

23 CFR § 450.324(h)

The TIP shall include a financial plan that demonstrates how the approved TIP can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the TIP, and recommends any additional financing strategies for needed projects and programs. In developing the TIP, the MPO, State(s), and public transportation operator(s) shall cooperatively develop estimates of funds that are reasonably expected to be available to support TIP implementation, in accordance with §450.314(a). Only projects for which construction or operating funds can reasonably be expected to be available may be included. In the case of new funding sources, strategies for ensuring their availability shall be identified. In developing the financial plan, the MPO shall take into account all projects and strategies funded under title 23 U.S.C., title 49 U.S.C. Chapter 53 and other Federal funds; and regionally significant projects that are not federally funded. For purposes of transportation operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways (as defined by 23 U.S.C. 101(a)(5)) and public transportation (as defined by title 49 U.S.C. Chapter 53). In addition, for illustrative purposes, the financial plan may (but is not required to) include additional projects that would be included in the TIP if reasonable additional resources beyond those identified in the financial plan were to become available. Starting December 11, 2007, revenue and cost estimates for the TIP must use an inflation rate(s) to reflect “year of expenditure dollars,” based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transportation operator(s).

| Expenditure Categories | FY 2014 | FY 2015 | FY 2016 | Notes/Comments |
|---|---------|---------|---------|----------------|
| Total Maintenance and Operating Budget | | | | |
| Potential Breakout of O& M Budget Expenses | | | | |
| - Pavement | | | | |
| - Signs and Markings | | | | |
| - Street Lighting | | | | |
| - Traffic Signals | | | | |
| - Landscaping | | | | |
| - Street Sweeping/Trash Removal | | | | |
| - Safety Education Programs/Public Outreach | | | | |
| Revenue Categories | FY 2014 | FY 2015 | FY 2015 | Notes/Comments |
| Total Revenue Available for O & M | | | | |
| Potential Breakout of O& M Budget Revenue | | | | |
| - Gas Tax (HURF) | | | | |
| - Dedicated Tax for Transportation | | | | |
| - General Fund | | | | |
| - Other City Revenue | | | | |
| - Private Contributions/Impact Fees | | | | |

**TABLE 9-1
PAVEMENT MANAGEMENT SUMMARY**

| Agency | Software | Assessment Frequency | Rating System/Approach | Additional Comments |
|-----------------|--|---------------------------------------|--|--|
| ADOT | Highway Pavement Maintenance Application (HPMA) PECOS | Annual | International Roughness Index (IRI) Present Serviceability Rating (PSR) | Pavement preservation activities are planned five years in advance, based on technical indicators. The effects of new construction and reconstruction projects on pavement preservation requirements are also taken into account in pavement preservation programming. Extensive coordination is maintained to avoid overlapping pavement treatments, such as roads being restriped shortly before a pavement overlay project. |
| Apache Junction | iWorQ | Annual | Remaining Service Life (RSL) | Five main distresses are measured: fatigue, transverse cracking, longitudinal cracking, patches, and edge of pavement cracking. Raveling and other indices are also monitored. Inspectors use a guide to rate pavement. Software is used to recommend maintenance activities based on ratings. Pavement preservation measures are prioritized and coordinated with crack sealing. |
| Avondale | iWorQ | 2 years | Not Available | Experience has indicated that past patterns of pavement maintenance have had a significant effect on current pavement conditions. |
| Buckeye | Microsoft Excel | Continuously check, update informally | Pavement Surface Evaluation and Rating (PASER) | The roadway maintenance approach is focused on obtaining grant funding for major arterials, while maintaining the highest traffic volume residential roadways. Pavement maintenance program focuses on keeping the greatest number of residents satisfied. |

TABLE 9-1: PAVEMENT MANAGEMENT SUMMARY (CONT'D)

| Agency | Software | Assessment Frequency | Rating System/Approach | Additional Comments |
|------------------------------|---|-------------------------------------|---|---|
| Carefree | Microsoft Word & Microsoft Excel | 4-5 years | Modified Version of the Transportation Research Board Process | Through field inspection, 10 categories of pavement defects are scored. Defects are weighted based on severity and importance. Unique roadway and pavement conditions are noted. A three step approach to the operations and maintenance program is used; (1) identify defects, (2) prioritize needs, and (3) assess program options versus budget funding. |
| Cave Creek | No Formal System | Informal-routine | Informal system - Chip seal five miles of roads a year when funding is available. Other improvements are prioritized based upon available funding | Pavement management software is being researched and reviewed. Many of the available packages seem to be too complex to fit the pavement management needs of a small system. |
| Chandler | Proprietary road matrix software by Stantec | 3 years | Pavement Quality Index (PQI) | Developers provide a one year final inspection on new roadways, at which time the developer may be required to apply the first seal coat. Pavement life is targeted at 25-30 years before the first mill and overlay. |
| El Mirage | Microsoft Excel | Goal – 2 years Current – 4 years | Pavement Surface Evaluation and Rating (PASER) | Projects are planned in order to maximize use of available funding. In order to achieve economies of scale, larger projects are performed, limiting the variety of activities in a given year. For example, one year all available funding may go toward one arterial; the next year, crack sealing and fogging the network. |
| Florence | | | | |
| Fort McDowell Yavapai Nation | | | | |

TABLE 9-1: PAVEMENT MANAGEMENT SUMMARY (CONT'D)

| Agency | Software | Assessment Frequency | Rating System/Approach | Additional Comments |
|-----------------------------|--------------------------------|----------------------|--------------------------------|---|
| Fountain Hills | No Formal System | 7 years | Seven Zones-treat one annually | Maintenance is performed on a seven year cycle between seven zones. Each year, one zone is crack and slurry sealed or micro-paved. Roads are typically 40 years old and the majority have never had significant treatments. |
| Gila Bend | No Formal System | Informal | Informal | Establishment of a formal system is under consideration. |
| Gila River Indian Community | | | | |
| Gilbert | CHEC software switching to GBA | 3-4 years | Pavement Condition Index (PCI) | Pavement management program makes extensive use of the Pavement Condition Index. There is an ongoing effort to demonstrate to decision-makers how pavement preservation funding levels affect the Pavement Condition Index. |
| Glendale | Lucity | 5 year goal | Pavement Condition Index (PCI) | Pavement preservation projects are included in the Capital Improvement Program, which utilizes General Obligation funds. The Structural Index (SI) is tracked on arterials to provide a basis for pavement management activities. |
| Goodyear | Lucity | 3 year goal | Pavement Condition Index (PCI) | Because the majority of roads are relatively new, they are typically in good condition, which tends to increase the system average Pavement Condition Index. Recent rapid growth in the size of the roadway system may result in increased future maintenance program funding needs that may not be apparent due to the high current average PCI. |
| Guadalupe | | | | |

TABLE 9-1: PAVEMENT MANAGEMENT SUMMARY (CONT'D)

| Agency | Software | Assessment Frequency | Rating System/Approach | Additional Comments |
|-----------------|--|---|---|--|
| Litchfield Park | Microsoft Excel | 5 years | Pavement Condition Index (PCI) | All roads in the network were assessed in 2006 and 10-year maintenance activities recommended. Roadway segments are reviewed annually to determine if recommended treatments are still warranted, or if a roadway's condition has worsened enough that it needs more than the original prescribed level of maintenance. |
| Maricopa | | | | |
| MCDOT | Proprietary Software - Roadway Management System (RMS) | Arterials-annual Others-Biannual | Pavement Condition Rating (PCR) and International Roughness Index (IRI) | The pavement management process focuses predominantly on roadways classified as arterials. The roadway maintenance program does not maintain or manage landscape features. |
| Mesa | Modified MicroPAVER | Annual | Pavement Condition Index (PCI) | An activity-based budget process is used, tying pavement maintenance activities to strategic goals. Roadway operations and maintenance funding is kept separate from the Capital Improvement Program and major pavement projects are prioritized depending on funding levels. Typically a 20-30 year pavement life is experienced. |
| Paradise Valley | In House Program | 4 years | Pavement Condition Rating (PCR) | Maintenance is performed on a 15 year cycle between 15 sections. Each year, one section is milled and overlaid. Roads are typically crack sealed every 7-8 years. |
| Peoria | Hansen Asset Management Software, Microsoft Excel for pavement condition | Bi-annual | Pavement Condition Index (PCI) | To maximize benefits from available funding, maintenance activities focus on arterial projects with greater or longer term impact. Projects are prioritized to maintain high levels of safety, while some lower rated pavements may not be treated due to funding limitations. Major pavement rehabilitation, when necessary in the future, may face funding issues. |

TABLE 9-1: PAVEMENT MANAGEMENT SUMMARY (CONT'D)

| Agency | Software | Assessment Frequency | Rating System/Approach | Additional Comments |
|---|-------------------------------------|-----------------------------------|--|--|
| Phoenix | Lucity | Bi-annual | Pavement Condition Index (PCI) and SCI | Specially equipped vans are used in the pavement assessment process to measure and record roadway Pavement Condition Index data. Reconstruction of pavements is not programmed, placing an emphasis on periodic/routine maintenance activities to preserve pavement quality over the long term. |
| Pinal County | | | | |
| Queen Creek | MicroPAVER and Microsoft Excel | Goal- 3-5 years 10 year actual | Pavement Condition Index (PCI) | The majority of roads are relatively new, with an average age less than ten years, resulting in a relatively high Pavement Condition Index. The basic approach is to crack seal the roads annually, with a fog seal every three years. Slurry seals are used when there is significant cracking. |
| Salt River Pima-Maricopa Indian Community | | | | |
| Scottsdale | Lucity | 4 years | Pavement Condition Index (PCI) | Pavements are rated using the Pavement Condition Index, with intersections assessed separately. Data is recorded and tracked using GIS polygons rather than lane mile units, which is aimed at providing a more precise measurement of pavement areas. |
| Surprise | Hansen Pavement Management software | 4 years | Overall Condition Index (OCI) | While most of the roads in the network are relatively new, efforts are aimed at adequate maintenance to continue high levels of pavement quality in the future. Typically roads are assessed every four years, using the time in between to perform improvements. The pavement management system is continually updated as improvements are performed, but new defects may not be documented until the next periodic assessment. |

TABLE 9-1: PAVEMENT MANAGEMENT SUMMARY (CONT'D)

| Agency | Software | Assessment Frequency | Rating System/Approach | Additional Comments |
|------------|------------------|----------------------|-------------------------------------|--|
| Tempe | Roadmatrix | 3 years | Pavement Quality Index (PQI) | Avoiding a “worst first” repair prioritization approach, pavement maintenance strategies focus on consistent minor maintenance to preserve pavements, deferring the need for major maintenance projects. High standards are targeted, but if a road falls into poor condition, maintenance may be stopped and the road is later reconstructed. Predictable funding sources are being sought to maintain a strong pavement management program, instead of bonding or reliance on State shared revenues. |
| Tolleson | Microsoft Excel | Ongoing | Pavement Condition Index (PCI) | An inventory of roadway network conditions is maintained in Microsoft Excel and used to assess which streets need reconstruction, mill and overlay, etc. A ten-year pavement maintenance plan is being formalized, and repairs are beginning on the lowest rated parts of the network. |
| Wickenburg | No Formal System | Informal | Informal, need based prioritization | Projects are identified through an informal pavement condition assessment. In FY 2010 and 2011, \$100,000 from the Capital Improvement Program was available for roadway maintenance in addition to HURF. The local power grid, which is municipally owned, helps fund the Capital Improvement Program. |
| Youngtown | No Formal System | Informal | Informal, need based prioritization | A slurry seal was done on all roads In 2004. A specific annual roadway operation and maintenance program is not part of the budget process. Community Development Block Grant funding, or other funding, has been used as it becomes available in the past for roadway maintenance projects. HURF funds typically cover costs to fix vandalism or matching for grants. |