CONTENTS

Introduction ........................................................................................................................................ v

DATA COLLECTION REQUIREMENTS & GUIDELINES ................................................................. 1

PASER DATA COLLECTION REGULATIONS ........................................................................... 3
   Roads that Must be Rated .......................................................................................................... 3
   Definition of “Federal-aid Eligible” ........................................................................................ 3

BASIC PAVEMENT INFORMATION ......................................................................................... 4
   Asphalt .................................................................................................................................... 4
   Concrete .................................................................................................................................. 4
   Sealcoat ................................................................................................................................... 4
   Brick ........................................................................................................................................ 5

PASER DESCRIPTORS VS. TAMC DEFINITIONS AND MICHIGAN-SPECIFIC INFORMATION .................. 5
   Michigan-specific Sealcoat Road Rating Guide ..................................................................... 6
   Michigan-specific Asphalt Road Rating Guide ...................................................................... 8
   Michigan-specific Concrete Road Rating Guide .................................................................... 9

RATING ROADS EFFECTIVELY ............................................................................................ 10
   How to Rate Road Effectively .............................................................................................. 10
   What to Assess to Rate Roads Effectively ............................................................................ 11

BOUNDARY SEGMENTS ......................................................................................................... 12

SPLITTING SEGMENTS .......................................................................................................... 12
   Guidelines for Splitting Segments ........................................................................................ 12
   Good Reasons for Splitting Segments .................................................................................. 13
   Bad Reasons for Splitting Segments ..................................................................................... 13

SAFETY CONCERNS .............................................................................................................. 14
   General Safety ....................................................................................................................... 14
   Seating within the Vehicle .................................................................................................... 14

DATA COLLECTION PROCEDURES .................................................................................. 15

TAMC/MICHIGAN PASER DATA COLLECTION DETAILS .................................................... 17
   Federal-aid Data Collection versus Paved Non-Federal-aid Data Collection .................. 17
Collection Timeline .................................................................................................................. 17
Rating Teams .......................................................................................................................... 17
Required Tools......................................................................................................................... 18
Corrections for the Framework Map ....................................................................................... 19
Reimbursement ......................................................................................................................... 19
Working with Smaller Cities and Villages .............................................................................. 19
DATA COLLECTION CYCLE ................................................................................................. 20

FEDERAL-AID DATA COLLECTION ................................................................................. 21
Step 1: Identify your TAMC network for data collection ..................................................... 23
Step 2: Export TAMC network for use with the LDC ......................................................... 25
Step 3: Send a copy of TAMC network to the CSS ........................................................... 27
Step 4: Import the network into the Laptop Data Collector (LDC) ...................................... 28
Step 5: Connect the GPS to your laptop and begin collecting data .................................... 29
Step 6: Export collected data from the LDC ...................................................................... 33

Non-FEDERAL-AID DATA COLLECTION .......................................................................... 35
Step 1: Identify your local (or non-Federal-aid) network for data collection ....................... 37
Step 2: Export your local (or non-Federal-aid) network for use with the LDC ................... 39
Step 3: Import the network into the Laptop Data Collector (LDC) ..................................... 43
Step 4: Connect the GPS to your laptop and begin collecting data .................................... 44
Step 5: Export collected data from the LDC ...................................................................... 46

COLLECTED DATA SUBMISSION PROCESS ......................................................... 47
Step 7: Import the collected data to Roadsoft .................................................................. 49
Step 8: Export Roadsoft asset management data for the regional version of Roadsoft ...... 52
Step 9: Import Roadsoft asset management data from the local agency into the regional version of Roadsoft ................................................................. 53
Step 10: Export shape file and submit to TAMC ............................................................... 55

PASER Data Quality Control Guide ...................................................................................... 57

APPENDICES ...................................................................................................................... 63
Appendix A – PASER Michigan-Specific Cheat Sheet ........................................................... 65
Appendix B – Michigan’s Regional Planning Organizations .................................................. 67
Appendix C – Michigan’s Metropolitan Planning Organizations .......................................... 68
Appendix D – New Midland Area Transportation Study (MATS) Boundary ....................... 69
Appendix E – PASER Certification/ Training Requirement Policy ........................................ 70
Appendix F – Policy & Memo for Collection of (Paved) Non-Federal-Aid Eligible Road/Street Condition Data.......................................................................................................................................................... 74
Appendix G – Framework Correction Form.................................................................................................................................................. 80
Appendix H – Data Collection Timesheet .................................................................................................................................................. 83
Index ........................................................................................................................................................................................................... 85
The Pavement Surface Evaluation and Rating (PASER) system is a visual survey method for evaluating the condition of roads. The method was developed by the University of Wisconsin Transportation Information Center to provide a simple, efficient, and consistent method for evaluating road condition. Michigan’s Transportation Asset Management Council (TAMC) has adopted the PASER system for measuring statewide pavement conditions in Michigan.

This manual describes the requirements and processes involved in collecting PASER data for the TAMC in conjunction with the RPO/MPOs. It also includes information on how to split segments, rate sealcoats, and double-check collected PASER data in Roadsoft.

Part of the TAMC’s mission is to obtain accurate PASER data that provides a clear view of the condition of the road network in Michigan. The TAMC uses these ratings to communicate the condition of Michigan roads to the Michigan Legislature. At the local level, this data serves as the foundation upon which to build cost-effective pavement maintenance strategies.

The TAMC chose Roadsoft—a roadway management system for collecting, storing and analyzing data—for use in developing its statewide pavement rating collection strategy. Roadsoft is funded through the Michigan Department of Transportation (MDOT) and developed, supported, and distributed by Michigan Technological University’s Center for Technology & Training (CTT).

The TAMC also works in conjunction with Michigan’s Regional/Metropolitan Planning Organizations (RPO/MPO) to collect PASER data. Although these regional organizations operate under many different names and serve a variety of different areas, they all participate in coordinating and performing PASER data collection.
DATA COLLECTION REQUIREMENTS & GUIDELINES
PASER DATA COLLECTION REGULATIONS

According to Act 51 (P.A. 499 2002, P.A. 199 2007) each local road agency shall annually report the mileage and condition of the road and bridge system under their jurisdiction to TAMC. To fulfill the requirement of this Act each year TAMC sets requirements for road condition data collection and submission by road-owning agencies in Michigan. Road condition rating is eligible for reimbursement from TAMC if the required training is attended and proper documentation is submitted at the end of the collection process (see Data Collection Procedures section for details).

Roads that Must be Rated

Paved Roads: At least 50% of Federal-aid eligible, paved roads must be rated. Each rated roads with a paved surface requires four categories of data:

<table>
<thead>
<tr>
<th>Assessment Parameter Category</th>
<th>How Parameter is Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface type</td>
<td>Asphalt, concrete, sealcoat, composite, brick, unpaved</td>
</tr>
<tr>
<td>PASER number</td>
<td>1-10</td>
</tr>
<tr>
<td>Number of lanes</td>
<td>Number of through lanes and continuous left-turn lanes only</td>
</tr>
<tr>
<td>Crew</td>
<td>Crew members’ names</td>
</tr>
</tbody>
</table>

Unpaved roads: Unpaved road inventory should be collected for unpaved roads in the Federal-aid-eligible system; these roads only require surface type data. Collection teams will collect all information on unpaved road types (unpaved roads with an unimproved earth surface or with a gravel surface can be classified at the local agency’s discretion) within their network (50% of the Federal-aid eligible) for collection each year. Based on current estimates, unpaved roads are approximately 4% of the Federal-aid system.

Definition of “Federal-aid Eligible”

According to Title 23 of the United States Code1, Federal-aid eligible roads are “highways on the Federal-aid highway systems and all other public roads not classified as local roads or rural minor collectors.” This definition can be stated in terms of National Functional Classification (NFC), where the NFC is 1, 2, 3, 4, or 5 for rural/urban or 6 for urban only where one or both sides of the road are on or within an urban boundary (RU_L > 1 or RU_R > 1). NFC codes are defined as:

1 – Interstates
2 – Other Freeways
3 – Other Principal Arterials
4 – Minor Arterials
5 – Major Collectors
6 – Minor Collectors
7 - Local
0 or uncoded – not a certified public road

RU_L | 1 Rural/Urban designation left
RU_R | 1 Rural/Urban designation right

For paved Federal-aid data collection, the council collects PASER data based on the above definition of Federal-aid eligible so you will not be collecting PASER data on Rural Minor Collectors. Using the Roadsoft query of “Federal Aid = True” will take this change into account and give you the correct network conforming to the current definition.

**BASIC PAVEMENT INFORMATION**

The three main PASER manuals used by Michigan are for asphalt, concrete, and sealcoat pavements. The PASER manual for brick is also used as brick is reported, but it is not widely needed. These can be found at [http://www.ctt.mtu.edu/asset-management-resources](http://www.ctt.mtu.edu/asset-management-resources) or [http://michiganltap.org/paser-resources](http://michiganltap.org/paser-resources).

**Asphalt**

Hot-mix asphalt is a pavement type with the top structural layer being HMA. Generally, a structural hot-mix asphalt layer has a thickness of 1.5” or more.

Composite pavements should be rated with the asphalt rating system but should be inventoried as a composite pavement. A composite pavement is an old concrete pavement that has an asphalt overlay.

A chip seal or a sealcoat on top of an asphalt pavement should also be rated with the asphalt rating system. This type of pavement is not considered a sealcoat pavement because the asphalt below is considered the structural layer.

**Concrete**

A concrete pavement is a pavement composed of a riding surface of concrete. This pavement should be rated using the rating system outlined in the *Concrete PASER Manual*.

**Sealcoat**

A sealcoat pavement is an unpaved road with a sealcoat (chip seal) surface treatment. There is no full-width structural layer of asphalt in a sealcoat pavement. This pavement should be rated with the modified Michigan sealcoat rating system, which uses a 1-to-10 scale.
**Brick**

The rating scale in the *Brick and Block PASER Manual* is 1-2-3-4. To be consistent with other pavement rating scales, the brick and block scale must be doubled resulting in 2, 4, 6, and 8 as ratings while maintaining the original definitions from the manual. A rating of 10 is reserved for brick and block pavements that are in “like new” condition and less than one-year old.

---

**PASER DESCRIPTORS VS. TAMC DEFINITIONS AND MICHIGAN-SPECIFIC INFORMATION**

The PASER system was created for use in Wisconsin and not for the Michigan T AMC. When using the PASER system in Michigan, data collectors need to be aware of a few changes. These changes provide simplified and uniform data collection and increases reporting accuracy to the Michigan Legislature.

Each rating in the PASER manuals includes written descriptors (excellent, very good,…failed, etc.) that are part of the rating category name and give an overall impression of the state of each rating. The PASER manuals’ descriptors are not based on any formal definition relating to the quality of the pavement. They should not be confused with the formal definitions of *Good, Fair*, and *Poor* that the Michigan T AMC has developed and uses for reporting. The original PASER descriptors and the T AMC definitions are as follows for asphalt and concrete pavements:

<table>
<thead>
<tr>
<th>Rating</th>
<th>PASER Descriptor</th>
<th>T AMC Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 &amp; 9</td>
<td>Excellent</td>
<td>Good</td>
</tr>
<tr>
<td>8</td>
<td>Very Good</td>
<td>Fair</td>
</tr>
<tr>
<td>7 &amp; 6</td>
<td>Good</td>
<td>Fair</td>
</tr>
<tr>
<td>5</td>
<td>Fair</td>
<td>Poor</td>
</tr>
<tr>
<td>4</td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Poor</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Very Poor</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Failed</td>
<td></td>
</tr>
</tbody>
</table>

The T AMC groups the 1-to-10 rating scale into three categories (Good 8-10, Fair 5-7, Poor 1-4) based upon a definition that relates to the type of work that is typically required for each rating grouping (routine maintenance, capital preventive maintenance, and structural improvement).

In T AMC nomenclature, roads that are considered “Good” have a PASER of 8, 9, or 10. This category includes roads that only require routine maintenance, that have been recently seal coated, or that are newly constructed. Routine maintenance is the day-to-day, regularly-
scheduled, low-cost activities to prevent water from seeping into the surface. These activities include street sweeping, drainage clearing, gravel shoulder grading, and crack sealing. “Good” roads require little or no maintenance beyond routine maintenance.

Roads that are considered “Fair” have a PASER of 5, 6, or 7. Roads in this category still show good structural support but their surface is starting to deteriorate. Capital preventive maintenance (CPM) addresses pavement problems of “Fair” roads before the structural integrity of the pavement has been severely impacted. CPM is a planned set of cost-effective treatments applied to an existing roadway that slows further deterioration and that maintains or improves the functional condition of the system without significantly increasing the structural capacity. The purpose of CPM fixes is to protect the pavement structure, slow the rate of deterioration, and/or correct pavement surface deficiencies.

According to TAMC, roads that are considered “Poor” have a PASER of 1, 2, 3, or 4. These roads exhibit alligator cracking and rutting. Road rutting is evidence that the underlying structure is beginning to fail and it must be either rehabilitated with a fix like a crush and shape or totally reconstructed. “Poor” roads require structural improvement (SI) such as resurfacing or major reconstruction.

**Michigan-specific Sealcoat Road Rating Guide**

The PASER system rates a sealcoat road (sealcoat over a gravel base) on a scale of 1 to 5; however, the TAMC established their own rating system on a 1 to 10 scale. Thus, all surface types in the paved road network are rated on the same, standardized rating scale. In Michigan, the sealcoat scale is based on the relative percent of distress observed in the pavement; however, the *Sealcoat PASER Manual* should be used to help identify distress, but it should not be used for its rating scale.

**Using a Percentage Approach**

The Michigan sealcoat scale assesses the percentage of distress over a cross section of the total length of the segment under consideration. The observed distresses are:

- Edge distress
- Lane distress (including rutting)
- Raveling

These percentages are not cumulative. If none of the observed surface distress percentages exceeds the upper limit of a rating description outlined in the sealcoat rating chart, then that description rating is your selection. For example, consider a cross section of the roadway segment: it can be 50 ft. long or 1-mile long. A sealcoat with a rating of 5 allows up to 20% raveling, 20% edge distress, or 20% lane distress. If your assessment yields 10% raveling, 5% edge distress and 20% lane distress, the rating is 5 because none of the distresses exceeds 20%. It is not a rating of 6 because the 20% lane distress exceeds the 10% criteria, and it is not a rating
of 4 because edge distress and lane distress percentages do not exceed the 20% limit for 5. Cumulative total distress is irrelevant for this rating system.

Consult the table—Michigan Sealcoat Rating Guide Table—on the following page for specific rating criteria.

**Michigan Sealcoat Rating Guide Table**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Condition / defects</th>
<th>Remedy / action</th>
<th>Typical age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Good</td>
<td>New construction</td>
<td>None</td>
<td>&lt; 1 year</td>
</tr>
<tr>
<td>9</td>
<td>Good</td>
<td>Like new</td>
<td>None</td>
<td>1 to 3</td>
</tr>
<tr>
<td>8</td>
<td>Good</td>
<td>First signs of distress</td>
<td>Routine maintenance</td>
<td>3 to 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limited edge distress</td>
<td>Minor edge seal</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Fair</td>
<td>Minor distress</td>
<td>Minor asphalt or spray-injection patching</td>
<td>4 to 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge distress with limited lane, distress &lt;5%, OR Raveling &lt; 5%</td>
<td>Possible single application sealcoat</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Fair</td>
<td>Moderate distress</td>
<td>Moderate asphalt or spray-injection patching</td>
<td>5 to 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge distress up to 10%, Lane distress up to 10%, OR Raveling up to 10%</td>
<td>Single application sealcoat</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Fair</td>
<td>Distressed</td>
<td>Moderate asphalt or spray-injection patching</td>
<td>6 to 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge distress up to 20%, Lane distress up to 20%, OR Raveling up to 20%</td>
<td>Single application sealcoat</td>
<td>With up to 50% double application sealcoat</td>
</tr>
<tr>
<td>4</td>
<td>Poor</td>
<td>Edge distress up to 30%, Lane distress up to 30%, OR Rutting of ½” to 1”</td>
<td>Asphalt or spray-injection patching and double application sealcoat</td>
<td>7 to 9</td>
</tr>
<tr>
<td>3</td>
<td>Poor</td>
<td>Edge distress up to 50%, Lane distress up to 50%, OR Rutting of 1” to 2”</td>
<td>Wedge and /or asphalt or spray-injection patching and double or triple application sealcoat</td>
<td>8 to 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May be necessary to crush and reshape prior to new sealcoat surface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Poor</td>
<td>Edge distress &gt; 50%, Lane distress &gt; 50%, OR Rutting greater than 2”</td>
<td>Reconstruct by crush and shape prior to new sealcoat surface, possible return to gravel</td>
<td>&gt; 9</td>
</tr>
<tr>
<td>1</td>
<td>Poor</td>
<td>Extensive distress</td>
<td>Reconstruct by crush and shape prior to new sealcoat surface, or return to gravel</td>
<td>&gt;10</td>
</tr>
<tr>
<td>0</td>
<td>Not rated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Michigan-specific Asphalt Road Rating Guide

Extent of Rutting

In the Asphalt PASER Manual and the Revised 2013 edition of the Asphalt PASER Manual, the extent of rutting for PASER 4 should be revised to ½”-1” rutting and PASER 3 should be revised to rutting of 1”-2” for Michigan-specific data collection (see the table, *Asphalt Road rating Guide: Changes for Michigan-specific Assessment of the Extent of Rutting*, below). Please note this in your *Asphalt PASER Manual* and refer to the PASER Cheat Sheet (see Appendix A) for additional information.

<table>
<thead>
<tr>
<th>Asphalt PASER Manual</th>
<th>Michigan-specific Asphalt Road Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASER 4</td>
<td>MI PASER 4</td>
</tr>
<tr>
<td>≤ ½ inch-deep rutting</td>
<td>revise to ½ –1 inch-deep rutting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asphalt PASER Manual, Revised 2013</th>
<th>Michigan-specific Asphalt Road Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASER 4</td>
<td>MI PASER 4</td>
</tr>
<tr>
<td>≤ ½ inch-deep rutting</td>
<td>revise to ½ –1 inch-deep rutting</td>
</tr>
<tr>
<td>PASER 3</td>
<td>MI PASER 4</td>
</tr>
<tr>
<td>½–2 inch-deep rutting</td>
<td>revise to 1–2 inch-deep rutting</td>
</tr>
</tbody>
</table>

Extent of Block Cracking

Because the descriptor “50% of the surface” is undefined for Michigan’s data collection, both versions of the asphalt PASER manual should be revised as follows: PASER 6—“Initial block cracking (6’-10’ Blocks)”, PASER 5—“Moderate block cracking (1’-5’ blocks)”, PASER 4—“Severe block cracking (less than 1’ blocks)”, and PASER 3—“Severe block cracking (alligator)” (see the table, *Asphalt Road Rating Guide: Changes for Michigan-specific Assessment of the Extent of Block Cracking*, below). Please note this in your *Asphalt PASER Manual* and refer to the PASER Cheat Sheet for additional information.
Pro-active Sealcoat Treatments on Asphalt PASER 9

The Asphalt PASER Manual has an automatic reset to a PASER 8 for “recent sealcoat” asphalt pavements. This guidance is meant to upgrade a pavement, not to downgrade it. If an agency chooses to perform a sealcoat treatment as pro-active preventive maintenance prior to a pavement exhibiting any distresses, then the Michigan-specific recommendation is to rate this road based on visible distress.

Michigan-specific Concrete Road Rating Guide

PASER 9 and Joint Rehabilitation

In the Concrete PASER Manual on page 17, the bottom photograph includes the description “RATING 9 Recent joint rehabilitation. Like new condition.” This example should be crossed out or noted as an extremely unlikely situation due to the fact that, by the time a concrete pavement requires joint rehabilitation, the original concrete slabs are rarely in a “like new condition” (without any distresses).

Asphalt Road Rating Guide:
Changes for Michigan-specific Assessment of the Extent of Block Cracking

<table>
<thead>
<tr>
<th>Asphalt PASER Manual</th>
<th>Michigan-specific Asphalt Road Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASER 6</td>
<td>MI PASER 6</td>
</tr>
<tr>
<td></td>
<td>Initial block cracking (6’-10’ blocks)</td>
</tr>
<tr>
<td>PASER 5</td>
<td>MI PASER 5</td>
</tr>
<tr>
<td>Block cracking, up to 50% of the surface</td>
<td>Initial block cracking (1’-5’ blocks)</td>
</tr>
<tr>
<td>PASER 4</td>
<td>MI PASER 4</td>
</tr>
<tr>
<td>Block cracking, over 50% of the surface</td>
<td>Severe block cracking (&lt; 1’ blocks)</td>
</tr>
<tr>
<td>PASER 3</td>
<td>MI PASER 3</td>
</tr>
<tr>
<td>Severe block cracking</td>
<td>Severe block cracking (alligator)</td>
</tr>
</tbody>
</table>
RATING ROADS EFFECTIVELY

How to Rate Road Effectively

Speed
Rating roads at high speeds can cause inaccuracy. Reviews conducted by the CTT’s PASER trainers have shown that teams that view roadways at lower speeds are much more likely to rate them accurately. Rating roads at high speeds can cause distresses to be missed and ratings to be higher than appropriate.

Lighting Conditions
Changes in lighting conditions and the time of day can influence how some distresses are perceived. Bright sunlight directly overhead may make surface texture defects or fine cracking hard to discern. Rating early in the morning or late in the afternoon on a sunny day while driving into the sun may also make it difficult to rate roads effectively. If lighting conditions are poor, slow down or stop to make sure that you are not overlooking any visual cues.

Trees cause shadows that can appear to be road distresses. Tree shadows on the road make for very difficult rating conditions. Options are to return to the location at a different time or drive at lower speeds.

Inclement Weather
PASER is a visual assessment system. Trying to rate pavement in the rain is ineffective. Road surfaces look different when they are wet—cracks look larger, puddles can hide distresses, and so forth. Teams should not rate roads when they are wet.

Group Dynamics
Teams need to be aware of group dynamics in their vehicles. Condition rating is supposed to be a group process. However, the process also needs to conform to PASER procedure. Teams should read the PASER descriptions closely and refer to the reference sheets for clarification.

Road Ownership, Use or Importance
Do not rate an important road less than the actual PASER. Do not confuse a management decision with rating. Road ownership, use, or importance does not change its distress rating.
Road Construction Projects

When rating a road currently under construction where the old pavement is gone, the road should be rated as if the construction were complete. Rate the existing pavement if construction limits are not established by road work (more than traffic control devices).

What to Assess to Rate Roads Effectively

Rate What You See

Don’t anticipate upcoming PASER data based on previous PASER data. Rate what you see. The value of the actual rating is a usable record of road improvements and ratings for managing costs and extending service life.

Rate the Worst Lane

If there is a difference in quality, select the worst lane for your rating.

Rate Distress, Not Ride Quality

Just because a road rides well does not mean that it has no distresses in need of capital preventive maintenance or structural improvement. This is especially true on a road with rutting and cracking in the wheel path, both of which can cause rapid deterioration. Conversely, an asphalt surface in relatively good condition with sealed longitudinal cracks often makes quite a bit of noise as tires pass over the expanded crack seal. More noise does not always mean severe distress. Do not let ride quality distort your ratings.

Make Careful Distress Observations on Light-colored Pavement

Oxidized pavements can be very light and often look gray or off-white, which causes distresses to be less visible. Flat lighting on an oxidized pavement can also hinder visibility of distresses.

Measure Rutting

It can be difficult to detect rutting when moving at high speeds on a sunny day. To help avoid incorrect rutting assessments, each regional office has a six-foot aluminum T-bar. By using this bar in conjunction with a tape measure, teams can quickly get a tangible assessment of the extent of rutting on a road where it is practical and safe to do so. It is the rating team’s decision to choose whether to measure rutting by physical assessment.
Paved Shoulders

For paved shoulders, rate the pavement from edge line to edge line and omit the shoulder condition. Shoulders are not rated because they are often constructed differently than the traveled way; they typically have a thinner structural layer so deterioration is different.

BOUNDARY SEGMENTS

Boundary roads (roads that fall between jurisdictions) often have non-standard characteristics and splits on the Roadsoft map. As a result, it may be unclear which jurisdiction is responsible for rating a boundary road. To eliminate potential data collection issues when rating boundary roads, follow these two rules:

Rule 1: Follow the Data Collection Procedures section of this manual carefully. The steps for collecting and submitting TAMC data are laid out in a specific order to prevent rated roads from being overwritten by unrated roads. If you deviate from the documented procedure, some of your rating data may be overwritten by unrated roads.

Rule 2: Rating teams should rate all boundary roads in their data collection networks regardless of ownership or maintenance responsibilities.

SPLITTING SEGMENTS

If a team encounters an undocumented change in the surface type or layout of a road (such as number of lanes), they should create a split in the Roadsoft map to reflect the change. Although the Roadsoft map initially splits all street and road segments on an intersection-to-intersection basis (node to node) or by using Act 51 boundaries (township/city/county), agencies can add road segment splits to denote changes in surface types or conditions.

Rating teams should respect segment splits previously created within Roadsoft by local agencies. However, the following guidelines will help you decide if introducing new splits is warranted while collecting TAMC data.

Guidelines for Splitting Segments

- If the area in question has received rehabilitation or reconstruction separate from the framework segment from which it came, then the segment in question should be split from the framework segment into its own designated rating segment.

- Avoid splitting segments into lengths of less than ¼ mile.
Good Reasons for Splitting Segments

Change in Surface Type
If the road surface changes (e.g., from asphalt to gravel, asphalt to chip seal, chip seal to gravel), then splitting a segment to reflect a change in surface type can ensure that the inventory collected is representative of the actual road conditions.

Number of Lanes
Commercial or development activity may require the addition of through lanes or continuous left-turn lanes within a given framework segment. Splitting a segment to reflect this addition will ensure that Roadsoft’s lane mileage inventory reflects the true mileage.

Intersection as a Unique Facility
Many intersections within a county/city system are extensions of segments, meaning their design, surface type, service life, and number of lanes is no different than the segment from which they stem. However, some intersections have significant changes in surface type and/or geometry. In these cases, it may be best to designate the intersection as a unique facility by making it a distinct segment.

Environmental Factors
Environmental factors can have a significant impact on a segment of road. For example, regular flooding or exceptional frost heave can cause severe damage to the roadway. Although this type of deterioration is rare, these segments should be designated as their own segment if they are longer than a ¼ of a mile. This helps to isolate the area needing rehabilitation or reconstruction.

Bad Reasons for Splitting Segments
The following cases do not affect the network as a whole and, therefore, do not warrant segment splitting:

- Change in PASER over a short stretch (e.g., 50 feet)
- Short right or left turn bay
- School zone
- Traffic count segments
SAFETY CONCERNS

General Safety
During data collection, you will be merging in and out of traffic, slowing down, pulling off to the shoulder for team discussions, and so forth; always take safety precautions! Driving the team vehicle is not something to be taken lightly. All the vehicles must be equipped with a warning light bar. Warning garments should be worn by raters that get out of the vehicle to view distress better or to measure rutting better. Above all, be sure to comply with your employer’s warning garment and safety procedure requirements.

Seating within the Vehicle
The best configuration for a three-person team is the rater in the front passenger seat, and the data entry person in the back seat. If the data entry person sits in the front seat with a laptop, they could be injured by an airbag discharge and can be distracting to the driver.
DATA COLLECTION PROCEDURES
TAMC/MICHIGAN PASER DATA COLLECTION DETAILS

Federal-aid Data Collection versus Paved Non-Federal-aid Data Collection

The Michigan TAMC collects data for Michigan’s Federal-aid road network. In addition, the TAMC requests submission of PASER data collected with or without reimbursement for Michigan’s paved non-Federal-aid road system. Submitting data sets for these two networks gives the TAMC a better understanding of Michigan road conditions. However, these two networks have different collection procedures—broken down into Federal-aid procedures (Steps 1-6, coded blue in this manual) and paved non-Federal-aid procedures (Steps 1-5, coded green in this manual)—by which you are to collect data in the Laptop Data Collector for import into Roadsoft; during the data submission process (coded blue in this manual), both sets of collected data can be imported together into Roadsoft (Step 7), exported into the regional version of Roadsoft (Steps 8 and 9), and submitted to the TAMC (Step 10).

Collection Timeline

- Data collection begins: April 1 of every year
- Data collection completed by: Last Friday in November
- Data submitted to the Center for Shared Solutions (CSS) by: First Friday in December

To schedule your Federal-aid PASER data collection, contact your RPO or MPO. See the maps in Appendix B, Appendix C, and Appendix D to determine your jurisdiction’s planning office. See http://miregions.com/michigan-planning-regions/ if you need contact information for an RPO or http://www.mtpa-mi.org/members.asp if you need contact information for an MPO.

Rating Teams

Federal-aid rating teams should be comprised of one member from MDOT, one member from the Act-51 jurisdiction’s RPO/MPO, and one member from the jurisdiction being rated (County, City, or Village). Non-Federal-aid data collection only requires one trained person from the agency or their representative.

Required training sessions

Anyone who participates in the annual PASER data collection of the Federal-aid system and who influences the rating activity must attend on-site PASER training in the same year the data collection occurs. In addition to attending one on-site session, raters who did not attend PASER training the year prior must attend one supplemental PASER webinar session.
The TAMC has instituted a testing and certification program for PASER data collectors who attended PASER training and collected PASER data for multiple years. The certification allows experienced raters to opt out of training in future years. The full certification/training requirement policy and a link to TAMC policy is attached as Appendix E for the Federal-aid system and as Appendix F for the paved non-Federal-aid road system.

Quality control

The RPO or MPO coordinating PASER data collection must review the collected data before sending it to the CSS. This quality control procedure is described in detail in Step 10 of the data-collection submission process.

Required Tools

Computer hardware

Data collection teams receive a laptop computer and a GPS unit from their RPO/MPO. However, it is best to have a second laptop in the vehicle just in case something goes wrong. Many county road commissions and cities now have laptop computers; consider using a second laptop for backup.

Computer software and data sets

Before you begin collecting road data for the data collection season, ensure that you are using the newest versions and the latest frameworks of Roadsoft and Laptop Data Collector, which are released by April 1 of the collection year. Visit http://www.roadsoft.org/Downloads for the newest version or for Roadsoft updates. If you have any questions or concerns, please call Roadsoft support at (906) 487-2102. The data collection process needs to start with the local agency’s Roadsoft data set, not with a regional version of Roadsoft. Collection teams should, therefore, use local data – not regional data – as a starting point.

Note that changes to data will only be sent to the TAMC if they were collected in the LDC. Ratings and changes in ratings should be initially entered in the LDC (not in Roadsoft) or the data will not be reported.

Replacement vehicles

If you need another vehicle, either use one from the county road commission or rent one. If you need to rent a vehicle, the MDOT rater should sign the rental agreement and purchase the extra insurance.
Corrections for the Framework Map

If a team suspects that they have discovered needed correction for their jurisdiction’s map, they should first place a short notation in the LDC memo field for that segment (select the Inventory tab). Consistent use of a tag such as “correction” can simplify creating a Roadsoft report containing these errors and the road segments where they are located. This information can be passed on to the CSS for correction.

Next, a team should create a Framework Map Change Request (see Appendix G) and submit it through Roadsoft or by printing a PDF of the form and sending it to:

Joshua Ross  
Michigan Center for Shared Solutions  
Romney Building, 10th Floor  
111 S. Capital Ave  
Lansing, MI 48933

You can also request changes by contacting Mr. Ross at (517) 373-7910 or rossj@michigan.gov.

Reimbursement

Data collection for Federal aid is reimbursable for qualified individuals. Non-Federal-aid collection reimbursement can be given if previously approved by the TAMC coordinator. Requests for prior approval to collect non-Federal-aid data for reimbursement and invoices for rating efforts (see Appendix H) should be submitted through your RPO/MPO to:

Roger Belknap  
Michigan Department of Transportation  
PO Box 30050  
425 W. Ottawa St.  
Lansing, MI 48909  
belknapr@michigan.gov

Unpaved inventory collection on the non-Federal-aid system will not be reimbursed. See current TAMC policies for current collection and reimbursement rules.

Working with Smaller Cities and Villages

Smaller cities and villages are often enthusiastic about the data collection process. However, it can be time consuming to visit smaller communities (i.e., communities that have 10 or 20 miles of Federal-aid eligible roads) in order to set up a Roadsoft network. If an agency has a limited number of miles in its jurisdiction, two options exist for including them in the data collection process.

In the latest versions of Roadsoft and the LDC, data collection exports from the LDC can be provided to small agencies as a means for transferring recently collected PASER data that were collected using an export from the county version of Roadsoft. This option should only be used
for small cities and villages with their permission because the historical road splits and historical data present in the small local agencies’ Roadsoft database will not be available to assist in collection activities. Medium to large cities and villages should collect data using an export from the agency’s version of Roadsoft as you would with a county.

Another option for dealing with very small agencies is to provide them with a report (i.e., of the PASER for the physical reference segment) and have them manually enter data in their version of Roadsoft.

Both of these options allow data collectors to use the collection networks they build at their road commission without having to stop and upload data for these small agencies. Data collection should be dealt with on a case-by-case basis.

**DATA COLLECTION CYCLE**

This figure shows the data collection cycle for assessing a road network; the steps in this figure correspond to the steps outlined in this section of the manual. Keep in mind that saving a backup during Step 6, signified by the green arrow (↑) above, is crucial: this backup file creates a save point that allows recovery of data from a previous save point or allows reverting of data to a previous save point. Make a copy of the backup file you exported in Step 6 and save it outside of Roadsoft. This Backup of Roadsoft data must be done prior to importing.
FEDERAL-AID DATA COLLECTION
Step 1: Identify your TAMC network for data collection

Make sure you are using the local agency’s copy of Roadsoft at the road commission, city, or village for which you will be collecting data. The decision of how to develop a TAMC network is being left up to agencies and Regional Coordinators. Remember that networks must include at least 50% of Federal-aid eligible road networks. These would include all roads that were not collected in the previous year.

In Roadsoft, create your TAMC network for your current year (CYYY):

i. Select the Road layer in the Map Layers window.

ii. Select Filter Builder:
   a. Right-click anywhere on the map.

iii. Add a criterion Federal Aid = True:
   a. Select Federal Aid from the fields list.
   b. Select equals (=) as the Operator.
   c. Select True as the Value.
   d. Select the Add button.

iv. Add a criterion of TAMC Collection Year <> PYYY (where PYYY should be your previous year):
   a. Select TAMC Collection Year from the fields list.
   b. Select not equals (<> as the Operator.
   c. Select PYYY as the Value.
   d. Select the Add button.

v. Save this Road Layer Filter:
   a. Select the Save option at the top of the dialogue box.
   b. Give the filter a name such as “CYYY TAMC Network”.
   c. Select Save.

⇒ This filter creates your new TAMC network.

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2 If you are collecting data for a paved non-Federal-aid project, follow the steps in the Paved Non-Federal Aid Data Collection section, which begins on page 35.
vi. Apply your new CYYY TAMC network as a selection:
   a. Select **Replace Selection**.
      ⇒ The *Selection Information: Road* window will populate with selection data.

vii. Examine your CYYY TAMC network on the map:
   a. Visually verify the selected segments are appropriate for rating this year: you should be collecting data for all roads not rated in PYYY. A full Federal-aid collection consists of PYYY data and CYYY data.

If you have any questions or issues creating your TAMC network for the current year, please refer to the Roadsoft Manual help documentation:

   [http://roadsoft.org/sites/roadsoft/files/manual/Roadsoft/Navigate_the_Map___Select_Assets/Use_the_Filter_Builder/Use_the_Filter_Builder.htm](http://roadsoft.org/sites/roadsoft/files/manual/Roadsoft/Navigate_the_Map___Select_Assets/Use_the_Filter_Builder/Use_the_Filter_Builder.htm)

Or, please call Roadsoft technical support at (906) 487-2102.
Step 2: Export TAMC network for use with the LDC

NOTE: For this step, do not select Export for LDC from the LDC menu; this method will code your data for local use only and will not transmit your data to the TAMC.

In Roadsoft, export your TAMC network for use with the LDC:

i. Open the Export to LDC dialogue box (see image below):
   a. Select the TAMC menu from the main menu options (Roadsoft menu bar).
   b. Select 1 - (County/City Does This) Export Data for LDC.
   ⇒ This opens the Export to LDC dialogue box.

ii. Locate the new TAMC network that you wish to export:
   a. Select Export Network in the Export to LDC window.
   b. Select the Select button that appears.
   c. Locate the TAMC network that you created in Step 1:
      - Type the name in the search field.
      - OR: Scroll through the list until you locate your network.
   d. Select the network.
   e. Select the Ok button.

continued on next page
iii. Define an *Export Path*:

   Tip: The Export Path is the location on your hard drive where you want to save the export file.

   a. Select the folder icon (button) to browse your hard drive for the location where you want the export file to be saved.

   OR: Type/paste your desired path into the textbox.

iv. Save the export file to the location you specified:

   a. Select the **Export** button.

   b. Select the **OK** button to close the window confirming a successful export.

   Roadsoft creates two files in the location you specified:

   - RStoLDC_[jurisdiction]_[date]_[time].ldcz
   - RStoLDC_[jurisdiction]_[date]_[time].zip

v. Copy the .ldcz file to a CD, flash drive, or other portable storage device.

   Tip: You will be transferring the .ldcz onto the laptop that has the LDC installed on it. *You will also be sending the .zip file to the TAMC for the purposes of 50% network reporting.*
Step 3: Send a copy of T AMC network to the CSS

The CSS requests data before and after collection. Therefore, your agency should submit a copy of the exported T AMC network to the CSS before beginning data collection.

i. Open your web browser (e.g., Microsoft Edge, Internet Explorer, Mozilla Firefox) and go to:

   http://www.mcgi.state.mi.us/MITRP/IRT/Data.aspx

ii. Select the Investment Reporting menu; then, select Data.

iii. Log in using your user ID and password.

iv. Select the Send sub-tab.

v. Choose the Other File button

vi. Select your jurisdiction from the dropdown menu.

vii. Select Browse to attach the .zip file you created in Step 2.

viii. Select Upload to submit the data to the T AMC.
Step 4: Import the network into the Laptop Data Collector (LDC)

In the LDC, import your TAMC network for data collection:

i. Connect the portable storage device containing the export file to your laptop.

   Tips: The export file is the .ldcz file (not the .zip file) created in Step 2 by the local agency.

ii. Complete the Roadsoft Laptop Data Collector v# Login dialogue box:

   a. Start the LDC.

      ⊛ The Roadsoft Laptop Data Collector v# Login dialogue box (see image below) will open.

   b. Enter the Crew (name/names of the person/people rating).

   c. Select a DB (database) by selecting the folder icon ( button) to locate the export file on the portable storage device.

      Tips: If you want to change your database while inside the LDC, select the File option from the main menu and then select Change DB (Import Data from Roadsoft).

   d. Select the Ok button.

      ⊛ This will import the network created in Step 1 into the LDC.
Step 5: Connect the GPS to your laptop and begin collecting data

A. Connect the GPS

   - **Tip** Complete the procedure below outside and free from buildings or other possible signal obstructions.

   i. Open the LDC on the laptop.

   ii. Make sure your GPS device is turned off; then, connect the GPS to your laptop using the serial or USB connection.

       - **Tip** If your GPS is on before connecting it, your mouse pointer may jump around erratically. If this happens, turn off your GPS, leave it connected, and restart your laptop.

   iii. Turn on your GPS and wait for it to acquire a position (this could take a couple of minutes).

   iv. Establish communication between the GPS and the LDC:

       a. Select the GPS option from the main menu in the LDC.

       b. Select **Start/Stop GPS Connection**.

       c. Wait a few minutes for the GPS and the LDC to locate your current position.

       ⇨ The LDC’s GIS map will snap to the GPS position.

       - **Tip** If your GPS fails to connect, wait several minutes and try to connect again. For additional assistance, please consult the Roadsoft Manual at: [http://roadsoft.org/sites/roadsoft/files/manual/Laptop_Data_Collector_(LDC)/Getting_Started/Connect_a_GPS/Connect_a_GPS.htm](http://roadsoft.org/sites/roadsoft/files/manual/Laptop_Data_Collector_(LDC)/Getting_Started/Connect_a_GPS/Connect_a_GPS.htm). Or, please contact Roadsoft technical support if the problem persists.

   **NOTE:** If you are on or near a road segment that is NOT part of the network that you imported into the LDC, the LDC will not snap to a segment on the map. Drive your vehicle toward a road that is part of the network so that the vehicle marker can snap to it. If this does not happen, restart the LDC or call Roadsoft technical support.
B. Collect data

i. Use the following shortcut keys to enter data into the LDC’s Road window Rating tab:

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl + S</td>
<td>Surface Type</td>
</tr>
<tr>
<td>Ctrl + 0–9</td>
<td>PASER</td>
</tr>
<tr>
<td>Shift + Ctrl + 0–9</td>
<td>Number of Lanes</td>
</tr>
<tr>
<td>Ctrl + Enter</td>
<td>Submit (save) Data</td>
</tr>
<tr>
<td>Ctrl + +/-</td>
<td>Zoom In/Out</td>
</tr>
<tr>
<td>Ctrl + Arrow keys</td>
<td>Pan the GIS Map</td>
</tr>
<tr>
<td>Ctrl + Space bar</td>
<td>Hold/Release Segment</td>
</tr>
</tbody>
</table>

For a complete list of shortcut keys, select the Help menu and then select Shortcut Keys.

IMPORTANT: While collecting data, back up every hour or as often as conveniently possible. From the main LDC menu select the File menu and then select Backup Database to create a data save point. If data collection spans multiple days, export the data every day and save a copy of the data file with a naming scheme of LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs (inserting appropriate identifiers in place of bracketed text) to a CD or flash drive.

NOTE: The History tab provides a history of PASER for the current segment. Viewing past PASER before rating a segment can influence the rating. To avoid possibly influencing the current rating based on past ratings, this grid will not be visible until you submit a rating for the segment.

ii. Verify that there are no unrated roads in your TAMC network:

   a. Select the File option from the main menu.
   b. Select Current DB Statistics.
   c. Verify that the Total Miles Not Yet Rated field displays 0.

   ⇔ If the field is zero, you have completed the data collection process and may proceed to Step 6 on page 35. Otherwise continue to step iii in the ‘Collect data’ process.

iii. Rate any remaining unrated segments:

   a. Select the File option from the main menu.
   b. Select Check for Unrated Segments.

   ⇔ The Unrated Segments dialogue box (see image right) will open.
   c. Highlight a row in the Unrated Segments dialogue box.

   ⇔ This selects the corresponding segment on the map.
d. Enter a rating for the segment in the Road window.

e. Repeat steps c and d until the list of unrated segments is completed.

f. Use the Refresh button to update the form.

⇒ When there are no more records in the grid, all segments have been rated and you may proceed to Step 6 on page 35.

**Scenario A: Agencies that must define their Federal-Aid Unpaved Road Network inventory**

Teams must drive the non-paved roads segments on the federal-aid system and verify the pavement type on the road segment if they have not done this already. Road segments that have a surface type currently set as “Undefined” must be validated by changing the surface subtype to the appropriate subtype. Select the Validate Surface Type button to save the data.

If the start- and end-point inventory data for the unpaved road segments are already current, teams can select each individual unpaved segment (which will be colored orange—see E. Sucker Creek Rd., which extends to the right in the image above) in the LDC and can then select the Validate Surface Type button without having to drive the entire segment.
Scenario B: Agencies that have *already* defined their Federal-Aid Unpaved Road Network inventory

If the start- and end-point inventory data for unpaved road segments are already current and accurate, a tool to mass-validate these segments can be found in the *File* menu of the LDC. Select the *File* menu and choose **Check for Unvalidated Non-Paved Segments** from the dropdown menu.

![Image of LDC interface with File menu highlighted]

In the **Unvalidated Non-Paved Segments** dialogue box, place a checkmark in the checkboxes next to each segment that will be validated using this tool. After checking all or some segments, select **Validate Checked Segments** to submit an inventory validation for the checked segments. All orange segments that are checked with this tool should now be colored green on the map to indicate that they have been validated.

NOTE: Only agencies that have accurate unpaved-road inventories for the Federal-aid system should use this tool.
Step 6: Export collected data from the LDC

In the LDC, export your TAMC data collection for use in Roadsoft:

i. Select the **File** option from the main menu in the LDC.

ii. Select **Export DB/Data to Roadsoft**.

   ⇒ The *Export Data to Roadsoft* window (see image below) will open.

![Export Data To RoadSoft window](image)

iii. Save the export file on your hard drive:

   a. Enter a location on your hard drive in the *Export Path* field.

   OR: Select the folder icon ( button) to browse your hard drive and find a location.

   b. Select the **Export** button.

   c. Select the **Ok** button once the Export Complete notice displays.

iv. Copy the “LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs” file to a portable storage device.

**VERY IMPORTANT:** The “LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs” file functions as a data save point that can be useful for data recovery/reversion purposes. The Roadsoft team strongly recommends that you save a copy of the file in a permanent archive every day to facilitate data recovery. This file can also be used to update small cities and villages with limited Federal-aid miles.

**PROCEED TO COLLECTED DATA SUBMISSION PROCESS – STEP 7-10** (pages 51-61) if you are not collecting and submitting paved non-Federal-aid data. Alternatively, proceed to the Non-Federal-Aid Data Collection section (Steps 1-5 on pages 39-48) if you are collecting and submitting paved non-Federal-aid data.
NON-FEDERAL-AID DATA COLLECTION
Step 1: Identify your local (or non-Federal-aid) network for data collection

Non-Federal-aid data collection can be either reimbursable or non-reimbursable (see Reimbursement on page 20); the collection process is the same regardless of reimbursement. While agencies are not required to collect non-Federal-aid data, agencies may find non-Federal-aid or local data to be useful for agency-specific needs or initiatives. Therefore, the process for developing a local collection network in Roadsoft is left up to the local agency’s discretion.

In Roadsoft, create your non-Federal-aid network3:

i. Select the Road layer in the Map Layers window.

ii. Select Filter Builder:
   a. Right-click anywhere on the map.

iii. Add a criterion Federal Aid = False:
   a. Select Federal Aid from the fields list.
   b. Select equals (=) as the Operator.
   c. Select False as the Value.
   d. Select the Add button.

iv. Optional: Add any other criteria that you want to use in defining your network.

v. Save this Road Layer Filter:
   a. Select the Save option at the top of the dialogue box.
   b. Give the filter a name such as “CYYY Local Network” or “CYYY Non-Fed-Aid Network” (where CYYY should be your current year).
   c. Select Save.
      ⇒ This filter creates your new local (or non-Federal-aid) network.

vi. Apply your new CYYY TAMC network as a selection:
   a. Select Replace Selection.
      ⇒ The Selection Information: Road window will populate with selection data.

3 If you are collecting data for a Federal-aid project for TAMC, use the steps for the Federal-aid Data Collection track, which begins on page 21.
vii. Examine your CYYY Local (or Non-Fed-Aid) network on the map:
    a. Visually verify the selected segments are appropriate for rating this year.

If you have any questions or issues creating your local or non-Federal-aid network for your current year, please refer to the Roadsoft Manual help documentation:

http://roadsoft.org/sites/roadsoft/files/manual/Roadsoft/Navigate_the_Map___Select_Asets/Use_the_Filter_Builder/Use_the_Filter_Builder.htm

Or, please call Roadsoft technical support at (906) 487-2102.
Step 2: Export your local (or non-Federal-aid) network for use with the LDC

There are two ways of exporting a local or non-Federal-aid collection network from Roadsoft for use in the LDC. The first option is TMC Export, which allows you to gather road rating and number of lanes; the second option is Export for LDC, which allows recording of more data. Although both options can be used to collect road ratings, use the Export for LDC option when the collection requires more than road rating and number of lanes. Agencies should choose the process that best fits their needs.

A. TMC Export Option

The TMC Export option will automatically tag your data for TMC. You can use this option for all non-Federal-aid collection. However, this option allows you to gather road rating and number of lanes data only.

i. Open the Export to LDC dialogue box (see image below):
   a. Select the TMC menu from the main menu in Roadsoft.
   b. Select 1 - (County/City Does This) Export Data for LDC.
      ⇒ This opens the Export to LDC dialogue box.

   ![Export to LDC Dialogue Box](image)

ii. Find the non-Federal-aid network that you wish to export:
   a. Select Export Network in the Export to LDC window.
   b. Select the Select button that appears.

continued on next page
c. Locate the non-Federal-aid network you saved in Step 1:
   - Type the name in the search field.
   - OR: Scroll through the list until you locate your network.

d. Select the network.
e. Select the **Ok** button.

iii. Define an *Export Path*:
   
   **Tip** The Export Path is the location on your hard drive where you want to save the export file.

   a. Select the folder icon (button) to browse your hard drive for the location where you want the export to be saved.

iv. Save the export file to the location you specified:
   a. Select the **Export** button.
   b. Select the **Ok** button to close the window confirming a successful export.

   ⇒ Roadsoft creates two files in the location you specified:
   - RStoLDC_[jurisdiction]_[date]_[time].ldcz
   - RStoLDC_[jurisdiction]_[date]_[time].zip

v. Copy the .ldcz file to a CD, flash drive, or other portable storage device.
   
   **Tip** You will be transferring the .ldcz file onto the laptop that has the LDC installed on it.

B. Export for LDC Option

The *Export for LDC* does not automatically tag your data. This option is useful for collection additional data like signs, guardrails, and culverts for local purposes. During this process, you will have an opportunity to opt for automatic tagging of your data for the TAMC (see Step 2.B.i.c on page 43 and Step 7.iii on page 52).

i. Open the *Export to LDC* dialogue box (see image below):
   a. Select the **LDC** menu from the main menu in Roadsoft.
   b. Select **Export for LDC**.

   ⇒ A message box will open asking “Are you collecting Road Data for TAMC?”

*continued on next page*
c. Confirm whether this data collection is for TARC:

- Select the **Yes** button if this non-Federal-aid data collection is specifically for TARC; then, refer to Step 2.A.ii.

  The *History* tab provides a history of PASER for the current segment. Viewing past PASER data before rating a segment can influence the rating. To avoid possibly influencing the current rating based on past ratings, this grid will not be visible until you submit a rating for the segment.

- OR: Select the **No** button if this non-Federal-aid data collection is specifically for local use; then refer to Step 2.B.ii.

  Note that local-use data can still be sent to TARC (Step 7.iii’s Note on page 52). Selecting the No button will allow you to edit all road inventory data and to view historical ratings prior to entering a rating.

  ⇒ The **Export to LDC** dialogue box will open.

ii. Select the **Road** checkbox in the Export to LDC dialogue box (see image below).
iii. Locate the non-Federal-aid network that you wish to export:
   a. Locate the non-Federal-aid network you saved in Step 1:
      • Type the name in the search field.
      • OR: Scroll through the list until you locate the network.
   b. Select the network.
   c. Select the Ok button.

iv. Define an Export Path:

   The Export Path is the location on your hard drive where you want to save the export file.
   a. Select the folder icon (button) to browse your hard drive for the location where you want the export to be saved.
   OR: Type/paste your desired path into the textbox.

v. Save the export file to the location you specified:
   a. Select the Export button.
   b. Select the Ok button to close the window confirming a successful export.
   ⇒ Roadsoft creates one file in the location you specified:
      • RStoLDC_[jurisdiction]_[date]_[time].ldcz

vi. Copy the .ldcz file to a CD, flash drive, or other portable storage device.

   You will be transferring the .ldcz file onto the laptop that has the LDC installed on it.
Step 3: Import the network into the Laptop Data Collector (LDC)

In the LDC, import your non-Federal-aid network for data collection:

i. Connect your portable storage device containing the export file to your laptop.
   
   **Tips** Insert the portable storage device that contains your export file—the .ldcz file (not the .zip file) created in Step 2—from the local agency.

ii. Complete the *Roadsoft Laptop Data Collector v# Login* dialogue box:
   
   a. Start the LDC.
      
      ⇒ The *Roadsoft Laptop Data Collector v# Login* dialogue box (see image below) will open.
   
   b. Enter the *Crew* (name/names of the person/people rating).
   
   c. Select a *DB* (database) by selecting the folder icon (button) to locate the export file on the portable storage device.
   
   d. Select the *Ok* button.
      
      ⇒ This will import the network created in Step 1 into the LDC.

![Diagram of the *Roadsoft Laptop Data Collector Login* dialogue box showing database information and options to collect data.]

**NOTE:** If you want to change your database while inside the LDC, select the *File* menu, then select *Change DB (Import Data from Roadsoft)*.
Step 4: Connect the GPS to your laptop and begin collecting data

A. Connect the GPS

**Tip** Complete the procedure below outside and free from buildings or other possible signal obstructions.

i. Open the LDC on the laptop.

ii. Make sure your GPS device is turned off; then, connect the GPS to your laptop using the serial or USB connection.

**Tip** If your GPS is on before connecting it, your mouse pointer may jump around erratically. If this happens, turn off your GPS, leave it connected, and restart your laptop.

iii. Turn on your GPS and wait for it to acquire a position (this could take a couple of minutes).

iv. Establish communication between the GPS and the LDC:
   a. Select the **GPS** option from the main menu in the LDC.
   b. Select **Start/Stop GPS Connection**.
   c. Wait a few minutes for the GPS and the LDC to locate your current position.
   
   ⇒ The LDC’s GIS map will snap to the GPS position.

**Tip** If your GPS fails to connect, wait several minutes and try to connect again. For additional assistance, please consult the Roadsoft Manual at: [http://roadsoft.org/sites/roadsoft/files/manual/Laptop_Data_Collector_(LDC)/Getting_Started/Connect_a_GPS/Connect_a_GPS.htm](http://roadsoft.org/sites/roadsoft/files/manual/Laptop_Data_Collector_(LDC)/Getting_Started/Connect_a_GPS/Connect_a_GPS.htm). Or, please contact Roadsoft technical support if the problem persists.

**NOTE:** If you are on or near a road segment that is NOT part of the network that you imported into the LDC, the LDC will not snap to a segment on the map. Drive your vehicle toward a road that is part of the network so that the vehicle marker can snap to it. If this does not happen, restart the LDC or call Roadsoft technical support.

continued on next page
B. Collect data

i. Use the following shortcut keys to enter data into the LDC’s Road window Rating tab:

- Ctrl + S: Surface Type
- Ctrl + 0–9: PASER
- Ctrl + : Number of Lanes
- Ctrl + Enter: Submit (save) Data
- Ctrl + +/–: Zoom In/Out
- Ctrl + Arrow keys: Pan the GIS Map
- Ctrl + Space bar: Hold/Release Segment
- Shift + Ctrl + 0–9: Number of Lanes

For a complete list of shortcut keys, select the Help menu and then select Shortcut Keys.

**IMPORTANT:** While collecting data, back up every hour or as often as conveniently possible. From the main LDC menu select the File menu and then select Backup Database to create a data save point. If data collection spans multiple days, export the data every day and save a copy of the data file with a naming scheme of LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs (inserting appropriate identifiers in place of bracketed text) to a CD or flash drive.

ii. Verify that there are no unrated roads in your TAMC network:

   a. Select the File option from the main menu.
   b. Select Current DB Statistics.
   c. Verify that the Total Miles Not Yet Rated field displays 0.

   If the field is zero, you have completed the data collection process and may proceed to Step 6 on page 35. Otherwise continue to step iii in the ‘Collect data’ process.

iii. Rate any remaining unrated segments:

   a. Select the File option from the main menu.
   b. Select Check for Unrated Segments.

   If the Unrated Segments dialogue box (see image right) will open.
   c. Highlight a row in the Unrated Segments dialogue box.

   This selects the corresponding segment on the map.
   d. Enter a rating for the segment in the Road window.
   e. Repeat steps c and d until the list of unrated segments is completed.
   f. Use the Refresh button to update the form.

   When there are no more records in the grid, all segments have been rated and you may proceed to Step 5.
Step 5: Export collected data from the LDC

In the LDC, export your data collection for use in Roadsoft:

i. Select the **File** option from the main menu in the LDC.

ii. Select **Export DB/Data to Roadsoft**.

   The *Export Data to Roadsoft* window (see image below) will open.

![Export Data to Roadsoft window](image)

iii. Save the export file on your hard drive:

   a. Enter a location on your hard drive in the *Export Path* field.

   OR: Select the folder icon (button) to browse your hard drive and find a location.

   b. Select the **Export** button.

   c. Select the Ok button once the *Export Complete* notice displays.

iv. Copy the “LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs” file to a portable storage device.

**VERY IMPORTANT:** The “LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs” file functions as a save point that can be useful for data recovery/reversion purposes. The Roadsoft team strongly recommends that you save a copy of the file in a permanent archive every day to facilitate data recovery.

PROCEED TO COLLECTED DATA SUBMISSION PROCESS – STEPS 7-10 (pages 47-59) if you are not collecting and submitting Federal-aid data. Alternatively, proceed to the Federal-aid Data Collection section (Steps 1-6 on pages 21-24) if you are collecting and submitting paved Federal-aid data.
COLLECTED DATA SUBMISSION PROCESS
Step 7: Import the collected data to Roadsoft

IMPORTANT: Before you import new data into Roadsoft, create a data save point for your existing Roadsoft database. To do so, select the Tools menu and then select Backup Roadsoft Database from the dropdown menu. Select a location where you would like to save your file using the file folder icon at the end of the Backup File field to set the location; select the Ok button. Then, select Create Backup.

i. Open the Import Data From LDC dialogue box (see image below):
   a. Select the TAMC menu from the main menu in Roadsoft.
   b. Select 2 - (County/City Does This) Import TAMC PASER Data from LDC.
      ⇒ The Import Data from LDC dialogue will open.

   ![Import Data From LDC Dialogue Box]

   ![Import LDC Data Dialogue Box]

   continued on next page

ii. Import your LDC data:
   a. Select the Browse for LDC Export button.
   b. Locate the “LDCtoRS_[jurisdiction]_[date]_[time].ldc2rs” file.
   c. Select Import LDC Data.
      ⇒ The Import LDC Data dialogue box (see image below) will open.
IMPORTANT: If the network being imported was created using the Export for LDC process and you selected the No button in the TAMC road data message box (see pages 42-43), two windows come up to clarify whether the included data is to be submitted to TAMC: the Submit PASER Data to TAMC? window and the TAMC PASER Rating Requirements window.

iii. The Submit PASER Data to TAMC? window (see image below) requires Yes/No verification:

   - This window should not appear for Federal-aid submission; if it does, the Federal-aid network was set up incorrectly and was not created as a TAMC export.
   - Select the Yes button if you plan to submit the data to TAMC.
   - Select the No button if you do not want the data included in the TAMC submission in Step 8.

![Submit PASER Data to TAMC?](image)

iv. The TAMC PASER Rating Requirements window (see image below) will open if the Yes button was selected.

   - Select the Yes or No button as appropriate to reflect whether the data meets non-Federal-aid road PASER data collection requirements.
   - This will determine whether the data will be included in the TAMC submission in Step 8.

![TAMC PASER Rating Requirements](image)

continued on next page
v. Create a backup of your LDC data prior to importing:
   a. Select the **Yes** button in the *Import LDC Data* dialogue box to open the *Roadsoft Database Manager* and create a backup; proceed with importing your collected data.
      OR: Select the **No** button to skip the backup and continue with the import.
   ⇒ Roadsoft will automatically restart when the import process is complete.
Step 8: Export Roadsoft asset management data for the regional version of Roadsoft

i. Open the Export TAMC Data to Region dialogue box (see image below):
   a. Select the TAMC menu from the main menu in Roadsoft.
   b. Select 3 - (County/City Does This) Export TAMC PASER Data to Region.
      ⇒ The Export TAMC Data to Region dialogue box will open.

   ![Export TAMC Data To Region](image)

   The Export Path is the location on your hard drive where you want to save the export file.
   a. Select the folder icon ( button) to browse your hard drive for the location where you want the export to be saved.
      OR: Type/paste your desired export path into the textbox.
   b. Select the Export button.

   Tip: This .tamz file will be sent to your region for import into their Roadsoft database.

   ![Guideline](image)

   Roadsoft will create a file named “TAMC_[jurisdiction]_[date]_[time].tamz” in the location you specified.

   Tip: This .tamz file will be sent to your region for import into their Roadsoft database.

   ![Guideline](image)

   Tip: This .tamz file will be sent to your region for import into their Roadsoft database.

   ![Guideline](image)
NOTE: This step is not performed in the field; it should be performed at the regional office to import inspection data from individual agencies.

IMPORTANT: Before you import new data into Roadsoft, back up your existing Roadsoft database. To do so, open the Tools menu and then select Backup Roadsoft Database from the dropdown; select Create Backup. Select a location where you would like to save your file using the file folder icon at the end of the Backup File field to set the location; select the Ok button. Then, select Create Backup.

i. Open the Import TAMC Data From Local Jurisdiction dialogue box (see image below) in the regional Roadsoft database:
   a. Select the TAMC menu.
   b. Select 4 - (Region Does This) Import TAMC PASER from County/City.
      ⇢ The Import TAMC Data From Local Jurisdiction dialogue box (see image below) will open.

![Import TAMC Data From Local Jurisdiction](image)

ii. Find the local agency’s Roadsoft data collection that you wish to import:
   a. Select the Browse For LDC Export button.
   b. Locate the “TAMC_[jurisdiction]_[date]_[time].tamz” file.
   c. Select the Import LDC Data button.
      ⇢ An import dialogue box will open.

continued on next page
iii. Create a backup of your Roadsoft data prior to importing:

   a. Select the **Yes** in the import dialogue box to open the Roadsoft Database Manager and create a backup; proceed with importing your collected data.

   OR: Select the **No** button to skip the backup and continue with the import.

   ⇒ Roadsoft will automatically restart when the import is complete.

**NOTE:** The **Import Roadsoft Data** screen lists the last four folders from which you imported. If this is the first time you are importing data, the screen will appear blank.
Step 10: Export shape file and submit to TAMC

NOTE: Once your regional data are complete, export the regional shape file to the CSS.

i. Verify your regional data before proceeding:
   a. Follow the steps in PASURE Data Quality Control Guide (next page).

ii. Open the Export TAMC ShapeFile Data for Council dialogue box (see image below):
    a. Select the TAMC menu from the main menu in Roadsoft.
    b. Select 5 - (Region Does This) Export TAMC Shape File to Council (Individual County Files).

    ⇒ The Export TAMC ShapeFile Data for Council dialogue box will open.

    NOTE: Do not use the standard Roadsoft shapefile export procedure [File > Export layer to File (Shapefile)] as it is different than TAMC export.

iii. Define you export variables in the Export TAMC ShapeFile Data for Council dialogue box:
    a. Select the county you wish to export using the dropdown menu in the County tab.
    b. Define you Export Path:
       • Select the folder button to the right of the Export Path field to browse your hard drive for the location where you want the export to be saved.

continued on next page
c. Select the **Export** button.

⇒ This will export the data to the specified export path. The filename that is created will contain the county and year of data. (e.g. AlconaCYYY.zip, where CYYY should be your current collection year).

iv. Upload the exported file to the TAMC through the CSS Investment Reporting Tool (IRT):

a. Repeat Step 3 from the Federal-aid Data Collection procedure on page 27; *however, you must choose the PASER button rather than Other File in Step 3v.*
PASER Data Quality Control Guide

It is important to ensure that your PASER data are accurate and comprehensive. It is easiest to check for errors in data at the local and regional levels before submitting data to the TAMC. Data quality control can be performed by entering a series of queries into the Filter Builder in Roadsoft. The following steps will guide you through this process and ensure that your agency has a complete set of PASER data.

NOTE: Changes to data will only be sent to the TAMC if they were collected in the LDC or hand-entered in the region version of Roadsoft. Rating and changes in ratings should be initially entered in the LDC (not in Roadsoft) or data will not be reported. Data entered into Roadsoft (rather than being collected in the field) will result in missing data when the final collection file is sent to the TAMC.

Step 1: Determine the total length of your network

i. Open the Filter Builder either by clicking with your right mouse button on the map in the Map window and selecting Filter Builder, or by selecting the map toolbar’s Filter button and selecting Filter Builder.

ii. In the Filter Builder window, select Open to open the Load Saved Filter window.

iii. Select your saved TAMC network for the current collection year and select the Ok button.

iv. Look at the bottom left of the Filter Builder window (see image below) and record the number of total Miles. You will use this number, along with additional criteria, to verify that your regional PASER data are correct.

continued on next page…
**PASER Data Quality Control Guide, continued**

**Step 2: Determine the total length of paved segments in your network**

i. Open the *Filter Builder* either by clicking with your right mouse button on the map in the *Map* window and selecting *Filter Builder*, or by selecting the map toolbar’s *Filter* button and selecting *Filter Builder*.

ii. In the *Filter Builder* window, select *Open* to open the *Load Saved Filter* window.

iii. Select your saved TAMC network for the current collection year and select the *Ok* button.

iv. Add Criteria of *Surface Type = Asphalt, Concrete, Seal Coat, Brick* and select the *Add* button. Look at the bottom left of the *Filter Builder* window. Record the number of *Paved Miles*. You will use this number, along with additional criteria, to verify that your regional PASER data are correct.

![441 Segments Found (155.17 Miles)](image)

**Step 3: Verify that your agency’s TAMC data are accurate**

Using the filter criteria provided in the Table of Quality Control Queries (next page), you will be able to detect missing or incorrect data by comparing the miles in a particular query against your original *Miles* (generated in Step 1, above).

In the Table of Quality Control Queries:

- **Check**: lists the potential error for which the criteria checks
- **Criteria**: lists the criteria that need to be entered into the network and *Filter Builder*
- **Expected Output**: lists the segments/mileage that should display at the bottom left of the *Filter Builder* after adding the criteria
- **Troubleshooting**: lists the most likely reason for not getting the expected outcome and steps to take to fix/obtain any inaccurate/missing data.

*continued on next page...*
Step 4: Spot-check number of lanes using the Roadsoft web integration tool

i. Create a legend for the number of lanes:

   NOTE: In Legend Builder, adjustments to the color, size, and style of features are made on the map to indicate different types of data. For example, an applied legend can help to differentiate between asphalt and gravel pavement types by applying colors respective to each type to road segments. The Legend Builder is available for all modules with the exception of Traffic Signal and Intersection. For a video tutorial on using the legend builder, visit: http://roadsoft.org/sites/roadsoft/files/manual/Roadsoft/Navigate_the_Map___Select_Assets/Video_Tutorial__Using_the_Legend_Builder.htm.

   a. Make the Road layer visible and active.
   b. Select the Show Legend button in the toolbar if the legend window is not open.
   c. Select the Open Legend… button to open the Legend Builder window.
   d. Select Lanes from the dropdown menu.
   e. Select either Unique Values or Range Values using the radio buttons at the top of the Legend Builder window.

   NOTE: Unique Values will allow you to assign different visual properties to each lane number. For example, “Lanes=0” on the map could be assigned a unique color, such as color red (see image below). Range Values will allow you to assign different visual properties for a range of lane number values. For example, all roads that have five to eight lanes could be assigned a unique color, such as blue (see image below).

   f. Select an item in the Items list to define its properties.
   g. Edit the properties in the Item Properties box until you are satisfied with the applied legend in the Preview box.
   h. Repeat steps 5 and 6 for all items in the Items list.
   i. Select the Apply button when all items in the Items list have been edited.

⇒ The legend is now applied.

continued on next page...
Step 4: Spot-check number of lanes using the Roadsoft web integration tool, cont’d.

ii. Select a random road segment.

iii. Right-click on the map.

iv. Select **Web Integration** from the dropdown menu.

v. Select **Open Location in Google Maps** or **Open Location in Bing Maps**.
   ⇒ A web browser will open up a map of the location.

i. Select the street view.

ii. Verify the correct number of lanes is assigned to the segment.

iii. Repeat steps 1-6 for additional segments.
Table of Quality Control Queries

Ensure you have recorded the miles within your TAMC network (Step 1, above) before you use the following table. When your miles are used in combination with these queries, these figures will help you verify the accuracy and completeness of the data you collected for TAMC.

<table>
<thead>
<tr>
<th>Check</th>
<th>Criteria</th>
<th>Expected Output</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check to see that all mileage in TAMC network have been rated</td>
<td>TAMC Collection Year = current year</td>
<td>Number of miles recorded in Step 1</td>
<td>There are segments that did not receive a rating. Missing rating data must be collected and entered in the LDC.</td>
</tr>
<tr>
<td>Check to see if all submitted segments have a valid surface type</td>
<td>TAMC Collection Year = current year</td>
<td>Number of miles recorded in Step 1</td>
<td>There are undefined roads in the network. Validate these segment types using the LDC.</td>
</tr>
<tr>
<td></td>
<td><strong>Surface Type &lt;&gt; Undefined</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check to see if all submitted paved segments have a valid surface rating</td>
<td>TAMC Collection Year = current year</td>
<td>Number of miles recorded in Step 2</td>
<td>There are segments that have an invalid rating. These segments should be reviewed and rated in the LDC.</td>
</tr>
<tr>
<td></td>
<td><strong>Latest Surface Rating &gt;= 1-Failed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check to see if all submitted segments have a valid number of lanes</td>
<td>TAMC Collection Year = current year</td>
<td>Number of miles recorded in Step 1</td>
<td>There are segments that have an invalid number of lanes. Segments with invalid lanes should be reviewed and corrected in the LDC.</td>
</tr>
<tr>
<td></td>
<td><strong>Number of Lanes &lt;= The highest number of lanes within your TAMC network</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*An unusually high number of lanes in the drop down list could signify an error in entry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDICES
# APPENDIX A – PASER MICHIGAN-SPECIFIC CHEAT SHEET

**Asphalt PASER**

<table>
<thead>
<tr>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>New construction</td>
<td>Like new condition</td>
<td>Occasional transverse crack &gt;40° apart</td>
</tr>
<tr>
<td>No defects</td>
<td>No defects</td>
<td>Crack width tight (hairline) or sealed</td>
</tr>
<tr>
<td>Less than 1 year old</td>
<td>More than 1 year old</td>
<td>Few if any longitudinal cracks on joints</td>
</tr>
<tr>
<td>Only a “10” for 1 year</td>
<td>Recent base improvement</td>
<td>Recent seal coat or slurry seal (<em>see below</em>)</td>
</tr>
<tr>
<td><strong>Recent base improvement</strong></td>
<td><strong>a crash and shape</strong></td>
<td><strong>Little or no maintenance required</strong></td>
</tr>
<tr>
<td><strong>No action required</strong></td>
<td><strong>No action required</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Asphalt 7</strong></td>
<td><strong>Asphalt 6</strong></td>
<td><strong>Asphalt 5</strong></td>
</tr>
<tr>
<td>♦ Trans. cracks 10°-40° apart</td>
<td>♦ Trans. cracks less than 10° apart</td>
<td>♦ Secondary cracks (crack raveling)</td>
</tr>
<tr>
<td>♦ Cracks open &lt; ¾”</td>
<td>♦ Initial block cracking (6°-10° blocks)</td>
<td>♦ Moderate block cracking (1° - 5° blocks)</td>
</tr>
<tr>
<td>Little or no raveling</td>
<td>♦ Cracks open ¼” - ⅜”</td>
<td>♦ First sign of longitudinal cracks at edge</td>
</tr>
<tr>
<td>Few if any patches in good condition</td>
<td>Slight to moderate polishing or flushing</td>
<td>♦ Cracks open &gt;⅜”</td>
</tr>
<tr>
<td><strong>First signs of wear</strong></td>
<td><strong>No patches or few in good condition</strong></td>
<td>♦ Patching/wedging in good condition</td>
</tr>
<tr>
<td><strong>Suggested Action</strong></td>
<td><strong>Suggested Action</strong></td>
<td><strong>Moderate raveling</strong></td>
</tr>
<tr>
<td>Maintain with seal coat</td>
<td>Maintain with seal coat</td>
<td><strong>Extensive to superficial polishing</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Sound structural condition</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Suggested Action</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maintain with sealcoat or thin overlay</td>
</tr>
<tr>
<td><strong>Asphalt 4</strong></td>
<td><strong>Asphalt 3</strong></td>
<td><strong>Asphalt 2</strong></td>
</tr>
<tr>
<td>♦ Longitudinal cracking in the wheel paths</td>
<td>♦ &lt; 25% alligator cracking (first signs)</td>
<td>♦ &gt; 25% alligator cracking</td>
</tr>
<tr>
<td>♦ Rutting ½&quot; - 1&quot; deep</td>
<td>♦ Moderate rutting 1° - 2&quot; deep</td>
<td>♦ Severe rutting or distortion &gt;2&quot;</td>
</tr>
<tr>
<td>♦ Severe block cracking: &lt;1” blocks</td>
<td>♦ Severe block cracking (Alligator)</td>
<td>♦ Closely spaced cracks with erosion</td>
</tr>
<tr>
<td>Severe surface raveling</td>
<td>Longitudinal &amp; transverse cracks</td>
<td>♦ Frequent potholes</td>
</tr>
<tr>
<td>Multiple longitudinal &amp; transverse cracks with slight crack erosion</td>
<td>Occasional potholes</td>
<td>♦ Extensive patches in poor condition</td>
</tr>
<tr>
<td><strong>Patching in fair condition</strong></td>
<td><strong>Patches in fair/poor condition</strong></td>
<td><strong>Suggested Action</strong></td>
</tr>
<tr>
<td><strong>First signs of structural weakening</strong></td>
<td><strong>First signs of structural weakening</strong></td>
<td><strong>Reconstruction with base repair</strong></td>
</tr>
<tr>
<td><strong>Suggested Action</strong></td>
<td><strong>Suggested Action</strong></td>
<td><strong>Crush and shape possible</strong></td>
</tr>
<tr>
<td>Structural overlay &gt; 2”</td>
<td>Structural overlay &gt; 2”</td>
<td></td>
</tr>
<tr>
<td><strong>Patching &amp; repair prior to a major overlay</strong></td>
<td><strong>Patching &amp; repair prior to a major overlay</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Milling would extend overlay life</strong></td>
<td><strong>Milling would extend overlay life</strong></td>
<td></td>
</tr>
</tbody>
</table>

**General TAMS PASER Rating Tips**

Rate surface distress, not ride quality. Be aware of cracks in the wheel path, they can be hard to see and don't affect the ride.

Disregard the shoulder. Rate only the drivable pavement, edge line to edge line.

Do not ignore reflective cracks. Rate them by assessing the type of crack they are (transverse, longitudinal, alligator...).

Rate the current surface condition. If construction is in progress (work is active), but you are driving on the old surface, go ahead and rate the new surface. Some barriers sitting on the side of the road is not construction in progress.

Rate what you see, not what distresses you think might happen in the future.

Rate roads with the same scrutiny regardless of their use, ownership or functional class.

Rate the lane with the worst condition when lanes have differing conditions. For variable surface types, rate the worst lane, and select it as the Surface Subtype.

**Crush & Shape** - A treatment is considered a reconstruct only if the base material is replaced or rehabilitated.

**Rutting** - Look for visual cues such as blow scars. Get out and measure using a straight edge and tape measure. Use caution!

**Rutting Revisions** – See page 8 of the TAMS PASER Training Manual for rutting measurement changes.

**Composite Pavement** - When a concrete pavement has been overlaid with asphalt (composite pavement) rate it based on the uppermost surface, in this case, asphalt; not the surface subtype as composite.

**Concrete Joint Repairs** - The highest rating a repaired concrete pavement can receive is a 9. No other defects can be present and the condition is "like new." However, this is not what the Concrete PASER Manual says.

**Sealcoat** - See pages 6-7 of the TAMS PASER Training Manual for rating sealcoat pavements. Sealcoat applied over asphalt is a treatment. A sealcoat "road" is simply sealcoat over gravel.

**Proactive Sealcoat treatments** - Do not downgrade an Asphalt PASER 9 or 10 (no defects) to an Asphalt PASER 8 because of this treatment. Rate it based on the distresses that are visible (see page 9 of TAMS PASER Training Manual).

---

2017 Michigan PASER Cheat Sheet V1.0
## Concrete PASER

<table>
<thead>
<tr>
<th>Concrete 10</th>
<th>Concrete 9</th>
<th>Concrete 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>New construction</td>
<td>Joint rehabilitation, only if no other defects are present</td>
<td>Joints all in good condition</td>
</tr>
<tr>
<td>No defects</td>
<td>Like NEW</td>
<td>Partial loss of joint sealant</td>
</tr>
<tr>
<td>Less than 1 year old</td>
<td>Slight traffic wear in wheel path</td>
<td>No transverse cracks</td>
</tr>
<tr>
<td>Only a “10” for 1 year</td>
<td>Slight map cracking</td>
<td>Minor surface defects - pop outs, map cracking or slight scaling</td>
</tr>
<tr>
<td>Recent reconstruction</td>
<td>Few pop outs</td>
<td>Isolated meander cracks (cracks are well-sealed or tight)</td>
</tr>
<tr>
<td>No action required</td>
<td>Recent concrete overlay</td>
<td>Light surface wear</td>
</tr>
<tr>
<td></td>
<td>No maintenance required</td>
<td>Isolated cracks at manholes (cracks are well-sealed or tight)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Little or no maintenance required</td>
</tr>
</tbody>
</table>

### Good

<table>
<thead>
<tr>
<th>Concrete 7</th>
<th>Concrete 6</th>
<th>Concrete 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated transverse cracks</td>
<td>Meander and transverse cracks ¾” open</td>
<td>First signs of crack/joint faulting up to ½”</td>
</tr>
<tr>
<td>Full depth repairs all in excellent condition</td>
<td>Transverse joints open ¼”</td>
<td>First signs of joint or crack spalling</td>
</tr>
<tr>
<td>Minor surface scaling</td>
<td>Longitudinal joints open ¼”</td>
<td>Moderate to severe scaling or polishing</td>
</tr>
<tr>
<td>Some open joints</td>
<td>Moderate surface scaling ≤25% of surface</td>
<td>between 25% to 50% of surface</td>
</tr>
<tr>
<td>Some manhole cracks</td>
<td>Several corner cracks tight or well-sealed</td>
<td>Spalling from shallow reinforcement</td>
</tr>
<tr>
<td>Isolated settlement or heave areas</td>
<td>First signs of shallow reinforcement cracks</td>
<td>Multiple corner cracks</td>
</tr>
<tr>
<td>Pop outs could be extensive but sound</td>
<td>Suggested Action: Seal open joints and cracks</td>
<td>Suggested Action: Grind and repair surface defects</td>
</tr>
<tr>
<td></td>
<td>Overlay surface raveling areas</td>
<td>Some partial depth joint repairs or patching may be needed</td>
</tr>
</tbody>
</table>

### Fair

<table>
<thead>
<tr>
<th>Concrete 4</th>
<th>Concrete 3</th>
<th>Concrete 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crack or joint faulting up to ½”</td>
<td>Severe crack or joint faulting up to 1”</td>
<td>Extensive and severely spalled slab cracks</td>
</tr>
<tr>
<td>Severe spalling on joints and cracks</td>
<td>D-Cracking evident</td>
<td>Extensive failed patches</td>
</tr>
<tr>
<td>Multiple transverse or meander cracks</td>
<td>Many joints, transverse and meander cracks open and severely spalled</td>
<td>Joints failed</td>
</tr>
<tr>
<td>Severe scaling, polishing, map cracking or spalling &gt;50% of surface</td>
<td>Extensive patching in fair to poor condition</td>
<td>Severe and extensive settlement &amp; heaves</td>
</tr>
<tr>
<td>Corner cracks missing pieces or patches</td>
<td>Suggested Action: Extensive full depth repairs</td>
<td>Suggested Action: Recycle or rebuild pavement</td>
</tr>
<tr>
<td>Pavement blowups</td>
<td>Some full slab replacements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suggested Action: Asphalt overlay or extensive surface texturing</td>
<td></td>
</tr>
</tbody>
</table>

### Poor

<table>
<thead>
<tr>
<th>Concrete 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted speeds</td>
</tr>
<tr>
<td>Extensive potholes</td>
</tr>
<tr>
<td>Total loss of pavement integrity</td>
</tr>
<tr>
<td>Suggested Action: Total reconstruction</td>
</tr>
</tbody>
</table>

---

**Contact Information**

Roadsoft & LDC Technical Support: 906-487-2102  
TAMC Coordinator: Roger Bellnap, 517-373-2249  
e-mail: bellnapr@michigan.gov  
TAMC Website: tamc.mcgi.state.mi.us

Center for Shared Solutions (CSS) Framework Issues:  
517-373-7910, ask for Josh Ross  
PASER Data Submission via the CSS IRT web site  
https://milqintp.michigan.gov

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2017 Michigan PASER Cheat Sheet V1.0
APPENDIX B – MICHIGAN’S REGIONAL PLANNING ORGANIZATIONS

Map Legend
1 Southeast Michigan Council of Governments
2 Region 2 Planning Commission
3 Southcentral Michigan Planning Council
4 Southwestern Michigan Commission
5 GLS Region V Planning Commission
6 Tri-County Regional Planning Commission
7 East Central Michigan Planning & Development Region
8 West Michigan Regional Planning Commission
9 Northeast Michigan Council of Governments
10 Northwest Michigan Council of Governments
11 Eastern Upper Peninsula Regional Planning and Development Commission
12 Central Upper Peninsula Regional Planning and Development Commission
13 Western Upper Peninsula Planning and Development Regional Commission
14 West Michigan Shoreline Regional Development Commission

*RPOs/MPOs responsible for PASER collection in Region 3 in 2013:
Kalamazoo Area Transportation Study (KATS) for Barry, Kalamazoo, St. Joseph, & Branch Counties
Battle Creek Area Transportation Study (BCATS) for Calhoun County
APPENDIX D – NEW MIDLAND AREA TRANSPORTATION STUDY (MATS) BOUNDARY
APPENDIX E – PASER CERTIFICATION/ TRAINING REQUIREMENT POLICY

Policy for Collection of Roadway Condition Data on Federal-Aid Eligible Roads & Streets

The Transportation Asset Management Council adopted this policy on June 1, 2016.

Introduction:
The Transportation Asset Management Council (TAMC) was established to expand the practice of asset management statewide to enhance the productivity of investing in Michigan’s roads and bridges. Part of the TAMC’s mission is to collect physical inventory and condition data on all roads and bridges in Michigan. This document describes the policy and procedures for collecting the physical inventory and condition data on the federal-aid eligible roads & streets of the State.

Requirements:
According to Act 31 (MCL 247.659a), each Local Road Agency and the Department of Transportation shall annually report to the TAMC the mileage and condition of the road and bridge system under their jurisdiction.

Michigan Department of Transportation (MDOT) Responsibility:

- Each MDOT Region must designate a MDOT Region Representative to be a source of contact for the TAMC. The Regional Representative is responsible for the following roles:
  1. The MDOT Region Representative is responsible for ensuring adequate staff participation with the annual data collection.
  2. The MDOT Region Representative is responsible for ensuring non-MDOT members of rating teams are provided with State of Michigan travel and reimbursement rate schedules at the start of the rating season.

Regional Coordination:

- Each Regional Planning Organization (RPO) or Metropolitan Planning Organization (MPO) must designate a Regional Coordinator to be a source of contact for the TAMC. The Regional Coordinator is responsible for the following roles:
  1. The RPO/MPO Coordinator is responsible for establishing the data collection schedule and communicating the dates for road rating with the respective MDOT Region staff and Act-31 Local Road Agencies.
  2. The RPO/MPO Coordinator is responsible for ensuring members of Rating Teams have received appropriate training and/or certification to participate in the collection of data.
  3. The RPO/MPO Coordinator is responsible to ensure daily time expense logs are accurately completed for each day of data collection; copies of all daily collection logs are to be submitted to the TAMC Coordinator as an attachment with any request for reimbursement.
  4. The RPO/MPO Coordinator is responsible for performing quality control checks of the data collected, including searches for missing information.
  5. The RPO/MPO Coordinator is responsible for submitting the completed PASER Data export to the Michigan Center for Shared Solutions (CSS).

Rating Teams:

- Rating Teams shall be comprised of one (1) member from the Michigan Department of Transportation (MDOT), one (1) member from the Regional / Metropolitan Planning Organization (RPO/MPO) and one (1) member or designee from the Act-31

1
Local Road Agency being rated (County, City/Village).

Training:
- Anyone who participates in the annual Pavement Surface Evaluation Rating (PASER) condition data collection of the federal-aid system and influences the rating activity MUST attend on-site PASER training in the same year the data collection occurs. This does not discourage observers from riding in the data collection vehicles for information purposes. Daily time expense logs are to identify all individuals within the data collection vehicle and identify each person as a rater or an observer. Observers will not be reimbursed by the TMC for their time.
- New raters (never attended PASER training before) and seasoned raters (who did not attend PASER training the year prior) MUST attend one (1) supplemental PASER webinar training session in addition to attending one (1) on-site session.
- Individuals that are PASER Certified Raters are exempt from on-site training as defined in PASER Certification Eligibility Requirements section of this policy.
- RPO/MPO coordinators are required to attend on-site training events every year regardless of their experience or certification status. RPO/MPO representatives are critical to the success of the PASER data collection effort, so it is important for them to continue to promote and support the program by attending on-site events.

PASER Certification Eligibility Requirements:
To be considered a candidate to take the PASER certification exam the individual must meet the following criteria:

1) All candidates: Six (6) or more years (not including current year) of attendance of PASER on-site training as verified through the Center for Technology & Training (CTT) records.
2) Candidates that are licensed professional civil engineers: three (3) or more years (not including current year) of attendance of PASER on-site training as verified through CTT records.
3) Candidates rated a portion of their road network during TMC collection for the same number of years trained (not including current year). This will be supported by a signed letter from the individual stating their rating experience.
4) Attend the annual TMC PASER on-site training portion of the workshop as well as the examination administration portion of the workshop.

Certification Exam:
1) The written certification exam will be administered at the on-site sessions of PASER training to eligible candidates.
2) Candidates must pass the written certification exam during the on-site training sessions. The passing score is 70% correct or will be adjusted using the normal distribution (bell curve) of the scores depending on the difficulty of the exam questions at the discretion of CTT staff.
3) Candidates who do not pass the certification exam will be able to attend another on-site PASER training session during the same year and retake the exam as space and administration allows. Individuals may repeat examination sessions as many times in one year as space and administration allows.
4) The TMC will hold exam results and exam questions as documents that are not open to the public without a freedom of information act request to prohibit development of files of exam questions that can be used to memorize facts rather than learning concepts.

Certification Benefits and Responsibilities:
1) Certified raters are required to attend on-site PASER training every other year; i.e. a two (2) year cycle to recertify by taking the certification exam. For example:
   a. Current Year: Candidate is required to attend the annual TMC PASER on-site training portion of the workshop as well as the exam administration portion. If the
candidate passes the certification exam he/she is certified.

b. Year Two: The certified individual is not required to attend the annual PASER on-site training portion of the workshop or the exam administration portion. Certified individuals must attend one of the annual organizational webinars.

c. Year Three: Recertification – the certified individual is required to attend the annual PASER on-site training portion of the workshop as well as the exam administration portion to take the exam for recertification.

As data is collected and Quality Assurance/Quality Control verifies that quality data is being produced, the TMC may consider decreasing the required training certification frequency to once every three (3) years for certified individuals.

2) Certified individuals are required to attend an organizational webinar for updates to business rules and changes to the data collection process. This webinar is required to keep certified raters informed of new guidance in the program and provides raters with an opportunity to interact with TMC members.

Data Collection:

- The TMC will annually budget for data collection on 50% of the federal-aid network.
- Data collection must be consistent with the PASER collection business rules.
- The use of the Roadsoft Laptop Data Collector (LDC) is required.
- The first day for field data collection shall be the First Monday in April of each year.
- The last day for field data collection shall be the Last Friday in November of each year.

Data Submission:

- The RPO/MPO Coordinator is responsible for submitting the completed PASER data export to the Michigan Center for Shared Solutions (CSS).
- The RPO/MPO Coordinator MUST review the collected data before sending it to the Center for Shared Solutions (CSS) looking for missing entries (zeros), valid surface type, missing surface type, valid number of lanes, missing lane information and large jumps in PASER rating (up/down) in areas where treatments were not done.
- Data submittals must be accompanied by the data collection logs, identifying the rating team, routes taken, mileage, rating dates and times.
- Submittals must also contain a signed certification by the TMC Coordinator of the team that all members of the rating team had been appropriately trained, as specified above.
- The deadline for the RPO/MPO to upload data to CSS is the First Friday of December.

Data Standards:

- The export file from Roadsoft will be in an acceptable format. It is the user's responsibility to ensure that the correct file type is submitted.
- Instructions on how to prepare the federal-aid road network for the LDC and how to submit the collected data can be downloaded from the RoadSoft tab on the Support page of the TMC website: www.michigan.gov/tmc

Reimbursement:

Each RPO/MPO Coordinator must submit reimbursement requests through monthly or quarterly invoices from each RPO/MPO for all expenses related to training, data collection efforts, and quality control and data submission activities. Each rating team must complete daily time expense logs and a list that includes rater's names and agencies, as well as the MDOT certification that all raters were appropriately trained in order to be reimbursed by the TMC.

- Team members representing Act-51 Local Road Agencies (County, City/Village) will be reimbursed for relevant expenses related to the data collection effort (time,
travel, meals) via annual RPO/MPO project authorization with the TAMC; the TAMC
will not directly reimburse local Act-51 Local Road Agencies directly.
• The team member representing MDOT will be reimbursed by the TAMC via
annual approved budget for PASER review.
• The team member representing the RPO/MPO will be reimbursed via annual
project authorization with the TAMC.
• All travel and/or meal reimbursements will be processed according to State of Michigan
travel and meal rates.

If you have any questions relating to reimbursement and/or this policy as a whole, please contact:

TAMC Asset Management Coordinator
Michigan Department of Transportation
P.O. Box 30050, 425 W. Ottawa St. Lansing, MI 48909
(517) 333-2249
www.michigan.gov/tamc
APPENDIX F – POLICY & MEMO FOR COLLECTION OF (PAVED) NON-FEDERAL-AID ELIGIBLE ROAD/STREET CONDITION DATA

Policy for Collection of Roadway Condition Data on (Paved) Non-Federal Aid Eligible Roads & Streets

MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL

The Transportation Asset Management Council adopted this policy on 5.6.2009

Introduction:
The Transportation Asset Management Council (TAMC) was established to expand the practice of asset management statewide to enhance the productivity of investing in Michigan’s roads and bridges. Part of the TAMC’s mission is to collect physical inventory and condition data on all roads and bridges in Michigan. This document describes the policy and procedures for collecting the physical inventory and condition data on the (paved) non-federal aid eligible roads & streets of the State.

The TAMC encourages all Local Road Agencies to annually collect and report the physical inventory and condition data on their (paved) non-federal aid eligible roads as required by Act 51. The intent of this Policy is two-fold:

1. To provide agencies with guidance on complying with the requirements of Act 51;
2. To establish standards for data collection that allow agencies to be reimbursed by the TAMC.

Requirements:
According to Act 51 (P.A. 499 2002, P.A. 199 2007), each Local Road Agency and the Department of Transportation shall annually report to the TAMC the mileage and condition of the road and bridge system under their jurisdiction and the receipts and disbursements of road and street funds in the manner prescribed by the TAMC.

To assist agencies with this responsibility, the TAMC will annually budget funds to reimburse agencies for data collection on up to one-third of the State’s (paved) non-federal aid road system. At the beginning of each year the TAMC will identify and notify those agencies that are eligible to submit data for reimbursement. Agencies must certify in writing by the end of the first week of March that they intend to collect and submit data in the manner established by the TAMC. If following the certification deadline, funds budgeted for this purpose have not been fully committed; the TAMC may approve requests from other local agencies for data collection on the (paved) non federal-aid road system.
Written certification to collect data must be sent to:
Brian Sanada - Asset Management Coordinator
P.O. Box 30050
Lansing, MI 48909 or;
Email: sanadab@michigan.gov

Data Collection:
- Data collection must be consistent with the PASER collection business rules used on the Federal-Aid System.
- The use of the Roadsoft Laptop Data Collector (LDC) is required.
- The first day for field data collection shall be April 1st of each year.
- The last day for field data collection shall be the last Friday in November of each year.

Data Submission:
In order to be eligible for reimbursement, all agencies that participate in this effort will be required to provide an export shapefile from Roadsoft of the (paved) non-federal aid eligible roads and streets collected. Agencies will be responsible for submitting this Roadsoft export file to their Regional / Metropolitan Planning Organization (RPO/MPO). The RPO/MPO is responsible for initial quality control of the export file and to upload to the Michigan Center for Shared Solutions (CSS), through the Investment Reporting Tool (IRT). The deadline for the RPO/MPO to upload data to CSS is the first Friday in December.

Data Standards:
The export file from Roadsoft will be in a shapefile format. It is the user's responsibility to ensure that the correct file type is submitted. Exports containing text files are not accepted.

Instructions on how to prepare the local road network for the LDC and how to submit the collected data can be downloaded at the following website:


Reimbursement:
The TMC will reimburse each participating Local Road Agency for this effort at a rate as determined by the TMC. Agencies will be reimbursed by the TMC after confirmation has been received from the CSS that the correct Roadsoft export file has been received. Update by Coordinator: invoices must be sent by the agency that did the actual data collection to the Asset Management Coordinator for reimbursement stating the following:

1. The expense (based on mileage rate) for PASER rating collection on (paved) non-federal aid eligible roads and streets (not to exceed the original certified amount); and
2. The total number of miles rated; and
3. The name(s) of each rater.
MEMORANDUM

Date: February 17, 2017

To: Transportation Agencies of Michigan

From: Michigan Transportation Asset Management Council (TAMC)

RE: 2017 Collection of Paved Non-Federal Aid Eligible (PNFA) Roads and Streets

On May 6, 2009, the Transportation Asset Management Council (TAMC) established a policy to set aside a portion of the annual data collection budget to reimburse transportation agencies for collecting Pavement Surface Evaluation and Rating (PASER) data on Paved Non-Federal Aid (PNFA) roads and streets. Many local road agencies have taken part in this reimbursement program to the extent funds have allowed. The TAMC is also aware of many local road agencies that periodically collect PASER data on PNFA roads without reimbursement from the TAMC.

For 2017, funds for reimbursement of PNFA roads will be allocated in a first come-first served order until the budget of $37,000 is exhausted. Agencies that have received any TAMC PNFA reimbursements in 2015 or 2016 are not eligible for reimbursement for the 2017 program.

For locally collected PNFA PASER data collection expenses to be reimbursed by TAMC it must meet these following requirements:

- The call for reimbursement requests will begin on Wednesday, March 1, 2017 at 8:00 AM and end on Friday, March 3 at 5:00 PM. Please note: verbal requests or requests submitted before this timeframe will not be included. The TAMC Coordinator’s email address is belknapr@michigan.gov.

- Agencies are to submit their request via email to the TAMC Coordinator that they intend to collect and submit data in the manner established by the TAMC. The request shall come from a representative of the Act 51 Agency that certifies the roads to be rated. The request shall also include the total number of miles anticipated in the data collection effort.

- The season schedule for field data collection shall begin the first week of April and terminate on the last Friday in November.

Joanna Johnson, Chair – William McIntee, Vice Chair – Derek Bradshaw – Don Disselkooen – Dale Kerbyson

Roger Belknpr – Asset Management Coordinator
MURRAY D. VAN WADDERER BUILDING • P.O. BOX 30950 • LANSING, MICHIGAN 48909
www.michigan.gov/tmco • (517) 373-2549

77
TAMC PNFA Data Collection 2017
Page 2 of 3

- All agencies that participate in the data collection effort will be required to provide an export shapefile from Roadsoft of the PNFA roads and streets collected. Agencies will be responsible for submitting this RoadSoft export file to their regional or metropolitan planning (RPO/MPO) agency for initial quality control of the export file; upon review, the RPO/MPO will upload the data to the Michigan Center for Shared Solutions (CSS) through the Investment Reporting Tool (IRT) by the first Friday in December.

- The TAMC will reimburse each participating transportation agency for this effort at a rate of $11.55 per mile for 2017. Agencies will be reimbursed by their respective regional or metropolitan planning (RPO/MPO) agency after confirmation has been received from CSS that the correct Roadsoft export file has been received.

- Invoices must be created by the Act 51 agency that performed the data collection and submitted to their respective regional or metropolitan planning (RPO/MPO) organization. The invoice is to include the expense (based upon mileage rate) for PASER data collection, the total number of miles rated, and the names of each person on the data collection team. The RPO/MPO will submit the invoice to the TAMC Coordinator for payment; the RPO/MPO will then issue payment to the Act 51 Agency once the RPO/MPO has been reimbursed by MDOT.

The TAMC would like to request submission of PNFA PASER data that local or regional agencies may have collected for their own purposes. If an agency is currently collecting PNFA PASER data without TAMC reimbursement, the TAMC would like to kindly request submission of this data. Your submission of PNFA data, with or without reimbursement, allows the TAMC to have a better indication as to the status of the State’s local road system. Data submitted before December 15th of each year can be included in the TAMC Annual Report.

For locally collected PNFA PASER data to be accepted by TAMC and included in the 2017 TAMC Annual Report and other TAMC data products, it must meet the following requirements:

- Data Collection must be consistent with business rules taught in the annual TAMC PASER training. Business rules can be found in the current TAMC PASER Training Manual on the Michigan Tech University, Center for Technology and Training (CTT) web site. The latest version of this document can be found here: https://www.ctt.mtu.edu/sites/default/files/resources/paser/paser-training-manual.pdf.

- The use of the RoadSoft Laptop Data Collector (LDC) is required. See Section 2: Data Collection Procedure in the current TAMC PASER Training Manual for information on the use of RoadSoft and the LDC for this data collection, or call CTT’s technical assistance line at (906) 467-2102 for assistance or clarification of any of these steps.

Joanna Johnson, Chair – William McElree, Vice Chair – Derek Bradshaw – Don Diselkoen – Dale Kerbyson

Roger Bolkan – Asset Management Coordinator
MURRAY D. VAN WAGNER BUILDING • P.O. BOX 30600 • LANSING, MICHIGAN 48903
www.michigan.gov/tamc • (517) 370-2749

78
- Data collectors must be current on PASER training educational requirements consistent with other data collected by the TAMC.

The TAMC will continue to review our policy for collection of data on the PNFA roads. We appreciate local and regional transportation agencies commitment to asset management data collection to enhance the productivity of investing in Michigan's roads and bridges through coordination and collaboration among state, regional and local transportation agencies.

If you have any questions on requirements or how to submit data, please contact Roger Belknap, TAMC Coordinator, at (517) 373-2249.
APPENDIX G – FRAMEWORK CHANGE REQUESTS

If an agency needs to request a change to their base map, the agency must submit a request to the CSS, which makes all framework changes to the base map. These changes are typically delivered annually to the CTT for inclusion in Roadsoft.

Roadsoft includes a process by which agencies can create and manage framework map change requests. Framework map change requests are submitted to the CSS through Roadsoft only (not through the LDC).

To create and submit a framework map change request:

i. Zoom to the desired segment(s) requiring change(s) using the Roadsoft zoom tools.

ii. Select **Tools** from the main menu.

iii. Select **Create Framework Map Change Request**.

⇒ The *Framework Map Change Request* window (see image below) will open.

iv. Enter a clear and easily identifiable title for the change request in the *Title* field.

v. Enter a clear and thorough description for the change request in the *Description* field (see image above).

**NOTE:** *Submission to the CSS includes the Title and the Description in the change request.*

vi. Optional: Enter agency-specific comments in the *Personal Notes* field (see image above).
NOTE: Submission to the CSS does not include the Personal Notes in the change request.

vii. Select the **OK** button.

⇒ A new change request has now been created; it is not yet submitted.

viii. Select **Tools** from the main menu.

ix. Select **Manage/Submit Framework Map Change Requests**…

x. Select the desired framework change request from the list.

⇒ The *Submit FW Change* window (see image below) will open.

![Manage Framework Map Change Requests](image)

xi. Enter your name, agency, and e-mail in the *First Name*, *Last Name*, *Agency*, and *E-mail* fields respectively.

xii. Select the **Submit** button.

⇒ This will submit your new change request via e-mail to the CSS. An example of the form that the CSS will receive is shown below.

If you have any questions or issues creating and submitting your framework map change request, please refer to the Roadsoft Manual help documentation:


Or, please call Roadsoft technical support at (906) 487-2102.
Description:
Cobblestone Ct in Danby Twp should be a private drive.
This form is an example; please obtain appropriate Time Expense logs from your RPO/MPO.

TRANSPORTATION ASSET MANAGEMENT COUNCIL

2017 DATA COLLECTION - ROAD INVENTORY LOG

| CREW: Include members name and 2017 PASER Training Date or Certification Exam Date | Date: |
| M-DOT Region - | Name: | Date: |
| Planning Region - | Hours/Minutes Worked: |
| County - | |
| City - |

Please check the following work type:

| OFFICE WORK: | FIELD WORK: |

GEOGRAPHIC AREA: Please insert region, county, township, city, etc.

| MILEAGE LOG: |
| VEHICLE: | General Comments: |
| BEGIN MILE: |
| END MILE: |
| TOTAL: |

TOTAL MILES OF FED-AID ELIGIBLE ROADS INVENTORYED: ____________________________

Please fill out this form each day you perform Asset Management tasks. E-mail to chesbrog@michigan.gov. If you have any questions, please contact Gil Chesbro at 517-335-2963 (office) or 517-242-3535 (cell)
INDEX

A

Act 51 · 3, 17
boundaries · 12
alligator cracking · See Cracking
asphalt · See Pavement

B

back up data · See save point
second laptop · 18
back up database · 53
block cracking · See Cracking
boundary roads · See Boundary segments
boundary segments · 12
brick · See Pavement
bridge system · 3
condition · 3

C

capital preventive maintenance · 6, See Pavement maintenance
Center for Shared Solutions · 17, 18, 19, 27, 55, 80
send TAMC network · See Data collection procedures
Center for Technology & Training · v, 10
certification · See Testing and certification
certified public road, not · See NFC codes
cities, smaller · See Data collection procedures
Collected Data Submission Process · Also see Data submission
export Roadsoft asset management data · 52
export shape file and submit to TAMC · 55
import data to Roadsoft · 49
import Roadsoft asset management data into regional version · 53
composite · See Pavement
computer
GPS unit · 18, 26, 28, 29, 44
laptop · 18
concrete · See Pavement
CPM · See Capital preventive maintenance
cracking · 10, 11
alligator cracking · 6, 8
block cracking · 8, 9
Crew · See Roadsoft
CSS · See Center for Shared Solutions

CSS Investment Reporting Tool · 27, 56
Other File · 27, 56
PASER button · 56

CTT · See Center for Technology & Training

data collection · 5, 12
case-by-case basis · 20
collection networks, built at road commission · 20
collection networks, upload data from small agencies · 20
Federal-aid · See Data collection procedures
identify TAMC network · See Data collection procedures
maintenance (of road) · 12
network, Federal-aid-eligible roads · 23
network, non-Federal-aid-eligible roads · 35
Non-Federal-aid · See Data collection procedures
ownership (of road) · 12
PASER · 17, Also see Pavement Surface Evaluation and Rating
quality control · See Quality control
rating roads - construction · 11
rating roads - group dynamics · 10
rating roads - light-colored pavement · 11
rating roads - lighting conditions · 10
rating roads – measure rutting · 11
rating roads - oxidized pavements · 11
rating roads - paved shoulders · 12
rating roads - ride quality · 11
rating roads - road importance · 10
rating roads - road ownership · 10
rating roads - road use · 10
rating roads - speed · 10
rating roads - weather · 10
rating roads - what you see · 11
rating roads - worst lane · 11
regulations · 3
safety · 14
safety - vehicle warning light bar · 14
safety - warning garments · 14
safety procedures · 14
timeline · 17
vehicle · 18
vehicle seating · 14

Data Collection Cycle · 20
data collection procedures · 12, 15
back up data · See Save point
collect data · 29, 30, 44, 45
### Collecting Additional Data
- Deviate · 12
- Export data from LDC · 33, 46
- Export network for LDC, local/non-Federal-aid · 39
- Export network for LDC, TAMC · 25
- Federal-aid data collection · 21
- GPS connect · See LDC - GPS
- Identify network, local/non-Federal-aid · 37
- Identify network, TAMC · 23
- Import network into LDC, local/non-Federal-aid · 43
- Import network into LDC, TAMC · 28
- Multiple days · 30, 45
- Non-Federal aid data collection · 35
- Send network, TAMC network to CSS · 27
- Small cities · 19, 33
- Villages · 19, 33

#### Data Collection Timesheet
- 83

#### Data Submission
- Data from local agency · 53
- Export Roadsoft asset management data · 52
- Export shape file · 55
- Export the regional shape file · 55
- Federal-aid submission · 47
- Import data to Roadsoft · 49
- Import inspection data · 53
- Import Roadsoft asset management data · 53
- Regional version of Roadsoft · 53
- Submit to TAMC · 17, 55
- Timeline · 17
- Verify regional data · 55

#### Data, Historical
- See Roadsoft

### Federal-Aid Eligible
- 3, 4, 19, 23
- Paved roads · 3
- Unpaved roads · 3

### Federal-Aid System
- Certification requirement policy · 18
- Data collection procedures · 17, See Data collection procedures
- Federal-aid eligible · See Federal-aid eligible
- Paved roads · 3, 4
- Training · See Training
- Training requirement policy · 18

### Small Cities
- 19, 33

### TMC
- 27, 28

### Unpaved Roads
- 3
- Versus non-Federal-aid data collection · 17

### Field Work
- 53

### Framework Map
- Correction · 19
- Error · 19
- Framework Map Change Request · 80
- Framework Map Change Request · 19, 82

### GPS
- Unit · See LDC – GPS, See Computer

### Gravel
- 3, 6, 7, 13

### Intersections
- See Splitting segments
- Interstates · See NFC codes

### Jurisdiction
- See Map

### Lane Distress
- See Pavement distress

### Lanes
- See Number of lanes

### Laptop
- See Computer

### Laptop Data Collector
- See LDC

### LDC
- 17, 18, 19, 25, 28, 29, 33, 39, 43, 44, 46
- Backup Database · 30, 45
- Change database · 43
- Check for Unrated Segments · 30, 45
- Check for Unvalidated Non-Paved Segments · 32
- Current DB Statistics · 30, 45
- Data collected in · 18
- Define inventory, Federal-aid unpaved road network · 31, 32
- Error notation · 19
- Error tag · 19
- Export Data to Roadsoft window · 33, 46
- Export DB/Data to Roadsoft · 33
- Exports, small agencies · 19
- File menu · 30, 33, 43, 45, 46
- GPS menu · 29, 44
- GPS, connect · 26, 28, 29, 44
- Help menu · 30, 45
- History tab · 30, 41
- Inventory tab · 19
- LDC2rs file · 33, 45, 46, 49, Also see Roadsoft
ldcz file · 28, 40, 42, 43, Also see Roadsoft ldcz file
rating tab · 30, 45
released (date) · 18
Roadsoft · 30, 31, 45
Roadsoft Laptop Data Collector v# Login dialogue box · 28, 43
shortcut keys · 30, 45
tamz file · 53
total miles not yet rated · 30, 45
transferring to · 26, 40, 42
unrated roads · 30, 45
Unrated Segments dialogue box · 30, 45
Validate Checked Segments · 32
Validate Surface Type · 31
ldc2rs file · See Roadsoft – ldc2rs file OR LDC – ldc2rs file
ldcz file · See Roadsoft - ldcz file OR LDC-ldcz file
left-turn lanes · See Number of lanes
Legend Builder
create legend · 59
Item Properties · 59
Items · 59
Range Values · 59
Unique Values · 59
local · See NFC codes

M

major collectors · See NFC codes
map
framework · See Framework map
county map · See Framework map
Michigan’s Metropolitan Planning Organizations · 17, 68
Michigan’s Regional Planning Organizations · 17, 67
New Midland Area Transportation Study (MATS)
boundary · 17, 69
Open Location in Google Maps · See Web Integration
maps
Open Location in Bing Maps · See Web Integration
MDOT · See Michigan Department of Transportation
measuring pavement conditions · v
Memo for Paved Non-Federal-Aid-Eligible road/Street Data Collection · 74
Metropolitan Planning Organizations · See MPO
Michigan Department of Transportation · v, 17, 18, 19
Michigan Technological University · v
miles
paved miles · 58
miles not yet rated · See LDC
minor arterials · See NFC codes
minor collectors · See NFC codes
MPO · v, 17, 18, 19, 83
non-Federal-aid data collection · 17
paved roads · 17
policy · See Policy for Paved non-Federal-aid Data Collection
procedures · 17, See Data collection procedures
reimbursement · 17, 19, 37
training policy · 18
non-Federal-aid data collection policy · See Memo for Paved Non-Federal-Aid Data Collection
number of lanes · 3, 12, 13, 30, 39, 45, 60, See Splitting segments
continuous left-turn lanes · 3
Open Location in Bing Maps · See Web Integration
Open Location in Google Maps · See Web Integration
spot check · 59, 60
street view · See Web Integration
through lanes · 3

N

National Functional Classification · See NFC
network reporting, 50% · 26
NFC · 3
NFC codes · See NFC codes
NFC codes · 3
certified public road, not · 3
freeways · 3
interstates · 3
local · 3
major collectors · 3
minor arterials · 3
minor collectors · 3, 4
principal arterials · 3
rural area · 4
rural/urban designation left · 3
rural/urban designation right · 3
uncoded · 3
urban area, small · 4
urbanized area, large · 4
urbanized area, small · 4
non-Federal-aid data collection · 17
paved roads · 17
policy · See Policy for Paved non-Federal-aid Data Collection
procedures · 17, See Data collection procedures
reimbursement · 17, 19, 37
training policy · 18
non-Federal-aid data collection policy · See Memo for Paved Non-Federal-Aid Data Collection
number of lanes · 3, 12, 13, 30, 39, 45, 60, See Splitting segments
continuous left-turn lanes · 3
Open Location in Bing Maps · See Web Integration
Open Location in Google Maps · See Web Integration
spot check · 59, 60
street view · See Web Integration
through lanes · 3

P

PASER · v, 3, 4, 5, 9, 10, 11, 17, 18, 19, 30, 45
accurate · v
asphalt · 4, 8
asphalt, Michigan-specific · 8
brick · 5
brick, Michigan-specific · 5
change in · 13
Cheat Sheet (Michigan-specific information) · 8, 10, 65
collection · v, 3
cement · 4, 9
cementitious, Michigan-specific · 9
data collection · See Data Collection
data collection, quality control · See Quality control
PASER Certification/Training Requirement Policy · 18, 70
PASER Data Quality Control Guide · 55

pavement maintenance · See Pavement maintenance
paved roads
Federal-aid eligible · See Federal-aid eligible
Federal-aid system · See Federal-aid system
non-Federal-aid data collection · See Non-Federal-aid data collection
pavement
asphalt · 3, 4, 5, 7, 8, 11, 13
asphalt overlay · 4
asphalt, hot-mix · 4
brick · 3, 4, 5
composite · 3, 4
concrete · 3, 4, 5, 9
information · 4
maintenance strategies · v
sealcoat · v, 3, 4, 6, 7
sealcoat road rating, Michigan-specific · See PASER:
  sealcoat, Michigan-specific
  sealcoat, chip seal · 4, 13
sealcoat, proactive treatments · 9
sealcoat, rate · v
pavement distress · 7, See also Cracking
  alligator cracking · See Cracking
  edge distress · 6, 7
  edge distress, limited · 7
  lane distress · 6, 7
  rating · 10
  raveling · 6, 7
  rutting · 6, 7, 8, 11, 14
  rutting, measure · See Data collection
pavement maintenance
  capital preventive maintenance · 5
  crack sealing · 6
  drainage clearing · 6
  edge seal · 7
  joint rehabilitation · 9
  patching · 7
  rehabilitation · 13
  routine maintenance · 5, 7
  shoulder grading · 6
  street sweeping · 6
  structural improvement · 5, 6
  pavement reconstruction · 6, 7, 12, 13
Pavement Surface Evaluation and Rating · v, See PASER
Policy for Collection on Roadway Condition Data on
  (Paved) Non-Federal Aid Eligible Roads and Streets · 18
Policy for Paved Non-Federal-Aid-Eligible Road/Street Data
  Collection · 74
principal arterials · See NFC codes

Q
quality control · 18, Also see Table of Quality Control
  Queries, Also see PASER Data Quality Control Guide

R
rating roads · See Data collection
raveling · See Pavement distress
reconstruction · See Pavement reconstruction OR Splitting
  segments
regional office · 53
Regional Planning Organizations · See RPO
rehabilitation · See Pavement maintenance OR Splitting
  segments
reimbursement · 3, 17, 19
  non-Federal-aid data collection · Also see Non-Federal-
  aid data collection
road condition · 3, 13, 17
  condition of the road · v, 3, 6
  report · v, 3
road surface changes · See Surface type OR Splitting
  segments
Roadsoft · v, 12, 18, 19, 23, 26, 29, 40, 42, 43, 44, 46, 49, 52
  1 - (County/City Does This) Export Data for LDC · 25, 39
  2 - (County/City Does This) Import TAMC PASER Data
    from LDC · 49
  3 - (County/City Does This) Export TAMC PASER Data to
    Region · 52
  4 - (Region Does This) Import TAMC PASER from
    County/City · 53
  5 - (Region Does This) Export TAMC Shape File to
    Council (Individual County Files) · 55
about · v
back up database · 49, 53
Backup Roadsoft Database · 49
data changes to data · 18
County tab · 55
Create Backup · 49, 53
Create Framework Map Change Request · 80
create TAMC network · See Roadsoft - identify TAMC
  network
Crew · 3, 28, 43
data manually entered · 20
Export for LDC · 25, 40
Export for LDC option · 39, 40, 50
export from county version · 19, 20
Export Network · 39
export network, local/non-Federal-aid · 25, 39, 42
export network, TAMC · 25
Export Path · 40, 42
Export TAMC Data to Region dialogue box · 52
Export TAMC ShapeFile Data for Council dialogue box · 55
Export to LDC dialogue box · 25, 39, 40, 41
Export to LDC window · 39
Federal-aid network · 4
Filter Builder · 23, 37, 57, 58
filter for network, local/non-Federal-aid · 37
filter for network, TAMC · 23, 37
framework map change request · See Framework map
Framework Map Change Request window · 80
historical data · 20
historical road splits · 20
identify network, local/non-Federal-aid · 37, 38
identify network, TAMC · 23, 24, 81
Import LDC Data dialogue box · 49
Import Roadsoft Data screen · 54
Import TAMC Data From Local Jurisdiction dialogue box · 53
lane mileage inventory · 13
LDC menu · 25, 30, 40, 45
Ldc2rs file · 30, 33, 45, 46, 49
ldcz file · 26, 28, 40, 42, 43, Also see LDC ldcz file
Load Saved Filter window · 42, 57, 58
local agency database · 18, 20
local data · 18
Manage/Submit Framework Map Change Requests · 81
Map Layers window · 23, 37
Map window · 57
MPO version · 18
network, create · See Roadsoft - identify TAMC network
network, export · See Roadsoft - export network
ratings/changes entered in LDC · 18
regional version · 17, 52
released (date) · 18
Road Layer Filter · 23, 37
Roadsoft Database Manager · 54
RPO version · 18
Selection Information-Road window · 24, 37
shapefile export procedure · 55
shapefile for TAMC · 55
Submit FW Change window · 81
tag data for TAMC · 39
tag data, not automatically · 40
TAMC Export option · 39
TAMC menu · 25, 39, 49, 53, 55
tamz file · 52, 53
technical support · 24, 29, 38, 44, 81
Tools menu · 49, 53, 80, 81
updates · 18
Web Integration · See Web Integration
zip file · 26, 27, 28, 40, 43

Roadsoft map
split · 12
routine maintenance · See Pavement maintenance
RPO · v, 17, 18, 19, 23, 83
rural area · See NFC codes
rural/urban designation left · See NFC codes
rural/urban designation right · See NFC codes
rutting · See Pavement distress

S
save point · 18, 30, 33, 45, 46, 49
school zone · See Splitting segments
sealcoat · See Pavement segments
distinct · 13
extensions · 13
historical road split · See Roadsoft
split segments · v, See Splitting segments
splitting segments · 12, 13, See Roadsoft map: split
Act 51 boundaries · 12
add · 12
environmental factors · 13
guidelines · 12
intersections · 13
node to node · 12
number of lanes, change · 13
PASER, change in · 13
reconstruction · 12
rehabilitation · 12
school zone · 13
surface type changes · 13
traffic count segments · 13
turn bay · 13
structural improvement · See Pavement maintenance
submission · See Data submission
surface type · 3, 12, 13, 58
change · 13
survey · v

T
Table of Quality Control Queries · 58, 61
TAMC · v, 3, 5, 12, 17, 18, 19, 23, 27, 37, 52, 55
data · 12
definitions · 5, 6
identify network · See Data collection procedures
mission · v
sealcoat rating · See PASER – sealcoat, Michigan
specific
send network to CSS · See Data collection procedures
testing and certification · See Testing and certification
tamz file · See Roadsoft - tamz file
testing and certification · 18
certification policy · 18
through lanes · See Number of lanes
Title 23 of the United States Code · 3
U.S.C. · 3
Total Miles Not Yet Rated · See LDC
traffic count segments · See Splitting segments
training · 3, 4, 17, 18
  non-Federal-aid system policy · 18
  on-site session · 17
  opt out · 18
  policy · 18
  supplemental PASER webinar session · 17
Transportation Asset Management Council · v, See TAMC
turn bay · See Splitting segments

U

uncoded · See NFC codes
University of Wisconsin Transportation Information Center
  · v
unpaved roads · 3, 4
  Federal-aid eligible · See Federal-aid eligible

Federal-aid system · See Federal-aid system
gravel surface · See gravel
unimproved earth surface · 3
urbanized area, large · See NFC codes
urbanized area, small · See NFC codes, See NFC codes

V

vehicle
  safety · See Data collection: safety
  seating · See Data collection - vehicle seating
villages · See Data collection procedures
visual survey · See survey

W

Web Integration · 60
  Open Location in Bing Maps · 60
  Open Location in Google Maps · 60
  street view · 60
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