

Metropolitan Transportation Commission Programming and Allocations Committee

November 14, 2012

Item Number 2d

Resolution No. 4078

Subject: MTC's Pavement Management Technical Assistance Program (P-TAP) Guidelines and Project Oversight Measures.

Background: P-TAP provides jurisdictions with assistance and expertise in implementing and maintaining a Pavement Management System (PMS) and in engineering design for pavement rehabilitation projects. Since 1999, MTC has programmed over \$10.6 million in STP funds to about 520 P-TAP projects and assisted all Bay Area cities and counties with their pavement needs.

Attachment A: The Pavement Management Technical Assistance Program (P-TAP) Guidelines propose program goals, eligibility and project selection criteria for this program to benefit Bay Area jurisdictions' pavement management systems. The P-TAP Guidelines inform the programming of federal Surface Transportation Program (STP) funds from FY2012-13 through FY2015-16 totaling \$6 million.

The project selection criteria were developed with input from the Partnership Technical Advisory Committee in 2009. MTC staff proposes to formalize these criteria for PTAP project selection through Commission adoption. The proposed project selection criteria and weighting are as follows:

Criterion	Weight
1) <u>Project scope:</u> Project Sponsors applying for PMS projects will receive higher scores. P-TAP was established to help local jurisdictions better manage and maintain their streets and roads.	25%
2) <u>Number of centerline miles:</u> Project Sponsors with fewer centerline miles will receive higher scores, since many small and medium-sized jurisdictions have limited financial resources, lack experienced staff due to turnover, and lack sufficient staff time for program maintenance.	20%
3) <u>Prior P-TAP recipient:</u> Project Sponsors that have not recently received P-TAP funds will receive higher scores to ensure an equitable distribution of P-TAP funds.	30%
4) <u>Certification status:</u> Project Sponsors without current PMP certification will receive higher scores to restore their certification status. P-TAP funds help jurisdictions keep their certification status current.	25%

Attachment B: Staff proposes project oversight measures and project assignment criteria for P-TAP consultants.

Recommendation: Refer Resolution No. 4078, to the Commission for approval.

Attachments: Resolution No. 4078.

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Date: November 28, 2012
W.I.: 1233
Referred by: PAC

ABSTRACT

Resolution No. 4078

This Resolution adopts the program guidelines for MTC's Pavement Management Technical Assistance Program (P-TAP), funded with Surface Transportation Program (STP) funds.

The following attachments are provided with this Resolution:

Attachment A— Pavement Management Technical Assistance Program Guidelines

Attachment B – Project Oversight Measures and Project Assignment Criteria for P-TAP
Consultants

Further discussion of this action is contained in the MTC Programming and Allocations Committee Summary Sheet dated November 14, 2012.

Date: November 28, 2012
W.I.: 1233
Referred by: PAC

RE: Pavement Management Technical Assistance Program Guidelines and Project Oversight Measures

METROPOLITAN TRANSPORTATION COMMISSION
RESOLUTION NO. 4078

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional transportation agency for the San Francisco Bay Area pursuant to Government Code Section 66500 *et seq.*; and

WHEREAS, MTC has developed a process and criteria to be used in the selection of Pavement Management Technical Assistance Program (P-TAP) projects and to monitor and oversee the projects once selected attached hereto and incorporated herein as though set forth at length; and

WHEREAS, MTC will use the process and criteria set forth in Attachment A of this Resolution to develop a program of projects for the P-TAP; and

WHEREAS, MTC will use the project oversight measures set forth in Attachment B to monitor project data quality and assign consultant to PTAP projects; now, therefore be it

RESOLVED, that MTC approves the process and criteria to be used in the selection and monitoring and oversight of P-TAP projects, as set forth in Attachments A and B of this Resolution; and be it further

RESOLVED, that the Executive Director shall make available a copy of this Resolution, and such other information as may be required, to such other agencies as may be appropriate.

METROPOLITAN TRANSPORTATION COMMISSION

Adrienne J. Tissier, Chair

The above Resolution was entered into by the Metropolitan Transportation Commission at a regular meeting of the Commission held in Oakland, California, on November 28, 2012.

Date: November 28, 2012
W.I.: 1233
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Attachment A
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**Pavement Management Technical Assistance
Program (P-TAP) Guidelines**

Pavement Management Technical Assistance
Program Guidelines

1. Program Goals: The Pavement Management Technical Assistance Program (P-TAP) is intended to fund projects that:

- Implement, update and maintain jurisdictions' pavement management databases
- Provide local decision-makers with accurate pavement condition data to inform funding pavement maintenance
- Support jurisdictions in engineering design for pavement preservation projects
- Support jurisdictions' management of non-pavement local street and road assets

2. Funding

P-TAP is funded with federal Surface Transportation Program (STP) funds. MTC has secured four years of STP funding totaling \$6 million for P-TAP Rounds 14-17 (FY2012-13 to FY2015-16). Future rounds of P-TAP funding are not guaranteed and are dependent upon fund availability.

Single-Year Programming: P-TAP Rounds 14-17 will represent four years of funding and four programming cycles, but because the program starts and ends in the middle of the federal fiscal year, the program will continue over five fiscal years (FY2012-13 to FY2016-17).

Funding Agreement: MTC may enter into a funding agreement with a jurisdiction to add local funds to a P-TAP project, conditioned on the following: additional local funds total more than \$25,000; the funding agreement does not delay the project schedule; and the additional scope is an eligible use of P-TAP funds.

3. Eligibility

Project Sponsors: All Bay Area cities, counties and other public agencies within the region in charge of maintaining streets and roads are eligible to apply for P-TAP funds. Priority is given to local jurisdictions whose PMS certifications have expired or are expiring within six months of project award.

Eligible Projects: P-TAP funding is available for projects in the following categories:

- **Pavement Management System Projects:** A Pavement Management System (PMS) performs diverse functions geared towards helping Project Sponsors understand the condition of their pavement and whether current and future revenues will be sufficient to fund the pavement maintenance necessary to ensure streets and roads are at an acceptable level of quality. A consultant will work with an awarded Project Sponsor to provide services including, but not limited to the following:
 - Update the Project Sponsor's pavement management system

- Review and audit the database inventory of the Project Sponsor's road network
- Enter Maintenance and Rehabilitation (M&R) history, if available
- Update the decision trees within the system based on the Project Sponsor's preferred treatment strategies
- Perform pavement inspections and data entry of all distresses found during pavement inspections into StreetSaver®
- Implement a Quality Control Plan
- Estimate available revenues for pavements over the next five years
- Run at least three budget and/or target-driven scenario analyses and show their impacts through the use of GIS maps in the StreetSaver® GIS Toolbox
- Provide the Project Sponsor with ways to improve their pavement maintenance strategies
- Deliver an updated PMS database and a Budget Options Report (BOR) to the Project Sponsor for review
- Establish full linkage of pavement data to GIS map through StreetSaver®
- Provide assistance with council presentations
- Provide training on using StreetSaver®
- PS&E Projects: Provide assistance to the Project Sponsor in developing PS&E design work for specific roadway infrastructure maintenance, rehabilitation and/or reconstruction projects. PS&E projects are eligible for P-TAP funding only if the roads are on the federal system (i.e., arterials and collectors); residential PS&E projects are ineligible for P-TAP funds. Tasks in the construction phase including bid support are not eligible uses of P-TAP funds.
- Non-Pavement Assets: Provide inventory and condition assessments for signs, storm drains, curbs and gutters, sidewalks, traffic signals, and street lights. The non-pavement assets project is contingent upon completion of the new module for the asset management tool in StreetSaver® and may be included within the next two years of P-TAP (P-TAP 15 and 16).

MTC reserves the right to fund projects other than those listed above that fit within the overall goal of the program.

4. Application and Grant Award Process

Application Process:

Step 1: MTC issues a “call for projects” on an annual basis.

Step 2: Jurisdictions submit applications to MTC for funding consideration. The application is available online.

Step 3: MTC staff evaluates project proposals based on the criteria and weighting below and recommends a proposed program of projects that aligns with the funding available.

Step 4: Staff recommends a program of projects to the Commission.

Step 5: Following the Commission’s approval, grant recipients will receive letters with their award confirmation and attend a program kick off meeting.

Program Schedule: P-TAP projects must be completed by the deadline set for each round of the program. In general, projects start and end in the spring, and consultants may begin work three to six months after project award, provided the consultant’s contract with MTC is finalized and MTC has issued a Task Order. The project start date is dependent upon the timing of contract and Task Order approval. A sample program schedule follows, and may be modified as necessary for the current round of P-TAP:

September	MTC issues “call for projects”
October	P-TAP applications due to MTC
December	Program of Projects recommended to Commission for approval MTC notifies Project Sponsor of their award status
February	Program kick off meeting Contracts between MTC and consulting firms approved
March/April	MTC issues Task Orders for work scope
June	Inspections begin for PMS projects, design work begins for PS&E projects
October	Inspections completed, draft PS&E prepared
December	Consultant provides draft report to Project Sponsor for review
February	Consultant revises draft report and submits final report for review
April	Project Sponsor reviews and approves final report

Project Selection: MTC is responsible for ensuring a competitive selection process to determine which projects shall receive funding. Projects will be selected on the basis of the scoring criteria that staff presented to the San Francisco Bay Area Partnership Technical Advisory Committee (PTAC) on September 21, 2009.

The criteria include:

Criterion	Weight
1) <u>Project scope:</u> Project Sponsors applying for PMS projects will receive higher scores	25%
2) <u>Number of centerline miles:</u> Project Sponsors with fewer centerline miles will receive higher scores	20%
3) <u>Prior P-TAP recipient:</u> Project Sponsors that have not recently received P-TAP funds will receive higher scores	30%
4) <u>Certification status:</u> Project Sponsors without current PMP certification will receive higher scores	25%

Other Considerations: MTC may consider the program budget for each year of P-TAP, and award the maximum number of projects to match the available funds. MTC may also consider an equitable distribution of project funds among the region's counties when selecting projects for a round of P-TAP.

Assignment Process: MTC matches Project Sponsors and consulting firms based on the following assignment criteria: (1) Project Sponsor preference; (2) geographic proximity; and (3) history of working with the consulting firm. Project Sponsors are encouraged to include their preference for a particular P-TAP consulting firm in their application. Geographic proximity may be assessed as either the proximity of the firm to the Project Sponsor, or the proximity of the firm's assigned project sponsors to one-another for quality control purposes. MTC reserves the right to assign Project Sponsors to work with a new firm after working with the same firm for three consecutive rounds of P-TAP.

Local Contribution: P-TAP requires a local contribution of 20% of the total project cost. The 20% local contribution is due to MTC within two months of project award. Local contributions subsidize the federal match (11.47%), provide a two-year subscription for StreetSaver®, and help to fund a portion of MTC's pavement management activities on behalf of local jurisdictions.

Project Cancellation: If an awarded project is cancelled, either at the request of the Project Sponsor or at MTC's discretion, funds may revert back to be reassigned to another project in that round of P-TAP, or the funds may be carried over to the next round. MTC may or may not reassign the funds from cancelled projects to the consulting firm that was first assigned to the cancelled project.

Changes to the Scope, Schedule or Cost of an Existing Project: To change the scope, schedule or total cost of a project, the Project Sponsor and consultant must obtain approval from MTC. The request for a change to the project shall include the reason for the change, and any schedule modifications must meet the program's final deadline.

Deliverables Checklists: MTC developed checklists that allow project sponsors to sign off on the consulting firm's work at four deliverable milestones. MTC shall withhold payment of the consulting firm's invoices until the deliverables checklists have been signed by a project sponsor. These checklists provide an additional level of project oversight.

Project Sponsor's Responsibilities: Project sponsors shall attend a P-TAP kick off meeting; work with their assigned consulting firms to develop a scope of work; review work deliverables in a timely manner and return signed deliverables checklists to the consulting firm within a reasonable amount of time (i.e., one week for reviewing checklists and two weeks for reviewing work deliverables); provide feedback on the project and the consultant's work. Project sponsors are required to sign and mail their certification letters to MTC within two weeks of receipt from their P-TAP consultant.

Addressing Complaints: MTC encourages project sponsors to work with their assigned consulting firms to address their concerns. If the consulting firm does not adequately address their concerns, project sponsors shall contact MTC's P-TAP Project Manager at the earliest extent possible, so that corrective actions may be discussed. The Project Manager shall

coordinate with the project sponsor and assigned consulting firm to generate corrective actions to resolve the concerns prior to the end of the P-TAP round and prior to acceptance of the final report.

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Project Oversight Measures and Project Assignment Criteria for P-TAP Consultants

1. Project Oversight

MTC has developed a Data Quality Management Plan for P-TAP, which includes quality control and acceptance measures and describes MTC's inspector certification program (see Appendix A).

2. Project Assignment Criteria

MTC reserves the right to distribute P-TAP funding and projects among the P-TAP consulting firms according to its discretion, and employs the following criteria when determining project assignments: (1) Project Sponsor preference (25%), (2) firm's past performance in P-TAP (25%), (3) firm's communication with MTC (15%), (4) experience of firm's staff (15%), and, if available, (5) feedback from Project Sponsors (20%).

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Appendix A

Data Quality Management Plan MTC Pavement Management Technical Assistance Program (P-TAP)

October 2012

DATA QUALITY MANAGEMENT PLAN COMPONENTS

PRE-QUALIFICATION

Pre-qualification of contractors is the first component of the pavement distress data quality plan. The pre-qualification process can ensure that the contracting agencies selected to participate in the P-TAP contracts are capable of collecting distress data that is reasonably close to what would be collected by an “expert” inspector. However, that does not ensure that the data collected during the network-level distress data collection is reasonably accurate at the desired resolution and precision desired. In this discussion, accuracy indicates that the distress identified is the correct distress, e.g. alligator cracking is identified as alligator cracking instead of block cracking. Resolution indicates that correct severity levels are identified, e.g. low severity longitudinal cracking is identified rather than ignored or high severity longitudinal cracking is recorded as high severity instead of low severity longitudinal cracking. Precision indicates that repeated inspections produce reasonably similar recorded distress type, severity, density combinations.

Pre-qualification Sites

The pre-qualification sites should be residential streets in a small geographic area of the city near the office building where MTC is located. Specific segments should be selected so that as many of the standard MTC seven asphalt surfaced distress types at the three severity levels as possible are included in at least one of the segments. The segments must be carefully inspected using a walking survey conducted by very experienced surveyors. Extensive photographs and distress maps must be completed on all segments included in the pre-qualification sites. The inspection data from these sites will be used to calculate the reference or “ground truth” PCI values of the segments. These segments must be full width of the paved surface by 100 feet long for the manual survey segments and twelve feet wide by 200 feet long for the semi-automated survey segments. The beginning and ending of each segment must be marked on the street, and the corners must also be also marked for the semi-automated segments. In all, two segments in very good condition (PCI greater than 75), two in very poor condition (PCI less than 20), and about fourteen in moderate condition (PCI less than 75 and greater than 20) should be selected to include in the pre-qualification process.

Data Collection by Potential Contractors

The potential contractors should inspect up to 20 segments within a short period of time after the reference inspection under the supervision of MTC or contracted staff. The distress data should be provided to MTC staff immediately after the inspections are completed so that they can be entered into the MTC StreetSaver[®] software by MTC or contracted staff to calculate the PCI values.

Acceptance Criteria

The following acceptance criteria should be used:

1. At least 50 percent of the PCI values for the inspected sections must be within +/- 5 PCI points of the reference, or “ground truth,” PCI values.

2. No more than in 12 percent of the PCI values for the inspected sections can be greater than +/- 15 PCI points of the reference, or “ground truth,” PCI values.

QUALITY CONTROL PLAN

Each qualified firm is responsible for providing quality data to the project sponsor and MTC. Each firm will be required to describe the qualifications of each inspector who will collect pavement distress data, including training and experience. If new inspectors will be assigned to collecting pavement distress data, the data collection contractor will need to describe the training and supervision that will be exercised during their “internship” period. The qualifications of the new inspectors must be provided to and approved by MTC before they will be allowed to conduct inspections without the direct supervision of experienced inspectors.

All firms should describe the data verification processes that they will employ to validate accuracy, resolution and precision of the data collected. “Accuracy” indicates that the distress is identified correctly, e.g., alligator cracking is identified as alligator cracking instead of block cracking. “Resolution” indicates that severity levels are identified accurately, e.g., low severity longitudinal cracking is identified and recorded rather than omitted. “Precision” indicates that repeated inspections produce reasonably similar recorded distress type, severity and density combinations. Data verification processes must include:

1. Periodic re-inspection of “control” sections by inspection teams at least once every two weeks.
2. Re-inspection of at least 5 percent of the sections previously inspected within one month of completing inspections. The same inspection team may do the re-inspections.
3. Re-inspection of at least 5 percent of the inspected sections by a supervisor.
4. Checks of collected data against prior inspection data and checks of calculated PCI values against PCI values based on prior inspection data projected to the inspection date for the same section if no treatments have been applied since the prior inspection. All of those outside plus or minus 15 PCI point differences should be checked by a supervisor or other person approved by MTC.

The Quality Control Plan must define what results will be considered acceptable; at a minimum, results must meet the acceptance criteria as defined in the pre-qualification. The firm must also describe which remedial actions will be taken if the results of the data checks are not acceptable. The Plan must identify when, in what format, and how often the results of the quality control plan checks and corrective actions will be submitted to MTC. The Plan must also identify when the inspection results will be entered into StreetSaver[®] software, the PCI values calculated, and the results made available to MTC.

Even if a firm has pre-qualified, all of the firm's inspectors must be certified by MTC through the Inspector Certification Program. In order to be certified, inspectors must inspect test sites as directed by MTC, and achieve the required level of accuracy performing inspections as defined by the Acceptance Criteria in the Pre-qualification.

QUALITY ACCEPTANCE PLAN

If the data collection contractor does not meet the requirements of the data collection quality control plan or if MTC determines that the collected data does not meet the requirements established in the prequalification requirements, MTC can issue a stop work order and require corrective actions. This may include requiring the data collection contractor to re-qualify all of the inspection teams being used to collect data under the P-TAP contract, and re-inspecting all sections inspected since the last checks that showed the contractor was meeting contract requirements. Other less onerous corrective actions may be imposed by MTC on the data collection contractor. Multiple violations could result in termination of the data collection contract. MTC or its contracted staff will administer the Quality Acceptance Plan.

1) Administer Inspector Certification Program

Contractor pre-qualification does not insure that all inspectors are capable of inspecting with the desired level of accuracy. All inspectors employed by the qualified contractors will need to complete the inspection of sites as directed by MTC and achieve the same level of accuracy as defined by the Acceptance Criteria in Pre-qualification. Inspectors from other consulting firms and local agencies can be certified. The Inspector Certification Program consists of a field pavement distress survey test, and an online written test. Tests will be given up to twice a year. Upon successful completion of the tests, a certificate will be issued that is valid for two (2) years, and will be renewed upon passage of an inspection test.

2) Conduct Audits of Contractor's Quality Control Plan

MTC may wish to verify that the quality control plans adopted by the data collection contractors are being completed in a timely manner. MTC may conduct audits of the quality control plan results to ensure that the data collected by contractors are meeting the requirements established in their plans. The task will be to spot check or conduct a full audit of the Quality Control Plan from selected projects.

3) Verify Data Collected by Contractors

MTC may conduct data verification actions including at least some of the following:

1. Checks of collected data against prior inspection data and checks of calculated PCI values against PCI values based on prior inspection data projected to the inspection date for the same section if no treatments have been applied since the prior inspection.
2. Inspection of sections previously inspected by the data collection contractor.