

ARIZONA DEPARTMENT OF TRANSPORTATION

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# PECOS - ITI DATA MODELS

## Final Report

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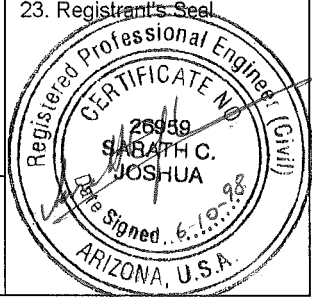
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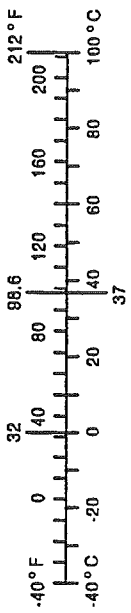
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# METRIC (SI\*) CONVERSION FACTORS

| APPROXIMATE CONVERSIONS TO SI UNITS                                       |                        |                            |                     | APPROXIMATE CONVERSIONS TO SI UNITS |                                   |                   |                        |
|---|------------------------|----------------------------|---------------------|-------------------------------------|-----------------------------------|-------------------|------------------------|
| Symbol  | When You Know          | Multiply By                | To Find             | Symbol                              | When You Know                     | Multiply By       | To Find                |
| <u>LENGTH</u>   |                        |                            |                     | <u>LENGTH</u>                       |                                   |                   |                        |
| in  | inches                 | 2.54                       | centimeters         | mm                                  | millimeters                       | 0.039             | inches                 |
| ft  | feet                   | 0.3048                     | meters              | m                                   | meters                            | 3.28              | feet                   |
| yd  | yards                  | 0.914                      | meters              | yd                                  | meters                            | 1.09              | yards                  |
| mi  | miles                  | 1.61                       | kilometers          | km                                  | kilometers                        | 0.621             | miles                  |
| <u>AREA</u>   |                        |                            |                     | <u>AREA</u>                         |                                   |                   |                        |
| in <sup>2</sup>   | square inches          | 6.452                      | centimeters squared | mm <sup>2</sup>                     | millimeters squared               | 0.0016            | square inches          |
| ft <sup>2</sup>   | square feet            | 0.0929                     | meters squared      | m <sup>2</sup>                      | meters squared                    | 10.764            | square feet            |
| yd <sup>2</sup>   | square yards           | 0.836                      | meters squared      | yd <sup>2</sup>                     | kilometers squared                | 0.39              | square feet            |
| mi <sup>2</sup>   | square miles           | 2.59                       | kilometers squared  | ha                                  | hectares (10,000 m <sup>2</sup> ) | 2.53              | square miles           |
| ac  | acres                  | 0.395                      | hectares            |                                     |                                   |                   | acres                  |
| <u>MASS (weight)</u>  |                        |                            |                     | <u>MASS (weight)</u>                |                                   |                   |                        |
| oz  | ounces                 | 28.35                      | grams               | g                                   | grams                             | 0.0353            | ounces                 |
| lb  | pounds                 | 0.454                      | kilograms           | kg                                  | kilograms                         | 2.205             | pounds                 |
| T   | short tons (2000 lb)   | 0.907                      | megagrams           | Mg                                  | megagrams (1000 kg)               | 1.103             | short tons             |
| <u>VOLUME</u>   |                        |                            |                     | <u>VOLUME</u>                       |                                   |                   |                        |
| fl oz   | fluid ounces           | 29.57                      | millimeters         | mL                                  | millimeters                       | 0.034             | fluid ounces           |
| gal   | gallons                | 3.785                      | liters              | L                                   | liters                            | 0.264             | gallons                |
| ft <sup>3</sup>   | cubic feet             | 0.0328                     | meters cubed        | m <sup>3</sup>                      | meters cubed                      | 35.315            | cubic feet             |
| yd <sup>3</sup>   | cubic yards            | 0.765                      | meters cubed        | m <sup>3</sup>                      | meters cubed                      | 1.308             | cubic yards            |
| <p>Note: Volumes greater than 1000 L shall be shown in m<sup>3</sup>.</p> |                        |                            |                     |                                     |                                   |                   |                        |
| <u>TEMPERATURE (exact)</u>  |                        |                            |                     | <u>TEMPERATURE (exact)</u>          |                                   |                   |                        |
| °F  | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C                                  | Celsius temperature               | 9/5 (then add 32) | Fahrenheit temperature |



These factors conform to the requirement of FHWA Order 5190.1A  
 \*SI is the symbol for the International System of Measurements

## LIST OF ABBREVIATIONS

|            |   |
|------------|---|
| ADOT       | Arizona Department of Transportation                      |
| ATIS       | Advanced Traveler Information System                      |
| ATRC       | Arizona Transportation Research Center                    |
| AVC-Piezo  | Automatic Vehicle Classification (Piezoelectric-based)    |
| AZTech     | AZTech - Phoenix ITS Model Deployment Initiative          |
| CCTV       | Closed Circuit Television Camera                          |
| DM         | Demand Maintenance (unscheduled maintenance)              |
| ES         | Elk Signs   |
| ETAK       | ETAK, Inc.  |
| FMS        | Freeway Management System                                 |
| HCRS       | Highway Closure & Restriction System                      |
| ILD        | Induction Loop Detector                                   |
| ITI        | Intelligent Transportation Infrastructure                 |
| ITS        | Intelligent Transportation Systems                        |
| LTPP       | Long Term Pavement Performance                            |
| O&M        | Operation and Maintenance                                 |
| PAD        | Passive Acoustic Detector                                 |
| PECOS      | Performance Evaluation Cost System                        |
| PM         | Preventive Maintenance (scheduled maintenance)            |
| RWIS - CPU | Road Weather Information System - Central Processing Unit |
| RWIS - RPU | Road Weather Information System - Remote Processing Unit  |
| SHRP       | Strategic Highway Research Program                        |
| TAC        | Technical Advisory Committee                              |
| TIR        | Transportation Information Resources                      |
| TOC        | Traffic Operations Center                                 |
| TSS        | Traffic Signal Synchronization                            |
| US West    | US West Communications                                    |
| VDS        | Vehicle Detection System                                  |
| VMS        | Variable Message Sign                                     |
| WIM-Piezo  | Weigh-in-Motion System (Piezoelectric-based)              |
| WIM-BP     | Weigh-in-Motion System (Bending Plate-based)              |
| WSDOT      | Washington State Department of Transportation             |

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## 1.0 INTRODUCTION

The Performance Controlled System, better known by the acronym PECOS was first developed and implemented by Arizona Department of Transportation (ADOT) in 1970 as the department's highway maintenance work management system. The primary objective of PECOS is to help ADOT management staff keep track of all activities that are related to highway maintenance and better plan ahead based on historical data. From its inception, PECOS has been implemented in a mainframe environment. The computer program behind PECOS has been maintained by the ADOT unit, Transportation Information Resources (TIR) and its predecessors. Since its original implementation PECOS has undergone periodic improvements. The current version is called PeCoS II and is being further modified for use as an application in the Microsoft Windows® environment. For the purpose of this study, all references to PECOS implies the current version, PeCos II.

When PECOS was first implemented there were very few working models of maintenance management systems in the country. The system keeps track of all highway maintenance activities carried out by all of the maintenance units within ADOT. Each maintenance work unit is expected to keep track of the type of maintenance activity, and the amount of labor, equipment and material expended in performing that activity on a daily basis and report that information to the PECOS system. Each maintenance activity is associated with a unique identification number, a description of the road inventory feature maintained by that activity and a measurement unit for that work. The system also utilizes Performance Guidelines that specify standard labor, equipment and material requirements for each maintenance activity. The PECOS system is able to generate reports on any specific road maintenance activity carried out by a specific maintenance organization or generate statewide costs.

Although the PECOS system keeps track of maintenance activities for most existing highway hardware maintained by ADOT, newer electronic systems that fall within the umbrella of Intelligent Transportation Systems (ITS) have not been fully incorporated into PECOS. The full collection of ITS components is commonly referred to as Intelligent Transportation Infrastructure (ITI). Many state highway agencies, including ADOT, have realized that operating and maintaining ITI elements at acceptable levels of performance requires substantial maintenance resources, in terms of labor, equipment and materials. In 1996, ADOT identified the need for better forecasting ability on these recurring annual ITI operation and maintenance (O&M) costs as an agency priority. This topic was proposed and selected by the agency as a research project for the Arizona Transportation Research Center (ATRC), the research unit of ADOT. The scope of this project was developed by the center to address the identified agency need with the goal that the project would develop a product that will provide the agency a systematic method for estimating annual O&M costs associated with ITI in Arizona.

### 1.1 GOALS AND OBJECTIVES

The goal of this project was to provide ADOT the ability to forecast operations and maintenance costs associated with both existing and planned ITI in the state.



The project objective was to develop the essential cost data models required for incorporation of O&M considerations related to ITI into the ADOT maintenance management system, PECOS. The original scope of work was limited to the development of the required cost models and generating initial cost forecasts.

## **1.2 ASSUMPTIONS**

The ability to implement the project results and recommendations were predicated on the following assumptions regarding the capabilities of the PECOS system:

1. The PECOS system is structured in a manner that can accommodate cost models.
2. Once the cost models are incorporated in the system, it has the ability to forecast future year operations and maintenance costs associated with ITI.

## **1.3 PROJECT SCOPE OF WORK**

The initial scope of the project consisted of the following project tasks:

- Task 1: Project management & progress.
- Task 2: Review of proposed work plan.
- Task 3: Review the PECOS system and identify highway inventory and maintenance elements.
- Task 4: Identify ITI elements to be included in the research.
- Task 5: For selected list of ITI elements, review and validate annual O&M costs.
- Task 6: Develop cost models required for incorporation of ITI elements into PECOS.
- Task 7: Project the ITI PECOS maintenance budget on an annual basis up to FY 2010.
- Task 8: Final Report, Research Note and Presentation.

### **1.3.1 Modifications to Project Scope**

The findings from Task 3 review of PECOS identified certain limitations concerning PECOS capabilities that would have been crucial for executing the project as originally scoped. These limitations are discussed in detail in Section 2.2. The project team and the Technical Advisory Committee (TAC) discussed these limitations and agreed to modify the project scope such that the cost models and the resulting forecasts would be developed as stand alone models utilizing PECOS data as much as possible for labor, material and equipment costs. Where adequate data were not available for ITI elements in Arizona, data from other states were to be utilized. The operational costs for various ITI elements are not available in PECOS and will be based on available ADOT data supplemented by data from other states.

## **1.4 PROJECT OVERSIGHT PROCESS**

All research projects undertaken by ATRC are scoped by a TAC that typically consists of stakeholders and end users of project results. When a project is launched, this committee contin-

ues to function as the project oversight committee. All project results are reviewed and approved by this committee prior to finalization. The composition of the TAC on this project is shown in Table 1.

**Table 1. Project Technical Advisory Committee**

|    | <b>Name</b>                        | <b>Organization</b>                  |
|----|------------------------------------|--------------------------------------|
| 1  | Agah, Manny                        | Transportation Technology Group/ADOT |
| 2  | Carter, Phil                       | Phoenix Traffic Operation Center     |
| 3  | Dana, Steve                        | Electrical Operations/ADOT           |
| 4  | Decker, Jim                        | AZTech MDI, City of Tempe            |
| 5  | Etheredge, Bob                     | Electrical Operations/ADOT           |
| 6  | Fowler, Tom                        | Federal Highway Administration       |
| 7  | Hendrix, Lonnie                    | Assistant State Maintenance Engineer |
| 8  | Hansen, Alan                       | Federal Highway Administration       |
| 9  | Jonas, Glenn                       | Phoenix Traffic Operation Center     |
| 10 | Lozano, Marc                       | Flagstaff District Traffic /ADOT     |
| 11 | McClatchey, Chuck                  | FMS Maintenance                      |
| 12 | Morden, Bob                        | Maintenance Planning/ADOT            |
| 13 | Nelson, Jon                        | FMS Construction/ADOT                |
| 14 | Owen, Steve – ADOT Project Manager | Transportation Technology Group/ADOT |
| 15 | Pfeifer, Jerry                     | Phoenix Traffic Operation Center     |
| 16 | Pickering, Art                     | Flagstaff District Traffic/ADOT      |
| 17 | Sykes, Paul                        | Tucson Traffic Operations            |
| 18 | Warner, Hank                       | Tucson Regional Traffic/ADOT         |
| 19 | Williams, Norma                    | Electrical Operations /ADOT          |
| 20 | Wolfe, Tim                         | Transportation Technology Group/ADOT |
| 21 | Young, Mike                        | FMS Construction/ADOT                |



## 2.0 AN OVERVIEW OF THE PECOS SYSTEM

In order to obtain a clear understanding on how the final cost models would have to be structured for incorporation in PECOS, the project team carried out a brief review of the PECOS system and its functions. A number of PECOS end users in ADOT were interviewed to gain a good understanding of the system and procedures. The Maintenance Planning Unit of ADOT, responsible for PECOS, was consulted for verification of the project team's understanding of the key features of the system. A brief overview of PECOS was formally presented to the project's TAC at the meeting on November 13, 1997. During this presentation the committee was briefed that the project team had discovered issues that had a significant impact on the project scope. These are discussed in Section 2.2.

There are four top level PECOS functional areas which may be considered subsystems. Each of these subsystems support numerous planning functions that are listed below:

1. Work Management System
  - Work Program and Budget: labor/equipment/material rates; activity planning
  - Annual Work Distribution: program summary
  - Resource Requirements
  - Work Reporting: daily reports; expenditures; bi-weekly time sheets
  - Management Reports: work progress; work calendar; unit cost analysis; activity analysis; trend analysis
  - System Setup: system setup file
  - Utilities: system backup; new fiscal year
  - Additional Reporting: resource summary; work progress review
2. Material Management Inventory
  - Material Inventory: status report; usage/demand history
  - Inventory Utility: backup files
3. Communications
  - Upload and Download data on: work reports; planning files; material inventory; equipment usage; employees; equipment; time sheet
4. Data Analysis
  - The functions described above are utilized by the ADOT Maintenance Planning Unit for planning and programming the agency's highway maintenance activities

## **2.1 USE OF PECOS TO TRACK MAINTENANCE ACTIVITIES**

PECOS contains definitions for each highway maintenance activity and its associated inventory feature and work unit. For each type of maintenance activity, performance guidelines have been established <sup>(1)</sup>. These guidelines describe the standard labor/equipment/material needs for each activity. When ADOT work crews carry out their maintenance activities, information such as type of inventory feature, labor/equipment/material expended on the job are recorded and entered into PECOS from each maintenance organization via a dial-up communication link. This information is used for various analyses and reports that can be generated from within the PECOS system.

While the PECOS system seems well designed to capture all maintenance data, some doubts were expressed by TAC members on the accuracy of data available through PECOS on activities such as traffic signal maintenance. It appears that, due to data reporting factors such as the amount and level of detail reported, the system may not be capturing all of the maintenance data. However, it is obviously the best source of data available for systematic maintenance planning.

## **2.2 LIMITATIONS OF PECOS'S ABILITY TO FORECAST**

During Task 3, when the PECOS system was reviewed in detail it was discovered that several original assumptions regarding PECOS' abilities were inaccurate and are discussed below. The PECOS system keeps track of labor, equipment and material expenditures related to specific types of road maintenance features. Historical records provide data on past maintenance activities and enable the generation of standard rates for each maintenance activity.

During the PECOS system development effort, the ability to produce multi-year maintenance cost forecasts had not been incorporated. The system does have the ability to produce maintenance cost trends for past years and also provide an estimate of maintenance costs for the next fiscal year. The one-year forecast is essentially based on anticipated labor, material and equipment resource requirements identified for the next year by each ADOT district. The system does not have any explicit links to the five-year construction program, hence has no inherent ability to forecast future maintenance costs beyond the next fiscal year.

Although some ITI elements have already been incorporated into PECOS, all elements are not incorporated into PECOS at this time. As a result, historical maintenance data are lacking in the system for many ITI elements. It must be noted that the data which is available through PECOS, reflect the maintenance needs of a relatively new system of ITI, as is the case in Arizona.

### 3.0 ITI OPERATION AND MAINTENANCE MODEL

This chapter describes the O&M model that was developed and utilized to forecast future year O&M requirements. Although the ITI O&M model developed by this project utilized PECOS cost data for generating multi-year O&M cost forecasts, this was accomplished external to PECOS. As discussed earlier in Section 1.3.1, this approach was necessitated by the fact that, PECOS is unable to produce multi-year cost forecasts. The generation of annual O&M cost forecasts, based on the modeled process, was carried out utilizing a Microsoft Access database. This database contained detailed information on the statewide ITI deployment schedule. The forecasts of O&M costs are given in constant 1997 dollars with no adjustment for annual inflation.

#### 3.1 OVERVIEW OF MODEL

The ITI O&M model consists of two submodels. The first submodel addresses resource requirements for ITI operations while the second addresses ITI maintenance resource requirements. Each of these submodels is briefly discussed in the next sections.

From an O&M viewpoint, the entire statewide ITI was assumed to consist of key ITI elements. A number of key ITI elements were selected for inclusion in the cost modeling process. These elements and their common acronyms used in this report are shown in Table 2.

**Table 2. ITI Elements Selected for Cost Modeling**

| ITI Element   | Acronym   |
|---|-----------|
| Automatic Vehicle Classification                          | AVC       |
| Closed Circuit Television Cameras                         | CCTV      |
| Inductive Loop Detector                                   | ILD       |
| Node Room   | None      |
| Passive Acoustic Detector                                 | PAD       |
| Power Cabinet   | None      |
| Ramp Meter/ILD  | None      |
| Ramp Meter/PAD  | None      |
| Road Weather Information System – Central Processing Unit | RWIS-CPU  |
| Road Weather Information System – Remote Processing Unit  | RWIS-RPU  |
| Traffic Monitoring Station (Future ILD or PAD)            | TMS       |
| Vehicle Detection System                                  | VDS       |
| Variable Message Sign                                     | VMS       |
| Weigh-in-Motion System (Piezoelectric)                    | WIM-Piezo |
| Weigh-in-Motion System (Bending Plate)                    | WIM-BP    |

Many of these individual elements shown in Table 2 are typically integrated into larger systems that support ITS functions such as traffic management, traveler information etc. Table 3 shows both existing and planned ITI systems that were considered in this study.

**Table 3. Existing and Planned ITI Systems in Arizona**

| EXISTING                             | PLANNED                           |
|--------------------------------------|-----------------------------------|
| Phoenix FMS Phases 1-4               | Phoenix FMS Phases 5-17           |
| RWIS on I-40                         | Tucson FMS                        |
| Stand-alone VMSs                     | Rural ITI Phases 1-26             |
| Statewide WIM sites                  | AZTech MDI (Only ADOT Components) |
| Highway Closure & Restriction System |                                   |
|                                      |                                   |

### 3.2 ITI OPERATING RESOURCE FORECASTING MODEL

This model applies annual operating costs for each category of ITI element on the anticipated statewide ITI inventory determined for each year. The statewide ITI inventory was developed using information on the existing ITI inventory that is adjusted by additional ITI elements deployed each year due to new ITS projects launched statewide. The deployment of new ITI elements were based on ADOT's ITS Project Life Cycle Plan <sup>(2)</sup>. Operating costs associated with ITI devices consist primarily of power, telecommunication and operating personnel costs.

For Phoenix TOC and Flagstaff TOC, the operating costs have been addressed separately and include personnel requirements to support the TOC function. As much as possible operating costs used in the forecasts were historical data from PECOS. In the absence of reliable local historical cost data, data from other state DOTs were utilized. In particular, Washington State DOT provided useful information on operating costs for the Surveillance Control and Driver Information (SC&DI) system <sup>(3)</sup>. Other data were obtained from Minnesota <sup>(4)</sup> and Virginia <sup>(5)</sup>. The basis used in this study for generating ITI operating cost forecasts is shown in Table 4.

Figure 1 depicts the model used for forecasting annual ITI operating resource requirements.

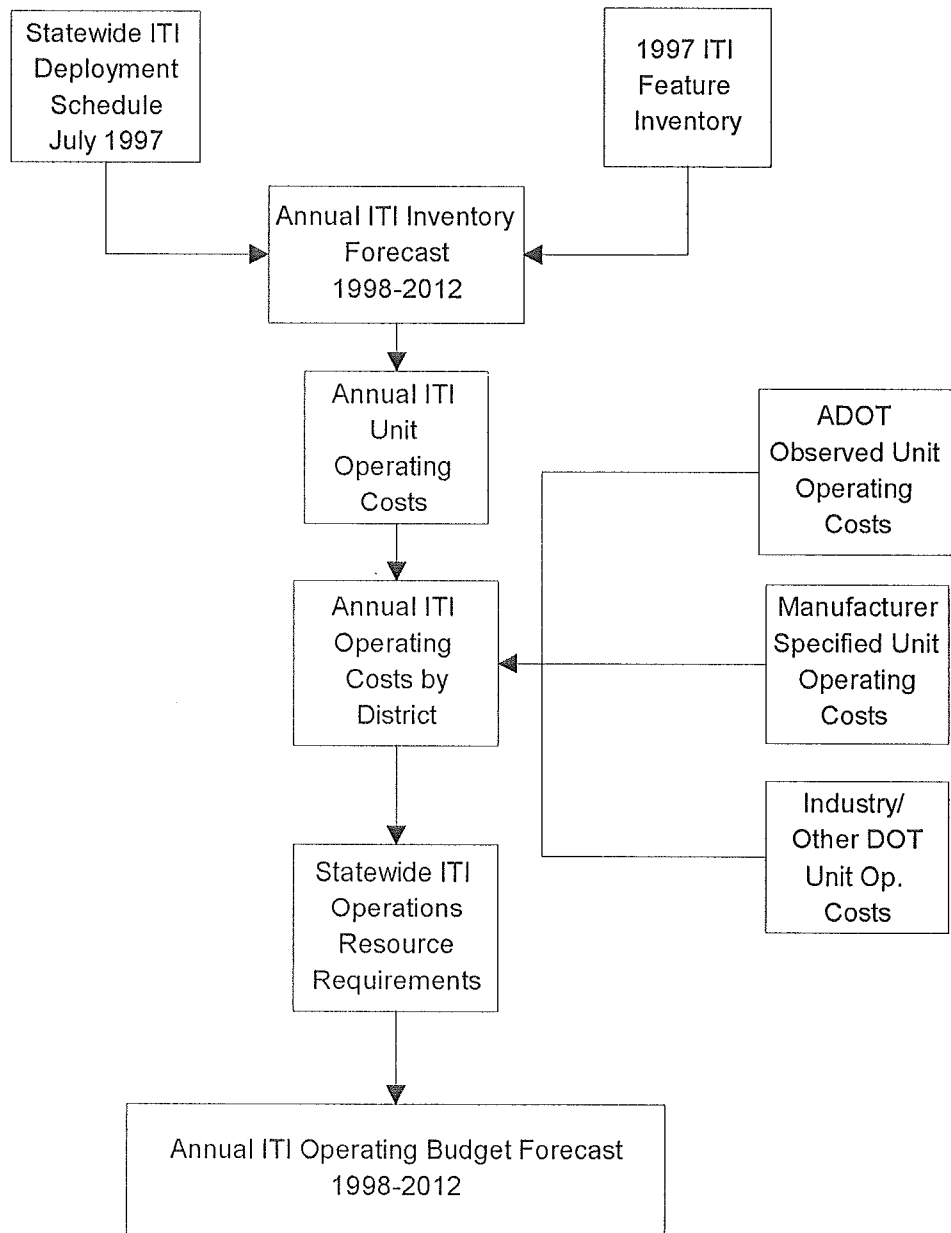


Figure 1. ITI OPERATING RESOURCE FORECASTING MODEL



**Table 4. Average Costs for Operating ITI Elements**

| ITI Element         | Average Annual Operating Cost (\$) | Basis/Data Source       |
|---------------------|------------------------------------|-------------------------|
| AVC – Piezoelectric | 98                                 | ADOT/ATRC               |
| CCTV                | 23                                 | WSDOT                   |
| ILD                 | 38                                 | WSDOT                   |
| Node Room           | 984                                | WSDOT                   |
| PAD                 | 38                                 | Assumed same as ILD     |
| Power Cabinet       | n/a                                |                         |
| Ramp Meter/ILD      | 45                                 | WSDOT                   |
| Ramp Meter/PAD      | 45                                 | WSDOT                   |
| RWIS-CPU            | 500                                | National Survey         |
| RWIS-RPU            | 170                                | Assumed 10% of CPU cost |
| TMS                 | 38                                 | Assumed same as ILD     |
| VDS                 | 45                                 | Assumed same as ILD     |
| VMS                 | 1035                               | ADOT                    |
| WIM – Piezoelectric | 98                                 | ADOT/ATRC               |
| WIM – Bending Plate | 98                                 | ADOT/ATRC               |

### 3.3 ITI MAINTENANCE RESOURCE FORECASTING MODEL

When developing the maintenance resource model, all of the factors that have a significant bearing on maintenance costs were taken into consideration. The resulting model, therefore, represents a comprehensive approach for accurate estimation of ITI maintenance costs. An additional feature was proposed for the model that would have built in an equipment degradation model for estimation of ITI equipment replacement needs. However, that model was not developed due to lack of adequate data to calibrate such a model at the present time. The maintenance costs forecast by this model include all maintenance activities associated with the ITI elements, and costs associated with their replacement at the end of the useful lifecycle. All new ITI equipment is covered for a limited period by manufacturer provided equipment warranties. These warranties only cover the cost of replacement parts during the warranty period. Therefore, new equipment still under warranty incurred only labor and equipment costs associated with unscheduled maintenance.

Figure 2 depicts the ITI maintenance resource-forecasting model. Key input data for this model are the annual ITI inventory forecast and the annual maintenance resource requirements for each ITI element.

All maintenance activities are divided into two categories. Scheduled Maintenance or Preventive Maintenance (PM) involves routine cleaning, adjustments and minor repair. The second category, Unscheduled Maintenance or Demand Maintenance (DM) involves responding to equipment breakdowns, malfunctions etc. The PECOS system contains Performance Guidelines that define standard labor, equipment, material quantities and labor hours for various PM activities. These guidelines also specify PM frequencies for various maintenance features. Standards for PM have been established for those ITI elements that have already been incorporated into

PECOS. Annual PM resource requirements for specific ITI elements were obtained directly from these guidelines and accurately depicts PM requirements. The sum of PM and DM costs associated with any ITI element reflects the total maintenance cost component for that element.

The PECOS system also gathers data on DM through program and activity codes that have been established for different equipment. However, it was not possible to obtain PECOS cost data on DM at the same level detail as that available for PM. A limited amount of DM data were provided to the project team by ADOT (6) and were used as the basis of DM costs for all ITI elements.

The cost of any maintenance activity is affected by the amount of travel required to carry out that activity. It would depend on the location of the ADOT maintenance units that execute PM and DM on statewide ITI elements. An accurate accounting of such future costs were considered beyond the scope of this effort. Therefore, additional maintenance costs that may be associated with travel to future remote ITI sites were not included in the cost forecasts.

The degradation of ITI elements with age and their eventual replacement costs were addressed by assuming that once an element reached the end of its useful life, it would be replaced by an equivalent ITI element. Costs related to periodic repair and replacement of components within each element were assumed to be captured by the annual DM costs. Historical DM costs from PECOS were used to generate average annual DM costs for each type of ITI element in service. These average costs were then applied across the ITI inventory. The influence of the age distribution of ITI inventory on DM costs was not explicitly considered due to lack of historical data to establish reliable relationships.

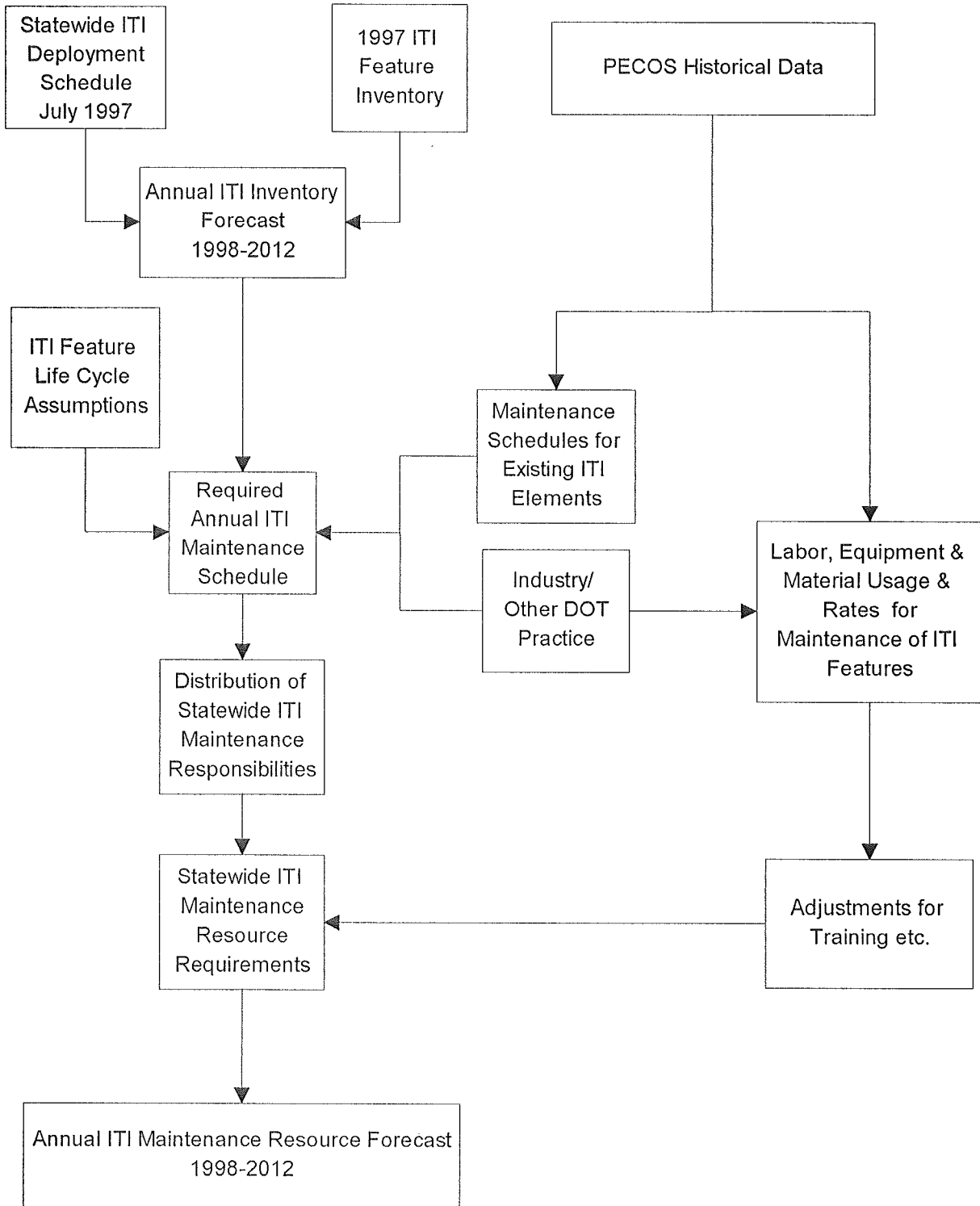


Figure 2. ITI MAINTENANCE RESOURCE FORECASTING MODEL

#### 4.0 IDENTIFICATION OF ITI ELEMENTS

The reliability and accuracy of future O&M cost forecasts depend largely on the accuracy with which equipment inventories for future years are determined. Therefore, proper identification of equipment or ITI elements that are currently deployed and those that are planned for future deployment across the state was required for estimating future maintenance needs. Different types of ITI elements have different operating costs and maintenance needs, which also change over time as these equipment age. The age of equipment in any given year was determined from the install date for consideration in the life cycle analysis, which incorporated equipment replacement.

In order that the O&M cost estimates accurately depict expected future costs, an effort was made to identify the key ITI elements that would influence these costs. As is common with many electronic devices, many ITI elements consist of multiple components that each has their own O&M cost characteristics. However, for the purpose of this study it was deemed sufficient to identify O&M resource needs by the key ITI elements. The selection of these key elements was primarily based on how preventive or scheduled maintenance activities and demand or unscheduled maintenance activities are carried out and recorded by the agency. For the purpose of this study groups of field components are considered as ITI maintenance units. This is consistent with the manner in which cost data on ITI maintenance activities are entered into PECOS. The terminology and acronyms used for ITI elements that in fact refer to groups of components associated with that element are defined as follows:

**Variable Message Sign or VMS:** This element consists of a FDS/Sylvia sign enclosure that is mounted on an overhead structure over the freeway, a Type 344 roadside cabinet that houses the sign controller; a modem, a communication relay and a voice telephone.

**Inductive Loop Detector or ILD:** These are vehicle detector stations spaced at 1/3 mile along the freeway. Each station typically consists of two inductive loops in each of three lanes, a Type 341 cabinet, a 179 controller, a modem, a communication relay and a voice telephone

**Passive Acoustic Detectors or PAD:** This element is essentially the same as an ILD station with the loops replaced by a group of acoustic detectors.

**Traffic Monitoring Station or TMS:** This term refers to future vehicle detection stations and could refer to either ILD or PAD due to present uncertainty about the type of detection technology to be utilized in the future.

**Ramp Meter/ILD:** These are ramp meters that also function as mainline detectors (and are linked to a group of six mainline detectors located either upstream or downstream of a ramp terminal). This element typically consists of a Type 341 cabinet, a 179 controller, four loops on the ramp, ramp metering signal and the six loops on the mainline.

**Close Circuit Television (CCTV):** This element typically consists of a camera, drive and housing, Type 343 or Type 341 cabinet, camera controller and multimode fiber communication link to the node.

Vehicle Detection System or VDS: This element consists of future automatic vehicle counting systems to be located at existing permanent traffic count stations. These elements are planned to be deployed as part of rural ITS.

Road Weather Information System – Remote Processing Unit (RWIS-RPU): This element consists of a sensor located on the road pavement, roadside weather station, controller, a cabinet, and communication link

Weigh-in-Motion – Piezo or Bending Plate (WIM-Piezo or WIM-BP): This element typically consists of a group of piezoelectric- or bending plate-based sensors located in a number of lanes of the highway, a roadside controller, modem

Automatic Vehicle Classifier (AVC): This element has the same components as a WIM-Piezo but collects data on vehicle classification.

Other technologies that are currently being considered for future deployment include:

- Highway Advisory Radio (HAR)
- Image-based Vehicle Detection Systems
- Emergency Call Boxes

#### **4.1 METHODOLOGY TO DEVELOP ANNUAL STATEWIDE ITI INVENTORY**

The annual statewide ITI inventory was developed using the following information sources:

- Data on Existing ITI <sup>(7)</sup>.
- ADOT's ITS Project Life Cycle Plan <sup>(2)</sup>.
- Rural Intelligent Transportation Infrastructure Plan <sup>(8)</sup>.
- List of WIM Sites and equipment provided by ATRC <sup>(9)</sup>.
- RWIS system description from I-40 ITS Strategic Plan <sup>(10)</sup>.

Data on existing ITI provided detailed information on the following existing elements in the Phoenix FMS:

- ILD
- CCTV Cameras
- VMS
- Power cabinets
- Node Rooms
- Ramp Meters

Since no installed year information was available for ITI elements, this information was based on when FMS Phases were known to have been completed. From an O&M viewpoint, an ITI element was considered to enter service in the year system acceptance testing was completed by ADOT. Similarly, ITI elements planned to be deployed by future FMS and Rural ITI phases are also considered to enter service after acceptance testing.

ADOT's Project Life Cycle Plan provided information on Phoenix FMS, Tucson FMS and Rural ITI deployment schedules.

The Rural ITI Plan provided detailed information on the type of equipment, planned deployment year and location.

Although sufficiently accurate ITI inventory data were available for all future phases of Rural ITI, similar information was not available for future phases of Phoenix and Tucson FMS projects. This limitation was overcome by utilizing general criteria used by ADOT for estimating the costs of future FMS phases. The project team learned from ADOT that the estimated costs of future FMS phases had been based on purely historical FMS implementation costs and similar experiences of other state DOTs <sup>(11)</sup>. They were based on per mile gross FMS construction costs. The accuracy of following this approach for FMS planning purposes had been validated by recent contract bids received by ADOT on FMS Phase 4. This planning approach is based on the assumption that future FMS configuration such as vehicle detector spacing on the freeway, CCTV camera spacing, ramp metering locations, and variable message sign spacing would closely follow existing FMS configuration. Since the Phoenix FMS configuration is well defined and accepted by the agency, it was considered reasonable to assume that the number of ITI features to be installed on future FMS phases would follow the observed system wide averages closely. Table 5 depicts criteria currently used to estimate ITI elements for future FMS phases.

**Table 5. Future ITI Element Estimation Criteria for FMS**

| ITI Element                     | Criteria   |
|---------------------------------|--|
| CCTV cameras                    | One for every freeway mile                           |
| ILDs or PADs                    | One every 1/3 of mile in each direction              |
| VMS                             | One every 2.5 miles in each direction of the freeway |
| Ramp Meters                     | One at every on-ramp                                 |
| Traffic Interchange Controllers | One at every interchange                             |

Source: (11)

The 1/3-mile criteria shown above for ILD or PAD spacing on urban freeways is being evaluated by ADOT with a possible change to 1/2 mile spacing for future FMS phases.



## **5.0 ANNUAL STATEWIDE ITI INVENTORY**

The annual statewide ITI inventory for the years 1998-2012 was developed following the methodology described in Section 4.1. Appendix E contains annual ITI inventory data compiled for each ADOT organization.

### **5.1 PHOENIX FMS**

All of the phases of the Phoenix FMS as described in the ITS Project Life Cycle Plan <sup>(2)</sup> were considered in this study. This included phases that were already implemented and others that are planned for future construction. Identification of both existing and future ITI components related to FMS was a key step for developing an accurate forecast of the ITI inventory. Inventory information provided by ADOT staff at the FMS TOC identified nearly all ITI features that have been implemented by past FMS phases.

The entire ITI feature inventory, for the Phoenix FMS, used on this project for generating O&M costs is based on:

1. ITI elements implemented as of June 1997
2. ITI elements planned for deployment on future FMS Phases

The inventory of existing ITI was compiled from an equipment inventory list provided by ADOT <sup>(7)</sup>. This document provided detailed information on ITI equipment and their locations. The locations of equipment were used to identify the associated FMS phase and therefore its approximate installation date. A number of exceptions to this were observed and accounted for accurately in the inventory data. For example, ramp metering at 12 interchanges along US 60 was installed prior to FMS Phase 7b. The installed dates for ITI are used in the model to determine the age of ITI features at any given year.

### **5.2 PHOENIX TOC**

The entire Phoenix TOC was considered as a single entity from an O&M viewpoint. This approach was considered adequate for the purpose of this study. The study utilized O&M cost projections compiled by ADOT staff for the years 1996 – 2001. These costs had been based on historical data and anticipated future O&M activities at the TOC. The following adjustments were made to ADOT cost projections for the TOC:

- An adjustment to match previous ADOT projections to actual cost data for 1998.
- Linear cost increment projections for the years beyond 2001.

### **5.3 TUCSON FMS**

The Tucson FMS is the second urban FMS planned to be implemented in Arizona. Current information on the Tucson FMS indicate that it will be constructed in three phases. Phase 1 of the Tucson FMS is currently under design and no details on specific ITI features were available



for this project. For the purpose of determining the number and type of ITI features deployed, the future ITI criteria from Table 5 were used.

#### **5.4 TUCSON TOC**

The Tucson TOC is planned to be located in the City of Tucson downtown facility with the primary responsibility for its operation during normal working hours to be borne by the City of Tucson. Details on its future operation were not available for this study. For the purpose of this study, the majority of operating and maintenance costs associated with the TOC were assumed to be borne entirely by the City of Tucson. During the first four years of its operation, the Phoenix TOC staff is expected to provide operational support. Costs associated with this support have been included in the Phoenix TOC cost forecast shown in Appendix A.

#### **5.5 FLAGSTAFF TOC**

The future Flagstaff TOC is intended to be operational only during those times when there are highway closures that affect two or more ADOT maintenance organizations during regular working hours. Functions such as placing messages on Variable Message Signs is planned to be controlled from the Phoenix TOC. With the TOC function being supported by the Phoenix TOC, minimum operational and maintenance costs are anticipated for this facility<sup>(12)</sup>. At present the only RWIS-CPU in the state has is located at Flagstaff. Maintenance personnel in Flagstaff have received limited training on RWIS operation and maintenance. It is likely that in the future the agency will rely on the expertise in Flagstaff to support planned RWIS expansion elsewhere. The need to account for O&M training needs was repeatedly emphasized by TAC members. These factors were considered in developing the O&M cost forecast for Flagstaff TOC. Anticipated operational support from the Phoenix TOC and costs associated with that effort have been included in Appendix A.

#### **5.6 AZTECH MODEL DEPLOYMENT INITIATIVE (MDI)**

As a result of the AZTech MDI, a number of new equipment as well as new operational functions is expected to be introduced to the Phoenix TOC. The following is a brief summary of these anticipated additions<sup>(13)</sup>:

- AZTech (or HCRS) server
- ETAK server - ETAK Inc. will be solely responsible for this device
- Communications backbone - USWest SONET OC-3 backbone to Scottsdale; Tempe; and Mesa
- T-1 leased communication lines to Glendale and Gilbert
- Numerous Routers and Codecs installed at TOC and at other TOCs
- SONET fiberoptic communication link to City of Phoenix.

It is expected that ADOT will be responsible for providing support for the O&M of these devices from July 1, 1998. Estimated operational costs to be borne by ADOT have been estimated at \$125,000 per year<sup>(14)</sup>.

## **5.7 STATEWIDE RURAL ITI**

Statewide rural ITI deployment information used in this study closely followed the Rural ITI Deployment Plan <sup>(8)</sup>. Existing ITI elements consisted only of the RWIS with RPU's along I-40 and the CPU located at the ADOT Flagstaff District Office.

Summaries of ITI inventory by each district were prepared and distributed to the districts for review and verification. Based on feedback received from the districts, a few changes to the original schedule were noted and incorporated in the ITI inventory database.

## **5.8 WEIGH-IN-MOTION SITES AND AUTOMATED VEHICLE CLASSIFICATION SITES**

There are two types of vehicle detection and measuring devices installed across the state. Weigh-in-Motion (WIM) sites that detect and record the type of vehicle and its axle weights, and Automated Vehicle Classification (AVC) sites that detect and record only the type of vehicle. Each of these sites consists with the following components:

- sensors installed on the roadway;
- a data acquisition unit installed in a cabinet; and,
- power supply and communication links to the unit.

Both WIM and AVC devices continuously gather data on traffic passing by the site and maintains a record of vehicles. A number of WIM and AVC sites have been installed at or near Long Term Pavement Performance (LTPP) experimental pavement sites of the Strategic Highway Research Program (SHRP). These sites are maintained and operated by the ADOT unit, Arizona Transportation Research Center. A second group of WIM and AVC sites are operated and maintained by the Data Team of ADOT's Transportation Planning Group.

The O&M costs used in the analysis and the replacement costs are based on historical data provided by ATRC <sup>(14)</sup>.

## **5.9 HIGHWAY CLOSURE AND RESTRICTION SYSTEM (HCRS)**

ADOT has begun installing HCRS terminals at each district engineer's office. Current ADOT plans indicate that some HCRS terminals will be located in facilities owned and operated by agencies such as Department of Public Safety, National Forest Service, and also in cities such as Tempe and Scottsdale. This study has considered that all O&M costs of HCRS terminals located in non-ADOT facilities will be borne by the host agency. The O&M responsibilities for HCRS stations in ADOT facilities are being handled by the ADOT TIR group and have not been included in the O&M cost projections. This is based on information on the operation and future plans for HCRS provided by ADOT <sup>(15)</sup>.

## **5.10 INTERSTATE ROUTE 40 ADVANCED TRAVELER INFORMATION SYSTEM (ATIS) KIOSKS**

A number of I-40 ATIS kiosks are planned to be installed as part of a National Rural ITS grant awarded to Arizona. Information made available to the project indicated that the maintenance and operation of these kiosks would not be the responsibility of ADOT. Therefore, these kiosks have not been considered in the statewide ITI O&M cost forecast.

## 6.0 COST BASIS AND ASSUMPTIONS

The cost forecasting process described in Chapter 3 was followed in generating future annual ITI O&M costs and man-hour estimates. In doing so, the cost basis shown in Table 6 was used. The following variables were used to determine the annual O&M cost of each ITI element considered.

Replacement Cycle: This was the assumed life cycle in years for each ITI element. The figures used for each element were based on feedback received from TAC members and other ADOT staff members who are familiar with equipment repair and breakdown history.

Warranty Period: All new equipment has a limited warranty period during which the contractor or manufacturer bears responsibility for repair or replacement of parts.

Preventive Maintenance (PM): All PM costs were based on historical PECOS data and performance guidelines. PM was broken down into four components: labor cost, equipment cost, material cost and man-hours. Annual maintenance frequency specified for each element was incorporated into the PM cost components and man-hour estimate. Table 7 shows the PECOS program and activity codes that formed the basis for these costs.

Demand Maintenance (DM): DM costs were based on a limited amount of historical PECOS data. Some assumptions were made regarding DM costs for elements for which there was no PECOS data. These assumptions and the sources for this data are shown in Table 7.

Replacement Cost: The replacement costs used for each ITI element reflected the current cost of a new unit. Equipment costs were assumed to remain constant.

Operating Cost: The costs of operating ITI elements were obtained from ADOT data and data from other state DOTs.

Table 6. Cost Basis for Annual ITI O&M Forecasts

| Equipment         | Replacement Cycle (yrs) | Warranty Period (yrs) | Preventive Maintenance (PM) |           |              | Demand Maintenance (DM) |           |              | Replace. Cost \$ | Operating Cost \$ | Total Annual Cost |         |      |      |
|-------------------|-------------------------|-----------------------|-----------------------------|-----------|--------------|-------------------------|-----------|--------------|------------------|-------------------|-------------------|---------|------|------|
|                   |                         |                       | Labor \$                    | Equip. \$ | Materials \$ | Labor \$                | Equip. \$ | Materials \$ |                  |                   | O&M \$            | Man-hrs |      |      |
| AVC-Piezo         | 3                       | 1                     | 167                         | 167       | 167          | 167                     | 5         | 167          | 167              | 5                 | 10000             | 98      | 1100 | 10   |
| CCTV              | 7                       | 1                     | 651                         | 419       | 647          | 162                     | 8         | 163          | 105              | 2                 | 17000             | 23      | 2170 | 10   |
| ILD Cabinet       | 10                      | 1                     | 361                         | 268       | 51           | 4.5                     | 29        | 53           | 53               | 1                 | 9000              | 38      | 814  | 5.5  |
| Node Room         | 8                       | 0                     | 148                         | 232       | 0            | 5                       | 358       | 179          | 358              | 24                | 30000             | 1035    | 2310 | 29   |
| PAD cabinet       | 10                      | 1                     | 361                         | 268       | 51           | 4.5                     | 29        | 53           | 53               | 1                 | 9000              | 45      | 821  | 5.5  |
| Power Cabinet     | 15                      | 0                     | 148                         | 232       | 0            | 5                       | 90        | 45           | 45               | 6                 | 2000              | 0       | 605  | 11   |
| Ramp Meter/ILD    | 8                       | 1                     | 361                         | 268       | 51           | 4.5                     | 1023      | 840          | 963              | 38                | 15000             | 45      | 3551 | 42.5 |
| Ramp Meter/PAD    | 8                       | 1                     | 723                         | 536       | 103          | 4.5                     | 1023      | 840          | 963              | 38                | 15000             | 45      | 4233 | 42.5 |
| RWIS-CPU          | 10                      | 2                     | 2905                        | 0         | 0            | 29                      | 2950      | 0            | 0                | 29                | 5000              | 500     | 6355 | 58   |
| RWIS-RPU          | 10                      | 2                     | 148                         | 232       | 0            | 5                       | 335       | 0            | 2613             | 10.5              | 20000             | 170     | 3498 | 15.5 |
| TMS               | 10                      | 1                     | 361                         | 268       | 51           | 4.5                     | 29        | 53           | 53               | 1                 | 9000              | 38      | 814  | 5.5  |
| VDS               | 10                      | 2                     | 138                         | 128       | 77           | 9                       | 29        | 53           | 53               | 1                 | 5000              | 45      | 484  | 10   |
| VMS               | 15                      | 10                    | 593                         | 696       | 0            | 15                      | 369       | 250          | 570              | 25                | 109000            | 1035    | 3513 | 40   |
| WIM-Piezo         | 3                       | 1                     | 934                         | 934       | 934          | 10                      | 934       | 934          | 934              | 10                | 10000             | 98      | 5702 | 20   |
| WIM-Bending Plate | 15                      | 1                     | 934                         | 934       | 934          | 10                      | 934       | 934          | 934              | 10                | 55000             | 98      | 5702 | 20   |

AVC-Piezo Automatic Vehicle Classification System - Piezoelectric Sensor Based

CCTV Close Circuit Television Camera

ILD Cabinet Inductive Loop Detector Cabinet

Node Room Communication Hub of FMS

PAD cabinet Passive Acoustic Detector

Power Cabinet Electric power source on the urban FMS

Ramp Meter/ILD Ramp Meter and ILD group

Ramp Meter/PAD Ramp Meter and PAD group

RWIS-CPU Road Weather Information System - Central Processing Unit

RWIS-RPU Road Weather Information System - Remote Processing Unit

TMS Traffic Monitoring Station (Future ILD or PAD)

VDS Vehicle Detection System (future vehicle count locations as part of Rural ITS)

VMS Variable Message Sign

WIM-Piezo Weigh-in-Motion System based on Piezoelectric sensors

WIM-Bending Plate Weigh-in-Motion System based on Bending Plate Sensors

**Table 7. PECOS Activity Codes and Other Data Sources for PM and DM**

| <b>ITI Element</b> | <b>Preventive Maintenance</b> | <b>Demand Maintenance</b> |
|--------------------|-------------------------------|---------------------------|
| CCTV               | 510-5108                      | 510-5205B                 |
| ILD                | 510-5104                      | 510-5205A                 |
| TMS                | 510-5104                      | 510-5205A                 |
| Node Room          | 510-5104                      | 510-5205E                 |
| PAD                | 510-5104                      | 510-5205A                 |
| Power Cabinet      | 510-5103                      | 510-5205D                 |
| RM/ILD             | 510-5104                      | 510-5205C                 |
| RM/PAD             | 510-5104                      | 510-5205C                 |
| RWIS-CPU           | Other DOT data                |                           |
| RWIS-RPU           | Flagstaff data                | 510-5205F                 |
| VMS                | 510-5103                      | 510-5204                  |
| VMS – Major        | 510-5103                      | n/a                       |
| VMS – Minor        | 510-5103                      | n/a                       |
| WIM – Piezo        | ATRC data                     | ATRC data                 |
| WIM – BP           | ATRC data                     | ATRC data                 |
| AVC – Piezo        | ATRC data                     | ATRC data                 |

## **6.1 DISTRIBUTION OF O&M RESPONSIBILITIES**

The O&M costs associated with ITI elements depend to some extent on where in the state the equipment are located and which organization or unit in ADOT is responsible for operating and maintaining them. At present, nearly all of the existing ITI elements are operated and maintained by staff at the Phoenix TOC. The only exception to this being the RWIS, which is operated and maintained by the Flagstaff district maintenance staff. However, with continued statewide deployment of new ITI elements, the O&M responsibilities for ITI devices may need to be located at some districts for effective operation and management of the overall system. Any such decentralization would certainly have an impact on future O&M costs. However, for the purpose of this study it was assumed that all O&M functions would be supported from the Phoenix TOC, with the exception of RWIS in Flagstaff.

## **6.2 ITI WARRANTIES**

All new equipment installed as part of the Phoenix FMS construction contracts have a minimum six (6) month warranty against defects and failure, as provided by the contractor (16). Manufacturer provided warranties on FMS equipment installed by the contractor take effect immediately following the 60-day system acceptance testing, regardless of when such equipment may have been first installed. Such warranty periods commence from the time at which system is approved and accepted by ADOT. Warranty data on all ITI elements were taken into consideration in the cost forecasting process. Although there is no cost for material during the warranty period, labor and equipment costs that are typically incurred by ADOT were taken into consideration.

### **6.3 LIFE CYCLE COST CONSIDERATIONS**

For each ITI element, a life cycle was assumed based on the experience on similar equipment in the Phoenix FMS. The analysis also assumed that at the end of this life cycle the equipment concerned would be replaced by an equivalent one with a similar life cycle and warranty.

### **6.4 EQUIPMENT UPGRADES & OBSOLESCENCE**

#### Upgrades

All equipment upgrades were assumed to occur at the end of their life cycle.

#### Obsolescence

It was assumed that at the end of the design life of each ITI element would be replaced by an equivalent or an upgraded unit. The cost associated with replacing an original ITI element was considered a maintenance cost. Replacement costs were assumed to remain constant over the entire forecast period. Although the per unit costs of ITI equipment have decreased due to increased markets for them, the functionality of many newer devices seem to have increased in a manner that offsets any reductions in unit costs.

## 7.0 RESULTS

Annual operations costs were generated by the application of operational costs shown in Table 6 for each ITI element in service on a given year. Similarly, appropriate PM & DM rates for labor, equipment and material were applied to the entire statewide ITI inventory to generate the PM & DM costs. By developing a relational database that included each ITI element that is planned to be deployed during the period under study, it was possible to generate O&M costs by each district.

A summary of annual O&M cost forecast for ITI is shown in Table 8. This summary provides the total O&M costs and man-hours required by each ADOT organization to support ITI. Large variations in the O&M costs from one year to the next for any ADOT unit/organization shown in the columns of this table reflect additional costs incurred due to equipment replacement.

Detailed cost and man-hour forecasts are provided in the Appendices as follows:

Appendix A – Annual O&M Cost Forecast for the Phoenix TOC.

Appendix B – Annual O&M Cost Forecast for Flagstaff TOC

Appendix C – Statewide ITI O&M Resource Forecast by Year

Appendix D – Statewide ITI O&M Resource Forecast by ADOT Organization

Appendix E – Statewide ITI Inventory Forecast (excluding Phoenix and Flagstaff TOC)



Table 8. Annual O&M Cost Forecasts for ITI in Arizona

| Year | ATRC             | TPG              | Phoenix FMS            | Phoenix TOC | Tucson FMS        | Flagstaff TOC       | Globe           | Holbrook          | Kingman           | Prescott         | Safford         | Tucson            | Yuma              | Year Total              |
|------|------------------|------------------|------------------------|-------------|-------------------|---------------------|-----------------|-------------------|-------------------|------------------|-----------------|-------------------|-------------------|-------------------------|
| 1998 | Costs<br>Man-Hrs | \$36,412<br>140  | \$1,106,326<br>7820.5  | \$1,386,436 | \$0<br>0          | \$42,325<br>333     | \$0<br>0        | \$2,655<br>46.5   | \$0<br>0          | \$5,886<br>80    | \$7,656<br>111  | \$0<br>0          | \$0<br>0          | \$2,703,754<br>8901     |
| 1999 | Costs<br>Man-Hrs | \$36,412<br>140  | \$885,266<br>9070.5    | \$1,588,271 | \$166,054<br>1879 | \$4,982<br>508.5    | \$0<br>0        | \$9,426<br>142    | \$0<br>0          | \$5,886<br>80    | \$7,656<br>111  | \$0<br>0          | \$0<br>0          | \$2,871,376<br>12301    |
| 2000 | Costs<br>Man-Hrs | \$110,474<br>140 | \$997,274<br>10217.5   | \$1,615,958 | \$192,246<br>1879 | \$62,821<br>508.5   | \$0<br>0        | \$17,265<br>142   | \$8,829<br>120    | \$5,886<br>80    | \$12,882<br>111 | \$0<br>0          | \$0<br>0          | \$3,321,116<br>13568    |
| 2001 | Costs<br>Man-Hrs | \$36,412<br>140  | \$1,450,480<br>12960   | \$1,707,649 | \$192,246<br>1879 | \$65,434<br>508.5   | \$0<br>0        | \$33,132<br>339.5 | \$17,658<br>240   | \$5,886<br>80    | \$12,882<br>111 | \$8,829<br>120    | \$0<br>0          | \$3,649,872<br>16748    |
| 2002 | Costs<br>Man-Hrs | \$36,412<br>140  | \$1,991,915<br>15275   | \$1,771,694 | \$192,246<br>1879 | \$71,917<br>610.5   | \$5,310<br>93   | \$39,018<br>419.5 | \$18,543<br>255.5 | \$5,886<br>80    | \$18,768<br>191 | \$8,829<br>120    | \$0<br>0          | \$4,280,781<br>19433.5  |
| 2003 | Costs<br>Man-Hrs | \$36,412<br>140  | \$2,498,188<br>16135   | \$1,838,833 | \$192,246<br>1879 | \$198,626<br>610.5  | \$5,310<br>93   | \$57,969<br>499.5 | \$21,486<br>295.5 | \$10,599<br>151  | \$21,711<br>231 | \$26,487<br>360   | \$5,886<br>80     | \$5,035,017<br>20844.5  |
| 2004 | Costs<br>Man-Hrs | \$110,474<br>140 | \$1,823,227<br>18150   | \$1,909,217 | \$192,246<br>1879 | \$81,736<br>850.5   | \$20,988<br>93  | \$70,050<br>688   | \$24,099<br>295.5 | \$10,599<br>151  | \$21,711<br>231 | \$26,487<br>360   | \$5,886<br>80     | \$4,598,205<br>23288    |
| 2005 | Costs<br>Man-Hrs | \$36,412<br>140  | \$3,328,551<br>19945.5 | \$1,983,003 | \$192,246<br>1879 | \$100,027<br>850.5  | \$20,988<br>93  | \$70,050<br>688   | \$32,640<br>422   | \$16,965<br>151  | \$30,540<br>351 | \$26,487<br>360   | \$17,658<br>240   | \$5,979,004<br>25490    |
| 2006 | Costs<br>Man-Hrs | \$36,412<br>140  | \$3,228,876<br>23165.5 | \$2,060,359 | \$192,246<br>1879 | \$100,027<br>850.5  | \$32,760<br>253 | \$88,341<br>688   | \$32,640<br>422   | \$22,386<br>211  | \$49,968<br>622 | \$26,487<br>360   | \$17,658<br>240   | \$6,012,754<br>29201    |
| 2007 | Costs<br>Man-Hrs | \$36,412<br>140  | \$2,603,908<br>24330.5 | \$2,141,458 | \$427,978<br>1879 | \$100,027<br>850.5  | \$42,662<br>353 | \$103,194<br>838  | \$49,308<br>542   | \$22,548<br>211  | \$49,968<br>622 | \$30,027<br>422   | \$17,658<br>240   | \$5,750,948<br>30798    |
| 2008 | Costs<br>Man-Hrs | \$268,885<br>370 | \$3,343,122<br>25675.5 | \$2,226,484 | \$529,134<br>1879 | \$112,574<br>980.5  | \$48,872<br>433 | \$103,680<br>838  | \$49,308<br>542   | \$25,505<br>251  | \$56,334<br>622 | \$30,027<br>422   | \$38,679<br>515.5 | \$6,980,408<br>32668.5  |
| 2009 | Costs<br>Man-Hrs | \$36,412<br>140  | \$3,252,249<br>27105.5 | \$2,315,629 | \$197,946<br>1879 | \$185,305<br>1230.5 | \$48,872<br>433 | \$174,639<br>1078 | \$49,308<br>542   | \$25,505<br>251  | \$91,108<br>622 | \$40,479<br>422   | \$38,841<br>515.5 | \$6,584,663<br>34588.5  |
| 2010 | Costs<br>Man-Hrs | \$36,412<br>140  | \$7,308,233<br>30690.5 | \$2,409,094 | \$719,134<br>1879 | \$142,692<br>1230.5 | \$49,812<br>453 | \$149,123<br>1301 | \$65,865<br>744   | \$25,505<br>251  | \$59,958<br>777 | \$40,479<br>422   | \$41,468<br>515.5 | \$11,177,513<br>38773.5 |
| 2011 | Costs<br>Man-Hrs | \$36,412<br>140  | \$4,138,225<br>33850.5 | \$2,507,090 | \$197,946<br>1879 | \$130,545<br>1230.5 | \$49,812<br>453 | \$139,158<br>1301 | \$67,737<br>744   | \$242,365<br>251 | \$65,184<br>777 | \$52,500<br>579.5 | \$41,468<br>515.5 | \$7,799,608<br>42091    |
| 2012 | Costs<br>Man-Hrs | \$485,149<br>370 | \$5,964,408<br>33850.5 | \$2,609,840 | \$197,946<br>1879 | \$133,728<br>1230.5 | \$49,840<br>453 | \$245,608<br>1301 | \$78,203<br>744   | \$24,365<br>251  | \$92,454<br>777 | \$52,500<br>579.5 | \$41,468<br>515.5 | \$10,128,910<br>42091   |

Notes:

1. For Phoenix TOC and Flagstaff TOC man-hour estimates were not generated. All costs shown are in constant 1997 dollars.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

A systematic process was followed in developing the cost models for generating ITI O&M forecasts for Arizona. The project was slightly set back by the discovery that the ADOT maintenance management system, PECOS, could not support cost forecasting function. However, the alternative approach followed in executing this project, by developing a stand alone cost forecasting process utilizing PECOS data, may have resulted in some useful insights for future improvements to PECOS. The model used can be incorporated in a future version of PECOS, thus providing the ability to make accurate O&M cost forecasts for ITI. A desirable feature of any system such as PECOS would be its ability to link directly to multi-year project deployment schedules. Such ability would provide PECOS the ability to forecast future highway maintenance costs as well as personnel requirements to support levels of service desired from the transportation system

It was necessary to make a number of assumptions regarding both PM and DM costs, in order to be able to generate the forecasts according to the model process. The primary reason was lack of adequate PM and DM data on ITI elements. Although some ITI elements are already in PECOS many have not been incorporated as yet. It would be of value to the agency to have the key ITI elements incorporated in PECOS as soon as possible. Although having the elements in PECOS is important, an equally important consideration is having O&M activities accurately reported to PECOS.

During the course of this project, the project team interacted with many individuals who are actively involved in ITI O&M activities in Arizona. Some of the key concerns expressed by these individuals dealt with lack of personnel to address maintenance according PECOS guidelines. These concerns seem to be validated by the forecast man-hours for ITI O&M activities. A second but related concern is training required for O&M staff. This concern has been addressed by the inclusion of training needs in the Phoenix and Flagstaff TOC cost forecasts.



## APPENDIX A

Annual O&M Cost Forecast for the Phoenix TOC.

Annual Operation and Maintenance Forecast  
Phoenix TOC

|                         | 1998        | 1999        | 2000        | 2001        | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        | 2012        |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Building Maintenance    | \$89,230    | \$96,511    | \$100,372   | \$104,386   | \$108,562   | \$112,904   | \$117,421   | \$122,117   | \$127,002   | \$132,082   | \$137,365   | \$142,860   | \$148,575   | \$154,517   | \$160,698   |
| Utilities               | \$60,770    | \$62,593    | \$64,471    | \$66,405    | \$68,397    | \$70,449    | \$72,563    | \$74,739    | \$76,982    | \$79,291    | \$81,670    | \$84,120    | \$86,643    | \$89,243    | \$91,920    |
| Operating Supplies      | \$237,336   | \$245,765   | \$258,053   | \$270,956   | \$284,504   | \$298,729   | \$313,665   | \$329,348   | \$345,816   | \$363,107   | \$381,262   | \$400,325   | \$420,341   | \$441,358   | \$463,426   |
| Operations Support      | \$223,920   | \$230,974   | \$242,522   | \$254,649   | \$267,381   | \$280,750   | \$294,788   | \$309,527   | \$325,003   | \$341,253   | \$358,316   | \$376,232   | \$395,043   | \$414,796   | \$435,535   |
| EDP Support             | \$497,680   | \$548,692   | \$576,127   | \$604,933   | \$635,180   | \$666,939   | \$700,286   | \$735,300   | \$772,065   | \$810,668   | \$851,202   | \$893,762   | \$938,450   | \$985,372   | \$1,034,641 |
| Software Licenses       | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   | \$236,300   |
| Training(out-of-state)  | \$12,360    | \$12,731    | \$13,113    | \$13,506    | \$13,911    | \$14,329    | \$14,758    | \$15,201    | \$15,657    | \$16,127    | \$16,611    | \$17,109    | \$17,622    | \$18,151    | \$18,696    |
| Training (in-state)     | \$28,840    | \$29,705    | \$30,596    | \$31,514    | \$32,460    | \$33,433    | \$34,436    | \$35,470    | \$36,534    | \$37,630    | \$38,759    | \$39,921    | \$41,119    | \$42,353    | \$43,623    |
| Total for TOC Operation | \$1,386,436 | \$1,463,271 | \$1,490,968 | \$1,582,649 | \$1,646,694 | \$1,713,833 | \$1,784,217 | \$1,858,003 | \$1,935,359 | \$2,016,458 | \$2,101,484 | \$2,190,629 | \$2,284,094 | \$2,382,090 | \$2,484,840 |
| AZTech Support          |             | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   | \$125,000   |
| Tucson Support          |             | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    | \$10,000    |
| Flagstaff Support       |             | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    | \$20,000    |
| TOTAL                   | \$1,386,436 | \$1,588,271 | \$1,615,958 | \$1,707,649 | \$1,771,694 | \$1,838,833 | \$1,909,217 | \$1,983,003 | \$2,060,359 | \$2,141,458 | \$2,226,484 | \$2,315,629 | \$2,409,094 | \$2,507,090 | \$2,609,840 |

Notes:

1. Costs for FY 2003 to FY 2011 are values projected from 1998-2002 ADOT cost estimates
2. Utility costs were assumed to increase at 3%/yr
3. Training costs were assumed to increase at 3%/yr

APPENDIX B

Annual O&M Cost Forecast for Flagstaff TOC

Annual Operation and Maintenance Forecast  
Flagstaff TOC

|                        | 1998            | 1999            | 2000            | 2001            | 2002            | 2003            | 2004            | 2005            | 2006            | 2007            | 2008            | 2009            | 2010            | 2011            | 2012            |
|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Utilities              | \$5,150         | \$5,305         | \$5,464         | \$5,628         | \$5,796         | \$5,970         | \$6,149         | \$6,334         | \$6,524         | \$6,720         | \$6,921         | \$7,129         | \$7,343         | \$7,563         | \$7,790         |
| Operating Supplies     | \$5,000         | \$5,513         | \$5,788         | \$6,078         | \$6,381         | \$6,700         | \$7,036         | \$7,387         | \$7,757         | \$8,144         | \$8,552         | \$8,979         | \$9,428         | \$9,900         | \$10,395        |
| Operations Support     | \$5,000         | \$5,513         | \$5,788         | \$6,078         | \$6,381         | \$6,700         | \$7,036         | \$7,387         | \$7,757         | \$8,144         | \$8,552         | \$8,979         | \$9,428         | \$9,900         | \$10,395        |
| Software Licenses      | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         | \$5,000         |
| Training(out-of-state) | \$2,060         | \$2,122         | \$2,185         | \$2,251         | \$2,319         | \$2,388         | \$2,460         | \$2,534         | \$2,610         | \$2,688         | \$2,768         | \$2,852         | \$2,937         | \$3,025         | \$3,116         |
| Training (in-state)    | \$4,120         | \$4,244         | \$4,371         | \$4,502         | \$4,637         | \$4,776         | \$4,919         | \$5,067         | \$5,219         | \$5,376         | \$5,537         | \$5,703         | \$5,874         | \$6,050         | \$6,232         |
| <b>TOTAL</b>           | <b>\$26,330</b> | <b>\$27,695</b> | <b>\$28,596</b> | <b>\$29,536</b> | <b>\$30,515</b> | <b>\$31,536</b> | <b>\$32,600</b> | <b>\$33,709</b> | <b>\$34,866</b> | <b>\$36,072</b> | <b>\$37,330</b> | <b>\$38,642</b> | <b>\$40,010</b> | <b>\$41,438</b> | <b>\$42,927</b> |

Notes:

1. Estimated costs were based on Phoenix TOC cost data
2. One person was assumed to be providing half-time support to the current(RWIS) and future TOC operational functions
3. Operational support is assumed to be provided by Phoenix TOC (See Appendix A)

APPENDIX C

Statewide ITI O&M Resource Forecast by Year



| <b>Year: 1998</b>   |             | Preventive Maintenance Costs |                |                  |                  |                 |               |                  |                  |                  |               | Demand Maintenance Costs |                 |                    | Replace Costs  |           | Totals By ADOT Unit |             |          |
|---------------------|-------------|------------------------------|----------------|------------------|------------------|-----------------|---------------|------------------|------------------|------------------|---------------|--------------------------|-----------------|--------------------|----------------|-----------|---------------------|-------------|----------|
| ADOT Unit           | Total Units | New Units                    | Replaced Units | Labor            | Equipment        | Materials       | ManHours      | Labor            | Equipment        | Materials        | ManHours      | Labor                    | Equipment       | Materials          | ManHours       | Costs     | ManHours            | Costs       | ManHours |
| ATRC                | 23          | 0                            | 0              | \$14,579         | \$14,579         | \$14,579        | 185.0         | \$14,579         | \$14,579         | \$14,579         | 185.0         | \$14,579                 | \$14,579        | \$14,579           | 185.0          | \$0       | \$2,254             | \$89,728    | 370.0    |
| Flagstaff Rural ITS | 14          | 6                            | 0              | \$6,164          | \$4,408          | \$0             | 124.0         | \$7,407          | \$750            | \$18,291         | 209.0         | \$0                      | \$0             | \$0                | 0.0            | \$0       | \$5,305             | \$42,325    | 333.0    |
| Holbrook Rural ITS  | 3           | 3                            | 0              | \$444            | \$696            | \$0             | 15.0          | \$1,005          | \$0              | \$0              | 31.5          | \$0                      | \$0             | \$0                | 0.0            | \$0       | \$510               | \$2,655     | 46.5     |
| Phoenix FMS         | 446         | 0                            | 20             | \$171,842        | \$142,010        | \$54,303        | 2592.5        | \$129,704        | \$104,719        | \$106,908        | 5228.0        | \$0                      | \$0             | \$0                | 0.0            | \$340,000 | \$56,840            | \$1,106,326 | 7320.5   |
| Prescott Rural ITS  | 2           | 0                            | 0              | \$1,186          | \$1,392          | \$0             | 30.0          | \$738            | \$500            | \$0              | 50.0          | \$0                      | \$0             | \$0                | 0.0            | \$0       | \$2,070             | \$5,886     | 80.0     |
| Safford Rural ITS   | 4           | 4                            | 0              | \$1,482          | \$1,856          | \$0             | 40.0          | \$1,408          | \$500            | \$0              | 71.0          | \$0                      | \$0             | \$0                | 0.0            | \$0       | \$2,410             | \$7,656     | 111.0    |
| TPG                 | 8           | 0                            | 0              | \$5,938          | \$5,938          | \$5,938         | 70.0          | \$5,938          | \$5,938          | \$5,938          | 70.0          | \$0                      | \$0             | \$0                | 0.0            | \$0       | \$784               | \$36,412    | 140.0    |
| <b>Totals:</b>      | <b>500</b>  | <b>13</b>                    | <b>20</b>      | <b>\$201,635</b> | <b>\$170,879</b> | <b>\$74,820</b> | <b>3056.5</b> | <b>\$160,779</b> | <b>\$126,986</b> | <b>\$145,716</b> | <b>5844.5</b> | <b>\$340,000</b>         | <b>\$70,173</b> | <b>\$1,290,988</b> | <b>\$901.0</b> |           |                     |             |          |

| <b>Year: 1999</b>   |             | Preventive Maintenance Costs |                |                  |                  |                 |               |                  |                  |                  |               | Demand Maintenance Costs |                 |                    | Replace Costs  |       | Totals By ADOT Unit |           |          |
|---------------------|-------------|------------------------------|----------------|------------------|------------------|-----------------|---------------|------------------|------------------|------------------|---------------|--------------------------|-----------------|--------------------|----------------|-------|---------------------|-----------|----------|
| ADOT Unit           | Total Units | New Units                    | Replaced Units | Labor            | Equipment        | Materials       | ManHours      | Labor            | Equipment        | Materials        | ManHours      | Labor                    | Equipment       | Materials          | ManHours       | Costs | ManHours            | Costs     | ManHours |
| ATRC                | 23          | 0                            | 0              | \$14,579         | \$14,579         | \$14,579        | 185.0         | \$14,579         | \$14,579         | \$14,579         | 185.0         | \$14,579                 | \$14,579        | \$14,579           | 185.0          | \$0   | \$2,254             | \$89,728  | 370.0    |
| Flagstaff Rural ITS | 19          | 5                            | 0              | \$8,684          | \$7,424          | \$0             | 189.0         | \$9,218          | \$1,750          | \$18,291         | 319.5         | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$9,615             | \$54,982  | 508.5    |
| Holbrook Rural ITS  | 6           | 3                            | 0              | \$1,778          | \$2,320          | \$0             | 50.0          | \$2,078          | \$500            | \$0              | 92.0          | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$2,750             | \$9,426   | 142.0    |
| Phoenix FMS         | 543         | 97                           | 0              | \$207,027        | \$171,285        | \$63,390        | 3132.5        | \$146,801        | \$119,236        | \$111,768        | 5938.0        | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$65,759            | \$885,266 | 9070.5   |
| Prescott Rural ITS  | 2           | 0                            | 0              | \$1,186          | \$1,392          | \$0             | 30.0          | \$738            | \$500            | \$0              | 50.0          | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$2,070             | \$5,886   | 80.0     |
| Safford Rural ITS   | 4           | 0                            | 0              | \$1,482          | \$1,856          | \$0             | 40.0          | \$1,408          | \$500            | \$0              | 71.0          | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$2,410             | \$7,656   | 111.0    |
| TPG                 | 8           | 0                            | 0              | \$5,938          | \$5,938          | \$5,938         | 70.0          | \$5,938          | \$5,938          | \$5,938          | 70.0          | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$784               | \$36,412  | 140.0    |
| Tucson FMS          | 106         | 106                          | 0              | \$44,646         | \$34,802         | \$13,240        | 631.0         | \$32,206         | \$27,204         | \$0              | 1248.0        | \$0                      | \$0             | \$0                | 0.0            | \$0   | \$13,956            | \$166,054 | 1879.0   |
| <b>Totals:</b>      | <b>711</b>  | <b>211</b>                   | <b>0</b>       | <b>\$285,320</b> | <b>\$239,596</b> | <b>\$97,147</b> | <b>4327.5</b> | <b>\$212,966</b> | <b>\$170,207</b> | <b>\$150,576</b> | <b>7973.5</b> | <b>\$0</b>               | <b>\$99,598</b> | <b>\$1,255,410</b> | <b>12301.0</b> |       |                     |           |          |

**Year: 2000**

| ADOT Unit           | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By ADOT Unit |                |
|---------------------|-------------|-----------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|---------------------|----------------|
|                     |             |           |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials           | ManHours       |
| ATRC                | 23          | 0         | 19             | \$14,579                     | \$14,579         | \$14,579         | 185.0                    | \$14,579         | \$14,579         | \$3,736          | 185.0           | \$268,885           | 370.0          |
| Flagstaff Rural ITS | 19          | 0         | 0              | \$8,684                      | \$7,424          | \$0              | 189.0                    | \$9,218          | \$1,750          | \$26,130         | 319.5           | \$62,821            | 508.5          |
| Holbrook Rural ITS  | 6           | 0         | 0              | \$1,778                      | \$2,320          | \$0              | 50.0                     | \$2,078          | \$500            | \$7,839          | 92.0            | \$17,265            | 142.0          |
| Kingman Rural ITS   | 3           | 3         | 0              | \$1,779                      | \$2,088          | \$0              | 45.0                     | \$1,107          | \$750            | \$0              | 75.0            | \$8,829             | 120.0          |
| Phoenix FMS         | 624         | 81        | 0              | \$235,818                    | \$195,186        | \$70,673         | 3571.5                   | \$164,352        | \$133,997        | \$125,052        | 6646.0          | \$997,274           | 10217.5        |
| Prescott Rural ITS  | 2           | 0         | 0              | \$1,186                      | \$1,392          | \$0              | 30.0                     | \$738            | \$500            | \$0              | 50.0            | \$5,886             | 80.0           |
| Safford Rural ITS   | 4           | 0         | 0              | \$1,482                      | \$1,856          | \$0              | 40.0                     | \$1,408          | \$500            | \$5,226          | 71.0            | \$12,882            | 111.0          |
| TPG                 | 8           | 0         | 8              | \$5,938                      | \$5,938          | \$5,938          | 70.0                     | \$5,938          | \$5,938          | \$0              | 70.0            | \$784               | 140.0          |
| Tucson FMS          | 106         | 0         | 0              | \$44,646                     | \$34,802         | \$13,240         | 631.0                    | \$32,206         | \$27,204         | \$26,192         | 1248.0          | \$192,246           | 1879.0         |
| <b>Totals:</b>      | <b>795</b>  | <b>84</b> | <b>27</b>      | <b>\$315,890</b>             | <b>\$265,585</b> | <b>\$104,430</b> | <b>4811.5</b>            | <b>\$231,624</b> | <b>\$185,718</b> | <b>\$194,175</b> | <b>8756.5</b>   | <b>\$1,676,562</b>  | <b>13568.0</b> |

**Year: 2001**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By ADOT Unit |                |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|---------------------|----------------|
|                     |             |            |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials           | ManHours       |
| ATRC                | 23          | 0          | 0              | \$14,579                     | \$14,579         | \$14,579         | 185.0                    | \$14,579         | \$14,579         | \$14,579         | 185.0           | \$89,728            | 370.0          |
| Flagstaff Rural ITS | 19          | 0          | 0              | \$8,684                      | \$7,424          | \$0              | 189.0                    | \$9,218          | \$1,750          | \$28,743         | 319.5           | \$65,434            | 508.5          |
| Holbrook Rural ITS  | 14          | 8          | 0              | \$4,297                      | \$5,568          | \$0              | 120.0                    | \$4,860          | \$1,250          | \$10,452         | 219.5           | \$33,132            | 339.5          |
| Kingman Rural ITS   | 6           | 3          | 0              | \$3,558                      | \$4,176          | \$0              | 90.0                     | \$2,214          | \$1,500          | \$0              | 150.0           | \$17,658            | 240.0          |
| Phoenix FMS         | 862         | 238        | 12             | \$323,851                    | \$267,301        | \$92,777         | 4891.0                   | \$198,201        | \$163,757        | \$129,924        | 8069.0          | \$1,450,480         | 12960.0        |
| Prescott Rural ITS  | 2           | 0          | 0              | \$1,186                      | \$1,392          | \$0              | 30.0                     | \$738            | \$500            | \$0              | 50.0            | \$5,886             | 80.0           |
| Safford Rural ITS   | 4           | 0          | 0              | \$1,482                      | \$1,856          | \$0              | 40.0                     | \$1,408          | \$500            | \$5,226          | 71.0            | \$12,882            | 111.0          |
| TPG                 | 8           | 0          | 0              | \$5,938                      | \$5,938          | \$5,938          | 70.0                     | \$5,938          | \$5,938          | \$5,938          | 70.0            | \$784               | 140.0          |
| Tucson FMS          | 106         | 0          | 0              | \$44,646                     | \$34,802         | \$13,240         | 631.0                    | \$32,206         | \$27,204         | \$26,192         | 1248.0          | \$192,246           | 1879.0         |
| Tucson Rural ITS    | 3           | 3          | 0              | \$1,779                      | \$2,088          | \$0              | 45.0                     | \$1,107          | \$750            | \$0              | 75.0            | \$8,829             | 120.0          |
| <b>Totals:</b>      | <b>1047</b> | <b>252</b> | <b>12</b>      | <b>\$410,000</b>             | <b>\$345,124</b> | <b>\$126,534</b> | <b>6291.0</b>            | <b>\$270,469</b> | <b>\$217,728</b> | <b>\$221,054</b> | <b>10457.0</b>  | <b>\$1,912,687</b>  | <b>16748.0</b> |

| Year: 2002          | ADOT Unit | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           |           | Demand Maintenance Costs |           |           |           | Replace Costs | Operating Costs | Totals By ADOT Unit |          |
|---------------------|-----------|-------------|-----------|----------------|------------------------------|-----------|-----------|-----------|--------------------------|-----------|-----------|-----------|---------------|-----------------|---------------------|----------|
|                     |           |             |           |                | Equipment                    |           | Materials |           | Equipment                |           | Materials |           |               |                 | Costs               | ManHours |
|                     |           |             |           |                | Labor                        | ManHours  | Labor     | ManHours  | Labor                    | ManHours  | Labor     | ManHours  |               |                 |                     |          |
| ATRC                | 23        | 0           | 0         | \$14,579       | \$14,579                     | \$14,579  | 185.0     | \$14,579  | \$14,579                 | \$14,579  | 185.0     | \$0       | \$2,254       | \$89,728        | 370.0               |          |
| Flagstaff Rural ITS | 24        | 5           | 0         | \$9,869        | \$9,048                      | \$0       | 224.0     | \$10,927  | \$2,000                  | \$28,743  | 386.5     | \$0       | \$11,330      | \$71,917        | 610.5               |          |
| Globe Rural ITS     | 6         | 6           | 0         | \$888          | \$1,392                      | \$0       | 30.0      | \$2,010   | \$0                      | \$0       | 63.0      | \$0       | \$1,020       | \$5,310         | 93.0                |          |
| Holbrook Rural ITS  | 16        | 2           | 0         | \$5,483        | \$6,960                      | \$0       | 150.0     | \$5,598   | \$1,750                  | \$10,452  | 269.5     | \$0       | \$8,775       | \$39,018        | 419.5               |          |
| Kingman Rural ITS   | 7         | 1           | 0         | \$3,706        | \$4,408                      | \$0       | 95.0      | \$2,549   | \$1,500                  | \$0       | 160.5     | \$0       | \$6,380       | \$18,543        | 255.5               |          |
| Phoenix FMS         | 1072      | 210         | 28        | \$394,581      | \$326,075                    | \$106,897 | 5956.0    | \$228,247 | \$190,403                | \$162,777 | 9319.0    | \$476,000 | \$106,935     | \$1,991,915     | 15275.0             |          |
| Prescott Rural ITS  | 2         | 0           | 0         | \$1,186        | \$1,392                      | \$0       | 30.0      | \$738     | \$500                    | \$0       | 50.0      | \$0       | \$2,070       | \$5,886         | 80.0                |          |
| Safford Rural ITS   | 6         | 2           | 0         | \$2,668        | \$3,248                      | \$0       | 70.0      | \$2,146   | \$1,000                  | \$5,226   | 121.0     | \$0       | \$4,480       | \$18,768        | 191.0               |          |
| TPG                 | 8         | 0           | 0         | \$5,938        | \$5,938                      | \$5,938   | 70.0      | \$5,938   | \$5,938                  | \$5,938   | 70.0      | \$0       | \$784         | \$36,412        | 140.0               |          |
| Tucson FMS          | 106       | 0           | 0         | \$44,646       | \$34,802                     | \$13,240  | 631.0     | \$32,206  | \$27,204                 | \$26,192  | 1248.0    | \$0       | \$13,956      | \$192,246       | 1879.0              |          |
| Tucson Rural ITS    | 3         | 0           | 0         | \$1,779        | \$2,088                      | \$0       | 45.0      | \$1,107   | \$750                    | \$0       | 75.0      | \$0       | \$3,105       | \$8,829         | 120.0               |          |
| Totals:             | 1273      | 226         | 28        | \$485,323      | \$409,930                    | \$140,654 | 7486.0    | \$306,045 | \$245,624                | \$253,907 | 11947.5   | \$476,000 | \$161,089     | \$2,478,572     | 19433.5             |          |

| Year: 2003          | ADOT Unit | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           |           | Demand Maintenance Costs |           |           |             | Replace Costs | Operating Costs | Totals By ADOT Unit |          |
|---------------------|-----------|-------------|-----------|----------------|------------------------------|-----------|-----------|-----------|--------------------------|-----------|-----------|-------------|---------------|-----------------|---------------------|----------|
|                     |           |             |           |                | Equipment                    |           | Materials |           | Equipment                |           | Materials |             |               |                 | Costs               | ManHours |
|                     |           |             |           |                | Labor                        | ManHours  | Labor     | ManHours  | Labor                    | ManHours  | Labor     | ManHours    |               |                 |                     |          |
| ATRC                | 23        | 0           | 0         | \$14,579       | \$14,579                     | \$14,579  | 185.0     | \$14,579  | \$14,579                 | \$14,579  | 185.0     | \$0         | \$2,254       | \$89,728        | 370.0               |          |
| Flagstaff Rural ITS | 24        | 0           | 8         | \$9,869        | \$9,048                      | \$0       | 224.0     | \$10,927  | \$2,000                  | \$10,452  | 386.5     | \$145,000   | \$11,330      | \$198,626       | 610.5               |          |
| Globe Rural ITS     | 6         | 0           | 0         | \$888          | \$1,392                      | \$0       | 30.0      | \$2,010   | \$0                      | \$0       | 63.0      | \$0         | \$1,020       | \$5,310         | 93.0                |          |
| Holbrook Rural ITS  | 18        | 2           | 0         | \$6,669        | \$8,352                      | \$0       | 180.0     | \$6,336   | \$2,250                  | \$23,517  | 319.5     | \$0         | \$10,845      | \$57,969        | 499.5               |          |
| Kingman Rural ITS   | 8         | 1           | 0         | \$4,299        | \$5,104                      | \$0       | 110.0     | \$2,918   | \$1,750                  | \$0       | 185.5     | \$0         | \$7,415       | \$21,486        | 295.5               |          |
| Phoenix FMS         | 1144      | 72          | 51        | \$420,259      | \$347,485                    | \$113,227 | 6350.0    | \$239,317 | \$199,929                | \$149,892 | 9785.0    | \$915,000   | \$113,079     | \$2,498,188     | 16135.0             |          |
| Prescott Rural ITS  | 5         | 3           | 0         | \$2,075        | \$2,552                      | \$0       | 55.0      | \$1,777   | \$750                    | \$0       | 96.0      | \$0         | \$3,445       | \$10,599        | 151.0               |          |
| Safford Rural ITS   | 7         | 1           | 0         | \$3,261        | \$3,944                      | \$0       | 85.0      | \$2,515   | \$1,250                  | \$5,226   | 146.0     | \$0         | \$5,515       | \$21,711        | 231.0               |          |
| TPG                 | 8         | 0           | 0         | \$5,938        | \$5,938                      | \$5,938   | 70.0      | \$5,938   | \$5,938                  | \$5,938   | 70.0      | \$0         | \$784         | \$36,412        | 140.0               |          |
| Tucson FMS          | 106       | 0           | 0         | \$44,646       | \$34,802                     | \$13,240  | 631.0     | \$32,206  | \$27,204                 | \$26,192  | 1248.0    | \$0         | \$13,956      | \$192,246       | 1879.0              |          |
| Tucson Rural ITS    | 9         | 6           | 0         | \$5,337        | \$6,264                      | \$0       | 135.0     | \$3,321   | \$2,250                  | \$0       | 225.0     | \$0         | \$9,315       | \$26,487        | 360.0               |          |
| Yuma Rural ITS      | 2         | 2           | 0         | \$1,186        | \$1,392                      | \$0       | 30.0      | \$738     | \$500                    | \$0       | 50.0      | \$0         | \$2,070       | \$5,886         | 80.0                |          |
| Totals:             | 1360      | 87          | 59        | \$519,006      | \$440,852                    | \$146,984 | 8085.0    | \$322,582 | \$258,400                | \$235,796 | 12759.5   | \$1,060,000 | \$181,028     | \$3,164,648     | 20844.5             |          |

**Year: 2004**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |            |            |                  | Demand Maintenance Costs |                  |                |                    |                |                  | Replace Costs    |                    | Operating Costs |       | Totals By ADOT Unit |          |       |          |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|------------|------------|------------------|--------------------------|------------------|----------------|--------------------|----------------|------------------|------------------|--------------------|-----------------|-------|---------------------|----------|-------|----------|
|                     |             |            |                | Labor                        |                  | Equipment        |            | Materials  |                  | ManHours                 |                  | Labor          |                    | Equipment      |                  | Materials        |                    | ManHours        |       | Costs               | ManHours | Costs | ManHours |
|                     |             |            |                |                              |                  |                  |            |            |                  |                          |                  |                |                    |                |                  |                  |                    |                 |       |                     |          |       |          |
| ATRC                | 23          | 0          | 19             | \$14,579                     | \$14,579         | \$14,579         | \$14,579   | \$0        | \$0              | \$0                      | \$0              | \$14,579       | \$14,579           | \$3,736        | \$185.0          | \$190,000        | \$2,254            | \$268,885       | 370.0 |                     |          |       |          |
| Flagstaff Rural ITS | 30          | 6          | 0              | \$13,427                     | \$13,224         | \$0              | \$0        | \$0        | \$0              | \$13,141                 | \$3,500          | \$20,904       | \$36.5             | \$536.5        | \$0              | \$17,540         | \$81,736           | 850.5           |       |                     |          |       |          |
| Globe Rural ITS     | 6           | 0          | 0              | \$888                        | \$1,392          | \$0              | \$0        | \$0        | \$0              | \$2,010                  | \$0              | \$15,678       | \$63.0             | \$93.0         | \$0              | \$1,020          | \$20,988           | 93.0            |       |                     |          |       |          |
| Holbrook Rural ITS  | 27          | 9          | 0              | \$8,891                      | \$11,368         | \$0              | \$0        | \$0        | \$0              | \$9,419                  | \$2,750          | \$23,517       | \$443.0            | \$688.0        | \$0              | \$14,105         | \$70,050           | 688.0           |       |                     |          |       |          |
| Kingman Rural ITS   | 8           | 0          | 0              | \$4,299                      | \$5,104          | \$0              | \$0        | \$0        | \$0              | \$2,918                  | \$1,750          | \$2,613        | \$185.5            | \$295.5        | \$0              | \$7,415          | \$24,099           | 295.5           |       |                     |          |       |          |
| Phoenix FMS         | 1289        | 145        | 0              | \$472,692                    | \$390,796        | \$126,636        | \$0        | \$0        | \$0              | \$269,450                | \$225,398        | \$212,733      | \$11005.0          | \$18150.0      | \$0              | \$125,522        | \$1,823,227        | 18150.0         |       |                     |          |       |          |
| Prescott Rural ITS  | 5           | 0          | 0              | \$2,075                      | \$2,552          | \$0              | \$0        | \$0        | \$0              | \$1,777                  | \$750            | \$0            | \$96.0             | \$151.0        | \$0              | \$3,445          | \$10,599           | 151.0           |       |                     |          |       |          |
| Safford Rural ITS   | 7           | 0          | 0              | \$3,261                      | \$3,944          | \$0              | \$0        | \$0        | \$0              | \$2,515                  | \$1,250          | \$5,226        | \$146.0            | \$231.0        | \$0              | \$5,515          | \$21,711           | 231.0           |       |                     |          |       |          |
| TPG                 | 8           | 0          | 8              | \$5,938                      | \$5,938          | \$5,938          | \$0        | \$0        | \$5,938          | \$5,938                  | \$0              | \$0            | \$70.0             | \$140.0        | \$80,000         | \$784            | \$110,474          | 140.0           |       |                     |          |       |          |
| Tucson FMS          | 106         | 0          | 0              | \$44,646                     | \$34,802         | \$13,240         | \$0        | \$0        | \$32,206         | \$27,204                 | \$26,192         | \$1248.0       | \$1879.0           | \$0            | \$13,956         | \$192,246        | 1879.0             |                 |       |                     |          |       |          |
| Tucson Rural ITS    | 9           | 0          | 0              | \$5,337                      | \$6,264          | \$0              | \$0        | \$0        | \$3,321          | \$2,250                  | \$0              | \$225.0        | \$360.0            | \$0            | \$9,315          | \$26,487         | 360.0              |                 |       |                     |          |       |          |
| Yuma Rural ITS      | 2           | 0          | 0              | \$1,186                      | \$1,392          | \$0              | \$0        | \$0        | \$738            | \$500                    | \$0              | \$50.0         | \$80.0             | \$0            | \$2,070          | \$5,886          | 80.0               |                 |       |                     |          |       |          |
| <b>Totals:</b>      | <b>1520</b> | <b>160</b> | <b>27</b>      | <b>\$577,219</b>             | <b>\$491,355</b> | <b>\$160,393</b> | <b>\$0</b> | <b>\$0</b> | <b>\$358,012</b> | <b>\$285,869</b>         | <b>\$310,599</b> | <b>14253.0</b> | <b>\$2,666,388</b> | <b>23288.0</b> | <b>\$270,000</b> | <b>\$202,941</b> | <b>\$2,666,388</b> | <b>23288.0</b>  |       |                     |          |       |          |

**Year: 2005**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |            |            |                  | Demand Maintenance Costs |                  |                |                    |                |                    | Replace Costs    |                    | Operating Costs |  | Totals By ADOT Unit |          |       |          |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|------------|------------|------------------|--------------------------|------------------|----------------|--------------------|----------------|--------------------|------------------|--------------------|-----------------|--|---------------------|----------|-------|----------|
|                     |             |            |                | Labor                        |                  | Equipment        |            | Materials  |                  | ManHours                 |                  | Labor          |                    | Equipment      |                    | Materials        |                    | ManHours        |  | Costs               | ManHours | Costs | ManHours |
|                     |             |            |                |                              |                  |                  |            |            |                  |                          |                  |                |                    |                |                    |                  |                    |                 |  |                     |          |       |          |
| ATRC                | 23          | 0          | 0              | \$14,579                     | \$14,579         | \$14,579         | \$14,579   | \$0        | \$0              | \$14,579                 | \$14,579         | \$14,579       | \$185.0            | \$185.0        | \$0                | \$2,254          | \$89,728           | 370.0           |  |                     |          |       |          |
| Flagstaff Rural ITS | 30          | 0          | 0              | \$13,427                     | \$13,224         | \$0              | \$0        | \$0        | \$13,141         | \$3,500                  | \$39,195         | \$536.5        | \$850.5            | \$0            | \$17,540           | \$100,027        | 850.5              |                 |  |                     |          |       |          |
| Globe Rural ITS     | 6           | 0          | 0              | \$888                        | \$1,392          | \$0              | \$0        | \$0        | \$2,010          | \$0                      | \$15,678         | \$63.0         | \$93.0             | \$0            | \$1,020            | \$20,988         | 93.0               |                 |  |                     |          |       |          |
| Holbrook Rural ITS  | 27          | 0          | 0              | \$8,891                      | \$11,368         | \$0              | \$0        | \$0        | \$9,419          | \$2,750                  | \$23,517         | \$443.0        | \$688.0            | \$0            | \$14,105           | \$70,050         | 688.0              |                 |  |                     |          |       |          |
| Kingman Rural ITS   | 13          | 5          | 0              | \$5,929                      | \$7,192          | \$0              | \$0        | \$0        | \$4,661          | \$2,250                  | \$2,613          | \$267.0        | \$422.0            | \$0            | \$9,995            | \$32,640         | 422.0              |                 |  |                     |          |       |          |
| Phoenix FMS         | 1419        | 130        | 135            | \$519,518                    | \$429,073        | \$138,394        | \$0        | \$0        | \$296,962        | \$248,819                | \$233,209        | \$12103.0      | \$19945.5          | \$0            | \$135,576          | \$3,328,551      | 19945.5            |                 |  |                     |          |       |          |
| Prescott Rural ITS  | 5           | 0          | 0              | \$2,075                      | \$2,552          | \$0              | \$0        | \$0        | \$1,777          | \$750                    | \$6,366          | \$96.0         | \$151.0            | \$0            | \$3,445            | \$16,965         | 151.0              |                 |  |                     |          |       |          |
| Safford Rural ITS   | 10          | 3          | 0              | \$5,040                      | \$6,032          | \$0              | \$0        | \$0        | \$3,622          | \$2,000                  | \$5,226          | \$221.0        | \$351.0            | \$0            | \$8,620            | \$30,540         | 351.0              |                 |  |                     |          |       |          |
| TPG                 | 8           | 0          | 0              | \$5,938                      | \$5,938          | \$5,938          | \$0        | \$0        | \$5,938          | \$5,938                  | \$0              | \$70.0         | \$140.0            | \$0            | \$784              | \$36,412         | 140.0              |                 |  |                     |          |       |          |
| Tucson FMS          | 106         | 0          | 0              | \$44,646                     | \$34,802         | \$13,240         | \$0        | \$0        | \$32,206         | \$27,204                 | \$26,192         | \$1248.0       | \$1879.0           | \$0            | \$13,956           | \$192,246        | 1879.0             |                 |  |                     |          |       |          |
| Tucson Rural ITS    | 9           | 0          | 0              | \$5,337                      | \$6,264          | \$0              | \$0        | \$0        | \$3,321          | \$2,250                  | \$0              | \$225.0        | \$360.0            | \$0            | \$9,315            | \$26,487         | 360.0              |                 |  |                     |          |       |          |
| Yuma Rural ITS      | 6           | 4          | 0              | \$3,558                      | \$4,176          | \$0              | \$0        | \$0        | \$2,214          | \$1,500                  | \$0              | \$150.0        | \$240.0            | \$0            | \$6,210            | \$17,658         | 240.0              |                 |  |                     |          |       |          |
| <b>Totals:</b>      | <b>1662</b> | <b>142</b> | <b>135</b>     | <b>\$629,826</b>             | <b>\$536,592</b> | <b>\$172,151</b> | <b>\$0</b> | <b>\$0</b> | <b>\$389,850</b> | <b>\$311,540</b>         | <b>\$372,513</b> | <b>15607.5</b> | <b>\$3,962,292</b> | <b>25490.0</b> | <b>\$1,327,000</b> | <b>\$222,820</b> | <b>\$3,962,292</b> | <b>25490.0</b>  |  |                     |          |       |          |

**Year: 2006**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |                   |                |                  | Demand Maintenance Costs |                  |                  |                |                  |                  | Replace Costs      | Operating Costs | Totals By ADOT Unit |  |          |  |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|-------------------|----------------|------------------|--------------------------|------------------|------------------|----------------|------------------|------------------|--------------------|-----------------|---------------------|--|----------|--|
|                     |             |            |                | Labor                        |                  | Equipment        |                   | Materials      |                  | ManHours                 |                  | Labor            |                | Equipment        |                  |                    |                 | Materials           |  | ManHours |  |
|                     |             |            |                |                              |                  |                  |                   |                |                  |                          |                  |                  |                |                  |                  |                    |                 |                     |  |          |  |
| ATRC                | 23          | 0          | 0              | \$14,579                     | \$14,579         | \$14,579         | \$14,579          | 185.0          | \$14,579         | \$14,579                 | \$14,579         | \$14,579         | 185.0          | \$0              | \$2,254          | \$89,728           | 370.0           |                     |  |          |  |
| Flagstaff Rural ITS | 30          | 0          | 0              | \$13,427                     | \$13,224         | \$0              | \$0               | 314.0          | \$3,500          | \$3,500                  | \$39,195         | \$39,195         | 536.5          | \$0              | \$17,540         | \$100,027          | 850.5           |                     |  |          |  |
| Globe Rural ITS     | 10          | 4          | 0              | \$3,260                      | \$4,176          | \$0              | \$0               | 90.0           | \$3,486          | \$1,000                  | \$15,678         | \$15,678         | 163.0          | \$0              | \$5,160          | \$32,760           | 253.0           |                     |  |          |  |
| Holbrook Rural ITS  | 27          | 0          | 0              | \$8,891                      | \$11,368         | \$0              | \$0               | 245.0          | \$9,419          | \$2,750                  | \$41,808         | \$41,808         | 443.0          | \$0              | \$14,105         | \$88,341           | 688.0           |                     |  |          |  |
| Kingman Rural ITS   | 13          | 0          | 0              | \$5,929                      | \$7,192          | \$0              | \$0               | 155.0          | \$4,661          | \$2,250                  | \$2,613          | \$2,613          | 267.0          | \$0              | \$9,995          | \$32,640           | 422.0           |                     |  |          |  |
| Phoenix FMS         | 1651        | 232        | 59             | \$603,314                    | \$499,026        | \$158,643        | \$91,315          | 9131.5         | \$343,718        | \$288,332                | \$223,167        | \$223,167        | 14034.0        | \$955,000        | \$157,676        | \$3,228,876        | 23165.5         |                     |  |          |  |
| Prescott Rural ITS  | 8           | 3          | 0              | \$3,457                      | \$3,795          | \$724            | \$0               | 87.0           | \$2,338          | \$1,158                  | \$6,366          | \$6,366          | 124.0          | \$0              | \$4,548          | \$22,386           | 211.0           |                     |  |          |  |
| Safford Rural ITS   | 18          | 8          | 0              | \$8,894                      | \$10,672         | \$0              | \$0               | 230.0          | \$6,506          | \$3,500                  | \$5,226          | \$5,226          | 392.0          | \$0              | \$15,170         | \$49,968           | 622.0           |                     |  |          |  |
| TPG                 | 8           | 0          | 0              | \$5,938                      | \$5,938          | \$5,938          | \$5,938           | 70.0           | \$5,938          | \$5,938                  | \$5,938          | \$5,938          | 70.0           | \$0              | \$784            | \$36,412           | 140.0           |                     |  |          |  |
| Tucson FMS          | 106         | 0          | 0              | \$44,646                     | \$34,802         | \$13,240         | \$0               | 631.0          | \$32,206         | \$27,204                 | \$26,192         | \$26,192         | 1248.0         | \$0              | \$13,956         | \$192,246          | 1879.0          |                     |  |          |  |
| Tucson Rural ITS    | 9           | 0          | 0              | \$5,337                      | \$6,264          | \$0              | \$0               | 135.0          | \$3,321          | \$2,250                  | \$0              | \$0              | 225.0          | \$0              | \$9,315          | \$26,487           | 360.0           |                     |  |          |  |
| Yuma Rural ITS      | 6           | 0          | 0              | \$3,558                      | \$4,176          | \$0              | \$0               | 90.0           | \$2,214          | \$1,500                  | \$0              | \$0              | 150.0          | \$0              | \$6,210          | \$17,658           | 240.0           |                     |  |          |  |
| <b>Totals:</b>      | <b>1909</b> | <b>247</b> | <b>59</b>      | <b>\$721,230</b>             | <b>\$615,212</b> | <b>\$193,124</b> | <b>\$11,363.5</b> | <b>11363.5</b> | <b>\$441,527</b> | <b>\$353,961</b>         | <b>\$380,762</b> | <b>\$380,762</b> | <b>17837.5</b> | <b>\$955,000</b> | <b>\$256,713</b> | <b>\$3,917,529</b> | <b>29201.0</b>  |                     |  |          |  |

**Year: 2007**

| ADOT Unit           | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                  |                |                |                  | Demand Maintenance Costs |                  |                  |                |                  |                  | Replace Costs      | Operating Costs | Totals By ADOT Unit |  |          |  |
|---------------------|-------------|-----------|----------------|------------------------------|------------------|------------------|----------------|----------------|------------------|--------------------------|------------------|------------------|----------------|------------------|------------------|--------------------|-----------------|---------------------|--|----------|--|
|                     |             |           |                | Labor                        |                  | Equipment        |                | Materials      |                  | ManHours                 |                  | Labor            |                | Equipment        |                  |                    |                 | Materials           |  | ManHours |  |
|                     |             |           |                |                              |                  |                  |                |                |                  |                          |                  |                  |                |                  |                  |                    |                 |                     |  |          |  |
| ATRC                | 23          | 0         | 0              | \$14,579                     | \$14,579         | \$14,579         | \$14,579       | 185.0          | \$14,579         | \$14,579                 | \$14,579         | \$14,579         | 185.0          | \$0              | \$2,254          | \$89,728           | 370.0           |                     |  |          |  |
| Flagstaff Rural ITS | 30          | 0         | 0              | \$13,427                     | \$13,224         | \$0              | \$0            | 314.0          | \$3,500          | \$3,500                  | \$39,195         | \$39,195         | 536.5          | \$0              | \$17,540         | \$100,027          | 850.5           |                     |  |          |  |
| Globe Rural ITS     | 14          | 4         | 0              | \$5,748                      | \$6,406          | \$1,294          | \$0            | 136.0          | \$4,550          | \$1,710                  | \$15,678         | \$15,678         | 217.0          | \$0              | \$7,276          | \$42,662           | 353.0           |                     |  |          |  |
| Holbrook Rural ITS  | 33          | 6         | 0              | \$12,623                     | \$14,713         | \$1,941          | \$0            | 314.0          | \$11,015         | \$3,815                  | \$41,808         | \$41,808         | 524.0          | \$0              | \$17,279         | \$103,194          | 838.0           |                     |  |          |  |
| Kingman Rural ITS   | 16          | 3         | 0              | \$7,708                      | \$9,280          | \$0              | \$0            | 200.0          | \$5,768          | \$3,000                  | \$10,452         | \$10,452         | 342.0          | \$0              | \$13,100         | \$49,308           | 542.0           |                     |  |          |  |
| Phoenix FMS         | 1731        | 80        | 9              | \$632,402                    | \$523,159        | \$165,926        | \$9575.5       | 9575.5         | \$361,458        | \$303,253                | \$299,562        | \$299,562        | 14755.0        | \$153,000        | \$165,148        | \$2,603,908        | 24330.5         |                     |  |          |  |
| Prescott Rural ITS  | 8           | 0         | 0              | \$3,457                      | \$3,795          | \$724            | \$0            | 87.0           | \$2,338          | \$1,158                  | \$6,528          | \$6,528          | 124.0          | \$0              | \$4,548          | \$22,548           | 211.0           |                     |  |          |  |
| Safford Rural ITS   | 18          | 0         | 0              | \$8,894                      | \$10,672         | \$0              | \$0            | 230.0          | \$6,506          | \$3,500                  | \$5,226          | \$5,226          | 392.0          | \$0              | \$15,170         | \$49,968           | 622.0           |                     |  |          |  |
| TPG                 | 8           | 0         | 0              | \$5,938                      | \$5,938          | \$5,938          | \$5,938        | 70.0           | \$5,938          | \$5,938                  | \$5,938          | \$5,938          | 70.0           | \$0              | \$784            | \$36,412           | 140.0           |                     |  |          |  |
| Tucson FMS          | 106         | 0         | 14             | \$44,646                     | \$34,802         | \$13,240         | \$0            | 631.0          | \$32,206         | \$27,204                 | \$23,924         | \$23,924         | 1248.0         | \$238,000        | \$13,956         | \$427,978          | 1879.0          |                     |  |          |  |
| Tucson Rural ITS    | 13          | 4         | 0              | \$5,929                      | \$7,192          | \$0              | \$0            | 155.0          | \$4,661          | \$2,250                  | \$0              | \$0              | 267.0          | \$0              | \$9,995          | \$30,027           | 422.0           |                     |  |          |  |
| Yuma Rural ITS      | 6           | 0         | 0              | \$3,558                      | \$4,176          | \$0              | \$0            | 90.0           | \$2,214          | \$1,500                  | \$0              | \$0              | 150.0          | \$0              | \$6,210          | \$17,658           | 240.0           |                     |  |          |  |
| <b>Totals:</b>      | <b>2006</b> | <b>97</b> | <b>23</b>      | <b>\$758,909</b>             | <b>\$647,936</b> | <b>\$203,642</b> | <b>11987.5</b> | <b>11987.5</b> | <b>\$464,374</b> | <b>\$371,407</b>         | <b>\$462,890</b> | <b>\$462,890</b> | <b>18810.5</b> | <b>\$391,000</b> | <b>\$273,260</b> | <b>\$3,573,418</b> | <b>30798.0</b>  |                     |  |          |  |

**Year: 2008**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |                | Demand Maintenance Costs |                  |                  |                | Replace Costs      | Operating Costs  | Totals By ADOT Unit |                |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|----------------|--------------------------|------------------|------------------|----------------|--------------------|------------------|---------------------|----------------|
|                     |             |            |                | Labor                        | Equipment        | Materials        | ManHours       | Labor                    | Equipment        | Materials        | ManHours       |                    |                  | Costs               | ManHours       |
| ATRC                | 23          | 0          | 19             | \$14,579                     | \$14,579         | \$14,579         | 185.0          | \$14,579                 | \$14,579         | \$3,736          | 185.0          | \$190,000          | \$2,254          | \$268,885           | 370.0          |
| Flagstaff Rural ITS | 34          | 4          | 0              | \$15,857                     | \$15,731         | \$647            | 367.0          | \$14,411                 | \$4,355          | \$40,905         | 613.5          | \$0                | \$20,668         | \$112,574           | 980.5          |
| Globe Rural ITS     | 16          | 2          | 0              | \$6,934                      | \$7,798          | \$1,294          | 166.0          | \$5,288                  | \$2,210          | \$16,002         | 267.0          | \$0                | \$9,346          | \$48,872            | 433.0          |
| Holbrook Rural ITS  | 33          | 0          | 0              | \$12,623                     | \$14,713         | \$1,941          | 314.0          | \$11,015                 | \$3,815          | \$42,294         | 524.0          | \$0                | \$17,279         | \$103,680           | 838.0          |
| Kingman Rural ITS   | 16          | 0          | 0              | \$7,708                      | \$9,280          | \$0              | 200.0          | \$5,768                  | \$3,000          | \$10,452         | 342.0          | \$0                | \$13,100         | \$49,308            | 542.0          |
| Phoenix FMS         | 1822        | 91         | 73             | \$665,267                    | \$550,596        | \$173,617        | 10080.5        | \$381,967                | \$320,512        | \$304,190        | 15595.0        | \$773,000          | \$173,973        | \$3,343,122         | 25675.5        |
| Prescott Rural ITS  | 9           | 1          | 0              | \$4,050                      | \$4,491          | \$724            | 102.0          | \$2,707                  | \$1,408          | \$6,542          | 149.0          | \$0                | \$5,583          | \$25,505            | 251.0          |
| Safford Rural ITS   | 18          | 0          | 0              | \$8,894                      | \$10,672         | \$0              | 230.0          | \$6,506                  | \$3,500          | \$11,592         | 392.0          | \$0                | \$15,170         | \$56,334            | 622.0          |
| TPG                 | 8           | 0          | 8              | \$5,938                      | \$5,938          | \$5,938          | 70.0           | \$5,938                  | \$5,938          | \$0              | 70.0           | \$80,000           | \$784            | \$110,474           | 140.0          |
| Tucson FMS          | 106         | 0          | 24             | \$44,646                     | \$34,802         | \$13,240         | 631.0          | \$32,206                 | \$27,204         | \$3,080          | 1248.0         | \$360,000          | \$13,956         | \$529,134           | 1879.0         |
| Tucson Rural ITS    | 13          | 0          | 0              | \$5,929                      | \$7,192          | \$0              | 155.0          | \$4,661                  | \$2,250          | \$0              | 267.0          | \$0                | \$9,995          | \$30,027            | 422.0          |
| Yuma Rural ITS      | 15          | 9          | 0              | \$8,053                      | \$9,131          | \$724            | 202.0          | \$4,955                  | \$3,158          | \$0              | 313.5          | \$0                | \$12,658         | \$38,679            | 515.5          |
| <b>Totals:</b>      | <b>2113</b> | <b>107</b> | <b>124</b>     | <b>\$800,478</b>             | <b>\$684,923</b> | <b>\$212,704</b> | <b>12702.5</b> | <b>\$490,001</b>         | <b>\$391,929</b> | <b>\$438,793</b> | <b>19966.0</b> | <b>\$1,403,000</b> | <b>\$294,766</b> | <b>\$4,716,594</b>  | <b>32668.5</b> |

**Year: 2009**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |                | Demand Maintenance Costs |                  |                  |                | Replace Costs    | Operating Costs  | Totals By ADOT Unit |                |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|----------------|--------------------------|------------------|------------------|----------------|------------------|------------------|---------------------|----------------|
|                     |             |            |                | Labor                        | Equipment        | Materials        | ManHours       | Labor                    | Equipment        | Materials        | ManHours       |                  |                  | Costs               | ManHours       |
| ATRC                | 23          | 0          | 0              | \$14,579                     | \$14,579         | \$14,579         | 185.0          | \$14,579                 | \$14,579         | \$14,579         | 185.0          | \$0              | \$2,254          | \$89,728            | 370.0          |
| Flagstaff Rural ITS | 41          | 7          | 3              | \$19,553                     | \$20,035         | \$724            | 466.0          | \$16,654                 | \$5,908          | \$35,508         | 764.5          | \$60,000         | \$26,923         | \$185,305           | 1230.5         |
| Globe Rural ITS     | 16          | 0          | 0              | \$6,934                      | \$7,798          | \$1,294          | 166.0          | \$5,288                  | \$2,210          | \$16,002         | 267.0          | \$0              | \$9,346          | \$48,872            | 433.0          |
| Holbrook Rural ITS  | 39          | 6          | 3              | \$16,181                     | \$18,889         | \$1,941          | 404.0          | \$13,229                 | \$5,315          | \$35,595         | 674.0          | \$60,000         | \$23,489         | \$174,639           | 1078.0         |
| Kingman Rural ITS   | 16          | 0          | 0              | \$7,708                      | \$9,280          | \$0              | 200.0          | \$5,768                  | \$3,000          | \$10,452         | 342.0          | \$0              | \$13,100         | \$49,308            | 542.0          |
| Phoenix FMS         | 1930        | 108        | 33             | \$704,229                    | \$583,175        | \$183,112        | 10681.5        | \$401,833                | \$337,367        | \$321,288        | 16424.0        | \$537,000        | \$184,245        | \$3,252,249         | 27105.5        |
| Prescott Rural ITS  | 9           | 0          | 0              | \$4,050                      | \$4,491          | \$724            | 102.0          | \$2,707                  | \$1,408          | \$6,542          | 149.0          | \$0              | \$5,583          | \$25,505            | 251.0          |
| Safford Rural ITS   | 18          | 0          | 2              | \$8,894                      | \$10,672         | \$0              | 230.0          | \$6,506                  | \$3,500          | \$6,366          | 392.0          | \$40,000         | \$15,170         | \$91,108            | 622.0          |
| TPG                 | 8           | 0          | 0              | \$5,938                      | \$5,938          | \$5,938          | 70.0           | \$5,938                  | \$5,938          | \$0              | 70.0           | \$0              | \$784            | \$36,412            | 140.0          |
| Tucson FMS          | 106         | 0          | 0              | \$44,646                     | \$34,802         | \$13,240         | 631.0          | \$32,206                 | \$27,204         | \$31,892         | 1248.0         | \$0              | \$13,956         | \$197,946           | 1879.0         |
| Tucson Rural ITS    | 13          | 0          | 0              | \$5,929                      | \$7,192          | \$0              | 155.0          | \$4,661                  | \$2,250          | \$10,452         | 267.0          | \$0              | \$9,995          | \$40,479            | 422.0          |
| Yuma Rural ITS      | 15          | 0          | 0              | \$8,053                      | \$9,131          | \$724            | 202.0          | \$4,955                  | \$3,158          | \$162            | 313.5          | \$0              | \$12,658         | \$38,841            | 515.5          |
| <b>Totals:</b>      | <b>2234</b> | <b>121</b> | <b>41</b>      | <b>\$846,694</b>             | <b>\$725,982</b> | <b>\$222,276</b> | <b>13492.5</b> | <b>\$514,324</b>         | <b>\$411,837</b> | <b>\$494,776</b> | <b>21096.0</b> | <b>\$697,000</b> | <b>\$317,503</b> | <b>\$4,230,392</b>  | <b>34588.5</b> |

**Year: 2010**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |                | Demand Maintenance Costs |                  |                  |                | Replace Costs      | Operating Costs  | Totals By ADOT Unit |                |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|----------------|--------------------------|------------------|------------------|----------------|--------------------|------------------|---------------------|----------------|
|                     |             |            |                | Labor                        | Equipment        | Materials        | ManHours       | Labor                    | Equipment        | Materials        | ManHours       |                    |                  | Costs               | ManHours       |
| ATRC                | 23          | 0          | 0              | \$14,579                     | \$14,579         | \$14,579         | 185.0          | \$14,579                 | \$14,579         | \$14,579         | 185.0          | \$0                | \$2,254          | \$89,728            | 370.0          |
| Flagstaff Rural ITS | 41          | 0          | 1              | \$19,553                     | \$20,035         | \$724            | 466.0          | \$5,908                  | \$5,908          | \$32,895         | 764.5          | \$20,000           | \$26,923         | \$142,692           | 1230.5         |
| Globe Rural ITS     | 18          | 2          | 0              | \$7,210                      | \$8,054          | \$1,448          | 184.0          | \$5,346                  | \$2,316          | \$16,002         | 269.0          | \$0                | \$9,436          | \$49,812            | 453.0          |
| Holbrook Rural ITS  | 55          | 16         | 1              | \$20,443                     | \$23,002         | \$4,344          | 527.0          | \$6,198                  | \$6,198          | \$32,982         | 774.0          | \$20,000           | \$25,883         | \$149,123           | 1301.0         |
| Kingman Rural ITS   | 25          | 9          | 0              | \$10,868                     | \$12,843         | \$724            | 282.0          | \$8,407                  | \$3,908          | \$12,162         | 462.0          | \$0                | \$16,953         | \$65,865            | 744.0          |
| Phoenix FMS         | 2202        | 272        | 195            | \$802,501                    | \$664,466        | \$208,569        | 12175.5        | \$453,029                | \$380,822        | \$308,361        | 18515.0        | \$4,283,000        | \$207,485        | \$7,308,233         | 30690.5        |
| Prescott Rural ITS  | 9           | 0          | 0              | \$4,050                      | \$4,491          | \$724            | 102.0          | \$2,707                  | \$1,408          | \$6,542          | 149.0          | \$0                | \$5,583          | \$25,505            | 251.0          |
| Safford Rural ITS   | 28          | 10         | 0              | \$10,374                     | \$12,992         | \$0              | 280.0          | \$9,856                  | \$3,500          | \$6,366          | 497.0          | \$0                | \$16,870         | \$59,958            | 777.0          |
| TPG                 | 8           | 0          | 0              | \$5,938                      | \$5,938          | \$5,938          | 70.0           | \$5,938                  | \$5,938          | \$5,938          | 70.0           | \$0                | \$784            | \$36,412            | 140.0          |
| Tucson FMS          | 106         | 0          | 58             | \$44,646                     | \$34,802         | \$13,240         | 631.0          | \$32,206                 | \$27,204         | \$31,080         | 1248.0         | \$522,000          | \$13,956         | \$719,134           | 1879.0         |
| Tucson Rural ITS    | 13          | 0          | 0              | \$5,929                      | \$7,192          | \$0              | 155.0          | \$4,661                  | \$2,250          | \$10,452         | 267.0          | \$0                | \$9,995          | \$40,479            | 422.0          |
| Yuma Rural ITS      | 15          | 0          | 0              | \$8,053                      | \$9,131          | \$724            | 202.0          | \$4,955                  | \$3,158          | \$2,789          | 313.5          | \$0                | \$12,658         | \$41,468            | 515.5          |
| <b>Totals:</b>      | <b>2543</b> | <b>309</b> | <b>255</b>     | <b>\$954,144</b>             | <b>\$817,525</b> | <b>\$251,014</b> | <b>15259.5</b> | <b>\$574,609</b>         | <b>\$457,189</b> | <b>\$480,148</b> | <b>23514.0</b> | <b>\$4,845,000</b> | <b>\$348,780</b> | <b>\$8,728,409</b>  | <b>38773.5</b> |

**Year: 2011**

| ADOT Unit           | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |                | Demand Maintenance Costs |                  |                  |                | Replace Costs    | Operating Costs  | Totals By ADOT Unit |                |
|---------------------|-------------|------------|----------------|------------------------------|------------------|------------------|----------------|--------------------------|------------------|------------------|----------------|------------------|------------------|---------------------|----------------|
|                     |             |            |                | Labor                        | Equipment        | Materials        | ManHours       | Labor                    | Equipment        | Materials        | ManHours       |                  |                  | Costs               | ManHours       |
| ATRC                | 23          | 0          | 0              | \$14,579                     | \$14,579         | \$14,579         | 185.0          | \$14,579                 | \$14,579         | \$14,579         | 185.0          | \$0              | \$2,254          | \$89,728            | 370.0          |
| Flagstaff Rural ITS | 41          | 0          | 0              | \$19,553                     | \$20,035         | \$724            | 466.0          | \$5,908                  | \$5,908          | \$40,748         | 764.5          | \$0              | \$26,923         | \$130,545           | 1230.5         |
| Globe Rural ITS     | 18          | 0          | 0              | \$7,210                      | \$8,054          | \$1,448          | 184.0          | \$5,346                  | \$2,316          | \$16,002         | 269.0          | \$0              | \$9,436          | \$49,812            | 453.0          |
| Holbrook Rural ITS  | 55          | 0          | 0              | \$20,443                     | \$23,002         | \$4,344          | 527.0          | \$6,198                  | \$6,198          | \$43,017         | 774.0          | \$0              | \$25,883         | \$139,158           | 1301.0         |
| Kingman Rural ITS   | 25          | 0          | 0              | \$10,868                     | \$12,843         | \$724            | 282.0          | \$8,407                  | \$3,908          | \$14,034         | 462.0          | \$0              | \$16,953         | \$67,737            | 744.0          |
| Phoenix FMS         | 2464        | 262        | 66             | \$897,163                    | \$743,077        | \$233,516        | 13624.5        | \$493,995                | \$415,877        | \$374,322        | 20226.0        | \$750,000        | \$230,275        | \$4,138,225         | 33850.5        |
| Prescott Rural ITS  | 9           | 0          | 2              | \$4,050                      | \$4,491          | \$724            | 102.0          | \$2,707                  | \$1,408          | \$5,402          | 149.0          | \$218,000        | \$5,583          | \$242,365           | 251.0          |
| Safford Rural ITS   | 28          | 0          | 0              | \$10,374                     | \$12,992         | \$0              | 280.0          | \$9,856                  | \$3,500          | \$11,592         | 497.0          | \$0              | \$16,870         | \$65,184            | 777.0          |
| TPG                 | 8           | 0          | 0              | \$5,938                      | \$5,938          | \$5,938          | 70.0           | \$5,938                  | \$5,938          | \$5,938          | 70.0           | \$0              | \$784            | \$36,412            | 140.0          |
| Tucson FMS          | 106         | 0          | 0              | \$44,646                     | \$34,802         | \$13,240         | 631.0          | \$32,206                 | \$27,204         | \$31,992         | 1248.0         | \$0              | \$13,956         | \$197,946           | 1879.0         |
| Tucson Rural ITS    | 20          | 7          | 0              | \$7,855                      | \$9,744          | \$0              | 210.0          | \$7,074                  | \$2,750          | \$12,162         | 369.5          | \$0              | \$12,915         | \$52,500            | 579.5          |
| Yuma Rural ITS      | 15          | 0          | 0              | \$8,053                      | \$9,131          | \$724            | 202.0          | \$4,955                  | \$3,158          | \$2,789          | 313.5          | \$0              | \$12,658         | \$41,468            | 515.5          |
| <b>Totals:</b>      | <b>2812</b> | <b>269</b> | <b>68</b>      | <b>1,050,732</b>             | <b>\$898,688</b> | <b>\$275,961</b> | <b>16763.5</b> | <b>\$617,988</b>         | <b>\$492,744</b> | <b>\$572,477</b> | <b>25327.5</b> | <b>\$968,000</b> | <b>\$374,490</b> | <b>\$5,251,080</b>  | <b>42091.0</b> |

| Year: 2012<br>ADOT Unit | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |                  |                  |                  |                |                  | Demand Maintenance Costs |                  |            |                |                    |                  | Replace            |                | Operating |  | Totals By ADOT Unit |          |       |          |
|-------------------------|----------------|--------------|-------------------|------------------------------|------------------|------------------|------------------|----------------|------------------|--------------------------|------------------|------------|----------------|--------------------|------------------|--------------------|----------------|-----------|--|---------------------|----------|-------|----------|
|                         |                |              |                   | Labor                        |                  | Equipment        |                  | Materials      |                  | ManHours                 |                  | Labor      |                | Equipment          |                  | Materials          |                | ManHours  |  | Costs               | ManHours | Costs | ManHours |
|                         |                |              |                   |                              |                  |                  |                  |                |                  |                          |                  |            |                |                    |                  |                    |                |           |  |                     |          |       |          |
| ATRC                    | 23             | 0            | 23                | \$14,579                     | \$14,579         | \$14,579         | \$14,579         | 185.0          | \$14,579         | \$14,579                 | \$14,579         | \$0        | 185.0          | \$410,000          | \$2,254          | \$485,149          | 370.0          |           |  |                     |          |       |          |
| Flagstaff Rural ITS     | 41             | 0            | 0                 | \$19,553                     | \$20,035         | \$724            | \$724            | 466.0          | \$16,654         | \$5,908                  | \$43,931         | \$0        | 764.5          | \$0                | \$26,923         | \$133,728          | 1230.5         |           |  |                     |          |       |          |
| Globe Rural ITS         | 18             | 0            | 0                 | \$7,210                      | \$8,054          | \$1,448          | \$1,448          | 184.0          | \$5,346          | \$2,316                  | \$16,030         | \$0        | 269.0          | \$0                | \$9,436          | \$49,840           | 453.0          |           |  |                     |          |       |          |
| Holbrook Rural ITS      | 55             | 0            | 5                 | \$20,443                     | \$23,002         | \$4,344          | \$4,344          | 527.0          | \$16,271         | \$6,198                  | \$49,467         | \$0        | 774.0          | \$100,000          | \$25,883         | \$245,608          | 1301.0         |           |  |                     |          |       |          |
| Kingman Rural ITS       | 25             | 0            | 0                 | \$10,868                     | \$12,843         | \$724            | \$724            | 282.0          | \$8,407          | \$3,908                  | \$24,500         | \$0        | 462.0          | \$0                | \$16,953         | \$78,203           | 744.0          |           |  |                     |          |       |          |
| Phoenix FMS             | 2464           | 0            | 220               | \$897,163                    | \$743,077        | \$233,516        | \$233,516        | 13624.5        | \$493,995        | \$415,877                | \$374,505        | \$0        | 20226.0        | \$2,576,000        | \$230,275        | \$5,964,408        | 33850.5        |           |  |                     |          |       |          |
| Prescott Rural ITS      | 9              | 0            | 0                 | \$4,050                      | \$4,491          | \$724            | \$724            | 102.0          | \$2,707          | \$1,408                  | \$5,402          | \$0        | 149.0          | \$0                | \$5,583          | \$24,365           | 251.0          |           |  |                     |          |       |          |
| Safford Rural ITS       | 28             | 0            | 0                 | \$10,374                     | \$12,992         | \$0              | \$0              | 280.0          | \$9,856          | \$3,500                  | \$38,862         | \$0        | 497.0          | \$0                | \$16,870         | \$92,454           | 777.0          |           |  |                     |          |       |          |
| TPG                     | 8              | 0            | 8                 | \$5,938                      | \$5,938          | \$5,938          | \$5,938          | 70.0           | \$5,938          | \$5,938                  | \$0              | 70.0       | \$80,000       | \$784              | \$110,474        | 140.0              |                |           |  |                     |          |       |          |
| Tucson FMS              | 106            | 0            | 0                 | \$44,646                     | \$34,802         | \$13,240         | \$13,240         | 631.0          | \$32,206         | \$27,204                 | \$31,892         | \$0        | 1248.0         | \$0                | \$13,956         | \$197,946          | 1879.0         |           |  |                     |          |       |          |
| Tucson Rural ITS        | 20             | 0            | 0                 | \$7,855                      | \$9,744          | \$0              | \$0              | 210.0          | \$7,074          | \$2,750                  | \$12,162         | \$0        | 369.5          | \$0                | \$12,915         | \$52,500           | 579.5          |           |  |                     |          |       |          |
| Yuma Rural ITS          | 15             | 0            | 0                 | \$8,053                      | \$9,131          | \$724            | \$724            | 202.0          | \$4,955          | \$3,158                  | \$2,789          | \$0        | 313.5          | \$0                | \$12,658         | \$41,468           | 515.5          |           |  |                     |          |       |          |
| <b>Totals:</b>          | <b>2812</b>    | <b>0</b>     | <b>256</b>        | <b>1,050,732</b>             | <b>\$898,688</b> | <b>\$275,961</b> | <b>\$275,961</b> | <b>16763.5</b> | <b>\$617,988</b> | <b>\$492,744</b>         | <b>\$599,540</b> | <b>\$0</b> | <b>25327.5</b> | <b>\$3,166,000</b> | <b>\$374,490</b> | <b>\$7,476,143</b> | <b>42091.0</b> |           |  |                     |          |       |          |





## APPENDIX D

### Statewide ITI O&M Resource Forecast by ADOT Organization

**ATRC**

**Year: 1998**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 1999**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2000**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                | Replace Costs    | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|----------------|------------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment      |                  |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 9              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$0            | \$90,000         | \$882           | \$98,397              | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736        | \$0              | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 10             | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$0            | \$100,000        | \$980           | \$147,680             | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>19</b>      | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$3,736</b> | <b>\$190,000</b> | <b>\$2,254</b>  | <b>\$288,885</b>      | <b>370.0</b> |

**Year: 2001**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**ATRC**

**Year: 2002**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2003**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2004**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                | Replace Costs    | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|----------------|------------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment      |                  |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 9              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$0            | \$90,000         | \$882           | \$98,397              | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736        | \$0              | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 10             | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$0            | \$100,000        | \$980           | \$147,680             | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>19</b>      | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$3,736</b> | <b>\$190,000</b> | <b>\$2,254</b>  | <b>\$268,885</b>      | <b>370.0</b> |

**Year: 2005**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**ATRC**

**Year: 2006**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2007**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2008**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                | Replace Costs    | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|----------------|------------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment      |                  |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 9              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$0            | \$90,000         | \$882           | \$98,397              | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736        | \$0              | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 10             | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$0            | \$100,000        | \$980           | \$147,680             | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>19</b>      | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$3,736</b> | <b>\$190,000</b> | <b>\$2,254</b>  | <b>\$268,886</b>      | <b>370.0</b> |

**Year: 2009**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**ATRC**

**Year: 2010**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2011**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 0              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$1,503         | \$0           | \$882           | \$9,900               | 90.0         |
| WIM - Bending Plate | 4           | 0         | 0              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$3,736         | \$0           | \$392           | \$22,808              | 80.0         |
| WIM - Piezo         | 10          | 0         | 0              | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$9,340         | \$0           | \$980           | \$57,020              | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>0</b>       | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$14,579</b> | <b>\$0</b>    | <b>\$2,254</b>  | <b>\$89,728</b>       | <b>370.0</b> |

**Year: 2012**

| Equipment Type      | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |            | Replace Costs    | Operating Costs | Totals By Equip. Type |              |
|---------------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|------------|------------------|-----------------|-----------------------|--------------|
|                     |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment  |                  |                 | Materials             | ManHours     |
| AVC - Piezo         | 9           | 0         | 9              | \$1,503                      | \$1,503         | \$1,503         | 45.0                     | \$1,503         | \$0        | \$90,000         | \$882           | \$98,397              | 90.0         |
| WIM - Bending Plate | 4           | 0         | 4              | \$3,736                      | \$3,736         | \$3,736         | 40.0                     | \$3,736         | \$0        | \$220,000        | \$392           | \$239,072             | 80.0         |
| WIM - Piezo         | 10          | 0         | 10             | \$9,340                      | \$9,340         | \$9,340         | 100.0                    | \$9,340         | \$0        | \$100,000        | \$980           | \$147,680             | 200.0        |
| <b>Totals:</b>      | <b>23</b>   | <b>0</b>  | <b>23</b>      | <b>\$14,579</b>              | <b>\$14,579</b> | <b>\$14,579</b> | <b>185.0</b>             | <b>\$14,579</b> | <b>\$0</b> | <b>\$410,000</b> | <b>\$2,254</b>  | <b>\$486,149</b>      | <b>370.0</b> |

## Flagstaff Rural ITS

### Year: 1998

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                 |            | Replace Costs  | Operating Costs | Totals By Equip. Type |          |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|-----------------|------------|----------------|-----------------|-----------------------|----------|
|                |             |           |                | Labor                        | Equipment      | Materials  | Labor                    | Equipment       | Materials  |                |                 | ManHours              | ManHours |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0            | \$0        | \$2,950                  | \$0             | \$0        | \$0            | \$500           | \$6,355               | 58.0     |
| RWIS-RPU       | 10          | 3         | 0              | \$1,480                      | \$2,320        | \$0        | \$3,350                  | \$0             | \$18,291   | \$0            | \$1,700         | \$27,141              | 155.0    |
| VMS            | 3           | 3         | 0              | \$1,779                      | \$2,088        | \$0        | \$1,107                  | \$750           | \$0        | \$0            | \$3,105         | \$8,829               | 120.0    |
| <b>Totals:</b> | <b>14</b>   | <b>6</b>  | <b>0</b>       | <b>\$6,164</b>               | <b>\$4,408</b> | <b>\$0</b> | <b>\$7,407</b>           | <b>\$18,291</b> | <b>\$0</b> | <b>\$5,305</b> | <b>\$42,325</b> | <b>333.0</b>          |          |

### Year: 1999

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                 |            | Replace Costs  | Operating Costs | Totals By Equip. Type |          |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|-----------------|------------|----------------|-----------------|-----------------------|----------|
|                |             |           |                | Labor                        | Equipment      | Materials  | Labor                    | Equipment       | Materials  |                |                 | ManHours              | ManHours |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0            | \$0        | \$2,950                  | \$0             | \$0        | \$0            | \$500           | \$6,355               | 58.0     |
| RWIS-RPU       | 11          | 1         | 0              | \$1,628                      | \$2,552        | \$0        | \$3,685                  | \$0             | \$18,291   | \$0            | \$1,870         | \$28,026              | 170.5    |
| VMS            | 7           | 4         | 0              | \$4,151                      | \$4,872        | \$0        | \$2,583                  | \$1,750         | \$0        | \$0            | \$7,245         | \$20,601              | 280.0    |
| <b>Totals:</b> | <b>19</b>   | <b>5</b>  | <b>0</b>       | <b>\$8,684</b>               | <b>\$7,424</b> | <b>\$0</b> | <b>\$9,218</b>           | <b>\$18,291</b> | <b>\$0</b> | <b>\$9,615</b> | <b>\$64,982</b> | <b>608.5</b>          |          |

### Year: 2000

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                 |            | Replace Costs  | Operating Costs | Totals By Equip. Type |          |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|-----------------|------------|----------------|-----------------|-----------------------|----------|
|                |             |           |                | Labor                        | Equipment      | Materials  | Labor                    | Equipment       | Materials  |                |                 | ManHours              | ManHours |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0            | \$0        | \$2,950                  | \$0             | \$0        | \$0            | \$500           | \$6,355               | 58.0     |
| RWIS-RPU       | 11          | 0         | 0              | \$1,628                      | \$2,552        | \$0        | \$3,685                  | \$0             | \$26,130   | \$0            | \$1,870         | \$35,865              | 170.5    |
| VMS            | 7           | 0         | 0              | \$4,151                      | \$4,872        | \$0        | \$2,583                  | \$1,750         | \$0        | \$0            | \$7,245         | \$20,601              | 280.0    |
| <b>Totals:</b> | <b>19</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,684</b>               | <b>\$7,424</b> | <b>\$0</b> | <b>\$9,218</b>           | <b>\$26,130</b> | <b>\$0</b> | <b>\$9,615</b> | <b>\$62,821</b> | <b>608.5</b>          |          |

### Year: 2001

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                 |            | Replace Costs  | Operating Costs | Totals By Equip. Type |          |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|-----------------|------------|----------------|-----------------|-----------------------|----------|
|                |             |           |                | Labor                        | Equipment      | Materials  | Labor                    | Equipment       | Materials  |                |                 | ManHours              | ManHours |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0            | \$0        | \$2,950                  | \$0             | \$0        | \$0            | \$500           | \$6,355               | 58.0     |
| RWIS-RPU       | 11          | 0         | 0              | \$1,628                      | \$2,552        | \$0        | \$3,685                  | \$0             | \$28,743   | \$0            | \$1,870         | \$38,478              | 170.5    |
| VMS            | 7           | 0         | 0              | \$4,151                      | \$4,872        | \$0        | \$2,583                  | \$1,750         | \$0        | \$0            | \$7,245         | \$20,601              | 280.0    |
| <b>Totals:</b> | <b>19</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,684</b>               | <b>\$7,424</b> | <b>\$0</b> | <b>\$9,218</b>           | <b>\$28,743</b> | <b>\$0</b> | <b>\$9,615</b> | <b>\$66,434</b> | <b>608.5</b>          |          |

### Flagstaff Rural ITS

#### Year: 2002

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0            | \$0        | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355         | 58.0         |
| RWIS-RPU       | 15          | 4         | 0              | \$2,220                      | \$3,480        | \$0        | 75.0                     | \$5,025         | \$0            | \$28,743        | 157.5           | \$0                   | \$2,550         | \$42,018        | 232.5        |
| VMS            | 8           | 1         | 0              | \$4,744                      | \$5,568        | \$0        | 120.0                    | \$2,952         | \$2,000        | \$0             | 200.0           | \$0                   | \$8,280         | \$23,544        | 320.0        |
| <b>Totals:</b> | <b>24</b>   | <b>5</b>  | <b>0</b>       | <b>\$9,869</b>               | <b>\$9,048</b> | <b>\$0</b> | <b>224.0</b>             | <b>\$10,927</b> | <b>\$2,000</b> | <b>\$28,743</b> | <b>386.5</b>    | <b>\$0</b>            | <b>\$11,330</b> | <b>\$71,917</b> | <b>610.5</b> |

#### Year: 2003

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs            | ManHours     |
| RWIS-CPU       | 1           | 0         | 1              | \$2,905                      | \$0            | \$0        | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$5,000               | \$500           | \$11,355         | 58.0         |
| RWIS-RPU       | 15          | 0         | 7              | \$2,220                      | \$3,480        | \$0        | 75.0                     | \$5,025         | \$0            | \$10,452        | 157.5           | \$140,000             | \$2,550         | \$163,727        | 232.5        |
| VMS            | 8           | 0         | 0              | \$4,744                      | \$5,568        | \$0        | 120.0                    | \$2,952         | \$2,000        | \$0             | 200.0           | \$0                   | \$8,280         | \$23,544         | 320.0        |
| <b>Totals:</b> | <b>24</b>   | <b>0</b>  | <b>8</b>       | <b>\$9,869</b>               | <b>\$9,048</b> | <b>\$0</b> | <b>224.0</b>             | <b>\$10,927</b> | <b>\$2,000</b> | <b>\$10,452</b> | <b>386.5</b>    | <b>\$145,000</b>      | <b>\$11,330</b> | <b>\$198,626</b> | <b>610.5</b> |

#### Year: 2004

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0        | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355         | 58.0         |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0        | 75.0                     | \$5,025         | \$0            | \$20,904        | 157.5           | \$0                   | \$2,550         | \$34,179        | 232.5        |
| VMS            | 14          | 6         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166         | \$3,500        | \$0             | 350.0           | \$0                   | \$14,490        | \$41,202        | 560.0        |
| <b>Totals:</b> | <b>30</b>   | <b>6</b>  | <b>0</b>       | <b>\$13,427</b>              | <b>\$13,224</b> | <b>\$0</b> | <b>314.0</b>             | <b>\$13,141</b> | <b>\$3,500</b> | <b>\$20,904</b> | <b>536.5</b>    | <b>\$0</b>            | <b>\$17,540</b> | <b>\$81,736</b> | <b>860.5</b> |

#### Year: 2005

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|------------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs            | ManHours     |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0        | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355          | 58.0         |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0        | 75.0                     | \$5,025         | \$0            | \$39,195        | 157.5           | \$0                   | \$2,550         | \$52,470         | 232.5        |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166         | \$3,500        | \$0             | 350.0           | \$0                   | \$14,490        | \$41,202         | 560.0        |
| <b>Totals:</b> | <b>30</b>   | <b>0</b>  | <b>0</b>       | <b>\$13,427</b>              | <b>\$13,224</b> | <b>\$0</b> | <b>314.0</b>             | <b>\$13,141</b> | <b>\$3,500</b> | <b>\$39,195</b> | <b>536.5</b>    | <b>\$0</b>            | <b>\$17,540</b> | <b>\$100,027</b> | <b>860.5</b> |



**Flagstaff Rural ITS**

**Year: 2006**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | Labor                    | Equipment      | Materials       |               |                 | ManHours              | ManHours     |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0        | \$2,950                  | \$0            | \$0             | \$0           | \$500           | \$6,355               | 58.0         |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0        | \$5,025                  | \$0            | \$39,195        | \$0           | \$2,550         | \$52,470              | 232.5        |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | \$5,166                  | \$3,500        | \$0             | \$0           | \$14,490        | \$41,202              | 560.0        |
| <b>Totals:</b> | <b>30</b>   | <b>0</b>  | <b>0</b>       | <b>\$13,427</b>              | <b>\$13,224</b> | <b>\$0</b> | <b>\$13,141</b>          | <b>\$3,500</b> | <b>\$39,195</b> | <b>\$0</b>    | <b>\$17,540</b> | <b>\$100,027</b>      | <b>850.5</b> |

**Year: 2007**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | Labor                    | Equipment      | Materials       |               |                 | ManHours              | ManHours     |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0        | \$2,950                  | \$0            | \$0             | \$0           | \$500           | \$6,355               | 58.0         |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0        | \$5,025                  | \$0            | \$39,195        | \$0           | \$2,550         | \$52,470              | 232.5        |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | \$5,166                  | \$3,500        | \$0             | \$0           | \$14,490        | \$41,202              | 560.0        |
| <b>Totals:</b> | <b>30</b>   | <b>0</b>  | <b>0</b>       | <b>\$13,427</b>              | <b>\$13,224</b> | <b>\$0</b> | <b>\$13,141</b>          | <b>\$3,500</b> | <b>\$39,195</b> | <b>\$0</b>    | <b>\$17,540</b> | <b>\$100,027</b>      | <b>850.5</b> |

**Year: 2008**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                |                 | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|--------------|--------------------------|----------------|-----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials    | Labor                    | Equipment      | Materials       |               |                 | ManHours              | ManHours     |
| CCTV           | 1           | 1         | 0              | \$651                        | \$419           | \$647        | \$163                    | \$105          | \$0             | \$0           | \$23            | \$2,008               | 10.0         |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0          | \$2,950                  | \$0            | \$0             | \$0           | \$500           | \$6,355               | 58.0         |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0          | \$5,025                  | \$0            | \$39,195        | \$0           | \$2,550         | \$52,470              | 232.5        |
| VMS            | 17          | 3         | 0              | \$10,081                     | \$11,832        | \$0          | \$6,273                  | \$4,250        | \$1,710         | \$0           | \$17,595        | \$51,741              | 680.0        |
| <b>Totals:</b> | <b>34</b>   | <b>4</b>  | <b>0</b>       | <b>\$15,857</b>              | <b>\$15,731</b> | <b>\$647</b> | <b>\$14,411</b>          | <b>\$4,355</b> | <b>\$40,905</b> | <b>\$0</b>    | <b>\$20,668</b> | <b>\$112,574</b>      | <b>980.5</b> |

**Flagstaff Rural ITS**

**Year: 2009**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|--------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials    | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419           | \$647        | 8.0                      | \$163           | \$105          | \$162           | 2.0             | \$0                   | \$23            | \$2,170          | 10.0          |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0          | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355          | 58.0          |
| RWIS-RPU       | 15          | 0         | 3              | \$2,220                      | \$3,480         | \$0          | 75.0                     | \$5,025         | \$0            | \$31,356        | 157.5           | \$60,000              | \$2,550         | \$104,631        | 232.5         |
| VDS            | 1           | 1         | 0              | \$138                        | \$128           | \$77         | 9.0                      | \$29            | \$53           | \$0             | 1.0             | \$0                   | \$45            | \$470            | 10.0          |
| VMS            | 23          | 6         | 0              | \$13,639                     | \$16,008        | \$0          | 345.0                    | \$8,487         | \$5,750        | \$3,990         | 575.0           | \$0                   | \$23,805        | \$71,679         | 920.0         |
| <b>Totals:</b> | <b>41</b>   | <b>7</b>  | <b>3</b>       | <b>\$19,553</b>              | <b>\$20,035</b> | <b>\$724</b> | <b>466.0</b>             | <b>\$16,654</b> | <b>\$5,908</b> | <b>\$35,508</b> | <b>764.5</b>    | <b>\$60,000</b>       | <b>\$26,923</b> | <b>\$185,305</b> | <b>1230.5</b> |

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|--------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials    | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419           | \$647        | 8.0                      | \$163           | \$105          | \$162           | 2.0             | \$0                   | \$23            | \$2,170          | 10.0          |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0          | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355          | 58.0          |
| RWIS-RPU       | 15          | 0         | 1              | \$2,220                      | \$3,480         | \$0          | 75.0                     | \$5,025         | \$0            | \$28,743        | 157.5           | \$20,000              | \$2,550         | \$62,018         | 232.5         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128           | \$77         | 9.0                      | \$29            | \$53           | \$0             | 1.0             | \$0                   | \$45            | \$470            | 10.0          |
| VMS            | 23          | 0         | 0              | \$13,639                     | \$16,008        | \$0          | 345.0                    | \$8,487         | \$5,750        | \$3,990         | 575.0           | \$0                   | \$23,805        | \$71,679         | 920.0         |
| <b>Totals:</b> | <b>41</b>   | <b>0</b>  | <b>1</b>       | <b>\$19,553</b>              | <b>\$20,035</b> | <b>\$724</b> | <b>466.0</b>             | <b>\$16,654</b> | <b>\$5,908</b> | <b>\$32,895</b> | <b>764.5</b>    | <b>\$20,000</b>       | <b>\$26,923</b> | <b>\$142,692</b> | <b>1230.5</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|--------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials    | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419           | \$647        | 8.0                      | \$163           | \$105          | \$162           | 2.0             | \$0                   | \$23            | \$2,170          | 10.0          |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0          | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355          | 58.0          |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0          | 75.0                     | \$5,025         | \$0            | \$36,582        | 157.5           | \$0                   | \$2,550         | \$49,857         | 232.5         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128           | \$77         | 9.0                      | \$29            | \$53           | \$14            | 1.0             | \$0                   | \$45            | \$484            | 10.0          |
| VMS            | 23          | 0         | 0              | \$13,639                     | \$16,008        | \$0          | 345.0                    | \$8,487         | \$5,750        | \$3,990         | 575.0           | \$0                   | \$23,805        | \$71,679         | 920.0         |
| <b>Totals:</b> | <b>41</b>   | <b>0</b>  | <b>0</b>       | <b>\$19,553</b>              | <b>\$20,035</b> | <b>\$724</b> | <b>466.0</b>             | <b>\$16,654</b> | <b>\$5,908</b> | <b>\$40,748</b> | <b>764.5</b>    | <b>\$0</b>            | <b>\$26,923</b> | <b>\$130,545</b> | <b>1230.5</b> |

**Flagstaff Rural ITS**

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                 |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|--------------|--------------------------|-----------------|----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials    | ManHours                 | Labor           | Equipment      |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419           | \$647        | 8.0                      | \$163           | \$105          | \$162           | 2.0             | \$0                   | \$23            | \$2,170          | 10.0          |
| RWIS-CPU       | 1           | 0         | 0              | \$2,905                      | \$0             | \$0          | 29.0                     | \$2,950         | \$0            | \$0             | 29.0            | \$0                   | \$500           | \$6,355          | 58.0          |
| RWIS-RPU       | 15          | 0         | 0              | \$2,220                      | \$3,480         | \$0          | 75.0                     | \$5,025         | \$0            | \$39,195        | 157.5           | \$0                   | \$2,550         | \$52,470         | 232.5         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128           | \$77         | 9.0                      | \$29            | \$53           | \$14            | 1.0             | \$0                   | \$45            | \$484            | 10.0          |
| VMS            | 23          | 0         | 0              | \$13,639                     | \$16,008        | \$0          | 345.0                    | \$8,487         | \$5,750        | \$4,560         | 575.0           | \$0                   | \$23,805        | \$72,249         | 920.0         |
| <b>Totals:</b> | <b>41</b>   | <b>0</b>  | <b>0</b>       | <b>\$19,553</b>              | <b>\$20,035</b> | <b>\$724</b> | <b>466.0</b>             | <b>\$16,654</b> | <b>\$5,908</b> | <b>\$43,931</b> | <b>764.5</b>    | <b>\$0</b>            | <b>\$26,923</b> | <b>\$133,728</b> | <b>1230.5</b> |

## Globe Rural ITS

### Year: 2002

| Equipment Type | Total Units |       | New Units |       | Replaced Units |       | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs |          | Operating Costs |          | Totals By Equip. Type |          |
|----------------|-------------|-------|-----------|-------|----------------|-------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|----------|-----------------|----------|-----------------------|----------|
|                | Units       | Hours | Units     | Hours | Units          | Hours | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment | Materials     | ManHours | Costs           | ManHours | Costs                 | ManHours |
| RWIS-RPU       | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$0           | 63.0     | \$0             | \$1,020  | \$5,310               | 93.0     |
| Totals:        | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$0           | 63.0     | \$0             | \$1,020  | \$5,310               | 93.0     |

### Year: 2003

| Equipment Type | Total Units |       | New Units |       | Replaced Units |       | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs |          | Operating Costs |          | Totals By Equip. Type |          |
|----------------|-------------|-------|-----------|-------|----------------|-------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|----------|-----------------|----------|-----------------------|----------|
|                | Units       | Hours | Units     | Hours | Units          | Hours | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment | Materials     | ManHours | Costs           | ManHours | Costs                 | ManHours |
| RWIS-RPU       | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$0           | 63.0     | \$0             | \$1,020  | \$5,310               | 93.0     |
| Totals:        | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$0           | 63.0     | \$0             | \$1,020  | \$5,310               | 93.0     |

### Year: 2004

| Equipment Type | Total Units |       | New Units |       | Replaced Units |       | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs |          | Operating Costs |          | Totals By Equip. Type |          |
|----------------|-------------|-------|-----------|-------|----------------|-------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|----------|-----------------|----------|-----------------------|----------|
|                | Units       | Hours | Units     | Hours | Units          | Hours | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment | Materials     | ManHours | Costs           | ManHours | Costs                 | ManHours |
| RWIS-RPU       | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$15,678      | 63.0     | \$0             | \$1,020  | \$20,988              | 93.0     |
| Totals:        | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$15,678      | 63.0     | \$0             | \$1,020  | \$20,988              | 93.0     |

### Year: 2005

| Equipment Type | Total Units |       | New Units |       | Replaced Units |       | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs |          | Operating Costs |          | Totals By Equip. Type |          |
|----------------|-------------|-------|-----------|-------|----------------|-------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|----------|-----------------|----------|-----------------------|----------|
|                | Units       | Hours | Units     | Hours | Units          | Hours | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment | Materials     | ManHours | Costs           | ManHours | Costs                 | ManHours |
| RWIS-RPU       | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$15,678      | 63.0     | \$0             | \$1,020  | \$20,988              | 93.0     |
| Totals:        | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$15,678      | 63.0     | \$0             | \$1,020  | \$20,988              | 93.0     |

### Year: 2006

| Equipment Type | Total Units |       | New Units |       | Replaced Units |       | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs |          | Operating Costs |          | Totals By Equip. Type |          |
|----------------|-------------|-------|-----------|-------|----------------|-------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|----------|-----------------|----------|-----------------------|----------|
|                | Units       | Hours | Units     | Hours | Units          | Hours | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment | Materials     | ManHours | Costs           | ManHours | Costs                 | ManHours |
| RWIS-RPU       | 6           | 6     | 0         | 0     | 0              | 0     | \$888                        | \$1,392   | \$0       | 30.0                     | \$2,010 | \$0       | \$15,678      | 63.0     | \$0             | \$1,020  | \$20,988              | 93.0     |
| VMS            | 4           | 4     | 4         | 4     | 0              | 0     | \$2,372                      | \$2,784   | \$0       | 60.0                     | \$1,476 | \$1,000   | \$0           | 100.0    | \$0             | \$4,140  | \$11,772              | 160.0    |
| Totals:        | 10          | 10    | 4         | 4     | 0              | 0     | \$3,260                      | \$4,176   | \$0       | 90.0                     | \$3,486 | \$1,000   | \$15,678      | 163.0    | \$0             | \$5,160  | \$32,760              | 253.0    |

**Globe Rural ITS**

**Year: 2007**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs        |
| CCTV           | 2           | 0                  | \$1,302                      | \$838          | \$1,294        | 16.0                     | \$326          | \$210          | \$0             | \$46            | \$4,016               | 20.0            |              |
| RWIS-RPU       | 6           | 0                  | \$888                        | \$1,392        | \$0            | 30.0                     | \$2,010        | \$0            | \$15,678        | \$0             | \$1,020               | \$20,988        | 93.0         |
| VMS            | 6           | 2                  | \$3,558                      | \$4,176        | \$0            | 90.0                     | \$2,214        | \$1,500        | \$0             | \$6,210         | \$17,658              | 240.0           |              |
| <b>Totals:</b> | <b>14</b>   | <b>4</b>           | <b>\$5,748</b>               | <b>\$6,406</b> | <b>\$1,294</b> | <b>136.0</b>             | <b>\$4,550</b> | <b>\$1,710</b> | <b>\$15,678</b> | <b>\$0</b>      | <b>\$7,276</b>        | <b>\$42,662</b> | <b>363.0</b> |

**Year: 2008**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs        |
| CCTV           | 2           | 0                  | \$1,302                      | \$838          | \$1,294        | 16.0                     | \$326          | \$210          | \$324           | \$46            | \$4,340               | 20.0            |              |
| RWIS-RPU       | 6           | 0                  | \$888                        | \$1,392        | \$0            | 30.0                     | \$2,010        | \$0            | \$15,678        | \$0             | \$1,020               | \$20,988        | 93.0         |
| VMS            | 8           | 2                  | \$4,744                      | \$5,568        | \$0            | 120.0                    | \$2,952        | \$2,000        | \$0             | \$8,280         | \$23,544              | 320.0           |              |
| <b>Totals:</b> | <b>16</b>   | <b>2</b>           | <b>\$6,934</b>               | <b>\$7,798</b> | <b>\$1,294</b> | <b>166.0</b>             | <b>\$5,288</b> | <b>\$2,210</b> | <b>\$16,002</b> | <b>\$0</b>      | <b>\$9,346</b>        | <b>\$48,872</b> | <b>433.0</b> |

**Year: 2009**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs        |
| CCTV           | 2           | 0                  | \$1,302                      | \$838          | \$1,294        | 16.0                     | \$326          | \$210          | \$324           | \$46            | \$4,340               | 20.0            |              |
| RWIS-RPU       | 6           | 0                  | \$888                        | \$1,392        | \$0            | 30.0                     | \$2,010        | \$0            | \$15,678        | \$0             | \$1,020               | \$20,988        | 93.0         |
| VMS            | 8           | 0                  | \$4,744                      | \$5,568        | \$0            | 120.0                    | \$2,952        | \$2,000        | \$0             | \$8,280         | \$23,544              | 320.0           |              |
| <b>Totals:</b> | <b>16</b>   | <b>0</b>           | <b>\$6,934</b>               | <b>\$7,798</b> | <b>\$1,294</b> | <b>166.0</b>             | <b>\$5,288</b> | <b>\$2,210</b> | <b>\$16,002</b> | <b>\$0</b>      | <b>\$9,346</b>        | <b>\$48,872</b> | <b>433.0</b> |

**Globe Rural ITS**

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 2           | 0         | 0              | \$1,302                      | \$838          | \$1,294        | 16.0                     | \$326          | \$210          | \$324           | 4.0             | \$0                   | \$46           | \$4,340         | 20.0         |
| RWIS-RPU       | 6           | 0         | 0              | \$888                        | \$1,392        | \$0            | 30.0                     | \$2,010        | \$0            | \$15,678        | 63.0            | \$0                   | \$1,020        | \$20,988        | 93.0         |
| VDS            | 2           | 2         | 0              | \$276                        | \$256          | \$154          | 18.0                     | \$58           | \$106          | \$0             | 2.0             | \$0                   | \$90           | \$940           | 20.0         |
| VMS            | 8           | 0         | 0              | \$4,744                      | \$5,568        | \$0            | 120.0                    | \$2,952        | \$2,000        | \$0             | 200.0           | \$0                   | \$8,280        | \$23,544        | 320.0        |
| <b>Totals:</b> | <b>18</b>   | <b>2</b>  | <b>0</b>       | <b>\$7,210</b>               | <b>\$8,054</b> | <b>\$1,448</b> | <b>184.0</b>             | <b>\$5,346</b> | <b>\$2,316</b> | <b>\$16,002</b> | <b>269.0</b>    | <b>\$0</b>            | <b>\$9,436</b> | <b>\$49,812</b> | <b>463.0</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 2           | 0         | 0              | \$1,302                      | \$838          | \$1,294        | 16.0                     | \$326          | \$210          | \$324           | 4.0             | \$0                   | \$46           | \$4,340         | 20.0         |
| RWIS-RPU       | 6           | 0         | 0              | \$888                        | \$1,392        | \$0            | 30.0                     | \$2,010        | \$0            | \$15,678        | 63.0            | \$0                   | \$1,020        | \$20,988        | 93.0         |
| VDS            | 2           | 0         | 0              | \$276                        | \$256          | \$154          | 18.0                     | \$58           | \$106          | \$0             | 2.0             | \$0                   | \$90           | \$940           | 20.0         |
| VMS            | 8           | 0         | 0              | \$4,744                      | \$5,568        | \$0            | 120.0                    | \$2,952        | \$2,000        | \$0             | 200.0           | \$0                   | \$8,280        | \$23,544        | 320.0        |
| <b>Totals:</b> | <b>18</b>   | <b>0</b>  | <b>0</b>       | <b>\$7,210</b>               | <b>\$8,054</b> | <b>\$1,448</b> | <b>184.0</b>             | <b>\$5,346</b> | <b>\$2,316</b> | <b>\$16,002</b> | <b>269.0</b>    | <b>\$0</b>            | <b>\$9,436</b> | <b>\$49,812</b> | <b>463.0</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 2           | 0         | 0              | \$1,302                      | \$838          | \$1,294        | 16.0                     | \$326          | \$210          | \$324           | 4.0             | \$0                   | \$46           | \$4,340         | 20.0         |
| RWIS-RPU       | 6           | 0         | 0              | \$888                        | \$1,392        | \$0            | 30.0                     | \$2,010        | \$0            | \$15,678        | 63.0            | \$0                   | \$1,020        | \$20,988        | 93.0         |
| VDS            | 2           | 0         | 0              | \$276                        | \$256          | \$154          | 18.0                     | \$58           | \$106          | \$28            | 2.0             | \$0                   | \$90           | \$968           | 20.0         |
| VMS            | 8           | 0         | 0              | \$4,744                      | \$5,568        | \$0            | 120.0                    | \$2,952        | \$2,000        | \$0             | 200.0           | \$0                   | \$8,280        | \$23,544        | 320.0        |
| <b>Totals:</b> | <b>18</b>   | <b>0</b>  | <b>0</b>       | <b>\$7,210</b>               | <b>\$8,054</b> | <b>\$1,448</b> | <b>184.0</b>             | <b>\$5,346</b> | <b>\$2,316</b> | <b>\$16,030</b> | <b>269.0</b>    | <b>\$0</b>            | <b>\$9,436</b> | <b>\$49,840</b> | <b>463.0</b> |

### Holbrook Rural ITS

#### Year: 1998

| Equipment Type | Total |          | New Replaced |          | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |           |           | Replace |          | Totals By Equip. Type |          |         |      |
|----------------|-------|----------|--------------|----------|------------------------------|-----------|-----------|--------------------------|-----------|-----------|---------|----------|-----------------------|----------|---------|------|
|                | Units | ManHours | Units        | ManHours | Labor                        | Equipment | Materials | Labor                    | Equipment | Materials | Costs   | ManHours | Costs                 | ManHours |         |      |
| RWIS-RPU       | 3     | 3        | 0            | 0        | \$444                        | \$696     | \$0       | 15.0                     | \$1,005   | \$0       | \$0     | 31.5     | \$0                   | \$510    | \$2,655 | 46.5 |
| Totals:        | 3     | 3        | 0            | 0        | \$444                        | \$696     | \$0       | 15.0                     | \$1,005   | \$0       | \$0     | 31.5     | \$0                   | \$510    | \$2,655 | 46.5 |

#### Year: 1999

| Equipment Type | Total |          | New Replaced |          | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |           |           | Replace |          | Totals By Equip. Type |          |         |       |
|----------------|-------|----------|--------------|----------|------------------------------|-----------|-----------|--------------------------|-----------|-----------|---------|----------|-----------------------|----------|---------|-------|
|                | Units | ManHours | Units        | ManHours | Labor                        | Equipment | Materials | Labor                    | Equipment | Materials | Costs   | ManHours | Costs                 | ManHours |         |       |
| RWIS-RPU       | 4     | 1        | 0            | 0        | \$592                        | \$928     | \$0       | 20.0                     | \$1,340   | \$0       | \$0     | 42.0     | \$0                   | \$680    | \$3,540 | 62.0  |
| VMS            | 2     | 2        | 0            | 0        | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738     | \$500     | \$0     | 50.0     | \$0                   | \$2,070  | \$5,886 | 80.0  |
| Totals:        | 6     | 3        | 0            | 0        | \$1,778                      | \$2,320   | \$0       | 50.0                     | \$2,078   | \$500     | \$0     | 92.0     | \$0                   | \$2,750  | \$9,426 | 142.0 |

#### Year: 2000

| Equipment Type | Total |          | New Replaced |          | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |           |           | Replace |          | Totals By Equip. Type |          |          |       |
|----------------|-------|----------|--------------|----------|------------------------------|-----------|-----------|--------------------------|-----------|-----------|---------|----------|-----------------------|----------|----------|-------|
|                | Units | ManHours | Units        | ManHours | Labor                        | Equipment | Materials | Labor                    | Equipment | Materials | Costs   | ManHours | Costs                 | ManHours |          |       |
| RWIS-RPU       | 4     | 0        | 0            | 0        | \$592                        | \$928     | \$0       | 20.0                     | \$1,340   | \$0       | \$7,839 | 42.0     | \$0                   | \$680    | \$11,379 | 62.0  |
| VMS            | 2     | 0        | 0            | 0        | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738     | \$500     | \$0     | 50.0     | \$0                   | \$2,070  | \$5,886  | 80.0  |
| Totals:        | 6     | 0        | 0            | 0        | \$1,778                      | \$2,320   | \$0       | 50.0                     | \$2,078   | \$500     | \$7,839 | 92.0     | \$0                   | \$2,750  | \$17,265 | 142.0 |

#### Year: 2001

| Equipment Type | Total |          | New Replaced |          | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |           |           | Replace  |          | Totals By Equip. Type |          |          |       |
|----------------|-------|----------|--------------|----------|------------------------------|-----------|-----------|--------------------------|-----------|-----------|----------|----------|-----------------------|----------|----------|-------|
|                | Units | ManHours | Units        | ManHours | Labor                        | Equipment | Materials | Labor                    | Equipment | Materials | Costs    | ManHours | Costs                 | ManHours |          |       |
| RWIS-RPU       | 9     | 5        | 0            | 0        | \$1,332                      | \$2,088   | \$0       | 45.0                     | \$3,015   | \$0       | \$10,452 | 94.5     | \$0                   | \$1,530  | \$18,417 | 139.5 |
| VMS            | 5     | 3        | 0            | 0        | \$2,965                      | \$3,480   | \$0       | 75.0                     | \$1,845   | \$1,250   | \$0      | 125.0    | \$0                   | \$5,175  | \$14,715 | 200.0 |
| Totals:        | 14    | 8        | 0            | 0        | \$4,297                      | \$5,568   | \$0       | 120.0                    | \$4,860   | \$1,250   | \$10,452 | 219.5    | \$0                   | \$6,705  | \$33,132 | 339.5 |

### Holbrook Rural ITS

#### Year: 2002

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 9           | 0         | 0              | \$1,332                      | \$2,088   | \$0       | 45.0                     | \$3,015 | \$0       | \$10,452      | 94.5            | \$0                   | \$1,530  | \$18,417 | 139.5    |
| VMS            | 7           | 2         | 0              | \$4,151                      | \$4,872   | \$0       | 105.0                    | \$2,583 | \$1,750   | \$0           | 175.0           | \$0                   | \$7,245  | \$20,601 | 280.0    |
| Totals:        | 16          | 2         | 0              | \$5,483                      | \$6,960   | \$0       | 150.0                    | \$5,598 | \$1,750   | \$10,452      | 269.5           | \$0                   | \$8,775  | \$39,018 | 419.5    |

#### Year: 2003

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 9           | 0         | 0              | \$1,332                      | \$2,088   | \$0       | 45.0                     | \$3,015 | \$0       | \$23,517      | 94.5            | \$0                   | \$1,530  | \$31,482 | 139.5    |
| VMS            | 9           | 2         | 0              | \$5,337                      | \$6,284   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
| Totals:        | 18          | 2         | 0              | \$6,669                      | \$8,352   | \$0       | 180.0                    | \$6,336 | \$2,250   | \$23,517      | 319.5           | \$0                   | \$10,845 | \$57,969 | 499.5    |

#### Year: 2004

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 16          | 7         | 0              | \$2,368                      | \$3,712   | \$0       | 80.0                     | \$5,360 | \$0       | \$23,517      | 168.0           | \$0                   | \$2,720  | \$37,677 | 248.0    |
| VMS            | 11          | 2         | 0              | \$6,523                      | \$7,656   | \$0       | 165.0                    | \$4,059 | \$2,750   | \$0           | 275.0           | \$0                   | \$11,385 | \$32,373 | 440.0    |
| Totals:        | 27          | 9         | 0              | \$8,891                      | \$11,368  | \$0       | 245.0                    | \$9,419 | \$2,750   | \$23,517      | 443.0           | \$0                   | \$14,105 | \$70,050 | 688.0    |

#### Year: 2005

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 16          | 0         | 0              | \$2,368                      | \$3,712   | \$0       | 80.0                     | \$5,360 | \$0       | \$23,517      | 168.0           | \$0                   | \$2,720  | \$37,677 | 248.0    |
| VMS            | 11          | 0         | 0              | \$6,523                      | \$7,656   | \$0       | 165.0                    | \$4,059 | \$2,750   | \$0           | 275.0           | \$0                   | \$11,385 | \$32,373 | 440.0    |
| Totals:        | 27          | 0         | 0              | \$8,891                      | \$11,368  | \$0       | 245.0                    | \$9,419 | \$2,750   | \$23,517      | 443.0           | \$0                   | \$14,105 | \$70,050 | 688.0    |



### Holbrook Rural ITS

| Year: 2006<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |          |          |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|------------------|--------------------|-----------------------|----------|----------|----------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |                  |                    | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU                     | 16             | 0            | 0                 | \$2,368                      | \$3,712   | \$0       | 80.0                     | \$5,360 | \$0       | \$41,808         | 168.0              | \$0                   | \$2,720  | \$55,968 | 248.0    |
| VMS                          | 11             | 0            | 0                 | \$6,523                      | \$7,656   | \$0       | 165.0                    | \$4,059 | \$2,750   | \$0              | 275.0              | \$0                   | \$11,385 | \$32,373 | 440.0    |
| Totals:                      | 27             | 0            | 0                 | \$8,891                      | \$11,368  | \$0       | 245.0                    | \$9,419 | \$2,750   | \$41,808         | 443.0              | \$0                   | \$14,105 | \$88,341 | 688.0    |

| Year: 2007<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |          |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |           |          |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|----------|-----------|------------------|--------------------|-----------------------|----------|-----------|----------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor    | Equipment |                  |                    | Materials             | ManHours | Costs     | ManHours |
| CCTV                         | 3              | 3            | 0                 | \$1,953                      | \$1,257   | \$1,941   | 24.0                     | \$489    | \$315     | \$0              | 6.0                | \$0                   | \$69     | \$6,024   | 30.0     |
| RWIS-RPU                     | 16             | 0            | 0                 | \$2,368                      | \$3,712   | \$0       | 80.0                     | \$5,360  | \$0       | \$41,808         | 168.0              | \$0                   | \$2,720  | \$55,968  | 248.0    |
| VMS                          | 14             | 3            | 0                 | \$8,302                      | \$9,744   | \$0       | 210.0                    | \$5,166  | \$3,500   | \$0              | 350.0              | \$0                   | \$14,490 | \$41,202  | 560.0    |
| Totals:                      | 33             | 6            | 0                 | \$12,623                     | \$14,713  | \$1,941   | 314.0                    | \$11,015 | \$3,815   | \$41,808         | 524.0              | \$0                   | \$17,279 | \$103,184 | 838.0    |

| Year: 2008<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |          |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |           |          |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|----------|-----------|------------------|--------------------|-----------------------|----------|-----------|----------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor    | Equipment |                  |                    | Materials             | ManHours | Costs     | ManHours |
| CCTV                         | 3              | 0            | 0                 | \$1,953                      | \$1,257   | \$1,941   | 24.0                     | \$489    | \$315     | \$486            | 6.0                | \$0                   | \$69     | \$6,510   | 30.0     |
| RWIS-RPU                     | 16             | 0            | 0                 | \$2,368                      | \$3,712   | \$0       | 80.0                     | \$5,360  | \$0       | \$41,808         | 168.0              | \$0                   | \$2,720  | \$55,968  | 248.0    |
| VMS                          | 14             | 0            | 0                 | \$8,302                      | \$9,744   | \$0       | 210.0                    | \$5,166  | \$3,500   | \$0              | 350.0              | \$0                   | \$14,490 | \$41,202  | 560.0    |
| Totals:                      | 33             | 0            | 0                 | \$12,623                     | \$14,713  | \$1,941   | 314.0                    | \$11,015 | \$3,815   | \$42,294         | 524.0              | \$0                   | \$17,279 | \$103,680 | 838.0    |

| Year: 2009<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |          |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |           |          |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|----------|-----------|------------------|--------------------|-----------------------|----------|-----------|----------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor    | Equipment |                  |                    | Materials             | ManHours | Costs     | ManHours |
| CCTV                         | 3              | 0            | 0                 | \$1,953                      | \$1,257   | \$1,941   | 24.0                     | \$489    | \$315     | \$486            | 6.0                | \$0                   | \$69     | \$6,510   | 30.0     |
| RWIS-RPU                     | 16             | 0            | 3                 | \$2,368                      | \$3,712   | \$0       | 80.0                     | \$5,360  | \$0       | \$33,969         | 168.0              | \$60,000              | \$2,720  | \$108,129 | 248.0    |
| VMS                          | 20             | 6            | 0                 | \$11,860                     | \$13,920  | \$0       | 300.0                    | \$7,380  | \$5,000   | \$1,140          | 500.0              | \$0                   | \$20,700 | \$60,000  | 800.0    |
| Totals:                      | 39             | 6            | 3                 | \$16,181                     | \$18,889  | \$1,941   | 404.0                    | \$13,229 | \$5,315   | \$35,595         | 674.0              | \$60,000              | \$23,489 | \$174,639 | 1078.0   |

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| Equipment Type | Total     |           | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |              |                 | Replace        |                 | Totals By Equip. Type |                 |                 |                  |               |
|----------------|-----------|-----------|------------------------------|-----------------|-----------------|--------------------------|--------------|-----------------|----------------|-----------------|-----------------------|-----------------|-----------------|------------------|---------------|
|                | Units     | New Units | Replaced Units               | Labor           | Equipment       | Materials                | ManHours     | Labor           | Equipment      | Materials       | ManHours              | Costs           | ManHours        |                  |               |
|                |           |           |                              |                 |                 |                          |              |                 |                |                 |                       |                 |                 | Costs            | Costs         |
| CCTV           | 6         | 3         | 0                            | \$3,906         | \$2,514         | \$3,882                  | 48.0         | \$978           | \$630          | \$486           | 12.0                  | \$0             | \$138           | \$12,534         | 60.0          |
| RWIS-RPU       | 22        | 6         | 1                            | \$3,256         | \$5,104         | \$0                      | 110.0        | \$7,370         | \$0            | \$31,356        | 231.0                 | \$20,000        | \$3,740         | \$70,826         | 341.0         |
| VDS            | 6         | 6         | 0                            | \$828           | \$768           | \$462                    | 54.0         | \$174           | \$318          | \$0             | 6.0                   | \$0             | \$270           | \$2,820          | 60.0          |
| VMS            | 21        | 1         | 0                            | \$12,453        | \$14,616        | \$0                      | 315.0        | \$7,749         | \$5,250        | \$1,140         | 525.0                 | \$0             | \$21,735        | \$62,943         | 840.0         |
| <b>Totals:</b> | <b>55</b> | <b>16</b> | <b>1</b>                     | <b>\$20,443</b> | <b>\$23,002</b> | <b>\$4,344</b>           | <b>527.0</b> | <b>\$16,271</b> | <b>\$6,198</b> | <b>\$32,982</b> | <b>774.0</b>          | <b>\$20,000</b> | <b>\$25,883</b> | <b>\$149,123</b> | <b>1301.0</b> |

| Equipment Type | Total     |           | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |              |                 | Replace        |                 | Totals By Equip. Type |            |                 |                  |               |
|----------------|-----------|-----------|------------------------------|-----------------|-----------------|--------------------------|--------------|-----------------|----------------|-----------------|-----------------------|------------|-----------------|------------------|---------------|
|                | Units     | New Units | Replaced Units               | Labor           | Equipment       | Materials                | ManHours     | Labor           | Equipment      | Materials       | ManHours              | Costs      | ManHours        |                  |               |
|                |           |           |                              |                 |                 |                          |              |                 |                |                 |                       |            |                 | Costs            | Costs         |
| CCTV           | 6         | 0         | 0                            | \$3,906         | \$2,514         | \$3,882                  | 48.0         | \$978           | \$630          | \$972           | 12.0                  | \$0        | \$138           | \$13,020         | 60.0          |
| RWIS-RPU       | 22        | 0         | 0                            | \$3,256         | \$5,104         | \$0                      | 110.0        | \$7,370         | \$0            | \$39,195        | 231.0                 | \$0        | \$3,740         | \$58,665         | 341.0         |
| VDS            | 6         | 0         | 0                            | \$828           | \$768           | \$462                    | 54.0         | \$174           | \$318          | \$0             | 6.0                   | \$0        | \$270           | \$2,820          | 60.0          |
| VMS            | 21        | 0         | 0                            | \$12,453        | \$14,616        | \$0                      | 315.0        | \$7,749         | \$5,250        | \$2,850         | 525.0                 | \$0        | \$21,735        | \$64,653         | 840.0         |
| <b>Totals:</b> | <b>55</b> | <b>0</b>  | <b>0</b>                     | <b>\$20,443</b> | <b>\$23,002</b> | <b>\$4,344</b>           | <b>527.0</b> | <b>\$16,271</b> | <b>\$6,198</b> | <b>\$43,017</b> | <b>774.0</b>          | <b>\$0</b> | <b>\$25,883</b> | <b>\$139,168</b> | <b>1301.0</b> |

| Equipment Type | Total     |           | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |              |                 | Replace        |                 | Totals By Equip. Type |                  |                 |                  |               |
|----------------|-----------|-----------|------------------------------|-----------------|-----------------|--------------------------|--------------|-----------------|----------------|-----------------|-----------------------|------------------|-----------------|------------------|---------------|
|                | Units     | New Units | Replaced Units               | Labor           | Equipment       | Materials                | ManHours     | Labor           | Equipment      | Materials       | ManHours              | Costs            | ManHours        |                  |               |
|                |           |           |                              |                 |                 |                          |              |                 |                |                 |                       |                  |                 | Costs            | Costs         |
| CCTV           | 6         | 0         | 0                            | \$3,906         | \$2,514         | \$3,882                  | 48.0         | \$978           | \$630          | \$972           | 12.0                  | \$0              | \$138           | \$13,020         | 60.0          |
| RWIS-RPU       | 22        | 0         | 5                            | \$3,256         | \$5,104         | \$0                      | 110.0        | \$7,370         | \$0            | \$44,421        | 231.0                 | \$100,000        | \$3,740         | \$163,891        | 341.0         |
| VDS            | 6         | 0         | 0                            | \$828           | \$768           | \$462                    | 54.0         | \$174           | \$318          | \$84            | 6.0                   | \$0              | \$270           | \$2,904          | 60.0          |
| VMS            | 21        | 0         | 0                            | \$12,453        | \$14,616        | \$0                      | 315.0        | \$7,749         | \$5,250        | \$3,990         | 525.0                 | \$0              | \$21,735        | \$65,793         | 840.0         |
| <b>Totals:</b> | <b>55</b> | <b>0</b>  | <b>5</b>                     | <b>\$20,443</b> | <b>\$23,002</b> | <b>\$4,344</b>           | <b>527.0</b> | <b>\$16,271</b> | <b>\$6,198</b> | <b>\$49,467</b> | <b>774.0</b>          | <b>\$100,000</b> | <b>\$25,883</b> | <b>\$245,608</b> | <b>1301.0</b> |

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#### Year: 2000

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
| VMS            | 3           | 3         | 0              | \$1,779                      | \$2,088   | \$0       | 45.0                     | \$1,107 | \$750     | \$0           | 75.0            | \$0                   | \$3,105  | \$8,829 | 120.0    |
| Totals:        | 3           | 3         | 0              | \$1,779                      | \$2,088   | \$0       | 45.0                     | \$1,107 | \$750     | \$0           | 75.0            | \$0                   | \$3,105  | \$8,829 | 120.0    |

#### Year: 2001

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| VMS            | 6           | 3         | 0              | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0           | 150.0           | \$0                   | \$6,210  | \$17,658 | 240.0    |
| Totals:        | 6           | 3         | 0              | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0           | 150.0           | \$0                   | \$6,210  | \$17,658 | 240.0    |

#### Year: 2002

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 1           | 1         | 0              | \$148                        | \$232     | \$0       | 5.0                      | \$335   | \$0       | \$0           | 10.5            | \$0                   | \$170    | \$885    | 15.5     |
| VMS            | 6           | 0         | 0              | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0           | 150.0           | \$0                   | \$6,210  | \$17,658 | 240.0    |
| Totals:        | 7           | 1         | 0              | \$3,706                      | \$4,408   | \$0       | 95.0                     | \$2,549 | \$1,500   | \$0           | 160.5           | \$0                   | \$6,380  | \$18,543 | 255.5    |

#### Year: 2003

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 1           | 0         | 0              | \$148                        | \$232     | \$0       | 5.0                      | \$335   | \$0       | \$0           | 10.5            | \$0                   | \$170    | \$885    | 15.5     |
| VMS            | 7           | 1         | 0              | \$4,151                      | \$4,872   | \$0       | 105.0                    | \$2,583 | \$1,750   | \$0           | 175.0           | \$0                   | \$7,245  | \$20,601 | 280.0    |
| Totals:        | 8           | 1         | 0              | \$4,299                      | \$5,104   | \$0       | 110.0                    | \$2,918 | \$1,750   | \$0           | 185.5           | \$0                   | \$7,415  | \$21,486 | 295.5    |

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| Year: 2004 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | RWIS-RPU       | 1           | 0         | 0              | \$148                        | \$232     | \$0       | 5.0                      | \$335   | \$0       | \$2,613       | 10.5            | \$0                   | \$170    | \$3,498  | 15.5     |
|            | VMS            | 7           | 0         | 0              | \$4,151                      | \$4,872   | \$0       | 105.0                    | \$2,583 | \$1,750   | \$0           | 175.0           | \$0                   | \$7,245  | \$20,601 | 280.0    |
|            | Totals:        | 8           | 0         | 0              | \$4,299                      | \$5,104   | \$0       | 110.0                    | \$2,918 | \$1,750   | \$2,613       | 185.5           | \$0                   | \$7,415  | \$24,099 | 295.5    |

| Year: 2005 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | RWIS-RPU       | 4           | 3         | 0              | \$592                        | \$928     | \$0       | 20.0                     | \$1,340 | \$0       | \$2,613       | 42.0            | \$0                   | \$680    | \$6,153  | 62.0     |
|            | VMS            | 9           | 2         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
|            | Totals:        | 13          | 5         | 0              | \$5,929                      | \$7,192   | \$0       | 155.0                    | \$4,661 | \$2,250   | \$2,613       | 267.0           | \$0                   | \$9,995  | \$32,640 | 422.0    |

| Year: 2006 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928     | \$0       | 20.0                     | \$1,340 | \$0       | \$2,613       | 42.0            | \$0                   | \$680    | \$6,153  | 62.0     |
|            | VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
|            | Totals:        | 13          | 0         | 0              | \$5,929                      | \$7,192   | \$0       | 155.0                    | \$4,661 | \$2,250   | \$2,613       | 267.0           | \$0                   | \$9,995  | \$32,640 | 422.0    |

| Year: 2007 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928     | \$0       | 20.0                     | \$1,340 | \$0       | \$10,452      | 42.0            | \$0                   | \$680    | \$13,992 | 62.0     |
|            | VMS            | 12          | 3         | 0              | \$7,116                      | \$8,352   | \$0       | 180.0                    | \$4,428 | \$3,000   | \$0           | 300.0           | \$0                   | \$12,420 | \$35,316 | 480.0    |
|            | Totals:        | 16          | 3         | 0              | \$7,708                      | \$9,280   | \$0       | 200.0                    | \$5,768 | \$3,000   | \$10,452      | 342.0           | \$0                   | \$13,100 | \$49,308 | 542.0    |

### Kingman Rural ITS

#### Year: 2008

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|--------------------|------------------------------|----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 4           | 0                  | \$592                        | \$928          | \$0        | 20.0                     | \$1,340        | \$0            | \$10,452        | 42.0            | \$680                 | \$13,992        | 62.0            |              |
| VMS            | 12          | 0                  | \$7,116                      | \$8,352        | \$0        | 180.0                    | \$4,428        | \$3,000        | \$0             | 300.0           | \$0                   | \$12,420        | \$35,316        | 480.0        |
| <b>Totals:</b> | <b>16</b>   | <b>0</b>           | <b>\$7,708</b>               | <b>\$9,280</b> | <b>\$0</b> | <b>200.0</b>             | <b>\$5,768</b> | <b>\$3,000</b> | <b>\$10,452</b> | <b>342.0</b>    | <b>\$0</b>            | <b>\$13,100</b> | <b>\$49,308</b> | <b>642.0</b> |

#### Year: 2009

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|--------------------|------------------------------|----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 4           | 0                  | \$592                        | \$928          | \$0        | 20.0                     | \$1,340        | \$0            | \$10,452        | 42.0            | \$680                 | \$13,992        | 62.0            |              |
| VMS            | 12          | 0                  | \$7,116                      | \$8,352        | \$0        | 180.0                    | \$4,428        | \$3,000        | \$0             | 300.0           | \$0                   | \$12,420        | \$35,316        | 480.0        |
| <b>Totals:</b> | <b>16</b>   | <b>0</b>           | <b>\$7,708</b>               | <b>\$9,280</b> | <b>\$0</b> | <b>200.0</b>             | <b>\$5,768</b> | <b>\$3,000</b> | <b>\$10,452</b> | <b>342.0</b>    | <b>\$0</b>            | <b>\$13,100</b> | <b>\$49,308</b> | <b>642.0</b> |

#### Year: 2010

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|--------------------|------------------------------|-----------------|--------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment       | Materials    | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 1                  | \$651                        | \$419           | \$647        | 8.0                      | \$163          | \$105          | \$0             | 2.0             | \$0                   | \$23            | \$2,008         | 10.0         |
| RWIS-RPU       | 8           | 4                  | \$1,184                      | \$1,856         | \$0          | 40.0                     | \$2,680        | \$0            | \$10,452        | 84.0            | \$0                   | \$1,360         | \$17,532        | 124.0        |
| VDS            | 1           | 1                  | \$138                        | \$128           | \$77         | 9.0                      | \$29           | \$53           | \$0             | 1.0             | \$0                   | \$45            | \$470           | 10.0         |
| VMS            | 15          | 3                  | \$8,895                      | \$10,440        | \$0          | 225.0                    | \$5,535        | \$3,750        | \$1,710         | 375.0           | \$0                   | \$15,525        | \$45,855        | 600.0        |
| <b>Totals:</b> | <b>25</b>   | <b>9</b>           | <b>\$10,868</b>              | <b>\$12,843</b> | <b>\$724</b> | <b>282.0</b>             | <b>\$8,407</b> | <b>\$3,908</b> | <b>\$12,162</b> | <b>462.0</b>    | <b>\$0</b>            | <b>\$16,953</b> | <b>\$65,865</b> | <b>744.0</b> |

#### Year: 2011

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|--------------------|------------------------------|-----------------|--------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |                    | Labor                        | Equipment       | Materials    | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 0                  | \$651                        | \$419           | \$647        | 8.0                      | \$163          | \$105          | \$162           | 2.0             | \$0                   | \$23            | \$2,170         | 10.0         |
| RWIS-RPU       | 8           | 0                  | \$1,184                      | \$1,856         | \$0          | 40.0                     | \$2,680        | \$0            | \$10,452        | 84.0            | \$0                   | \$1,360         | \$17,532        | 124.0        |
| VDS            | 1           | 0                  | \$138                        | \$128           | \$77         | 9.0                      | \$29           | \$53           | \$0             | 1.0             | \$0                   | \$45            | \$470           | 10.0         |
| VMS            | 15          | 0                  | \$8,895                      | \$10,440        | \$0          | 225.0                    | \$5,535        | \$3,750        | \$3,420         | 375.0           | \$0                   | \$15,525        | \$47,565        | 600.0        |
| <b>Totals:</b> | <b>25</b>   | <b>0</b>           | <b>\$10,868</b>              | <b>\$12,843</b> | <b>\$724</b> | <b>282.0</b>             | <b>\$8,407</b> | <b>\$3,908</b> | <b>\$14,034</b> | <b>462.0</b>    | <b>\$0</b>            | <b>\$16,953</b> | <b>\$67,737</b> | <b>744.0</b> |

**Kingman Rural ITS**

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |              | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|--------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials    | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419           | \$647        | 8.0                      | \$163          | \$105          | \$162           | 2.0             | \$0                   | \$23            | \$2,170         | 10.0         |
| RWIS-RPU       | 8           | 0         | 0              | \$1,184                      | \$1,856         | \$0          | 40.0                     | \$2,680        | \$0            | \$20,904        | 84.0            | \$0                   | \$1,360         | \$27,984        | 124.0        |
| VDS            | 1           | 0         | 0              | \$138                        | \$128           | \$77         | 9.0                      | \$29           | \$53           | \$14            | 1.0             | \$0                   | \$45            | \$484           | 10.0         |
| VMS            | 15          | 0         | 0              | \$8,895                      | \$10,440        | \$0          | 225.0                    | \$5,535        | \$3,750        | \$3,420         | 375.0           | \$0                   | \$15,525        | \$47,565        | 600.0        |
| <b>Totals:</b> | <b>25</b>   | <b>0</b>  | <b>0</b>       | <b>\$10,868</b>              | <b>\$12,843</b> | <b>\$724</b> | <b>282.0</b>             | <b>\$8,407</b> | <b>\$3,908</b> | <b>\$24,500</b> | <b>462.0</b>    | <b>\$0</b>            | <b>\$16,953</b> | <b>\$78,203</b> | <b>744.0</b> |

**Phoenix FMS**

**Year: 1998**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                 | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                 |                    |               |
|----------------|-------------|-----------|----------------|------------------------------|------------------|-----------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|-----------------|--------------------|---------------|
|                |             |           |                | Labor                        | Equipment        | Materials       | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours        | Costs              | ManHours      |
|                |             |           |                |                              |                  |                 |                          |                  |                  |                  |                 |                       |                 |                    |               |
| CCTV           | 62          | 0         | 20             | \$40,362                     | \$25,978         | \$40,114        | 496.0                    | \$10,106         | \$6,510          | \$6,804          | 124.0           | \$340,000             | \$1,426         | \$471,300          | 620.0         |
| ILD Cabinet    | 158         | 0         | 0              | \$57,038                     | \$42,344         | \$8,058         | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004         | \$128,612          | 869.0         |
| Node Room      | 12          | 0         | 0              | \$1,776                      | \$2,784          | \$0             | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420        | \$27,720           | 348.0         |
| PAD Cabinet    | 19          | 0         | 0              | \$6,859                      | \$5,092          | \$969           | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855           | \$15,599           | 104.5         |
| Power Cabinet  | 74          | 0         | 0              | \$10,952                     | \$17,168         | \$0             | 370.0                    | \$6,660          | \$3,330          | \$6,660          | 444.0           | \$0                   | \$0             | \$44,770           | 814.0         |
| Ramp Meter/ILD | 79          | 0         | 0              | \$28,519                     | \$21,172         | \$4,029         | 355.5                    | \$80,817         | \$66,360         | \$76,077         | 3002.0          | \$0                   | \$3,555         | \$280,529          | 3357.5        |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,953                      | \$5,896          | \$1,133         | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495           | \$46,563           | 467.5         |
| VMS            | 31          | 0         | 0              | \$18,383                     | \$21,576         | \$0             | 465.0                    | \$11,439         | \$7,750          | \$0              | 775.0           | \$0                   | \$32,085        | \$91,233           | 1240.0        |
| <b>Totals:</b> | <b>446</b>  | <b>0</b>  | <b>20</b>      | <b>\$171,842</b>             | <b>\$142,010</b> | <b>\$54,303</b> | <b>2592.5</b>            | <b>\$129,704</b> | <b>\$104,719</b> | <b>\$106,908</b> | <b>5228.0</b>   | <b>\$340,000</b>      | <b>\$56,840</b> | <b>\$1,106,326</b> | <b>7820.5</b> |

**Year: 1999**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                 | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|------------------|-----------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment        | Materials       | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours        | Costs            | ManHours      |
|                |             |           |                |                              |                  |                 |                          |                  |                  |                  |                 |                       |                 |                  |               |
| CCTV           | 71          | 9         | 0              | \$46,221                     | \$29,749         | \$45,937        | 568.0                    | \$11,573         | \$7,455          | \$10,044         | 142.0           | \$0                   | \$1,633         | \$152,612        | 710.0         |
| ILD Cabinet    | 158         | 0         | 0              | \$57,038                     | \$42,344         | \$8,058         | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004         | \$128,612        | 869.0         |
| Node Room      | 12          | 0         | 0              | \$1,776                      | \$2,784          | \$0             | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420        | \$27,720         | 348.0         |
| PAD Cabinet    | 19          | 0         | 0              | \$6,859                      | \$5,092          | \$969           | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855           | \$15,599         | 104.5         |
| Power Cabinet  | 92          | 18        | 0              | \$13,616                     | \$21,344         | \$0             | 460.0                    | \$8,280          | \$4,140          | \$8,280          | 552.0           | \$0                   | \$0             | \$55,660         | 1012.0        |
| Ramp Meter/ILD | 89          | 10        | 0              | \$32,129                     | \$23,852         | \$4,539         | 400.5                    | \$91,047         | \$74,760         | \$76,077         | 3382.0          | \$0                   | \$4,005         | \$306,409        | 3782.5        |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,953                      | \$5,896          | \$1,133         | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495           | \$46,563         | 467.5         |
| TMS            | 54          | 54        | 0              | \$19,494                     | \$14,472         | \$2,754         | 243.0                    | \$1,566          | \$2,862          | \$0              | 54.0            | \$0                   | \$2,052         | \$43,200         | 297.0         |
| VMS            | 37          | 6         | 0              | \$21,941                     | \$25,752         | \$0             | 555.0                    | \$13,653         | \$9,250          | \$0              | 925.0           | \$0                   | \$38,295        | \$108,891        | 1480.0        |
| <b>Totals:</b> | <b>543</b>  | <b>97</b> | <b>0</b>       | <b>\$207,027</b>             | <b>\$171,285</b> | <b>\$63,390</b> | <b>3132.5</b>            | <b>\$146,801</b> | <b>\$119,236</b> | <b>\$111,768</b> | <b>5938.0</b>   | <b>\$0</b>            | <b>\$65,759</b> | <b>\$886,266</b> | <b>9070.5</b> |

**Phoenix FMS**

**Year: 2000**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                 | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                 |                  |                |
|----------------|-------------|-----------|----------------|------------------------------|------------------|-----------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|-----------------|------------------|----------------|
|                |             |           |                | Labor                        | Equipment        | Materials       | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours        | Costs            | ManHours       |
| CCTV           | 78          | 7         | 0              | \$50,778                     | \$32,682         | \$50,466        | 624.0                    | \$12,714         | \$8,190          | \$11,502         | 156.0           | \$0                   | \$1,794         | \$168,126        | 780.0          |
| ILD Cabinet    | 158         | 0         | 0              | \$57,038                     | \$42,344         | \$8,058         | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004         | \$128,612        | 869.0          |
| Node Room      | 12          | 0         | 0              | \$1,776                      | \$2,784          | \$0             | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420        | \$27,720         | 348.0          |
| PAD Cabinet    | 19          | 0         | 0              | \$6,859                      | \$5,092          | \$969           | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855           | \$15,599         | 104.5          |
| Power Cabinet  | 108         | 16        | 0              | \$15,984                     | \$25,056         | \$0             | 540.0                    | \$9,720          | \$4,860          | \$9,720          | 648.0           | \$0                   | \$0             | \$65,340         | 1188.0         |
| Ramp Meter/ILD | 101         | 12        | 0              | \$36,461                     | \$27,068         | \$5,151         | 454.5                    | \$103,323        | \$84,840         | \$85,707         | 3838.0          | \$0                   | \$4,545         | \$347,095        | 4292.5         |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,953                      | \$5,896          | \$1,133         | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495           | \$46,563         | 467.5          |
| TMS            | 96          | 42        | 0              | \$34,656                     | \$25,728         | \$4,896         | 432.0                    | \$2,784          | \$5,088          | \$756            | 96.0            | \$0                   | \$3,648         | \$77,556         | 528.0          |
| VMS            | 41          | 4         | 0              | \$24,313                     | \$28,536         | \$0             | 615.0                    | \$15,129         | \$10,250         | \$0              | 1025.0          | \$0                   | \$42,435        | \$120,663        | 1640.0         |
| <b>Totals:</b> | <b>624</b>  | <b>81</b> | <b>0</b>       | <b>\$235,818</b>             | <b>\$195,186</b> | <b>\$70,673</b> | <b>3571.5</b>            | <b>\$164,352</b> | <b>\$133,997</b> | <b>\$125,052</b> | <b>6646.0</b>   | <b>\$0</b>            | <b>\$72,196</b> | <b>\$997,274</b> | <b>10217.5</b> |

**Year: 2001**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                 | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                 |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|-----------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|-----------------|--------------------|----------------|
|                |             |            |                | Labor                        | Equipment        | Materials       | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours        | Costs              | ManHours       |
| CCTV           | 99          | 21         | 0              | \$64,449                     | \$41,481         | \$64,063        | 792.0                    | \$16,137         | \$10,395         | \$12,636         | 198.0           | \$0                   | \$2,277         | \$211,428          | 990.0          |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058         | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004         | \$128,612          | 869.0          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0             | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420        | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969           | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855           | \$15,599           | 104.5          |
| Power Cabinet  | 143         | 35         | 0              | \$21,164                     | \$33,176         | \$0             | 715.0                    | \$12,870         | \$6,435          | \$12,870         | 858.0           | \$0                   | \$0             | \$86,515           | 1573.0         |
| Ramp Meter/ILD | 118         | 17         | 12             | \$42,598                     | \$31,624         | \$6,018         | 531.0                    | \$120,714        | \$99,120         | \$85,707         | 4484.0          | \$180,000             | \$5,310         | \$571,091          | 5015.0         |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133         | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495           | \$46,563           | 467.5          |
| TMS            | 246         | 150        | 0              | \$88,806                     | \$65,928         | \$12,546        | 1107.0                   | \$7,134          | \$13,038         | \$1,344          | 246.0           | \$0                   | \$9,348         | \$198,144          | 1353.0         |
| VMS            | 56          | 15         | 0              | \$33,208                     | \$38,976         | \$0             | 840.0                    | \$20,664         | \$14,000         | \$0              | 1400.0          | \$0                   | \$57,960        | \$164,808          | 2240.0         |
| <b>Totals:</b> | <b>862</b>  | <b>238</b> | <b>12</b>      | <b>\$323,851</b>             | <b>\$267,301</b> | <b>\$92,777</b> | <b>4891.0</b>            | <b>\$198,201</b> | <b>\$163,757</b> | <b>\$129,924</b> | <b>8069.0</b>   | <b>\$180,000</b>      | <b>\$94,669</b> | <b>\$1,450,480</b> | <b>12960.0</b> |



**Phoenix FMS**

**Year: 2002**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |            |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
|                |             |            |                |                              |                  |                  |                          |                  |                  |                  |                 |                       |                  |                    |                |
| CCTV           | 109         | 10         | 28             | \$70,959                     | \$45,671         | \$70,523         | 872.0                    | \$17,767         | \$11,445         | \$11,502         | 218.0           | \$476,000             | \$2,507          | \$706,374          | 1090.0         |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420         | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 187         | 44         | 0              | \$27,676                     | \$43,384         | \$0              | 935.0                    | \$16,830         | \$8,415          | \$16,830         | 1122.0          | \$0                   | \$0              | \$113,135          | 2057.0         |
| Ramp Meter/ILD | 136         | 18         | 0              | \$49,096                     | \$36,448         | \$6,936          | 612.0                    | \$139,128        | \$114,240        | \$113,634        | 5188.0          | \$0                   | \$6,120          | \$465,602          | 5780.0         |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 378         | 132        | 0              | \$136,458                    | \$101,304        | \$19,278         | 1701.0                   | \$10,962         | \$20,034         | \$3,444          | 378.0           | \$0                   | \$14,364         | \$305,844          | 2079.0         |
| VMS            | 62          | 6          | 0              | \$36,766                     | \$43,152         | \$0              | 930.0                    | \$22,878         | \$15,500         | \$0              | 1550.0          | \$0                   | \$64,170         | \$182,466          | 2480.0         |
| <b>Totals:</b> | <b>1072</b> | <b>210</b> | <b>28</b>      | <b>\$394,581</b>             | <b>\$326,075</b> | <b>\$106,897</b> | <b>5956.0</b>            | <b>\$228,247</b> | <b>\$190,403</b> | <b>\$162,777</b> | <b>9319.0</b>   | <b>\$476,000</b>      | <b>\$106,935</b> | <b>\$1,991,916</b> | <b>16276.0</b> |

**Year: 2003**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|-----------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |           |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
|                |             |           |                |                              |                  |                  |                          |                  |                  |                  |                 |                       |                  |                    |                |
| CCTV           | 115         | 6         | 0              | \$74,865                     | \$48,185         | \$74,405         | 920.0                    | \$18,745         | \$12,075         | \$17,658         | 230.0           | \$0                   | \$2,645          | \$248,578          | 1150.0         |
| ILD Cabinet    | 158         | 0         | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0         | 10             | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$300,000             | \$12,420         | \$327,720          | 348.0          |
| PAD Cabinet    | 19          | 0         | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 201         | 14        | 0              | \$29,748                     | \$46,632         | \$0              | 1005.0                   | \$18,090         | \$9,045          | \$18,090         | 1206.0          | \$0                   | \$0              | \$121,605          | 2211.0         |
| Ramp Meter/ILD | 142         | 6         | 41             | \$51,262                     | \$38,056         | \$7,242          | 639.0                    | \$145,266        | \$119,280        | \$91,485         | 5396.0          | \$615,000             | \$6,390          | \$1,073,981        | 6035.0         |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 420         | 42        | 0              | \$151,620                    | \$112,560        | \$21,420         | 1890.0                   | \$12,180         | \$22,260         | \$5,292          | 420.0           | \$0                   | \$15,960         | \$341,292          | 2310.0         |
| VMS            | 66          | 4         | 0              | \$39,138                     | \$45,936         | \$0              | 990.0                    | \$24,354         | \$16,500         | \$0              | 1650.0          | \$0                   | \$68,310         | \$194,238          | 2640.0         |
| <b>Totals:</b> | <b>1144</b> | <b>72</b> | <b>51</b>      | <b>\$420,259</b>             | <b>\$347,485</b> | <b>\$113,227</b> | <b>6350.0</b>            | <b>\$239,317</b> | <b>\$199,929</b> | <b>\$149,892</b> | <b>9785.0</b>   | <b>\$915,000</b>      | <b>\$113,079</b> | <b>\$2,498,188</b> | <b>16135.0</b> |

**Phoenix FMS**

**Year: 2004**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |            |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
| CCTV           | 128         | 13         | 0              | \$83,328                     | \$53,632         | \$82,816         | 1024.0                   | \$20,864         | \$13,440         | \$18,630         | 256.0           | \$0                   | \$2,944          | \$275,654          | 1280.0         |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420         | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 227         | 26         | 0              | \$33,596                     | \$52,664         | \$0              | 1135.0                   | \$20,430         | \$10,215         | \$20,430         | 1362.0          | \$0                   | \$0              | \$137,335          | 2497.0         |
| Ramp Meter/ILD | 162         | 20         | 0              | \$58,482                     | \$43,416         | \$8,262          | 729.0                    | \$165,726        | \$136,080        | \$136,746        | 6156.0          | \$0                   | \$7,290          | \$556,002          | 6885.0         |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 498         | 78         | 0              | \$179,778                    | \$133,464        | \$25,398         | 2241.0                   | \$14,442         | \$26,394         | \$5,880          | 498.0           | \$0                   | \$18,924         | \$404,280          | 2739.0         |
| VMS            | 74          | 8          | 0              | \$43,882                     | \$51,504         | \$0              | 1110.0                   | \$27,306         | \$18,500         | \$13,680         | 1850.0          | \$0                   | \$76,590         | \$231,462          | 2960.0         |
| <b>Totals:</b> | <b>1289</b> | <b>145</b> | <b>0</b>       | <b>\$472,692</b>             | <b>\$390,796</b> | <b>\$126,636</b> | <b>7145.0</b>            | <b>\$269,450</b> | <b>\$225,398</b> | <b>\$212,733</b> | <b>11005.0</b>  | <b>\$0</b>            | <b>\$125,522</b> | <b>\$1,823,227</b> | <b>18160.0</b> |

**Year: 2005**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |            |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
| CCTV           | 139         | 11         | 14             | \$90,489                     | \$58,241         | \$89,933         | 1112.0                   | \$22,657         | \$14,595         | \$18,468         | 278.0           | \$238,000             | \$3,197          | \$535,580          | 1390.0         |
| ILD Cabinet    | 158         | 0          | 121            | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$518            | 158.0           | \$1,089,000           | \$6,004          | \$1,215,918        | 869.0          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420         | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 249         | 22         | 0              | \$36,852                     | \$57,768         | \$0              | 1245.0                   | \$22,410         | \$11,205         | \$22,410         | 1494.0          | \$0                   | \$0              | \$150,645          | 2739.0         |
| Ramp Meter/ILD | 181         | 19         | 0              | \$65,341                     | \$48,508         | \$9,231          | 814.5                    | \$185,163        | \$152,040        | \$156,006        | 6878.0          | \$0                   | \$8,145          | \$624,434          | 7692.5         |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 570         | 72         | 0              | \$205,770                    | \$152,760        | \$29,070         | 2565.0                   | \$16,530         | \$30,210         | \$6,972          | 570.0           | \$0                   | \$21,660         | \$462,972          | 3135.0         |
| VMS            | 80          | 6          | 0              | \$47,440                     | \$55,680         | \$0              | 1200.0                   | \$29,520         | \$20,000         | \$13,680         | 2000.0          | \$0                   | \$82,800         | \$249,120          | 3200.0         |
| <b>Totals:</b> | <b>1419</b> | <b>130</b> | <b>135</b>     | <b>\$519,518</b>             | <b>\$429,073</b> | <b>\$138,394</b> | <b>7842.5</b>            | <b>\$296,962</b> | <b>\$248,819</b> | <b>\$233,209</b> | <b>12103.0</b>  | <b>\$1,327,000</b>    | <b>\$135,576</b> | <b>\$3,328,551</b> | <b>19945.5</b> |

**Phoenix FMS**

**Year: 2006**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |            |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
|                |             |            |                |                              |                  |                  |                          |                  |                  |                  |                 |                       |                  |                    |                |
| CCTV           | 158         | 19         | 20             | \$102,858                    | \$66,202         | \$102,226        | 1284.0                   | \$25,754         | \$16,590         | \$19,278         | 316.0           | \$340,000             | \$3,634          | \$676,542          | 1580.0         |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0          | 2              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$60,000              | \$12,420         | \$87,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 291         | 42         | 0              | \$43,068                     | \$67,512         | \$0              | 1455.0                   | \$26,190         | \$13,095         | \$26,190         | 1746.0          | \$0                   | \$0              | \$176,055          | 3201.0         |
| Ramp Meter/ILD | 211         | 30         | 26             | \$76,171                     | \$56,548         | \$10,761         | 949.5                    | \$215,853        | \$177,240        | \$149,265        | 8018.0          | \$390,000             | \$9,495          | \$1,085,333        | 8967.5         |
| Ramp Meter/PAD | 11          | 0          | 11             | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$0              | 418.0           | \$165,000             | \$495            | \$200,970          | 467.5          |
| TMS            | 696         | 126        | 0              | \$251,256                    | \$186,528        | \$35,496         | 3132.0                   | \$20,184         | \$36,888         | \$7,980          | 696.0           | \$0                   | \$26,448         | \$564,780          | 3628.0         |
| VMS            | 95          | 15         | 0              | \$56,335                     | \$66,120         | \$0              | 1425.0                   | \$35,055         | \$23,750         | \$13,680         | 2375.0          | \$0                   | \$98,325         | \$293,265          | 3800.0         |
| <b>Totals:</b> | <b>1651</b> | <b>232</b> | <b>59</b>      | <b>\$603,314</b>             | <b>\$499,026</b> | <b>\$158,643</b> | <b>9131.5</b>            | <b>\$343,718</b> | <b>\$288,332</b> | <b>\$223,167</b> | <b>14034.0</b>  | <b>\$955,000</b>      | <b>\$157,676</b> | <b>\$3,228,876</b> | <b>23165.5</b> |

**Year: 2007**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|-----------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |           |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
|                |             |           |                |                              |                  |                  |                          |                  |                  |                  |                 |                       |                  |                    |                |
| CCTV           | 165         | 7         | 9              | \$107,415                    | \$69,135         | \$106,755        | 1320.0                   | \$26,895         | \$17,325         | \$24,136         | 330.0           | \$153,000             | \$3,795          | \$508,458          | 1650.0         |
| ILD Cabinet    | 158         | 0         | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0         | 0              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420         | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0         | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 305         | 14        | 0              | \$45,140                     | \$70,760         | \$0              | 1525.0                   | \$27,450         | \$13,725         | \$27,450         | 1830.0          | \$0                   | \$0              | \$184,525          | 3355.0         |
| Ramp Meter/ILD | 223         | 12        | 0              | \$80,503                     | \$59,764         | \$11,373         | 1003.5                   | \$228,129        | \$187,320        | \$203,193        | 8474.0          | \$0                   | \$10,035         | \$780,317          | 9477.5         |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 738         | 42        | 0              | \$266,418                    | \$197,784        | \$37,638         | 3321.0                   | \$21,402         | \$39,114         | \$9,744          | 738.0           | \$0                   | \$28,044         | \$600,144          | 4059.0         |
| VMS            | 100         | 5         | 0              | \$59,300                     | \$69,600         | \$0              | 1500.0                   | \$36,900         | \$25,000         | \$17,670         | 2500.0          | \$0                   | \$103,500        | \$311,970          | 4000.0         |
| <b>Totals:</b> | <b>1731</b> | <b>80</b> | <b>9</b>       | <b>\$632,402</b>             | <b>\$523,159</b> | <b>\$165,926</b> | <b>9575.5</b>            | <b>\$361,458</b> | <b>\$303,253</b> | <b>\$299,562</b> | <b>14755.0</b>  | <b>\$153,000</b>      | <b>\$165,148</b> | <b>\$2,603,908</b> | <b>24330.5</b> |

**Phoenix FMS**

**Year: 2008**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                  |            |                |                  | Demand Maintenance Costs |                  |                |                  |                  |                    | Replace        |        |          | Totals By Equip. Type |       |       |          |
|----------------|-------------|-----------|----------------|------------------------------|------------------|------------------|------------|----------------|------------------|--------------------------|------------------|----------------|------------------|------------------|--------------------|----------------|--------|----------|-----------------------|-------|-------|----------|
|                |             |           |                | Labor                        |                  | Equipment        |            | Materials      |                  | ManHours                 |                  | Labor          |                  | Equipment        |                    | Materials      |        | ManHours |                       | Costs | Costs | ManHours |
|                |             |           |                |                              |                  |                  |            |                |                  |                          |                  |                |                  |                  |                    |                |        |          |                       |       |       |          |
| CCTV           | 172         | 7         | 7              | \$111,972                    | \$72,068         | \$111,284        | \$0        | 1376.0         | \$28,036         | \$18,060                 | \$25,596         | \$0            | 344.0            | \$119,000        | \$3,956            | \$489,972      | 1720.0 |          |                       |       |       |          |
| ILD Cabinet    | 158         | 0         | 37             | \$57,038                     | \$42,344         | \$8,058          | \$0        | 711.0          | \$4,582          | \$8,374                  | \$1,694          | 158.0          | \$333,000        | \$6,004          | \$461,094          | 869.0          |        |          |                       |       |       |          |
| Node Room      | 12          | 0         | 0              | \$1,776                      | \$2,784          | \$0              | \$0        | 60.0           | \$4,296          | \$2,148                  | \$4,296          | 288.0          | \$0              | \$12,420         | \$27,720           | 348.0          |        |          |                       |       |       |          |
| PAD Cabinet    | 19          | 0         | 19             | \$6,859                      | \$5,092          | \$969            | \$0        | 85.5           | \$551            | \$1,007                  | \$0              | 19.0           | \$171,000        | \$855            | \$186,333          | 104.5          |        |          |                       |       |       |          |
| Power Cabinet  | 321         | 16        | 0              | \$47,508                     | \$74,472         | \$0              | \$0        | 1605.0         | \$28,890         | \$14,445                 | \$28,890         | 1926.0         | \$0              | \$0              | \$194,205          | 3531.0         |        |          |                       |       |       |          |
| Ramp Meter/ILD | 237         | 14        | 10             | \$85,557                     | \$63,516         | \$12,087         | \$0        | 1066.5         | \$242,451        | \$199,080                | \$205,119        | 9006.0         | \$150,000        | \$10,665         | \$968,475          | 10072.5        |        |          |                       |       |       |          |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,953                      | \$5,896          | \$1,133          | \$0        | 49.5           | \$11,253         | \$9,240                  | \$10,593         | 418.0          | \$0              | \$495            | \$46,563           | 467.5          |        |          |                       |       |       |          |
| TMS            | 786         | 48        | 0              | \$283,746                    | \$210,648        | \$40,086         | \$0        | 3537.0         | \$22,794         | \$41,658                 | \$10,332         | 786.0          | \$0              | \$29,868         | \$639,132          | 4323.0         |        |          |                       |       |       |          |
| VMS            | 106         | 6         | 0              | \$62,858                     | \$73,776         | \$0              | \$0        | 1590.0         | \$39,114         | \$26,500                 | \$17,670         | 2650.0         | \$0              | \$109,710        | \$329,628          | 4240.0         |        |          |                       |       |       |          |
| <b>Totals:</b> | <b>1822</b> | <b>91</b> | <b>73</b>      | <b>\$665,267</b>             | <b>\$550,596</b> | <b>\$173,617</b> | <b>\$0</b> | <b>10080.5</b> | <b>\$381,967</b> | <b>\$320,512</b>         | <b>\$304,190</b> | <b>15595.0</b> | <b>\$773,000</b> | <b>\$173,973</b> | <b>\$3,343,122</b> | <b>25676.5</b> |        |          |                       |       |       |          |

**Year: 2009**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  |            |                |                  | Demand Maintenance Costs |                  |                |                  |                  |                    | Replace        |        |          | Totals By Equip. Type |       |       |          |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|------------|----------------|------------------|--------------------------|------------------|----------------|------------------|------------------|--------------------|----------------|--------|----------|-----------------------|-------|-------|----------|
|                |             |            |                | Labor                        |                  | Equipment        |            | Materials      |                  | ManHours                 |                  | Labor          |                  | Equipment        |                    | Materials      |        | ManHours |                       | Costs | Costs | ManHours |
|                |             |            |                |                              |                  |                  |            |                |                  |                          |                  |                |                  |                  |                    |                |        |          |                       |       |       |          |
| CCTV           | 181         | 9          | 21             | \$117,831                    | \$75,839         | \$117,107        | \$0        | 1448.0         | \$29,503         | \$19,005                 | \$24,462         | \$0            | 362.0            | \$357,000        | \$4,163            | \$744,910      | 1810.0 |          |                       |       |       |          |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058          | \$0        | 711.0          | \$4,582          | \$8,374                  | \$2,212          | 158.0          | \$0              | \$6,004          | \$128,612          | 869.0          |        |          |                       |       |       |          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0              | \$0        | 60.0           | \$4,296          | \$2,148                  | \$4,296          | 288.0          | \$0              | \$12,420         | \$27,720           | 348.0          |        |          |                       |       |       |          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | \$0        | 85.5           | \$551            | \$1,007                  | \$266            | 19.0           | \$0              | \$855            | \$15,599           | 104.5          |        |          |                       |       |       |          |
| Power Cabinet  | 341         | 20         | 0              | \$50,468                     | \$79,112         | \$0              | \$0        | 1705.0         | \$30,690         | \$15,345                 | \$30,690         | 2046.0         | \$0              | \$0              | \$206,305          | 3751.0         |        |          |                       |       |       |          |
| Ramp Meter/ILD | 249         | 12         | 12             | \$89,889                     | \$66,732         | \$12,699         | \$0        | 1120.5         | \$254,727        | \$209,160                | \$216,675        | 9462.0         | \$180,000        | \$11,205         | \$1,041,087        | 10582.5        |        |          |                       |       |       |          |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133          | \$0        | 49.5           | \$11,253         | \$9,240                  | \$10,593         | 418.0          | \$0              | \$495            | \$46,563           | 467.5          |        |          |                       |       |       |          |
| TMS            | 846         | 60         | 0              | \$305,406                    | \$226,728        | \$43,146         | \$0        | 3807.0         | \$24,534         | \$44,838                 | \$11,004         | 846.0          | \$0              | \$32,148         | \$687,804          | 4653.0         |        |          |                       |       |       |          |
| VMS            | 113         | 7          | 0              | \$67,009                     | \$78,648         | \$0              | \$0        | 1695.0         | \$41,697         | \$28,250                 | \$21,090         | 2825.0         | \$0              | \$116,955        | \$353,649          | 4520.0         |        |          |                       |       |       |          |
| <b>Totals:</b> | <b>1930</b> | <b>108</b> | <b>33</b>      | <b>\$704,229</b>             | <b>\$583,175</b> | <b>\$183,112</b> | <b>\$0</b> | <b>10681.5</b> | <b>\$401,833</b> | <b>\$337,367</b>         | <b>\$321,288</b> | <b>16424.0</b> | <b>\$537,000</b> | <b>\$184,245</b> | <b>\$3,252,249</b> | <b>27106.5</b> |        |          |                       |       |       |          |

**Phoenix FMS**

**Year: 2010**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |            |                | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  |                  |                 | Costs                 | ManHours         |                    |                |
|                |             |            |                | Labor                        | Equipment        | Materials        | Labor                    | Equipment        | Materials        |                  |                 |                       |                  | ManHours           | ManHours       |
| CCTV           | 206         | 25         | 38             | \$134,106                    | \$86,314         | \$133,282        | 1648.0                   | \$33,578         | \$21,630         | \$23,166         | 412.0           | \$646,000             | \$4,738          | \$1,062,814        | 2060.0         |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420         | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 391         | 50         | 50             | \$57,868                     | \$90,712         | \$0              | 1955.0                   | \$35,190         | \$17,595         | \$35,190         | 2346.0          | \$100,000             | \$0              | \$336,555          | 4301.0         |
| Ramp Meter/ILD | 281         | 32         | 29             | \$101,441                    | \$75,308         | \$14,331         | 1264.5                   | \$287,463        | \$236,040        | \$211,860        | 10678.0         | \$435,000             | \$12,645         | \$1,374,088        | 11942.5        |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 996         | 150        | 54             | \$359,556                    | \$266,928        | \$50,796         | 4482.0                   | \$28,884         | \$52,788         | \$11,088         | 996.0           | \$486,000             | \$37,848         | \$1,293,888        | 5478.0         |
| VMS            | 128         | 15         | 24             | \$75,904                     | \$89,088         | \$0              | 1920.0                   | \$47,232         | \$32,000         | \$9,690          | 3200.0          | \$2,616,000           | \$132,480        | \$3,002,394        | 5120.0         |
| <b>Totals:</b> | <b>2202</b> | <b>272</b> | <b>195</b>     | <b>\$802,501</b>             | <b>\$664,466</b> | <b>\$208,569</b> | <b>12175.5</b>           | <b>\$453,029</b> | <b>\$380,822</b> | <b>\$308,361</b> | <b>18515.0</b>  | <b>\$4,283,000</b>    | <b>\$207,485</b> | <b>\$7,308,233</b> | <b>30690.5</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|------------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |            |                | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  |                  |                 | Costs                 | ManHours         |                    |                |
|                |             |            |                | Labor                        | Equipment        | Materials        | Labor                    | Equipment        | Materials        |                  |                 |                       |                  | ManHours           | ManHours       |
| CCTV           | 231         | 25         | 6              | \$150,381                    | \$96,789         | \$149,457        | 1848.0                   | \$37,653         | \$24,255         | \$32,400         | 462.0           | \$102,000             | \$5,313          | \$598,248          | 2310.0         |
| ILD Cabinet    | 158         | 0          | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0          | 0              | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$0                   | \$12,420         | \$27,720           | 348.0          |
| PAD Cabinet    | 19          | 0          | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 441         | 50         | 0              | \$65,268                     | \$102,312        | \$0              | 2205.0                   | \$39,690         | \$19,845         | \$39,690         | 2846.0          | \$0                   | \$0              | \$266,805          | 4851.0         |
| Ramp Meter/ILD | 303         | 22         | 18             | \$109,383                    | \$81,204         | \$15,453         | 1363.5                   | \$309,969        | \$254,520        | \$253,269        | 11514.0         | \$270,000             | \$13,635         | \$1,307,433        | 12877.5        |
| Ramp Meter/PAD | 11          | 0          | 0              | \$7,953                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 1146        | 150        | 42             | \$413,706                    | \$307,128        | \$58,446         | 5157.0                   | \$33,234         | \$60,738         | \$13,356         | 1146.0          | \$378,000             | \$43,548         | \$1,308,156        | 6303.0         |
| VMS            | 143         | 15         | 0              | \$84,799                     | \$99,528         | \$0              | 2145.0                   | \$52,767         | \$35,750         | \$18,240         | 3575.0          | \$0                   | \$148,005        | \$439,089          | 5720.0         |
| <b>Totals:</b> | <b>2464</b> | <b>262</b> | <b>66</b>      | <b>\$897,163</b>             | <b>\$743,077</b> | <b>\$233,516</b> | <b>13624.5</b>           | <b>\$493,995</b> | <b>\$415,877</b> | <b>\$374,322</b> | <b>20226.0</b>  | <b>\$750,000</b>      | <b>\$230,275</b> | <b>\$4,138,225</b> | <b>33850.5</b> |

**Phoenix FMS**

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                  |                  | Demand Maintenance Costs |                  |                  | Replace Costs    | Operating Costs | Totals By Equip. Type |                  |                    |                |
|----------------|-------------|-----------|----------------|------------------------------|------------------|------------------|--------------------------|------------------|------------------|------------------|-----------------|-----------------------|------------------|--------------------|----------------|
|                |             |           |                | Labor                        | Equipment        | Materials        | ManHours                 | Labor            | Equipment        |                  |                 | Materials             | ManHours         | Costs              | ManHours       |
| CCTV           | 231         | 0         | 13             | \$150,381                    | \$96,789         | \$149,457        | 1848.0                   | \$37,653         | \$24,255         | \$35,316         | 462.0           | \$221,000             | \$5,313          | \$720,184          | 2310.0         |
| ILD Cabinet    | 158         | 0         | 0              | \$57,038                     | \$42,344         | \$8,058          | 711.0                    | \$4,582          | \$8,374          | \$2,212          | 158.0           | \$0                   | \$6,004          | \$128,612          | 869.0          |
| Node Room      | 12          | 0         | 10             | \$1,776                      | \$2,784          | \$0              | 60.0                     | \$4,296          | \$2,148          | \$4,296          | 288.0           | \$300,000             | \$12,420         | \$327,720          | 348.0          |
| PAD Cabinet    | 19          | 0         | 0              | \$6,859                      | \$5,092          | \$969            | 85.5                     | \$551            | \$1,007          | \$266            | 19.0            | \$0                   | \$855            | \$15,599           | 104.5          |
| Power Cabinet  | 441         | 0         | 0              | \$65,268                     | \$102,312        | \$0              | 2205.0                   | \$39,690         | \$19,845         | \$39,690         | 2646.0          | \$0                   | \$0              | \$266,805          | 4851.0         |
| Ramp Meter/ILD | 303         | 0         | 47             | \$109,383                    | \$81,204         | \$15,453         | 1363.5                   | \$309,969        | \$254,520        | \$246,528        | 11514.0         | \$705,000             | \$13,635         | \$1,735,692        | 12877.5        |
| Ramp Meter/PAD | 11          | 0         | 0              | \$7,963                      | \$5,896          | \$1,133          | 49.5                     | \$11,253         | \$9,240          | \$10,593         | 418.0           | \$0                   | \$495            | \$46,563           | 467.5          |
| TMS            | 1146        | 0         | 150            | \$413,706                    | \$307,128        | \$58,446         | 5157.0                   | \$33,234         | \$60,738         | \$13,944         | 1146.0          | \$1,350,000           | \$43,548         | \$2,280,744        | 6303.0         |
| VMS            | 143         | 0         | 0              | \$84,799                     | \$99,528         | \$0              | 2145.0                   | \$52,767         | \$35,750         | \$21,660         | 3575.0          | \$0                   | \$148,005        | \$442,509          | 5720.0         |
| <b>Totals:</b> | <b>2464</b> | <b>0</b>  | <b>220</b>     | <b>\$897,163</b>             | <b>\$743,077</b> | <b>\$233,516</b> | <b>13624.5</b>           | <b>\$493,995</b> | <b>\$415,877</b> | <b>\$374,505</b> | <b>20226.0</b>  | <b>\$2,576,000</b>    | <b>\$230,275</b> | <b>\$5,964,408</b> | <b>33860.5</b> |

**Prescott Rural ITS**

| Year: 1998 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |
|            | Totals:        | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |

| Year: 1999 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |
|            | Totals:        | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |

| Year: 2000 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |
|            | Totals:        | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |

| Year: 2001 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |
|            | Totals:        | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |

| Year: 2002 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |
|            | Totals:        | 2           | 0         | 0              | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0           | 50.0            | \$0                   | \$2,070  | \$5,886 | 80.0     |

**Prescott Rural ITS**

**Year: 2003**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 2         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$1,770               | 31.0         |
| VMS            | 3           | 1         | 0              | \$1,779                      | \$2,088        | \$0        | 45.0                     | \$1,107        | \$750        | \$0           | \$3,105         | \$8,829               | 120.0        |
| <b>Totals:</b> | <b>5</b>    | <b>3</b>  | <b>0</b>       | <b>\$2,075</b>               | <b>\$2,552</b> | <b>\$0</b> | <b>55.0</b>              | <b>\$1,777</b> | <b>\$750</b> | <b>\$0</b>    | <b>\$3,445</b>  | <b>\$10,599</b>       | <b>151.0</b> |

**Year: 2004**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$1,770               | 31.0         |
| VMS            | 3           | 0         | 0              | \$1,779                      | \$2,088        | \$0        | 45.0                     | \$1,107        | \$750        | \$0           | \$3,105         | \$8,829               | 120.0        |
| <b>Totals:</b> | <b>5</b>    | <b>0</b>  | <b>0</b>       | <b>\$2,075</b>               | <b>\$2,552</b> | <b>\$0</b> | <b>55.0</b>              | <b>\$1,777</b> | <b>\$750</b> | <b>\$0</b>    | <b>\$3,445</b>  | <b>\$10,599</b>       | <b>151.0</b> |

**Year: 2005**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$6,996               | 31.0         |
| VMS            | 3           | 0         | 0              | \$1,779                      | \$2,088        | \$0        | 45.0                     | \$1,107        | \$750        | \$0           | \$3,105         | \$9,969               | 120.0        |
| <b>Totals:</b> | <b>5</b>    | <b>0</b>  | <b>0</b>       | <b>\$2,075</b>               | <b>\$2,552</b> | <b>\$0</b> | <b>55.0</b>              | <b>\$1,777</b> | <b>\$750</b> | <b>\$0</b>    | <b>\$3,445</b>  | <b>\$16,965</b>       | <b>151.0</b> |

**Year: 2006**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| CCTV           | 1           | 1         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$0           | \$23            | \$2,008               | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$0           | \$340           | \$6,996               | 31.0         |
| VDS            | 1           | 1         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$0           | \$45            | \$470                 | 10.0         |
| VMS            | 4           | 1         | 0              | \$2,372                      | \$2,784        | \$0          | 60.0                     | \$1,476        | \$1,000        | \$0           | \$4,140         | \$12,912              | 160.0        |
| <b>Totals:</b> | <b>8</b>    | <b>3</b>  | <b>0</b>       | <b>\$3,457</b>               | <b>\$3,795</b> | <b>\$724</b> | <b>87.0</b>              | <b>\$2,338</b> | <b>\$1,158</b> | <b>\$0</b>    | <b>\$4,548</b>  | <b>\$22,386</b>       | <b>211.0</b> |



**Prescott Rural ITS**

**Year: 2007**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23           | \$2,170         | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$5,226        | 21.0            | \$0                   | \$340          | \$6,996         | 31.0         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$0            | 1.0             | \$0                   | \$45           | \$470           | 10.0         |
| VMS            | 4           | 0         | 0              | \$2,372                      | \$2,784        | \$0          | 60.0                     | \$1,476        | \$1,000        | \$1,140        | 100.0           | \$0                   | \$4,140        | \$12,912        | 160.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$3,457</b>               | <b>\$3,795</b> | <b>\$724</b> | <b>87.0</b>              | <b>\$2,338</b> | <b>\$1,158</b> | <b>\$6,528</b> | <b>124.0</b>    | <b>\$0</b>            | <b>\$4,548</b> | <b>\$22,648</b> | <b>211.0</b> |

**Year: 2008**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23           | \$2,170         | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$5,226        | 21.0            | \$0                   | \$340          | \$6,996         | 31.0         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45           | \$484           | 10.0         |
| VMS            | 5           | 1         | 0              | \$2,965                      | \$3,480        | \$0          | 75.0                     | \$1,845        | \$1,250        | \$1,140        | 125.0           | \$0                   | \$5,175        | \$15,855        | 200.0        |
| <b>Totals:</b> | <b>9</b>    | <b>1</b>  | <b>0</b>       | <b>\$4,050</b>               | <b>\$4,491</b> | <b>\$724</b> | <b>102.0</b>             | <b>\$2,707</b> | <b>\$1,408</b> | <b>\$6,542</b> | <b>149.0</b>    | <b>\$0</b>            | <b>\$5,583</b> | <b>\$25,606</b> | <b>251.0</b> |

**Year: 2009**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23           | \$2,170         | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$5,226        | 21.0            | \$0                   | \$340          | \$6,996         | 31.0         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45           | \$484           | 10.0         |
| VMS            | 5           | 0         | 0              | \$2,965                      | \$3,480        | \$0          | 75.0                     | \$1,845        | \$1,250        | \$1,140        | 125.0           | \$0                   | \$5,175        | \$15,855        | 200.0        |
| <b>Totals:</b> | <b>9</b>    | <b>0</b>  | <b>0</b>       | <b>\$4,050</b>               | <b>\$4,491</b> | <b>\$724</b> | <b>102.0</b>             | <b>\$2,707</b> | <b>\$1,408</b> | <b>\$6,542</b> | <b>149.0</b>    | <b>\$0</b>            | <b>\$5,583</b> | <b>\$25,606</b> | <b>251.0</b> |

**Prescott Rural ITS**

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23           | \$2,170         | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$5,226        | 21.0            | \$0                   | \$340          | \$6,996         | 31.0         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45           | \$484           | 10.0         |
| VMS            | 5           | 0         | 0              | \$2,965                      | \$3,480        | \$0          | 75.0                     | \$1,845        | \$1,250        | \$1,140        | 125.0           | \$0                   | \$5,175        | \$15,855        | 200.0        |
| <b>Totals:</b> | <b>9</b>    | <b>0</b>  | <b>0</b>       | <b>\$4,050</b>               | <b>\$4,491</b> | <b>\$724</b> | <b>102.0</b>             | <b>\$2,707</b> | <b>\$1,408</b> | <b>\$6,542</b> | <b>149.0</b>    | <b>\$0</b>            | <b>\$5,583</b> | <b>\$25,606</b> | <b>261.0</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                |                  |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours       | Costs            | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23           | \$2,170          | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$5,226        | 21.0            | \$0                   | \$340          | \$6,996          | 31.0         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45           | \$484            | 10.0         |
| VMS            | 5           | 0         | 2              | \$2,965                      | \$3,480        | \$0          | 75.0                     | \$1,845        | \$1,250        | \$0            | 125.0           | \$218,000             | \$5,175        | \$232,715        | 200.0        |
| <b>Totals:</b> | <b>9</b>    | <b>0</b>  | <b>2</b>       | <b>\$4,050</b>               | <b>\$4,491</b> | <b>\$724</b> | <b>102.0</b>             | <b>\$2,707</b> | <b>\$1,408</b> | <b>\$5,402</b> | <b>149.0</b>    | <b>\$218,000</b>      | <b>\$5,583</b> | <b>\$242,366</b> | <b>261.0</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours       | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23           | \$2,170         | 10.0         |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0          | 10.0                     | \$670          | \$0            | \$5,226        | 21.0            | \$0                   | \$340          | \$6,996         | 31.0         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45           | \$484           | 10.0         |
| VMS            | 5           | 0         | 0              | \$2,965                      | \$3,480        | \$0          | 75.0                     | \$1,845        | \$1,250        | \$0            | 125.0           | \$0                   | \$5,175        | \$14,715        | 200.0        |
| <b>Totals:</b> | <b>9</b>    | <b>0</b>  | <b>0</b>       | <b>\$4,050</b>               | <b>\$4,491</b> | <b>\$724</b> | <b>102.0</b>             | <b>\$2,707</b> | <b>\$1,408</b> | <b>\$5,402</b> | <b>149.0</b>    | <b>\$0</b>            | <b>\$5,583</b> | <b>\$24,366</b> | <b>261.0</b> |

**Safford Rural ITS**

**Year: 1998**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 2         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$1,770               | 31.0         |
| VMS            | 2           | 2         | 0              | \$1,186                      | \$1,392        | \$0        | 30.0                     | \$738          | \$500        | \$0           | \$2,070         | \$5,886               | 80.0         |
| <b>Totals:</b> | <b>4</b>    | <b>4</b>  | <b>0</b>       | <b>\$1,482</b>               | <b>\$1,856</b> | <b>\$0</b> | <b>40.0</b>              | <b>\$1,408</b> | <b>\$500</b> | <b>\$0</b>    | <b>\$2,410</b>  | <b>\$7,656</b>        | <b>111.0</b> |

**Year: 1999**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$1,770               | 31.0         |
| VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392        | \$0        | 30.0                     | \$738          | \$500        | \$0           | \$2,070         | \$5,886               | 80.0         |
| <b>Totals:</b> | <b>4</b>    | <b>0</b>  | <b>0</b>       | <b>\$1,482</b>               | <b>\$1,856</b> | <b>\$0</b> | <b>40.0</b>              | <b>\$1,408</b> | <b>\$500</b> | <b>\$0</b>    | <b>\$2,410</b>  | <b>\$7,656</b>        | <b>111.0</b> |

**Year: 2000**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$6,996               | 31.0         |
| VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392        | \$0        | 30.0                     | \$738          | \$500        | \$0           | \$2,070         | \$5,886               | 80.0         |
| <b>Totals:</b> | <b>4</b>    | <b>0</b>  | <b>0</b>       | <b>\$1,482</b>               | <b>\$1,856</b> | <b>\$0</b> | <b>40.0</b>              | <b>\$1,408</b> | <b>\$500</b> | <b>\$0</b>    | <b>\$2,410</b>  | <b>\$12,882</b>       | <b>111.0</b> |

**Year: 2001**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |              | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|--------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment    |               |                 | Materials             | ManHours     |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464          | \$0        | 10.0                     | \$670          | \$0          | \$0           | \$340           | \$6,996               | 31.0         |
| VMS            | 2           | 0         | 0              | \$1,186                      | \$1,392        | \$0        | 30.0                     | \$738          | \$500        | \$0           | \$2,070         | \$5,886               | 80.0         |
| <b>Totals:</b> | <b>4</b>    | <b>0</b>  | <b>0</b>       | <b>\$1,482</b>               | <b>\$1,856</b> | <b>\$0</b> | <b>40.0</b>              | <b>\$1,408</b> | <b>\$500</b> | <b>\$0</b>    | <b>\$2,410</b>  | <b>\$12,882</b>       | <b>111.0</b> |

**Safford Rural ITS**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464     | \$0       | 10.0                     | \$670   | \$0       | \$5,226       | 21.0            | \$0                   | \$340    | \$6,996  | 31.0     |
| VMS            | 4           | 2         | 0              | \$2,372                      | \$2,784   | \$0       | 60.0                     | \$1,476 | \$1,000   | \$0           | 100.0           | \$0                   | \$4,140  | \$11,772 | 160.0    |
| Totals:        | 6           | 2         | 0              | \$2,668                      | \$3,248   | \$0       | 70.0                     | \$2,146 | \$1,000   | \$5,226       | 121.0           | \$0                   | \$4,480  | \$18,768 | 191.0    |

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464     | \$0       | 10.0                     | \$670   | \$0       | \$5,226       | 21.0            | \$0                   | \$340    | \$6,996  | 31.0     |
| VMS            | 5           | 1         | 0              | \$2,965                      | \$3,480   | \$0       | 75.0                     | \$1,845 | \$1,250   | \$0           | 125.0           | \$0                   | \$5,175  | \$14,715 | 200.0    |
| Totals:        | 7           | 1         | 0              | \$3,261                      | \$3,944   | \$0       | 85.0                     | \$2,515 | \$1,250   | \$5,226       | 146.0           | \$0                   | \$5,515  | \$21,711 | 231.0    |

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464     | \$0       | 10.0                     | \$670   | \$0       | \$5,226       | 21.0            | \$0                   | \$340    | \$6,996  | 31.0     |
| VMS            | 5           | 0         | 0              | \$2,965                      | \$3,480   | \$0       | 75.0                     | \$1,845 | \$1,250   | \$0           | 125.0           | \$0                   | \$5,175  | \$14,715 | 200.0    |
| Totals:        | 7           | 0         | 0              | \$3,261                      | \$3,944   | \$0       | 85.0                     | \$2,515 | \$1,250   | \$5,226       | 146.0           | \$0                   | \$5,515  | \$21,711 | 231.0    |

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 2           | 0         | 0              | \$296                        | \$464     | \$0       | 10.0                     | \$670   | \$0       | \$5,226       | 21.0            | \$0                   | \$340    | \$6,996  | 31.0     |
| VMS            | 8           | 3         | 0              | \$4,744                      | \$5,568   | \$0       | 120.0                    | \$2,952 | \$2,000   | \$0           | 200.0           | \$0                   | \$8,280  | \$23,544 | 320.0    |
| Totals:        | 10          | 3         | 0              | \$5,040                      | \$6,032   | \$0       | 130.0                    | \$3,622 | \$2,000   | \$5,226       | 221.0           | \$0                   | \$8,620  | \$30,540 | 351.0    |

**Safford Rural ITS**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 4           | 2         | 0              | \$592                        | \$928           | \$0        | 20.0                     | \$1,340        | \$0            | \$5,226        | 42.0            | \$0                   | \$680           | \$8,766         | 62.0         |
| VMS            | 14          | 6         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$0            | 350.0           | \$0                   | \$14,490        | \$41,202        | 560.0        |
| <b>Totals:</b> | <b>18</b>   | <b>8</b>  | <b>0</b>       | <b>\$8,894</b>               | <b>\$10,672</b> | <b>\$0</b> | <b>230.0</b>             | <b>\$6,506</b> | <b>\$3,500</b> | <b>\$5,226</b> | <b>392.0</b>    | <b>\$0</b>            | <b>\$15,170</b> | <b>\$49,968</b> | <b>622.0</b> |

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928           | \$0        | 20.0                     | \$1,340        | \$0            | \$5,226        | 42.0            | \$0                   | \$680           | \$8,766         | 62.0         |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$0            | 350.0           | \$0                   | \$14,490        | \$41,202        | 560.0        |
| <b>Totals:</b> | <b>18</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,894</b>               | <b>\$10,672</b> | <b>\$0</b> | <b>230.0</b>             | <b>\$6,506</b> | <b>\$3,500</b> | <b>\$5,226</b> | <b>392.0</b>    | <b>\$0</b>            | <b>\$15,170</b> | <b>\$49,968</b> | <b>622.0</b> |

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928           | \$0        | 20.0                     | \$1,340        | \$0            | \$10,452        | 42.0            | \$0                   | \$680           | \$13,992        | 62.0         |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$1,140         | 350.0           | \$0                   | \$14,490        | \$42,342        | 560.0        |
| <b>Totals:</b> | <b>18</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,894</b>               | <b>\$10,672</b> | <b>\$0</b> | <b>230.0</b>             | <b>\$6,506</b> | <b>\$3,500</b> | <b>\$11,592</b> | <b>392.0</b>    | <b>\$0</b>            | <b>\$15,170</b> | <b>\$56,334</b> | <b>622.0</b> |

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 4           | 0         | 2              | \$592                        | \$928           | \$0        | 20.0                     | \$1,340        | \$0            | \$5,226        | 42.0            | \$40,000              | \$680           | \$48,766        | 62.0         |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$1,140        | 350.0           | \$0                   | \$14,490        | \$42,342        | 560.0        |
| <b>Totals:</b> | <b>18</b>   | <b>0</b>  | <b>2</b>       | <b>\$8,894</b>               | <b>\$10,672</b> | <b>\$0</b> | <b>230.0</b>             | <b>\$6,506</b> | <b>\$3,500</b> | <b>\$6,366</b> | <b>392.0</b>    | <b>\$40,000</b>       | <b>\$15,170</b> | <b>\$91,108</b> | <b>622.0</b> |

**Safford Rural ITS**

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 14          | 10        | 0              | \$2,072                      | \$3,248         | \$0        | 70.0                     | \$4,690        | \$0            | \$5,226        | 147.0           | \$0                   | \$2,380         | \$17,616        | 217.0        |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$1,140        | 350.0           | \$0                   | \$14,490        | \$42,342        | 560.0        |
| <b>Totals:</b> | <b>28</b>   | <b>10</b> | <b>0</b>       | <b>\$10,374</b>              | <b>\$12,992</b> | <b>\$0</b> | <b>280.0</b>             | <b>\$9,856</b> | <b>\$3,500</b> | <b>\$6,366</b> | <b>497.0</b>    | <b>\$0</b>            | <b>\$16,870</b> | <b>\$69,958</b> | <b>777.0</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 14          | 0         | 0              | \$2,072                      | \$3,248         | \$0        | 70.0                     | \$4,690        | \$0            | \$10,452        | 147.0           | \$0                   | \$2,380         | \$22,842        | 217.0        |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$1,140         | 350.0           | \$0                   | \$14,490        | \$42,342        | 560.0        |
| <b>Totals:</b> | <b>28</b>   | <b>0</b>  | <b>0</b>       | <b>\$10,374</b>              | <b>\$12,992</b> | <b>\$0</b> | <b>280.0</b>             | <b>\$9,856</b> | <b>\$3,500</b> | <b>\$11,592</b> | <b>497.0</b>    | <b>\$0</b>            | <b>\$16,870</b> | <b>\$65,184</b> | <b>777.0</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment       | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 14          | 0         | 0              | \$2,072                      | \$3,248         | \$0        | 70.0                     | \$4,690        | \$0            | \$9,582         | 147.0           | \$0                   | \$2,380         | \$48,972        | 217.0        |
| VMS            | 14          | 0         | 0              | \$8,302                      | \$9,744         | \$0        | 210.0                    | \$5,166        | \$3,500        | \$2,280         | 350.0           | \$0                   | \$14,490        | \$43,482        | 560.0        |
| <b>Totals:</b> | <b>28</b>   | <b>0</b>  | <b>0</b>       | <b>\$10,374</b>              | <b>\$12,992</b> | <b>\$0</b> | <b>280.0</b>             | <b>\$9,856</b> | <b>\$3,500</b> | <b>\$38,862</b> | <b>497.0</b>    | <b>\$0</b>            | <b>\$16,870</b> | <b>\$92,454</b> | <b>777.0</b> |

**TPG**

**Year: 1998**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**Year: 1999**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**Year: 2000**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 2              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$20,000        | \$196           | \$21,866              | 20.0         |
| WIM - Piezo    | 6           | 0         | 6              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$60,000        | \$588           | \$88,608              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>8</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$80,000</b> | <b>\$784</b>    | <b>\$110,474</b>      | <b>140.0</b> |

**Year: 2001**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**TPG**

**Year: 2002**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**Year: 2003**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**Year: 2004**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |            | Replace Costs   | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|------------|-----------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment  |                 |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 2              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$0        | \$20,000        | \$196           | \$21,866              | 20.0         |
| WIM - Piezo    | 6           | 0         | 6              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$0        | \$60,000        | \$588           | \$88,608              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>8</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$0</b> | <b>\$80,000</b> | <b>\$784</b>    | <b>\$110,474</b>      | <b>140.0</b> |

**Year: 2005**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |



**TPG**

**Year: 2006**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0                  | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0                  | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>           | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**Year: 2007**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0                  | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0                  | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>           | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**Year: 2008**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |            | Replace Costs   | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|------------|-----------------|-----------------|-----------------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment  |                 |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0                  | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$0        | \$20,000        | \$196           | \$21,866              | 20.0         |
| WIM - Piezo    | 6           | 0                  | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$0        | \$60,000        | \$588           | \$68,608              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>           | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$0</b> | <b>\$80,000</b> | <b>\$784</b>    | <b>\$110,474</b>      | <b>140.0</b> |

**Year: 2009**

| Equipment Type | Total Units | New Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |
|----------------|-------------|--------------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |             |                    | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     |
| AVC - Piezo    | 2           | 0                  | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | \$196           | \$2,200               | 20.0         |
| WIM - Piezo    | 6           | 0                  | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | \$588           | \$34,212              | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>           | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>\$784</b>    | <b>\$36,412</b>       | <b>140.0</b> |

**TPG**

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |              |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|--------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours     | Costs           | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$334          | 10.0            | \$0                   | \$196        | \$2,200         | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$5,604        | 60.0            | \$0                   | \$588        | \$34,212        | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>     | <b>\$0</b>            | <b>\$784</b> | <b>\$36,412</b> | <b>140.0</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |              |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|--------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours     | Costs           | ManHours     |
| AVC - Piezo    | 2           | 0         | 0              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$334          | 10.0            | \$0                   | \$196        | \$2,200         | 20.0         |
| WIM - Piezo    | 6           | 0         | 0              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$5,604        | 60.0            | \$0                   | \$588        | \$34,212        | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>0</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>     | <b>\$0</b>            | <b>\$784</b> | <b>\$36,412</b> | <b>140.0</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |                | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |              |                  |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|----------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|--------------|------------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials      | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours     | Costs            | ManHours     |
| AVC - Piezo    | 2           | 0         | 2              | \$334                        | \$334          | \$334          | 10.0                     | \$334          | \$334          | \$0           | 10.0            | \$20,000              | \$196        | \$21,866         | 20.0         |
| WIM - Piezo    | 6           | 0         | 6              | \$5,604                      | \$5,604        | \$5,604        | 60.0                     | \$5,604        | \$5,604        | \$0           | 60.0            | \$60,000              | \$588        | \$88,608         | 120.0        |
| <b>Totals:</b> | <b>8</b>    | <b>0</b>  | <b>8</b>       | <b>\$5,938</b>               | <b>\$5,938</b> | <b>\$5,938</b> | <b>70.0</b>              | <b>\$5,938</b> | <b>\$5,938</b> | <b>\$0</b>    | <b>70.0</b>     | <b>\$80,000</b>       | <b>\$784</b> | <b>\$110,474</b> | <b>140.0</b> |

**Tucson FMS**

**Year: 1999**

| Equipment Type | Total Units | New Units  | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |               |
|----------------|-------------|------------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|---------------|
|                |             |            |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |               |                 | Materials             | ManHours      |
| CCTV           | 14          | 14         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$0           | \$322           | \$28,112              | 140.0         |
| ILD Cabinet    | 58          | 58         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$0           | \$2,204         | \$46,400              | 319.0         |
| Ramp Meter/ILD | 24          | 24         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$0           | \$1,080         | \$62,112              | 1020.0        |
| VMS            | 10          | 10         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0           | \$10,350        | \$29,430              | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>106</b> | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$0</b>    | <b>\$13,956</b> | <b>\$166,054</b>      | <b>1879.0</b> |

**Year: 2000**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | \$0             | \$30,380              | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | \$0             | \$47,212              | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | \$0             | \$85,224              | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0             | \$10,350        | \$29,430              | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$26,192</b> | <b>\$0</b>      | <b>\$192,246</b>      | <b>1879.0</b> |

**Year: 2001**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | \$0             | \$30,380              | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | \$0             | \$47,212              | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | \$0             | \$85,224              | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0             | \$10,350        | \$29,430              | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$26,192</b> | <b>\$0</b>      | <b>\$192,246</b>      | <b>1879.0</b> |

**Tucson FMS**

**Year: 2002**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | Labor                    | Equipment       | Materials       |               |                 | ManHours              | Costs         |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | \$2,282                  | \$1,470         | \$2,268         | \$0           | \$322           | \$30,380              | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | \$1,682                  | \$3,074         | \$812           | \$0           | \$2,204         | \$47,212              | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | \$24,552                 | \$20,160        | \$23,112        | \$0           | \$1,080         | \$85,224              | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | \$3,690                  | \$2,500         | \$0             | \$0           | \$10,350        | \$29,430              | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>\$32,206</b>          | <b>\$27,204</b> | <b>\$26,192</b> | <b>\$0</b>    | <b>\$13,956</b> | <b>\$192,246</b>      | <b>1879.0</b> |

**Year: 2003**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | Labor                    | Equipment       | Materials       |               |                 | ManHours              | Costs         |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | \$2,282                  | \$1,470         | \$2,268         | \$0           | \$322           | \$30,380              | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | \$1,682                  | \$3,074         | \$812           | \$0           | \$2,204         | \$47,212              | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | \$24,552                 | \$20,160        | \$23,112        | \$0           | \$1,080         | \$85,224              | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | \$3,690                  | \$2,500         | \$0             | \$0           | \$10,350        | \$29,430              | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>\$32,206</b>          | <b>\$27,204</b> | <b>\$26,192</b> | <b>\$0</b>    | <b>\$13,956</b> | <b>\$192,246</b>      | <b>1879.0</b> |

**Year: 2004**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs | Operating Costs | Totals By Equip. Type |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|---------------|-----------------|-----------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | Labor                    | Equipment       | Materials       |               |                 | ManHours              | Costs         |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | \$2,282                  | \$1,470         | \$2,268         | \$0           | \$322           | \$30,380              | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | \$1,682                  | \$3,074         | \$812           | \$0           | \$2,204         | \$47,212              | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | \$24,552                 | \$20,160        | \$23,112        | \$0           | \$1,080         | \$85,224              | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | \$3,690                  | \$2,500         | \$0             | \$0           | \$10,350        | \$29,430              | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>\$32,206</b>          | <b>\$27,204</b> | <b>\$26,192</b> | <b>\$0</b>    | <b>\$13,956</b> | <b>\$192,246</b>      | <b>1879.0</b> |

**Tucson FMS**

**Year: 2005**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0             | 250.0           | \$0                   | \$10,350        | \$29,430         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$26,192</b> | <b>1248.0</b>   | <b>\$0</b>            | <b>\$13,956</b> | <b>\$192,246</b> | <b>1879.0</b> |

**Year: 2006**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0             | 250.0           | \$0                   | \$10,350        | \$29,430         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$26,192</b> | <b>1248.0</b>   | <b>\$0</b>            | <b>\$13,956</b> | <b>\$192,246</b> | <b>1879.0</b> |

**Year: 2007**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 14             | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$0             | 28.0            | \$238,000             | \$322           | \$266,112        | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0             | 250.0           | \$0                   | \$10,350        | \$29,430         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>14</b>      | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$23,924</b> | <b>1248.0</b>   | <b>\$238,000</b>      | <b>\$13,956</b> | <b>\$427,978</b> | <b>1879.0</b> |

**Tucson FMS**

**Year: 2008**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268        | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812          | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 24             | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$0            | 912.0           | \$360,000             | \$1,080         | \$422,112        | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$0            | 250.0           | \$0                   | \$10,350        | \$29,430         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>24</b>      | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$3,080</b> | <b>1248.0</b>   | <b>\$360,000</b>      | <b>\$13,956</b> | <b>\$628,134</b> | <b>1879.0</b> |

**Year: 2009**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$5,700         | 250.0           | \$0                   | \$10,350        | \$35,130         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$31,892</b> | <b>1248.0</b>   | <b>\$0</b>            | <b>\$13,956</b> | <b>\$197,946</b> | <b>1879.0</b> |

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 58             | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$0             | 58.0            | \$522,000             | \$2,204         | \$588,400        | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$5,700         | 250.0           | \$0                   | \$10,350        | \$35,130         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>58</b>      | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$31,080</b> | <b>1248.0</b>   | <b>\$522,000</b>      | <b>\$13,956</b> | <b>\$719,134</b> | <b>1879.0</b> |

**Tucson FMS**

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$5,700         | 250.0           | \$0                   | \$10,350        | \$35,130         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$31,892</b> | <b>1248.0</b>   | <b>\$0</b>            | <b>\$13,956</b> | <b>\$197,946</b> | <b>1879.0</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                 |                 | Demand Maintenance Costs |                 |                 | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                  |               |
|----------------|-------------|-----------|----------------|------------------------------|-----------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------|------------------|---------------|
|                |             |           |                | Labor                        | Equipment       | Materials       | ManHours                 | Labor           | Equipment       |                 |                 | Materials             | ManHours        | Costs            | ManHours      |
| CCTV           | 14          | 0         | 0              | \$9,114                      | \$5,866         | \$9,058         | 112.0                    | \$2,282         | \$1,470         | \$2,268         | 28.0            | \$0                   | \$322           | \$30,380         | 140.0         |
| ILD Cabinet    | 58          | 0         | 0              | \$20,938                     | \$15,544        | \$2,958         | 261.0                    | \$1,682         | \$3,074         | \$812           | 58.0            | \$0                   | \$2,204         | \$47,212         | 319.0         |
| Ramp Meter/ILD | 24          | 0         | 0              | \$8,664                      | \$6,432         | \$1,224         | 108.0                    | \$24,552        | \$20,160        | \$23,112        | 912.0           | \$0                   | \$1,080         | \$85,224         | 1020.0        |
| VMS            | 10          | 0         | 0              | \$5,930                      | \$6,960         | \$0             | 150.0                    | \$3,690         | \$2,500         | \$5,700         | 250.0           | \$0                   | \$10,350        | \$35,130         | 400.0         |
| <b>Totals:</b> | <b>106</b>  | <b>0</b>  | <b>0</b>       | <b>\$44,646</b>              | <b>\$34,802</b> | <b>\$13,240</b> | <b>631.0</b>             | <b>\$32,206</b> | <b>\$27,204</b> | <b>\$31,892</b> | <b>1248.0</b>   | <b>\$0</b>            | <b>\$13,956</b> | <b>\$197,946</b> | <b>1879.0</b> |

### Tucson Rural ITS

| Year: 2001 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 3           | 3         | 0              | \$1,779                      | \$2,088   | \$0       | 45.0                     | \$1,107 | \$750     | \$0           | 75.0            | \$0                   | \$3,105  | \$8,629 | 120.0    |
|            | Totals:        | 3           | 3         | 0              | \$1,779                      | \$2,088   | \$0       | 45.0                     | \$1,107 | \$750     | \$0           | 75.0            | \$0                   | \$3,105  | \$8,629 | 120.0    |

| Year: 2002 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |         |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|---------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs   | ManHours |
|            | VMS            | 3           | 0         | 0              | \$1,779                      | \$2,088   | \$0       | 45.0                     | \$1,107 | \$750     | \$0           | 75.0            | \$0                   | \$3,105  | \$8,629 | 120.0    |
|            | Totals:        | 3           | 0         | 0              | \$1,779                      | \$2,088   | \$0       | 45.0                     | \$1,107 | \$750     | \$0           | 75.0            | \$0                   | \$3,105  | \$8,629 | 120.0    |

| Year: 2003 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | VMS            | 9           | 6         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
|            | Totals:        | 9           | 6         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |

| Year: 2004 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
|            | Totals:        | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |

| Year: 2005 | Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|------------|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|            |                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
|            | VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
|            | Totals:        | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |



**Tucson Rural ITS**

**Year: 2006**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
| Totals:        | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |

**Year: 2007**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 4           | 4         | 0              | \$592                        | \$928     | \$0       | 20.0                     | \$1,340 | \$0       | \$0           | 42.0            | \$0                   | \$680    | \$3,540  | 62.0     |
| VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
| Totals:        | 13          | 4         | 0              | \$5,929                      | \$7,192   | \$0       | 155.0                    | \$4,661 | \$2,250   | \$0           | 267.0           | \$0                   | \$9,995  | \$30,027 | 422.0    |

**Year: 2008**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928     | \$0       | 20.0                     | \$1,340 | \$0       | \$0           | 42.0            | \$0                   | \$680    | \$3,540  | 62.0     |
| VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
| Totals:        | 13          | 0         | 0              | \$5,929                      | \$7,192   | \$0       | 155.0                    | \$4,661 | \$2,250   | \$0           | 267.0           | \$0                   | \$9,995  | \$30,027 | 422.0    |

**Year: 2009**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace Costs | Operating Costs | Totals By Equip. Type |          |          |          |
|----------------|-------------|-----------|----------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|---------------|-----------------|-----------------------|----------|----------|----------|
|                |             |           |                | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |               |                 | Materials             | ManHours | Costs    | ManHours |
| RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928     | \$0       | 20.0                     | \$1,340 | \$0       | \$10,452      | 42.0            | \$0                   | \$680    | \$13,992 | 62.0     |
| VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264   | \$0       | 135.0                    | \$3,321 | \$2,250   | \$0           | 225.0           | \$0                   | \$9,315  | \$26,487 | 360.0    |
| Totals:        | 13          | 0         | 0              | \$5,929                      | \$7,192   | \$0       | 155.0                    | \$4,661 | \$2,250   | \$10,452      | 267.0           | \$0                   | \$9,995  | \$40,479 | 422.0    |

**Tucson Rural ITS**

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours       | Costs           | ManHours     |
| RWIS-RPU       | 4           | 0         | 0              | \$592                        | \$928          | \$0        | 20.0                     | \$1,340        | \$0            | \$10,452        | 42.0            | \$680                 | \$13,992       | 62.0            |              |
| VMS            | 9           | 0         | 0              | \$5,337                      | \$6,264        | \$0        | 135.0                    | \$3,321        | \$2,250        | \$0             | 225.0           | \$0                   | \$9,315        | \$26,487        | 360.0        |
| <b>Totals:</b> | <b>13</b>   | <b>0</b>  | <b>0</b>       | <b>\$5,929</b>               | <b>\$7,192</b> | <b>\$0</b> | <b>155.0</b>             | <b>\$4,661</b> | <b>\$2,250</b> | <b>\$10,452</b> | <b>267.0</b>    | <b>\$0</b>            | <b>\$9,995</b> | <b>\$40,479</b> | <b>422.0</b> |

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 9           | 5         | 0              | \$1,332                      | \$2,088        | \$0        | 45.0                     | \$3,015        | \$0            | \$10,452        | 94.5            | \$0                   | \$1,530         | \$18,417        | 139.5        |
| VMS            | 11          | 2         | 0              | \$6,523                      | \$7,656        | \$0        | 165.0                    | \$4,059        | \$2,750        | \$1,710         | 275.0           | \$0                   | \$11,385        | \$34,083        | 440.0        |
| <b>Totals:</b> | <b>20</b>   | <b>7</b>  | <b>0</b>       | <b>\$7,855</b>               | <b>\$9,744</b> | <b>\$0</b> | <b>210.0</b>             | <b>\$7,074</b> | <b>\$2,750</b> | <b>\$12,162</b> | <b>369.5</b>    | <b>\$0</b>            | <b>\$12,915</b> | <b>\$52,500</b> | <b>679.5</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |            | Demand Maintenance Costs |                |                | Replace Costs   | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials  | ManHours                 | Labor          | Equipment      |                 |                 | Materials             | ManHours        | Costs           | ManHours     |
| RWIS-RPU       | 9           | 0         | 0              | \$1,332                      | \$2,088        | \$0        | 45.0                     | \$3,015        | \$0            | \$10,452        | 94.5            | \$0                   | \$1,530         | \$18,417        | 139.5        |
| VMS            | 11          | 0         | 0              | \$6,523                      | \$7,656        | \$0        | 165.0                    | \$4,059        | \$2,750        | \$1,710         | 275.0           | \$0                   | \$11,385        | \$34,083        | 440.0        |
| <b>Totals:</b> | <b>20</b>   | <b>0</b>  | <b>0</b>       | <b>\$7,855</b>               | <b>\$9,744</b> | <b>\$0</b> | <b>210.0</b>             | <b>\$7,074</b> | <b>\$2,750</b> | <b>\$12,162</b> | <b>369.5</b>    | <b>\$0</b>            | <b>\$12,915</b> | <b>\$52,500</b> | <b>679.5</b> |

**Yuma Rural ITS**

| Year: 2003<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |       |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|------------------|--------------------|-----------------------|----------|-------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |                  |                    | Materials             | ManHours | Costs |
| VMS                          | 2              | 2            | 0                 | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0              | 50.0               | \$2,070               | \$5,886  | 80.0  |
| Totals:                      | 2              | 2            | 0                 | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0              | 50.0               | \$2,070               | \$5,886  | 80.0  |

| Year: 2004<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |       |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |       |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|-------|-----------|------------------|--------------------|-----------------------|----------|-------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor | Equipment |                  |                    | Materials             | ManHours | Costs |
| VMS                          | 2              | 0            | 0                 | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0              | 50.0               | \$2,070               | \$5,886  | 80.0  |
| Totals:                      | 2              | 0            | 0                 | \$1,186                      | \$1,392   | \$0       | 30.0                     | \$738 | \$500     | \$0              | 50.0               | \$2,070               | \$5,886  | 80.0  |

| Year: 2005<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |       |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|------------------|--------------------|-----------------------|----------|-------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |                  |                    | Materials             | ManHours | Costs |
| VMS                          | 6              | 4            | 0                 | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0              | 150.0              | \$6,210               | \$17,658 | 240.0 |
| Totals:                      | 6              | 4            | 0                 | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0              | 150.0              | \$6,210               | \$17,658 | 240.0 |

| Year: 2006<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |       |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|------------------|--------------------|-----------------------|----------|-------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |                  |                    | Materials             | ManHours | Costs |
| VMS                          | 6              | 0            | 0                 | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0              | 150.0              | \$6,210               | \$17,658 | 240.0 |
| Totals:                      | 6              | 0            | 0                 | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0              | 150.0              | \$6,210               | \$17,658 | 240.0 |

| Year: 2007<br>Equipment Type | Total<br>Units | New<br>Units | Replaced<br>Units | Preventive Maintenance Costs |           |           | Demand Maintenance Costs |         |           | Replace<br>Costs | Operating<br>Costs | Totals By Equip. Type |          |       |
|------------------------------|----------------|--------------|-------------------|------------------------------|-----------|-----------|--------------------------|---------|-----------|------------------|--------------------|-----------------------|----------|-------|
|                              |                |              |                   | Labor                        | Equipment | Materials | ManHours                 | Labor   | Equipment |                  |                    | Materials             | ManHours | Costs |
| VMS                          | 6              | 0            | 0                 | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0              | 150.0              | \$6,210               | \$17,658 | 240.0 |
| Totals:                      | 6              | 0            | 0                 | \$3,558                      | \$4,176   | \$0       | 90.0                     | \$2,214 | \$1,500   | \$0              | 150.0              | \$6,210               | \$17,658 | 240.0 |

**Yuma Rural ITS**

**Year: 2008**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 1         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$0           | 2.0             | \$23                  | \$2,008         | 10.0            |              |
| RWIS-RPU       | 1           | 1         | 0              | \$148                        | \$232          | \$0          | 5.0                      | \$335          | \$0            | \$0           | 10.5            | \$170                 | \$885           | 15.5            |              |
| VDS            | 1           | 1         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$0           | 1.0             | \$45                  | \$470           | 10.0            |              |
| VMS            | 12          | 6         | 0              | \$7,116                      | \$8,352        | \$0          | 180.0                    | \$4,428        | \$3,000        | \$0           | 300.0           | \$0                   | \$12,420        | 480.0           |              |
| <b>Totals:</b> | <b>15</b>   | <b>9</b>  | <b>0</b>       | <b>\$8,053</b>               | <b>\$9,131</b> | <b>\$724</b> | <b>202.0</b>             | <b>\$4,955</b> | <b>\$3,158</b> | <b>\$0</b>    | <b>313.5</b>    | <b>\$0</b>            | <b>\$12,658</b> | <b>\$38,679</b> | <b>615.5</b> |

**Year: 2009**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|---------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |               |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162         | 2.0             | \$23                  | \$2,170         | 10.0            |              |
| RWIS-RPU       | 1           | 0         | 0              | \$148                        | \$232          | \$0          | 5.0                      | \$335          | \$0            | \$0           | 10.5            | \$170                 | \$885           | 15.5            |              |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$0           | 1.0             | \$45                  | \$470           | 10.0            |              |
| VMS            | 12          | 0         | 0              | \$7,116                      | \$8,352        | \$0          | 180.0                    | \$4,428        | \$3,000        | \$0           | 300.0           | \$0                   | \$12,420        | 480.0           |              |
| <b>Totals:</b> | <b>15</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,053</b>               | <b>\$9,131</b> | <b>\$724</b> | <b>202.0</b>             | <b>\$4,955</b> | <b>\$3,158</b> | <b>\$162</b>  | <b>313.5</b>    | <b>\$0</b>            | <b>\$12,658</b> | <b>\$38,841</b> | <b>615.5</b> |

**Year: 2010**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$23                  | \$2,170         | 10.0            |              |
| RWIS-RPU       | 1           | 0         | 0              | \$148                        | \$232          | \$0          | 5.0                      | \$335          | \$0            | \$2,613        | 10.5            | \$170                 | \$3,498         | 15.5            |              |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$45                  | \$484           | 10.0            |              |
| VMS            | 12          | 0         | 0              | \$7,116                      | \$8,352        | \$0          | 180.0                    | \$4,428        | \$3,000        | \$0            | 300.0           | \$0                   | \$12,420        | 480.0           |              |
| <b>Totals:</b> | <b>15</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,053</b>               | <b>\$9,131</b> | <b>\$724</b> | <b>202.0</b>             | <b>\$4,955</b> | <b>\$3,158</b> | <b>\$2,789</b> | <b>313.5</b>    | <b>\$0</b>            | <b>\$12,658</b> | <b>\$41,468</b> | <b>615.5</b> |

**Yuma Rural ITS**

**Year: 2011**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23            | \$2,170         | 10.0         |
| RWIS-RPU       | 1           | 0         | 0              | \$148                        | \$232          | \$0          | 5.0                      | \$335          | \$0            | \$2,613        | 10.5            | \$0                   | \$170           | \$3,498         | 15.5         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45            | \$484           | 10.0         |
| VMS            | 12          | 0         | 0              | \$7,116                      | \$8,352        | \$0          | 180.0                    | \$4,428        | \$3,000        | \$0            | 300.0           | \$0                   | \$12,420        | \$35,316        | 480.0        |
| <b>Totals:</b> | <b>15</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,053</b>               | <b>\$9,131</b> | <b>\$724</b> | <b>202.0</b>             | <b>\$4,955</b> | <b>\$3,158</b> | <b>\$2,789</b> | <b>313.5</b>    | <b>\$0</b>            | <b>\$12,658</b> | <b>\$41,468</b> | <b>515.5</b> |

**Year: 2012**

| Equipment Type | Total Units | New Units | Replaced Units | Preventive Maintenance Costs |                |              | Demand Maintenance Costs |                |                | Replace Costs  | Operating Costs | Totals By Equip. Type |                 |                 |              |
|----------------|-------------|-----------|----------------|------------------------------|----------------|--------------|--------------------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------|--------------|
|                |             |           |                | Labor                        | Equipment      | Materials    | ManHours                 | Labor          | Equipment      |                |                 | Materials             | ManHours        | Costs           | ManHours     |
| CCTV           | 1           | 0         | 0              | \$651                        | \$419          | \$647        | 8.0                      | \$163          | \$105          | \$162          | 2.0             | \$0                   | \$23            | \$2,170         | 10.0         |
| RWIS-RPU       | 1           | 0         | 0              | \$148                        | \$232          | \$0          | 5.0                      | \$335          | \$0            | \$2,613        | 10.5            | \$0                   | \$170           | \$3,498         | 15.5         |
| VDS            | 1           | 0         | 0              | \$138                        | \$128          | \$77         | 9.0                      | \$29           | \$53           | \$14           | 1.0             | \$0                   | \$45            | \$484           | 10.0         |
| VMS            | 12          | 0         | 0              | \$7,116                      | \$8,352        | \$0          | 180.0                    | \$4,428        | \$3,000        | \$0            | 300.0           | \$0                   | \$12,420        | \$35,316        | 480.0        |
| <b>Totals:</b> | <b>15</b>   | <b>0</b>  | <b>0</b>       | <b>\$8,053</b>               | <b>\$9,131</b> | <b>\$724</b> | <b>202.0</b>             | <b>\$4,955</b> | <b>\$3,158</b> | <b>\$2,789</b> | <b>313.5</b>    | <b>\$0</b>            | <b>\$12,658</b> | <b>\$41,468</b> | <b>515.5</b> |

APPENDIX E

Statewide ITI Inventory Forecast (excluding Phoenix TOC and Flagstaff TOC)

## ATRC

| ITS Phase | Year Deployed | Equipment           | Route/Location | Units Deployed |
|-----------|---------------|---------------------|----------------|----------------|
| 0         | 1996          | AVC - Piezo         | I 008          | 1              |
| 0         | 1996          | AVC - Piezo         | I 010          | 2              |
| 0         | 1996          | AVC - Piezo         | I 019          | 2              |
| 0         | 1996          | AVC - Piezo         | I 040          | 2              |
| 0         | 1996          | AVC - Piezo         | S 068          | 1              |
| 0         | 1996          | AVC - Piezo         | S 095          | 1              |
| 0         | 1996          | WIM - Bending Plate | I 010          | 1              |
| 0         | 1996          | WIM - Bending Plate | I 040          | 2              |
| 0         | 1996          | WIM - Bending Plate | U 093          | 1              |
| 0         | 1996          | WIM - Piezo         | I 008          | 1              |
| 0         | 1996          | WIM - Piezo         | I 010          | 2              |
| 0         | 1996          | WIM - Piezo         | I 019          | 2              |
| 0         | 1996          | WIM - Piezo         | I 040          | 2              |
| 0         | 1996          | WIM - Piezo         | S 085          | 1              |
| 0         | 1996          | WIM - Piezo         | S 417          | 1              |
| 0         | 1996          | WIM - Piezo         | U 060          | 1              |

## Flagstaff Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location  | Units Deployed |
|-----------|---------------|-----------|-----------------|----------------|
| 0         | 1992          | RWIS-CPU  | District Office | 1              |
| 0         | 1992          | RWIS-RPU  | I 040           | 7              |
| 1         | 1998          | RWIS-RPU  | I 017           | 2              |
| 1         | 1998          | RWIS-RPU  | I 040           | 1              |
| 1         | 1998          | VMS       | I 017           | 1              |
| 1         | 1998          | VMS       | I 040           | 2              |
| 2         | 1999          | RWIS-RPU  | I 040           | 1              |
| 2         | 1999          | VMS       | I 017           | 1              |
| 2         | 1999          | VMS       | I 040           | 3              |
| 5         | 2002          | RWIS-RPU  | I 017           | 2              |
| 5         | 2002          | RWIS-RPU  | S 064           | 1              |
| 5         | 2002          | RWIS-RPU  | S 089           | 1              |
| 5         | 2002          | VMS       | U 089           | 1              |
| 11        | 2004          | VMS       | I 017           | 2              |
| 11        | 2004          | VMS       | I 040           | 4              |
| 20        | 2008          | CCTV      | Other           | 1              |
| 20        | 2008          | VMS       | S 064           | 1              |
| 20        | 2008          | VMS       | U 160           | 1              |
| 20        | 2008          | VMS       | U 180           | 1              |
| 22        | 2009          | VDS       | Other           | 1              |
| 22        | 2009          | VMS       | I 015           | 2              |
| 22        | 2009          | VMS       | I 040           | 1              |
| 22        | 2009          | VMS       | S 064           | 1              |
| 22        | 2009          | VMS       | S 089           | 2              |



## Globe Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 6         | 2002          | RWIS-RPU  | S 077          | 2              |
| 6         | 2002          | RWIS-RPU  | S 260          | 2              |
| 6         | 2002          | RWIS-RPU  | U 060          | 1              |
| 6         | 2002          | RWIS-RPU  | U 180          | 1              |
| 16        | 2006          | VMS       | U 060          | 3              |
| 16        | 2006          | VMS       | U 070          | 1              |
| 19        | 2007          | CCTV      | Other          | 2              |
| 19        | 2007          | VMS       | S 077          | 1              |
| 19        | 2007          | VMS       | U 060          | 1              |
| 20        | 2008          | VMS       | S 077          | 1              |
| 20        | 2008          | VMS       | U 060          | 1              |
| 24        | 2010          | VDS       | Other          | 2              |

## Holbrook Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 1         | 1998          | RWIS-RPU  | I 040          | 1              |
| 1         | 1998          | RWIS-RPU  | S 087          | 1              |
| 1         | 1998          | RWIS-RPU  | S 377          | 1              |
| 2         | 1999          | RWIS-RPU  | I 040          | 1              |
| 2         | 1999          | VMS       | I 040          | 2              |
| 4         | 2001          | RWIS-RPU  | S 077          | 1              |
| 4         | 2001          | RWIS-RPU  | S 264          | 2              |
| 4         | 2001          | RWIS-RPU  | U 064          | 1              |
| 4         | 2001          | RWIS-RPU  | U 160          | 1              |
| 4         | 2001          | VMS       | I 040          | 3              |
| 5         | 2002          | VMS       | I 040          | 2              |
| 8         | 2003          | VMS       | U 160          | 2              |
| 11        | 2004          | RWIS-RPU  | I 040          | 6              |
| 11        | 2004          | RWIS-RPU  | S 087          | 1              |
| 11        | 2004          | VMS       | I 040          | 1              |
| 11        | 2004          | VMS       | U 160          | 1              |
| 17        | 2007          | CCTV      | Other          | 3              |
| 17        | 2007          | VMS       | S 264          | 1              |
| 17        | 2007          | VMS       | U 191          | 2              |
| 22        | 2009          | VMS       | I 040          | 1              |
| 22        | 2009          | VMS       | S 564          | 1              |
| 22        | 2009          | VMS       | U 089          | 1              |
| 22        | 2009          | VMS       | U 163          | 2              |
| 22        | 2009          | VMS       | U 191          | 1              |
| 23        | 2010          | CCTV      | Other          | 2              |
| 23        | 2010          | CCTV      | U 160          | 1              |
| 23        | 2010          | RWIS-RPU  | S 077          | 1              |
| 23        | 2010          | RWIS-RPU  | S 264          | 3              |
| 23        | 2010          | RWIS-RPU  | U 160          | 2              |
| 23        | 2010          | VDS       | Other          | 5              |
| 23        | 2010          | VDS       | U 160          | 1              |
| 23        | 2010          | VMS       | S 077          | 1              |

## Kingman Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 2         | 2000          | VMS       | I 040          | 1              |
| 2         | 2000          | VMS       | S 068          | 1              |
| 2         | 2000          | VMS       | U 093          | 1              |
| 4         | 2001          | VMS       | I 040          | 3              |
| 5         | 2002          | RWIS-RPU  | S 066          | 1              |
| 8         | 2003          | VMS       | I 040          | 1              |
| 12        | 2005          | RWIS-RPU  | I 040          | 1              |
| 12        | 2005          | RWIS-RPU  | S 089          | 1              |
| 12        | 2005          | RWIS-RPU  | U 093          | 1              |
| 12        | 2005          | VMS       | I 040          | 1              |
| 12        | 2005          | VMS       | U 093          | 1              |
| 19        | 2007          | VMS       | I 040          | 1              |
| 19        | 2007          | VMS       | S 095          | 1              |
| 19        | 2007          | VMS       | U 093          | 1              |
| 23        | 2010          | CCTV      | Other          | 1              |
| 23        | 2010          | VDS       | Other          | 1              |
| 23        | 2010          | VMS       | I 040          | 2              |
| 24        | 2010          | RWIS-RPU  | I 040          | 2              |
| 24        | 2010          | RWIS-RPU  | S 066          | 1              |
| 24        | 2010          | RWIS-RPU  | S 068          | 1              |
| 24        | 2010          | VMS       | S 095          | 1              |

## Phoenix FMS

| ITS Phase | Year Deployed | Equipment      | Route/Location | Units Deployed |
|-----------|---------------|----------------|----------------|----------------|
| 1         | 1990          | CCTV           | I 010          | 20             |
| 1         | 1992          | Ramp Meter/ILD | U 060          | 12             |
| 1         | 1994          | CCTV           | I 010          | 20             |
| 1         | 1994          | CCTV           | I 017          | 8              |
| 1         | 1994          | ILD Cabinet    | I 010          | 87             |
| 1         | 1994          | ILD Cabinet    | I 017          | 34             |
| 1         | 1994          | Node Room      | I 010          | 10             |
| 1         | 1994          | Power Cabinet  | I 010          | 37             |
| 1         | 1994          | Power Cabinet  | I 017          | 13             |
| 1         | 1994          | Ramp Meter/ILD | I 010          | 29             |
| 1         | 1994          | Ramp Meter/ILD | I 017          | 11             |
| 1         | 1994          | Ramp Meter/ILD | S 051          | 1              |
| 1         | 1994          | VMS            | I 010          | 18             |
| 1         | 1994          | VMS            | I 017          | 6              |
| 2         | 1997          | CCTV           | S 051          | 7              |
| 2         | 1997          | CCTV           | S 143          | 4              |
| 2         | 1997          | CCTV           | S 202          | 3              |
| 2         | 1997          | ILD Cabinet    | S 143          | 22             |
| 2         | 1997          | ILD Cabinet    | S 202          | 15             |
| 2         | 1997          | Node Room      | S 051          | 2              |
| 2         | 1997          | PAD Cabinet    | S 051          | 19             |
| 2         | 1997          | Power Cabinet  | S 051          | 14             |
| 2         | 1997          | Power Cabinet  | S 143          | 4              |
| 2         | 1997          | Power Cabinet  | S 202          | 6              |
| 2         | 1997          | Ramp Meter/ILD | I 010          | 1              |
| 2         | 1997          | Ramp Meter/ILD | I 017          | 19             |
| 2         | 1997          | Ramp Meter/ILD | S 202          | 6              |
| 2         | 1997          | Ramp Meter/PAD | S 051          | 11             |
| 2         | 1997          | VMS            | S 051          | 3              |
| 2         | 1997          | VMS            | S 143          | 2              |
| 2         | 1997          | VMS            | S 202          | 2              |
| 3         | 2001          | CCTV           | I 017          | 11             |
| 3         | 2001          | Ramp Meter/ILD | I 017          | 16             |
| 3         | 2001          | TMS            | I 017          | 42             |
| 3         | 2001          | VMS            | I 017          | 9              |
| 4         | 1999          | CCTV           | S 101          | 3              |
| 4         | 1999          | CCTV           | S 202          | 6              |
| 4         | 1999          | Power Cabinet  | S 101          | 6              |
| 4         | 1999          | Power Cabinet  | S 202          | 12             |
| 4         | 1999          | Ramp Meter/ILD | S 101          | 5              |
| 4         | 1999          | Ramp Meter/ILD | S 202          | 5              |
| 4         | 1999          | TMS            | S 101          | 30             |
| 4         | 1999          | TMS            | S 202          | 24             |
| 4         | 1999          | VMS            | S 101          | 2              |
| 4         | 1999          | VMS            | S 202          | 4              |
| 5         | 2000          | CCTV           | S 051          | 7              |
| 5         | 2000          | Power Cabinet  | S 051          | 16             |
| 5         | 2000          | Ramp Meter/ILD | S 051          | 12             |
| 5         | 2000          | TMS            | S 051          | 42             |
| 5         | 2000          | VMS            | S 051          | 4              |

## Phoenix FMS

| ITS Phase | Year Deployed | Equipment      | Route/Location | Units Deployed |
|-----------|---------------|----------------|----------------|----------------|
| 6         | 2002          | CCTV           | S 101          | 4              |
| 6         | 2002          | Power Cabinet  | S 101          | 24             |
| 6         | 2002          | Power Cabinet  | S 202          | 8              |
| 6         | 2002          | Ramp Meter/ILD | S 101          | 6              |
| 6         | 2002          | TMS            | S 101          | 72             |
| 6         | 2002          | TMS            | S 202          | 24             |
| 6         | 2002          | VMS            | S 101          | 2              |
| 7         | 2001          | CCTV           | I 010          | 4              |
| 7         | 2001          | CCTV           | U 060          | 6              |
| 7         | 2001          | Power Cabinet  | I 010          | 14             |
| 7         | 2001          | Power Cabinet  | U 060          | 21             |
| 7         | 2001          | Ramp Meter/ILD | I 010          | 1              |
| 7         | 2001          | TMS            | I 010          | 42             |
| 7         | 2001          | TMS            | U 060          | 66             |
| 7         | 2001          | VMS            | I 010          | 3              |
| 7         | 2001          | VMS            | U 060          | 3              |
| 8         | 2002          | CCTV           | U 060          | 6              |
| 8         | 2002          | Power Cabinet  | U 060          | 12             |
| 8         | 2002          | Ramp Meter/ILD | U 060          | 12             |
| 8         | 2002          | TMS            | U 060          | 36             |
| 8         | 2002          | VMS            | U 060          | 4              |
| 9         | 2003          | CCTV           | S 101          | 6              |
| 9         | 2003          | Power Cabinet  | S 101          | 14             |
| 9         | 2003          | Ramp Meter/ILD | S 101          | 6              |
| 9         | 2003          | TMS            | S 101          | 42             |
| 9         | 2003          | VMS            | S 101          | 4              |
| 10        | 2004          | CCTV           | S 101          | 13             |
| 10        | 2004          | Power Cabinet  | S 101          | 26             |
| 10        | 2004          | Ramp Meter/ILD | S 101          | 20             |
| 10        | 2004          | TMS            | S 101          | 78             |
| 10        | 2004          | VMS            | S 101          | 8              |
| 11        | 2005          | CCTV           | I 010          | 1              |
| 11        | 2005          | CCTV           | S 101          | 10             |
| 11        | 2005          | Power Cabinet  | I 010          | 4              |
| 11        | 2005          | Power Cabinet  | S 101          | 18             |
| 11        | 2005          | Ramp Meter/ILD | I 010          | 2              |
| 11        | 2005          | Ramp Meter/ILD | S 101          | 17             |
| 11        | 2005          | TMS            | I 010          | 12             |
| 11        | 2005          | TMS            | S 101          | 60             |
| 11        | 2005          | VMS            | I 010          | 3              |
| 11        | 2005          | VMS            | S 101          | 3              |
| 12        | 2006          | CCTV           | S 051          | 1              |
| 12        | 2006          | CCTV           | S 101          | 18             |
| 12        | 2006          | Power Cabinet  | S 051          | 6              |
| 12        | 2006          | Power Cabinet  | S 101          | 36             |
| 12        | 2006          | Ramp Meter/ILD | S 051          | 4              |
| 12        | 2006          | Ramp Meter/ILD | S 101          | 26             |
| 12        | 2006          | TMS            | S 051          | 18             |
| 12        | 2006          | TMS            | S 101          | 108            |
| 12        | 2006          | VMS            | S 051          | 1              |

## Phoenix FMS

| ITS Phase | Year Deployed | Equipment      | Route/Location | Units Deployed |
|-----------|---------------|----------------|----------------|----------------|
| 12        | 2006          | VMS            | S 101          | 14             |
| 13        | 2007          | CCTV           | U 060          | 7              |
| 13        | 2007          | Power Cabinet  | U 060          | 14             |
| 13        | 2007          | Ramp Meter/ILD | U 060          | 12             |
| 13        | 2007          | TMS            | U 060          | 42             |
| 13        | 2007          | VMS            | U 060          | 5              |
| 14        | 2008          | CCTV           | S 202          | 7              |
| 14        | 2008          | Power Cabinet  | S 202          | 16             |
| 14        | 2008          | Ramp Meter/ILD | S 202          | 14             |
| 14        | 2008          | TMS            | S 202          | 48             |
| 14        | 2008          | VMS            | S 202          | 6              |
| 15        | 2009          | CCTV           | S 202          | 9              |
| 15        | 2009          | Power Cabinet  | S 202          | 20             |
| 15        | 2009          | Ramp Meter/ILD | S 202          | 12             |
| 15        | 2009          | TMS            | S 202          | 60             |
| 15        | 2009          | VMS            | S 202          | 7              |
| 16        | 2010          | CCTV           | S 202          | 25             |
| 16        | 2010          | Power Cabinet  | S 202          | 50             |
| 16        | 2010          | Ramp Meter/ILD | S 202          | 32             |
| 16        | 2010          | TMS            | S 202          | 150            |
| 16        | 2010          | VMS            | S 202          | 15             |
| 17        | 2011          | CCTV           | S 202          | 25             |
| 17        | 2011          | Power Cabinet  | S 202          | 50             |
| 17        | 2011          | Ramp Meter/ILD | S 202          | 22             |
| 17        | 2011          | TMS            | S 202          | 150            |
| 17        | 2011          | VMS            | S 202          | 15             |

## Prescott Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 0         | 1995          | VMS       | S 260          | 2              |
| 9         | 2003          | RWIS-RPU  | S 089          | 2              |
| 9         | 2003          | VMS       | I 017          | 1              |
| 15        | 2006          | CCTV      | Other          | 1              |
| 15        | 2006          | VDS       | Other          | 1              |
| 15        | 2006          | VMS       | I 017          | 1              |
| 20        | 2008          | VMS       | S 069          | 1              |

## Safford Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 1         | 1998          | RWIS-RPU  | I 010          | 2              |
| 1         | 1998          | VMS       | I 010          | 2              |
| 6         | 2002          | VMS       | I 010          | 2              |
| 8         | 2003          | VMS       | S 080          | 1              |
| 12        | 2005          | VMS       | I 010          | 2              |
| 12        | 2005          | VMS       | S 090          | 1              |
| 16        | 2006          | RWIS-RPU  | I 010          | 2              |
| 16        | 2006          | VMS       | I 010          | 4              |
| 16        | 2006          | VMS       | U 098          | 1              |
| 16        | 2006          | VMS       | U 191          | 1              |
| 24        | 2010          | RWIS-RPU  | I 010          | 1              |
| 24        | 2010          | RWIS-RPU  | Other          | 1              |
| 24        | 2010          | RWIS-RPU  | S 078          | 1              |
| 24        | 2010          | RWIS-RPU  | S 080          | 3              |
| 24        | 2010          | RWIS-RPU  | S 181          | 1              |
| 24        | 2010          | RWIS-RPU  | S 266          | 1              |
| 24        | 2010          | RWIS-RPU  | U 070          | 1              |
| 24        | 2010          | RWIS-RPU  | U 191          | 1              |



## TPG

| ITS<br>Phase | Year<br>Deployed | Equipment   | Route/Location | Units<br>Deployed |
|--------------|------------------|-------------|----------------|-------------------|
| 0            | 1996             | AVC - Piezo | I 008          | 1                 |
| 0            | 1996             | AVC - Piezo | I 040          | 1                 |
| 0            | 1996             | WIM - Piezo | I 010          | 1                 |
| 0            | 1996             | WIM - Piezo | I 017          | 1                 |
| 0            | 1996             | WIM - Piezo | S 090          | 1                 |
| 0            | 1996             | WIM - Piezo | S 095          | 2                 |
| 0            | 1996             | WIM - Piezo | U 070          | 1                 |

## Tucson FMS

| ITS<br>Phase | Year<br>Deployed | Equipment      | Route/Location | Units<br>Deployed |
|--------------|------------------|----------------|----------------|-------------------|
| 1            | 1999             | CCTV           | 1 010          | 12                |
| 1            | 1999             | CCTV           | 1 019          | 2                 |
| 1            | 1999             | ILD Cabinet    | 1 010          | 52                |
| 1            | 1999             | ILD Cabinet    | 1 019          | 6                 |
| 1            | 1999             | Ramp Meter/ILD | 1 010          | 24                |
| 1            | 1999             | VMS            | 1 010          | 10                |

## Tucson Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 3         | 2001          | VMS       | I 010          | 3              |
| 8         | 2003          | VMS       | I 008          | 1              |
| 8         | 2003          | VMS       | I 010          | 2              |
| 8         | 2003          | VMS       | I 019          | 1              |
| 8         | 2003          | VMS       | S 077          | 2              |
| 18        | 2007          | RWIS-RPU  | I 010          | 3              |
| 18        | 2007          | RWIS-RPU  | I 019          | 1              |
| 25        | 2011          | RWIS-RPU  | I 008          | 2              |
| 25        | 2011          | RWIS-RPU  | S 077          | 1              |
| 25        | 2011          | RWIS-RPU  | S 386          | 2              |
| 25        | 2011          | VMS       | I 019          | 2              |

## Yuma Rural ITS

| ITS Phase | Year Deployed | Equipment | Route/Location | Units Deployed |
|-----------|---------------|-----------|----------------|----------------|
| 10        | 2003          | VMS       | I 008          | 1              |
| 10        | 2003          | VMS       | S 095          | 1              |
| 13        | 2005          | VMS       | I 010          | 2              |
| 13        | 2005          | VMS       | S 095          | 2              |
| 21        | 2008          | CCTV      | Other          | 1              |
| 21        | 2008          | RWIS-RPU  | S 095          | 1              |
| 21        | 2008          | VDS       | Other          | 1              |
| 21        | 2008          | VMS       | I 008          | 3              |
| 21        | 2008          | VMS       | S 085          | 2              |
| 21        | 2008          | VMS       | S 095          | 1              |



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