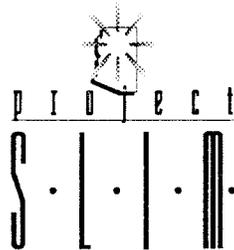


GOVERNOR'S OFFICE FOR
EXCELLENCE IN GOVERNMENT



Report on the

**Highways Division
Arizona Department of Transportation**



August 1, 1993

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FIFE SYMINGTON
GOVERNOR

OFFICE OF THE GOVERNOR OFFICE FOR EXCELLENCE IN GOVERNMENT

1700 West Washington, Suite 300, Phoenix, Arizona 85007 • (602) 542-7546 • Fax (602) 542-1220

June 21, 1993

Mr. Larry Bonine, Director
Arizona Department of Transportation
206 South 17th Avenue
Phoenix, Arizona 85007

Dear Mr. Bonine:

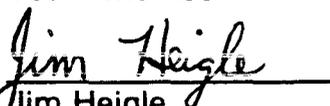
The Governor's Office For Excellence In Government's Project SLIM Team has completed its review of the Arizona Department of Transportation Highways Division, and we are pleased to present to you our report of findings and recommendations. Our review was conducted from August, 1992 through June, 1993.

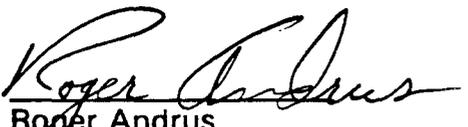
In total, we identified benefits of \$35 million for the Highways Division, of which \$14.5 million is annual cost reduction, and \$20.5 million is annual cost avoidance. We wrote 35 formal recommendations, and identified 78 "bullet-point" issues that should be considered by internal ADOT Quality Teams as potential areas for improvement within the Division. The methodology used by this team relied heavily on input from ADOT staff at all levels, and every effort has been made to achieve "buy-in" from each of these levels. The team was involved in 102 meetings and 11 formal presentations held for the sole purpose of developing a consensus between ADOT staff and the Office For Excellence. Therefore, we believe the recommendations contained in this report are realistic and implementable.

We thank you and all of the ADOT staff who assisted us in this endeavor, as the vast majority of our recommendations were first articulated by ADOT employees, customers, or constituents.

Sincerely,


Cheryl Steenerson
Team Member


Jim Heigle
Team Member


Roger Andrus
Team Member


Rick Marcum
Team Leader



ARIZONA DEPARTMENT OF TRANSPORTATION

206 South Seventeenth Avenue - Phoenix, Arizona 85007-3213
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FIFE SYMINGTON
Governor

LARRY S. BONINE
Director

June 30, 1993

Mr. Tim Boncoskey, Director
Governor's Office for Excellence
1700 West Washington, Suite 300
Phoenix, AZ 85007

TIM
Dear Mr. Boncoskey:

We have received the SLIM report for the Highways Division and concur with the findings and recommendations that have been detailed by your staff. Mr. Marcum and his team should be commended for their efforts and their willingness to work with our staff on some very ambitious issues. The activities of this SLIM team have been a great compliment to our Quality and Productivity Initiative here at ADOT. We will immediately begin the implementation of these recommendations and the additional issues identified in this report.

We look forward to having your staff assist us through the next year with the Administrative Services, Aeronautics and Transportation Planning Divisions.

Sincerely,

Larry Bonine
Larry Bonine

LSB/TRW/js

V

EXECUTIVE SUMMARY

The Governor's Office For Excellence In Government (OEG) initiated a review of the Arizona Department of Transportation (ADOT) Highways Division in August, 1992. The review of the Division was conducted by a four person Project SLIM Team and was completed on June 30, 1993. This summary describes the objectives of the review, the methodology used during the analysis, and the recommendations made as a result of the effort. The potential benefits of the recommendations have been quantified, suggested implementation dates provided, and recommendations requiring legislative changes identified.

In total, 35 formal recommendations and 78 "bullet-point" recommendations were written, yielding benefits of \$35 million (\$14.5 million in annual cost reductions, and \$20.5 million in annual cost avoidance). The impact of these recommendations on the staffing levels of the Division was a reduction of 729 positions, comprised of 237 funded, full-time positions (108 filled, 129 vacant); and 492 non-funded "shelf" vacancies. A summary of recommendations and related benefits is presented in Exhibit 1, on p. 89 of this document. It is the firm belief of the Project SLIM Team that all of these benefits can be realized while maintaining or exceeding the Division's current service levels.

OBJECTIVES AND GOALS

The overall objective of the OEG review was to evaluate the ADOT Highways Division using organizational analysis and Total Quality Management (TQM) techniques, identifying areas where operating costs could be reduced and improvements could be made in the delivery of the Division's services. The goals were to streamline processes; improve systems and procedures; eliminate re-work and unnecessary work; and to re-align groups with related functions. Additionally, the OEG Team facilitated the establishment of organizational structures that could support the long-term goal of continuous improvement.

METHODOLOGY

The approach used in this study was to take an integrated view of the Division, studying the following variables in each of the areas reviewed:

- mission
- strategic focus
- process flows
- technological support

- information management
- organizational performance measurements
- quality and service levels (customer orientation)
- organizational structure
- logistics and physical assets

The analysis began with the team studying "shelf data" provided by ADOT, to become familiar with the mission, size, structure, and responsibilities of the major areas of the Agency as a whole, and of the Highways Division in particular. Next, a "partnering" session was held involving ADOT executive staff; ADOT Highways Division management down to the Section level; OEG executive staff; and the OEG SLIM Team. The purpose of the partnering session was to identify mutual expectations for the review, and to create an issue/conflict resolution procedure. A copy of the partnering agreement is presented in Exhibit 2, p. 91. The next phase was an extensive interviewing and surveying process aimed at ADOT employees at all levels, as well as ADOT customers and constituents. The purpose of this exercise was to identify potential areas for improvement within the Division. During the course of the review, the Team conducted a total of 558 interviews (447 internal and 111 external). The team also conducted a written survey of 927 highway maintenance personnel; reviewed the ADOT initiated survey of 500 Highway Development Group staff, as well as the Development Group's QPI Senate Survey Analysis Report. The team visited 16 remote locations statewide, and conducted telephone interviews with Department of Transportation representatives from 24 states (see Exhibit 3, p. 93).

Through the use of the interview and survey instruments, the Team identified potential improvement areas in the Division, progressing through the various organizational units in the following sequence, as depicted in Exhibit 4 on p. 104:

- Equipment Services Section
- Highway Maintenance Section
- Materials Section
- Construction Section
- Urban Highways Section
- Right-of-Way Section
- Location Section
- Traffic Engineering Section
- Structures Section
- Design Section
- General Operations Section

An issue which needed to be addressed by the Team and ADOT management early on in the review concerned the relationship between the SLIM Team and the many internal ADOT quality improvement teams operating in the Agency. The solution agreed upon was to maintain a flexible approach that resulted in SLIM team members functioning in a variety of capacities with eight internal ADOT Quality Improvement teams, serving as consultants, facilitators, or team members. The SLIM team also requested that six separate "interface" teams be formed by ADOT to support the SLIM analysis. There were four such teams in the highway maintenance area, and two assigned to the Division restructuring effort.

As issues were identified, meetings were scheduled with the appropriate ADOT managers at all levels of the Agency in an effort to reach consensus about the issues on which the SLIM Team would focus its efforts. The issues ultimately receiving such consensus were developed into the 35 formal recommendations contained in this document. The balance of the 113 total issues identified became the "bullet-point" recommendations that are found on pages 82-88. Once an issue was identified as one to be developed into a formal recommendation, appropriate analytical techniques were employed to develop and quantify the recommendation, such as:

- identification of error prevention activities
- root cause analysis
- pareto analysis
- force field analysis
- process flow charting
- assessment of organizational structures:
 - * spans of control
 - * cost to manage
 - * managerial layering
 - * alignment of mission
 - * overlapping or redundant functions
 - * centralization vs decentralization

When this activity was accomplished, meetings were again scheduled with ADOT management at all levels to begin the consensus-building process on the formalized recommendation and any benefits identified. In total, 102 such meetings were held during the course of this study. Additionally, the SLIM Team made 11 formal presentations during the year aimed at building consensus (see Exhibit #3, p. 93).

The following is an overview of the 35 recommendations that emerged from this process (with a brief description of their intent):

EQUIPMENT SERVICES (FLEET/EQUIPMENT MAINTENANCE)

1. Preventive Maintenance Scheduling

Establishes a pilot program to lengthen the time and mileage requirements for specific ADOT vehicles.

Benefit: Increased staff time available for other work - Dollar Amount not specifically quantifiable.

2. Equipment Management Systems

As a result of SLIM recommendations, an internal team with an outside consultant, has reviewed the EMS system for improvement.

Benefit: A reduction in FTE level (see Equipment Services Structure Recommendation, p. 54) and an increase in the efficiency of the Management Information System. Efficiency savings total \$1.7 million over a three year period, with an initial cost of \$522,000. Net savings to ADOT is \$1.2 million over a three year period.

3. Veeder Root/ Cardlock Systems

The quantification of work hours reduction due to ADOT's continuing implementation of these systems.

Benefit: Contained in the Equipment Services structure recommendation, p. 54.

4. Equipment Surplus/Obsolete Parts

Reduction of surplus/obsolete parts inventory to 5% or less of the total parts inventory improving acquisition time of parts.

Benefit: \$100,000 cost reduction first year, \$50,000 per year thereafter.

5. Major Equipment Rebuilds

ADOT needs to establish an equipment repair policy to determine the most cost-effective method of repairing major equipment.

Benefit: \$25,000 annual cost reduction.

6. Motor Pool Replacement Policy

The purchase of specific ADOT motor pool vehicles will be deferred one year.

Benefit: \$202,000 cost avoidance.

7. Equipment Replacement Policy

ADOT needs to establish an equipment replacement policy to guide the purchase of new equipment.

Benefit: Equipment will be replaced in the most cost-effective manner.

8. New Car "Get Ready"

Makes recommendations to improve the "Get Ready" process for new vehicles.

Benefit: Better customer service and an annual cost reduction of \$108,000 (savings quantified in Equipment Services structure recommendation, p. 54).

RIGHT-OF-WAY SECTION

9. Corridor/Alignment Participation

Improves the input of the Right-of-Way Section into the identification of highway corridors and/or alignments.

Benefit: Annual cost reduction of \$419,000.

10. Commitment To Five Year Plan

Reduces the number of changes made annually to the Five Year Construction Plan.

Benefit: Increases the efficiency of the right-of-way acquisition process.

11. Limited Change Orders After 30% Phase

Reduces the amount of change orders after the 30% design phase.

Benefit: Annual cost reduction of \$405,000.

12. Policy For Privatization/Consultant Use

Requires ADOT to establish a policy with specific written criteria to determine the use of private sector services.

Benefit: Annual cost reduction of \$55,000.

13. Limited Advance Acquisition

Requires ADOT to establish a policy with specific written guidelines for advance acquisition of real property related to a project that has not been funded.

Benefit: Approximate annual cost reduction of \$2.9 million.

14. Statute Changes For Acquisition And Disposal

Requires legislation to be passed to provide ADOT with the ability to abandon real property; to use licensed real estate agents and brokers; and to adjust property values to provide just compensation to property owners.

Benefit: 5 year cost reduction equaling approximately \$19.6 million, of which 19.4 million is cost avoidance.

15. Recovery Of Incurred Costs

Allows ADOT to recover incurred costs when conveying property to other federal, state, county, city, or town agencies.

Benefit: Revenue enhancement.

16. Combined Consultant Use For Plans

Allows ADOT Right-of-Way Section and Design Section to jointly use consultant services for plans.

Benefit: Annual cost avoidance of \$238,000.

17. Property Management Privatization

Requires ADOT to establish a policy with written criteria to determine when private sector services are more cost-effective for property management services.

Benefit: Reduced operating cost through FTE reductions (see Right-of-Way structure recommendation, p. 60).

18. Right-of-Way Issues (Internal ADOT Team)

Reduces rework for title reports and consultant services.

Benefit: Annual cost reduction of \$248,000. The complete report by this Team may be reviewed at the Office For Excellence In Government.

TRAFFIC ENGINEERING

19. In-House Traffic Control Design

Reduces the use of consultants for traffic engineering electrical design.

Benefit: Annual cost reduction of \$300,000.

20. Studies And Data Collection To Districts

Allows the outlying traffic engineering crews to perform some of their own remedial studies and data collection.

Benefit: Cost reduction in the travel budget and improved time frames.

21. Traffic Engineering Role

Requires Traffic Engineering Section to be a primary participant in the development of the Freeway Management System and ISTEAs Safety and Congestion Management Program.

Benefit: Re-structures organization and increases staff so unit can better fulfill its mission.

ENVIRONMENTAL PLANNING

22. Environmental Clearance Process

An analysis of problems in the environmental clearance process that result in project delays. Recommendations included ensuring the quality of outside consultants; conducting project scoping in the project development phase; scheduling formal partnering sessions with affected agencies; and implementing internal ADOT training on environmental issues.

This study was lead by an internal ADOT Team - the complete recommendations may be reviewed at the Office For Excellence In Government. Benefit: Annual cost avoidance of \$619,000.

ORGANIZATIONAL STRUCTURE/STAFFING

23. Highways Division Macro Structure

Restructuring of the Highways Division - reduces two layers of management; increases spans of control; improves customer service at the District level through decentralization and empowerment; and establishes Project Management as the new method for conducting the Division's business. Quantification of savings and benefits are described in recommendations #24-35.

24. Equipment Services Section

Improves services and downsizes the organization by 26 FTEs.

Benefit: Annual cost reduction of \$691,000.

25. Urban Highways Consolidation (Internal ADOT Team)

Consolidates 2 sections within the Highway Development Group; establishes a Project Management Section; and reduces 9 consultant positions. The full report provided by the ADOT Team is available at the OEG.

Benefit: Annual cost reduction of \$1.5 million.

26. Materials Section

Improves services and downsizes the organization by 13 FTEs.

Benefit: Annual cost reduction of \$494,000.

27. Right-of-Way Section

Improves services, recommends changes in statutes, and reduces the organization by 18 FTEs.

Benefit: Annual cost reduction of \$582,000.

28. Construction Section

Improves services and downsizes the section by 9 FTEs.

Benefit: Reduces FTE levels and operating costs (see Construction Staffing Point, p. 64)

29. Construction Staffing

Recommends that ADOT adopt a ratio of 1.3 FTE per contractor million of payments as the standard for staffing construction ORGs. Reduces the organization by 134 positions.

Benefit: Annual cost reduction of \$5.15 million.

30. Construction "Shelf" Positions

Recommends that ADOT abolish all vacant positions in 8250 ORGs. that exceed the established construction FTE level. Reduces the organization by 492 unfunded, vacant positions.

Benefit: Removing surplus and duplicative positions will bring the data base in-line with authorized FTE levels.

31. Traffic Operations

Recommends having a team look at the internal billing process. Downsize the signal, lighting, and sign shops, reducing the organization by 5 FTEs.

Benefit: Annual cost reduction of \$150,000.

32. Districts 1-4 Field FTE Reductions

Each District reviewed their non-construction vacancies and determined which positions could be abolished, reducing the organization by 14 FTEs and \$367,000.

Benefit: Annual cost reduction of \$367,000.

33. Traffic Engineering Section

Recommend increasing in-house traffic control design work. Some remedial studies and data collection recommended to be moved to the districts. Increased role by Traffic Engineering in the Freeway Management System and ISTEPA Safety and Congestion Management Program. Includes FTE additions.

Benefit: Increase effectiveness for the Division's Traffic Engineering activities. Total net savings to the Agency for all Traffic Engineering recommendations is \$70,000.

34. Structures Section

A comprehensive review of the Structures Section with recommendations to improve processes, downsize 9 positions, upgrade Detailers from 17 to 18, and create 3 grade 22 positions.

Benefit: Annual cost reduction of \$303,000.

35. Highways Division Technical Training

This recommendation develops a coordinated and comprehensive approach to providing technical training to the Division. The establishment of a Technical Training Service with 6 new positions - transferring all current Training Officer I positions (in the Division) to the Technical Training Service - eliminating or drastically reducing the Central Arizona College contract (\$273,220). The estimated cost of establishing the new positions for this

recommendation is \$231,939.

Benefit: Improved productivity of staff; lowered equipment repair /maintenance costs through reduction in equipment abuse/misuse. Annual cost savings of \$41,000.

As mentioned, in addition to the 35 formal recommendations, the Team also identified 78 "bullet-point" issues. These are areas that did not receive the necessary consensus to develop into formal recommendations, but were considered to be important enough to list as potential areas for further improvement, and should, therefore, be investigated by future ADOT internal quality teams.

Finally, the OEG SLIM Team would like to acknowledge today's ADOT as an Agency that demonstrates a commitment to improving the quality of its products and services through the use of contemporary Quality Management practices. It should be noted that the original ideas for improvements and cost savings contained in this document came from the employees and customers of ADOT. It was the methodology used by the Governor's Office For Excellence In Government that encouraged this input from all levels of the Agency, and developed that input through a consensus-oriented process into tangible opportunities for change and improvement. The employees of ADOT should be commended for their efforts and assistance to the OEG SLIM Team, and for their commitment to continually improving ADOT services to the citizens, residents, and visitors that travel Arizona's Highways.

RECOMMENDATIONS

EQUIPMENT SERVICES

#1 - Preventive Maintenance Scheduling

Current Situation

ADOT Equipment Services is responsible for scheduling and performing preventive maintenance (PM) on vehicles. PM intervals are assigned in the Equipment Management System based on class of vehicle. In equipment classes 0030-0290, which includes sedans, pick-ups and 1 ton trucks, the "A" level PM is set for 4 months or 6000 miles, whichever occurs first.

An "A" service consists of oil/filter change and lubrication. Equipment Services also inspects the vehicle.

There are 1475 vehicles in these classes of which 636 (43%) are driven less than 12,000 miles per year.

Impact

Many vehicles are having "A" PM services performed at 4 month intervals (or less) even though they have accumulated only 1000-4000 miles since their last servicing. This results in unnecessary services and increased operating costs for low usage vehicles.

Recommendation

ADOT Equipment Services should institute a pilot program of 25 vehicles per district and change the "A" PM service interval from 4 months/6000 miles to 6 months/6000 miles for vehicles in equipment classes 0030 - 0290. The pilot program will run for 3 years. At this time, the program will be evaluated to determine whether these criteria should be adopted for the entire fleet.

Benefit

The reduction of the number of "A" services, through an increased time interval from 4 months to 6 months, will increase the time equipment technicians have available to perform other PM services. The quantification of savings is not available at this time.

#2 - Equipment Management System

Current Situation

The Equipment Management System (EMS) has been operational for eight and one-half years. During this time the system has been upgraded both with vendor supplied enhancements and internal modifications to meet changing needs.

- Mechanics report their labor on a daily shop labor document. Each task, work order number, vehicle number and the time required to complete the task are reported. Subsequently, these data are entered into EMS using an on-line transaction.
- Receipt of parts requires an on-line transaction that includes the keying of the ADOT stock number. Any issues related to the transaction require the keying of the ADOT stock number and the repair/PM work order number.
- A minimum of two on-line transactions (three if delay times are recorded) are required to enter data at the close of a work order.

Impact

- The mechanics spend several minutes per day completing their daily shop labor document. Additional time is spent keying this data into the system.
- Parts personnel expend time keying stock numbers and repair/PM work order numbers into the system.

Recommendation

- ADOT establish an internal QPI team to further investigate improving the efficiency and effectiveness of the EMS.

Note: A team was subsequently established to review the EMS process, and the report was finalized on June 30, 1993 (see Exhibit #5, p. 107). The full report is available for review at the Office For Excellence In Government.

- Equipment Services evaluate the cost effectiveness of using bar code readers for both the parts receipt/issue processes and the shop labor process. EMS currently contains an on-line cross reference file of ADOT

stock numbers to manufacturers part numbers, therefore, bar code labels would not be required. The mechanics would be provided a repair task list with bar codes and the repair/PM work order number would be printed both in alpha numeric and bar code format. In addition to the time saved filling and keying documents, the accuracy of the task labor data would certainly improve.

- EMS staff combine the "MISCL"(work order close), "MIUDN"(downtime) and "MISWD"(delay time) transaction into one transaction thereby reducing the time and keying required to close a work order.

Benefit

- A reduction in FTE levels (see structure recommendation, p. 54) and a more efficient Management Information System. The recommendations will result in a savings of \$1,7 million over a three year period, at a one-time cost of \$522,000 - yeilding a net three savings to ADOT of \$1.2 million. The \$522,000 represents start-up cost, and the break-even point on this investment is 9 months.

#3 - VEEDER ROOT TANK SENSING SYSTEM AND CARDLOCK FUEL DISPENSING SYSTEM

This recommendation relates to a previously established and on-going ADOT program improvement.

Current Situation

Within the current five year tank replacement program being administered by Equipment Services personnel, automated tank level sensors are included in all new tank installations. 21 of ADOT's tank sites have been upgraded.

Fuel Dispensing Information Management

Fuel tickets are manually collected daily at all fuel locations and sent to the nearest Equipment Services' shop for data entry.

Impact

- **Fuel Storage Tank Measurement/Monitoring**
Manual tank measurement, data input into the Tank Integrity Subsystem and the associated data reduction require considerable time.
- **Fuel Dispensing Information Management**
Fuel ticket entry and data verification require 19 man hours per week statewide and 20 man hours per week in Phoenix.

Recommendation

- **Fuel storage Tank Measurement/ Monitoring**
When all tanks have been upgraded to include Veeder Root tank sensors, the Tank Integrity Subsystem will no longer be required and one FTE (P&PSI) will be eliminated.
- **Fuel Dispensing Information Management**
As funds become available and automated cardlock systems are installed at the appropriate sites, the need for fuel data verification will be minimized and an FTE (IPS III) will be eliminated.

Benefit

Greater efficiency, reduced FTE levels, and reduced operating costs (see Equipment Services structure recommendation, p. 54).

#4 - EQUIPMENT SURPLUS/OBSOLETE PARTS

DOA Procurement Rules should be interpreted to allow Equipment Services to use the re-stock/buy-back program to dispose of miscellaneous parts. It is suggested that a review of equipment should be conducted to determine the specific equipment classes that are continually surplused because they have become obsolete or overstocked, before the re-stocking fee program is utilized.

Current Situation

The total value on hand of the obsolete parts inventory has gone down dramatically from \$324,009 on February 28, 1992 to \$28,510 on November 23, 1992 (a ten month period). The average per month value of obsolete parts during these ten months, was \$105,645. During this time period, the obsolete parts value constituted 6% of the total parts inventory value. Obsolete parts are defined by Equipment Services Section as those parts which are no longer used on vehicles or equipment in the active fleet.

Some contracts for parts include a clause requiring the successful bidder to perform a fleet survey for the purpose of suggesting inventory stock requirements for the Equipment Services Section. The Equipment Services Administrator and ADOT Procurement have stated that a report produced by the Equipment Management System determines what inventory stock is required, not the successful bidder. Currently, the majority of parts contracts are Phoenix-based with three to six day delivery times.

Equipment Services has previously contacted DOA Procurement to secure permission to utilize contract and off-contract vendors for the return of miscellaneous parts. Equipment Services would negotiate a re-stocking or buy-back fee. Three bids would be used to solicit vendors who would be interested in purchasing the obsolete parts. If a part becomes overstocked or obsolete the contract vendor would credit Equipment Services for the initial price, less the re-stocking fee. Example - An average re-stocking fee of 15% would create an 85% credit to Equipment Services. Miscellaneous parts disposed of through DOA Property Surplus are currently bringing a 5% return to Equipment Services. The Department of Public Safety utilizes a re-stocking fee program and has at times received 100% credit. A.C.C. R2-7-803.E.2.(a)/(4) of the State Procurement Rules states, "Before surplus materials are disposed of by trade-in to a vendor for credit on an acquisition, the Surplus Property Manager and State Procurement Administrator shall approve such disposal. The Surplus Property Manager shall base this determination on whether the trade-in value is expected to exceed the value realized through the sale or other disposition of

such materials."

DOA Procurement believes that a change in the interpretation of that rule would constitute a gift to the State of Arizona (transfer of property for future consideration) if a re-stocking fee resulted in a credit to Equipment Services. They believe that it would appear that the credit was an inducement for the State to condition a future order to collect the payment. It was stated in a June 19, 1990 memo from DOA Surplus Property that, "That appearance is to be avoided."

Impact

- Stock inventory levels may be kept at a higher level because of the limited accessibility caused by the Phoenix-based contracts.
- Cost recovery is not easily tracked because the parts number issued by Equipment Services is not noted on the DOA Authorization form.
- Allowing Equipment Services Section to dispose of property through a vendor utilizing a 15% or better restock fee would result in an 85% or better return on the investment rather than the DOA Surplus Property method that resulted in an average of a 5% return on the investment.

Recommendations

- Obsolete parts inventory should be maintained at a 5% level of the Total Parts Inventory.
- The Shop Parts Expeditor, not the successful bidder, should perform the survey to determine inventory stock requirements. The clause should be deleted from the contract.
- The Equipment Services number assigned to parts should be noted on the Property Disposal Request and Authorization form along with the class code to track the cost recovery.
- All parts contracts should be written to allow the Parts Expeditor the flexibility to buy off contract when necessary to repair equipment and reduce downtime. In metropolitan areas, where vendors can deliver parts several times a day, inventory should be limited to the 100 most used categories of parts. The successful bidder should have the capability of delivering parts to the shop upon request in the shortest

time frame.

- ADOT Procurement should be very specific about when it is not necessary for the successful bidder (parts vendors) to provide parts statewide as they solicit bids for ADOT contracts. This should encourage parts vendors in metropolitan areas other than Phoenix to submit bids. ADOT Procurement currently monitors 42 ADOT contracts and 20 State contracts for parts.
- Allowing Equipment Services Section to dispose of property through a vendor utilizing a 15% or better restock fee would result in an 85% or better return on the investment rather than the DOA Surplus Property method that resulted in an average of a 5% return on the investment. EXAMPLES: If DOA Surplus Property disposed of the obsolete property, Equipment Services would have received a revenue of \$6,741 in April or \$1,090 in September if restocking had been utilized. Equipment Services would have received a credit of \$114,611 in April or \$18,530 in September, from parts vendors.

Benefit

- Overhead costs would be reduced.
- Tracking of obsolete parts would allow specific cost recovery to be monitored.
- Improved availability of parts may reduce turn around time on vehicle repair.
- Reducing the Equipment Services obsolete inventory stock on hand to 5% would reduce the amount of credit and could easily be cleared from the vendors' books prior to the end of the contract period. This should address the Department of Administration's concern with the Procurement Rule.
- The combination of the lowered inventory, lowered obsolete inventory, improved tracking and the increased return on investment recommendations, in our opinion, will result in some overall reduction in parts inventory expenditures. An estimate of cost savings through these recommendations should result in a savings of \$100,000 the first year and \$50,000 annually thereafter.

#5 - MAJOR EQUIPMENT REBUILDS

The rebuilding of engines and transmissions should occur in the most cost-effective manner. Equipment repair history documents show a cost savings may be realized by comparing written cost estimates between contracted repair vendors and Equipment Services staff. A written policy would provide the guidelines for this type of repair.

Current Situation

After review of selected large equipment repair histories, evidence indicates that in-house repair costs sometimes exceed cost estimates provided by contracted repair vendors. The Equipment Services Administrator indicates that engines are no longer rebuilt in-house on a regular basis. They are rebuilt only as filler work as needed for the Heavy Equipment Repair Technician group.

Impact

- Lack of a written policy regarding cost efficiency for major rebuilds results in additional repair costs to the Equipment Services Section and equipment users.
- No warranty is provided when the work is completed in-house.
- Extended downtime for the equipment may cause the user to keep a higher equipment inventory to accommodate the downtime of equipment.
- An expanded inventory increases the user's costs for equipment usage and monthly rental.

Recommendations

- A policy should be written by Equipment Services certified mechanics and Shop Supervisors representing all Districts to guide major equipment rebuilds/replacements. The policy shall be reviewed by the Equipment Services Administrator, a representative of the State Engineer's Office and a Fleet Manager from outside of ADOT and approved by the State Engineer's Office.

- After determining that an engine/transmission needs major repair, the Shop Supervisor must review the options of: 1) replacement 2) rebuild in-house 3) rebuild by private vendor. The written policy will guide the selection of the option.
- The Equipment Shop Supervisors in the Districts should monitor this program utilizing the EMS to track the equipment's repair history and realize the greatest savings to the Arizona Department of Transportation.

Benefit

Utilization of the rebuild guidelines should produce a minimum cost savings of \$25,000 annually.

#6 - MOTOR POOL REPLACEMENT POLICY

The vehicles utilized in the ADOT motor pool are currently replaced according to the standard replacement policy.

Current Situation

There are presently 92 vehicles listed as being in the ADOT motor pool. Input from Equipment Services staff suggests that these vehicles should be replaced using a different replacement criteria.

Impact

Some vehicles are being sold at auction when there is still an opportunity for significant savings by utilizing the vehicles longer than the current specified replacement period.

Recommendation

Extend the "replacement by age" criteria by one year for vehicles assigned to the ADOT Motor Pool.

The following vehicles would not be replaced this year:

3	1984 Compact Sedans
7	1985 Compact Sedans
11	1986 Compact Sedans

These sedans have an average cost of approximately \$9,616.00.

Benefit

There is an estimated minimum savings of approximately \$201,936 by extending the replacement criteria for the identified motor pool vehicles.

#7 - EQUIPMENT REPLACEMENT POLICY

The purchase of equipment by Equipment Services, initiated by either Equipment Services staff or other ADOT personnel should be guided by a written policy.

The purchase of unique equipment and equipment purchase priorities are currently guided by the recently re-established Equipment Review Committee. There is, however, no written policy guiding these activities. Routine equipment is requested by telephone or at meetings held at the district level with the Fleet Manager.

Current Situation

Of \$20 million paid to Equipment Services in equipment rental last year, a large portion of which was paid by the ADOT Highways Operations Group, Equipment Services spent \$4.9 million for equipment purchases.

The Equipment Review Committee is comprised of the Assistant State Engineer for Maintenance, the Equipment Services Administrator, the four District Engineers or their representatives, and a rotating position currently filled by the Assistant State Engineer for Locations. The Fleet Manager, an attending non-member, is primarily responsible for acquiring equipment. This Committee was recently re-established and has been meeting quarterly to review non-routine equipment requests.

Impact

- Equipment rental cost the Highway Operations Group about \$20 million last year and equipment acquisitions cost the Equipment Services Section \$4.9 million last year.

Recommendations

- A written policy should be established by the Equipment Review Committee and approved by ADOT management and Highway Division budget staff. The written policy would allow for the oversight of non-routine equipment requests and the review of their cost effectiveness. The written policy would require the user to justify the need for the equipment, document costs, estimate utilization, and present the options researched.

- The Equipment Review Committee should be expanded and formally charged with monitoring the requests and expenditures for non- routine equipment to assure needs are met and that the greatest savings are realized by the Arizona Department of Transportation.
- The Equipment Review Committee make up should include the following additional members:

Mechanical Equipment Design Engineer
Private Sector Equipment Vendor
Fleet Management Manager

- The four informal District Equipment Review Committees should utilize a similar policy to guide the requests made to the Fleet Manager and prioritized by the Equipment Review Committee.

Benefit

The formal written policy will provide the Equipment Review Committee with guidelines to ensure cost-effective expenditures for equipment. Monitoring requests and expenditures for non-routine equipment, in compliance with the written policy, will ensure equipment needs are met and the greatest savings are realized by the Arizona Department of Transportation.

#8 - NEW CAR GET READY SHOP - LIGHT TRUCKS AND CARS

Equipment Services receives all new light vehicles for the agency and then processes them through the "Get Ready" shop for distribution to the other areas of the Department.

Current Situation

Each new vehicle must be recorded, licensed, inspected, and have decals, lights, tool boxes, and radios installed as appropriate. In addition, all light vehicles have their wheel alignment inspected by Equipment Services prior to the vehicle being delivered. During the past two years, ADOT's purchase of fleet vehicles has declined due to a reduction in the monies available in the revolving fund. subsequently, the amount of work done by the Get Ready Shop has also declined proportionally.

Impact

- The processing of new vehicles does not require the same number of staff that were previously required for larger budget expenditures for fleet vehicles.

Recommendations

- The Get Ready shop be downsized to:
 - 1 Equipment Shop Supervisor
 - 2 Equipment Repair Technicians
 - 1 Equipment Service Assistant.
- Within 60 days the Get Ready Shop establish performance standards for the processing of new equipment.

Benefit

- The reduction of 4 vacant FTE with subsequent vacancy savings of approximately \$88,540.00 (savings identified under Equipment Services Recommendation Exhibit #1, p. 89).
- Employee Related Expenses (ERE-22.6%) savings would approximate \$20,010.04.

RIGHT OF WAY

#9 - CORRIDOR/ALIGNMENT PARTICIPATION

Current Situation

Right-of-Way Section has limited input over the identification of corridors or alignment of highways.

- Corridors are established by the Transportation Planning Division of ADOT and approved by the ADOT Board based on future transportation needs.

Impacts

- When the highway alignment is designed there is no one on the design project specializing in the cost of the property within that alignment.
- Increases workload of Right-of-Way Agent prior to acquisition phase.
- Increases the potential for higher project costs.

Recommendation

Appropriate Right-of-Way personnel should be members of the Project Management Team to assist as needed with the alignment design of the highways. Their role would be to provide a variety of services including the estimated costs of a specific alignment and advise on alignment adjustments that would not affect safety, yet reduce the potential cost of Right-of-Way acquisition prior to the 30% design phase.

Benefit

- Reduces acquisition costs by purchasing parcels with lower market value.
- Reduces potential for litigation involving disputes and damage claims.
- Reduces workload of Right-of-Way Agent during acquisition phase.
- Eases the acquisition process by reducing negative impacts.
- Reduces the potential for higher project costs.

Cost Savings/Avoidance

Quantitative cost savings cannot be precisely forecast. Based on discussions with Right-of-Way professionals, a conservative estimate of a 1% savings associated with this process improvement would realize \$418,850 in 1994 (the 5 Year Plan identifies \$12,985,000 for State and \$28,900,000 for MAG Right-of-Way acquisition). The basis for the estimate is by assigning an appropriate person whose primary concern is the "cost" of right-of-way property, not in merely establishing a dollar figure that is to be used for planning purposes, ADOT will save at least 1% of the money they have allotted for right-of-way acquisitions in 1994.

#10 - Commitment to 5 Year Plan

Current Situation

The Right-of-Way Section has limited input over the 5 year Construction Plan determining the time frame for acquisition and construction.

Impact

- Right-of-Way acquisition completed 5 years in advance of the originally scheduled construction date may eventually stretch to 10 years in advance of the rescheduled construction date.
- Prolonged property management costs to ADOT (see #17 - Property Management Privatization point).
- Less revenue available for the Right-of-Way acquisition needs for a highway project that was moved up in the 5 year plan.
- Difficult to plan for Right-of-Way staffing needs.
- True costs of re-allocating funding between projects because of scheduling changes are not known but may impact available funding for Right of Way acquisition. May be more costly to re-allocate and expend the funds for a new project than losing the funding all together.
- Increases the potential for higher project costs.

Recommendation

ADOT should reduce the numerous changes made annually to the 5 year Construction Plan and coordinate it with Right-of-Way's priority list.

Benefit

- Reduces the amount of time between acquisition and construction.
- Reduces property management costs to ADOT.
- Reduces potential for higher relocation and demolition costs.

- Improves planning of acquisition schedule.
- Improves planning of staffing needs.
- Reduces delay to highway user.
- Reduces the potential for higher project costs.

Cost Savings/Avoidance

Cost savings cannot be precisely forecast (or estimated).

#11 - LIMITED CHANGE ORDERS AFTER 30% PHASE

Current Situation

The Right-of-Way Section has no control over the Design Process and the number of change orders affecting Right-of-Way requirements.

Impact

- Causes delays in completing Right-of-Way planning process.
- Reduces public confidence and credibility of ADOT.
- Causes delays in completing Right-of-Way acquisition process.
- Increases workload on Right-of-Way staff.
- Increases the potential for higher project costs.

Recommendation

Right-of-way requirement changes must be approved by the Project Manager after the 30% design phase. Changes after the 60% design phase must be approved by the Project Manager utilizing Life Cycle Program costs as the determining factor.

Benefit

- Reduces delays in Right-of-Way planning process.
- Reduces delays in Right-of-Way acquisition process.
- Reduces workload on Right-of-Way staff.
- Reduces the potential for higher project costs.
- Provides more quality up-front in the 30% phase.

Cost Savings/Avoidance

The limitation of design changes is expected to save \$405,000 per year according to analysis found in the Right-of-Way Requirements QPI report of February, 1993 (R/W rework due to design change will save \$297,000; design rework due to R/W requests will save \$15,000; and reducing consultant rework will save \$194,000). There were 355 formal change orders in 1991, making the average cost of a change order \$1,425.

#12 - POLICY FOR PRIVATIZATION/CONSULTANT USE

Current Situation

The Right-of-Way Section has not set a policy to use the services of the private sector.

Impact

- No system exists to determine when to utilize Right-of-Way staff or the private sector for completion of plans, appraisals, acquisitions, property management and relocations. This creates a higher potential for subjectivity when selecting in-house or contract services.
- Cost effectiveness of contracting out services versus those services provided in-house is not measured.
- Higher number of litigation cases related to acquisition when acquisition services are provided by Right-of-Way staff compared to the number of litigation cases when acquisition services are provided by private sector.
- Increases travel and per diem costs with Right-of-Way staff based in Phoenix traveling statewide compared to using local agents.
- Requires a higher baseline staffing level without addressing peaks and valleys of workload.
- Continued use of consultants for specific services may affect the Right-of-Way staff's ability to effectively monitor consultant work.
- Increases the potential for higher project costs.

Recommendation

The Right-of-Way Section should establish a policy with written criteria, including a cost/benefit formula with a weighting system attached to each criteria, to determine in an objective manner the use and selection of private sector services. A non-compensated temporary committee including ADOT Right-of-Way Staff, ADOT Procurement Staff, non-ADOT Right-of-Way professionals and members of the general public should be responsible for developing the policy. The ADOT Director should approve this policy. The

policy must be applied to all major Right-of-Way Section work activities. A tracking system should be established to measure costs of private sector and Right-of-Way Section Staff. Right-of-Way Staff should utilize the minimum appraisal necessary and be held to provide the same level of service as required by the contracted staff. The Right-of-Way Section should utilize the professional services of the ADOT Procurement group to develop all bids and Requests for Proposals.

Benefit

- Reduces selection subjectivity.
- Cost effectiveness will be measurable.
- Lower number of litigation cases if there is an increase in the use of private sector appraisers.
- Reduces Right-of-Way agent travel and per diem.
- Increases section's flexibility to deal with the peaks and valleys of the workload.
- Reduces the potential for higher project costs.

Cost Savings/Avoidance

The cost of performing an appraisal is dependent upon a number of variables. The cost for a private citizen to obtain an appraisal ranges from \$250 to \$500 per appraisal. The more complex the property, the higher the cost of the appraisal. The contracted or "fee" appraisers have a higher level of technology for research sources available to them along with a greater frequency in the market area. The average cost paid by ADOT to fee appraisers is \$2,212 per appraisal. The average number of hours per appraisal is 12. The average cost of an appraisal performed by ADOT staff is \$1,910. The average number of hours is 34. In FY 1991/92, 30 appraisals were contracted out and 214 were performed by ADOT staff. Utilizing a range of set fees for "fee" appraisals should save a minimum of \$500 per appraisal. Utilizing the minimal appraisal necessary should reduce staff appraisals by a minimum of \$448 (8 hours X \$56/hour) per appraisal. In FY 1991/92 these changes would have saved \$110,822. It is not known how many appraisals will be performed next year by fee or staff appraisers. A very conservative estimate of actual savings

would be half of the 1991/92 figures or \$55,436.

#13 - LIMITED ADVANCE ACQUISITION

Current Situation

ADOT has no policy to limit advance acquisition to hardship only purchases until the funding for highway construction has been secured.

Impact

- Acquisition funds are expended for projects never funded for construction.
- Long- term property management responsibilities.
- Increased property management costs due to increased inventory.
- Public perceives ADOT as poor planners and managers when property is acquired in advance and never used or used more than 10 years later for a highway project.
- Increases the potential for higher project costs.

Recommendation

The Right-of-Way Section, in conjunction with the ADOT Director and Board, should establish a policy that would limit advance acquisitions (purchases of real property prior to having secured funding for the construction of the highway), particularly non-hardship cases. State Statute 28-1865, Section 5, Subsection D may need to be statutorily changed to ensure enforcement of the policy, if the ADOT Director and Board are unable to establish a policy.

Benefit

- Increase of property remaining on the tax rolls.
- Reduces ADOT property inventory.
- Reduces property management costs.
- Reduces relocation costs.

- Improved image of ADOT.
- Reduces the potential for higher project costs.

Cost Savings/Avoidance

Cost savings with this recommendation cannot be precisely calculated. The Chief Right-of-Way Agent agrees that some limitations should result in at least 5% reduction in annual acquisition costs. In 1994, this would save \$2.9 million based on funding identified in the 5 Year Plan.

#14 - STATUTE CHANGES FOR ACQUISITION AND DISPOSAL

Current Situation

ADOT has not been successful in changing statutes and regulations that contribute to the high cost of acquisition and disposal of excess property. There are three major factors in State Statute 28-1865 that limit the ADOT Right of Way Section's ability to save taxpayer monies. Those factors are the (1) ability to abandon, (2) use of licensed real estate agents and brokers and (3) methods of acquisition.

Impact

Ability to Abandon

- Limits ability of ADOT to conduct business as the private sector would when abandoning or disposing of property.
- Excess property classified as uneconomic remnants remain on the ADOT property inventory indefinitely. ADOT currently does not have a complete inventory list of excess parcels.
- Abutting land owners not willing to pay for small, irregular shaped parcels.
- Increases long-term property management costs.
- Increases administrative workload for Right-of-Way staff.
- Increases overall costs of highway projects.

Impact

Disposal Methods

- Citizens typically first utilize the services of licensed real estate agents when looking to purchase houses, buildings and property. They cannot learn of ADOT properties this way.
- Limits ADOT's communication and marketing ability of properties available for sale to infrequent brochure mailings and newspaper notices.

- Requires greater effort from citizens to become informed on ADOT properties to be auctioned.
- Increases administrative workload for Right-of-Way staff to organize auctions and handle transactions.
- Increases travel and per diem for Right-of-Way staff
- Increases overall costs for highway project.

Impacts

Acquisition Method

- Increases costs to taxpayers when an ADOT improvement project is the cause for an increase in the market value of a property and then ADOT must pay that higher value to obtain the property for that improvement project.
- Reduces the amount of highway that can be constructed until more funding can become available.
- Increases potential for higher project costs.

Recommendation

ADOT should seek sponsorship and introduce legislative changes to State Statute 28-1865, Section 5, Subsections B, G, L and M. ADOT should actively seek input and support from taxpayers for these changes.

- **Ability to Abandon** - State Statute 28-1865, Section 5, Subsection B needs to be amended to allow ADOT the ability to abandon uneconomic remnant parcels to a willing abutting land owner.
- **Disposal methods** - State Statute 28-1865, Section 5, Subsection G needs to be amended to allow ADOT the flexibility to use licensed real estate brokers and their services to dispose of properties in addition to the public auction method of disposal.
- **Acquisition method** - State Statute 28-1865, Section 5, Subsections L and M need to be amended to allow ADOT the ability to use a "Just

Compensation" formula for the acquisition of all properties when only a parcel of a property owner's contiguous property will be acquired by ADOT. This compensation formula would allow for a fair profit to be made by landowners, as a result of the State's acquisition of right-of-way property.

It is recommended that ADOT hold community forums to jointly develop this legislation with interested groups and individuals, including those representing private citizens and taxpayers. When enough community input is received for a reasonable definition of "just compensation" to be developed, ADOT should pursue the relevant legislative changes.

Benefit

Ability to Abandon

- Allows ADOT to conduct business as the private sector would when abandoning or disposing of property.
- Reduces ADOT property inventory. (Currently, well over 500 excellent parcels identified.)
- Increase of property on the tax rolls.
- Reduces property management costs.
- Reduces administrative workload for Right-of-Way staff.
- Reduces the potential for higher project costs.

Benefit

Disposal Methods

- Improves service to citizens statewide by making it easier to purchase properties from ADOT
- Increases revenue potential by increasing opportunities for citizens to purchase ADOT properties.
- Reduces administrative workload for Right-of-Way staff.

- Reduces travel and per diem for Right-of-Way staff.
- Reduces the potential for higher project costs.

Benefit

Acquisition Method

- Reduces costs to taxpayers.
- Allows property owners to be justly compensated for their loss of property.
- Increases the amount of highway that can be constructed with less funding.
- Reduces land speculation.
- Reduces the potential for higher project costs.

Cost Savings/Avoidance

Ability to Abandon

ADOT does not have an up-to-date inventory of excess lands. It is estimated that there are more than 500 excess land parcels owned by ADOT. A very conservative cost savings to ADOT would be \$12,500 (property management at \$25 per parcel annually). The abandonment would place the parcels back on the tax roll, producing a minimum of \$25,000 in tax revenue to the State (500 parcels valued at \$500 each with 10% property tax).

Cost Savings/Avoidance

Disposal Methods

ADOT disposes of excess land, structures and mobile homes by public auction or conveyance to another entity. In FY 1991/92 revenues totaled \$1,789,185. The use of licensed real estate brokers to market and sell ADOT property would conservatively increase revenue to ADOT by 10% (based on the benefits described above). Using last year's revenue as a

base, revenue would increase by \$178,919.

Cost Savings/Avoidance

Acquisition Method

Conservatively and without a definitive formula, "Just Compensation" legislation could off-set 20-40% of the right-of-way costs on transportation projects in undeveloped and developing areas. For example, if the state program funding figures in the current 5 Year Plan and a 30% savings figure are used as a methodology, ADOT could realize a cost avoidance of \$19.43 million during 1994-1998 (1994 - \$8.67, 1995 - \$2.67, 1996 - \$4.5, 1997 - \$2.0, 1998 - \$1.59). However, actual savings will vary based on the length of time it takes to develop a consensus definition of "Just Compensation" and the post 1998 acquisition schedule.

In the past, ADOT has presented "before and after" legislation based on the federal land acquisition model as an alternative to reduce the cost of right-of-way acquisition. It is estimated that this "before and after" approach could result in a savings of up to \$60 million for this same five year period. This approach is still a valid alternative, however, for estimated savings in this report this alternative was not used.

#15 - RECOVERY OF INCURRED COSTS

Current Situation

The Right-of-Way Section historically has conveyed property to other federal, state, county, city or town agencies for ADOT's original purchase price.

Impact

- ADOT's incurred costs as owners of the property are not recovered resulting in ADOT subsidizing federal, state, county, city or town agencies.
- Increases the potential for higher project costs.

Recommendation

The Right-of-Way Section should track costs incurred By ADOT and attributable to that property during ADOT's ownership of the property. When the property is conveyed to the agency, the price shall recover the original purchase price and all costs associated with acquisition and relocation costs.

Benefit

- Increases accountability of costs associated with and attributable to Right-of-Way.
- Increases revenue through cost recovery.
- Reduces overall cost of highway project.

#16 - COMBINED CONSULTANT USE FOR PLANS

Current Situation

The Design Section and the Right-of-Way Section each enter into contracts for the use of consultants to complete plans.

Impacts

- Design and Right-of-Way Sections must each go through the bidding and selection process to hire a consultant.
- Increases cost to ADOT since each contract charges overhead cost.
- Increases overall cost to highway project.

Recommendation

Both sections should coordinate their plans' needs and enter into one contract for the use of a qualified consultant to complete both Design and Right-of-Way plans.

Benefit

- Reduces staff's administrative workload for bidding and selection.
- Reduces overhead costs paid by ADOT for two contracts.
- Improves communication between sections.
- Reduces overall cost of highway project.

Cost Savings/Avoidance

During the last fiscal year there were 9 plans contracts in Right-of-Way that potentially could have been combined with Design Section contracts to utilize one contractor. The expertise needed for developing Right-of-Way plans and the expertise needed for developing roadway design plans are vastly different; there are, however, firms that can do both. A combined proposal should weigh the needs of both Right-of-Way and roadway designs equally. The administrative costs of managing two contracts are higher than managing one contract.

Eliminating the 43% overhead cost in just half of the projects in 1991-1992, ADOT would achieve a cost avoidance of \$237,919 (9 projects contracted in Right-of-Way Plans Section at a cost of \$1,106,599 reduced by 43% then cut in half).

#17 PROPERTY MANAGEMENT PRIVATIZATION

Current Situation

The Right-of-Way Section's Property Management Program maintains properties and structures (vacant and occupied by lease) until needed for the highway construction process. Revenue is generated by this program. ADOT pays a 24% in-lieu tax on those properties that are leased to compensate the counties for their loss in property taxes. Right-of-Way staff are responsible for the administrative duties associated with leases, maintenance contracts, rental revenue collection, relocation and demolition scheduling.

Impact

- Increases workload of Right-of-Way staff for post Right-of-Way acquisition duties.
- Workload is dependent upon the scheduling of the projects within the 5 Year Construction Plan.
- Increases overall cost to highway project.

Recommendation

The Right-of-Way Section Property Management program should be reduced by contracting out, with one private sector provider, the property management function for all rental properties with structures. The Chief Right-of-Way Agent should work with the ADOT procurement staff to establish and process a Request For Proposal (RFP). The initial bid should only be awarded if the successful bid is more cost-effective than a 5 year average of costs incurred by ADOT providing the same level of service as outlined in the RFP. Staff level should be adjusted appropriately in the new organizational structure if a bid is not awarded.

Benefit

- Reduces workload of Right-of-Way staff for post right-of-way acquisition duties.
- Reduces the potential for higher project costs.

Cost Savings/Avoidance

The cost savings for this recommendation is realized in FTE reductions only at this time. Additional cost savings may be realized if the property management firm selected is able to reduce maintenance costs related to the rental properties.

New Organizational Structure - See Attachment

Staff Reduction: From 127 FTE's to 109

FTE Cost Savings: \$582,762 (quantified under Right-of-Way Structure Recommendation, p. 60).

#18 - RIGHT-OF-WAY ISSUES (Internal ADOT Team)

Reduces rework for title reports and Consultant Services. Internal ADOT team had the lead in this recommendation (a full report is available at the Office for Excellence in Government).

Benefit: Annual cost reduction not duplicative of above recommendations is \$248,000.

TRAFFIC ENGINEERING

#19 - INCREASE TRAFFIC CONTROL DESIGN WORK COMPLETED IN-HOUSE

Current Situation

Designs are contracted out 90% of the time. A variety of staff are responsible for monitoring these contracts.

Impact

- Traffic Engineering Section staff have reduced opportunity to develop expertise.
- Difficult to monitor contract cost when the Section has no cost figures to compare.
- Contractors are charging 150% overhead even when ADOT is providing equipment and office space for contractors.
- No Section staff to complete design if contract fails.

Recommendation

Traffic Engineering should strive to achieve, within 3 years, performing a minimum of 50% of the design work in-house. Additional staff of 7 will be needed to perform at a 50% level. Additional staff should be phased into the Section (see attached proposed structure for 1994, p. 74).

Benefit

- Competent in-house core group established.
- Good comparison of cost and time frame for contract monitoring.
- Experienced staff to complete a project if a contract fails.
- Reduction of contract costs.

Cost Savings/Avoidance

- Addition of 3 FTE's, at cost of \$108,329, to perform additional 10% of work in-house first year. Reduction of contractor billing hours by 10% (\$3M consultant budget) will save \$300,000.

#20 - SOME REMEDIAL STUDIES AND DATA COLLECTION DECENTRALIZATION

Current Situation

The Studies Branch currently performs all but a few remedial studies and data collection for ADOT and all Districts.

Impact

- Time delays for Districts needing studies completed for budgeting purposes.
- Travel for Phoenix-based studies staff.
- Time delays for some Traffic Engineering studies when working on District studies.

Recommendation

- Allows the outlying traffic engineering crews to perform some of their own remedial studies and data collection.

Benefit

- Improves turn around time for District studies.
- More time for Studies Branch staff to perform other studies.
- Reduced travel time and costs.

#21 - TRAFFIC ENGINEERING ROLE IN FREEWAY MANAGEMENT SYSTEM AND *ISTEA SAFETY & CONGESTION MANAGEMENT PROGRAM

• INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT

Current Situation

The new Freeway Management System is currently the responsibility of District One. The Traffic Engineering Section has played a very limited role in its development. Primary responsibility of the Safety & Congestion Management Program is still under discussion with the Federal government but Traffic Engineering needs to play a major role in its development and implementation. Traffic engineering is a specialized area unlike civil engineering.

Impacts:

- Traffic Engineering issues are being addressed by Civil Engineers with less experience in the management of traffic than seasoned Traffic Engineers.
- Focus is on the handling of accidents after they occur, not preventing them.

Recommendation

- Traffic Engineering Section and its appropriate staff should have a significant leadership role in both development and operation of the Freeway Management System and the ISTEAs Safety & Congestion Management Program.

Benefit

- Greater focus on proactive management not reactive response to traffic issues.

Cost Savings/Avoidance:

- Staffing increase addressed in structure.
- Cost savings cannot be quantified at this time.

#22 - ENVIRONMENTAL CLEARANCE PROCESS (Internal ADOT Team)

An analysis of problems in the environmental clearance process that result in project delays. Recommendations included ensuring the quality of outside consultants; conducting project scoping in the project development phase; scheduling formal partnering sessions with affected agencies; and implementing internal ADOT training on environmental issues. This study was lead by an internal ADOT Team - the complete recommendations may be reviewed at the Office For Excellence In Government.

Benefit: Annual cost avoidance of \$619,000.

ORGANIZATION STRUCTURE AND STAFFING

#23 - HIGHWAY DIVISION MACRO STRUCTURE

An internal ADOT team working with the Project SLIM Team developed a new organizational structure for the Highways Division, which accomplished the following:

- Reduced two layers of management
- Increased span of control at all levels
- Improved customer services at the District level through decentralization and employee empowerment
- Established Project Management as the new philosophy for conducting the Division's business

(quantification of savings and benefits are described in recommendations #24 - 35)

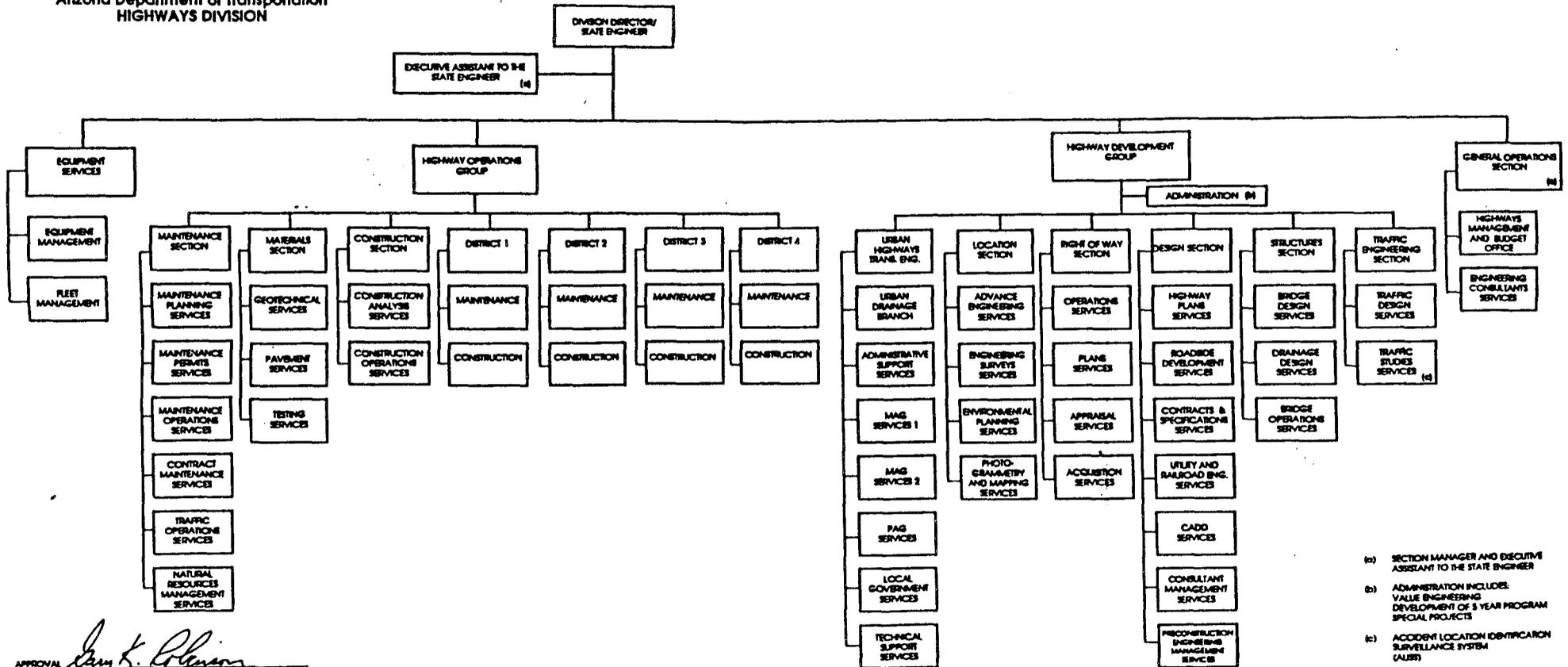
The new structure is expected to enhance the quality of ADOT's service delivery while reducing FTE levels by 729 positions (108 filled, 129 funded vacancies, and 492 unfunded vacancies), for a total annual savings to the State of Arizona of over \$9 million.

The macro level current and proposed organizational charts are attached. Sub-unit charts are available at the Office For Excellence In Government.

ATTACHMENT

CURRENT ORGANIZATION STRUCTURE

Arizona Department of Transportation
HIGHWAYS DIVISION



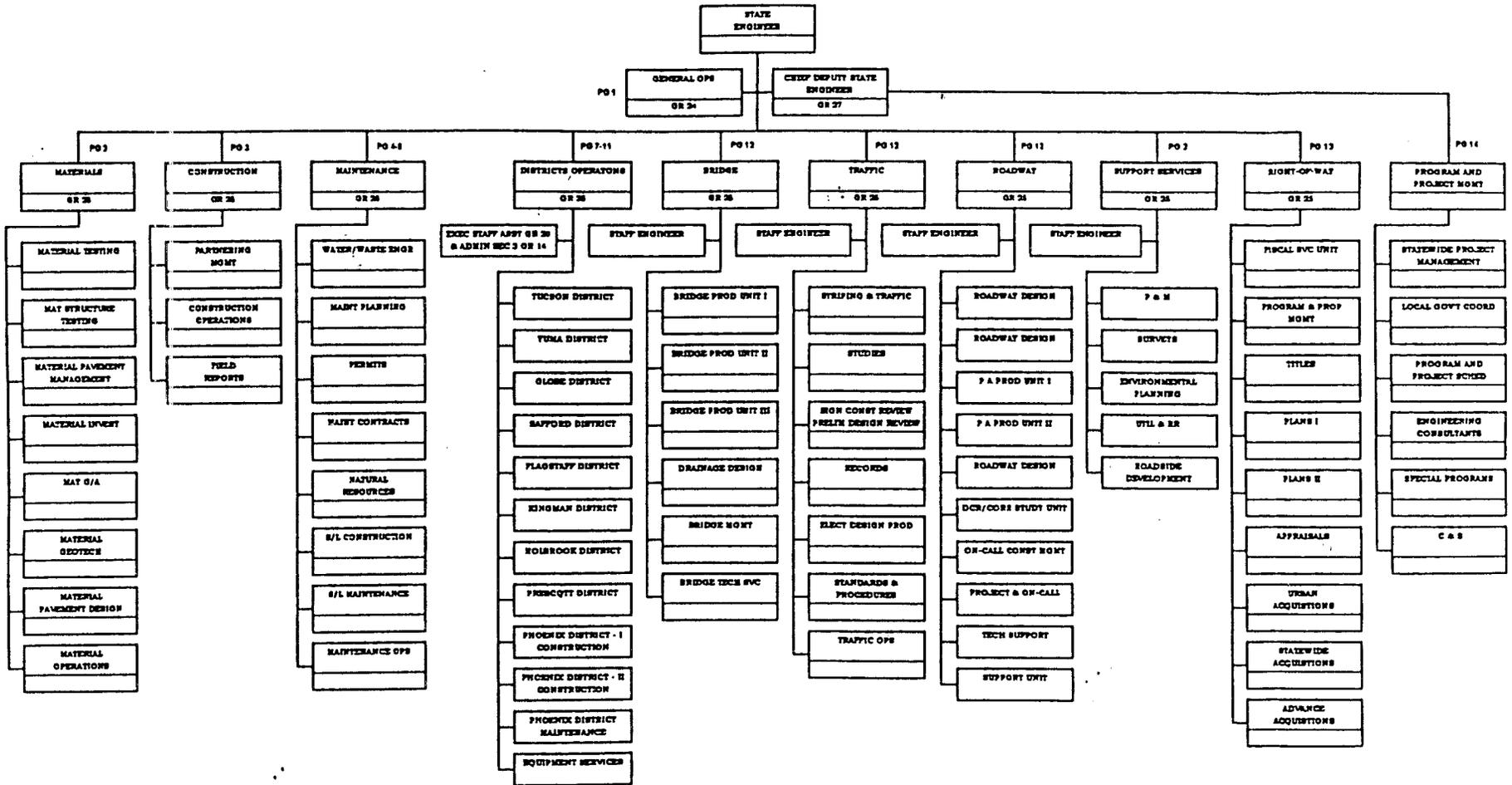
APPROVAL *Ray K. Robinson*
DATE JUNE 30, 1982

- (a) SECTION MANAGER AND DEPUTY ASSISTANT TO THE STATE ENGINEER
- (b) ADMINISTRATION INCLUDES VALUE ENGINEERING DEVELOPMENT OF 3 YEAR PROGRAM SPECIAL PROJECTS
- (c) ACCIDENT LOCATION IDENTIFICATION SURVEILLANCE SYSTEM (ALIS)

HIGHWAYS DIVISION

PROPOSED ORGANIZATION

ATTACHMENT



#24 - EQUIPMENT SERVICES SECTION

Current Situation

Equipment Services has reviewed their authorized positions and after an assessment of current business practices, and the consideration of some future changes, determined that existing and proposed service levels can be maintained while reducing the current staffing profile.

Impact

The reduction of these positions will not impact on Equipment Services ability to provide minimum, established levels of service.

Recommendation

As a result of the in-depth review of staffing patterns the following positions are scheduled to be abolished immediately:

Position Number	Job Title	Salary
Q084/3075AAN	Clerk Typist II	\$16,062.00
Q253/5810AAN	Environmental Health Spec.I	\$21,584.00
Q199/5670AAN	Accounting Tech. II	\$20,278.00
Q019/5874AAN	EDP Prog/Anal. II	\$28,435.00
Q205/0683AAN	Equip. Repair Tech.	\$26,993.00
Q055/3257AAN	Equip. Repair Tech.	\$22,135.00
Q038/0714AAN	Equip. Repair Tech.	\$26,993.00
Q117/0737AAN	Equip. Repair Tech.	\$30,068.00
Q119/1199AAN	Equip. Repair Tech.	\$26,993.00
Q071/0678AAN	Equip. Repair Tech.	\$26,993.00
/0726AAN	Equip. Repair Tech.	\$31,258.00
/0675AAN	Equip. Repair Tech.	\$26,993.00
Q008/3750AAN	Clerk Typist III	\$17,699.00
Q263/5747AAN	Weight & Measures Insp.	\$22,974.00
Q098/0694AAN	Facility Support Worker	\$19,142.00
Q139/3626AAN	Prog. Proj. Spec. II	\$25,182.00
Q192/3325AAN	Info. Proc. Spec. II	<u>\$17,755.00</u>
	Total of 17 Positions	\$407,537.00

The following positions will not be funded and will be eliminated:

4893	Student Aide	\$ 4,698.00
5706	Clerk Typist III	\$14,558.00
3256	Equip. Repair Tech.	\$22,135.00
4803	Student Aide	\$ 4,698.00
5452	Equip. Service Assist.	\$17,755.00
4452	Clerical Assist.	<u>\$11,998.00</u>
Total of 6 Positions		\$75,842.00

These 3 FTE's are to be abolished at future dates as the Equipment Management System is revised and implemented:

Q102/5555AAE	Prog. Proj. Spec. I	\$29,203.00
Q244/5419AAN	Info. Proc. Spec. III	\$18,891.00
Q201/3629AAE	Equip. Utilization Sup.	<u>\$32,626.00</u>
		\$80,720.00
Group Totals/26 FTE		\$564,099.00
ERE Addition		<u>\$126,922.28</u>
Grand Total		\$691,021.28

Benefit

Total combined savings of immediate and projected reductions of FTE's in Equipment Services is \$691,021.28 annually.

#25 - URBAN HIGHWAYS CONSOLIDATION (Internal ADOT Team)

Consolidates 2 sections within the Highway Development Group; establishes a Project Management Section; and reduces 9 consultant positions. The full report provided by the ADOT Team is available at the OEG.

Benefit: Annual cost reduction of \$1.5 million.

#26 - MATERIALS SECTION

The engineer of Materials heads the Materials Section of the Highways Division. The Materials Section conducts research into construction materials and methods, develops pavement sections for use in designing new projects, develops test methods and acts as the reference laboratory for the district and project laboratories. It also designs asphaltic and portland cement concrete pavements and performs tests that cannot be made in the district or project laboratories.

The Materials Section monitors the tests performed by the project and the district to see that the laboratories have acceptable correlation of tests and consults with the districts and projects to maintain uniform testing procedures. Special reference tests are prepared and sent to district laboratories to check testing procedures. A program of periodic checking of test equipment used in district and project laboratories is used to maintain the accuracy of the equipment.

Current Situation

Org 4841 - Testing Services

Testing frequencies are being evaluated and revised, and some work processes have and are being changed.

Org 4842 - Geotechnical Services

Workloads and priorities are being shifted at this time. Materials Section has recommended the reduction of one drilling crew and associated equipment. Some crews workloads justify a reduction in the number of staff performing the work.

The Foundation & Geologic Investigation Branch has difficulty meeting schedules for the design section due to frequent breakdowns of old equipment.

Org 4843 - Pavement Services

Due to changing workloads and availability of contracted specialty services, if necessary, 1 Transportation Engineering Specialist position could be eliminated.

Impact

Org 4841 - Testing Services

As a result of changing testing procedures and priorities 6 positions may be eliminated.

Org 4842 - Geotechnical Services

As a result of an in-depth review of geotechnical services it was determined that one drilling crew (3 FTEs) and associated equipment, and 3 other FTEs could be eliminated.

Due to frequent breakdowns of drilling equipment, geotechnical services is experiencing difficulty completing their projects in a timely manner.

Org 4843 - Pavement Services

Has a vacant Transportation Engineering Specialist position whose requirements may be contracted out.

Recommendations

The following positions are recommended to be abolished:

Org 4841 - Testing Services

- 1 - Information Processing Specialist III
- 1 - Transportation Construction Technician II
- 1 - Transportation Construction Technician III
- 3 - Transportation Engineering Specialist

Org 4842 - Geotechnical Services

- 2 - Transportation Materials Field Crew Tech I
- 2 - Transportation Materials Field Crew Tech II
- 2 - Transportation Materials Field Crew Tech III

Org 4843 - Pavement Services

- 1 - Transportation Engineering Specialist

As a result of staff reductions and re-distribution of work, some excess equipment will be turned back to Equipment Services. The following Equipment is recommended to be *eliminated from ADOT's (Org. 4842) inventory:

- 1 - Core Drill (\$1,000)
- 2 - Pickups (\$4,000)

It is recommended that the drilling rigs for the Foundation and Geologic Investigation Branch be evaluated by Equipment Services for dependability and serviceability. Downtime with the present equipment must be reduced.

*This equipment should be sold.

Benefit

The elimination of the above items, plus support other operating and travel funds, results in an approximate savings of:

13 Positions	=	\$351,522
ERE @22%	=	\$ 77,335
Travel Reduction	=	\$ 39,555
Equipment Reduction	=	\$ 5,000
Other Operating	=	\$ <u>20,200</u>
Total Combined Saving	=	\$493,612

#27 - RIGHT-OF-WAY SECTION

Improves services and downsizes the section by 18 FTEs.

STAFF CHANGES

- **Abolish four Grade 22 positions (Admin Service Officer III)**
Minimum annual salary \$34,737 plus ERE \$7,990 equals \$42,727
\$170,908 Total Savings
- **Abolish one Grade 21 position (R/W Agent IV)**
Minimum annual salary \$31,879 plus ERE \$7,332 equals \$39,211
\$39,211 Total Savings
- **Abolish four 20 positions (2 R/W Appraiser III, Legal Analyst, R/W Reviewer)** Minimum annual salary \$29,097 plus ERE \$6,692 equals \$35,789
\$143,156 Total Savings
- **Abolish four Grade 19 positions (2 R/W Plans Supervisors, Title Examiner III, 1 R/W Agent III)**
Minimum annual salary \$26,182 plus ERE \$6,022 equals \$32,204
\$128,816 Total Savings
- **Abolish one Grade 13 position (Right-of-Way Assistant)**
Minimum annual salary \$17,618 plus ERE \$4,052 equals \$21,670
\$21,670 Total Savings
- **Abolish seven Grade 18 positions (5 R/W Agent II, Eng. Plans Tech III, RP App II)**
Minimum annual salary \$24,238 plus ERE \$5,575 equals \$29,813
\$208,691 Total Savings
- **Abolish three Grade 11 positions (Info Proc. Spec II, 2 Secretaries)**
Minimum annual salary \$15,481 plus ERE \$3,561 equals \$19,042
\$54,126 Total Savings

- **Create one Grade 19 Administrative Services Officer position (Consultant Administrator)**
Minimum annual salary \$26,182 plus ERE \$6,022 equals \$32,204
\$32,204 Total Additional Cost
- **Create three Grade 12, Administrative Secretary I positions.**
Minimum annual salary \$16,531 plus ERE \$3,802 equals \$20,333
\$60,999 Total Additional Cost
- **Create one Grade 16, Right-of-Way Agent I position**
Minimum annual salary \$20,895 plus ERE \$4,806 equals \$25,701
\$25,701 Total Additional Cost
- **Create one Grade 21, Transportation R/W Plans Manager position.**
Minimum annual salary \$31,879 plus ERE \$7,332 equals \$39,211
\$39,211 Total Additional Cost
- **Create one Grade 16, Right-of-Way Appraiser**
Minimum annual salary \$20,895 plus ERE \$4,806 equals \$25,701
\$25,701 Total Additional Cost

ALL FILLED POSITIONS

• FTE Savings to ADOT	\$766,578
• FTE Additional Cost to ADOT	<u>\$183,816</u>
• Total FTE Annual Savings to ADOT	\$582,762

#28 - CONSTRUCTION SECTION

Current Situation

Org 4833 - Construction Claims Branch

Processes construction claims that have been filed with ADOT. There has been a significant reduction in claims due to successful partnering activities.

Org 4834 - Construction Management Branch

Administers the construction management program regarding manpower forecasting and planning. Districts have been trained in the construction management system.

Org 4831 - Field Review Branch

Conducts statewide quality assurance inspections of construction projects in the districts.

Org 4837 - Reports Audit Branch

Verify mathematical correctness and compliance with specifications, all documentation submitted from the field to support final pay quantities to contractors on all State highway construction projects.

Impact

Org 4833 - Construction Claims Branch

Is overstaffed by one FTE due to a significant reduction in the amount of claims being processed.

Org 4834 - Construction Management Branch

Construction Management System training activities have been reduced in the districts.

Org 4831 - Field Review Branch

As a result of a branch review of workloads, this branch is overstaffed by 2 positions.

Org 4837 - Reports Audit Branch

With the pending full implementation of Field Office Automation System (FAST), the workload of the branch will decrease significantly and allow a reduction of 3 FTEs.

Recommendation

Org 4833 - Eliminate the following positions:

1 - Tr. Eng. T/L position. (Abolish 7/1/94)

Org 4834 - Eliminate the following positions:

1 - Tr. Eng. Spec.
1 - Tr. Const. Tech III

Org 4831 - Eliminate the following positions:

1 - Tr. Eng. Spec.
1 - Traf. S/L Tech II

Org 4837 - Eliminate the following positions:

1 - Tear Supv. (by July 1, 1994)
1 - Tr. Const. Tech II
1 - Info. Proc. Spec. II
1 - Tr. Q/C Spec.

Benefit

- For quantification of savings see Construction Staffing recommendation, p. 64.

#29 - CONSTRUCTION STAFFING

Current Situation

The Highway Division manages all highway construction in Arizona. The actual construction of roads is performed by private contractors selected through a competitive bidding process. The specific activities performed within the Highways Division, called construction engineering, include but are not limited to the following:

- Inspection and materials testing of roadway construction to ensure procedures and materials meet plans and specifications
- Surveying
- Reviewing roadway design drawings
- Approving all payments to contractors
- Monitoring force accounts
- Processing contractor claims
- Reviewing and approving change orders

Although most of these activities continue to be the responsibility of full-time ADOT personnel, the Department contracts with private engineering firms, and hires temporary and seasonal personnel to augment in-house staff. ADOT also transfers some quality control and surveying responsibilities to the contractors.

The Highways Division carries out its responsibilities through staff in four engineering districts and its central office. Staff, organized into areas encompassing several units (ORGS), oversee construction activities, provide on-site inspections, and provide non-direct support to the construction process. Construction ORGS typically include resident engineers, engineering specialists, quality control technicians, survey personnel, materials testing staff, and records clerks.

Non-direct construction staff are defined as those personnel dedicated to providing necessary support to the construction process, but are not located at the project level and not required directly for the administration of the contract.

Construction staff are funded primarily from the ADOT construction budget established each year by the Transportation Board. Construction funded positions are identified with a Budget Identification Number (BIN) of 8250. Construction funds are derived from the Highway User Revenue Fund (HURF) which consists of revenues from the gasoline tax and other transportation-related fees. Construction funded staff positions are not appropriated by the Legislature; but are determined by the Department, based on total construction activity.

The tentative five-year construction program produced by the Transportation Planning Division projects the following construction spending schedule (see Attachment "A", p. 68).

As of March 3, 1993, there were 650 authorized full-time employees (FTEs) of which 585 were filled. Of the 585 filled positions, 442 were allocated to construction ORGS and 143 (24.4%) were located in ORGS other than construction.

The Highway Division calculates an Arizona Construction Cost Index to track materials expenditures. The Federal Highway Administration (FHWA) also produces a quarterly and annual index for federal aid projects in Arizona. Currently there exists a substantial difference between the two indexes.

YEAR	ADOT ANNUAL INDEX	FHWA/AZ ANNUAL INDEX	DIFFERENCE
1987	100.0	100.0	0.0
1988	92.0	86.0	-6.0
1989	87.0	85.5	-1.5
1990	90.0	131.2	41.2
1991	86.0	90.7	4.7
1992	80.0	101.2	21.2

Impact

Based on current and projected funding levels as well as productivity improvements it is necessary to adjust construction staffing levels and assign personnel to appropriate funding sources.

Recommendation

Reduce the number of construction funded positions in BIN 8250 by establishing a construction staffing policy detailing the criteria that determines when positions should be assigned to BIN 8250 (see attachment "B", p. 69)

- Abolish unnecessary and duplicative positions from the Human Resources Management System (HRMS) and define the authorized level for construction funded positions (see "Shelf" Construction Funded Positions recommendation, p. 70).

Establish a construction staffing plan using FTEs per million dollars of contractor payments as a baseline (see attachment "A", p. 68) and increase the use of interim staffing such as seasonal and contracted temporary personnel.

Establish an internal team, incorporating an outside economist/consultant, to implement improvements to the Arizona Construction Costs Index. The team should consider:

- Index methodology
- Appropriate materials components (representative of total construction spending)
- Correct "weighting" of index components based on relative importance to the construction activities
- Causes of significant differences between the FHWA and Arizona indexes.

This recommendation should be implemented by October 1, 1993. By January, 1994, construction staffing levels should be re-adjusted using the newly developed index, but in no instance shall the index used for fiscal year 1995 be less than 1.00.

Benefit

Using a maximum baseline of 1.3 direct FTEs and .3 non-direct FTEs will yield the following savings (assuming first year staffing reductions of 69 FTEs)* See attachment A (p. 68) and Note below:

Vacancy savings of 65 FTEs (650-585) @ \$18,727 =	\$1.21 mil
ERE at 28% =	\$0 .34 mil
69 FTEs x 1686 hrs (loaded rate) x \$27 per hour =	\$3.14 mil
69 FTEs x 402 hrs (non-load rate) x \$8.97 per hour =	\$0 .25 mil
ERE at 28% =	\$0 .07 mil
69 FTEs X .8 equals 55 vehicles that can be sold @ \$2500 =	<u>\$0 .14 mil</u>
TOTAL	\$ 5.15 mil

*Note: Additional savings may occur in FY 1995 and beyond due to staffing ratio adjustments based on revised funding levels and application of a revised Arizona Construction Cost Index. (see attachment "B", p. 69).

ATTACHMENT "A"
5 YEAR CONSTRUCTION SPENDING SCHEDULE
IN MILLIONS OF DOLLARS

FY	1994	1995	1996	1997	1998
STATE	276.4	265.6	244.8	284.4	300.0
EMERGENCY RELIEF	16.6	0.0	0.0	0.0	0.0
MAG	127.2	43.3	70.4	127.3	51.0
LOCAL GVT.	33.5	35.5	32.0	32.0	28.5
*TOTAL	453.7	344.4	347.2	443.7	379.5
DIRECT CONST. FTE's	413	413	413	413	413
NON-DIRECT FTE's	67	67	67	67	67
EXCEPTIONS	36	36	36	36	36
TOTAL STAFF REQUIRED	516	516	516	516	516
FTE RATIO	1.1	1.5	1.5	1.2	1.4
CURRENT CONST STAFFING	585	516	516	516	516
SURPLUS	69	0	0	0	0

***NOTES:**

- 1) All of the figures shown are displayed in 1993 dollars.
- 2) The "revised" Arizona Construction Costs Index will be applied to total spending. Construction staff levels and surplus will be revised.
- 3) No allowances have been made for productivity improvements (i.e. FAST Project) or for reduced sampling and testing of materials.

ATTACHMENT "B"

CONSTRUCTION STAFFING POLICY

ADOT should use a guideline of 1.3 FTEs per million dollars of expenditures for direct construction funded positions. The FY 1995 target for direct construction FTEs should be re-examined in January 1994. This should be an annual procedure. Beginning January, 1994, staffing levels will be calculated by applying the revised Arizona Construction Cost Index but in no instance should the index used for fiscal year 1995 be less than 1.00. ADOT should minimize the number of non-direct construction FTEs, and at no time should this total exceed a ratio of .3 FTE per million of adjusted construction expenditures.

On an annual basis, if the time charged for any specific position falls below 50%, a review will be conducted to determine if the appropriate funding base is being utilized.

Develop a process to capture non-direct construction funded project charges (labor cost distribution).

No position will be authorized for construction funding that cannot maintain a 50% charge to project ratio. This category includes, but is not limited to Bridge Construction (Structures Section), Electrical Inspection, Non-Supervisory Field Reports, Personnel, Certification Acceptance, Internal Audit, District CMS, and District Laboratory Staff.

In addition, a limited number of employees may charge to construction as exceptions to the policy (i.e. non-directs that do not fully meet this policy). These exceptions include:

- 2 Safety
- 9 Engineers-in-training
- 13 FAST (Q.P.I.)
- 1 Internal Audit
- 1 Certification Acceptance
- 10 Bridge Maintenance
- 36

At no time should the FTE per million for all direct and non-direct construction FTEs exceed a 1.6 ratio. Construction staffing levels and assignments to funding sources will be monitored and appropriately adjusted at least annually if necessary.

#30 - CONSTRUCTION "SHELF" POSITIONS

Current Situation

The Arizona Department of Transportation (ADOT) is responsible for establishing the authorized staffing levels for construction funded positions. Construction funded positions are identified with a Budget Identification Number (BIN) of 8250. As of March 3, 1993, ADOT had established an authorized level of 650 permanent full-time (PF) positions. There were a total of 1,142 positions located in the Human Resource Management System (HRMS) data base. Approximately 127 of these positions are for seasonals, temporaries, and interns.

Impact

Over the past several years, the total number of positions in the HRMS data base has grown substantially. Most of these positions have never been filled, but the vacant positions have been accumulating in the data base. As of March 3, 1993, there were 492 vacant positions.

Recommendations

ADOT should abolish unnecessary and duplicative positions from the HRMS data base and establish the authorized level of construction funded positions as follows:

Abolish vacant and unfunded positions from 1142 to 650 (492 positions) and establish a new authorized level of 685 construction funded positions (585 full time and 100 seasonal).

Benefits

Removing surplus and duplicative positions will bring the data base in-line with authorized FTE levels.

#31 - TRAFFIC OPERATIONS

Current Situation

Org 4862 - Signal Shop Maintenance Unit repairs or tests electrical items, modifies traffic signal cabinets, installs/assists with new cabinets, and conducts traffic cabinet quality checks statewide.

Org 4867 - Sign Manufacturing Unit is responsible for producing signs for all districts. The construction of signs is shifting from wood to metal.

Org 4868 - Interstate Signing Unit is responsible for maintaining the signs on the interstate system. Construction of major signs is contracted out and occasionally the contractor's signs do not meet the sign inspector's requirements.

Impact

Org 4862 Signal Shop Maintenance Unit is modifying traffic cabinets to meet ADOT specification when the cabinet could be ordered with the ADOT specification and eliminate the need for installation by org staff. Traffic cabinet work could be performed with less staff.

Interstate signs built by contractors frequently need to be redone due to failing to pass quality inspections because the contractor used two different lots of materials in making one sign.

Metal signs require no painting. The Traffic Engineer has stopped the painting of wood signs.

Recommendation

Org 4862 -

Eliminate the following positions:

- 1 - Traffic S/L Crew Supervisor (vacant)
- 2 - Traffic S/L Tech II (vacant)

Org 4867 -

Eliminate the following positions:

1 - Painter

1 - Carpenter

Org 4868 -

Have the Org build all interstate signs and contract out only the installation (when necessary).

Benefit

Having all interstate signs built at Org 4868 eliminates rework by private contractors.

The reduction of 5 FTE's results in an approximate savings of \$122,000. Additional ERE @23% adds \$28,000 for a total of \$150,000.

#32 - DISTRICT I-4 FIELD FTE REDUCTIONS

CURRENT SITUATION

Due to changes in work loads and priorities, the districts have identified the following vacant positions that can be abolished.

DIST/ORG	POSITION TITLE		SALARY
<u>DIST 1</u>	None identified		
<u>DIST 2</u>			
Org 4299	Tr. S/L Crew Supv.	Grade 18	\$24,238
Org 4299	Tr. S/L Tech II	Grade 17	\$22,481
Org 4299	Tr. S/L Tech II	Grade 17	\$22,481
Org 4299	Tr. S/L Tech II	Grade 17	\$22,481
Org 4200	Tr. Eng. Per. Tech II	Grade 16	\$20,895
Org 4207	Tr. Const. Tech III	Grade 16	\$20,895
Org 4207	Tr. Const. Tech III	Grade 16	\$20,895
Org 4270	Tr. Landscape Spec.*	Grade 18	\$24,238
Org 4271	Hwy. Maint. Supv*	Grade 19	\$26,182
<u>DIST 3</u>			
Org 4321	Laborer*	Grade 10	\$15,275
<u>DIST 4</u>			
Org 4421	Hwy. Maint Tech I*	Grade 13	\$17,618
Org 4434	Hwy. Maint Tech I*	Grade 13	\$17,618
Org 4481	Hwy. Maint Tech I*	Grade 13	\$17,618
Org 4484	Hwy. Maint Tech III*	Grade 16	\$20,895
	Total Salary		\$293,810
	Total ERE @25%		\$ <u>73,452</u>
	Combined		\$367,262

* Savings from maintenance funded positions should be re-allocated within the current maintenance budget.

#33 - TRAFFIC ENGINEERING STAFFING COST SAVINGS/INCREASES

The following changes are proposed for Traffic Engineering:

- Create one Grade 24 position (Tr Eng. III)
Minimum Annual Salary \$41,533 plus ERE \$9,553 equals \$51,086
\$51,086 Total Cost Increase
- Create two Grade 23 position (EDP Tech.Sup.Spec.III, Traffic Eng. Supv.)
Minimum Annual Salary \$37,978 plus ERE \$8,735 equals \$46,713
\$93,426 Total Cost Increase (ADOT will have Personnel review the EDP position for proper classification.)
- Create one Grade 20 position (EDP Tech.Sup.Spec.I)
Minimum Annual Salary \$29,097 plus ERE \$6,692 equals \$35,789
\$35,789 Total Cost Increase
- Create three Grade 22 positions (Traf.Engineer I)
Minimum Annual Salary \$34,737 plus ERE \$7,990 equals \$42,727
\$128,181 Total Cost Increase
- Create four Grade 18 positions (Eng.Plans Tech III, Contracts Mgmt.Spec.II, two Tr.Traf.Studies Analysts).
Minimum Annual Salary \$24,238 plus ERE \$5,575 equals \$29,813
\$119,251 Total Cost Increase
- Create two Grade 16 positions (Admin.Support Super.II, Eng.Plans Tech II) Minimum Annual Salary \$20,895 plus ERE \$4,806 equals \$25,701
\$51,402 Total Cost Increase
- Create three Grade 13 positions (Info.Proc.Spec.III)
Minimum Annual Salary \$17,618 plus ERE \$4,052 equals \$21,670
\$65,010 Total Cost Increase
- Create one Grade 11 position (Info.Proc.Spec.II)
Minimum Annual Salary \$15,481 plus ERE \$3,561 equals \$19,042
\$19,042 Total Cost Increase

- Abolish two Grade 24 positions (Tr.Traf.Eng.Mgrs.)
Minimum Annual Salary \$41,533 plus ERE \$9,553 equals \$51,086
\$102,171 Total Savings
- Abolish one Grade 22 position (Tr.Traf.Eng.Team Leader)
Minimum Annual Salary \$34,737 plus ERE \$7,990 equals \$42,727
\$42,727 Total Savings
- Abolish one Grade 20 position (Hwy Safety Spec.III)
Minimum Annual Salary \$29,097 plus ERE \$6,692 equals \$35,789
\$35,789 Total Savings
- Abolish two Grade 14 positions (Eng.Plans Tech I, Admin.Supp.Super.I)
Minimum Annual Salary \$18,755 plus ERE \$4,314 equals \$23,069
\$46,138 Total Savings
- Abolish three Grade 11 positions (Info.Proc.Spec.II)
Minimum Annual Salary \$15,481 plus ERE \$3,561 equals \$19,042
\$57,126 Total Savings
- Contract Employee - \$48,500 (Admin Asst., Contracts)

Vacant Positions

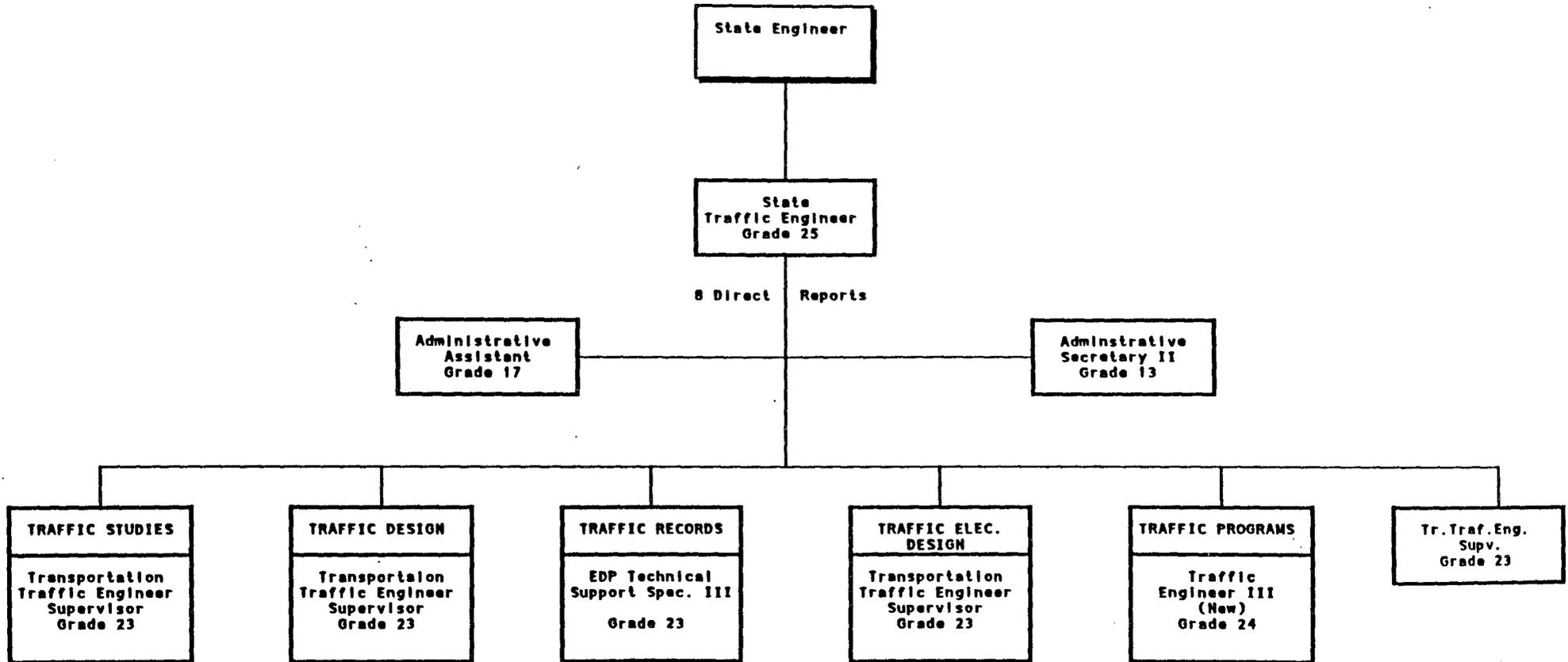
2 Tr.Traf.Eng.Mgrs.

FTE creation costs	\$563,187
FTE abolish savings	\$283,951
Contract employee savings	<u>\$ 48,500</u>
Net additional FTE costs	\$230,736

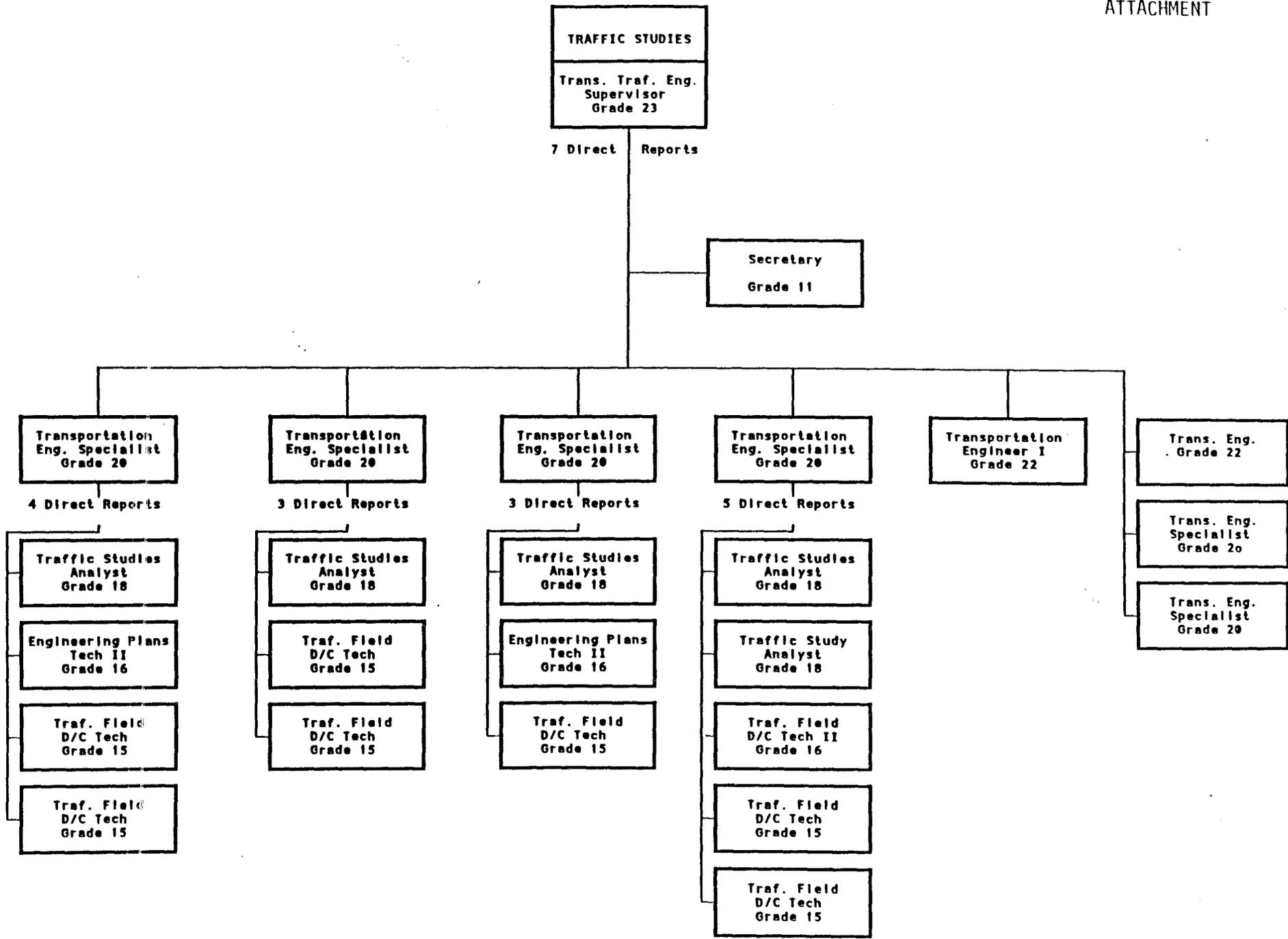
Traffic Engineering Section

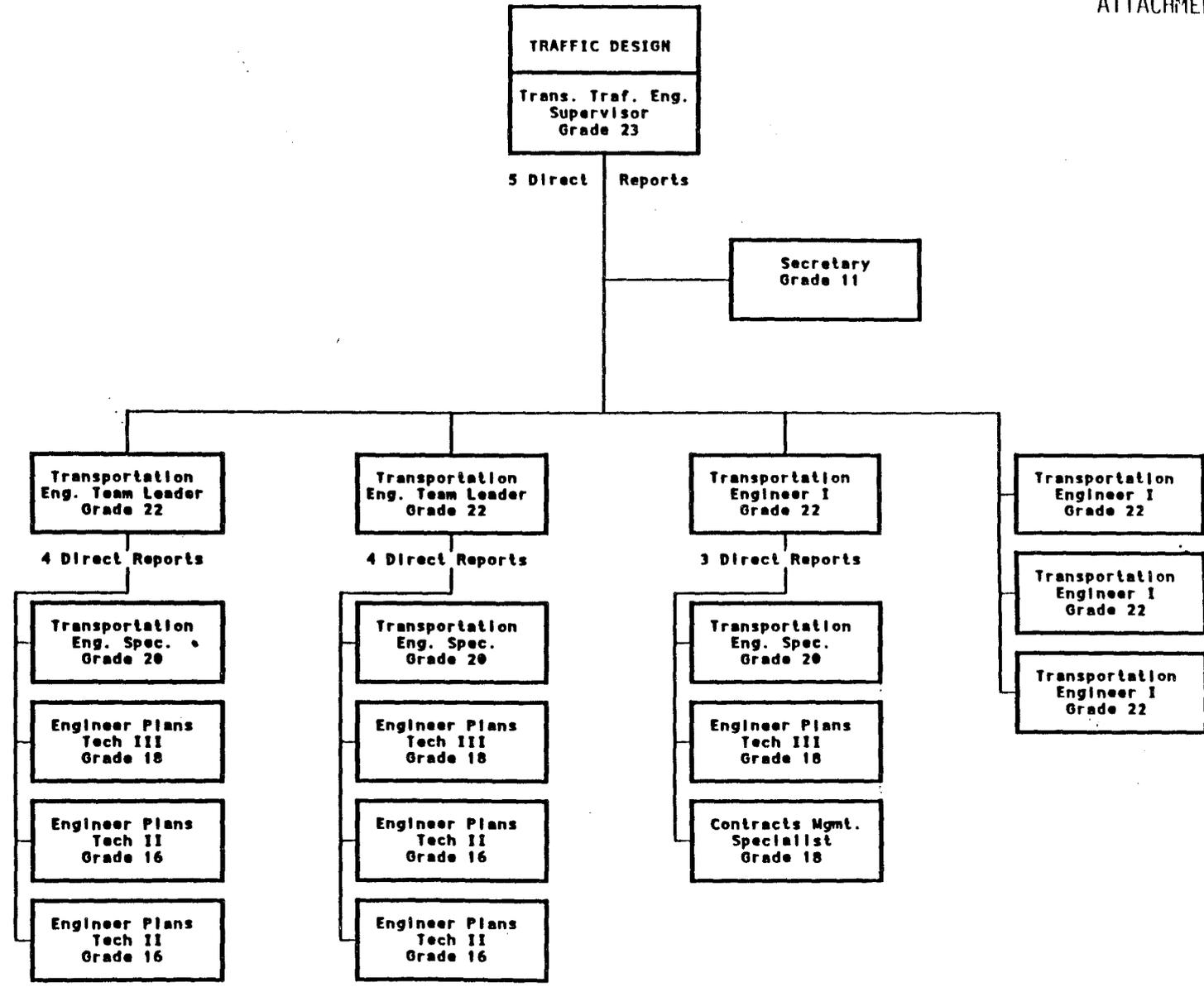
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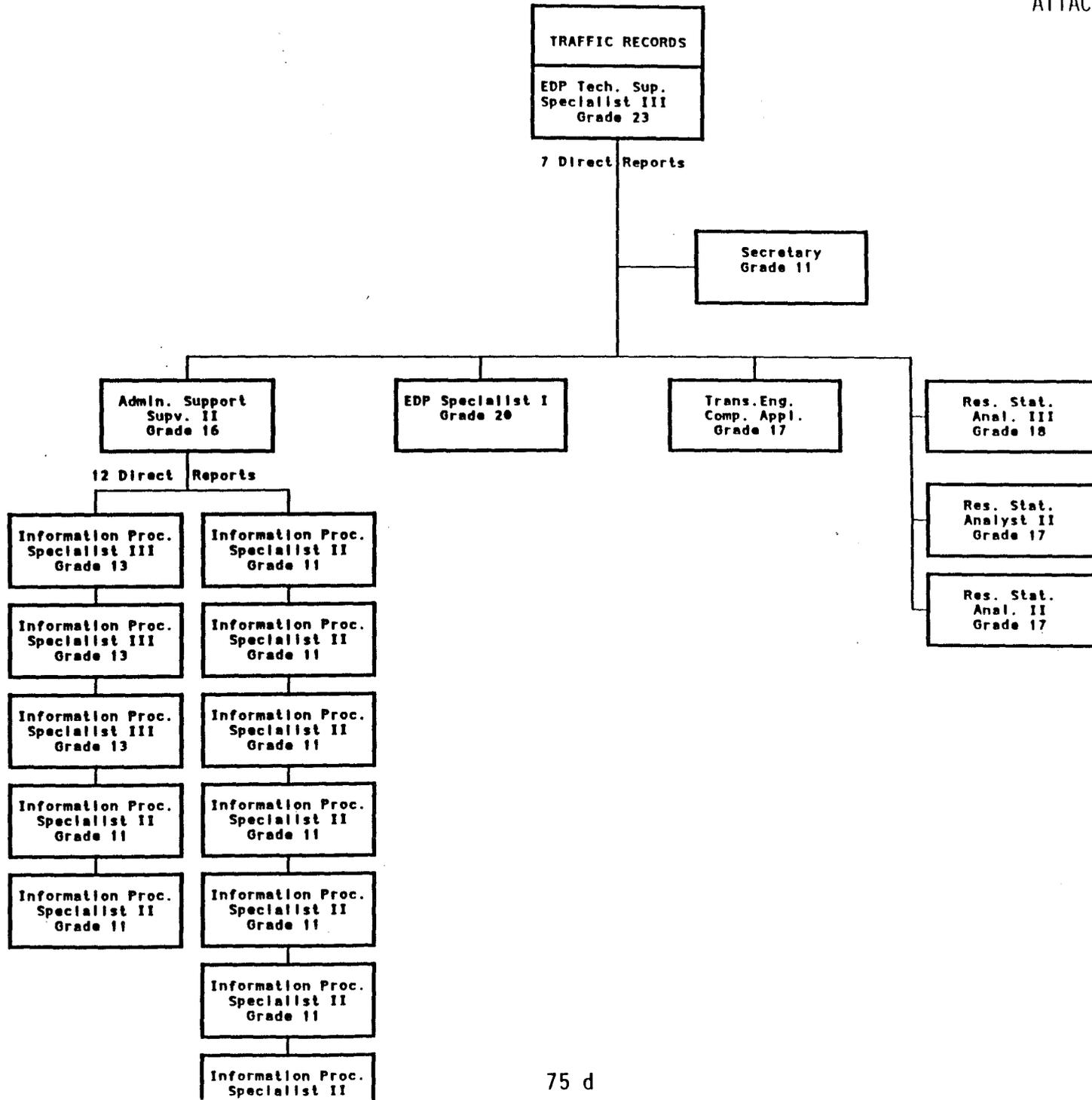
Office For Excellence
Structure Proposal
6-14-93

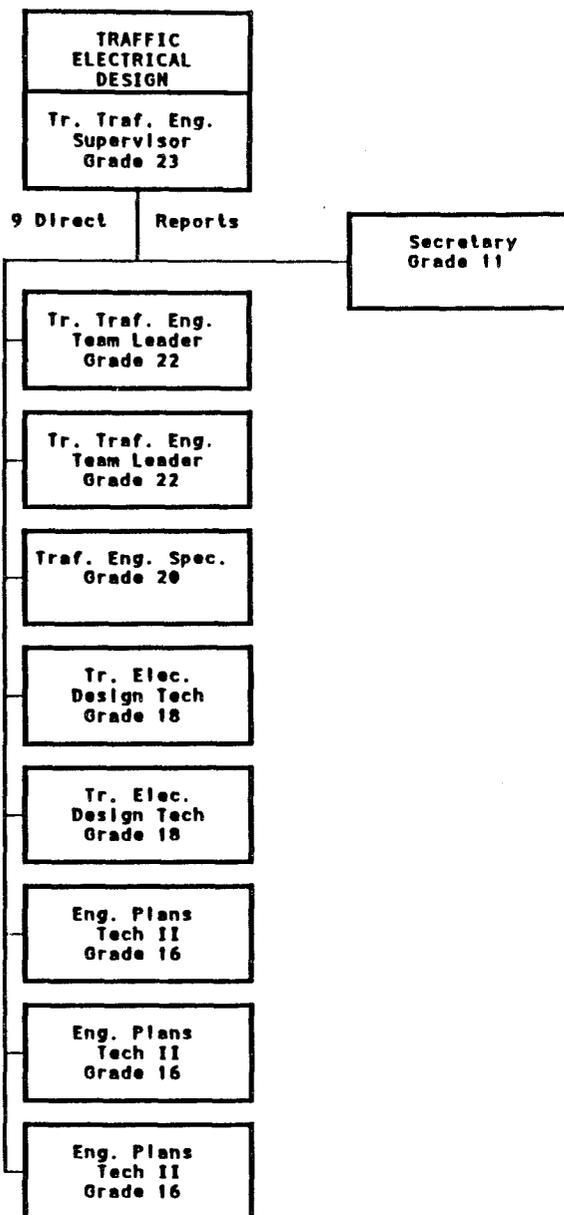


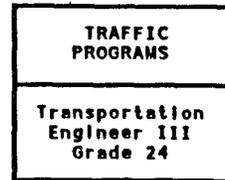
STAFF ADDITIONS: 8 FTEs
TOTAL FTE'S = 79











Some positions established in District I for FMS should be transferred to this unit.

The unit responsible for FMS development, new products evaluation, ISTEAs program, T.E. manual, STDS policies & procedures committee within Traffic Engineering.

Intra-agency committee is currently developing recommendations for ISTEAs. The State Engineer's office should provide some guidance with the development of this unit to help incorporate traffic engineering into transportation processes.

#34 - STRUCTURES SECTION

Current Situation

The Structures Section currently operates under five organizational units: 4050, 4051, 4052, 4053, and 4059. The administrative functions are centralized and performed by two secretaries under the direction of the Assistant State Engineer-Structures.

- Org 4050 is an administrative org responsible for management of the section and administrative functions.
- Org 4051 - Bridge Design Services is responsible for review, bridge design, and technical support.
- Org 4052 - Bridge Drainage Services is responsible for design and review of bridge and highway drainage.
- Org 4053 and 4059 - Bridge Operations Services is responsible for bridge construction liaison with Districts, bridge foundation design, and bridge maintenance inspection.

Impact

- The Bridge Review Branch in Org 4051 is experiencing staff turnover and has difficulty in maintaining review schedules.
- The Bridge Construction Branch in Org 4053 has an overlapping function with engineers in Org 4051, Bridge Design. There is loss of continuity in project knowledge when the project transfers from design to construction.
- The automation of detailing requires more expertise in functions related to the CADD system, while the same automation requires fewer positions.
- There is a high turnover of personnel in the Grade 20 designer positions in the Section; the character of the work in project management requires greater expertise.
- There is a strong need for technical specialists to assist the Section as a whole in computer hardware and software functions.

Recommendation

- Reorganize the Structures Section into a single organizational unit with six sub-functions:
 - Bridge Design Unit I
 - Bridge Design Unit II
 - Bridge Design Unit III
 - Bridge Drainage Services
 - Bridge Technical Services
 - Bridge Management Services
- Combine the current functions of bridge review, bridge design, and bridge construction into three equal Bridge Design Units as Bridge Design Services.
- Combine Drainage review functions in one unit by transferring two similar positions in Statewide Project Management Section.
- Upgrade the Bridge Detailer II positions to Grade 18 and assign more duties and responsibilities.
- Reorganize the Technical Support Branch and the Bridge Foundation Branch into a new Bridge Technical Services, and increase technical capabilities.

New staffing for each unit:

- | | | |
|--|-----------------------------|-------|
| • Bridge Design Service -
(3 equal units) | 1 Bridge Engineer II supv. | Gr 23 |
| | 4 Bridge Engineer I | Gr 22 |
| | 3 Bridge Designer | Gr 20 |
| | 3 Bridge Design Technician | Gr 18 |
| • Bridge Drainage
Services - | 1 Bridge Engineer II supv. | Gr 23 |
| | 3 Bridge Engineer I | Gr 22 |
| | 4 Bridge Drainage Designer | Gr 20 |
| | *1 Bridge Engineer II | Gr 23 |
| | *1 Bridge Drainage Designer | Gr 20 |

*These positions are to transfer from SPMS to Structures Section

• Bridge Technical Services -	1 Bridge Engineer II supv.	Gr 23
	2 Bridge Engineer I	Gr 22
	1 Brg. Foundation Engineer	Gr 22
	1 Bridge Designer	Gr 20
	2 Trans. Engr. Specialists	Gr 20
• Bridge Management Services	1 Bridge Engineer III	Gr 24
	5 Bridge Engineer I	Gr 22
	5 Bridge Inspection Tech.	Gr 15
	1 Bridge Detailer	Gr 15

Benefit

- Combining the bridge review and bridge construction functions with bridge design will improve efficiency, reduce turnover, and will provide for "cradle to grave" project continuity.
- The reorganization reduces layers of management and increases span of control.
- Combining drainage functions from SPMS will result in more efficient use of existing resources and will strengthen the function sufficiently to provide all design review and scour evaluation.
- The use of automated detailing with enhanced staff capabilities will improve production of drawings.
- Seven fewer Grade 20 positions along with a modest increase of 3 Grade 22 positions will reduce turnover problems, improve morale and provide advancement opportunities.
- The reclassification of detailers from Grade 17 to Grade 18, along with an overall reduction of two positions, results in only about \$1,400 in increased costs.
- The overall reduction of 9 FTE's results in an approximate savings of \$233,400. Additional ERE @ 30% adds \$70,000 for a total estimated savings of \$303,400.

#35 - HIGHWAYS DIVISION - TECHNICAL TRAINING

Current Situation

There currently exists a lack of coordinated technical training in the Highways Division. ADOT has been using Central Arizona College (CAC) for Basic and Advanced equipment operator training classes (\$273,219 - 7/91 to 11/92). Engineering districts have been performing technical and safety training on an "as needed" basis without regard to overall departmental needs.

Impact

- ADOT staff in the Districts are not receiving consistent, current, up-to-date technical training in a manner which is customer friendly
- ADOT does not have a documented, quality, equipment operator training program
- There is a demonstrated lack of technical and safety training occurring
- Mandatory training requirements are frequently met with inappropriate training courses
- There is a lack of in-house, trained technical instructors
- Frequently, training courses are available only in the Phoenix area
- There is an increased potential for lawsuits and accidents due to a lack of technical/safety training
- Costs of training are considerably increased by requiring district staff to travel to Phoenix rather than training staff traveling to districts
- The validity of existing technical training programs, or the cost of not having new/necessary technical training is not currently evaluated

Recommendation

ADOT needs to focus resources on providing a quality, consistent technical training program for the Highways Division by:

- Establishing in policy that technical training for Division staff is the responsibility of the State Engineer
- Creating a formal, statewide technical training program by establishing the Technical Training Service under the direction and control of the State Engineer's Office
- Identifying the funding source and percentage of federal funds that should flow through the Technical Training Service to be used specifically for technical training
- Creating a Training Officer III position to manage the daily functions of the service
- Creating a Training Officer II position to develop and implement an in-house Subject-Matter-Expert Technical Instructor training program (Train-The-Trainer). This position requires an expert on curriculum development and instructor techniques
- Having the Technical Training Service manager evaluate the effectiveness of District and Equipment Services Training Officer positions
- Creating 2 Training Officer I positions (contract only) to conduct basic and advanced equipment operator training (on-site in the Districts) and eliminate the Central Arizona College training program. These positions should provide "expert" on-the-job training to potential operators
- Create 2 Training Specialist (contract - if necessary) positions to develop and coordinate various technical training programs (ex: NICET, etc.)
- All Training Officer I's in the Highways Division (4 in districts and 2 in Equipment Services) should report directly to the Technical Training Service Manager
- Increase utilization of local community college participation in Highway Division training programs.

Benefit

- ADOT will have a standardized and comprehensive technical training

program to meet Division specific training needs

- Training costs should be reduced by having technical training provided by "traveling" subject-matter-experts
- Technical training courses will increase in number and be more directly related to job specific applications
- Improved utilization of Equipment Services and District Training Officers
- The Highways Division will have a centralized, coordinated assessment of Division/District/Section technical training needs
- Improved technical training will increase the life/usability of ADOT equipment due to a comprehensive training program focusing on operation and maintenance of equipment.

Costs/Savings

- The creation of 6 new FTEs is estimated to cost (with ERE) \$231,939. This is a "high" estimate due to utilizing "contracts" to provide expert trainers rather than ADOT employing full-time trainers.
- The total elimination of the CAC contracts would result in an approximate \$41,000 savings (with the creation of new FTEs) to provide more and better training than CAC now provides.

BULLET POINTS ISSUES

The following items have been identified as areas for potential study by internal ADOT Quality Improvement Teams:

1. Project Management Concept: ADOT should organize its Highways Division under a Project Management philosophy. This concept would ensure that one individual - a project manager - has cradle-to-grave responsibility for ADOT projects. The concept will necessitate maintaining a certain number of functional silos, which will be responsible for providing the internal expertise needed by the project managers to draw on as required (this concept is currently being developed jointly by Project SLIM and the ADOT Highways Division).
2. Privatization/Reliance On Consultants: ADOT should develop a formal model to assist management in determining when to contract out a particular service and when to do it in-house. It appears that the decision to contract out is sometimes based on whether or not employees like or dislike certain tasks, and not necessarily on cost-effectiveness. It is not apparent whether a decision to contract out a service formerly done in-house is captured as a savings in FTE reductions, allows for other work to be done, or merely reduces the workload of the people formerly doing that activity.

Another issue related to contracting out for services concerns the reliance by ADOT on the engineering consultant community. A paradox exists here because we frequently hear in our interviews that ADOT must keep a core group of engineers in order to maintain needed expertise within the Agency. At the same time, however, we often hear concerns expressed about having to "wean ourselves off" the consultants, and about not having the expertise to do certain jobs without the consultants. This suggests that ADOT does not have the expertise in certain areas to begin with, so maintaining expertise in those areas is not the central issue. The issue appears to be deciding whether to build the expertise internally or to contract out to organizations already possessing that expertise.

3. Engineering/Technical Expertise vs. Managerial/Leadership Expertise: The overwhelming majority of managers within the Highways Division are professional engineers. The orientation and skills necessary to succeed as an engineer, such as specialization, detail-orientation, and a methodical nature can sometimes conflict with the skills necessary to be an effective leader (wide vision, flexibility, delegation, motivation, etc.) , particularly in a TQM

environment.

4. The Agency's Ability To Effectively Manage The Current Level Of QPI Activity: ADOT has at least 64 Quality Teams analyzing approximately 300 issues. This may be an excessive amount given the communication and coordination problems that have surfaced; the drain on employee time and productivity; and the difficulty some teams are having implementing recommendations.

Through our working relationship with 8 of these internal teams, we have identified some of the relative strengths and weaknesses of external teams (SLIM, Ernst & Young, etc.) vs. the internal QPI teams. The internal teams have an advantage over an external group in identifying and flow charting major processes, and gathering feedback from internal customers regarding obstacles to improvement. An external team appears to be superior in the areas of gathering input from outside customers and constituencies; recommending alternative structures, processes, and missions; quantifying dollar savings resulting from recommendations; and implementing recommendations through internal teams (Note: ADOT is currently addressing the coordination and communication problems of the internal teams described here).

5. Asset Utilization: The District One (metro Phoenix) Equipment Services vehicle maintenance facility is substantially under-utilized. The facility contains two buildings with a total of 40 vehicle bays, and only one 8 hour shift is run. We believe this facility has the potential for becoming a central maintenance point for all state government vehicles in the Phoenix metropolitan area. There is currently a separate cross functional OEG/ADOT/DOA team reviewing this subject.
6. Self-Imposed Service Levels: The team has identified a tendency by ADOT to impose service levels on itself that exceed the norm, particularly in light of the fact that the Federal Highway Administration (FHWA) does not mandate any specific levels of service in regard to the frequency of services provided. Examples of this are in the areas of lab inspections, materials testing, and inspections of construction sites.
7. Fragmentation of Automation Systems: Our review of ADOT has revealed a multitude of computer systems operating which cannot communicate with one another, and which do not appear to be part of any master automation plan (FAST, EMS, PECOS, CMP, TRACS, etc.). Another area of concern is the pattern of recruiting under-qualified people to work with automation systems,

providing them with on-the-job training - rather than hiring someone with the needed expertise.

8. Policing of Overweight Intra-state Trucks: ADOT engineers indicate most of the damage to our road system is done by trucks, particularly those which are operating in excess of the legal weight (one overweight truck can result in the same amount of wear and tear on the road as 10,000 cars). Most of the enforcement against overweight trucks is done at the ports-of-entry, which affects primarily interstate trucks. We believe there could be significant savings in highway maintenance costs if the Department of Public Safety made a concerted effort to cite overweight intrastate trucks operating on Arizona's highways. This enforcement activity should be tied to ADOT's road assessments to determine which areas are being impacted more than others.
9. Decentralization/Empowerment to Districts: We believe improvements to Agency effectiveness will come from pushing down authority in the Division to the District Engineer level and lower where applicable. The current "State Office" programs, which serve as the centralizing force, need to be renamed to symbolize more precisely their true function - to provide technical and general support to field operations.
10. Image of ADOT: For a variety of reasons, ADOT is laboring under a public image problem today. We suggest that the agency utilize its internal PR capability (videos, publications, presentations, etc.) to help counter this public perception. Public Service Announcements (PSAs) should be produced showing the value-added work of highway workers, snowplow drivers, engineers checking bridges for structural damage related to flooding, etc. The campaign could build on the "Highway Workers - Give Them a Brake" campaign ADOT currently uses.
11. Consolidate and reduce the number of orgs. statewide where appropriate
12. Appropriate personnel classifications - Reclassify personnel division-wide to their appropriate job classification
13. Overtime/backlogs - Review overtime/backlogs for systems improvements
14. Contracting levels vs FTE levels - Review benefits and related costs
15. Isolated camps - Review for elimination

16. Life cycle costs - More emphasis in the development phase
17. Roadside Development - rest areas: fewer & more appropriate design
18. Landscaping - Consider numbers and types of plants during design phase
19. District 1 - Contract out all of maintenance (pilot)
20. Cost benefit analysis of landscaping in district 1 (ADOT says 25% less for them)
21. Selected rest areas for privatization (revenue enhancement)
22. Consider maintenance costs/construction during design phase
23. Labs - unnecessary tests/duplication/ outside inspections
24. Quality Assurance Program - Under review
25. Increase privatization of testing
26. Accident reports should be checked for completeness prior to microfilming to eliminate rework.
27. Establish a DUIT team to study work performed by Transportation Engineer Specialist in Traffic Electrical Design to determine if Engineer should be required for the position.
28. Annual Road Assessment - Review for validity, subjectivity, continuity, and duplication.
29. Blue Stake Process - Consider partnering with Blue Stake centers to reduce unnecessary inspection requests
30. Permits - Explore feasibility of charging for all permits
31. Billboards/sign revenue (increase)
32. Partner with law enforcement jurisdictions to get complete accident reports the first time.

33. Equipment utilization - Office equipment, vehicle to FTE ratio, etc.
34. Land Leases - Review for possible sale/rental increase
35. Use of prison labor - Explore feasibility of expanding use of prison labor (Signs/labor intensive activities/locations)
36. Contracts
 - New contracts should contain flexibility to add newly completed miles
 - Cost-benefit model for contracting vs. in-house processes/
 - Expand contracting - systematically analyze for new opportunities (signing, for example)
37. Provide staff authority to go along with responsibility.
38. Increase utilization of video/conference calls to reduce travel time, expenditures, etc..
39. Modify hard hat requirement - Limit wearing requirement to overhead work only
40. "Pima" system analysis - Review for expansion/cost effectiveness
41. Procurement - cost of buying on vs. off contract (vendor not available locally)
42. BTS forms, etc. - eliminate duplication of PECOS
43. Expand re-cycling and salvage of items sitting in maintenance yards
44. Investigate value of bi-weekly vehicle reports
45. Exclude up to 1%-5% of maintenance budget from reversion to general HURF fund
46. Review arbitrary cap of maintenance budget
47. Measurement of field maintenance quality of work - Establish a measurement for quality of maintenance work
48. Centralize ADOT technical library services

49. Adjust required site visit for water/waste water facilities
50. Lost materials report - Monitor dollar amount of loss
51. Decentralize permits to districts
52. Trainers should be "hands-on" experts to provide training-not merely administrators
53. Mandatory Training - Require/provide job specific technical training for district staff
54. Billing process - requisitions and supplements by orgs
55. Higher level of authority to Area Engineer/Maintenance Superintendent
56. Drop ship large orders (possibly all) of traffic signals
57. Buy common items locally
58. Make all ISG/JCL printouts by request only
59. Cross train signing & striping people to operate snow plows (review pay grades)
60. DPS - Training to DPS will reduce/eliminate unnecessary call outs of ADOT staff
62. Put traffic engineering into districts
63. Inter-governmental Agreements - Review inter-governmental agreements with cities and counties to maintain roads (does ADOT need this road/agreement?)
64. Establish standardized specifications - (ie) Establish 1 type of guardrail to be used until the year 2000 then upgrade to latest. Consistent as possible
65. Improve hiring process - Empower local units to hire more quickly
66. Cross train Information Processing Specialists to work on all (DPS, local, county and fatality) reports and mail procedures.
67. Establish feasibility of contracting out a portion (or all) of Photogrammetry

Services

68. Review feasibility of utilizing portable (one-man) Global Positioning Technology to reduce the size and cost of survey teams.
69. Develop a system (either a billing or a reporting system) to create an awareness within ADOT of the expenses attached to using the aircraft.
70. Create a revenue flow through marketing ADOT aircraft as a passenger service to State Government. Will increase usage rate of both aircraft.
71. Provide total quality and manager training for those in supervisory positions.
72. Eliminate ADOT-provided housing where private sector housing is available within a reasonable radius.
73. Hold consultants to ADOT standards, eg., use same signing with consultants as does Traffic Engineering Section. ADOT Engineering Records can supply these to consultants on disk. Subcontractors are not always aware of this resource availability.
74. Update computers in Records for on-line corrections quickly and to flag locator problems, based on user input and construction experts.
75. Need to review Project Assessments (PA) for accurate costs and determine if work is to be done in-house or by consultant.
76. ADOT Transportation Planning Division (TPD) should utilize CLOSE reports (high accident areas) to help establish priority for funding, not just depend on funds from Highway Safety Fund, RR program and ISTEA Safety monies to address those areas.
77. Each new construction project should have a Highway Safety Analysis done for traffic flow at PA stage.
78. Cross train Information Processing Specialists with Research & Statistics Analysis Team.

ADOT SUMMARY OF RECOMMENDATION TITLES AND SAVINGS

Exhibit #1

Title	Funding Source *	Revenue		Cost Avoidance		Cost Reduction	Cost Increase		Sys Chngs Req	Law Chngs Req	Rule Chngs Req	Rec Comp Date
		Non-recur	Annual	Non-recur	Annual	Annual	Non-recur	Annual				
ORGANIZATION RECOMMENDATIONS												
EQUIPMENT SERVICE 3												
1 Preventive Maintenance Scheduling	E											01/01/94
2 Equipment Management Systems	E					1,700,000	522,000		X			07/01/94
3 Veeder Root/Cardlock Systems	E											07/01/96
4 Equipment Surplus/Obsolete Parts	E			100,000		50,000						Implmntd
5 Major Equipment Rebuilds	E				25,000							Implmntd
6 Motor Pool Replacement Policy	E			202,000								Implmntd
7 Equipment Replacement Policy	E											01/01/94
8 New Car Get-Ready	E											10/01/93
RIGHT-OF-WAY												
9 Corridor/Alignment Participation	C					419,000						07/01/94
10 Commitment to 5-Year Plan	C											10/01/93
11 Ltd Change Orders After 30% Phase	C					405,000						10/01/93
12 Policy for Privatization/Consultant Use	C					55,000						10/01/93
13 Limited Advance Acquisition	C					2,900,000						01/01/94
14 Statute Chngs/Acquisition & Disposal	C		179,000	19,400,000		13,000				X		07/01/94
15 Recovery of Incurred Costs	C											10/01/93
16 Combined Consultant Use for Plans	C				236,000							10/01/93
17 Property Management Privatization	C											10/01/93
18 Right-of-Way QPI Team	C					248,000						07/01/94
TRAFFIC ENGINEERING												
19 In-House Traffic Control Design	C					300,000						07/01/95
20 Studies and Data Collection to Districts	C											01/01/94
21 Traffic Engineering Section	C											01/01/94
22 Environmental Clearance Process Team	C				619,000							01/01/94

ADOT SUMMARY OF RECOMMENDATION TITLES AND SAVINGS

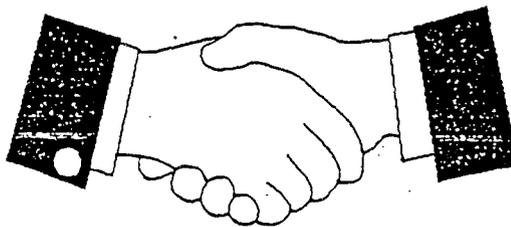
Exhibit #1

Title	Funding Source *	Revenue		Cost Avoidance		Cost Reduction	Cost Increase		Sys Chngs	Law Chngs	Rule Chngs	Rec Comp Date	FTE Reductions		TL	FTE Additions	
		Non-recur	Annual	Non-recur	Annual	Annual	Non-recur	Annual	Req	Req	Req		Filled	Vacant			
ORG STRUCTURE/STAFFING																	
23 Highway Division Macro Structure																	
24 Equipment Services Section	E					691,000						01/01/94	4	22	26		
25 Urban Highways Consolidation Team	C					1,500,000						01/01/94	9	0	9		
26 Material Sections	A					494,000						01/01/94	5	8	13		
27 Right-of-Way Section	A					583,000						01/01/94	13	5	18		
28 Construction Section	C											01/01/94	0	0	0		
29 Construction Staffing	C	140,000				5,010,000						01/01/94	69	65	134		
30 Construction "Shelf" Positions	C											01/01/94	0	492	492		
31 Traffic Operations	C					150,000						01/01/94	2	3	5		
32 Districts 1-4 Vacancy Savings	A,M					367,000						10/01/93	0	14	14		
33 Traffic Engineering	A							231,000				10/01/94	6	3	9	17	
34 Structure Section	A					303,000						01/01/94	0	9	9		
35 Divisional Technical Training	C					273,000		232,000				07/01/94	0	0	0	6	
TOTAL:													108	621	729	23	
TOTAL ANNUAL:			179,000		882,000	15,461,000		463,000									
TOTAL NON-RECURRENT:		140,000		19,702,000				522,000									

- * Funding Sources
A - Administration
C - Construction
E - Equipment Revolving Fund
M - Maintenance

Totals:	
Annual Cost Reduction:	15,461,000
Cost Avoidance:	20,584,000
Revenue:	319,000
Cost Increase:	(985,000)
GRAND TOTAL:	35,379,000

PARTNERING AGREEMENT



Aug. 20, 1992

Project SLIM/ADOT Highways Division Assessment

Mission Statement

We are committed to promote joint ownership of an implementable plan for improving the efficiency and effectiveness of the Highways Division. This will be done in an open, honest, and consistent environment, while maintaining current levels of service.

- o Complete in accordance with planned schedule. Time frame to be determined by September 15th.
- o Recognize and respect all "players."
- o Deliver requested information based on mutually agreed timeframes.
- o Mutually agree on current processes and fully discuss improvement alternatives.
- o Follow agreed escalation process for conflict/issue resolution.
- o Jointly agree on how we will interface with all quality and productivity initiatives.
- o Employ meaningful measurement methods to quantify benefits.

Bill Marston
Ernie [unclear]

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Gary K. Robinson

Cheri Eglund

Joni Greene
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Dan Hart

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Cheryl Steen
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ISSUE RESOLUTION LADDER
ADOT HIGHWAY'S DIVISION

ADOT OPERATIONS	SLIM	ADOT DEVELOPMENT	ADOT EQUIPMENT SERVICES
Chuck Cowan (7226) 24 hours	Gov. Symington Don Ulrich (4331)	Chuck Cowan (7226)	Chuck Cowan (7226)
Gary Robinson (7391) August Hardt (8274) 24 Hours	David St. John Rick Van Mell (C&L) (7546)	Gary Robinson (7391) Bob Mickelson (7384)	Gary Robinson (7391)
Asst. SE & DE's ADE's & ASSTs. Forstie (7286) Powell (7381) Gentemen (774- 1491) Schmitt (620- 5412) Judd (455-5391) Warne (7323) Collins (7410) 24 Hours	David St. John Mel Litzenberger (C&L) (7546)	Asst. SE & DE's ADE's ASSTs., SM's. Saxton (7707) Langer (7545) Louis (7711) Davis (7481) Helmandollar (7315) Hatton (7766)	Jerry West (6500) Pat Sendelweck (6500)
Staff 48 Hours	Rick Marcum Cheryl Steenerson Ellen Damron Roger Andrus (7546)	Staff	Staff

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
1	Cheryl Eglund	Mgr., Hwy Mgmt. & Budget Off.	08/17/92	X		X	X		Phoenix
2	PREPARTNERING	MEETING	08/18/92			X			Phoenix
3	PARTNERING SESSION	MEETING	08/20/92	X		X	X		Phoenix
4	Gary Robinson	State Engineer	08/25/92	X	X	X	X		Phoenix
5	Jerry West	Mgr., Equip. Svcs.	08/25/92	X	X	X	X		Phoenix
6	Dan Powell	Dist. Eng., Dist. 1	08/25/92	X	X	X	X		Phoenix
7	Bob Mickelson	Hwy. Dev., Dep. St. Eng.	08/26/92	X	X	X	X		Phoenix
8	Chuck Cowan	Director, ADOT	08/26/92			X			Phoenix
9	August Hardt	Hwy Ops., Dep. St. Eng.	08/27/92	X	X	X	X		Phoenix
10	Tom Warne	Asst. St. Eng., Const.	08/27/92	X	X	X	X		Phoenix
11	Wayne Collins	Asst. St. Eng., Maintenance	08/28/92	X	X	X	X		Phoenix
12	Larry Langer	Asst. St. Eng., Urban Hwys	08/28/92	X	X	X	X		Phoenix
13	Dan Davis	Transportation Budg. Eng.	08/28/92	X	X	X	X		Phoenix
14	Dave Schmitt	Exec. Asst., St. Eng.	08/31/92	X	X	X	X		Phoenix
15	Dallis Saxton	Asst. St. Eng., Design	08/31/92	X	X	X	X		Phoenix
16	Bob Helmandollar	Chief Agt., Right-of-Way	09/01/92	X	X	X	X		Phoenix
17	Doug Forstie	Asst. St. Eng., Materials	09/01/92	X	X	X	X		Phoenix
18	Roger Hatton	Asst. St. Eng., Traffic Eng.	09/02/92		X	X	X		Phoenix
19	Jack DeBaiske	MAG Maricopa Assoc. of Govts	09/02/92		X	X	X		Phoenix
20	Jim Creedon	Dep. Dir., ADOT	09/03/92		X	X	X		Phoenix
21	Pat Sendelweck	Mgr., Fleet Management	09/03/92		X	X	X		Phoenix
22	Tom Swanson	PAG Pima Assoc. of Govts.	09/04/92		X	X	X		Tucson
23	Rick Genteman	Dist. Eng., Dist. IV	09/08/92			X	X		Flagstaff
24	Suzanne Sale	Asst. Dir., Admin. Svcs.	09/09/92		X	X	X		Phoenix
25	John Louis	Asst. St. Eng., Locations	09/11/92		X	X	X		Phoenix
26	Tom Schmitt	Dist. Eng., Dist. II	09/11/92		X	X	X		Tucson
27	Transp. Board	Meeting	09/17/92			X	X		Phoenix
28	Ray Ellis	ADOT Exec. Asst.	09/17/92		X	X	X		Phoenix
29	Jim Judd	Dist. Eng., Dist. III	09/21/92		X	X	X		Phoenix
30	Larry Chavez	Transp. Board Member	09/22/92			X	X		Phoenix
31	Janice Burnett	Az. Consult Eng. Assoc	09/22/92				X		Phoenix
32	Linda Brock-Nelson	Transp. Board Member	09/23/92			X	X		Phoenix
33	Coleen Culver	ADOT Purchasing	09/25/92		X				Phoenix
34	Theresa Foster	E.S. Environ. Mgr.	09/28/92		X		X		Phoenix
35	Emily Odonnell	E.S. Executive Asst.	09/28/92		X		X		Phoenix
36	Harry Reed	Asst Dir., ADOT TPD	09/28/92		X	X	X		Phoenix
37	Pete Christenson	E.S. Accounting	09/29/92		X	X	X		Phoenix
38	Carol Montgomery	E.S. Exec. Secty.	09/29/92		X	X	X		Phoenix
39	Priority Planning Comm.	Meeting	09/29/92		X		X		Phoenix
40	Richard Mow	E.S. Equip. Mnt. Coord.	09/30/92		X	X	X		Phoenix
41	Mary Ann Pikulas	E.S. Equip. Billing Mgr.	09/30/92		X	X	X		Phoenix
42	Bob Faye	E.S. EMS Manager	09/30/92		X	X	X		Phoenix
43	Dan Sagamosa	Maricopa Cty Transp. Dir.	10/01/92		X	X	X		Phoenix
44	Tom Buick(concurr.)	MAG Engineer	10/01/92		X	X	X		Phoenix
45	Lela Steffie	State Representative	10/01/92		X	X	X		Phoenix
46	Sharon Megdal	Transp. Board Member	10/02/92		X	X	X		Tucson
47	Jim Matteson	Phx. St. Plan. Director	10/05/02		X		X		Phoenix
48	Phil Gagle	Az. Rock Products Assoc.	10/05/92		X				Phoenix
49	Gary Robinson et al	Meeting	10/07/92		X			X	Phoenix
50	Tim Boncoskey	Gov. Budgeting Office	10/09/92		X			X	Phoenix
51	John McCabe	Shop Supervisor, Dist 1	10/09/92		X				Phoenix
52	Pete Corpstein	Former Legislator	10/09/92		X				Phoenix
53	Jean Szeman	ADOT Tracs Project Mgt.	10/13/92		X				Phoenix

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY Category: meeting, presentation, etc.	DATE	TEAM MEMBER					LOCATION City
				RA	ED	RM	CS	JH	
54	Chuck Taylor	EMS Trainer	10/13/92		X				Phoenix
55	Mike Lopker	City of Phoenix Fleet Mgr.	10/13/92		X	X	X	X	Phoenix
56	Fritz Hendricks	EMS Programmer	10/14/92		X				Phoenix
57	Dave Berry	V.P. Swift Transp.	10/14/92			X		X	Phoenix
58	Russ Thompson	Fleet Mgr. Swift Transp.	10/14/92			X		X	Phoenix
59	Jim Macier	EMS Acctg. Tech.	10/14/92		X				Phoenix
60	Sgt. Frank Heeley	DPS Fleet Mgt.	10/15/92		X				Phoenix
61	Roy Rudy	Dist. Equip. Mgr., Dist IV	10/16/92			X		X	Flagstaff
62	John Trojanovitch	Dist. Equip. Mgr., Dist II	10/16/92				X		Tucson
63	Roger Soden	Equip Shop Supervisor	10/16/92		X				Globe
64	James Boehm	Mechanic, ES Dist. II	10/16/92		X				Globe
65	Chris Marin	Mechanic, ES Dist. II	10/16/92		X				Globe
66	Burt Williamson	Mechanic, ES Dist. II	10/16/92		X				Globe
67	Blas Madrid	Mechanic, ES Dist. II	10/16/92		X				Globe
68	Robert Pastor	Mechanic, ES Dist. II	10/16/92		X				Globe
69	Charles Willis	Mechanic, ES Dist. II	10/16/92		X				Globe
70	Alex Romero	Mechanic, ES Dist. II	10/16/92				X		Tucson
71	Kelly Elliott	Mechanic, ES Dist. II	10/16/92				X		Tucson
72	Ron Wood	Parts Exped., ES Dist. II	10/16/92				X		Tucson
73	Max Canez	Clerk Typist, ES Dist. II	10/16/92				X		Tucson
74	Leon Garlinghouse	Shop Supv., ES Dist. II	10/16/92				X		Tucson
75	Larry Presnall	DEM	10/19/92			X			Prescott
76	Bill Lefevre	Parts Manager	10/19/92			X			Prescott
77	Art Mankel	Mechanic	10/19/92			X			Prescott
78	Ginger Mahan	Secretary	10/19/92			X			Prescott
79	Ed Scott	Shop Foreman	10/19/92			X			Prescott
80	Randy Carman	City of Phoenix	10/19/92		X				Phoenix
81	Dick Van Allen	Prog. & Project Spec. I	10/20/92		X				Phoenix
82	Randy Frost	Surplus Prop. Admin, DOA	10/21/92				X		Phoenix
83	ADOT QPI Senate	Presentation	10/22/92			X			Phoenix
84	Linda Block	Secretary, Es Dist. II	10/23/92				X		Tucson
85	Bob Gallus	Auditor, ADOT	10/26/92			X			Phoenix
86	Gary Robinson et al	Meeting	10/27/92			X			Phoenix
87	John Aguilar	Shop Supv., Dist. I	10/27/92	X				X	Phoenix
88	Grace Davis	Nevada DOT	10/28/92		X				Phone Interview
89	ADOT Quality Action Team	Meeting	10/29/92	X	X	X	X	X	Phoenix
90	C. Davis	EMS Admin. Asst. II	10/29/92		X				Phoenix
91	C. Mullins	Data Entry, ES	10/29/92		X				Phoenix
92	Monica Garcia	EMS Clerk Typist II	10/30/92		X				Phoenix
93	Claudia Harvey	Info. Proc. Spec. III	10/30/92		X				Phoenix
94	Mary Ann Holder	City of Phoenix	10/30/92				X		Phoenix
95	Howard Miller	Cal-Trans.	10/30/92		X				Phone Interview
96	Bob Miller ADOT Consultant	Meeting	10/30/92			X			Phoenix
97	Dallis Saxton, Design Sect.	Meeting	10/30/92			X			Phoenix
98	Gloria Shaw	ES PPS I	11/02/92		X				Phoenix
99	Irma Ojeda	ES PPS I	11/02/91		X				Phoenix
100	Beverly Balderrama	Clerk Typist II	11/02/92		X				Phoenix
101	Les Jester	Utah DOT	11/02/92		X				Phone Interview
102	Tom Luther	Oregon DOT	11/02/92		X				Phone Interview
103	Dave Vega	Mechanic, Dist I	11/02/92	X					Phoenix
104	Curtis Williamson	Equipment Shop Supv., Dist I	11/02/92	X					Phoenix
105	Rick Bayer	Equip Shop Supv., Dist I	11/02/92	X					Phoenix
106	Dale Doolittle	Mechanic, Dist.I	11/02/91	X					Phoenix

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
107	Dave Farnsworth	Washington DOT	11/03/92		X				Phone Interview
108	Gene Simmons	Trainer, ES Dist I	11/04/92	X					Phoenix
109	Mary Monroe	Trainer, ES Dist I	11/04/92				X		Phoenix
110	Richard Chard	Trainer, ES Dist. I	11/05/92		X				Phoenix
111	Glynn Condit	Trainer, ES Dist. I	11/05/92	X					Phoenix
112	Anthony Padilla	Scale Repairman, ES	11/05/92	X					Phoenix
113	Dennis Kasl	Mgt. Anlyst II, ES	11/09/92	X					Phoenix
114	Donald Hardegan	Spec. Writer, ES	11/09/92	X					Phoenix
115	Michael Signa	Spec. Writer, ES	11/09/92	X					Phoenix
116	Raymond (Ande) Lange	Mechanic, ES Dist. I	11/09/92	X					Phoenix
117	Steve Roller	Mechanic, ES Dist I	11/10/92	X					Phoenix
118	Frank Mazza	Electrical Specialist, ES Dist I	11/10/92	X					Phoenix
119	Carmello Tellez	Mechanic, ES Dist. I	11/10/92	X					Phoenix
120	Gary Walter	Shop Supv., ES Dist I	11/10/92	X					Phoenix
121	Mike Mandt	ADOT Procurement	11/23/92				X		Phoenix
122	Don Lehman	Assist. Dist. Eng--Dist 1	12/03/92	X	X	X	X	X	Phoenix
123	Benny Jacobo	Hwy Maint Supv	12/08/92	X	X	X	X	X	Phoenix
124	Lake Rhopes	Crew Supervisor I	12/08/92	X	X	X	X	X	Phoenix
125	Jack McCracken	Traf S/L Tech II	12/08/92	X	X	X	X	X	Phoenix
126	Ed Newkirk	Hwy Maint Supv	12/09/92	X	X	X	X	X	Phoenix
127	Karl Freienmuth	Hwy Maint Tech III	12/09/92	X	X	X	X	X	Phoenix
128	Earl Thurston	Hwy Maint Tech II	12/09/92	X	X	X	X	X	Phoenix
129	Bruce Purrier	Dist Maint Engineer	12/10/92	X	X	X	X	X	Phoenix
130	Sam Maroufichani	Traf Eng Supv	12/11/92	X	X	X	X	X	Phoenix
131	Ed Tafoya	Maintenance Superintendent	12/11/92	X	X	X	X	X	Phoenix
132	Bob Harris	Traf Eng Specialist	12/14/92					X	Phoenix
133	BPI Scoping	Meeting	12/15/92			X			Phoenix
134	BPI Right of Way	Meeting	12/16/92			X			Phoenix
135	QPI Traffic Engineering	Meeting	12/17/92				X		Phoenix
136	Dan Galvin	Public Information Officer	12/18/92			X			Phoenix
137	Dan Powell et al	Presentation	12/22/92			X			Phoenix
138	Jim Creedan	Meeting	12/23/92			X			Phoenix
139	Governor Symington	Presentation	01/06/93			X			Phoenix
140	QPI Traffic Engineering	Meeting	01/06/93				X		Phoenix
141	Tim Wolfe	Meeting	01/07/93	X			X	X	Phoenix
142	Tom Schmitt et al	Meeting	01/11/93	X		X		X	Tucson
143	District II Interface Team	Meeting	01/11/93	X		X		X	Tucson
144	Senate Staff	Presentation	01/13/93			X			Phoenix
145	Jack Wood	Admin. Service Officer	01/13/93	X				X	Phoenix
146	Bruce Purrier	ADE	01/14/93				X		Phoenix
147	Cheryl Eglan et al	Meeting	01/19/93				X		Phoenix
148	House Approps Committee	Presentation	01/19/93			X			Phoenix
149	Rod Curtis	Meeting	01/20/93				X		Phoenix
150	Senate Appops Committee	Presentation	01/20/93			X			Phoenix
151	Jim Dorre et al	Meeting, District III	01/21/93	X		X			Prescott
152	District III Interface Team	Meeting	01/21/93	X		X			Prescott
153	Represetative Schweikert	Meeting	01/21/93			X			Prescott
154	QPI Senate	Meeting	01/21/93				X		Phoenix
155	Kent Cairns	Meeting	01/22/93				X		Phoenix
156	Representative Overton	Presentation	01/22/93			X			
157	Erv Boren et al, District IV	Meeting	01/25/93	X		X			Flagstaff
158	District IV Interface Team	Meeting	01/25/93	X		X			Flagstaff
159	QPI Traffic Engineering Team	Meeting	01/26/93				X		Phoenix

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
160	Structure Interface Team	Meeting	01/26/93	X		X	X	X	Phoenix
161	Rick Genteman	Meeting	01/27/93	X			X	X	Phoenix
162	Doug Forstie	Materials Section Manager	01/28/93	X				X	Phoenix
163	Tom Warne	Meeting	01/28/93	X		X	X	X	Phoenix
164	Gary Robinson et al	Meeting	02/01/93	X		X	X	X	Phoenix
165	Tom Warne	Meeting	02/02/93			X			Phoenix
166	Jamal Sarsam	Constr. Analysis Manager	02/03/93					X	Phoenix
167	Jane White	Community Activist	02/03/93	X		X		X	Phoenix
168	Sen. Bev Hurman	Meeting	02/03/93			X			Phoenix
169	Structures Team	Meeting	02/04/93	X		X	X	X	Phoenix
170	District I Interface Team	Meeting	02/05/93	X		X	X	X	Phoenix
171	Dan Powell	Meeting	02/05/93	X		X	X	X	Phoenix
172	Larry Jameson	Maint. Org. Supervisor	02/08/93			X			Little Antelope Camp
173	Keith Wallace	Maint. Tech. II	02/08/93			X			Flagstaff
174	Joe Watkins	Maint. Tech. I	02/08/93			X			Flagstaff
175	Michael Brunner	Maint. Tech. I	02/08/93			X			Flagstaff
176	Dewey Bowles	Maint. Tech. I	02/08/93			X			Flagstaff
177	Brett Meachum	Highway Maint. Worker	02/08/93			X			Flagstaff
178	Mike Gutzwiller	Tech. III	02/08/93			X			Flagstaff
179	Larry Purtyman	Tech. II	02/08/93			X			Flagstaff
180	Roger Clarke	Maint. Org. Supervisor	02/08/93				X		Globe
181	Floyd Livingood	Maint. Org. Supervisor	02/08/93				X		Superior
182	Bob Rose	Maint. Tech. III	02/08/93				X		Superior
183	Darrel Meeks	Maint. Tech. II	02/08/93				X		Superior
184	Orin Casa	Maint. Tech. I	02/08/93				X		Superior
185	Josie Valenzuela	Maint. Secretary	02/08/93				X		Superior
186	Clem Hulbert	Maint. Org. Supervisor	02/08/93					X	Payson
187	Ron Wollwine	Maintenance Tech. III	02/08/93					X	Payson
188	Gary Hawley	Maintenance Tech. II	02/08/93					X	Payson
189	John Peltier	Maintenance Tech. I	02/08/93					X	Payson
190	Tom Tanner	Maintenance Tech. I	02/08/93					X	Payson
191	Susie Hought	Maint. Secretary	02/08/93					X	Payson
192	George Trojanovich	Maint. Org. Supervisor	02/08/93					X	Roosevelt
193	Ronnie Speer	Maint. Tech. II	02/08/93					X	Roosevelt
194	Jack Gray	Maint. Org. Supervisor	02/09/93			X			Flagstaff
195	Felix Gabaldon	Maint. Org. Supervisor	02/09/93			X			Cordes Junction
196	Traffic Engineering Team	Meeting	02/09/93				X		Phoenix
197	Ed Hoyt	Maint. Tech.	02/09/93	X					St. David
198	George Ellsworth	Maint. Tech.	02/09/93	X					St. David
199	Jerry Lawson	Maint. Tech.	02/09/93	X					St. David
200	Brandon Judd	Maint. Tech.	02/09/93	X					St. David
201	Lester Jones	Maint. Org. Supervisor	02/09/93	X					Wilcox
202	Wilford Harper	Maint. Tech.	02/09/93	X					Wilcox
203	Tonys Johnson	Maint. Secretary	02/09/93	X					Wilcox
204	Warren Bifulk	Maint. Tech., Striping	02/09/93	X					Dist. II Remote
205	Don Thompson	Maint. Tech., Striping	02/09/93	X					Dist. II Remote
206	Brian Elliott	Maint. Tech., Striping	02/09/93	X					Dist. II Remote
207	Mike Moreno	Maint. Tech. III	02/09/93					X	Casa Grande
208	Richard Gutierrez	Maint. Tech. II	02/09/93					X	Casa Grande
209	John Kainrath	Maint. Tech. I	02/09/93					X	Casa Grande
210	Don Brady	Maint. Tech. I	02/09/93					X	Casa Grande
211	Jack Ashly	Maint. Tech. I	02/09/93					X	Casa Grande
212	Roger Taylor	Maint. Org. Supervisor	02/09/93					X	Coolidge

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Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
213	Jimmy Garcia	Maint. Tech. III	02/09/93					X	Coolidge
214	Traffic Engineering Teams	Meeting	02/10/93				X		Phoenix
215	Ron Martin	Maint. Org. Supervisor	02/11/93				X		Casa Grande
216	Ron Taylor	Maint. Tech. III	02/11/93				X		Casa Grande
217	Marsha	Maint. Secretary	02/11/93				X		Casa Grande
218	Robert Rios	Maint. Tech. I	02/11/93				X		Casa Grande
219	Pete Gonzales	Maint. Tech. II	02/11/93				X		Casa Grande
220	Structures Steering Committee	Meeting	02/12/93	X		X	X	X	Phoenix
221	Steve Hansen	Acquisition Services Manager	02/16/93			X	X		Phoenix
222	Terry Oterness	Highway Plans Services Manager	02/16/93			X	X		Phoenix
223	Ray Jordan	Urban Drainage Services Manager	02/16/93				X		Phoenix
224	Bob Christ	Maint. Permits Manager	02/16/93					X	Phoenix
225	Cliff Taylor	Veget. Mgmt. Services Manager	02/16/93					X	Phoenix
226	Mark Danelowitz	Local Government Services Manager	02/17/93			X	X		Phoenix
227	Brian Rockwell	Appraisal Services Manager	02/17/93			X	X		Phoenix
228	QPI Senate	Presentation	02/18/93			X	X		Phoenix
229	Proj Mgmt Steering Committee	Meeting	02/18/93			X			Phoenix
230	John Lawson	Geotech. Services Manager	02/18/93					X	Phoenix
231	Geaorge Way	Pavement Services Manager	02/18/93					X	Phoenix
232	Don Corum	Materials Testing Manager	02/18/93					X	Phoenix
233	Debra Sykes	Permits Manager, District I	02/18/93					X	Tucson
234	Project Mgmt. Team	Presentation	02/19/93			X			Phoenix
235	Chann Beck	Tech. Support Services Manager	02/19/93				X		Phoenix
236	Learoy Brady	Roadside Development Manager	02/19/93				X		Phoenix
237	Kelly Wood	Permits Supervisor	02/19/93					X	Show Low
238	Sylvia Hanna	Permits Supervisor	02/19/93					X	Tucson
239	Don Hart	Permits Supervisor	02/19/93					X	Safford
240	Randy Blake	Permits Supervisor	02/19/93					X	Prescott
241	Dee Goodwin	Permits Supervisor	02/19/93					X	Kingman
242	Bob Helme-dollar et al	Meeting R/W	02/22/93				X		Phoenix
243	Victor Mendez	Meeting	02/22/93				X		Phoenix
244	QA/QC Materials Team	Meeting	02/22/93	X				X	Phoenix
245	Pete Eno	R/W Ops. Manager	02/23/93			X	X		Phoenix
246	Cal Pepper	P/W Plans Manager	02/23/93			X	X		Phoenix
247	Cecil DeBaca	Maint. Org. Supervisor	02/23/93	X					Kingman
248	George Webb	Maint. Tech.	02/23/93	X					Kingman
249	Nancy Peats	Maint. Secretary	02/23/93	X					Kingman
250	Tom Blanton	Maint. Supervisor	02/23/93	X					Kingman
251	Mark Clark	Area Engineer	02/23/93	X					Kingman
252	Al Trujillo	Maint. Tech., Striping	02/23/93	X					District III Remote
253	John Rowe	Maint. Tech., Striping	02/23/93	X					District III Remote
254	Roger Ladra	Maint. Tech., Striping	02/23/93	X					District III Remote
255	Jack Hays	Maint. Tech., Striping	02/23/93	X					District III Remote
256	Dave Soberly	Maint. Tech., Striping	02/23/93	X					District III Remote
257	Doyle Rowland	Maint. Tech.	02/24/93	X					Wickenburg
258	Lewis Phel	Maint. Tech.	02/24/93	X					Wickenburg
259	Beb Wells	Maint. Tech.	02/24/93	X					Wickenburg
260	Pat Schubert	Maint. Tech.	02/24/93	X					Wickenburg
261	Roger Swick	Maint. Tech.	02/24/93	X					Wickenburg
262	Bill Hayden	Admin. Support Services Manager	02/24/93			X	X		Phoenix
263	Cliff Thomas	CADD Services Manager	02/24/93			X	X		Phoenix
264	Project Management Team	Presentation	02/24/93	X	X	X	X	X	Phoenix
265	John Varning	Permits Manager	02/24/93					X	Flagstaff

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No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
266	David Olivarez	Traffic Ops.	02/25/93	X				X	Phoenix
267	Gary Robinson	Meeting	02/25/93	X		X	X	X	Phoenix
268	Tom Warne	Meeting	02/25/93			X	X		Phoenix
269	R/W Team	Presentation	02/25/93				X		Phoenix
270	Structures Steering Committee	Meeting	02/26/93	X		X	X	X	Phoenix
271	Legislative Hearing, ADOT R/W	Hearing	02/26/93			X	X	X	Phoenix
272	George Way	Pavement Service Mgr.	03/01/93	X					Phoenix
273	Jeff Kramer	Consult. Mgt. Services	03/01/93			X	X		Phoenix
274	Duane Helwig	Right of Way Section	03/01/93				X		Phoenix
275	Traffic Engr. Team	Meeting	03/02/93				X		Phoenix
276	Mike Boyer	Pre-Const. Mgt. Svcs.	03/02/93				X		Phoenix
277	David Alloca	Asst. Dist. Engr. (I)	03/03/93			X	X		Phoenix
278	Dan Lance	Meeting	03/03/93	X				X	Phoenix
279	Traffic Engr. Team	Const. Ops. Svcs.	03/04/93				X		Phoenix
280	Bob Rogers	Const. Ops. Svcs.	03/04/93					X	Phoenix
281	Glen Zwagerman	Maint- Ops. Svcs.	03/04/93					X	Phoenix
282	Ron Talen	Meeting	03/05/93					X	Phoenix
283	Dan Powell	Main- Ops. Svcs.	03/08/93	X				X	Phoenix
284	Steve Mitchell	Materials Section	03/10/93	X					Phoenix
285	Randy Alienstein	Materials Section	03/10/93	X					Phoenix
286	Chris Cooper	Materials Section	03/10/93	X					Phoenix
287	Pete Sivonen	Materials Section	03/10/93	X					Phoenix
288	Dave Ashley	Materials Section	03/10/93	X					Phoenix
289	Don Sailors	Materials Section	03/10/93	X					Phoenix
290	Kenney Roberts	Materials Section	03/10/93	X					Phoenix
291	Hubert Rosenstock	Materials Section	03/10/93	X					Phoenix
292	Nick Piznar	Materials Section	03/10/93	X					Phoenix
293	Kelvin Wang	Materials Section	03/10/93	X					Phoenix
294	Arnulfo DeLaOssa	Materials Section	03/10/93	X					Phoenix
295	Ali Zareh	Materials Section	03/10/93	X					Phoenix
296	Ron Krohn	Materials Section	03/10/93	X					Phoenix
297	Gene Hansen	Materials Section	03/10/93					X	Phoenix
298	Greg Inman	Materials Section	03/10/93						Phoenix
299	Mike Ennefer	Materials Section	03/10/93					X	Phoenix
300	Ed Armijo	Materials Section	03/10/93					X	Phoenix
301	Don Rushton	Materials Section	03/10/93					X	Phoenix
302	Jim Demaree	Materials Section	03/10/93					X	Phoenix
303	Bruce Kay	Materials Section	03/10/93					X	Phoenix
304	Jerry Barte	Materials Section	03/11/93					X	Phoenix
305	Angel Ayala	Materials Section	03/11/93					X	Phoenix
306	Baljeet Chawla	Materials Section	03/11/93					X	Phoenix
307	Bill Russman	Materials Section	03/11/93					X	Phoenix
308	Ron Blackstone	Materials Section	03/11/93					X	Phoenix
309	Bruce Perkins	Materials Section	03/11/93					X	Phoenix
310	Ron Krohn	Materials Section	03/11/93					X	Phoenix
311	Jerry Kessler	Materials Section	03/11/93					X	Phoenix
312	Herman Mozart	Advance Engr. Svc. Mgr.	03/15/93			X	X		Phoenix
313	Dan Davis	Structures Svc Mgr.	03/16/93			X	X		Phoenix
314	Dick Bruesch	Bridge Ops Svc. Mgr.	03/16/93			X	X		Phoenix
315	Bill Belt	Environ. Svcs. Mgr.	03/16/93			X			Phoenix
316	Lowell Heaton	Photogram Svcs Mgr.	03/16/93			X			Phoenix
317	Dennis Amrose	Engr. Surveys Mgr.	03/16/93			X			Phoenix
318	George Lopez-Cepero	Drainage Design Svcs.	03/16/93				X		Phoenix

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No.	PERSON/GROUP	TITLE/CATEGORY Category: meeting, presentation, etc.	DATE	TEAM MEMBER					LOCATION City
				RA	ED	RM	CS	JH	
319	Wayne Collins	Meeting	03/17/93	X				X	Phoenix
320	Traffic Engr. Team	Meeting	03/17/93				X		Phoenix
321	Ron Williams	Materials Section	03/19/93	X					Phoenix
322	Mike Withey	Materials Section	03/22/93	X					Phoenix
323	Env. Planning Team	Meeting	03/23/93			X	X		Phoenix
324	Bob Helmondollar	Mgr. Right of Way	03/23/93				X		Phoenix
325	Julie Burnside	Right of Way Section	03/23/93				X		Phoenix
326	Pete Eno	Right of Way Section	03/23/93				X		Phoenix
327	John Wilson	Right of Way Section	03/23/93				X		Phoenix
328	Benny Flores	Materials Section	03/24/93					X	Phoenix
329	John Lawson	Materials Section	03/24/93					X	Phoenix
330	Ron Frein	Materials Section	03/24/93					X	Phoenix
331	Subodh Kumar	Materials Section	03/24/93	X					Phoenix
332	Harry Lira	Materials Section	03/24/93	X					Phoenix
333	Dan Anderson	Materials Section	03/24/93	X					Phoenix
334	Ross Tenneson	Materials Section	03/24/93	X					Phoenix
335	Jeff Faulkner	Materials Section	03/24/93	X					Phoenix
336	Ernie Johnson	Materials Section	03/24/93	X					Phoenix
337	Doug Alexander	Materials Section	03/24/93	X					Phoenix
338	Structures Team	Meeting	03/26/93	X		X	X	X	Phoenix
339	D. Ulrich, P. Waddell & T. Boncoskey	Meeting	03/30/93						Phoenix
340	DPS/ADOT Aircraft Team	Meeting	4/1/93			X			Phoenix
341	Larry Bonine & Staff	Meeting	4/2/93	X		X	X	X	Phoenix
342	Doug Forstie	Materials Sect/Meeting	4/5/93	X				X	Phoenix
343	Don Abbott	Traffic Operations	4/7/93					X	Phoenix
344	Dist IV Construction Conf	Presentation	4/7/93			X			Flagstaff
345	Willie Mullin	Traffic Operations	4/7/93					X	Phoenix
346	Structures Team, HWY Div.	Meeting	4/9/93	X		X	X	X	Phoenix
347	Bob Helmandollar	R/W Meeting	4/12/93				X		Phoenix
348	Dan Davis	Structures Section Meeting	4/12/93	X					Phoenix
349	Larry Bonine & Staff	Meeting	4/13/93	X		X	X	X	Phoenix
350	Dal Saxton	Design Section Meeting	4/13/93	X					Phoenix
351	Cathy Hegel	Constr. Ops Meeting	4/14/93					X	Phoenix
352	Ed Wueste/FHWA & Staff	Presentation	4/14/93			X			Phoenix
353	Bob Mickelsen	HWY Dev/Meeting	4/15/93			X			Phoenix
354	TRAQ Team/QPI Senate	Meeting	4/15/93				X		Phoenix
355	August Hardt	OPS Group Meeting	4/15/93	X				X	Phoenix
356	Structures Team, HWY Div.	Meeting	4/16/93	X		X	X	X	Phoenix
357	Bob Helmandollar	R/W Meeting	4/16/93				X		Phoenix
358	Gary Robison & Staff	Meeting	4/19/93	X		X	X	X	Phoenix
359	August Hardt – OPS Group	Meeting	4/19/93			X			Phoenix
360	Suzanne Sale, ASD	Meeting	4/19/93				X		Phoenix
361	Richard Thim	Maint. OPS Services	4/20/93					X	Phoenix
362	Rick Genteman	Const. Section Meeting	4/20/93			X			Phoenix
363	Daniel Castillo	Transportation Planning	4/22/93					X	Phoenix
364	Jim Pyne	Bridge Div. Design	4/22/93	X					Phoenix
365	Dick Bruesch	Bridge Operations	4/22/93	X					Phoenix
366	Chong Chyan	Structures Section	4/22/93	X					Phoenix
367	Pe-Shen Yang	Structures Section	4/23/93	X					Phoenix
368	Bob Miller	ADOT Consultant Meeting	4/23/93	X					Phoenix
369	Leroy Brady	Roadside Dev./Meeting	4/27/93	X					Phoenix
370	Bob Helmandollar	R/W Meeting	4/27/93				X		Phoenix

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
371	George Lopez – Cepero	Structures Meeting	4/27/93	X					Phoenix
372	Henry Sung	Structures Section	4/29/93	X					Phoenix
373	Albert Ma	Structures	4/29/93	X					Phoenix
374	Bob Helmandollar	R/W Meeting	4/29/93				X		Phoenix
375	Project Management Team	Meeting	4/29/93	X					Phoenix
376	Wayne Collins	Meeting	4/29/93			X			Phoenix
377	Larry Bonine & Staff	Meeting	4/30/93	X		X	X	X	Phoenix
378	TRAQ Team	Meeting	4/30/93				X		Phoenix
379	Cecilia Halperin	Structures Section	4/30/93	X					Phoenix
OUT OF STATE TELEPHONE CONTACTS MADE BY TRAVIS CLARK DURING MARCH AND APRIL, 1993.									
380	Don Morris	Construction Staffing Issues							Idaho
381	Mr. Cooper	Construction Staffing Issues							Nebraska
382	Jamie Valdez	Construction Staffing Issues							Colorado
383	Roy Risky	Construction Staffing Issues							Kansas
384	Sandy Deuma	Construction Staffing Issues							Oregon
385	Rudy Melsabon	Construction Staffing Issues							Nevada
386	Jim Bush	Construction Staffing Issues							Washington
387	Hector Chevita	Construction Staffing Issues							New Mexico
388	Mr. Pointer	Construction Staffing Issues							Oklahoma
389	Dick Stapp	Construction Staffing Issues							Wyoming
390	Mr. Middleton	Construction Staffing Issues							Utah
391	Eng. Management	Construction Staffing Issues							Montana
392	Bob Painter	Manpower Planning System Issues							California
393	Dave Nevils	Manpower Planning System Issues							Colorado
394	Suszan Catron	Manpower Planning System Issues							Indiana
395	Jim	Manpower Planning System Issues							Kansas
396	Richard Hale	Manpower Planning System Issues							Nevada
397	Frank Gee	Manpower Planning System Issues							Virginia
398	Tom Bright	Manpower Planning System Issues							Illinois
399	Ron Mackle	Manpower Planning System Issues							Washington
400	Joe Lagullo	Manpower Planning System Issues							New Jersey
401	Chuck	Manpower Planning System Issues							South Dakota
402	David Jenkins	Manpower Planning System Issues							Maryland
403	Dan Anderson	Manpower Planning System Issues							Oregon
404	Becky Kieth	Manpower Planning System Issues							North Carolina
405	Don Fiske	Manpower Planning System Issues							Montana
406	John Keller	Manpower Planning System Issues							Michigan
407	George Meyer	Manpower Planning System Issues							Wisconsin
408	Gene Ross	Rest Area Issues							Idaho
409	Mr. Heedum	Rest Area Issues							Nebraska
410	Susan Baker	Rest Area Issues							Kansas
412	Frank Taylor	Rest Area Issues							Nevada
413	Bob Burger	Rest Area Issues							Washington
414	George Baca	Rest Area Issues							New Mexico
415	Don Nurcor	Rest Area Issues							Oregon
416	Gene Okaler	Rest Area Issues							Illinois
417	Richard Curby	Rest Area Issues							Texas
418	John Holt	Rest Area Issues							Utah
419	Jim Rierson	Rest Area Issues							Minnesota
420	Paul	Photogrammetry & Mapping Issues							Oregon
421	Karen Stephens	Photogrammetry & Mapping Issues							Utah
422	Bob Brocker	Photogrammetry & Mapping Issues							New Mexico
423	Carl	Photogrammetry & Mapping Issues							Colorado

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <i>Category: meeting, presentation, etc.</i>	DATE	TEAM MEMBER					LOCATION <i>City</i>
				RA	ED	RM	CS	JH	
424	Clarence	Photogrammetry & Mapping Issues							Idaho
425	Pat Williams	Photogrammetry & Mapping Issues							Kansas
426	Robert	Photogrammetry & Mapping Issues							Montana
427	Eldon Poppy	Photogrammetry & Mapping Issues							Nebraska
428	Rusty Autry	Photogrammetry & Mapping Issues							Nevada
429	Louis Duffy	Photogrammetry & Mapping Issues							Oklahoma
430	Mr. Harper	Photogrammetry & Mapping Issues							Washington
431	Bryan Drayton	Photogrammetry & Mapping Issues							Wyoming
432	Bob Doady	Materials Testing Issues							Nevada
433	Bill Lane	Materials Testing Issues							California
434	Steve Plasters	Materials Testing Issues							Utah
435	Leonard Hill	Right-of-Way Issues							Idaho
436	Al Lightner	Right-of-Way Issues							Oregon
437	Bill Ameros	Right-of-Way Issues							New Mexico
438	Robert Fox	Right-of-Way Issues							Utah
439	John Dutch	Right-of-Way Issues							Kansas
440	Bill Phillips	Right-of-Way Issues							Wyoming
441	Kaci Crawford	Right-of-Way Issues							Nevada
442	John Brinjak	Right-of-Way Issues							Nebraska
443	Travis Trigg	Right-of-Way Issues							Colorado
444	Joe Granger	Right-of-Way Issues							Washington
445	Lou Tower	Right-of-Way Issues							Oklahoma
446	John Horton	Right-of-Way Issues							Montana
447	Russ	Aviation Issues							Colorado
448	Bill Miller	Aviation Issues							Idaho
449	John Bujack	Aviation Issues							Kansas
450	Mike Ferguson	Aviation Issues							Montana
451	Kim Stephens	Aviation Issues							Nebraska
452	Rudy Moreno	Aviation Issues							Nevada
453	Doug	Aviation Issues							New Mexico
454	Roger Driscoll	Aviation Issues							Oklahoma
455	Jerry Amos	Aviation Issues							Oregon
456	Seth	Aviation Issues							Utah
457	Brian Holmes	Aviation Issues							Washington
458	Roger Armstrong	Aviation Issues							Wyoming
459	David Golden	Aviation Issues							Oklahoma
460	Larry Morelio	Aviation Issues							Montana
461	Chuck Lowerald	Aviation Issues							Colorado
462	Clayton Sullivan	Personnel Issues							Idaho
463	Jim Hazeldine	Personnel Issues							Oklahoma
464	Sandy Deluna	Personnel Issues							Oregon
465	Jim McMinimee	Personnel Issues							Utah
466	Floyd Freeman	Personnel Issues							Wyoming
467	Bill Foster	State Land Department	05/03/93				X		Phoenix
468	Sheila McKafferty	State Land Department	05/03/93				X		Phoenix
469	Bob Helmondollar, R/W	Meeting	05/04/93				X		Phoenix
470	Ray Otterness	Roadside Development	05/06/93	X					Phoenix
471	David Allocco	Contracts & Specs Services	05/06/93	X					Phoenix
472	Bridge Group Mgmt.	Meeting	05/07/93	X					Phoenix
473	Traffic Engineering Team	Meeting	05/07/93				X		Phoenix
474	Bob Etheridge	Traffic Operations	05/07/93				X		Phoenix
475	Aircraft Utilization Team	Meeting	05/10/93			X			Phoenix

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY <small>Category: meeting, presentation, etc.</small>	DATE	TEAM MEMBER					LOCATION <small>City</small>
				RA	ED	RM	CS	JH	
476	Bob Helmondollar, R/W	Meeting	05/10/93				X		Phoenix
477	Larry Bonine, et al	Meeting	05/11/93	X		X	X	X	Phoenix
478	Bridge Design Group	Meeting	05/12/93	X					Phoenix
479	Dave Monson	Traffic Signal & Lighting	05/12/93	X				X	Phoenix
480	John Ramirez	Traffic Signal & Lighting	05/12/93	X				X	Phoenix
481	Bridge Team Leader Group	Meeting	05/13/93	X					Phoenix
482	Doug Forstie, Materials	Meeting	05/13/93	X					Phoenix
483	Tim Aherns	Cash Manager, ASD	05/13/93					X	Phoenix
484	Cheryl Eglund, Hwys Div.	Meeting	05/13/93					X	Phoenix
485	Traffic Engineering Team	Meeting	05/14/93				X		Phoenix
486	Brent Hedly	Traffic Signal & Lighting	05/18/93	X					Phoenix
487	R/W QPI Team	Meeting	05/18/93				X		Phoenix
488	Larry Bonine, et al	Meeting	05/18/93			X			Phoenix
489	Bob Mickelson, et al	Meeting	05/19/93				X		Phoenix
490	Wayne Adams	Interstate Signing Unit	05/19/93					X	Phoenix
491	Glen Mara	Traffic Operations	05/19/93					X	Phoenix
492	Yvonne Tusalem	Traffic Operations	05/19/93					X	Phoenix
493	Dave Schmitt, et al	Meeting	05/20/93	X				X	Phoenix
494	Ron Thomas	Engineering Consultants Services	05/20/93				X		Phoenix
495	QPI Senate	Presentation	05/20/93				X		Phoenix
496	Gary Robinson, et al	Meeting – R/W	05/20/93			X	X		Phoenix
497	Brenda Ellis	Right-of-Way Appraiser	05/20/93				X		Phoenix
498	Dave Edwards	Right-of-Way	05/20/93				X		Phoenix
499	Dave schmitt, et al	Meeting	05/21/93	X				X	Phoenix
500	Susan Tellez	Engineering Consultants Services	05/21/93	X					Phoenix
501	Jack Hammitt	General Operations Section	05/21/93	X					Phoenix
502	Bob Gustafson	General Operations section	05/21/93	X					Phoenix
503	Gary Robinson, et al	Meeting – R/W	05/24/93				X		Phoenix
504	Todd Belzner	Right-of-Way Appraiser	05/24/93				X		Phoenix
505	Jerry Watters	Meeting – Fleet Maintenance	05/24/93			X			Phoenix
506	Alan Boone	Meeting – Fleet Maintenance	05/25/93			X			Phoenix
507	James Hill	ASO I, DIST III	05/25/93	X				X	Prescott
508	Beverly Custer	ASO I, DIST IV	05/25/93	X				X	Flagstaff
509	Richar Schwab	Right-of Way Section	05/25/93				X		Phoenix
510	Gary Remore	Right-of-Way Section	05/25/93				X		Phoenix
511	Julie Burnside	Right-of-Way Section	05/25/93				X		Phoenix
512	Pete Eno, R/W	Meeting – R/W	05/25/93				X		Phoenix
513	Dave Edwards	Right-of-Way	05/25/93				X		Phoenix
514	Kirk Carpenter	ASO I, DIST II	05/26/93	X				X	Tucson
515	Bob Mickelson, et al	Meeting – Traffic Engineering	05/26/93				X		Phoenix
516	Ed Dalmage	Right-of-Way Section	05/26/93				X		Phoenix
517	Karen Williams	Right-of-Way Section	05/26/93				X		Phoenix
518	Donna Ferrin	Right-of-Way Section	05/26/93				X		Phoenix
519	Sharon Turner	Right-of-Way Section	05/26/93				X		Phoenix
520	Joe Marin	Right-of-Way Section	05/27/93				X		Phoenix
521	Richard Schwab	Right-of-Way Section	05/27/93				X		Phoenix
522	Joe Ford	Right-of-Way Section	05/27/93				X		Phoenix
523	Martin Ross	Right-of-Way Section	05/27/93				X		Phoenix
524	Jim Havins	Right-of-way Section	05/27/93				X		Phoenix
525	Henri Verdugo	Right-of-Way Section	05/27/93				X		Phoenix
526	Jim Sargent	Right-of Way Section	05/27/93				X		Phoenix
527	Mike Serio	Right-of-Way Section	05/27/93				X		Phoenix
528	Barry Mora	Right-of-Way Section	05/27/93				X		Phoenix

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM – ADOT TEAM ACTIVITY MATRIX

Exhibit 3

No.	PERSON/GROUP	TITLE/CATEGORY Category: meeting, presentation, etc.	DATE	TEAM MEMBER					LOCATION City
				RA	ED	RM	CS	JH	
529	Michael Barany	Right-of-Way Section	05/28/93				X		Phoenix
530	Jan Anderson	Right-of-way section	05/28/93				X		Phoenix
531	David Walton	Right-of-Way Section	05/28/93				X		Phoenix
532	Al Gastelum	Contracts & Spec Services	06/01/93					X	Phoenix
533	Gerard Silvani	Transp. Planning Division	06/01/93					X	Phoenix
534	John Bogert	Chief Auditor, ADOT	06/02/93			X			Phoenix
535	John McKee, Herb Upoff	Admin. Services Division	06/02/93			X			Phoenix
536	Tom Warne, et al	Meeting	06/02/93			X			Phoenix
537	Chuck Eaton, Traffic Engineer	Meeting	06/02/93				X		Phoenix
538	Nancy Ann Crandall	Traffic engineering	06/02/93				X		Phoenix
539	Betty Brown	Traffic Engineering	06/02/93				X		Phoenix
540	Beau Grant	Admin. Services Division	06/02/93				X		Phoenix
541	Brad Nabours	Traffic Engineering	06/02/93				X		Phoenix
542	John Merkoski	Traffic Engineering	06/02/03				X		Phoenix
543	Dave Duffy	Traffic Engineering	06/03/93				X		Phoenix
544	Mike Manthey	Traffic Engineering	06/03/93				X		Phoenix
545	Rudy Kolaya	Traffic Engineering	06/03/93				X		Phoenix
546	Diana Ravitch	Traffic Engineering	06/03/93				X		Phoenix
547	Janis Kotlark	Traffic Engineering	06/03/93				X		Phoenix
548	Judy Ormand	Traffic Engineering	06/03/93				X		Phoenix
549	Tara Arraza	Traffic Engineering	06/03/93				X		Phoenix
550	Tom Schmitt	Motor Vehicle Division	06/04/93			X			Phoenix
551	Suzanne Sale	Admin. Services division	06/04/93			X	X		Phoenix
552	Chuck Eaton	Meeting – Traffic Engineering	06/04/93				X		Phoenix
553	Dave Olivarez	Meeting – Traffic Operations	06/07/93	X				X	Phoenix
554	Rick Genteman	Meeting – Construction Section	06/08/93					X	Phoenix
555	Chuck Eaton	Meeting – Traffic Engineering	06/09/93				X		Phoenix
556	Timoteo Legaspi	Traffic Operations	06/09/93	X					Phoenix
557	Thomas Huey	Traffic Operations	06/09/93	X					Phoenix
558	Tom Warne	Meeting	06/10/93			X			Phoenix

**OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM ADOT TEAM WORKPLAN (FY 1993)
TEAM WORKPLAN
Highways Division**

Exhibit 4

MAINTENANCE SECTIONS – DISTRICTS 1–4

Review Item	Assigned to	Target Date	Status
Planning	Steenerson	4/30/93	Diagnostics Completed – Bullet Points Only
Permits	Helgle	4/30/93	Diagnostics Completed – Bullet Points Only
Operations	Marcum/Andrus	4/30/93	Diagnostics Completed – Points Developed
Contracts	Helgle	4/30/93	Diagnostics Completed – Bullet Points
Traffic Operations	Marcum/Andrus	4/30/93	Diagnostics Completed – Point Developed
Natural Resources	Steenerson	4/30/93	Diagnostics Completed – No Points

HIGHWAY OPERATIONS GROUP

Review Item	Assigned to	Target Date	Status
Construction Sections	Andrus, Helgle	04/30/93	Diagnostic Completed – Points Written
Materials Section	Andrus, Helgle	04/30/93	Diagnostic Completed – Points Written
Maintenance Section	Andrus, Helgle	05/31/93	Diagnostic Completed – Bullet Points Written
Districts 1–4 Construction	Andrus, Helgle	05/31/93	Diagnostic Completed – Points Written

HIGHWAY DEVELOPMENT GROUP

Review Item	Assigned to	Target Date	Status
Urban Highways	Marcum	Feb., 1993	Ongoing Implementation of OEG/ADOT Recommendations
Consultant Management Services	Marcum	Feb., 1993	Ongoing Implementation of OEG/ADOT Recommendations
Traffic Engineering	Steenerson	Feb., 1993	Diagnostic Completed – Points Written
Design Section	Andrus	June, 1993	Diagnostic Completed – No Points Written
Structures Section	Andrus	June, 1993	Diagnostic Completed – Point Written
Right-Of-Way Section	Steenerson	June, 1993	Diagnostic Completed – Points Written
Location Section	Marcum	June, 1993	Diagnostic Completed – Bullet Points Written

OFFICE FOR EXCELLENCE IN GOVERNMENT
PROJECT SLIM ADOT TEAM WORKPLAN (FY 1993)
TEAM WORKPLAN
Highways Division

Exhibit 4

MAJOR PROCESSES – HIGHWAYS DIVISION

Review Item	Assigned to	Target Date	Status
Development Group	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Pre-design	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Design Review	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Project Scheduling	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Standards and Specifications	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Reports	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Technology	Marcum, Steenerson	June, 1993	Diagnostic Completed – Bullet Points Written
Right-of-Way	Marcum, Steenerson	June, 1993	Diagnostic Completed – Points Written
Operations group	Marcum, Steenerson	June, 1993	Diagnostic Completed
Pre-design	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Preliminary engineering	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Submittals review	Marcum, Steenerson	June, 1993	Diagnostic Completed – No Points
Testing	Marcum, Steenerson	June, 1993	Diagnostic Completed – Point Written
Contracting	Marcum, Steenerson	June, 1993	Diagnostic Completed – Bullet Points Written
Standards and Specifications	Marcum, Steenerson	June, 1993	Diagnostic Completed – Bullet Points Written
Org. Structure	Team	06/30/93	Diagnostics Completed – Points Written
Project Management Concept	Team	06/20/93	Diagnostics Completed – Bullet Points Written

ESI History and Background

Overview

In December, 1992, the State Engineer's Office received a recommendation from Project SLIM that a systems expert from DOA examine Equipment Services' EMS System for possible replacement.

Acting on this recommendation, the State Engineer's Office, with the participation of ISG, and the approval of SLIM, initiated a project in January, 1993 to closely examine Equipment Services' business practices in conjunction with the EMS system. This project became known as the ESI Project.

There were four objectives for the ESI Project:

1. Effectively model the processes and information used by the business in its operation.
2. Evaluate the effectiveness of current business practice in meeting the goals of the organization and, where the business could be improved, to provide suggestions for improvement.
3. To develop a model of the current EMS system which had evolved significantly from its original implementation in July, 1984.
4. To determine the level of support that the EMS system provides for current and future Equipment Service business practice. This included evaluation of both software and hardware support.

The approach adopted by ESI project management was adapted by the team from Axiom Information Consultant's AIM methodology, with the assistance of Axiom. It draws from an Information Engineering approach to systems analysis, and utilizes a Computer Aided Systems Engineering (C.A.S.E) tool to capture modeling information in a common repository.

There were several reasons for doing this. First, Information Engineering focuses first on

the requirements of the business, then on the setup of the computer system to meet those needs. Second, C.A.S.E. tools enable project team members to capture their modeling information into a common source using a common set of standards, fostering communication among all participants in the project. Third, the approach is a seamless way to accomplish several different objectives that traditional system development and business re-engineering methodologies fail to address. Finally, the approach requires unprecedented participation of the business users in the analysis of their system requirements, creating a partnership between Highways and ISG.

Project Team Structure

The project team was broken down into several different roles. These were as follows:

Analyst - Composed of representatives from both ISG and user community, the Analysts were responsible for capturing business information into the model and for questioning Business Area Experts on the way they do business. Business Area Analysts included:

Nathan Giles, Highways
 Jares Gallagher, ISG
 Bob Faye, Equipment Services

Business Area Experts - Composed of individuals who either work in or with Equipment Services, they provided detailed information on their current business practice and suggestions for improvements to the business. Business Area Experts included:

Dan Hom, Audit
 Charlie Kinsey, Maintenance
 Carolyn Deobler, Maintenance
 Mary Ann Pikulas, Equipment Services
 Karen Holloway, State Engineers Office
 Tom Donithan, Service Writer
 Floyd Moore, Statewide Parts Manager
 Dave Brown, District 1 Parts Manager
 Ed Scott, Prescott Shop Supervisor
 John Trojanovich, District 2 District
 Equipment Manager

ESI PROJECT

Carl Eyrich, District 4 Equipment Shop Supervisor
Ken Macias, District 4 Equipment Parts Expediter
Don Lehman, District 1 ADE
Patty Scott, Prescott Maintenance Analyst
Jeff Swan, District 4 ADE
Tom Teague, District 2 Maintenance Superintendent

Facilitator/Methodology Expert - Provided by Axiom, this individual was responsible for assisting the Project Manager in developing the project schedule, the facilitation of the analysis itself, and in providing briefings to the Advisory Committee. The Facilitator was Jeff Colen.

Team Lead - An analyst from the business community who provided daily direction and management for the project. The Team Lead for ESI was an Equipment Services employee, Bob Faye.

Project Manager - This person oversaw the operation and performance of the project, and reported its progress to the Advisory Committee. The Project Manager for ESI was an ISG employee, Joe Gregg.

Advisory Committee - The Advisory Committee was established to review the deliverables from the project, provide a forum for executive management decisions, and to set overall project direction. Members of this committee were drawn from each of the project sponsor areas: SLIM, Highways, Equipment Services, and ISG. They were as follows:

Cheryl Egland, State Engineers Office
Roger Andrus, Project SLIM
Jerry West, Equipment Services
Joe Gregg, ISG.

Project Workplan

The workplan for the project was based on tasks outlined in Axiom's AIM Methodology. Each task builds on the one that precedes it; this enables the team to sequentially refine the model and improve its accuracy; it also allows each task to verify the content of the task that came before.

Task 1 - Conduct Training

A five day training class was given to the entire project team (Business Area Experts and Analysts) on the tool and the techniques to be used on ESI.

Task 2 - Perform Kickoff Meeting

The Kickoff meeting is a facilitated session where all members of the project (BAEs, Analysts, Project Sponsors) formally commence work on the project.

Task 3 - Capture Goals and CSFs

Goals and Critical Success Factors (CSFs) were then documented in order to establish the future objectives for Equipment Services as well as identifying some of the mission critical operations that currently occur.

Task 4 - Document Organization Structure

The organizational hierarchy was documented in order to capture the structure of the business. This chart was used during Task 11 to identify additional participants in the Business Innovation process.

Task 5 - Document Process Structure

We documented the business processes present in Equipment Services using a Decomposition Diagram, which hierarchically structured the processes from the most general (known as the root), to the most specific (known as the leaves). Understanding the business processes is essential to documenting areas of improvement within the organization, as well as forming the basis for developing ideas to innovate the current way of conducting business.

Task 6 - Capture Activity List

The activity list provided us with an understanding of the higher level activities that take place within the business. An activity is a series of business processes that execute when there is a stimulus (for example a request for preventative maintenance from a customer), and an outcome (another activity, either within or outside of the scope of the project, is activated).

Task 7 - Verify Activity List

In the verification process, we examined each of the activities to ensure that there were no duplications or overlap among them.

ESI PROJECT

Task 8 - Build Event Model

Creating the Event Model involved developing a process flow for each of the activities remaining after Task 7. This diagram enabled us to capture the sequence of business processes as they execute during Equipment Services operations.

Task 9 - Refine Process Structure

Using the event models developed during Task 8, we were able to go back to the process decomposition diagram and add any missing or redundant business processes.

Task 10 - Build Preliminary Data Model

We built a data model in order to capture the information used by equipment services in executing its processes. The data model itself is a diagram that documents business information and the business rules that govern the use of data in the organization.

Task 11 - Identify Non-Value Added Activities

After completing the identification of activities, we then examined each one to see if they add value to the business enterprise. Three questions were asked: 1) Does the activity aid in achieving a goal? 2) Does the activity aid in achieving a CSF? and 3) Does the activity contribute to a problem? If the answer was yes, yes, no or yes, no, no, or no, yes, no, then the activity adds value to the enterprise. If the answer was yes, no, yes or yes, yes, yes, or no, yes, yes, then the activity still adds value but there are some issues with the way it is executing. Finally, if the answer yielded that it only contributes to problems the organization is facing, we deemed it non-valued added, and ideas were solicited for removing it from the business cycle.

Task 12 - Measure Processes

We based our measurements of the processes on whether value would be added to the process if we did it faster or if we did it better. For those where speed was of the essence, we used cycle-time analysis to get a baseline of the process's current performance. Where quality was the paramount concern, we worked with the BAEs to come up with a suitable measurement. The measurements themselves were gathered through statistics captured in EMS, as well as through interviews with business area experts.

Task 13 - Identify Non-Value Added Processes

Once the measurements were complete, we could begin to evaluate if and how they added value to the business operations. For those processes that did not contribute to the achievement of a goal or CSF, we solicited ideas from the business area experts on how to phase them out. For those processes that did add value, but whose measurements indicated that they were not working as effectively as possible, we identified the issues that were hampering their effectiveness.

Task 14 - Perform Preliminary Innovation

Using the measurements that were collected in task 13, we then proceeded to develop a list of ideas that could enhance the operation of the business. These ideas were captured in a series of five sessions, with participants in these sessions drawn from throughout the state.

Task 15 - Refine/Consolidate Innovation List

Once the innovation list was compiled, we then grouped together like ideas into one innovation. We also provided a short description on what the innovation involved, and proceeded to divide the list into three groups: Organizational / Procedural, Data/Process, and Technology. This categorization assisted the team in determining which ideas would have an impact on the business models, which solely impacted the organization, and which related specifically to technology.

Task 16 - Prioritize Innovation List and Select for Cost Benefit Analysis

The team reviewed the refined innovations and selected the top ten to twenty for further study in a cost/benefit analysis. The selection process involved the team rating each of the ideas on a scale from 0 to 5, zero meaning that the idea would not add value to the organization, five meaning that the idea would add exceptional value. The scores were then averaged for each innovation, and ranked accordingly.

Task 17 - Perform Cost/Benefit Analysis

We evaluated the cost of implementing each of the selected innovations in task 16. Cost was broken out into start-up and long range costs, and a dollar amount was assigned to this figure. We then calculated the benefits, based on

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estimates on improvement to the business. Benefits were also calculated as long term and immediate. We derived a break-even point for each idea under consideration for implementation on the basis of the resulting values.

Task 18 - Finalize Innovation List

Having established the costs and benefits for each of the innovations, the Advisory Committee then reviewed each and selected the ones that they felt would be the best for the organization. Actual design and implementation of the selected ideas will be carried forward by representatives from Equipment Services and the State Engineers Office.

Task 19 - Incorporate Selected BAA Innovations

Those innovations that fell into the Data/Process category and were subsequently approved created changes to either the data the business require or the way in which the data is manipulated. These changes were incorporated into the model.

Task 20 - Build Leaf Level-1 Data Flow Diagrams

On completion of the innovation phase, we then proceeded to model how business data and business processes interact. This was accomplished through the use of Data Flow Diagrams, which document flows of information going between processes and external agents or data stores.

Task 21 - Build Detailed Data Model

In order to get a complete picture of the information used by the organization, and to present it in a way that minimized confusion over how the information is defined, we built a detailed data model.

Task 22 - Build Data Flow Views

In task 20, we created a diagram that showed how data interacted with processes at a general level. In this task, we developed detail that showed us exactly which attributes are used by the processes in communicating with external agents or data stores. This detail was captured using data flow views.

Task 23 - Detail EMS Functionality

In order to understand the composition of the system as it currently stands, we detailed EMS functionality using the C.A.S.E. toolset. This involved reverse engineering the database and manually creating the module structure charts in order to map the data access that occurs for each module.

Task 24 - Build Mini-Specs

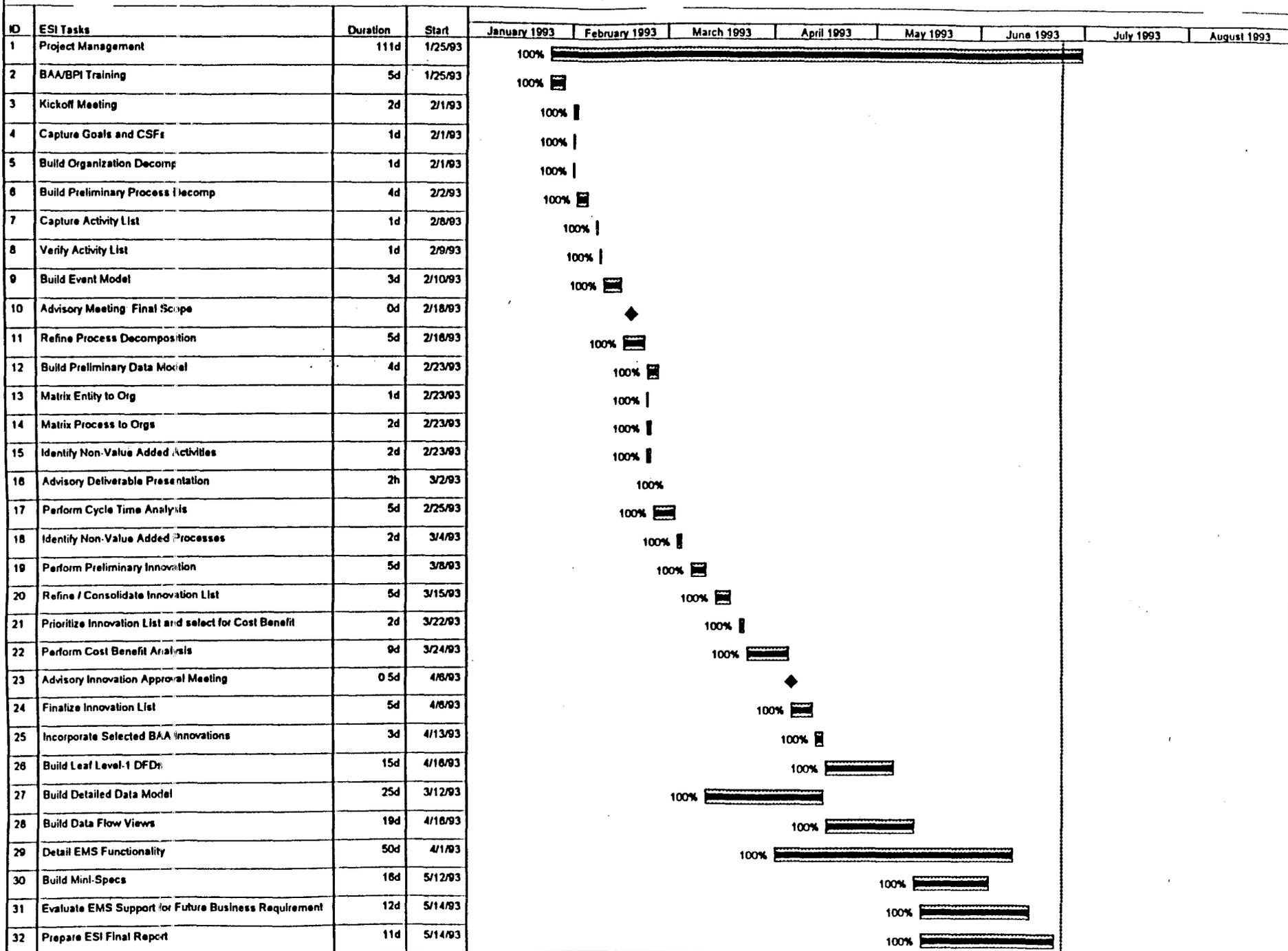
We built the process mini-specifications in order to better understand how the process uses business information. The mini-specification details out exactly when a piece of business information is required by the process, and shows any calculations performed using the data.

Task 25 - Evaluate EMS Support for Business Requirements

On completing task 24, we compared the business model to the EMS system model. During the evaluation we noted the system fields that were not needed to support the business, as well as uncovering business requirements not supported by the system. Additional issues with system functionality, such as poor performance or sub-optimal design were also documented. Finally, we cost/benefited the desirability of moving the system from a mainframe to a client/server environment.

Task 26 - Prepare EMS Final Report.

The final report consolidates the information captured during the project into a common reference.



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Critical Progress
 Noncritical Milestone Summary
 Rolled Up

RIGHT-OF-WAY RECOMMENDATIONS RESEARCH MATERIAL

1. Highway Development Q.P.I. Senate, right-of-Way Analysis Report, February 1993.
2. Highway Development PRMS Study, Plans Services Detail Report, July 1991.
3. Highway Development, Acquisition Services Annual Product Report, Fiscal Year 91-92.
4. Highway Development Venture Team, Right-of-Way Appraisals & Operations Services Report, August 1991.
5. Right-of-Way Procedure Methods Improvements Final Report, Colon & Assoc., July 1991.
6. Highway Development Venture Team, Right-of-Way Acquisition Services, August 1991.
7. Highway Development Q.P.I. Team, Process Improvement Study of Right-of-Way Requirements, April 1993.
8. Highway Development, Right-of-Way Section, Recommendation for Disposal of ADOT-owned Excess Pima Road Residential Property, April 1993.
9. Highway Development, Right-of-Way Section, Right-of-Way Reform (Statutory Change Request), February 1992.
10. ADOT, Position Memorandum in Opposition to SB1076 (10 Year Advance Acquisition), February 1993.
11. Traffic on The Arizona Highway System, October 1992.
12. ADOT Board Policies, January 1991.