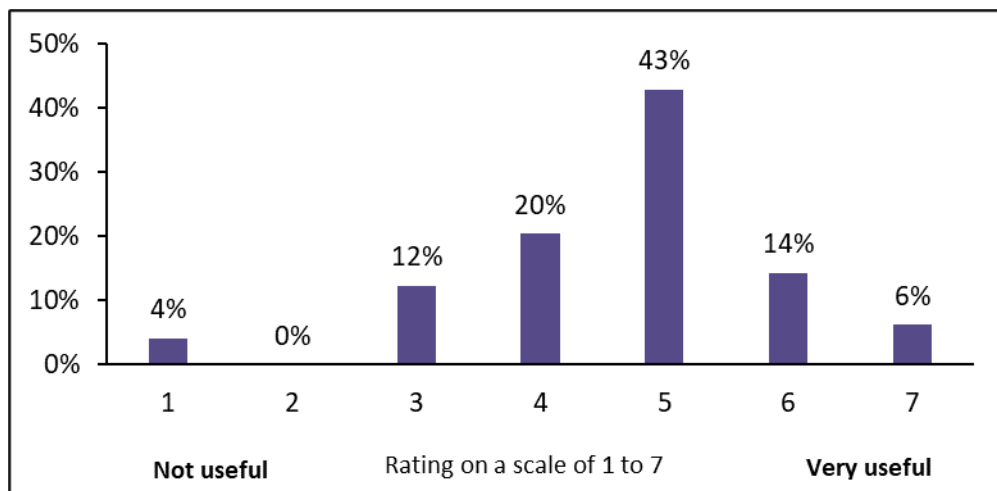

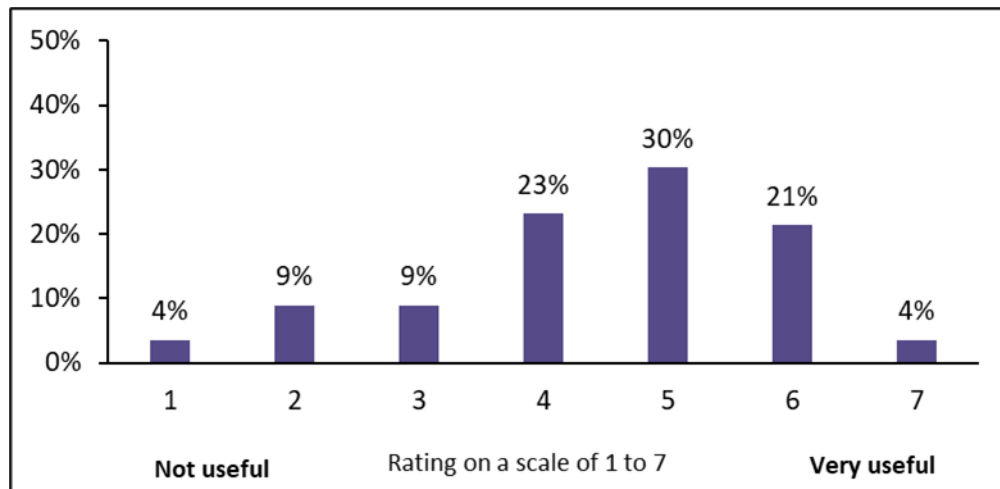**Figure 2. Participant Opinion on the Usefulness of the *Partnering 101* Manual**

Figure 3. Participant Opinion on the Usefulness of the
***Introduction to Partnering/Partnering Principles* Course**

Both ADOT/public sector participants and contractors/consultants commented on the importance of consistency in the program but indicated having different interpretations of "consistency." To contractor/consultants, consistency means that ADOT must be consistently flexible in problem solving. For ADOT staff, calls for consistency meant adhering to terms and specifications and less (not more) flexibility.

Comments also suggest that skepticism is based on opinion and individual experiences and anecdotes. Concrete information about escalation resolutions and partnering outcomes and benefits has not been available to counteract such perceptions.

Aside from partnering's effectiveness within individual projects, participants struggled to describe how the program's effectiveness could be measured. ADOT is not alone in experiencing this challenge, which was reported by partnering contacts in other state programs, as well. The absence of universally understood ways to measure and communicate the effectiveness of ADOT's program may enable detractors to sustain their belief that partnering is a waste of resources or unfairly benefits the "other side."

Variability in Partnering Commitment or Capability
Two-thirds of contractors participating in the 2022 survey indicated that some ADOT districts use partnering more effectively than others. However, only 16 percent of ADOT participants gave the same response. This lower percentage for ADOT participants is explained by the three-quarters of ADOT participants who said they simply did not know if some districts use partnering better than others. As noted in the prior section about trust, answers from ADOT participants suggest internal pockets of skepticism about the program and about the intentions of contractors. This finding aligns with the evidence that some parties may be more-willing participants in partnering than others.

Table 5. Variability in ADOT Use of Partnering by District

Response	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Yes	42	36.5%	11	16.4%	31	64.6%
No	6	5.2%	4	6.0%	2	4.2%
Don't know	67	58.3%	52	77.6%	15	31.3%
Total	**115**	**100.0%**	**67**	**100.0%**	**48**	**100.0%**

Sample comments about variations in partnering commitment:

"Some offices …. just go through the motion of partnering."

<div align="right">*ADOT/public sector*</div>

"I've worked in a couple of districts where the partnering was exceptional and a pleasure to work with these districts."

<div align="right">*Contractor/consultant*</div>

Participants also reported that the Department increasingly relies on Consultant Temp Techs, and both contractors and ADOT participants are skeptical about whether ADOT Consultant Temp Techs are effective in practicing or carrying out partnering. For example, a majority of contractors/consultants reported that Consultant Temp Techs are only "sometimes" or "rarely" effective in practicing and carrying out partnering. ADOT respondents gave somewhat more positive responses about the effectiveness of Consultant Temp Techs, but one-half still indicated that they are only "sometimes" or "rarely" effective at partnering.

Table 6. Participant Opinion on the Effectiveness of ADOT-hired
Consultant Temp Techs in Partnering

Frequency	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Always	8	8.2%	5	9.3%	3	6.8%
Frequently	36	36.7%	21	38.9%	15	34.1%
Sometimes	42	42.9%	25	46.3%	17	38.6%
Rarely	11	11.2%	2	3.7%	9	20.5%
Never	1	1.0%	1	1.9%	0	0.0%
Don't know	0	0.0%	0	0.0%	0	0.0%
Total	98	100.0%	54	100.0%	44	100.0%

For both external and internal respondents, Consultant Temp Techs are perceived as operating outside the Department's normal partnering training and accountability expectations. Contractors are especially skeptical, and their comments reflected a perception that the interests of Consultant Temp Techs are contrary to partnering. For example, some suggested that Consultant Temp Techs who are paid by the hour may benefit when issues take longer to resolve or may believe they will be favored for future work with ADOT if they are tough on contractors.

Sample comments about the effectiveness of Consultant Temp Techs in carrying out partnering:

> "Often Temp Techs are eager to 'partner' even when they shouldn't. Some are what are considered 'Contractor Friendly.'"

ADOT/public sector

> *"As ADOT started using independent consultants, it seemed to take a turn."*

ADOT/public sector

> *"[Consultants] are often 'hard-line' when it comes to grey areas in the contract. They should be allowed to partner just as ADOT does, and not be viewed as not enforcing the contract."*

Contractor/consultant

Another of the most notable findings of this study is the extent to which partnering variability may impact bid price. In the 2022 survey, approximately half of contractors who are knowledgeable about bid pricing decisions (i.e., excluding those who answered they "don't know" if partnering affects bid price) indicated that partnering affects their bid prices. Comments explained that contractors' pricing may reflect a preference for personnel and districts known to be committed to partnering and collaborative work with contractors, with a premium added to bids for work with districts or personnel they perceive to be resistant to partnering.

Table 7. Impact of Partnering on Bid Price (Excluding "Don't Know" Responses)

	Contractor/consultant	
Effect of partnering on bidding	Responses	% of total responses
Positively	13	39.4%
Negatively	3	9.1%
Don't factor it in when bidding	17	51.5%
Total	**33**	**100.0%**

Samples of comments related to the impact of partnering on bid price:

> *"ADOT districts that are true partners receive preferred pricing because they are a good client/customer. ADOT groups and consultants within the district that are difficult to work with warrant a premium price to tolerate their combative tactics."*
>
> *Contractor/consultant*

> *"I've seen anywhere from 10 to 25 percent added to the [bid price for] certain districts or certain consultants."*
>
> *Contractor/consultant*

> *"A properly partnered project costs the contractor less money to build and results in reduced administration costs for both the contractor and ADOT. The likelihood of completing on-time and within budget is enhanced. Finally, and frankly, a properly partnered project is simply more fun to build and results in a higher quality of life for all involved."*
>
> *Contractor/consultant*

Reach and Orientation of Communications and Resources

Partnering 101 **manual and written materials**

The analysis of written materials in this study found that partnering communications are currently internally focused and not easily accessed or understood outside the Department. Written materials in the program that are up to date (i.e., standards of work) are meant for an internal audience. Materials such as the program manual, *Partnering 101*, are intended for both internal and external team members but are written in a way that presumes knowledge of the Department and how it currently operates or has changed over time.

ADOT's 2018 survey showed that 42 percent of respondents were unaware of the *Partnering 101* manual. In 2022, 54 percent reported that they were unaware of it.

Table 8. Participant Awareness of the *Partnering 101* Manual as an Available Resource

Response	All participants		ADOT/public sector		Contractor/consultant	
	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Yes	51	45.9%	28	43.8%	23	48.9%
No	60	54.1%	36	56.3%	24	51.1%
Total	111	100.0%	64	100.0%	47	100.0%

Materials such as the *Partnering 101* manual are not kept up to date, so these information sources become increasingly irrelevant and unused over time.

Introduction to Partnering/Partnering Principles Course

Although partnering orientation is described as mandatory for all team members, it rarely includes external stakeholders. Partnering staff indicate that the orientation course is attended primarily, if not exclusively, by ADOT personnel. As a result, the majority of ADOT/public sector participants in the 2022 survey said they had taken the course, but most contractor/consultant participants (57%) said they had not taken this course.

Table 9. Respondent Participation in the Introduction to Partnering/Partnering Principles Course

	All participants		ADOT/public sector		Contractor/consultant	
Response	Responses	% of total responses	Responses	% of total responses	Responses	% of total responses
Yes	59	53.6%	39	61.9%	20	42.6%
No	51	46.4%	24	38.1%	27	57.4%
Total	110	100.0%	63	100.0%	47	100.0%

Workshops

Interviewees and survey participants also noted that partnering meetings, including kick-off workshops, do not reliably include all relevant parties. Some noted that subcontractors are key to projects but might not be included in those workshops as they may not be involved in projects at their start. Others noted that the parties involved in a project may change over time and that communications about partnering, including PEP surveys, may not reach newcomers. Subcontractors expressed that ADOT communication takes place with prime contractors and that they are not consistently included.

Sample comments:

> "We encourage primes to invite their major subcontractors, but because … there's no actual physical work going on, we don't pay for their time. You very rarely get participation from subs …. if ADOT wanted more involvement from subs, we'd have to consider that …"
>
> *ADOT/public sector*

> "… most of the partnering that needs to happen is between ADOT [and the prime]. What they forget is that … 50 percent of the work is happening by the subs that aren't at the table … on mega projects, it's a tough challenge to get [information and expectations] to filter down so [subcontractors] can be effective."
>
> *Contractor/consultant*

Limited Variations in Partnering Models

ADOT's application of partnering to construction projects is universal. All projects are partnered. The partnering model is the same for all projects except those that qualify for a model in which partnering subjects are included in the agenda of the construction preconference meeting ("partnering in the precon"). Projects must be of low risk and complexity to qualify for partnering in the precon. Eligibility for this model also depends on the qualifications of the Resident Engineer on the project who, as a

requirement, must have attended at least ten partnering workshops and be certified to include partnering in the precon.

Some participants noted that formal partnering may not be necessary for all projects. They also suggested that options for how to apply partnering are inadequate for the variety of project sizes and circumstances.

Some interviewees described a trend in transportation construction projects toward "mega projects," particularly large, complex, or lengthy projects involving many contractors and consultants through multiple phases of work. ADOT's partnering model is not currently designed to scale to such projects. Because ADOT's partnering program is not suited to these mega projects, one issue that arises is that many subcontractors and consultants who might benefit from partnering are unable to do so, because they may not be engaged until later phases of a project.

Ongoing Support for Partnering

Written policies and interviews suggest Partnering Office staff are infrequently engaged with teams after the kick-off and thus have little opportunity to gather information about how teams are doing through formal or informal methods, such as direct observation of meetings, interactions, or conversations with a variety of team members, or through other methods.

Vocabulary about the program may reinforce the focus on kick-off meetings. An assessment of written materials found that the word "partnering" is used interchangeably with the word "workshop," and the position title held by Partnering Office staff, "facilitator," is suggestive of their roles in facilitating kick-off workshops.

As noted previously, early intervention to provide support for partnering and issue resolution is viewed as potentially valuable but largely absent in ADOT's program.

Some participants noted the potential value of partnering facilitators or other neutral parties (not regular employees of ADOT) to mediate disputes or provide professional opinions or guidance to help support teams. This could be particularly valuable when resolving any issues that arise.

Continuous Learning and Improvement

ADOT staff lack the systems and metrics needed to track program performance. The new PEP system does not enable program-wide reporting or comparisons. The program does not have accessible data to track issue escalations and resolution. The program does not offer a way for stakeholders to make suggestions for improvement other than through the surveys and assessments conducted every several years. Partnering staff report that close-out workshops are rarely held, so the program does not routinely provide the opportunity to learn from project-level partnering retrospectives.

Recommendations

The research team recommends actions ADOT might take to address current issues within its construction partnering program and to expand on program strengths.

1. Increase Program Commitment and Support within ADOT
ADOT could consider the following opportunities to reinvigorate its internal commitment to partnering.

Collect and Share Evidence of Program Impact
To persuade internal stakeholders of the value of partnering, ADOT can:

- Share quantitative data from this study, such as the impact of effective partnering on bid prices.
- Discuss what working on construction projects was like prior to the adoption of ADOT's partnering program.
- Gather and share data on program-level outcomes.
- Incorporate storytelling (an especially effective persuasive tool), case studies, testimonials, and first-person accounts.
- Recruit program participants from outside the Partnering Office to directly share their accounts.
- Re-emphasize important data points and compelling stories to reinforce and reward committed participation and to persuade those who still exhibit mistrust.
- Integrate information about the impact of partnering using multiple methods, including ADOT's website, written information, verbal presentations, and as a part of trainings and events.
- Continue making these communication efforts on an ongoing basis rather than as a task that is completed.

Foster a Top-Down Commitment to Partnering
To harness the impact of leadership support for partnering, ADOT might:

- Ensure ADOT's leadership understands the impact of partnering.
- Enlist leadership support for reinvigorating the partnering program.
- Specify actions ADOT leadership can take to support partnering, including identifying the program as a Department-wide priority.

Train ADOT Consultant Temp Techs on Partnering Effectiveness
Since Consultant Temp Techs play a leadership role in construction project teams and in issue escalation and resolution, their training and responsibilities regarding partnering should parallel regular ADOT staff. ADOT might:

- Clearly state the accountability of Consultant Temp Techs for partnering in the role description.
- Define the required skills and necessary training regarding partnering for contractors to be eligible to work as Consultant Temp Techs.

- Consider strategies to support issue escalation and resolution, in particular, for Consultant Temp Techs who do not yet have the relevant partnering training or experience.

Evaluate ADOT Personnel on Partnering Effectiveness

ADOT could consider partnering effectiveness as a part of performance evaluations and performance-improvement planning for all construction project team staff who are expected to use partnering methods and strategies in their work. To incorporate partnering within performance management, ADOT might:

- Collaborate with human resources staff to ensure that partnering accountabilities are included in the relevant job descriptions for all construction staff who are expected to use partnering methods in their work; ensure that ADOT staff understand that effective partnering is an expectation of their roles.
- Evaluate partnering effectiveness as a component of performance assessments for staff who work on construction project teams, particularly those in team leadership and issue escalation roles (including Consultant Temp Techs, when possible).
- Develop a process to incorporate internal and external feedback on partnering effectiveness in the evaluation process, taking care to distinguish the difference between the disappointment in the outcomes of specific escalated issues and the overall competency and effectiveness of a facilitator's core partnering skills.
- Use evaluation results to identify staff, including Consultant Temp Techs, who may benefit from additional partnering support such as training, coaching, mentoring, and other strategies.
- Use evaluation results to recognize and reward staff, including Consultant Temp Techs, who have distinguished themselves through effective partnering performance.

The primary goal of these efforts should be to reinforce and reward effective partnering practices and to provide support for partnering improvement to those who need it. The research team recommends focusing on recognizing achievement and providing additional training where needed. These efforts, coupled with open communication about partnering benefits and senior leadership championing and leading the way with partnering, may boost the efforts of individuals or districts that may be lagging in effective implementation of partnering.

2. Close Gaps in Program Reach and Stakeholder Engagement

Partnering is about collaboration between ADOT personnel and a variety of external stakeholders, so reaching and engaging external stakeholders are essential. The following section describes ways in which ADOT can do so.

Update Information about the Program

ADOT might consider taking these steps to review and update content, accessibility, and usability of information about partnering:

- Identify resources for updating and maintaining partnering communications; this will require a substantial effort and, perhaps, professional expertise.

- Update the language in partnering materials to better explain program roles and objectives.
- Convert PDF and print information to accessible formats such as responsive and searchable web-based information.
- Track the use of web-based information about partnering to reveal patterns that can be used to improve communications about the program.
- Define the role of the Partnering Office and introduce individual Partnering Office staff.
- Retire out-of-date written program information.
- Assign accountability for regularly monitoring, maintaining, and updating information about the program.

Ensure Partnering Orientation Includes External Stakeholders

Other states have processes for monitoring and following through on partnering education, which result in high contractor participation. ADOT might look to those states to learn new strategies and methods for increasing contractor participation.

To ensure the partnering orientation effectively reaches external stakeholders, ADOT might:

- Develop a tracking system and processes to identify potential project team members who have not completed partnering orientation and follow up to ensure they do so before projects begin.
- Develop a certification process with a tracking system to maintain information about stakeholders who have or have not completed the orientation.
- Require stakeholders to participate in a refresher orientation to keep knowledge and skills current as the program changes.
- Monitor feedback about the orientation as external stakeholder participation expands; be prepared to adjust the program to ensure it is valuable to both internal and external participants.

Ensure Project-Level Partnering Engagement by the Right People at Each Stage of a Project

To ensure the inclusion of the appropriate people in partnering for each project, ADOT might:

- Develop a step in the partnering kick-off process to ensure executive-level staff from ADOT and contractors are in agreement with project team goals and partnering commitments, particularly related to issue escalation and resolution.
- Learn more from teams about whether all the appropriate people are included in partnering at the right times, perhaps using debrief processes (discussed later in these recommendations) to identify and understand why some key stakeholders may be overlooked in partnering workshop invitations or why they may not attend.
- Compile this information and evaluate options for engaging more external stakeholders beyond prime contractors in partnering meetings and processes.
- Update lists of project team members to include in PEP surveys and other communications.
- Gather information from stakeholders whose involvement may end before project completion and therefore will not necessarily be part of close-out workshops or other debrief processes.

Engage External Stakeholders in Program Changes, Leadership, and Education
To foster effective program engagement, education, and teambuilding, ADOT might:

- Develop a process for engaging internal and external stakeholders to plan key program changes.
- Engage external stakeholders as co-facilitators of partnering meetings and educational programs.
- Ask participants to share examples of successful and challenging partnering experiences as education tools.
- Utilize "tabletop" training exercises similar to those used in emergency preparedness to create dynamic case-based learning and relationship building that allow participants to practice working together.

The recommendation regarding case-based simulations draws on lessons from emergency management preparedness. As is true for ADOT construction teams, in emergency management, the details of issues that will challenge teams cannot be predicted, so effective education and training build "muscle memory" and adaptability for how teams will work together. A benefit of simulation exercises is the absence of real consequences and pressures, so tension can be diffused and team members can try different strategies. These may subsequently become shared reference points when teams work through genuine issues.

3. Improve Partnering Support and Monitoring
The program has not regularly engaged partnering staff with project teams after the kick-off, so external stakeholders sometimes lack awareness of the Partnering Office staff. The following section describes ways in which ADOT could improve partnering support and monitoring.

Structure and Enable Ongoing Engagement of Partnering Staff with Project Teams
To provide partnering support to project teams after the kick-off, ADOT might:

- Assess resource availability and the trade-offs of reallocating resources for facilitator engagement with teams following the kick-off.
- Introduce Partnering Office staff to project team members and clearly differentiate their roles from those of other ADOT personnel.
- Introduce Partnering Office staff to new team members as they join projects.
- Define expectations for partnering staff to directly observe meetings and/or speak informally with a variety of project team members, document project-monitoring activities and observations, and offer support to project teams when needed.
- Develop an inventory of ways partnering staff can support project teams after kick-off workshops when needed (e.g., facilitated partnering reconnection sessions with teams and facilitated discussion of PEP or other monitoring results).
- Establish systems or expectations for real-time information sharing about issue escalations with partnering facilitators.
- Create a role for facilitators in monitoring and providing support at different levels of the escalation ladder.

- Consider adding new options for dispute resolution, such as seeking an impartial outside review or mediation.
- Offer targeted retraining or supplemental skill development to project teams as needed.

Consider Adding Independent Facilitation Options, if Needed

This study did not assess whether the ADOT Partnering Office's resources are sufficient for both initial workshops and ongoing support. If ADOT faces resource constraints or encounters concerns about the neutrality of Partnering Office staff, the Department might consider offering independent contractor facilitators.

If ADOT pursues this option, the research team suggests that ADOT might:

- Maintain a list of independent facilitators to supplement, rather than replace, in-house facilitators.
- Use the existence of the independent facilitators list to strategically allow Partnering Office resources to provide additional support to program priorities that may lack adequate resources or attention (e.g., program communications, training, and project monitoring).
- Allow project team leaders from both ADOT and the prime contractor to mutually agree on the facilitator (either the in-house option for that district or an independent facilitator).
- Ensure that the decision to work with an in-house or independent facilitator is financially neutral for project teams.
- Offer teams working with an independent facilitator the same options for ongoing support as would be the case when working with in-house facilitators.
- Hold both in-house and independent facilitators to the same expectations, using the same evaluation measures and processes.

Modify the PEP

Research participants noted both the benefits and shortcomings of the current PEP. To strengthen its value and address its limitations, ADOT might:

- Provide standard definitions or examples to promote consistent use of the quantitative rating scale.
- Design strategies to address concerns about anonymity and potential retaliation.
- Ensure that invitations to participate reach the appropriate people and that lists are updated as team composition changes during a project.
- Ensure results are shared with team members and are reviewed and addressed in project team meetings (by project team leaders or by Partnering Office facilitators).
- Reestablish options to select and analyze PEP data for program-wide monitoring and comparisons over time and across projects or districts.

4. Strengthen the Issue Escalation Ladder

The issue escalation ladder is a valued asset in ADOT partnering. Opportunities for improvement include reinforcing how it should be used, sharing information about escalations as partnering performance indicators and for learning purposes, and adding options to support issue resolution.

Reinforce Appropriate Issue Escalation and Resolution Processes
To encourage and strengthen use of the issue escalation ladder, ADOT might:

- Improve communications that describe and encourage the use of the issue escalation ladder as a tool to keep projects moving forward.
- Ensure that both the ADOT and contractor leadership who will address escalated issues have endorsed project team goals and are committed to following the project team's issue escalation plans.
- Provide advanced training on escalation ladder use and expectations for decision making.

Examples of topics for further training include what constitutes a well-made decision, potential boundaries for decision-making at each rung, determining who should be consulted, appropriate bases for reversing down-ladder decisions, and strategies that can be used to prevent up-ladder reversals from disempowering down-ladder decision makers.

Track and Share Issue Escalation Information
ADOT stakeholders expressed interest in learning from examples of how issues are resolved but feel they lack access to such information. ADOT also currently has no way to easily aggregate and analyze data about escalations as an aspect of partnering program performance. ADOT might:

- Modify procedures to notify partnering staff of issue escalations earlier in the process.
- Investigate and consider implementing a digital issue-escalation and tracking system with access for team members and Partnering Office staff.
- Collect and share examples of escalation issues and outcomes with stakeholders.
- Use project-level data about escalations to identify projects or teams where additional support may be helpful.
- Track and share aggregated data about issue escalations as a source of overall program performance metrics.

Consider Adding New Dispute Resolution Options
Some stakeholders were interested in supplemental options for resolving issues. Some states offer options such as a dispute resolution advisors, dispute resolution panels, or mediation for issues that have proceeded through the lower rungs of an issue escalation ladder. ADOT might:

- Offer teams the option of seeking an outside opinion from a mutually agreed resource.
- At higher levels of the ladder, consider options for referring deadlocked issues to a dispute-resolution advisor, panel, or mediator.

5. Develop and Enable Partnering Adaptations for Different Circumstances

No ADOT model or guidance currently exists for scaling partnering to especially large and complex projects. To offer more variation in partnering models, ADOT might:

- Consider an even more streamlined version of partnering in the precon for projects of limited complexity.
- Expand access to partnering in the precon for small projects of limited complexity.
- Offer models or guidance for scaling partnering to meet the needs of particularly large and complex projects.

6. Adopt Continuous Learning and Improvement Strategies

To foster continuous learning and improvement in the program, ADOT might:

- Track program-level data about issue escalation, timely resolution, and outcomes by level, taking care to ensure that use of the escalation ladder is not discouraged.
- Reestablish PEP tools that allow comparisons of standard rating questions over time, across projects, or by district.
- Share program-level data and other data about program performance with internal and external stakeholders.
- Create a mechanism for welcoming, routing, and responding to partnering program feedback on an ongoing basis (e.g., an online comment card).
- Show examples of stakeholder suggestions that have resulted in program improvements.
- Routinely debrief project team members and use those findings at the overall program level.
- Consider individual interviews with team members or other information gathering if group close-out workshops are not feasible.

Implementation Guidelines

In order to act upon the recommendations previously described, the research team developed a simple set of implementation guidelines that could be used to promote changes in ADOT's partnering program.

Any potential changes to ADOT's partnering program will involve trade-offs, so discussions should include a broad set of internal and external stakeholders. After priorities for program changes are determined, a more detailed implementation plan may be developed that includes responsibilities, resource allocation, and timelines. Those plans may change as ADOT receives feedback on the relative success of initial changes.

Implementation guidelines include:

- Securing senior leadership commitment to both the program and efforts to improve the program.
- Engaging both ADOT personnel and contractors/consultants in assessing and prioritizing program changes.
- Developing a portfolio of actions that may include some quickly achievable changes as well as some longer-term projects.
- Identifying and addressing any budget or staffing needs to enable success of program changes.
- Assigning accountability and generating regular updates on progress.
- Regularly reviewing progress with senior leadership and other internal and external stakeholders.