STANDARD SPECIFICATION FOR

Material Delivery Management Systems

November 2023
First Edition

AASHTO

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STANDARD SPECIFICATION FOR

Material Delivery Management Systems

1. SCOPE

1.1. This Specification provides haulers, agencies, contractors, suppliers, and vendors with a standardized format for digitalized communication of data associated with the delivery of material to a contract, such as:

- source (e-tickets);
- hauler;
- loading and delivery events;
- testing and contract administration; and
- agency verification data.

1.2. Within the format of this Specification, individual agencies will select which data blocks are necessary for the e-ticket and associated material delivery management system (MDMS).

1.3. This Specification provides a listing of possible data blocks that an agency may want to require.

Note 1—This Specification contains some features and data blocks that may or may not be currently provided by all MDMS vendors. Care must be taken as to which requirements to include within an agency's contract. Additionally, it is beneficial to be transparent with both vendors and contractors as to data blocks and features that will be desired in the future, even if these items are not required in the current agency contract.

1.4. This work shall consist of capturing source (e-tickets); hauler; loading and delivery events; testing and contract administration; and agency verification data associated with delivery of material to a contract, for asphalt, concrete, and aggregate applications, in a digitalized format.

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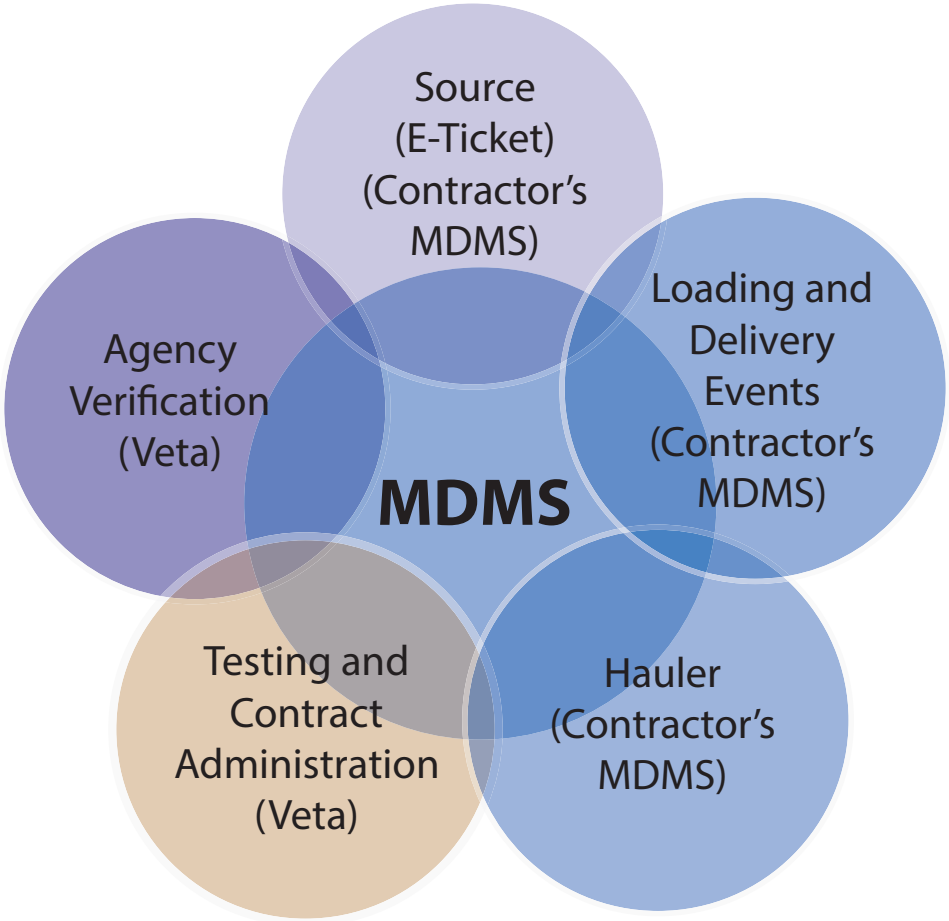

Figure 1—Schematic of MDMS Data

Note 2—Other material types will continue be added to this Specification in future editions.

1.5. Figure 1 illustrates a schematic of the data associated with the MDMS.

1.6. Source data is defined as data generated by the source's loadout software, such as contract, project, source, and mix design identification; material code; ticket number; and loading and weight information. This data is considered the e-ticket.

1.7. Loading and delivery event data is defined as data such as dumping details, date and time stamps for given event types, and durations. Loading and delivery event data collected and stored in a system separate from the MDMS must contain the ticket number. See Appendix X1 for examples describing use of this data.

1.8. Testing and contract administration data is defined as data generated by the Engineer and/or Contractor, such as acceptance/rejection, wasted material quantity, water and concrete admixture quantities added in field to ready-mixed concrete,

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field ingredients added quantities, sampling information, split load pay items and quantities, testing results, etc.

1.9. Hauler data is defined as data generated by the hauler (e.g., truck identification, driver name, broker name, DOT number, maximum gross weight, etc.). See Appendix X1 for examples describing use of hauler data.

1.10. The Contractor shall set up source(s), trucks, and dump locations with the needed MDMS components.

1.11. Ticket identification, source identification, and loading date and time are used to distinctly identify the e-ticket number on a contract in Tables 1, 11, 13, X3.1, and X3.13, as ticket identifications can be similar between multiple sources or the numbering system could be reset.

1.12. This Specification is to be applied during the entire material delivery operation.

1.13. All tasks are the Contractor's responsibility, unless designated otherwise within this Specification.

1.14. Figures X2.1 through X2.5 present the workflow which guides the user through pre-construction activities, the source process, delivery of material, end-of-day activities such as reconciling quantities and labor compliance reviews, and data transmittal processes.

1.15. Figures X2.6 through X2.8 present the workflow guiding the user through the pre-construction and construction activities with respect to Veta. Appendix X3 contains details pertaining to standardized viewing, data fields, data transmittal and exports, and user interface associated with Veta.

Note 3—Veta enhancements are currently under contract to provide the following:

(1) an agency-standardized platform for real-time viewing of MDMS data in the field;

(2) user interface for entry of testing, contract administration, and agency verification data (for agencies that do not use AASHTOWare Project's interface for these features);

(3) agency creation of project and category geofences; and

(4) recording of the dump geofence name.

TPF-5 (446) National Road Research Alliance is funding these enhancements. It is anticipated that this platform will be available in early 2024. Vendors may elect to include these features within their MDMS as an intermediate solution until Veta enhancements are completed, if desired; however, this will not be a vendor requirement in this Specification.

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