NATIONAL TOOLBOX

FROM THE

INTERAGENCY DISPATCH OPTIMIZATION PILOT PROJECT (IDOPP)

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Documents referenced throughout this report are accessible via live hyperlink if viewed electronically; or by accessing http://www.fs.fed.us/fire/management/assessments/
1 INTRODUCTION
The Interagency Dispatch Optimization Pilot Project (IDOPP) reviewed dispatch functions conducted by the US Forest Service (FS), the Department of the Interior (DOI), and state, local, and tribal partners, including dispatch for fire, law enforcement, and other field going personnel. The IDOPP encompassed two geographically defined areas, California Area (California and Hawaii) and the Southwest Area (Arizona, New Mexico, west Texas, and the Oklahoma panhandle).

Each of the two areas formed a sub-team composed of subject matter experts representing federal agencies, state organizations, and programs encompassed by the project. A Bridge Team managed the project and ensured consistency in the sub-teams’ assumptions, approaches, methods, and deliverables.

The IDOPP teams developed a “toolbox” of methodologies and recommendations that other areas across the nation can use to analyze and optimize their dispatch operations. Principal analytical tools include complexity analysis, staffing analysis, and data analysis.

2 PROJECT START-UP
The teams recommend the following at the start of an optimization project:

- **Expressed Leadership Buy-in and Intent:** Leadership buy-in and intent are integral to a successful project. Clear direction from leadership can help a project team focus more efficiently on potential alternatives, while leadership support can garner field support to assist the team in data collection and other field level efforts.

- **Communication:** The success of large optimization efforts relies in part on support at all levels of the organization. Early, clear, consistent communication to the field, National Federation of Federal Employees (NFFE) and other interested parties can ensure common understanding of the project objectives and participatory needs.

- **Availability of Team Members:** Team members must fulfill their commitments to thorough and timely participation and provide participatory representation on behalf of the agency, program or entity that they represent. Team members must understand the expected time commitment prior to their assignment to the team. Project teams should verify availability of their members, including availability for attendance at conference calls and in-person meetings and ability to conduct assignments including draft report reviews. Agencies should assign team members for the duration of the project, as replacements can negatively affect project continuity.

- **Team Composition:**
  - **Dedicated Project Manager:** Project teams should consider having a dedicated project manager who can focus solely on the optimization project. This position can also serve as a liaison to Leadership. For IDOPP, the sub-team leaders were responsible for IDOPP as well as for their regular job responsibilities.
  - **Consultant Support:** Project teams should assess whether contractor support is necessary. While smaller projects may not need contractor support, large projects such as IDOPP may need support for items such as running the data call, data call analysis, complexity analysis, staffing analysis, security management of personally identifiable information, and report compilation.
  - **Selection of Team Members and Subject Matter Experts:** Project leads should carefully select team members so that teams have the proper mix of individuals. Teams should include management level personnel with decision-making experience and objectivity as well as subject matter experts with field experience. Teams should also involve GIS and IT subject matter experts early in the process, as center locations and technology limitations can play a large role in the selection of potential alternatives.
Human Resources: The project team should have assigned representatives from human resources available as a resource when the team is considering alternatives affecting staffing and position descriptions (PDs).

Union Representation: In accordance with the Master Agreement between the FS and NFFE, the teams should invite NFFE to participate on teams prior to conducting the initial meeting.

- Project Plan: Project teams should prepare a comprehensive Project Plan prior to project start. This plan should include roles and responsibilities, communications protocols, a timeline, and project scope. The team should thoroughly discuss project scope up front, as the scope impacts data collection, analysis, and the issues the team will address.
- Budget: Project teams should develop a budget to capture project outlays, including projected travel costs, consultant support, and (if used) dedicated project manager. The United States Department of Agriculture (USDA) or others may request incremental cost reporting for such projects.
- In-Person Meetings: While teams can conduct some meetings via conference call or web meeting, the most productive meetings related to optimization are typically conducted in-person. During in-person meetings, participants can focus on the project and most freely share and discuss ideas. The project budget should include funding for in-person meetings. All in person meetings require cost comparisons to ensure meetings occur in the overall most cost effective locations.

3 DATA REQUESTS
Optimization projects often require data calls to supplement information available through agency systems of record. Three data collection tools distributed to targeted groups in California and the Southwest were the primary data sources for IDOPP. These included a data call for dispatch center managers, a data call for law enforcement officers, and a survey for dispatch center employees. The teams used results from the data requests to document the as-is organization, and as inputs to defining issues and alternatives.

IDOPP Exhibit 2.1.2 Data Call and Survey includes copies of the questions for all IDOPP data requests.

3.1 INFORMATION NEEDS ASSESSMENT
Before preparing the data requests, the IDOPP teams developed an information needs assessment. This document listed each data element, defined why the teams needed the data, listed the data source, and described the analyses the teams would perform using the data element. The IDOPP Report Appendix contains the Information Needs Assessment.

Project teams should consider developing an information needs assessment. This assessment is helpful in determining the essential data request elements and eliminating unnecessary elements. Limiting the data requests to essential data elements minimizes the completion time for respondents.

3.2 CENTER MANAGER DATA CALL
The center manager data call collected operational and staffing information about dispatch services, and allowed the center managers to give their opinions related to improving dispatch services. Categories included office, facility, IT, radio, budget, expanded dispatch, supervision and staffing, workload, operations and governance, safety, law enforcement and public safety dispatch, issues and feedback, and personnel. Center managers completed this data call online. Center managers could finalize each of the 13 sections individually, allowing the teams to track the percent completed by each center manager. This helped the team in tracking completion and deciding when to send reminders.
Sample Personnel Spreadsheet provides a sample of the personnel spreadsheet given to the center managers for completion.

The IDOPP teams recommend that similar optimization projects use the center manager data call modified to incorporate the lessons learned discussed in Section 9. These lessons relate to data call timeline, data call interpretation issues, survey completion by more than one center manager, distribution of data call to Tier 4 centers, printing of data call responses, limiting free form questions, collection of cost data, questions to add, and questions to delete.

Project teams will need to update data call response choices (for example, state, position titles, and dispatch center names) so that they apply to their specific areas and centers. Areas not performing law enforcement or public safety dispatch should omit the law enforcement and public safety dispatch category.

The teams recommend using systems of record for data needs, where possible. This minimizes impact on field personnel while strengthening data quality. For IDOPP, the teams collected much of the workload data for FireOrg inputs from the center managers, since the data is not available in systems of record. Some of this data appeared suspect, so the teams used it minimally for items such as the complexity analysis.

3.3 LAW ENFORCEMENT OFFICER DATA CALL
The law enforcement officer (LEO) data call collected information on the status of dispatch services offered to law enforcement, information not available in systems of record. This data call also allowed the LEOs to comment on issues and provide suggestions related to improving dispatch services.

The team primarily used the responses related to centralization of law enforcement dispatch and the feedback questions to support the law enforcement alternatives. Future teams may want to conduct similar data calls or surveys for other specific customer groups where data is otherwise unavailable.

3.4 EMPLOYEE SURVEY
The employee survey gave dispatch employees an opportunity to highlight issues with, and give suggestions for improving, current dispatch services. The teams found this survey to be of limited use for developing consolidation alternatives. While some survey feedback was useful in supporting assumptions, other project teams may find such a survey more useful during implementation planning.
4 STAFFING ANALYSIS
The Southwest sub-team found FireOrg an acceptable method for calculating baseline staffing for non-24/7, wildland fire dispatch centers. For IDOPP, the teams collected FireOrg data by agency for each dispatch center via the center manager data call and from systems of record (ROSS and Fire and Aviation Management Website). The contractor entered the data into FireOrg and generated the staffing reports, both for the as-is centers and for all proposed consolidations. The sub-team used the Initial Response (IR) Full-Time Equivalents (FTE) from FireOrg as the baseline staffing for the consolidated centers. The sub-team also used FireOrg to calculate initial cost sharing for the consolidated centers in the Southwest.
Although the FireOrg reports resulted in FTE levels appropriate for the consolidated centers, the program needs adjustments prior to broader use. These include update of weighting factors to reflect current dispatch procedures, incorporation of 24/7 requirements, and review of weighting factors for non-fire workload.

5 COMPLEXITY ANALYSIS
The IDOPP-developed complexity analysis method is a useful tool that other areas can use to classify their operational dispatch centers. Determining which centers are of low complexity can be a first step in identifying centers for possible consolidation. Complexity scores can also be helpful if an area wants to balance its centers; the area can redistribute workload among centers so that each has a similar complexity score and FTE count.
The teams developed three core complexity factors that apply to all areas and area-specific factors for California and the Southwest. The core complexity factors are as follows:
• Fires A through C and D+ (five-year average) – number of fires collected from the FS Fire and Aviation Management Website
• Resources Dispatched Out (five-year average) – resources dispatched by the center, collected from ROSS
• Incoming Resources (five-year average) – resources received by the center, collected from ROSS
For the national toolbox, the team recommends that other projects use the three core complexity factors and assess whether they should add other factors to capture area-specific complexities. Project teams should develop the average normalized score for each center as follows:
• For each center, divide the center’s workload quantity for each complexity factor by the average for all centers (this is the center’s "normalized score" for each complexity factor).
• Average the normalized scores for each of the factors to calculate the average normalized score for each center. This approach assumed that each complexity factor is equally weighted.
Table 5.1-3 in the IDOPP Report Appendix gives a detailed example of the complexity score calculations.
When calculating the average normalized score, other areas should use the average of the combined California and Southwest data for the core complexity factors, as this workload is 40 to 60 percent of the nationwide workload. By using this average, the score will better reflect the complexity of a center relative to all centers nationwide, rather than providing an area-specific complexity. Other areas should not recalibrate the total for the core factors.
For area-specific complexity factors, the area should use its area-specific average for the average normalized score calculations, as the IDOPP teams did for the California- and Southwest-specific complexity factors.
As an alternative, the team recommends the method shown in Table 86 of the 2008 Management Efficiency Assessment (MEA) of the Interagency Wildland Fire Dispatch and Related Services.

6 COSTING METHOD
6.1 LEASE AND OPERATING COSTS
The IDOPP teams collected lease and operating costs in the center manager data call. Lease and operating costs appeared inaccurate, so the teams focused solely on personnel costs. The teams will collect accurate operating costs during implementation, and will use a list of operating cost components to standardize responses.

When collecting operating costs, project teams should clearly define components, such as supplies, utilities, equipment, and maintenance. Project teams should consider the credibility of numbers submitted and not rely on suspect data.

If the project teams gather reliable lease and operating cost data, they could consider developing average costs for low, moderate, and high complexity centers and using these averages to calculate potential cost savings.

6.2 PERSONNEL COSTS
Project teams can use the IDOPP method for developing personnel costs. Teams can use this method for costing both the as-is organization and alternatives.

For IDOPP, the teams developed personnel costs based on center manager-provided staffing. This is a more uniform and accurate method than asking each center manager to report total personnel costs.

Center managers completed a personnel spreadsheet, which included the following:

- Center Identifier
- County
- Center Name
- Agency
- Type of Agency
- Employee Name
- Organizational Title
- Appointment Type
- Position Series
- Classification Title
- Appointment Classification
- Grade
- FTE

The Sample Personnel Cost Spreadsheet provides a sample of the personnel spreadsheet with the team-developed personnel costs.

The teams pre-populated this spreadsheet with available information, such as the staffing submitted for the 2008 MEA. This allowed the center managers to verify and update the information rather than enter it from scratch.

The IDOPP personnel spreadsheet also asked the center managers to report each position performing fire, law enforcement, or all-hazard dispatch. The teams needed this information to determine the extent of cross-training, particularly in California. Since 14 center managers left this section blank, the teams could not calculate total cross-training statistics so the data had minimal use. (Unlike the other sections of the data call where center managers generally selected answers from drop-down menus or used buttons, personnel data was collected via a spreadsheet to reduce the burden on center managers.

The downside to this was that the center managers could leave spreadsheet cells blank, whereas the data call format would have required an entry before the center manager could submit responses.)
Using the provided data, the teams obtained the annual salary for federal positions from the current certified General Schedule (GS) locality-based pay rate tables.¹ To account for variations in steps, the teams calculated GS position salaries at Step 5. The teams used state government pay scales for state employees where available.

The teams calculated annual fringe benefits for federal employees by multiplying the fringe benefit factor by the position’s annual salary. For full-time and part-time positions, the fringe benefit factor is 36.25%.² For temporary and intermittent positions, the fringe benefit factor is 7.65%.³ In the absence of information on state benefits, the teams applied the same method to the state positions. If project teams can obtain state benefit rates, using the state rates is preferred.

The teams then calculated the annual total personnel cost for each position, which is the cost to the government. This cost is the sum of annual salary multiplied by the number of FTE. Since the IDOPP focused on baseline staffing, the teams did not include costs for overtime.

Regardless of the method used, project teams should use the same method to cost both the as-is and alternatives. This allows direct comparison and calculation of cost savings.

Exhibit 5 provides two sample personnel spreadsheets: the version center managers completed and the version the team used to calculate personnel costs.

6.3 PCS/TOS COSTS
Permanent Change of Station (PCS)/Transfer of Station (TOS) is another cost element for the alternatives. The Southwest sub-team used an estimate of $65,000 per transferring position based on historical amounts used in budget development by Arizona Bureau of Land Management (BLM). The California sub-team used an estimate of $92,000 per transferring position; this amount is the average FS PCS/TOS cost for California based on a three-year average given by the Albuquerque Service Center. Other project teams should determine area-specific PCS/TOS costs as these vary across the nation. Both teams calculated PCS/TOS costs by assuming 75% of the permanent positions will transfer, not including the center manager, vacancies, temporaries, or seasonal positions. This is a more realistic approach than seen in other studies which calculated PCS/TOS costs for all positions.

¹ http://www.opm.gov/oca/12tables/index.asp
³ The Federal Insurance Contributions Act factor includes 6.20% for Old Age and Survivors Benefits insurance and 1.45% for Medicare. The Old Age and Survivors Death Insurance benefit part (Social Security) has an annual maximum earnings limitation of $110,100.
7 RESEARCH AND IDENTIFICATION OF SERVICES AND ISSUES
When defining the scope of dispatch, project teams can refer to the IDOPP-developed list of dispatch functions provided IDOPP Report Appendix Table 3.4-2. Major categories include:

- Dispatch Operations Functions (Non-Law Enforcement)
- Law Enforcement Dispatch Functions
- Support to/from Other Functions
- Employee Supervision and Development Functions
- Predictive Services/Intelligence Functions
- Interagency Cooperation Functions
- Management and Organization Functions

When trying to identify issues related to dispatch, project teams can use the issues identified in Chapter 4 (Dispatch Issues and Areas for Improvement) of the Interagency Dispatch Optimization Pilot Project (IDOPP) Report as input for their projects. These included:

- Defining Administrative Support to be Provided by Dispatch
- Standard Module Configuration
- Jurisdictional Issues
- Prioritization of Dispatch Response
- Duplication of Radio Infrastructure
- Lack of a Dedicated Law Enforcement Network
- Data Standards
- Check-In and Check-Out Procedures

Throughout the process, the teams reviewed various communication centers studies for information that may apply to the interagency dispatch system. Project teams may want to review these reports and conduct research to see if any other more relevant and recent studies provide valuable information. IDOPP Report Appendix, Exhibit 2.1.3-1 contains a list of reports reviewed for the IDOPP.

8 IMPLEMENTATION PLANNING
The Southwest sub-team began implementing some of the alternatives (center consolidations) while the project was underway. These implementations served as pilots within the IDOPP and provided valuable lessons.

8.1 TRANSITION PLAN
The Southwest sub-team developed draft dispatch transition guidelines to outline the steps for implementation and incorporate lessons learned. Project teams implementing a consolidation can use this plan, entitled Dispatch Center Transition - Consolidation Processes to Consider (Center Manager Point of View). The sub-team will provide the plan upon request. Sections of the plan include:

- Mission Direction
- Overall Goal and Objective
- Specific Goals and Objectives
- “Go” – “No Go” Checklist
- Determination of Current and Predicted Workloads
- Current Situation
- Continuity of Operation Plans
- MOUs – Protection Agreements
- Facility Requirements and Improvements
- Dispatch Console Furniture
- Agency Resource Distribution – Consolidations
- Contracted Resources (Emergency Equipment Rental Agreements)/Supply Plans
- Current and Recommended Staffing
- Current and Predicted Timeframes
- Administrative Incident Management
- All Hazard Incidents
- Dispatch Boundaries
- Radio Infrastructure
- Frequency Distribution
- Computer Networks
- Computer Hardware and /Infrastructure
- Dispatch Center Processes to Consider
8.2 INTERGOVERNMENTAL ORDER
The Southwest recommends other project teams consider setting up an intergovernmental order to enable multiple agencies to contribute towards implementing consolidated centers.

8.3 DEDICATED PROJECT MANAGER FOR IMPLEMENTATION
The Southwest sub-team assigned a dedicated project manager for implementation. The project manager created the transition plan and coordinated the transition for the pilot centers. Having a dedicated position helps implementation progress, allowing the center managers to continue their regular duties and ensuring a consistent approach to consolidation.

9 LESSONS LEARNED
The teams faced many challenges in conducting the optimization project for both the California and Southwest areas. Throughout the optimization process, however, participants gained invaluable knowledge and experience and the lessons learned can be helpful for future optimization efforts. Section 7.8 of the IDOPP Report Appendix contains the discussion of lessons learned. These lessons compile input from the Oversight Support Team, Bridge Team, California sub-team, Southwest sub-team, and consultant support.