



Statewide Asset Data Collection and Management: Survey of Practice

Requested by
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Executive Summary

Background

The California Department of Transportation (Caltrans) is investigating the use of a unified and coordinated statewide approach to transportation asset management. This practice takes a project-specific and programmatic approach to collecting and managing agency asset data, and Caltrans would like to capitalize on the efficiencies gained through a “collect data once, use it many times” strategy. Collection efforts may employ a range of tools, including Global Positioning System (GPS) devices, multisensor mobile mapping platforms, airborne and terrestrial LiDAR, surface geophysics, unmanned aerial systems and photogrammetric processes.

Caltrans is seeking information from other state transportation agencies about current and best practices for using a coordinated statewide approach to data collection and management, and lessons learned as these agencies collect, extract and manage transportation asset and roadway characteristics data. Experiences and knowledge from agencies with mature programs that collect and manage enterprise asset data are expected to inform the development of a Caltrans strategic statewide plan that will address the programmatic collection and management of field-collected roadway and roadside assets.

To assist Caltrans in this information-gathering effort, CTC & Associates conducted an online survey of state transportation agencies or other agencies expected to have experience with data collection and management. A literature search of publicly available resources about national and state practices and guidance supplemented the survey findings.

Summary of Findings

Survey of Practice

An online survey was distributed to members of two American Association of State Highway and Transportation Officials (AASHTO) committees:

- Subcommittee on Asset Management.
- Committee on Performance-Based Management.

In addition, the survey was distributed to a representative of the North Carolina Department of Public Safety (North Carolina DPS) who was expected to have experience with a coordinated statewide approach to asset data collection and management.

Representatives from 13 state departments of transportation (DOTs) and the North Carolina DPS responded to the survey. Twelve agencies have established a coordinated statewide approach to collecting and managing data on a range of agency assets. Two state DOTs have not established a coordinated statewide approach to multiasset data collection and management but are considering establishing a new program or expanding their current practices to allow for a coordinated statewide approach.

Findings from the 11 state transportation agencies and North Carolina DPS are presented in the following topic areas when provided:

- Program description.

- Asset data collection.
- Asset data management.
- Assessment of agency practices.

Program Description

Program Implementation

Use of a coordinated statewide approach varied considerably among these agencies, and with Kansas and Minnesota DOTs, varied by asset class. More than half of these agencies have used this approach for more than 10 years:

- 0 to 10 years: Alabama, Hawaii, Minnesota, New Hampshire, New York and Utah.
- 10+ years: Minnesota and Virginia.
- 20+ years: Delaware, Kansas, Minnesota and North Carolina DPS.
- Approximately 30 years: Kansas and Mississippi.
- 40+ years: Iowa.

Staffing

Three-quarters of the agencies use both consultants and in-house staff to collect, store and analyze data, depending on the task and the asset (Alabama, Delaware, Minnesota, Mississippi, New Hampshire, New York, North Carolina and Virginia). Three states use consultants only (Hawaii, Iowa and Utah), and one state uses in-house staff only (Kansas).

Frequency of Data Coordination and Collection

Half of the agencies coordinate and collect data annually (Hawaii, Iowa, Kansas, New York, Utah and Virginia). The remaining six agencies collect data in varying cycles (Alabama, Delaware, Minnesota, Mississippi, New Hampshire and North Carolina DPS). In Minnesota, coordination occurs continuously and varies by priority and effect on asset data quality. The respondent noted that the agency philosophy is to “collect data once and maintain its currency on an ongoing basis in real time.” The North Carolina DPS respondent said that imagery is collected one quarter of each year, and LiDAR is collected approximately every 10 years or as needed. None of the agencies responding to the survey collect data every two years or every three years, although Alabama DOT is aiming for a three-year cycle.

Type of Roadways

The three most common types of roadways where asset data is collected are state roads (Alabama, Hawaii, Kansas, Minnesota, Mississippi, New York, Utah and Virginia), all public roads (Iowa, New Hampshire, North Carolina DPS and Virginia), and ramps and connectors (Hawaii, Minnesota, New Hampshire and Virginia). Hawaii DOT collects data from county collector roads and above; Mississippi DOT gathers data on all state-maintained routes plus various routes on functionally classified roads for Highway Performance Monitoring System (HPMS) reporting.

Published Standards or Procedures

Eight agencies have adopted or published standards or procedures for collecting and managing asset data from their enterprise statewide programs (Iowa, Kansas, Minnesota, Mississippi, New Hampshire, North Carolina DPS, Utah and Virginia). In Minnesota, Mississippi and New

Hampshire, these procedures are currently available internally as agencies work to create or standardize them.

Three respondents shared agency resources, including data dictionaries (Hawaii and Iowa) and district and state maps illustrating aspects of pavement performance (Kansas). Other resources cited were the Federal Highway Administration (FHWA) Highway Performance Monitoring System Field Manual (Mississippi) and issue papers that describe LiDAR data collection practices for land mapping (North Carolina).

Asset Data Collection

Core Set of Assets

Eleven agencies collect data for bridges and pavement. Other assets that are commonly monitored are barriers (Alabama, Hawaii, Iowa, Minnesota, New Hampshire, New York, Utah and Virginia); drainage features (Hawaii, Iowa, Kansas, Minnesota, New Hampshire, New York, Utah and Virginia); and signs (Alabama, Hawaii, Iowa, Minnesota, New Hampshire, New York and Utah). None of the 11 agencies collect data on loop detectors. Agencies are least likely to collect data on cabinets, lands and buildings, marking or sign reflectivity, ramp meters, rights of way and roadside facilities.

Data Collection and Extraction Methods

Ten agencies use GPS devices in asset data collection and extraction (Alabama, Hawaii, Iowa, Kansas, Minnesota, Mississippi, New Hampshire, North Carolina DPS, Utah and Virginia). Other commonly used technology and tools are terrestrial LiDAR (Alabama, Hawaii, Iowa, Kansas, Minnesota, Mississippi, North Carolina DPS and Utah); manual data collection (Iowa, Kansas, Minnesota, Mississippi, New Hampshire, North Carolina DPS, Utah and Virginia); and mobile devices (Alabama, Iowa, Minnesota, Mississippi, New Hampshire, Utah and Virginia). Tools and technology least used are airborne LiDAR, photogrammetric processes and surface geophysics.

Utah DOT is currently experimenting with the use of unmanned aerial systems (UAS) for data collection and extraction. In addition to other methods, Hawaii DOT is using the laser crack measurement system (LCMS) to collect pavement condition data.

Data Collection and Coordination Practices

In 10 of 11 agencies, both in-house staff and contractors perform the field asset data collection, extraction and management, depending on the asset. New York State DOT uses contractors only for these functions. None of the participating agencies use in-house staff only.

Agencies in six states (Iowa, Kansas, Minnesota, New Hampshire, New York and Virginia) collect asset data in all stages of project delivery, from design through construction. This data is then entered into asset management information systems for future use.

To avoid duplication and still meet the competing demands for the type and extent of asset data, agencies primarily coordinate efforts with other functional areas. In Alabama, Minnesota and New Hampshire, specific business units within each agency coordinate data collection. Utah and Virginia DOTs distribute responsibility among multiple divisions and champions. Hawaii DOT has developed a data dictionary and tools that are used throughout the agency by functional units such as maintenance, design and safety. The Mississippi DOT's Planning and Research divisions use the same contract for HPMS and PMS data collection and extraction,

while North Carolina DPS coordinates large-scale data collection with the North Carolina Geographic Information Coordinating Council.

Data Quality Management Plan

Nine agencies have a data quality management plan for data collection. Four DOTs (Kansas, Mississippi, Utah and Virginia) have a plan that can be shared. (See Data Quality Management Plan in **Detailed Findings** for resources from Kansas, Mississippi and Utah.)

Five agencies (Iowa, Minnesota, New Hampshire and New York State DOTs and North Carolina DPS) have a plan but can't share it because the plan is under development, is not a formal written document or varies by asset. Several respondents provided agency resources related to data collection and quality management resources, including 3D technologies and data collection vehicles (Hawaii) and the use of LiDAR for highway inventory data collection (Utah).

Asset Data Management

Staff Access to Data

Data products. Respondents from 11 agencies described the products from the data collection and extraction efforts that are made available to staff, including extracted assets, imagery and point cloud data. All agencies make extracted assets available to staff, and all except Minnesota DOT make imagery available. The Minnesota DOT respondent noted that imagery and point cloud data are available to staff by special request. Point cloud data is available to staff in seven states: Alabama, Hawaii, Iowa, Mississippi, North Carolina, Utah and Virginia. Other products provided to staff are pavement management system data (Mississippi) and GIS data (New Hampshire).

Data distribution. Agency-hosted web-based applications are used by nine agencies to share asset data with staff (Hawaii, Iowa, Kansas, Minnesota, Mississippi, New Hampshire, New York, Utah and Virginia), and eight agencies use enterprise data warehouses (Hawaii, Iowa, Minnesota, Mississippi, New Hampshire, New York, Utah and Virginia). Only two state DOTs use consultant-hosted web applications (Hawaii and Iowa) or multiple data marts (Hawaii and Virginia). Less frequently used methods are separate databases (Hawaii, Minnesota, Mississippi, New Hampshire and Virginia); web services (Hawaii, Iowa, Minnesota, New York and Virginia); and separate geodatabases (Hawaii, Minnesota, New Hampshire and Virginia).

Asset Data Migration and Storage

Survey respondents reported three primary practices for asset data migration and storage: web services (Alabama, Iowa, Kansas (pavement data), Minnesota and New Hampshire), contractors (Hawaii), and mobile and paper processes (Kansas (bridge data)). Utah DOT is currently procuring a new maintenance/asset management system for data migration and storage.

Asset Data Delivery Format

To deliver asset data, five agencies use a standard format that is open to a third party, allowing full access to the data (Iowa, Kansas, New York and Utah DOTs and North Carolina DPS). The North Carolina DPS respondent added that agency data is available via a web site and is provided to North Carolina DOT. Only Alabama DOT uses a vendor proprietary format with a perpetual license provided to the state.

Two state DOTs use both a vendor proprietary and standard format (Hawaii and Virginia). The Hawaii DOT respondent added that depending on the sensor (such as LiDAR) and data, the agency uses a combination of both proprietary and standard formats with access via REST services to third parties. Minnesota DOT uses a format specific to agency asset attribution parameters, and Mississippi DOT uses a format specified in HPMS and PMS, depending on the asset.

Assessment of Agency Practices

Benefits

Eleven agencies indicated that implementing a coordinated statewide asset data collection and management approach enhanced their agencies' operations. The key benefits reported were improved performance, streamlined resources, a more comprehensive view of assets and opportunities for increased funding.

The Alabama DOT respondent noted that centrally organizing data collection efforts has allowed enterprise systems to more easily leverage extracted data. In New Hampshire, moving most roadside collection to iPads and Esri cloud facilitates standardization and makes upkeep easier. Governance structure and central coordination also help ensure that data can be maintained. The Utah DOT respondent noted the benefit of aligning time and data.

Other agency respondents noted the beneficial impact on economies of scale (Minnesota), less duplication of resources (Iowa and Mississippi) and increased awareness of issues with certain construction types (Kansas). The Virginia DOT respondent noted that as a result of the data collection processes, the agency has developed a needs-based maintenance and operations program budget since 2006. In 2017, the state's General Assembly provided additional funding for pavements and bridges, which began with presented needs from the data collected.

Challenges

The effort needed to coordinate data on an enterprise level is the most significant challenge experienced by respondents when using a statewide data collection and management approach (Alabama, Iowa, Minnesota, New Hampshire and Utah). Also challenging is addressing the different data needs of stakeholders and groups within the agency (Minnesota, Mississippi and North Carolina DPS). Additional issues include resources such as cost and staffing (Hawaii, Minnesota, New Hampshire and Virginia), and variable technologies, platforms and legacy data among districts (Minnesota).

Recommendations for Implementation

Nine agencies provided recommendations for other agencies developing a coordinated statewide program to collect and manage asset data. Most recommendations encouraged:

- Beginning with a strong foundation and consistent framework (Hawaii, Iowa, Minnesota, New Hampshire, Utah and Virginia).
- Establishing governance and coordination among stakeholders (Alabama, Iowa, Minnesota, New Hampshire, North Carolina DPS and Utah).
- Communicating to illustrate the benefits of this approach and to work through any challenges (Minnesota and Mississippi).

Related Research and Resources

A literature search of recent publicly available resources identified many national and state publications and resources related to data collection and management, and to remote and mobile data collection. An NCHRP project in progress anticipates developing a guide that compiles “principles, organizational strategies, governance mechanisms and practical examples for improving management of the processes for collecting data, developing useful information, and providing that information for decision making about management of the transportation system assets.” A 2018 FHWA case study describes how state transportation agencies define data governance and data management, and policies for implementing these practices in GIS. Other 2018 FHWA case studies address mobile applications for GIS, and a 2018 FHWA report summarized discussions from a peer exchange that looked at policies, technical tools and strategies, and staffing for data governance. Other resources addressed the use of imaging, intelligent transportation systems and LiDAR in asset data collection and management.

Gaps in Findings

A limited number of survey respondents shared standards or procedures related to their agencies’ statewide program to collect and manage asset data. Also, though nine agencies reported having a data quality management plan for data collection, only three agencies were able to provide these plans. The remaining agencies reported that plans were still in draft form, were not part of a formal written document or varied from asset to asset. State transportation agency response to the survey was also limited.

Next Steps

Moving forward, Caltrans could consider

- Examining the asset data collection and management standards, procedures and other resources provided by respondents for successful practices and policies.
- Reviewing the data quality management plans provided by Kansas, Mississippi and Utah DOTs.
- Following up with:
 - Utah DOT for online access to the agency’s enterprise statewide program procedures (the public-facing web page is currently under construction).
 - Virginia DOT for access to the agency’s data quality management plan.
 - Iowa, Minnesota, New Hampshire and New York State DOTs and North Carolina DPS for information about these agencies’ data quality management plans.
- Contacting the respondent from Delaware, who provided only a partial response to the survey. Additional feedback from this agency, which has established a coordinated statewide approach to multiasset data collection and management, could prove useful as Caltrans begins to develop a strategic statewide plan.
- Engaging with South Carolina and Wyoming DOTs—agencies that are considering establishing a new asset data collection and management program or expanding their current practices to allow for a coordinated statewide approach.
- Gathering information from agencies that did not respond to the survey to obtain further guidance and perspectives.

Detailed Findings

Background

Some state departments of transportation (DOTs) have implemented a unified and coordinated statewide approach to project-specific and programmatic mass data collection and data management of agency assets. These collection efforts may employ a range of tools, including Global Positioning System (GPS) devices, multisensor mobile mapping platforms, airborne and terrestrial LiDAR, surface geophysics, unmanned aerial systems and photogrammetric processes.

The California Department of Transportation (Caltrans) would like to capitalize on the efficiencies gained through a “collect data once, use it many times” strategy. To facilitate transitioning to a coordinated statewide approach to data collection and management, Caltrans is seeking information from other state transportation agencies about current and best practices, and lessons learned as these agencies collect, extract and manage transportation asset and roadway characteristics data. The experiences of agencies with mature programs to collect and manage enterprise asset data are expected to inform development of a future Caltrans strategic statewide plan that will address the programmatic collection and management of field-collected roadway and roadside assets.

To assist Caltrans in this information-gathering effort, CTC & Associates conducted an online survey of state DOTs and other agencies that examined the asset data collection and management practices and policies of these agencies. A literature search of publicly available resources about national and state practices and guidance supplemented the survey findings. Results from these efforts are presented in this Preliminary Investigation in two areas:

- Survey of practice.
- Related research and resources.

Survey of Practice

An online survey was distributed to members of two American Association of State Highway and Transportation Officials (AASHTO) committees:

- Subcommittee on Asset Management.
- Committee on Performance-Based Management.

In addition, the survey was distributed to a representative of the North Carolina Department of Public Safety (North Carolina DPS) who was expected to have experience with a coordinated statewide approach to asset data collection and management.

[Appendix A](#) provides the survey questions. The full text of survey responses is presented in a supplement to this report.

Summary of Survey Results

Thirteen state DOTs responded to the survey:

- Alabama.
- Delaware (incomplete response).
- Hawaii.
- Iowa.
- Kansas.
- Minnesota.
- Mississippi.
- New Hampshire.
- New York.
- South Carolina.
- Utah.
- Virginia.
- Wyoming.

The North Carolina DPS representative also responded to the survey.

Of these 14 agencies, respondents from DOTs in 11 states—Alabama, Delaware, Hawaii, Iowa, Kansas, Minnesota, Mississippi, New Hampshire, New York, Utah and Virginia—and North Carolina DPS reported that their agencies have established a coordinated statewide approach to collecting and managing data on a range of agency assets.

Agencies in two states—South Carolina and Wyoming—have not established a coordinated statewide approach to multiasset data collection and management but are considering establishing a new program or expanding their current practices to allow for a coordinated statewide approach. The South Carolina DOT respondent noted that the agency is reviewing LiDAR collection, and if it proceeds with such a plan, the collection of assets and asset extraction “will almost certainly be performed by a contractor.” Wyoming DOT is leveraging its biannual photolog of state routes to verify asset data previously gathered, such as for approaches, guardrails and signs. According to the Wyoming DOT respondent, the agency found that when it dispersed data collection and input, the consistency was not high enough to be reliable.

Below are findings from the 11 state transportation agencies and North Carolina DPS about their coordinated statewide approaches to asset data collection and management. Survey results are summarized in the following topic areas:

- Program description.
- Asset data collection.
- Asset data management.
- Assessment of agency practices.

Note: The respondent from Delaware DOT provided a partial response to the survey. Feedback from this agency is included in this Preliminary Investigation where available.

Program Description

Survey respondents provided the following information about their approach to asset data collection and management:

- Implementation of a coordinated statewide approach.
- Staffing.
- Frequency of data coordination and collection.
- Types of roadways.
- Published standards or procedures.

Implementation of a Coordinated Statewide Approach

Use of a coordinated statewide approach varied considerably among these agencies. More than half of the agencies responding to the survey have employed this approach for more than 10 years. Use ranged from 20 or more years (Delaware, Kansas, Minnesota, North Carolina DPS); approximately 30 years (Kansas and Mississippi); and more than 40 years (Iowa). The respondents from Kansas and Minnesota DOTs added that the length of time varies by asset class. The Minnesota DOT respondent also noted that “success has not been universal.”

The remaining five agencies (Alabama, Hawaii, New Hampshire, New York and Utah) have used this approach to asset data collection and management for less than 10 years. Survey results are summarized in Table 1.

Table 1. Implementation of a Coordinated Statewide Approach

| State | 0 to 2 Years | 2 to 5 Years | 7 to 10 Years | Other | Description |
|--------------------|--------------|--------------|---------------|----------|--|
| Alabama | | X | | | N/A |
| Delaware | | | | X | More than 20 years. |
| Hawaii | | | X | | N/A |
| Iowa | | | | X | More than 40 years, although processes have evolved. |
| Kansas | | | | X | <ul style="list-style-type: none"> • Pavement: 30+ years. • Bridges: 20+ years. |
| Minnesota | | | | X | Varies by asset class: <ul style="list-style-type: none"> • Signs: 20 years with poor success. • Drainage culverts: 20 years with good success. • Traffic barriers: 2 years. • Traffic signals/ITS: 10+ years. |
| Mississippi | | | | X | Nearly 30 years (since 1991). |
| New Hampshire | X | | | | N/A |
| New York | X | | | | N/A |
| North Carolina DPS | | | | X | Approx. 20 years (since 2000). |
| Utah | | | X | | N/A |
| Virginia | | | | X | More than 12 years. |
| Total | 2 | 1 | 2 | 7 | |

Staffing

Eight agencies use both consultants and in-house staff to collect, store and analyze data, depending on the task and the asset (Alabama, Delaware, Minnesota, Mississippi, New Hampshire, New York, North Carolina and Virginia). In Alabama, an in-house LiDAR crew collects data for smaller projects, while contractors collect data for larger projects and perform most data extraction. New Hampshire DOT’s data flows to an Esri cloud service (for most assets) or to a special service (pavement). Data is then returned to the agency and integrated in its GIS. The North Carolina DPS respondent reported that a contractor collects and stores data in the state, and in-house staff performs quality control, analysis and use.

Three states use consultants only (Hawaii, Iowa and Utah), and one state uses in-house staff only (Kansas). Survey results are summarized in Table 2.

Table 2. Responsibility for Multiasset Data Collection and Management

| State | Consultant/ Contractor | In House Staff | Other | Description |
|--------------------|---------------------------|-------------------|----------|--|
| Alabama | | | X | <ul style="list-style-type: none"> An in-house LiDAR crew runs smaller projects and contractors run larger projects. Most extraction is performed by consultants. |
| Delaware | | | X | <ul style="list-style-type: none"> Consultants and in-house staff collect, store and analyze data, depending on the asset and asset owner. In-house staff collects most asset data sets related to Highway Performance Monitoring System (HPMS) reporting. |
| Hawaii | X | | | N/A |
| Iowa | X | | | N/A |
| Kansas | | X | | N/A |
| Minnesota | | | X | <ul style="list-style-type: none"> Asset Management Program Office coordinates data acquisition and maintenance, working with specialty offices (asset program managers) and district personnel to acquire and maintain data, including construction as-built and maintenance crew modifications to assets. Many data acquisition and maintenance techniques used: <ul style="list-style-type: none"> Construction and GIS staff maintain legacy asset data. Consultants conduct construction-related field surveys. Internal staff uses field devices for some collection. Asset management system work orders used for asset data updating. Statewide LiDAR contract implemented for asset data collection and extraction. |
| Mississippi | | | X | Both consultants and in-house staff collect and analyze data. |
| New Hampshire | | | X | <p>Collection depends on the asset:</p> <ul style="list-style-type: none"> <i>Most assets</i>: Data flows to an Esri cloud service. <i>Other assets</i> (e.g., pavement): Data managed by a special service. Data is returned to DOT and integrated in GIS. |
| New York | | | X | <ul style="list-style-type: none"> Consultant collects data. In-house staff stores data in a geographical data warehouse. |
| North Carolina DPS | | | X | <ul style="list-style-type: none"> Contractor collects and stores data. In-house staff performs quality control, analysis and use. |
| Utah | X | | | N/A |
| Virginia | | | X | Consultants and in-house staff compile and analyze data. DOT stores data. |
| Total | 3 | 1 | 8 | |

Frequency of Data Coordination and Collection

At the enterprise level, half of the agencies coordinate and collect data annually. Collection cycles vary for the remaining six agencies. None of the states responding to the survey collect data every two years or every three years, although Alabama DOT is aiming for a three-year cycle. The respondent from Minnesota DOT reported that coordination occurs continuously and varies by priority and effect on asset data quality. He added that the agency philosophy is to “collect data once and maintain its currency on an ongoing basis in real time.” The North Carolina DPS respondent noted that imagery is collected one quarter of each year and LiDAR is collected approximately every 10 years or as needed. Table 3 summarizes survey results.

Table 3. Frequency of Data Coordination and Collection

| State | Annually | Other | Description |
|--------------------|----------|----------|---|
| Alabama | | X | <ul style="list-style-type: none"> Collection cycle still evolving. Data Collection Section plans to formalize schedule this year and is aiming for a three-year cycle (could run up to five years). |
| Delaware | | X | N/A |
| Hawaii | X | | N/A |
| Iowa | X | | N/A |
| Kansas | X | | N/A |
| Minnesota | | X | <ul style="list-style-type: none"> Coordination occurs continuously and varies by priority and effect on asset data quality. Agency philosophy: Collect data once and maintain its currency on an ongoing basis in real time. |
| Mississippi | | X | <ul style="list-style-type: none"> HPMS: Annually. Pavement management system (PMS): Every two years. |
| New Hampshire | | X | Asset-specific. |
| New York | X | | N/A |
| North Carolina DPS | | X | <ul style="list-style-type: none"> Imagery: One quarter each year. LiDAR: Approx. every 10 years or as needed. |
| Utah | X | | N/A |
| Virginia | X | | N/A |
| Total | 6 | 6 | |

Type of Roadways

Respondents from 11 agencies indicated the types of roadways where asset data is collected including:

- All public roads.
- State roadways.
- Local roadways.
- National Highway System (NHS) only.
- Ramps and connectors.

Asset data is most commonly collected on state roads (Alabama, Hawaii, Kansas, Minnesota, Mississippi, New York, Utah and Virginia) followed by all public roads (Iowa, New Hampshire, North Carolina DPS and Virginia) and ramps and connectors (Hawaii, Minnesota, New Hampshire and Virginia).

The Hawaii DOT respondent added that the agency collects data from county collector roads and above. In Mississippi, the agency gathers data on all state-maintained routes plus various routes on functionally classified roads for HPMS reporting. The respondent added that a contractor extracts some roadway features. In New Hampshire, data collection depends on the asset, but the focus is state roads for most assets. Table 4 summarizes survey results.

Table 4. Type of Roadway for Asset Collection

| State | All Public Roads | State Roads | Local Roads | NHS only | Ramps/ Connectors | Other | Description |
|--------------------|------------------|-------------|-------------|----------|-------------------|----------|---|
| Alabama | | X | | | | | N/A |
| Hawaii | | X | X | X | X | X | County collector roads and above. |
| Iowa | X | | | | | | N/A |
| Kansas | | X | X | | | | N/A |
| Minnesota | | X | | | X | | N/A |
| Mississippi | | X | | | | X | <ul style="list-style-type: none"> All state-maintained routes. Various routes on functionally classified roads for HPMS reporting. Contractor extracts some roadway features. |
| New Hampshire | X | | | | X | X | <ul style="list-style-type: none"> Asset-dependent. Focus is state roadways for most assets. |
| New York | | X | | | | | N/A |
| North Carolina DPS | X | | | | | | N/A |
| Utah | | X | | X | | | N/A |
| Virginia | X | X | | X | X | | N/A |
| Total | 4 | 8 | 2 | 3 | 4 | 3 | |

Published Standards or Procedures

Eight agencies—Iowa, Kansas, Minnesota, Mississippi, New Hampshire, North Carolina DPS, Utah and Virginia—have adopted or published standards or procedures for collecting and managing asset data from their enterprise statewide programs. Four agencies provided documentation for these standards and procedures (see [Related Resources](#) below).

Respondents from Minnesota, Mississippi and New Hampshire DOTs noted that procedures and practices are available internally as their agencies work to create or standardize them. Additional information provided by respondents follows:

Iowa. The agency currently uses a vendor to extract data from imagery and request updates from local agencies annually. The agency's data dictionary provides specifications of its current system (see Related Resources below).

Minnesota. The respondent noted that standards and procedures in Minnesota vary by asset class and methodology, and are available in various documents but no one single source. For example, LiDAR survey standards are part of a contract; as-built procedures are published; data maintenance expectations for signs and hydraulics processes are published as part of the asset management system implementation (see Related Resources below).

Mississippi. Mississippi DOT is working on data governance as an agency. Current resources are the HPMS Field Manual (see Related Resources below) and the DOT's PMS procedures.

New Hampshire. The agency is currently standardizing its procedures. Elements have been published and are used internally.

North Carolina DPS. The respondent noted that the agency has developed issue papers that describe LiDAR data collection practices and explain how issues have been resolved.

Note: She directed us to search for "LiDAR" at the agency's document center (<https://flood.nc.gov/ncflood/documentcenter.html?type=10>) to access these issue papers. These publications (dated from 2001 to 2005) are provided in Related Resources below.

Utah. The agency is currently updating its web page to include the agency's enterprise statewide program procedure.

Virginia. The Virginia DOT respondent said the agency has extensively documented the processes for pavement and bridge data collection. The respondent did not respond to follow-up requests to gather this documentation.

Related Resources

Multiple States

Highway Performance Monitoring System Field Manual, Federal Highway Administration, December 2016.

Field manual: <https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/>

HPMS program: <https://www.fhwa.dot.gov/policyinformation/hpms.cfm>

The HPMS program is a "national level highway information system that includes data on the extent, condition, performance, use and operating characteristics of the nation's highways. The HPMS contains administrative and extent of system information on all public roads, while information on other characteristics is represented in HPMS as a mix of universe and sample data for arterial and collector functional systems. Limited information on travel and paved miles is included in summary form for the lowest functional systems." The field manual "provides a comprehensive overview of the HPMS program, and describes in detail the data collection and reporting requirements for HPMS. ... The HPMS Field Manual is a valuable resource that guides the States as they address their HPMS data collection and reporting responsibilities. This manual includes detailed information on technical procedures, a glossary of terms, and various tables to be used as reference by those collecting and reporting HPMS data.

Hawaii

2018 State of Hawaii Service Project Data Dictionary, Hawaii Department of Transportation, December 2018.

See [Attachment A](#).

This document provides a classification of condition data reported by the agency.

Iowa

Geodatabase Documentation, Iowa Department of Transportation, October 2018.

See [Attachment B](#).

Iowa DOT has developed this data dictionary to define the specifications of its current system and standardize communication of roadway data.

Kansas

Pavement Management Information System (PMIS), Kansas Department of Transportation, January 2020.

<http://www.ksdot.org/matreslab/pmis/reports.asp>

This web page provides links to district and state maps of performance, remaining life, roughness, transverse cracking, joint distress, rutting and faulting. The web page also briefly describes the legend used for each map (for example, good/fair/poor pavement surface conditions).

Minnesota

Note: Though not provided by the respondent, the following publication may be of value to Caltrans.

Transportation Asset Management Plan, Minnesota Department of Transportation, June 2019.

www.dot.state.mn.us/assetmanagement/pdf/tamp/tamp.pdf

From page 4 of the plan (page 10 of the PDF): [The transportation asset management plan (TAMP)] is a planning tool to help MnDOT further evaluate risks, develop mitigation strategies, analyze life cycle costs, establish asset condition performance measures and targets, and develop investment strategies. The TAMP formalizes and documents the following key information to meet federal requirements:

- Description and condition of pavements and bridges on the NHS.
- Asset management objectives and measures.
- Summary of gaps between targeted and actual performance.
- Life cycle cost and risk management analysis.
- Financial plan that addresses performance gaps.
- Investment strategies and anticipated performance.

North Carolina

Note: The following issue papers, recommended by the survey respondent, address three phases of a project to define the use of LiDAR for collecting elevation data sets for land mapping and provide LiDAR specifications. The papers were produced from 2001 to 2005 and are available at <https://flood.nc.gov/ncflood/documentcenter.html?type=10>. (Under Document Type, select "Issue Papers." Enter "LiDAR" in the search field.)

Issue 50: Phase III Quality Control of Light Detection and Ranging (LiDAR) Elevation Data in North Carolina, North Carolina Cooperating Technical State Mapping Program, February 2005.

https://flood.nc.gov/NCFLOOD_BUCKET/ISSUE/ip50_final_phasesIII_lidar_qc.pdf

Issue 37: Quality Control of Light Detection and Ranging (LiDAR) Elevation Data in North Carolina for Phase II of the NCFMP, North Carolina Cooperating Technical State Mapping Program, February 2004.

https://flood.nc.gov/NCFLOOD_BUCKET/ISSUE/IP37-phaseII_lidar_qc.pdf

Issue 5: Quality Control of Light Detection and Ranging (LiDAR) Elevation Data in North Carolina, North Carolina Cooperating Technical State Mapping Program, October 2001.

https://flood.nc.gov/NCFLOOD_BUCKET/ISSUE/IP05-lidar_qc.pdf

Issue 7: Light Detection and Ranging (LiDAR) Specifications, North Carolina Cooperating Technical State Mapping Program October 2001.

https://flood.nc.gov/NCFLOOD_BUCKET/ISSUE/IP07-lidar_spec.pdf

Asset Data Collection

Respondents provided information about the following general practices and policies of their agencies' asset data collection program:

- Core set of assets.
- Data collection and extraction methods.
- Data collection and coordination practices.
- Data quality management plan.

Core Set of Assets

Using the following list of asset types, respondents from 11 agencies described the core assets of data collection efforts:

- | | |
|---|------------------------|
| • Barrier (i.e., guardrail). | • Pavement. |
| • Bridges. | • Pavement markings. |
| • Cabinets. | • Ramp meters. |
| • Drainage features/culverts. | • Right of way (ROW). |
| • Intelligent transportation systems (ITS). | • Roadside facilities. |
| • Lands and buildings. | • Roadside features. |
| • Loop detectors. | • Sign reflectivity. |
| • Marking reflectivity. | • Signal post. |
| • Model Inventory of Roadway Elements (MIRE). | • Signs. |
| | • Structures/walls. |
| | • Other. |

All 11 agencies collect data for bridges and pavement. Other assets that are commonly monitored are barriers (Alabama, Hawaii, Iowa, Minnesota, New Hampshire, New York, Utah and Virginia); drainage features (Hawaii, Iowa, Kansas, Minnesota, New Hampshire, New York,

Utah and Virginia); and signs (Alabama, Hawaii, Iowa, Minnesota, New Hampshire, New York and Utah). None of the 11 agencies collect data on loop detectors. Agencies are least likely to collect data on cabinets, lands and buildings, marking or sign reflectivity, ramp meters, rights of way and roadside facilities.

Utah DOT collects data on the most asset types (17), followed by Hawaii and Minnesota DOTs (13 each) and New Hampshire DOT (12). Agencies collecting data on the least number of asset types are Kansas DOT (three) and North Carolina DPS (two).

Four respondents described additional information about asset data collection efforts. The respondent from Hawaii DOT noted the agency’s online resources for asset management that indicate the LiDAR used and features collected in 2019 (see *Related Resources* below). Mississippi DOT collects data for “anything required by HPMS.” Other asset types listed were overhead signs and rock slopes (New Hampshire) and cattle guards (Utah). Survey results are summarized in Tables 5A and 5B.

Table 5A. Core Asset Data Collected by Agencies

| State | Barrier | Bridges | Cabinets | Drainage Features | ITS | Lands/ Buildings | Marking Reflectivity | MIRE | Pavement | Pavement Markings |
|--------------------|----------|-----------|----------|-------------------|----------|------------------|----------------------|----------|-----------|-------------------|
| Alabama | X | X | | | | | | | X | |
| Hawaii | X | X | | X | | | X | X | X | X |
| Iowa | X | X | | X | | | | X | X | |
| Kansas | | X | | X | | | | | X | |
| Minnesota | X | X | X | X | X | | X | | X | X |
| Mississippi | | X | X | | X | | | X | X | |
| New Hampshire | X | X | | X | X | X | | X | X | |
| New York | X | X | | X | | | | | X | X |
| North Carolina DPS | | X | | | | | | | X | |
| Utah | X | X | X | X | X | X | X | | X | X |
| Virginia | X | X | | X | | X | | | X | |
| Total | 8 | 11 | 3 | 8 | 4 | 3 | 3 | 4 | 11 | 4 |

Table 5B. Core Asset Data Collected by Agencies

| State | Ramp Meters | ROW | Roadside Facilities | Roadside Features | Sign Reflectivity | Signal Post | Signs | Structures or Walls | Other | Description |
|-----------|-------------|-----|---------------------|-------------------|-------------------|-------------|-------|---------------------|-------|---|
| Alabama | | | | X | | | X | X | | N/A |
| Hawaii | | | | X | X | X | X | X | X | See <i>Related Resources</i> below for details about 2019 assets. |
| Iowa | | | | X | | | X | X | | N/A |
| Kansas | | | | | | | | | | N/A |
| Minnesota | X | | | X | X | X | X | | | N/A |

| State | Ramp Meters | ROW | Roadside Facilities | Roadside Features | Sign Reflectivity | Signal Post | Signs | Structures or Walls | Other | Description |
|--------------------|-------------|----------|---------------------|-------------------|-------------------|-------------|----------|---------------------|----------|---|
| Mississippi | | | | | | | | | X | Anything required by HPMS. |
| New Hampshire | | X | X | X | | | X | | X | <ul style="list-style-type: none"> Overhead signs (not all signs). Rock slopes. |
| New York | | | | | | | X | X | | N/A |
| North Carolina DPS | | | | | | | | | | N/A |
| Utah | X | | X | X | X | X | X | X | X | Cattle guards. |
| Virginia | X | X | X | | | X | | X | | N/A |
| Total | 3 | 2 | 3 | 6 | 3 | 4 | 7 | 6 | 4 | N/A |

Related Resources:

Roadview Explorer 5 Manual, Hawaii Department of Transportation, 2020.

<https://rvx.mandli.com/hawaii/help/index.php>

This web page provides links to information about asset data collected by Hawaii DOT in 2019 using the Roadview Explorer application. Five help videos include an introduction to the software; methods to search for assets, view them in Photolog and navigate the program; methods to view and sort pavement data based on customizable criteria; and a case study. Other links provide access to user documentation and features of the application.

“Asset Management,” Roadview LiDAR Viewer, Hawaii Department of Transportation, undated.

See [Attachment C](#).

Adding and editing assets are discussed in this brief help resource for users.

Data Collection and Extraction Methods

Respondents indicated which of the following technology and tools are used by their agencies to collect and extract asset data:

- GPS devices.
- LiDAR (airborne).
- LiDAR (terrestrial).
- Manual data collection.
- Mobile devices (smartphone, tablet).
- Multisensor mobile mapping platforms.
- Photogrammetric processes.
- Photolog.
- Surface geophysics.
- Unmanned aerial systems (UAS).
- Windshield survey.
- Other.

All of the 11 agencies except New York State DOT use GPS devices in asset data collection and extraction. Other commonly used technology and tools are terrestrial LiDAR (Alabama, Hawaii, Iowa, Kansas, Minnesota, Mississippi, North Carolina DPS and Utah); manual data collection (Iowa, Kansas, Minnesota, Mississippi, New Hampshire, North Carolina DPS, Utah

and Virginia); and mobile devices (Alabama, Iowa, Minnesota, Mississippi, New Hampshire, Utah and Virginia). Tools and technology least used are airborne LiDAR, photogrammetric processes and surface geophysics.

The Utah DOT respondent noted that UAS use for data collection and extraction is experimental. The Hawaii DOT respondent noted that the agency also uses the laser crack measurement system (LCMS) to collect pavement condition data (see **Data Quality Management Plan**, page 22, for information about Hawaii DOT’s use of LCMS).

Iowa and Utah DOTs use the most tools and technologies to collect and extract data (eight each) followed by Mississippi DOT and North Carolina DPS (seven each). Agencies using the least number of tools and technologies are Kansas (three) and New York State (two) DOTs. Survey results are summarized in Tables 6A and 6B.

Table 6A. Methods Used to Collect and Extract Asset Data

| State | GPS Devices | LiDAR (Airborne) | LiDAR (Terrestrial) | Manual Data Collection | Mobile Devices | Multisensor Mobile Mapping Platforms | Photogrammetric Processes |
|--------------------|-------------|------------------|---------------------|------------------------|----------------|--------------------------------------|---------------------------|
| Alabama | X | | X | | X | | |
| Hawaii | X | | X | | | X | |
| Iowa | X | | X | X | X | | X |
| Kansas | X | | X | X | | | |
| Minnesota | X | | X | X | X | | |
| Mississippi | X | X | X | X | X | | X |
| New Hampshire | X | | | X | X | | |
| New York | | | | | | X | X |
| North Carolina DPS | X | X | X | X | | X | |
| Utah | X | X | X | X | X | X | |
| Virginia | X | | | X | X | | |
| Total | 10 | 3 | 8 | 8 | 7 | 4 | 3 |

Table 6B. Methods Used to Collect and Extract Asset Data

| State | Photolog | Surface Geophysics | UAS | Windshield Survey | Other | Description |
|---------------|----------|--------------------|----------------|-------------------|-------|-----------------------------------|
| Alabama | X | | X | X | | N/A |
| Hawaii | | | | | X | LCMS for pavement condition data. |
| Iowa | X | | X | X | | N/A |
| Kansas | | | | | | N/A |
| Minnesota | | | | | | N/A |
| Mississippi | X | | | | | N/A |
| New Hampshire | | X | X ¹ | | | N/A |
| New York | | | | | | N/A |

| State | Photolog | Surface Geophysics | UAS | Windshield Survey | Other | Description |
|--------------------|----------|--------------------|----------|-------------------|----------|-------------|
| North Carolina DPS | | | X | X | | N/A |
| Utah | X | | | X | | N/A |
| Virginia | X | | | X | | N/A |
| Total | 5 | 1 | 4 | 5 | 1 | |

1 UAS data collection in Utah is experimental.

Data Collection and Coordination Practices

Survey respondents from 11 agencies briefly described data collection and coordination practices, including:

- Whether contractors or in-house staff performed data collection, extraction and management.
- Whether agencies collected asset data during project delivery phases (from design through construction) and entered the data into asset management information systems for future use.
- How agencies coordinated statewide data collection with other groups or units, meeting the competing demands for the type and extent of asset data without duplicating efforts.

Highlights of survey responses follow and are summarized in Table 7.

Responsibility for Data Collection, Extraction and Management

Ten of the 11 respondents reported that both agency staff and contractors perform the field asset data collection, extraction and management efforts within their agencies, depending on the asset. New York State DOT uses contractors only for these functions. None of the participating agencies use agency staff only.

Collecting Data During Project Delivery Phases

Agencies in six states—Iowa, Kansas, Minnesota, New Hampshire, New York and Virginia—collect asset data during project delivery phases (design through construction). This data is then entered into asset management information systems for future use.

Coordinating Data Collection to Avoid Duplication

Enterprise coordination with other functional areas is the primary practice reported by respondents to avoid duplication and still meet the competing demands for the type and extent of asset data, although the Alabama DOT respondent noted that “[it] is hard to say that there is no duplication.” In most cases, specific business units within each agency coordinate data collection:

- Alabama: Data Collection Section of the Maintenance Bureau.
- Minnesota: Asset Management Project Office, with active participants in statewide functional organizations such as traffic engineers, maintenance engineers and GIS specialists.
- New Hampshire: Central asset management office.

Utah and Virginia DOTs distribute responsibility among multiple divisions and champions. Hawaii DOT has developed a data dictionary and tools that are used throughout the agency by functional units such as maintenance, design and safety.

The Mississippi DOT respondent noted that the agency’s Planning and Research divisions use the same contract for HPMS and PMS data collection and extraction. North Carolina DPS coordinates large-scale data collection with the North Carolina Geographic Information Coordinating Council, an organization within the North Carolina Department of Information Technology that promotes GIS technology and the “value of reliable geographic information for effective decision making” (see *Related Resource* below). Table 7 summarizes survey results.

Table 7. Data Collection and Coordination Practices

| State | Contractor Collects Data | Staff and Contractor Collect Data | Data Collected During Project Phases | Description of Coordination Efforts |
|--------------------|--------------------------|-----------------------------------|--------------------------------------|--|
| Alabama | | X | | Data Collection Section of the Maintenance Bureau coordinates data collection of assets leveraged in enterprise GIS, though “it is hard to say that there is no duplication.” |
| Hawaii | | X | | Development of agencywide data dictionary and tools that utilize the data needed by various offices (such as maintenance, design and safety). |
| Iowa | | X | X | Enterprise coordination. |
| Kansas | | X | X | <ul style="list-style-type: none"> Agency staff responsible for all data collection except local bridge inspection data. Bridge inspection data collected by consultants. |
| Minnesota | | X | X | <ul style="list-style-type: none"> Coordination through Asset Management Project Office (AMPO), which is responsible for understanding the various needs and uses of data through involvement with stakeholders and subject matter experts. Active participants in statewide functional organizations, such as traffic engineers, maintenance engineers and GIS specialists. |
| Mississippi | | X | | Planning and Research divisions use same contract for HPMS and PMS data collection and extraction (if needed). |
| New Hampshire | | X | X | Governance structure and central asset management office. |
| New York | X | | X | N/A |
| North Carolina DPS | | X | | Partnership with the North Carolina Geographic Information Coordinating Council to coordinate large-scale data collection (see <i>Related Resource</i> below). |

| State | Contractor Collects Data | Staff and Contractor Collect Data | Data Collected During Project Phases | Description of Coordination Efforts |
|--------------|--------------------------|-----------------------------------|--------------------------------------|---|
| Utah | | X | | <ul style="list-style-type: none"> • Single project manager coordinates data for multiple groups. • For structures and pavement data, champions from each division coordinate with the project manager. |
| Virginia | | X | X | Responsibility assigned to various divisions and areas of expertise. |
| Total | 1 | 10 | 6 | |

Related Resource:

North Carolina Geographic Information Coordinating Council, North Carolina Department of Information Technology, undated.
<https://it.nc.gov/about/boards-commissions/north-carolina-geographic-information-coordinating-council>

From the web site: The North Carolina Geographic Information Coordinating Council (GICC) was established by the NC [North Carolina] General Assembly to develop policies regarding the use of geographic information, geographic information systems (GIS), and related technologies. The Council is an organization of volunteers whose goals are to:

- Collaborate in geographic information and systems involving state, federal and local government agencies, academic institutions, private organizations and individuals across the state.
- Improve the quality, access, cost-effectiveness and utility of North Carolina’s geographic information and resources, and promote geographic information as a strategic resource.
- Efficiently collect, develop and use geographic information through voluntary exchange and sharing of data and technical know-how.
- Explore, guide and provide a framework for coordination including:
 - Developing standards.
 - Planning strategically.
 - Resolving policy and technical issues.
 - Providing central direction and oversight.
 - Advising the Governor and the Legislature as to needed directions, responsibilities and funding regarding geographic information.

Data Quality Management Plan

Nine agencies have a data quality management plan for data collection. Respondents from agencies in four of these states—Kansas, Mississippi, Utah and Virginia—reported having a plan that can be shared. See below for data quality management plans provided by respondents from all of these agencies except Virginia DOT; the respondent from that agency did not respond to follow-up requests for the plan.

Five agencies—Iowa, Minnesota, New Hampshire and New York State DOTs and North Carolina DPS—have a plan but can’t share it. The respondent from Minnesota DOT noted that

data quality management plans vary by asset and are not documented within a single source. New Hampshire DOT's data quality management plan is currently in draft form. The North Carolina DPS respondent reported that the plan is not a formal written document.

The respondents from Alabama and Hawaii DOTs reported that their agencies do not have a plan. The Hawaii DOT respondent did provide the agency's management plan for quality pavement condition data.

Hawaii

Management Plan for Quality Pavement Condition Data, Highways Planning Survey Section, Hawaii Department of Transportation, January 2019.

See [Attachment D](#).

From the plan goals (page 2 of the report, page 3 of the PDF):

This management plan begins by defining what data needs to be collected, how it will be collected, as well as how it will be reported and maintained after it is collected. Additionally, this plan will cover the process for reviewing and checking the data for acceptance, as well as all of the quality control measures required to assure the data is accurate and complete. This plan includes a contractor data quality management plan that describes the data collection equipment, calibration, certification, and operator training used to collect pavement condition data at highway speeds for HDOT [Hawaii DOT]. This document also includes the contractor's quality control measures conducted before and during the data collection, during the data processing, and the checks to assure data completeness and validity.

Other topics include data collection (page 3 of the report, page 4 of the PDF), data metrics and protocols (page 6 of the report, page 7 of the PDF), and data issues (page 8 of the report, page 9 of the PDF).

LCMS, which is used for the pavement condition survey, is briefly discussed on page 3 of the plan (page 4 of the PDF):

The distress data will be collected using a 3D pavement scanner, a laser crack measuring system (LCMS), driven at highway speeds and processed with automated analysis. There will not be any manual data collection for the SHS [state highway system] or other routes annually collected.

A metric involving LCMS is discussed on page 6 of the plan (page 7 of the PDF):

Faulting for jointed concrete pavements: Faulting computed based on AASHTO Standard R36-13 with the parameters specified in the HPMS Field Manual, using data measured with LCMS sensors.

Kansas

Kansas Pavement Condition Data Collection Quality Management Plan, Pavement Management, Kansas Department of Transportation, 2018.

See [Attachment E](#).

Kansas DOT's quality management plan addresses the data collection process (beginning on page 4 of the report), including collection vehicles, staff responsible for collecting data and quality control activities before and during data collection. Also included are discussions of the data processing and reporting processes (beginning on pages 10 and 12, respectively).

Mississippi

Appendix 1: Pavement Management Manual, Development of a Pavement Management Manual and Data Quality Plan for the Mississippi Department of Transportation, Mississippi Department of Transportation, Gregory M. Duncan, Luis M. Sibaja Vargas, Prashant K. Ram and Kathryn A. Zimmerman, June 2017.

<https://mdot.ms.gov/documents/Research/Reports/Interim%20&%20Final/State%20Study%20268%20-%20Development%20of%20a%20Pavement%20Management%20Manual%20and%20Data%20Quality%20Plan%20for%20MDOT.pdf>

The Pavement Management Manual is Appendix 1, beginning on page 57 of the PDF. Chapter 5 of the manual (page 78 of the PDF) describes the functional classification system for maintenance and rehabilitation. Current pavement management data collection practices are discussed in Chapter 6 (beginning on page 82 of the PDF). Additional topics include pavement performance modeling (Chapter 7, page 86 of the PDF), treatment selection (Chapter 8, page 88 of the PDF) and pavement management reporting (Chapter 9, page 92 of the PDF).

Utah

Quality Management Plan, Utah Department of Transportation, 2017.

<https://docs.google.com/a/utah.gov/viewer?a=v&pid=sites&srcid=dXRhaC5nb3Z8cGF2ZW1lbnR8Z3q6MzU2NjkzZDg2ZjE5OWUyNQ>

This plan describes the high-speed data collection and reporting activities of Utah DOT's asset management contractor (Mandli Communications). *From the executive summary:*

The QM [quality management] plan outlines practices in place throughout the service project collection and processing efforts. It describes the roles and responsibilities for successful QM of a service project and presents examples of practices currently in use by Mandli for Quality Control (QC). Creating and maintaining an effective QM plan for Mandli service work includes specifying the data collection rating protocols to be used, establishing quality standards and acceptance criteria, identifying responsibilities, performing QC activities, monitoring and testing for acceptance, taking timely and appropriate corrective actions, and performing QM reporting.

Flowcharts on page 3 of the PDF illustrate the vehicle configuration and calibration predeployment activities along with data collection and extraction. A discussion of data collection begins on page 11 of the PDF; a discussion of data reduction and extraction begins on page 19 of the PDF. Appendix A summarizes the collection system configuration (photolog, positional orientation, LiDAR and LCMS) (page 25 of the PDF).

Related Resources

Below are resources related to agencies' statewide asset data collection and management efforts that were provided by respondents or obtained through a limited literature search.

Hawaii

"A Plan for Every Section of Every Road on Every Island," Goro Sulijoadikusumo, *12th Annual National Conference on Transportation Asset Management*, July 2018.

<http://onlinepubs.trb.org/onlinepubs/Conferences/2018/AssetManagement/SulijoadikusumoAPIanforEverySectionofEveryRoad.pdf>

This presentation discusses the history of the road information system project conducted on the Hawaiian Islands. It includes information on the technology used to gather data, reporting tools and the use of the data for project prioritization.

Use of 3D Digital for Asset Management, *3D Engineered Models: Schedule, Cost and Post-Construction*, Every Day Counts, Federal Highway Administration, April 26, 2016.

<https://connectdot.connectsolutions.com/p1ruf5vg9yn/?launcher=false&fcsContent=true&pbMode=normal>

Complete series: <https://www.fhwa.dot.gov/construction/3d/edc3webinars.cfm>

This webinar is one of seven webinars created by Federal Highway Administration under the third round of the Every Day Counts initiative to assist transportation agencies in adopting 3D engineered models. This presentation addresses the use of LiDAR and other tools for asset management.

“Integration of Point Cloud Data and Photo-Log Images of Highways Within VR-Design Studio,” Goro Sulijoadikusumo, *FORUM8 International VR Symposium*, Users Report, Vol. 107, 2014.

<http://www.forum8.co.jp/user/user107-e.htm>

This presentation describes Hawaii DOT’s use of the point-cloud Photo Processing Extension (PPE) plug-to add color to the point cloud data collected, using pixel data from the photo-log images of the target roads and surrounding structures.

Photolog to Digilog: 3D Asset Management, Hawaii Department of Transportation and Mandli Communications, 2014.

http://www.heep.org/conference/archive/2014/files/presentations/photolog_to_digilog.pdf

This presentation examines various data collection technologies and asset inventories.

Mandli X-35, Mandli Communications, 2020.

<https://www.mandli.com/solutions/mandli-x-35/>

This vendor web site describes the features and functions of the data collection vehicle used by the Hawaii DOT contractor.

Roadview: Data Collection and Processing, Roadview, Inc., 2020.

<https://www.roadview.com/>

This vendor web site describes Roadview, “an industry leader in the collection, reduction and delivery of large-scale, geo-referenced transportation data sets.”

Iowa

Guide to Life-Cycle Data and Information Sharing Workflows for Transportation Assets, David Jeong, Charle Jahren, Jennifer Shane, Kristen Cetin, Tuyen Le and Chau Le, Iowa Department of Transportation, Midwest Transportation Center and U.S. Department of Transportation, September 2018.

http://publications.iowa.gov/28264/1/TR-714_Final%20Report_guide_to_life-cycle_data_and_info_sharing_w_cvr.pdf

From the abstract:

The purpose of this research was to identify current data workflows and areas for improvement for five of the most common types of highway assets—signs, guardrails, culverts, pavements and bridges—and offer guidance to practitioners on how to better collect, manage and exchange asset data.

From the report’s conclusions beginning on page 86 of the report (page 100 of the PDF):

- The research team’s interviews with highway professionals revealed that asset maintenance personnel are required to manually locate data in project documents and merge the data into asset management systems. In many cases, asset inventory data

must be collected a second time from the field using mobile devices. Properly transferring the appropriate asset data in the right format to the operation and maintenance phases will reduce the costs of duplicating data collection efforts, which will, in turn, enhance productivity and reduce operation costs.

- An extensive review of the literature, manuals, project documents and software applications centering on data attributes was also conducted. These data were refined and organized in IDM [information delivery manual] documents in which the processes and data exchange relationships among the project players were visually represented. The study developed five separate IDMs for five different types of assets. Each IDM is composed of several PMs [process maps] and one ER [exchange requirement] matrix. In total, 15 PMs and 5 ER matrices were developed.
 - PMs can help practitioners better understand the work process and interactions between involved parties for different types of projects (i.e., new construction, reconstruction, repair and maintenance).
 - ER matrices showed who needs what data and who can provide the data.
- An ideal process map and suggestions for improvement were proposed to further streamline the workflows throughout the project life cycle and reduce duplicate data collection efforts during the operation and maintenance phases.

New, Web-Based System to Better Interconnect Iowa DOT Data, Blog Post, *Transportation Matters for Iowa*, Iowa Department of Transportation, July 2017.

<https://www.transportationmatters.iowadot.gov/2017/07/new-web-based-system-to-better-interconnect-iowa-dot-data-.html>

From the blog post: The Iowa Department of Transportation has long been a leader in the collection of transportation data, including things like traffic volumes, lane width and sufficiency ratings. Many custom data systems have been developed by or for us that use the latitude and longitude of the centerlines of every public roadway to give a common linear reference point to tie together many types of data. These systems, most notably the Geographic Information Management System (GIMS), provided access to a variety of information, but were sometimes complex to use and required a desktop application to access the data. In our quest to be smarter, simpler and customer driven, the interface for accessing many of the data sets is moving away from GIMS to a mobile-friendly web-based environment we are calling the Roadway Asset Management System (RAMS).

....

RAMS uses a commercially available geographic information system (GIS) product called Roads and Highways as its foundation. Roads and Highways was developed by ESRI, a GIS mapping software company the Iowa DOT has worked with extensively over the years and provides a universal method to locate our business data.

Iowa DOT's RAMS Administrator Mike Clement points out the "off-the-shelf" system will be much more user-friendly and allow any Iowa DOT employee with internet access and logged into the Iowa DOT's network to view, analyze and manage data in the field.

Ryan Wyllie, with the Office of Research and Analytics, says, "As more data sets are brought into the system, they can easily be tied together for analysis purposes. For example, we can take our deer kill data and merge it with crashes, lighting and signing. We might see that instead of just needing to post a sign in an area with high deer hits, perhaps we should look at putting a new light in the area."

The team says using Road and Highways will also make updating data simpler by moving from a manual to an automated process. Clement said, “When there are any road changes, one update to the system will automatically make the same change across all data sets. Right now, users have to do a lot of manual updating.”

Utah

“Using Aerial LiDAR Technology to Update Highway Feature Inventory: Utah Department of Transportation,” *GIS in Transportation*, Federal Highway Administration, Spring 2017. (See pages 1-3 for the newsletter article cited.)

https://www.gis.fhwa.dot.gov/newsletters/Newsletter_Spring2017.pdf

This newsletter article briefly describes one of Utah DOT's GIS initiatives—the LiDAR-based Maintenance Feature Inventory. The agency uses mobile LiDAR data and airborne mapping “to provide effective information about road assets.” *From the newsletter:*

How has the use of the application/geospatial technologies met the transportation, business and/or technical needs of your agency or department? How do you know?

State DOTs and transportation agencies are always looking for better techniques to reduce costs. Airborne LiDAR is much faster in data collection than conventional surveying methods. This project further demonstrated that the point density of airborne LiDAR data is sufficient for most highway assets. Also, airborne LiDAR has the advantage over ground-based inventory technologies of providing a different perspective; as a result, it can detect objects like bridges and culverts that may be hidden from the mobile platform (see Figures 2a and 2b). In addition, the data processing procedure proposed in this project improved the efficiency of airborne LiDAR. We conclude that airborne LiDAR is a highly promising technique that can serve as a complement to other techniques for highway inventory data collection.

“Highway Asset Inventory Data Collection Using Airborne LiDAR,” Yi He, Ziqi Song and Zhaocai Liu, *Transportation Research Board 96th Annual Meeting*, Paper #17-04058, 2017.

Citation at <https://trid.trb.org/view/1438599>

From the abstract: The focus of this paper is to analyze the capability and strengths of airborne LiDAR in highway inventory data collection. A field experiment was conducted to collect airborne LiDAR data, and an ArcGIS-based algorithm was proposed to process the data. The results demonstrate the effectiveness of our proposed algorithm as well as the feasibility and high efficiency of airborne LiDAR for highway inventory data collection.

Related Resource:

“Highway Asset Inventory Data Collection Using Airborne LiDAR,” Yi He and Ziqi Song, *SELECT Annual Meeting and Technology Showcase*, September 2016.

<https://conference.usu.edu/selectshowcase/includes/Posters/TransportationInfrastructure/Highway%20Asset%20Inventory%20Data%20Collection%20Using%20Airborne%20LiDAR.pdf>

This poster for an unrelated conference describes the project addressed in the TRB conference paper cited above.

Implementation of Aerial Lidar Technology to Update Highway Feature Inventory, Yi He, Ziqi Song, Zhaocai Liu and Rukhsana Lindsey, Utah Department of Transportation, December 2016.

<http://www.udot.utah.gov/main/uconowner.gf?n=34265018898672851>

This report provides an overview of several data collection methodologies commonly used by

state DOTs and discusses LiDAR and its capabilities and limitations in greater detail. The report also offers a comparison of the different types of LiDAR (airborne, mobile and terrestrial), and the advantages and disadvantages of each.

Geospatial 3D As-Found Surveys: A Key Component of Utah's Integrated Asset Management Program, *Program Case Study: 3D Engineered Models: Schedule, Cost and Post-Construction*, Every Day Counts, Federal Highway Administration, 2015.

<https://www.fhwa.dot.gov/construction/3d/hif15023.pdf>

From the introduction:

UDOT's [Utah DOT's] vision for asset management is a cradle-to-cradle approach where asset information requirements in each phase of project delivery drive the way asset data is collected and used, leading to efficient business plans and truly lean asset management. Through cross-divisional synergies and leveraging parallel departmental initiatives, UDOT ultimately initiated an asset data collection program that is organically evolving into the first fully integrated asset management system in the United States, one that is producing results in the form of cost savings and process efficiencies.

This publication describes elements of Utah DOT's asset management program:

- UPlan is a web-based GIS platform that allows internal and external users to easily customize and share maps of geospatially located data.
- UGate is the agency's central GIS data repository. UGate pulls data from many different UDOT databases that the divisions then access through portals.
- Linear Bench, developed with consultant assistance, is a straight-line diagram application that complements UPlan in specific cases where there are so many assets in place that a map does not properly communicate the relationship between them (e.g., assets in a roadway).
- Esri's Open Data provides easy and transparent access to all public UDOT data in multiple formats, not just in GIS format as UPlan does.

Utah DOT Leveraging LiDAR for Asset Management Leap, Phil Ellsworth, Utah Department of Transportation, 2013.

<https://www.udot.utah.gov/main/uconowner.gf?n=8336606666333974>

From the introduction: In a world where LiDAR has revolutionized movie making, the Utah Department of Transportation is employing this impressive technology on a groundbreaking data collection project that will set the stage for vastly improved asset management—not just at UDOT, but across the country. After advertising a one-of-a-kind Request for Proposals (RFP) in the fall of 2011, UDOT has recently entered into a contract with Mandli Communications to gather, identify and process a wide variety of roadway assets along its entire 6,000+ center lane miles of [s]tate [r]outes and [i]nterstates. With the winning bidder (Mandli) proposing to use mobile LiDAR as its primary technology on the project (along with an array of other sensors), this UDOT contract may very well be the first of its kind in technological magnitude and scope.

Asset Data Management

Additional aspects of agencies' asset data management programs were discussed, including:

- Staff access to data.
- Asset data migration and storage.
- Asset data delivery format.

Staff Access to Data

Data Products

Respondents from 11 agencies described the products from the data collection and extraction efforts that are made available to staff, including extracted assets, imagery and point cloud data. All agencies make extracted assets available to staff, and all except Minnesota DOT make imagery available. The Minnesota DOT respondent noted that imagery and point cloud data are available to staff by special request. Point cloud data is available to staff in seven states: Alabama, Hawaii, Iowa, Mississippi, North Carolina, Utah and Virginia.

In addition to these products, Mississippi DOT provides PMS data to staff, and New Hampshire DOT provides GIS data. Hawaii DOT asset data is available through the agency's Roadview Explorer application (see page 18 for information about this application). Utah DOT makes data available through UPlan, "a web-based GIS platform that allows internal and external users to easily customize and share maps of geospatially located data." Table 8 summarizes survey responses.

Table 8. Data Products Available to Staff

| State | Extracted Assets | Imagery | Point Cloud | Other | Description |
|--------------------|------------------|-----------|-------------|----------|--|
| Alabama | X | X | X | | N/A |
| Hawaii | X | X | X | X | Data available through Roadview Explorer application. |
| Iowa | X | X | X | | N/A |
| Kansas | X | X | | | N/A |
| Minnesota | X | | | X | Imagery and point cloud data available by special request. |
| Mississippi | X | X | X | X | PMS data. |
| New Hampshire | X | X | | X | GIS. |
| New York | X | X | | | N/A |
| North Carolina DPS | X | X | X | | N/A |
| Utah | X | X | X | X | Data available through Utah DOT UPlan web site. |
| Virginia | X | X | X | | N/A |
| Total | 11 | 10 | 7 | 5 | |

Data Distribution Methods

A range of methods are used by respondents to make asset data available to staff, including:

- Agency-hosted web-based application.
- Consultant-hosted web-based application.
- Enterprise data warehouse.
- Multiple data marts.
- On-premise file server.
- Separate databases.
- Separate geodatabases.
- Web services.

Nine agencies (all except Alabama DOT and North Carolina DPS) use an agency-hosted web application to make asset data available to staff, and all except Alabama and Kansas DOTs and North Carolina DPS use enterprise data warehouses. Only two state DOTs use consultant-hosted web applications (Hawaii and Iowa) or multiple data marts (Hawaii and Virginia).

Less frequently used methods are separate databases (Hawaii, Minnesota, Mississippi, New Hampshire and Virginia); web services (Hawaii, Iowa, Minnesota, New York and Virginia); and separate geodatabases (Hawaii, Minnesota, New Hampshire and Virginia).

The respondent from North Carolina DPS reported that asset data is made available through North Carolina DOT. The New Hampshire DOT respondent noted that putting legacy systems like bridge management data in one location is “still a work in progress.” Table 9 summarizes survey responses.

Table 9. Methods Used to Share Asset Data With Staff

| State | Agency Hosted Web App | Consultant Hosted Web App | Data Warehouse | Multiple Data Marts | On Premise File Server | Separate Databases | Separate Geo databases | Web Services | Other |
|--------------------|-----------------------|---------------------------|----------------|---------------------|------------------------|--------------------|------------------------|--------------|----------------|
| Alabama | | | | | X | | | | |
| Hawaii | X | X | X | X | X | X | X | X | |
| Iowa | X | X | X | | | | | X | |
| Kansas | X | | | | | | | | |
| Minnesota | X | | X | | X | X | X | X | |
| Mississippi | X | | X | | X | X | | | |
| New Hampshire | X | | X | | X | X | X | | |
| New York | X | | X | | | | | X | |
| North Carolina DPS | | | | | | | | | X ¹ |
| Utah | X | | X | | | | | | X ² |
| Virginia | X | | X | X | X | X | X | X | |
| Total | 9 | 2 | 8 | 2 | 6 | 5 | 4 | 5 | |

1 Through North Carolina DOT.

2 Available through Utah DOT UPlan site.

Asset Data Migration and Storage

Asset data is migrated from mobile or other collection practices to storage through various mechanisms, primarily web services but also through contractors and paper or manual practices. Some state agencies participating in the survey, such as Kansas and Minnesota DOTs, use multiple processes, depending on the asset. For example, one collection vehicle in Kansas gathers pavement data that is migrated through solid-state drives; state-owned bridge data is collected on paper and entered into a bridge management system at agency headquarters; data for locally owned bridges is entered via a web portal. Survey responses are summarized below by practice:

Web Services

- *Alabama*. All non-LiDAR inventories or asset collection is migrated using web services that are synced daily to features within an Alabama ArcGIS portal. LiDAR data is moved from a unit via hard drives for processing and then stored within an on-site file server.
- *Iowa*. Asset data is stored in a portal.
- *Kansas*. Collection vehicle gathers pavement data that is transferred to storage through solid-state drives.
- *Minnesota*:
 - Pavement. An annual pavement survey/van is a standalone process.
 - Roadside assets. Much of this data, if it is collected or updated manually, is managed through GIS apps that sync with the agency's transportation asset management system (TAMS) (AgileAssets).
- *New Hampshire*. Mobile data collection is migrated primarily with iPads to the Esri cloud and to the agency's GIS.

Contractor

- *Hawaii*. The data collection contractor submits all deliverables to Hawaii DOT, and data is ingested into the agency's enterprise system.

Mobile and Paper Processes

- *Kansas*:
 - State-owned bridges. Data is collected on paper and then entered into a bridge management system at agency headquarters.
 - Locally owned bridges. Data is entered via a web portal.

Other

- *North Carolina DPS*: Data is stored and provided by the key stakeholder.
- *Utah*. The agency is currently procuring a new maintenance/asset management system for this process.

Asset Data Delivery Format

Respondents from 11 agencies described how data from agencies' statewide asset collection effort is delivered:

- Vendor proprietary format, although a perpetual license is provided to the state.
- Standard format that is open to a third party, allowing full access of the data.
- Other format.

Alabama DOT is the only agency that uses a vendor proprietary format. Five agencies—Iowa, Kansas, New York and Utah DOTs and North Carolina DPS—use a standard format. The North Carolina DPS respondent added that agency data is available via a web site and is provided to North Carolina DOT.

Agencies in two states—Hawaii and Virginia—use both a vendor proprietary and standard format. The Hawaii DOT respondent added that depending on the sensor (such as LiDAR) and data, the agency uses a combination of both proprietary and standard formats with access via REST services to third parties. Table 10 summarizes survey results.

Table 10. Format for Delivering Asset Data

| State | Vendor Format | Standard Format | Other | Description |
|--------------------|---------------|-----------------|----------|--|
| Alabama | X | | | N/A |
| Hawaii | | | X | <ul style="list-style-type: none"> • Combination of proprietary and standard formats, depending on the sensor (such as LiDAR) and data. • Access via REST services to third parties. |
| Iowa | | X | | N/A |
| Kansas | | X | | N/A |
| Minnesota | | | X | Format specific to agency TAMS asset attribution parameters, since it is the source of record for most nonpavement/bridge data. |
| Mississippi | | | X | <ul style="list-style-type: none"> • Format specified in HPMS and PMS, depending on the asset. • Typically Access databases and/or CSV files. |
| New Hampshire | | | X | <ul style="list-style-type: none"> • <i>Externally</i>: Some data available through GIS services, other tabular downloads. • <i>Internally</i>: More data available through native systems, databases, data warehouse, GIS, etc. |
| New York | | X | | N/A |
| North Carolina DPS | | X | | Data available via a web site and is provided to North Carolina DOT. |
| Utah | | X | | N/A |
| Virginia | | | X | Vendor proprietary and standard formats. |
| Total | 1 | 5 | 5 | |

Assessment of Agency Practices

Benefits of a Coordinated Approach

Respondents from 11 agencies indicated that their agencies' operations were enhanced as a result of implementing a coordinated statewide asset data collection and management strategy. The New York State DOT respondent noted that since implementation had only begun, the value of this approach is not yet well understood. The Virginia DOT respondent said that the data collection process has led the agency to develop a needs-based maintenance and operations program budget since 2006. In 2017, the Commonwealth of Virginia's General Assembly provided additional funding for pavements and bridges, which began with presented needs from the data collected.

The key benefits reported by nine respondents were:

- Improved performance.
- Streamlined resources.
- Comprehensive view of assets.
- Opportunities for increased funding.

Table 11 summarizes survey responses.

Table 11. Benefits of a Coordinated Asset Data Collection and Management Strategy

| Topic | State | Description |
|-------------------------------------|--|---|
| Improved Performance | Alabama, Kansas, New Hampshire, North Carolina DPS, Utah | <ul style="list-style-type: none"> • <i>Alabama</i>. Extracted data more easily leveraged by enterprise systems. • <i>Kansas</i>. State is nationally recognized for its pavement quality. • <i>New Hampshire</i>: <ul style="list-style-type: none"> ○ Moving most roadside collection to iPads and Esri cloud facilitates standardization and makes upkeep easier. ○ Governance structure and central coordination help ensure data maintenance. • <i>North Carolina DPS</i>. Statewide high-density LiDAR. • <i>Utah</i>. Time and data alignment. |
| Streamlined Resources | Iowa, Minnesota, Mississippi | <ul style="list-style-type: none"> • <i>Iowa</i>. Less duplication of collection and storage. • <i>Minnesota</i>. Unifying approach and quality contract management among districts allow for statewide stakeholder collaboration, which leads to economies of scale. • <i>Mississippi</i>. Using the same contract for HPMS and PMS reduces duplication/mobilization costs and time. |
| Comprehensive View of Assets | Kansas | Issues with certain construction types more apparent. |
| Increased Funding | Virginia | In 2017, additional funding for pavements and bridges from state's General Assembly. |

Challenges with a Coordinated Approach

According to the 11 respondents, implementing a statewide asset data collection and management approach was not without its challenges.

The primary challenges reported by respondents were:

- Enterprise-level coordination.
- Differing data needs among stakeholders.
- Resources, including costs and staffing.

Table 12 summarizes survey responses.

Table 12. Challenges With a Coordinated Asset Data Collection and Management Strategy

| Topic | State | Description |
|--------------------------------------|---|---|
| Enterprise-Level Coordination | Alabama, Iowa, Minnesota, New Hampshire, Utah | <p><i>Alabama</i>. Difficulty managing and organizing large data sets.</p> <p><i>Minnesota</i>. Variance in districts' legacy data.</p> <p><i>New Hampshire</i>. Coordination takes time. One group wants to collect data quickly for its purpose only.</p> <p><i>Utah</i>. Pulling information from a number of systems to obtain a comprehensive look at all agency assets.</p> |

| Topic | State | Description |
|--------------------------------|--|---|
| Differing Data Needs | Minnesota, Mississippi, North Carolina DPS | <i>Minnesota.</i> Variable buy-in for the need for asset data. <i>Mississippi.</i> Different segmentation of roadways. <i>North Carolina DPS.</i> Determining the needs and requirements of all end user agencies. |
| Resources (Cost, Staff) | Hawaii, Minnesota, New Hampshire, Virginia | <i>Hawaii.</i> Getting all staff up to speed. <i>Minnesota.</i> Competition for resources to collect and manage data versus deliver programs. <i>New Hampshire.</i> Only able to accommodate a limited number of ongoing collection efforts. <i>Virginia.</i> Expense: \$38 million annually for bridge inspection data collection alone (consultants and in-house staff). |
| Other | Minnesota, New York | <i>Minnesota:</i> <ul style="list-style-type: none"> • Variable technologies and platforms among districts. • Capturing as-constructed data. <i>New York.</i> Writing a specification to update asset data from construction projects. |

Recommendations for Implementation

Nine agencies provided recommendations for other agencies developing a coordinated statewide program to collect and manage asset data. Most recommendations encouraged:

- Beginning with a strong foundation and consistent framework.
- Establishing governance and coordination among stakeholders.
- Communicating to illustrate the benefits of this approach and to work through any challenges.

Table 13 summarizes survey responses.

Table 13. Recommendations for Implementing a Coordinated Approach to Asset Data Collection

| Topic | State | Description |
|---|--|--|
| Strong Foundation and Consistent Framework | Hawaii, Iowa, Minnesota, New Hampshire, Utah, Virginia | <i>Hawaii.</i> Build on existing programs and technologies and practices. <i>Iowa:</i> <ul style="list-style-type: none"> • Begin with a solid core network geodatabase repository. • Establish strong requirements or standards. <i>Minnesota:</i> Build processes and consent prior to data collection. <i>New Hampshire:</i> Create a plan and commit resources to data maintenance. <i>Utah:</i> <ul style="list-style-type: none"> • Develop a well-defined list of attributes and data formats that agency needs to collect. • Determine how agency will store data and frequency of data collection. |

| Topic | State | Description |
|---|---|--|
| Strong Foundation and Consistent Framework | Hawaii, Iowa, Minnesota, New Hampshire, Utah, Virginia | <i>Virginia:</i> <ul style="list-style-type: none"> • Use best practices from other states. • Engage outside assistance to set up a uniform process. • Start with one or two assets (data collection is costly). |
| Governance and Coordination | Alabama, Iowa, Minnesota, New Hampshire, North Carolina DPS, Utah | <i>Alabama:</i> <ul style="list-style-type: none"> • Include stakeholders from outside central office on advisory committees. • Consider organizational structure: current staff's ability to extract collected data. <i>Iowa.</i> Include all enterprisewide participants. <i>Minnesota:</i> Have a dedicated team with broad expertise. <i>New Hampshire.</i> Coordinate to avoid collection duplication. <i>Utah:</i> Create a single focal point who manages the program and works with all critical asset champions. |
| Communication | Minnesota, Mississippi | <i>Minnesota:</i> Communicate needs/benefits of data. <i>Mississippi.</i> Communicate and work through challenges. |
| Other | Mississippi | <i>Mississippi.</i> Linear referencing important. |

Note: The Utah DOT respondent recommended contacting Adam Radel and Scott Jones of Utah DOT for more information about developing a coordinated statewide program for asset data collection and management:

Scott Jones
 Director of Data, Technology and Analytics
 Utah Department of Transportation
 801-965-4140, wsjones@utah.gov

Adam Radel
 Department of Technology Services
 Utah Department of Transportation
 801-427-0808, at aradel@utah.gov

Related Research and Resources

A literature search of recent publicly available resources identified publications that are organized into two topic areas:

- National guidance.
- State research and practices.

National Guidance

Citations are organized into the following topic areas:

- Data collection and management.
- Remote and mobile data collection.

Data Collection and Management

Project in Progress: NCHRP 08-115: Guidebook for Data and Information Systems for Transportation Asset Management, start date: August 2018; expected completion date: October 2019. (The TRB web site indicates that this project is currently “Active”; no final deliverables appear to be publicly available.)

<https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4362>

From the objective: The objective of this research is to develop a guidebook presenting principles, organizational strategies, governance mechanisms and practical examples for improving management of the processes for collecting data, developing useful information, and providing that information for decision making about management of the transportation system assets.

Data Governance and Data Management: Case Studies of Select Transportation Agencies, Michael Green and Anthony Lucivero, *GIS in Transportation*, Federal Highway Administration, July 2018.

https://www.gis.fhwa.dot.gov/documents/GIS_Data_Governance_and_Data_Management_Case_Studies.pdf

This report provides examples of how state DOTs “currently define the concepts of ‘data governance’ and ‘data management,’ and the formal or informal policies used to implement them within a context of geographic information systems (GIS).” Case studies were developed using feedback from four state DOTs—Arizona, Arkansas, Ohio and Texas. Lessons learned begin on page 13 and include:

- Without a governing body, implementing data governance is very difficult.
- Data governance and data management have a symbiotic relationship.
- A GIS-specific capability maturity model (GIS-CMM) would benefit state DOTs.

“Assessing the Maturity of Transportation Data Management Practices Based on a Survey of State DOTs,” Isaac C. Oti and Nasir G. Gharaibeh, *Transportation Research Board 97th Annual Meeting*, Paper #18-01301, January 2018.

Citation at <https://trid.trb.org/view/1494834>

From the abstract: This paper provides a quantitative assessment of the maturity of data stewardship, storage and warehousing, and integration practices for 16 transportation data groups based [on] a survey of 33 [to] 43 state DOTs. ...The assessment results show that data management practice at the system monitoring and operations phases are likely to be more mature than other data groups. Roadway inventory data, in particular, seem to be significantly

ahead. On the other end, real estate data and travel modeling data have the least mature data management practices. A comparison of the data management practices indicates that data stewardship is more mature than data integration, storage and warehousing practices. It is hoped that this assessment will help transportation agencies to optimize efforts to achieve sound agency-wide data management practices.

NCHRP Synthesis 508: Data Management and Governance Practices, Nasir Gharaibeh, Isaac Oti, David Schrank and Johanna Zmud, 2017.

Publication available at <https://www.nap.edu/catalog/24777/data-management-and-governance-practices>

From the abstract:

This synthesis provides information on current practices in data governance, data warehousing and cloud computing, data integration and sharing, and data quality assurance. The objective was to develop a collection of transportation agency data management practices and experiences. The information in this synthesis was gathered through a literature review, a two-phase online survey and follow-up interviews with four agencies. The report demonstrates how agencies currently access, manage, use and share data.

The following is a sampling of the conclusions appearing in Chapter 6, Conclusions and Future Research, beginning on page 37 of the report (page 44 of the PDF):

- *Data governance.* In most cases, DOTs have data stewards and data coordinators for managing individual data sets and coordinating data management within a business area (e.g., asset management, safety). What is lacking, in most cases, is a data governance council/board for policy making and coordination at the enterprise level.
- *Data warehousing and cloud computing.* Although there is a general agreement in the literature that transportation agencies collect and manage large amounts of data, most DOTs and local agencies do not have reliable estimates of the amount of data they maintain.
- *Data integration and sharing.* An area prime for reducing the duplication of data within DOTs is the creation of digital as-builts from 3-D models used in design and construction. However, the integration of these as-builts into legacy data management systems is challenging, in part because of the inherent limitations of legacy systems (e.g., some legacy systems do not use georeferenced data) and broader institutional issues (e.g., data owned/managed by different parts of the agency).
- *Data quality.* For DOTs, timeliness, accuracy and access security are most commonly evaluated. Conversely, consistency is the data quality dimension least evaluated by DOTs.

A Guide to Collecting, Processing and Managing Roadway Asset Inventory Data, NCHRP Project 20-07/Task 357, Kathryn A. Zimmerman and Kartik Manda, June 2015.

http://sp.maintenance.transportation.org/Documents/NCHRP%2020-07_task%20357%20A%20Guide%20to%20Collecting,%20Processing,%20and%20Managing%20Roadway%20Asset%20Inventory%20Data.pdf

From the abstract: This project was initiated by the National Cooperative Highway Research Program to develop guidance for establishing and managing roadway asset inventories. The resulting Guide, which was written as a stand[-]alone document, can be used by transportation agencies to help make informed decisions on the type of technology most appropriate for collecting asset inventory information and the considerations that must be taken into account for

processing and managing the data. The study concentrated on both manual and automated data collection approaches, including manual surveys, photogrammetric methods and remote sensing technology (e.g., mobile LiDAR).

The Guide includes considerations that should be evaluated during all phases of establishing or updating an asset inventory. First, the Guide addresses technical considerations that should be taken into account regardless of the data collection selected, such as developing criteria for classifying assets and developing data collection standards. Secondly, the Guide presents factors to consider in determining the appropriateness of each of the three technologies used in collecting inventory data. This section includes factors such as the level of accuracy required and the visibility of the asset from the road. Next, the Guide includes considerations for collecting the data, including differences depending on whether the data will be collected using in-house personnel or an outside contractor. Finally, the Guide suggests considerations for managing the data effectively, including topics such as storage requirements and update schedules.

RDIP Technical Assistance: Roadway Safety Data Program, Federal Highway Administration, undated.

<https://safety.fhwa.dot.gov/rsdp/rdip.aspx>

From the web site: The Roadway Data Improvement Program (RDIP) focuses on helping with an agency's process and practices for collecting, managing and utilizing their roadway data. Technical assistance can help your agency improve data collection across these key areas:

1. Roadway Data Collection and Technical Standards
2. Data Analysis Tools and Uses
3. Data Management and Governance
4. Data Sharing and Integration

A technical assistance team provided by the RDIP reviews and assesses a state's roadway data system for the content of the data collected, ability to use, manage and share the data and to offer recommendations for improving the roadway data. The RDIP also examines the [s]tate's ability to coordinate and exchange roadway data with local agencies such as cities, counties and MPOs [metropolitan planning organizations]. The RDIP is ultimately intended to help states improve the roadway data the [s]tate uses to develop their Strategic Highway Safety Plan (SHSP), which supports the State's Highway Safety Improvement Program (HSIP).

Feasibility of a Model Inventory of Roadway Elements, MIRE MIS: MIRE Management Information System, Federal Highway Administration Safety Program, 2013.

<https://safety.fhwa.dot.gov/rsdp/downloads/feasibility.pdf>

This document describes the Model Inventory of Roadway Elements (MIRE) Management Information System (MIS) project that tested the feasibility of converting the MIRE listing and data dictionary of roadway and traffic data elements into an MIS. As the introduction notes, "FHWA developed MIRE as a recommended listing and data dictionary of roadway and traffic data elements critical to supporting highway safety management programs and tools. MIRE consists of 202 roadway and traffic data elements grouped under three major categories: 1) roadway segments, 2) roadway alignments, and 3) roadway junctions." The project team examined mechanisms for data collection; processes for data handling and storage; details of data file structure; methods to assure the integration of MIRE data with crash data and other data types; and performance measures to assess and assure MIRE data quality and MIS performance.

Related Resources:

“RIDOT’s Statewide Roadway and Asset Data Collection Project,” Rafiq Basaria, Daniel Behnke and Shane White, Rhode Island Department of Transportation, *Esri User Conference*, 2017.

http://proceedings.esri.com/library/userconf/proc17/papers/533_125.pdf

This presentation discusses Rhode Island DOT’s efforts to collect and manage asset data, including:

- Data integration through Esri Roads and Highways implementation.
- Conversion from multiple linear referencing systems.
- Supporting bidirectional data flow and consistent location referencing across business systems.
- Developing processes and identifying staffing and resources needed to guarantee the ongoing maintenance and utility of the roadway location and MIRE inventory data.
- Managing data integration and assisting the agency in developing processes for integration of the new MIRE data into Esri Roads and Highways.

“Adding MIRE Attribution to the Enterprise Network Asset Data Model,” Greg Ciparelli (Connecticut Department of Transportation) and Marc Kratzschmar (Bentley Systems), March 2018.

https://gis-t.transportation.org/wp-content/uploads/sites/51/2018/05/Adding-MIRE-Items-to-the-Enterprise-Network-Asset-Data-Model_Final_2018_03_21.pdf

This presentation discusses how Connecticut DOT has incorporated the use of MIRE into its asset data collection and integration efforts.

Remote and Mobile Data Collection

Mobile Applications for GIS: Case Studies of Select Transportation Agencies, Drew Quinton and Anthony Lucivero, *GIS in Transportation*, Federal Highway Administration, February 2019.

https://www.gis.fhwa.dot.gov/case_studies/Mobile_Applications_for_GIS_Case_Studies.pdf

This report presents case studies of five state transportation agencies “that have demonstrated experience in the field leveraging mobile application technology” to collect and manage geospatial asset data—Colorado, Kansas, Kentucky, Maryland and Missouri. The report’s conclusion notes that “following in the footsteps of the agencies interviewed for this study should provide a practical basis on knowledge from which to begin the implementation process.”

GIS and Data Governance Peer Exchange Summary Report, Federal Highway Administration, 2018.

https://www.gis.fhwa.dot.gov/reports/GIS_and_Data_Governance_Peer_Exchange_ARDOT.pdf

This peer exchange included presentations from representatives of six DOTs—Arkansas, Connecticut, Iowa, Ohio, Michigan and Tennessee. Roundtable discussions included the following topics:

Data Governance Policy

- Data catalogues can show how the data can be used, how it can be queried and who to contact about it.

- Databases should be unable to be duplicated, and centrally located.
- Putting legacy applications into a database viewer to be visualized can be a useful solution.

Technical Tools for Data Governance

- *Data access, collection and storage.* Controlling access to data is a necessary step toward data governance. Agencies can have multiple data warehouses or servers, but it is necessary to minimize the number of data formats, tools and architectures to eliminate duplication of function and reduce the complexity of the overall system.
- *Valuing data and making investments.* The level of accuracy and detail required in data should be dictated by the importance of the data to an agency's work, which should subsequently influence the direction of data governance efforts.
- *Funding.* Agencies should seek to justify funding of data governance by looking at how much money is routinely spent on cleaning data.
- *Communication materials.* Internal documents can be designed to serve multiple communications goals. Among these documents are introductory-level materials to help familiarize staff with data governance and technical information to assist in completing and operationalizing data governance processes and procedures.
- *Starting the data governance process.* The first step toward data governance should be conducting a capability maturity model (CMM)-style assessment with data owners and users. These staff members need to be well versed in GIS, but also open to change and hearing negative feedback.

Data Governance Staffing and Strategy

- Agencies may need to create a new job series, new positions in their current structure, or new staff with an IT background. The challenges of having mixed departments make it difficult to supervise GIS work when managers do not have that background.
- Agencies need formalized staff in positions where they can take charge of data governance and data quality assurance/quality control.

Related Resource:

“Data Governance and Data Management: State Examples,” 2019 AASHTO GIS-T Symposium, April 2019.

<https://gis-t.transportation.org/wp-content/uploads/sites/51/2019/04/GIS-and-Data-Governance-Peer-Exchange-GIST2019.pdf>

This presentation presents highlights of the peer exchange cited above and other FHWA activities related to data governance, including brief descriptions of how states are engaging in the areas of data governance and data management.

NCHRP Report 748: Guidelines for the Use of Mobile LIDAR in Transportation

Applications, Michael J. Olsen, Gene V. Roe, Craig Glennie, Fred Persi, Marcus Reedy, David Hurwitz, Keith Williams, Halston Tuss, Anthony Squellati and Michael Knodler, 2013.

Publication available at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_748.pdf

From the foreword: The objective of the project was to develop guidelines for the use of mobile LIDAR technology in transportation applications. The guidelines (1) are based on an analysis of current and emerging applications in areas such as project planning, project development, construction, operations, maintenance, safety, research and asset management; (2) address

data collection methods, formatting and management, storage requirements, quality assurance, and the translation and formatting of derived products; and (3) are based on and organized around performance criteria such as data precision, local (relative) accuracy, network (absolute) accuracy and point density.

....

The guidelines are organized into two parts. Part 1: Management and Decision Making provides guidance on the use and integration of mobile LIDAR data for a wide range of transportation applications without requiring in-depth knowledge of the technology; Part 2: Technical Considerations provides the details needed to completely specify the project requirements and appropriate deliverables.

State Research and Practices

Citations are organized into the following topic areas and by state within each topic:

- Data collection and management.
- Remote and mobile data collection.
- Use of imaging.
- Use of intelligent transportation systems.
- Use of LiDAR.

Data Collection and Management

Multiple States

TRB Webinar: Practical Technology-Based Approaches to Highway Infrastructure Maintenance, Colorado Department of Transportation, Utah Department of Transportation and Texas Transportation Institute, April 2017.

<http://onlinepubs.trb.org/onlinepubs/webinars/170412.pdf>

This webinar includes two presentations that are relevant to asset data collection and management. The webinar begins with a presentation by Colorado DOT that examines how the agency is collecting data and the data it collects, and how the agency is expanding data beyond a simple inventory. The third presentation, "Evaluation of Emerging Technologies for Safety and Operations Infrastructure Inventory and Condition Assessment" by Texas Transportation Institute, begins on slide 70 and addresses Texas DOT's examination of mobile high-speed data collection.

Connecticut

"Connecticut DOT: Data Management for Asset Management," William S. Pratt and Karen M. Riemer, *11th National Conference on Transportation Asset Management*, July 2016.

<http://onlinepubs.trb.org/onlinepubs/conferences/2016/AssetMgt/73.FrancesHarrison.pdf>

This presentation discusses Connecticut DOT's development of a transportation asset management plan, current asset inventory systems, identifying and harvesting assets, and the state's Asset and Project Data Gap Assessment and Implementation Plan.

Florida

RCI Features and Characteristics Handbook, Florida Department of Transportation, August 2016.

https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/statistics/rci/rcifchandbook.pdf?sfvrsn=bac2fc94_2

From the introduction: This handbook identifies and defines the data found in the Roadway Characteristics Inventory (RCI). This handbook also provides basic guidelines and considerations to assist the RCI data collector. The features and characteristics in RCI reflect the roadway data of interest to the Florida Department of Transportation.

Illinois

Investigation of Methods and Approaches for Collecting and Recording Highway Inventory Data, Huaguo Zhou, Mohammad Jalayer, Jie Gong, Shunfu Hu and Mark Grinter, Illinois Department of Transportation, June 2013.

<https://pdfs.semanticscholar.org/2841/5cf16baa003dc5f4dd7ab8a1b8d60eca70c0.pdf>

From the abstract: This research project sought to determine cost-effective methods to collect highway inventory data not currently stored in IDOT [Illinois DOT] databases for implementing the recently published Highway Safety Manual (HSM). The highway inventory data collected using the identified methods can also be used for other functions within the Bureau of Safety Engineering, other IDOT offices or local agencies. A thorough literature review was conducted to summarize the available techniques, costs, benefits, logistics and other issues associated with all relevant methods of collecting, analyzing, storing, retrieving and viewing the relevant data.

Related Resource:

“A Comprehensive Assessment of Highway Inventory Data Collection Methods,”

Mohammad Jalayer, Huaguo Zhou, Jie Gong, ShunFu Hu and Mark Grinter, *Journal of the Transportation Research Forum*, Vol. 53, Issue 2, pages 73-92, Summer 2014.

<https://pdfs.semanticscholar.org/b250/4018d2bb7258421943b40361db49c9f55d28.pdf>

From the abstract:

The focus of this study is to characterize the capability of existing methods for collecting highway inventory data vital to the implementation of the recently published HSM [Highway Safety Manual]. More specifically, this study evaluated existing highway inventory methods through a nationwide survey and a field trial of identified promising highway inventory data collection (HIDC) methods on various types of highway segments. A comparative analysis was conducted to present an example [of] how to incorporate weights provided by state DOT stakeholders to select the most suitable HIDC method for the specific purpose.

Conclusions and recommendations begin on page 88 of the article (page 17 of the PDF) and include:

- The GPS data logger method can be employed for short distances, low speeds, and low to medium traffic volume roadways that are not obstructed by buildings or trees.
- Robotic total station technology can be employed for points of specific interest, such as intersections.
- The photo/video log method, together with high-resolution aerial imagery, can be used to collect roadside inventory data for large-scale statewide data collection.
- Mobile LiDAR technology can be utilized to gather highway inventory data with the

highest data quality and completeness for serving multiple offices in state DOTs and local agencies. In order to share the costs of the mobile LiDAR data collection and processing, identifying multiple clients within the DOT is important.

Indiana

A Synthesis Study on Collecting, Managing and Sharing Road Construction Asset Data, Hubo Cai, Chenxi Yuan, Timothy B. McClure and Phillip S. Dunston, Indiana Department of Transportation, September 2015.

<https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=3110&context=itrp>

From the abstract:

The purpose of this project was to conduct a synthesis study to 1) assess the current status at INDOT [Indiana DOT] regarding the collection of asset data during the construction phase and the use of such data in the operation and maintenance (O&M) phase, and 2) develop a framework for INDOT to leverage the construction inspection and documentation process to collect data for assets. Data needs during O&M were identified through rounds of meetings with relevant INDOT business units. The current practice in construction documentation was investigated in detail. A survey of state highway agencies (SHAs) was conducted to assess the state-of-the-practice.

The report's recommendations for implementation begin on page 38 of the report (page 47 of the PDF) and include the following:

- Replace paper-based format with electronic files—electronic design files are passed on to construction engineers; electronic files are marked, modified and commented during the construction phase to reflect the as-constructed and as-built condition.
- Use the data needs assessment framework (Figure 5.1 in Section 5.1.2) to identify the data needs from INDOT business groups for all infrastructure assets to create a comprehensive view of what data items are needed by which business groups. The result forms the base for guiding the flow of asset data collected during construction into relevant asset management information systems and maintaining the data integrity across all information management systems in INDOT.
- Retain the association between plan assets and pay items as a part of the design documents to be included in the contract documents. The one-to-one relationship between a plan asset and a pay item allows bringing relevant information to construction engineers in real time.
- Adopt the guideline, especially its mapping mechanism, in the mobile construction documentation app. As illustrated in Section 5.6.4, the mapping mechanism integrates the collection of asset data items into the construction documentation process and the guideline enables the flow of these asset data items collected during the construction documentation process into suitable places in the corresponding asset management information systems.

Ohio

Development of Transportation Asset Management Decision Support Tools, Eddie Chou, Ohio Department of Transportation, August 2017.

<https://rosap.ntl.bts.gov/view/dot/32802>

From the abstract: This study developed a web-based prototype decision support platform to demonstrate the benefits of transportation asset management in monitoring asset performance, supporting asset funding decisions, planning budget tradeoffs and optimizing resource

allocations. ... A centralized transportation asset database that integrates data from various sources was built to support the data-driven decision support tools. This allows reports/presentations to be generated quickly and enables what-if analyses to be performed. A total of 23 functions were developed in five categories: inventory, condition, performance, investment and planning. The tradeoff analysis function is developed for evaluating funding levels versus performance and cross-asset budget allocation decisions.

Oregon

Asset Management in Oregon: Roadway Safety Data and Analysis Case Study, Richard Brown, Federal Highway Administration Office of Safety, November 2016.

<https://safety.fhwa.dot.gov/rsdp/downloads/fhwas16110.pdf>

From the abstract: Over several years, ODOT [Oregon DOT] implemented two new programs to manage their roadway assets, TransInfo and the Features, Attributes and Conditions [Survey]—Statewide Transportation Improvement Program (FACS-STIP) Tool. TransInfo is a statewide asset management system. It provides ODOT asset management staff with the most up-to-date statistics on assets and other features on the State highway system. The FACS-STIP Tool is a web-based program that provides information on an asset's location, attributes and condition to all users with internet access.

Remote and Mobile Data Collection

Michigan

Monitoring Highway Assets With Remote Technology, Dye Management Group, Inc., Michigan Department of Transportation, July 2014.

https://www.michigan.gov/documents/mdot/RC-1607_466453_7.pdf

From the abstract:

The purpose of this research was to evaluate the benefits and costs of various remote sensing technology options and compare them to the currently used manual data collection alternative. The DMG's [Dye Management Group, Inc., the report's author] evaluation was used to determine how useful and feasible it would be to perform inventory collection of the Michigan Department of Transportation's (MDOT's) twenty-seven high/medium priority assets. DMG performed a pilot project, using several selected routes in MDOT's Southwest Region, to evaluate different remote technologies and to provide recommendations for how best to implement the most viable of these technologies as data collection tools and data centralization methods.

Results and recommendations include:

- Remote technologies are capable of gathering highway asset data on most MDOT assets. Notable exceptions include assets not readily visible from the roadway (e.g.[,] culverts).
- LiDAR technology, while useful in the appropriate application, produces a level of detail beyond that necessary for the assets identified under this study and was not considered a cost-effective alternative.
- Mobile imaging technology offers an opportunity to effectively gather highway asset data while decreasing worker exposure to traffic, increasing data accuracy and quality, speeding data collection, and reducing overall costs relative to manual data collection methods.
- DMG recommends that MDOT outsource data collection using mobile imaging technology to a vendor that can handle a project of this magnitude.

Use of Imaging

Georgia

Exploration of Using GDOT's Existing Videolog Images and Pavement Surface Imaging Data to Support Statewide Maintenance Practices, Zhaohua Wang and Yichang (James) Tsai, Georgia Department of Transportation, April 2016.

http://g92018.eos-intl.net/eLibSQL14_G92018_Documents/14-22.pdf

From the abstract: To maximize the return on investment, GDOT is seeking to utilize the existing videolog and pavement imaging data for extracting roadway asset data that is indispensable for supporting the statewide asset management and maintenance programs. For this purpose, this research project explored the utilization of GDOT's existing videolog and pavement imaging data for extracting guardrails, rumble strips and traffic signs. Image-processing-based algorithms were developed, which were tested using both GDOT's videolog images and the data collected by using the Georgia Tech Sensing Vehicle (GTSV).

Use of Intelligent Transportation Systems

Michigan

Management Procedures for Data Collected Via Intelligent Transportation Systems, Qiang Hong, Richard Wallace, Brian Reed, Anthony Gasiorowski and Eric Paul Dennis, Michigan Department of Transportation, July 2015.

<http://www.cargroup.org/wp-content/uploads/2017/02/MANAGEMENT-PROCEDURES-FOR-DATA-COLLECTED-VIA-INTELLIGENT-TRANSPORTATION-SYSTEMS.pdf>

This report "summarizes and discusses state-of-the-industry and best practices, national ITS research programs and their implications, and existing MDOT [Michigan DOT] plans and data systems." The following are brief excerpts from Chapter 7, Conclusions and Recommendations, beginning on page 29 of this report (page 37 of the PDF):

- Develop a statewide master/strategic plan for database aggregation across ITS subsystems and programs.
- Each information model (GIS, TAMS, ITS, etc.) should contain best practices for database schema design and integration, leveraging a core geospatially enabled and accurate basemap (centerline and cadastral data layers), which are effectively maintained through the MGF [Michigan Geographic Framework].
- Statewide Light Detection and Ranging (LIDAR) and Orthophoto data sets should be collected on an annual or semiannual basis. Once the data are collected, they should be integrated with the baseline GIS data model within the data warehouse.
- Data aggregation should be undertaken in a series of phases by ITS subsystems and performed based on prioritization of the data sets. Based on the initial projections, the hardware and database type required to perform under this load condition would most likely be Oracle or DB2 running on dedicated application hardware with a separate storage platform/architecture.
- Data aggregation would be best served by integrating real-time data (one per minute or one per five-minute intervals) from key ITS subsystems, with a retention period of 45 days being represented as current data.
- After 12 months, data should be moved on an annual basis to secondary storage disks to allow for rapid access but represented as archival. This would allow for longer-term business analytics and metrics analysis/trending.
- The enterprise data warehouse would best be geographically dispersed within the [s]tate as regional nodes within a Database Management System (DBMS) High Availability (HA) Cluster.

Use of LiDAR

Multiple States

Project in Progress: Uses and Challenges of Collecting LiDAR Data From a Growing Autonomous Vehicle Fleet: Implications for Infrastructure Planning and Inspection Practices, Mountain-Plains Consortium, start date: October 2018; expected completion date: July 2022.

Full project description at <https://www.mountain-plains.org/research/downloads/2018-mpc-577.pdf>

University Transportation Center (UTC) project information at

<https://www.mountain-plains.org/research/downloads/2018-mpc-577-project-update.pdf>

From the UTC project information: The use of Light Detection and Ranging (LiDAR) technology has been growing in the transportation industry in recent years. The technology has been proven to provide precise, accurate and high-density point clouds that can be related to a global reference frame (El-Sheimy et al., 2005; Shan and Toth, 2009). Extensive research in the area has shown how this technology can be used for anything from construction quality control to safety assessments to infrastructure management (e.g.,] Yu et al., 2015; Riviero et al., 2016; Pu et al., 2011; Geiger et al., 2012; Lato et al., 2012; He et al., 2017, Neupane et al., 2018; Rister et al., 2018).

Of particular interest for this project proposal is how transportation agencies can utilize the Big Data that will result from a growing fleet of autonomous vehicles. Agencies have had experience with Big Data in the past (Zhao et al., 2018). However, the Big Data of autonomous vehicles is likely to be of unprecedented magnitude (e.g.,] Matthews, 2018; Marr, 2017; Clerkin, 2017). How will agencies handle such a data set, should they choose to collect it? How much data can agencies expect from a variety of different scenarios? Will they need to filter the data they receive? How many uses can they get out of these data? This proposed project will help agencies answer some of those questions.

Washington

LiDAR for Data Efficiency, Kin S. Yen, Bahram Ravani and Ty A. Lasky, Washington State Department of Transportation, September 2011.

<https://www.wsdot.wa.gov/research/reports/fullreports/778.1.pdf>

From the conclusions and recommendations appearing in the executive summary: The study shows a cost efficiency that could be realized over time with using Mobile LiDAR to supplement or replace existing WSDOT [Washington State DOT] operations and processes. Purchasing and operating a Mobile LiDAR system has the potential to generate considerable savings, while meeting most WSDOT business requirements, although there are some key implementation issues that must be addressed. These include funding, procurement methods, organizational structure, compatibility, integration with existing data systems, best practices, accuracy standards, and universal user access to point cloud data. Further study to examine these and other implementation issues will provide the basis to best utilize this emerging technology of Mobile LiDAR in WSDOT business areas.

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CTC contacted the individuals below to gather information for this investigation.

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Appendix A: Survey Questions

The following survey was distributed to members of two American Association of State Highway and Transportation Officials (AASHTO) committees:

- Subcommittee on Asset Management.
- Committee on Performance-Based Management.

In addition, the survey was distributed to a representative of the North Carolina Department of Public Safety who was expected to have experience with a coordinated statewide approach to asset data collection and management.

Statewide Asset Data Collection and Management

(Required) Has your agency established a coordinated statewide approach to collecting and managing data on a range of agency assets?

- No (directs the respondent to **Agencies Without a Statewide Program to Collect and Manage Asset Data**)
- Yes (directs the respondent to **Agencies With a Statewide Program to Collect and Manage Asset Data**)

Agencies Without a Statewide Program to Collect and Manage Asset Data

Is your agency considering establishing a new program or expanding its practices to allow for a coordinated statewide approach to multiasset data collection and management?

- No
- Yes (please briefly describe your agency's discussions or plans)

*Note: After responding to the question above, the respondent is directed to the **Wrap-Up** section of the survey.*

Agencies With a Statewide Program to Collect and Manage Asset Data

Program Description

1. How long has your agency collected and managed multiasset data statewide in a coordinated fashion at the enterprise level?
 - 0 to 2 years
 - 2 to 5 years
 - 5 to 7 years
 - 7 to 10 years
 - Other (please specify)
2. Please describe your agency's approach to coordinated statewide multiasset data collection and management.
 - Hire a consultant to collect, store and analyze data
 - In-house staff conducts the data collection and related activities
 - Other (please describe)

3. How often does your agency coordinate and collect data at the enterprise level?
 - Annually
 - Every 2 years
 - Every 3 years
 - Other (please describe)
 4. On what roadways does the state collect asset data? Select all that apply.
 - All public roads
 - State roadways
 - Local roadways
 - National Highway System only
 - Ramps and connectors
 - Other (please describe)
 5. Has your agency adopted or published standards or procedures for its enterprise statewide program to collect and manage asset data?
 - No
 - Yes (Please respond to Question 5A.)
- 5A. Please briefly describe these standards or procedures. If documented, please provide a link or send any files not available online to carol.rolland@ctcandassociates.com.

Collecting Asset Data

1. Please describe the core or critical set of assets your agency collects. What specific types of assets does your agency collect? Select all that apply.
 - Barrier (i.e., guardrail)
 - Bridges
 - Cabinets
 - Drainage features/culverts
 - Intelligent transportation systems
 - Lands and buildings
 - Loop detectors
 - Marking reflectivity
 - Model Inventory of Roadway Elements (MIRE)
 - Pavement
 - Pavement markings
 - Ramp meters
 - Right of way
 - Roadside facilities
 - Roadside features
 - Sign reflectivity
 - Signal post
 - Signs
 - Structures/walls
 - Other (please describe)
2. What technology, tools and methods are used to collect and extract asset data? Select all that apply.
 - GPS devices
 - LiDAR (airborne)
 - LiDAR (terrestrial)
 - Manual data collection
 - Mobile devices (smartphone, tablet)
 - Multisensor mobile mapping platforms
 - Photogrammetric processes
 - Photolog
 - Surface geophysics
 - Unmanned aerial systems
 - Windshield survey
 - Other (please describe)
3. Who performs the field asset data collection, extraction and management?
 - Agency staff
 - Contractor
 - Both (depends on the asset)
 - Other (please describe)
4. Please describe how your agency coordinates the statewide data collection to meet the competing demands for the type and extent of the asset data without duplicating efforts.

5. Does your agency have a data quality management plan or something similar for data collection?
 - No, we don't have a plan.
 - Yes, we have a plan but can't share it.
 - Yes, we have a plan and can share it. (Please respond to Question 5A.)
- 5A. Please provide a link to your agency's data quality management plan or send any files not available online to carol.rolland@ctcandassociates.com.
6. Does your agency collect asset data during the project delivery phases (design through construction) that is entered into asset management information systems for future use?
 - No
 - Yes

Managing Asset Data

1. What products from the data collection and extraction efforts are made available to staff? Select all that apply.
 - Extracted assets
 - Imagery
 - Point cloud
 - Other (please describe)
2. How is asset data made available to staff? Select all that apply.

| | |
|--|--|
| <ul style="list-style-type: none"> • Agency-hosted web-based application • Consultant-hosted web-based application • Enterprise data warehouse • Multiple data marts | <ul style="list-style-type: none"> • On-premise file server • Separate databases • Separate geodatabases • Web services • Other (please describe) |
|--|--|
3. From the perspective of your agency's unified statewide data collection effort, please describe how asset data is migrated from mobile or other collection practices to where it is stored.
4. In what format is the data from your agency's statewide asset collection effort delivered?
 - Vendor proprietary format, although a perpetual license is provided to the state
 - Standard format that is open to a third party, allowing full access of the data
 - Other format (please describe)
- 4A. Please use the space below to provide any additional comments about the format(s) data is delivered in.

Assessing Agency Practices

1. What successes has your agency experienced in connection with a coordinated statewide asset data collection and management strategy?
2. What challenges has your agency experienced in connection with collecting and managing asset data using a statewide approach?
3. What are your top three recommendations for other agencies developing a coordinated statewide program to collect and manage asset data?

4. Please provide links to documents associated with your agency's statewide asset data collection and management efforts (other than those you have already provided). Send any files not available online to carol.rolland@ctcandassociates.com.

Wrap-Up

Please use this space to provide any comments or additional information about your previous responses.



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Madison, WI 53718
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2018 State of Hawaii Service Project Data Dictionary

Prepared by: Mandli Communications, Inc.
Date Updated: Wednesday December 19, 2018

Date Created: Monday November 5, 2018
Version: 1.1

Revision History

| Date | Version | Description | Author |
|------------|---------|------------------------------------|--------|
| 11/5/2018 | 1.0 | Creation | JP |
| 12/19/2018 | 1.1 | General Update to all Deliverables | JP |

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Delivery Files

Table Description: Files required for Mandli Workstation

| Attribute | Extension | Description |
|-------------|-----------|--|
| ROW IMAGES | .jpg | - 500 frames per mile - 3296 x 2472 - Approx. 120 degree viewing angle (9 cameras) |
| DOWN IMAGES | .jpg | - 500 frames per mile - 12 foot minimum width - min resolution: 4096 horizontal |
| GPS FILE | .gps | +/- 5 feet accuracy (95%) |
| RAW FILE | .raw | +/- 5 feet accuracy (95%) |
| LOG FILE | .log | DMI accurate to 0.001 mile per mile |
| HDL FILE | .hdl | |
| RDF FILE | .rdf | |
| FEA FILE | .fea | Feature tags |
| LCMS DATA | .xml | |
| LAS FILE | .las | LiDAR data delivered in LAS file format |

Notes:

- Ramps and collectors receive the same data deliverables as the mainline miles.

Routes Table

Table Description: Route log file data

| Attribute | Data Type | Status | Description | Notes |
|--------------|---------------|-------------|---|--------------------------|
| FRAME | NUMBER (5,0) | DELIVERABLE | Videolog image frame number (numbered sequentially starting at frame 1) | |
| ISLAND | VARCHAR2 (7) | DELIVERABLE | The island name | |
| PREFIX | VARCHAR2 (3) | DELIVERABLE | The route owner. SR is a state route, CR is a county route. | SR |
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE ID | VARCHAR2 (3) | DELIVERABLE | The lane that is traveled. CTR is the lane closest to the median. SIN is the lane closest to the shoulder | i.e. CTR, SIN, CON, etc. |
| MILEPOST | NUMBER (8,5) | DELIVERABLE | The distance from the beginning of the route | Miles |
| SIGN | VARCHAR2 (3) | DELIVERABLE | The direction traveled. | MP+ |
| DATE_SHOT | DATE | DELIVERABLE | The date the images and data were recorded | mm/dd/yyyy |
| PICS | NUMBER (3,0) | DELIVERABLE | The picture interval (frames per mile) | 500 |
| UNITS | VARCHAR2 (4) | DELIVERABLE | The measurement unit used for the Milepost | Mile |
| TAG | VARCHAR2 (20) | DELIVERABLE | The description of the event that is being recorded | "Started Odometer" |
| SESSION_NAME | VARCHAR2 (50) | DELIVERABLE | Mandli naming convention | Oahu_SR_H-1_CTR+_2018 |
| CYCLE | NUMBER (4,0) | DELIVERABLE | Collection Cycle Year | 2018 |

| Attribute | Data Type | Status | Description | Notes |
|-------------|---------------|--------|---|--|
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |

Notes:

- Delivery format: SQL insert in the form of a derby database

GPS_Table

Table Description: GPS data

| Attribute | Data Type | Status | Description | Notes |
|--------------|---------------|-------------|---|--|
| LONGITUTDE | NUMBER (13,8) | DELIVERABLE | GPS location of frame | Decimal degrees (NAD83) (include - sign) |
| LATITUDE | NUMBER (13,8) | DELIVERABLE | GPS location of frame | Decimal degrees (NAD83) |
| ALTITUDE | NUMBER (7,1) | DELIVERABLE | GPS location of frame | Ellipsoid height in feet (NAD83) |
| FRAME | NUMBER (5,0) | DELIVERABLE | Videolog image frame number (numbered sequentially starting at frame 1) | |
| GPS_DATE | DATE | DELIVERABLE | Collection Date | mm/dd/yyyy |
| SESSION_NAME | VARCHAR2 (50) | DELIVERABLE | Mandli naming convention | Oahu_SR_H-1_CTR+_2018 |
| CYCLE | NUMBER (4,0) | DELIVERABLE | Collection Cycle Year | 2018 |
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |

Notes:

- Delivery format: SQL insert in the form of a derby database

MandliRouteData

Table Description: This table contains all of the routes GPS data and linear reference for each frame/record.

| Attribute | Data Type | Status | Description | Notes |
|--------------|---------------|-------------|---|--|
| SESSION_NAME | VARCHAR2 (50) | DELIVERABLE | Mandli naming convention | Oahu_SR_H-1_CTR+_2018 |
| GPSFRAME | NUMBER (5,0) | DELIVERABLE | Frame number | |
| LATITUDE | NUMBER (13,8) | DELIVERABLE | GPS location at frame | Decimal degrees (NAD83) |
| LONGITUDE | NUMBER (13,8) | DELIVERABLE | GPS location at frame | Decimal degrees (NAD83) (include - sign) |
| ELEVATION | NUMBER (7,1) | DELIVERABLE | GPS location at frame | Ellipsoid height in feet (NAD83) |
| COLLDATE | DATE | DELIVERABLE | Collection Date | mm/dd/yyyy |
| COLLTIME | TIME | DELIVERABLE | Collection Time | 01:06:56 |
| HEADING | NUMBER (6,4) | DELIVERABLE | | |
| X_ACC | NUMBER (6,4) | DELIVERABLE | | |
| Y_ACC | NUMBER (6,4) | DELIVERABLE | | |
| LOGFRAME | NUMBER (25,0) | DELIVERABLE | Frame number | |
| ISLAND | VARCHAR2 (7) | DELIVERABLE | The island name | |
| PREFIX | VARCHAR2 (3) | DELIVERABLE | The route owner. SR is a state route, CR is a county route. | SR |

| Attribute | Data Type | Status | Description | Notes |
|-------------|---------------|-------------|---|--|
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE_ID | VARCHAR2 (3) | DELIVERABLE | The lane that is traveled. CTR is the lane closest to the median. SIN is the lane closest to the shoulder | i.e. CTR, SIN, CON, etc. |
| RTEMILE | NUMBER (8,5) | DELIVERABLE | Measured distance at start of interval | miles |
| SIGN | VARCHAR2 (3) | DELIVERABLE | The direction traveled. | +MP/-MP |
| LOGDATE | DATE | DELIVERABLE | Collection Date | mm/dd/yyyy |
| PICS | NUMBER (3) | DELIVERABLE | The picture interval (frames per mile) | 500 |
| UNITS | VARCHAR2 (4) | DELIVERABLE | The measurement unit used for the Milepost | Mile |
| TAG | VARCHAR2 (20) | DELIVERABLE | The description of the event that is being recorded | "Started Odometer" |
| STATUS | VARCHAR2 (20) | DELIVERABLE | Related to measured log mile | i.e. "Counting", "Hold" |
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |

Notes:

- Delivery format: SQL insert in the form of a derby database

CurveTable

Table Description: Road curvature data.

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|---|-------------------------|
| GUID | VARCHAR2 (50) | DELIVERABLE | Concat Island, Prefix, route, lane id, direction, BMP, and EMP. Separated by underscores. | |
| ISLAND | VARCHAR2 (7) | PROVIDED | The island name | |
| PREFIX | VARCHAR2 (3) | PROVIDED | The route owner. SR is a state route, CR is a county route. | SR |
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE_ID | VARCHAR2 (3) | PROVIDED | The lane that is traveled. CTR is the lane closest to the median. SIN is the lane closest to the shoulder | i.e. CTR, SIN, CON, etc |
| DIRECTION | VARCHAR2 (3) | DELIVERABLE | The direction traveled. | +MP/-MP |
| SURVEYED | DATE TIME | DELIVERABLE | Date collected | mm/dd/yyyy |
| BMP | NUMBER (8,5) | DELIVERABLE | Linear Reference at Point of Curve | miles |
| EMP | NUMBER (8,5) | DELIVERABLE | Linear Reference at Point of Tangent | miles |
| LENGTH | NUMBER (8,5) | DELIVERABLE | Measured distance along curve | miles |
| CURVATURE | NUMBER (5,2) | DELIVERABLE | Central Angle | degrees |
| RADIUS | NUMBER (8,2) | DELIVERABLE | Curve Radius | feet |
| CURVECLASS | VARCHAR2 (1) | DELIVERABLE | HPMS Curve Class | [A, B, C, D, E, F] |
| B_LAT | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Curve | NAD83 |
| E_LAT | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Curve | NAD83 |

| Attribute | Data Type | Status | Description | Notes |
|-------------|---------------|-------------|---|--|
| B_LON | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Curve | NAD83 |
| E_LON | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Curve | NAD83 |
| B_ELE | NUMBER (7,1) | DELIVERABLE | GPS Reference at Point of Curve | NAD83 |
| E_ELE | NUMBER (7,1) | DELIVERABLE | GPS Reference at Point of Curve | NAD83 |
| SOURCE | VARCHAR (15) | DELIVERABLE | Collection cycle | Always MS2018 |
| LRM_NAME | TEXT (10) | PROVIDED | | Always CDS |
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |

Notes:

- Delivery format: SQL insert in the form of a derby database
- Summary fields: `Starting Distance` - `Ending Distance`
 - Summary breaks occur at natural curve breakpoints
 - Calculated based on road driven
- Coordinate System:
 - NAD83

GradeTable

Table Description: Road grade data.

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|---|-------------------------|
| GUID | VARCHAR2 (50) | DELIVERABLE | Concat Island, Prefix, route, lane id, direction, BMP, and EMP. Separated by underscores. | |
| ISALND | VARCHAR2 (7) | DELIVERABLE | The island name | |
| PREFIX | VARCHAR2 (3) | DELIVERABLE | The route owner. SR is a state route, CR is a county route. | SR |
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE_ID | VARCHAR2 (3) | PROVIDED | The lane that is traveled. CTR is the lane closest to the median. SIN is the lane closest to the shoulder | i.e. CTR, SIN, CON, etc |
| DIRECTION | VARCHAR2 (3) | DELIVERABLE | The direction traveled. | +MP/-MP |
| SURVEYED | DATE TIME | DELIVERABLE | Date collected | mm/dd/yyyy |
| BMP | NUMBER (8,5) | DELIVERABLE | Linear Reference at Start of Grade Breakpoint | miles |
| EMP | NUMBER (8,5) | DELIVERABLE | Linear Reference at Stop of Grade Breakpoint | miles |
| LENGTH | NUMBER (8,5) | DELIVERABLE | Measured distance along grade segment | miles |
| GRADE | NUMBER (5,2) | DELIVERABLE | Slope | percent grade |
| GRADECLASS | VARCHAR2 (1) | DELIVERABLE | HPMS Grade Class | [A, B, C, D, E, F] |
| B_LAT | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Grade | NAD83 |
| E_LAT | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Grade | NAD83 |

| Attribute | Data Type | Status | Description | Notes |
|-------------|---------------|-------------|---|--|
| B_LON | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Grade | NAD83 |
| E_LON | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Grade | NAD83 |
| B_ELE | NUMBER (7,1) | DELIVERABLE | GPS Reference at Point of Grade | NAD83 |
| E_ELE | NUMBER (7,1) | DELIVERABLE | GPS Reference at Point of Grade | NAD83 |
| SOURCE | VARCHAR2 (15) | DELIVERABLE | Collection cycle | Always MS2018 |
| LRM_NAME | VARCHAR2 (10) | PROVIDED | | Always CDS |
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |

Notes:

- Delivery format: SQL insert in the form of a derby database
- Summary fields: `Starting Distance` - `Ending Distance`
 - Summary breaks occur at natural grade breakpoints
 - Calculated based on road driven
- Coordinate System:
 - NAD83

Distress Table

Table Description: Contains the IRI, rutting, faulting cross slope data, asphalt distress, and concrete distress for every 0.01 miles of roadway.

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|--|--------------------------|
| GUID | VARCHAR2 (50) | DELIVERABLE | Concat Island, Prefix, route, lane id, direction, BMP, and EMP. Separated by underscores. | |
| ISLAND | VARCHAR2 (7) | DELIVERABLE | The island name | |
| PREFIX | VARCHAR2 (3) | DELIVERABLE | The route owner. SR is a state route, CR is a county route. | SR |
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE_ID | VARCHAR2 (3) | DELIVERABLE | The lane that is traveled. | i.e. CTR, SIN, CON, etc. |
| DIRECTION | VARCHAR2 (3) | DELIVERABLE | The direction traveled. | +MP/-MP |
| SURVEYED | DATE TIME | DELIVERABLE | Date collected | mm/dd/yyyy |
| PAVETYPE | VARCHAR2 (10) | DELIVERABLE | Pavement type: <ul style="list-style-type: none"> • Concrete • Asphalt • Gravel | |
| BMP | NUMBER (8,5) | DELIVERABLE | Linear Reference at Start of interval | miles |
| EMP | NUMBER (8,5) | DELIVERABLE | Linear Reference at Stop of interval | miles |
| IRI_LT | NUMBER (3,0) | DELIVERABLE | Left wheel path IRI | in/mile |
| IRI_RT | NUMBER (3,0) | DELIVERABLE | Right wheel path IRI | in/mile |

| Attribute | Data Type | Status | Description | Notes |
|------------|--------------|-------------|---|---------------------------------|
| RUT1 | NUMBER (8,1) | DELIVERABLE | Area of rutting falling between depths of 6 to 13 mm | square feet |
| RUT2 | NUMBER (8,1) | DELIVERABLE | Area of rutting falling between depths of 13 to 25 mm | square feet |
| RUT3 | NUMBER (8,1) | DELIVERABLE | Area of rutting falling above 25 mm | square feet |
| RUT_LT | NUMBER (4,2) | DELIVERABLE | Average left wheel path rutting depth | Inches |
| RUT_RT | NUMBER (4,2) | DELIVERABLE | Right wheel path rutting | Inches |
| RUT_DL | NUMBER (4,2) | DELIVERABLE | Average of Right and Left rutting values | Inches |
| FAULT_AVG | NUMBER (4,2) | DELIVERABLE | Average fault height for HPMS reporting | Inches |
| FAULTS1 | NUMBER (3,0) | DELIVERABLE | Count of Distress | Count of Low severity Faults |
| FAULTS2 | NUMBER (3,0) | DELIVERABLE | Count of Distress | Count of Medium severity Faults |
| FAULTS3 | NUMBER (3,0) | DELIVERABLE | Count of Distress | Count of High severity Faults |
| SPEED | NUMBER (2,0) | DELIVERABLE | Speed of vehicle at summary section start | mph |
| BRIDGEFLAG | NUMBER (1,0) | DELIVERABLE | Section has a bridge feature | 0/1 |
| CONST_FLAG | NUMBER (1,0) | DELIVERABLE | Section has a construction feature | 0/1 |
| LNDEV_FLAG | NUMBER (1,0) | DELIVERABLE | Section has a lane deviation feature | 0/1 |
| RR_FLAG | NUMBER (1,0) | DELIVERABLE | Section has a railroad feature | 0/1 |
| SPDBP_FLAG | NUMBER (1,0) | DELIVERABLE | Section has a speed bump feature | 0/1 |

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|---------------|
| CF_AVG | NUMBER (3,1) | DELIVERABLE | Average cross slope | Percent Grade |
| CF_MAX | NUMBER (3,1) | DELIVERABLE | Maximum cross slope | Percent Grade |
| LONGNWPS1 | NUMBER (4,0) | DELIVERABLE | Length non-wheel path longitudinal crack severity 1 | Feet |
| LONGNWPS2 | NUMBER (4,0) | DELIVERABLE | Length non-wheel path longitudinal crack severity 2 | Feet |
| LONGNWPS3 | NUMBER (4,0) | DELIVERABLE | Length non-wheel path longitudinal crack severity 3 | Feet |
| FATS1 | NUMBER (4,0) | DELIVERABLE | Area of Fatigue cracking severity 1 | Square feet |
| FATS2 | NUMBER (4,0) | DELIVERABLE | Area of Fatigue cracking severity 2 | Square feet |
| FAST3 | NUMBER (4,0) | DELIVERABLE | Area of Fatigue cracking severity 3 | Square feet |
| ACPATS1 | NUMBER (4,0) | DELIVERABLE | Area of Patch severity 1 | Square feet |
| ACPATS2 | NUMBER (4,0) | DELIVERABLE | Area of Patch severity 2 | Square feet |
| ACPATS3 | NUMBER (4,0) | DELIVERABLE | Area of Patch severity 3 | Square feet |
| ACPATCTS1 | NUMBER (3,0) | DELIVERABLE | Count of Patch severity 1 | Count |
| ACPATCTS2 | NUMBER (3,0) | DELIVERABLE | Count of Patch severity 2 | Count |
| ACPATCTS3 | NUMBER (3,0) | DELIVERABLE | Count of Patch severity 3 | Count |

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|-------------|
| EDGECRKS1 | NUMBER (4,0) | DELIVERABLE | Length of Edge cracking severity 1 | Feet |
| EDGECRKS2 | NUMBER (4,0) | DELIVERABLE | Length of Edge cracking severity 2 | Feet |
| EDGECRKS3 | NUMBER (4,0) | DELIVERABLE | Length of Edge cracking severity 3 | Feet |
| SHOVING | NUMBER (5,0) | DELIVERABLE | Area of high severity Shoving | Square Feet |
| TRANLTHS1 | NUMBER (4,0) | DELIVERABLE | Length of Transverse cracks severity 1 | Feet |
| TRANLTHS2 | NUMBER (4,0) | DELIVERABLE | Length of Transverse cracks severity 2 | Feet |
| TRANLTHS3 | NUMBER (4,0) | DELIVERABLE | Length of Transverse cracks severity 3 | Feet |
| TRANCTS1 | NUMBER (3,0) | DELIVERABLE | Count Transverse cracks severity 1 | Count |
| TRANCTS2 | NUMBER (3,0) | DELIVERABLE | Count Transverse cracks severity 2 | Count |
| TRANCTS3 | NUMBER (3,0) | DELIVERABLE | Count Transverse cracks severity 3 | Count |
| BLOCS1 | NUMBER (5,0) | DELIVERABLE | Area of pavement affected by Block cracking severity 1 | Square feet |
| BLOCS2 | NUMBER (5,0) | DELIVERABLE | Area of pavement affected by Block cracking severity 2 | Square feet |
| BLOCS3 | NUMBER (5,0) | DELIVERABLE | Area of pavement affected by Block cracking severity 3 | Square feet |
| BLOCLTHS1 | NUMBER (4,0) | DELIVERABLE | Length of Block cracking severity 1 | Feet |
| BLOCLTHS2 | NUMBER (4,0) | DELIVERABLE | Length of Block cracking severity 2 | Feet |
| BLOCLTHS3 | NUMBER (4,0) | DELIVERABLE | Length of Block cracking severity 3 | Feet |

| Attribute | Data Type | Status | Description | Notes |
|------------------|------------------|---------------|---|--------------|
| RAVELING | NUMBER (5,0) | DELIVERABLE | Area of Raveling or weathering severity 3 | Square feet |
| BLEEDING | NUMBER (5,0) | DELIVERABLE | Area of Bleeding severity 3 | Square feet |
| PHSM | NUMBER (3,0) | DELIVERABLE | Count of small potholes | Count |
| PHMD | NUMBER (3,0) | DELIVERABLE | Count of medium potholes | Count |
| PHLG | NUMBER (3,0) | DELIVERABLE | Count of large potholes | Count |
| SEALCRKS1 | NUMBER (4,0) | DELIVERABLE | Length of Sealed Cracking severity 1 | Feet |
| SEALCRKS2 | NUMBER (4,0) | DELIVERABLE | Length of Sealed Cracking severity 2 | Feet |
| SEALCRKS3 | NUMBER (4,0) | DELIVERABLE | Length of Sealed Cracking severity 3 | Feet |
| REFLECS1 | NUMBER (3,0) | DELIVERABLE | Length of joint reflection cracking; Severity 1 transverse crack on asphalt overlay | Feet |
| REFLECS2 | NUMBER (3,0) | DELIVERABLE | Length of joint reflection cracking; Severity 2 transverse crack on asphalt overlay | Feet |
| REFLECS3 | NUMBER (3,0) | DELIVERABLE | Length of joint reflection cracking; Severity 3 transverse crack on asphalt overlay | Feet |
| JOINTS | NUMBER (3,0) | DELIVERABLE | Count of transverse joints | Count |
| JOINTSPACE | NUMBER (3,0) | DELIVERABLE | Transverse joint spacing. | Feet |
| CBS1 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 1 corner break | Count |

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|-------|
| CBS2 | NUMBER (5,0) | DELIVERABLE | Count of affected slabs with a severity 2 corner break | Count |
| CBS3 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 3 corner break | Count |
| DCS1 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 1 D cracking | Count |
| DCS2 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 2 D cracking | Count |
| DCS3 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 3 D cracking | Count |
| PCLONGS1 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 1 longitudinal crack | Count |
| PCLONGS2 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 2 longitudinal crack | Count |
| PCLONGS3 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 3 longitudinal crack | Count |
| PCTTRANS1 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 1 transverse crack | Count |
| PCTTRANS2 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 2 transverse crack | Count |
| PCTTRANS3 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with a severity 3 transverse crack | Count |
| TRANLTHS1 | NUMBER (4,0) | DELIVERABLE | Length of Transverse crack severity 1 | Feet |
| TRANLTHS2 | NUMBER (4,0) | DELIVERABLE | Length of Transverse crack severity 2 | Feet |
| TRANLTHS3 | NUMBER (4,0) | DELIVERABLE | Length of Transverse crack severity 3 | Feet |

| Attribute | Data Type | Status | Description | Notes |
|------------------|------------------|---------------|---|--------------|
| JSPALLS1 | NUMBER (3,0) | DELIVERABLE | Count of joints with concrete joint spall severity 1 | Count |
| JSPALLS2 | NUMBER (3,0) | DELIVERABLE | Count of joints with concrete joint spall severity 2 | Count |
| JSPALLS3 | NUMBER (3,0) | DELIVERABLE | Count of joints with concrete joint spall severity 3 | Count |
| DIVSLABS1 | NUMBER (3,0) | DELIVERABLE | Count of Divided Slabs Severity 1 | Count |
| DIVSLABS2 | NUMBER (6,0) | DELIVERABLE | Count of Divided Slabs Severity 2 | Count |
| DIVSLABS3 | NUMBER (3,0) | DELIVERABLE | Count of Divided Slabs Severity 3 | Count |
| MAPCRKARS1 | NUMBER (3,0) | DELIVERABLE | Count of slabs with Map Cracking Severity 1 | Count |
| MAPCRKARS2 | NUMBER (3,0) | DELIVERABLE | Count of slabs with Map Cracking Severity 2 | Count |
| MAPCRKARS3 | NUMBER (3,0) | DELIVERABLE | Count of slabs with Map Cracking Severity 3 | Count |
| POPOUTS | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with poppets | Count |
| BUCKLS1 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with Buckling or blowups Severity 1 | Count |
| BUCKLS2 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with Buckling or blowups Severity 2 | Count |
| BUCKLS3 | NUMBER (3,0) | DELIVERABLE | Count of affected slabs with Buckling or blowups Severity 3 | Count |

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|---|---|
| PCPATS1 | NUMBER (4,0) | DELIVERABLE | Area of Patch severity 1 | Square feet |
| PCPATS2 | NUMBER (4,0) | DELIVERABLE | Area of Patch severity 2 | Square feet |
| PCPATS3 | NUMBER (4,0) | DELIVERABLE | Area of Patch severity 3 | Square feet |
| PCPATCTS1 | NUMBER (3,0) | DELIVERABLE | Count of Patch severity 1 | Count |
| PCPATCTS2 | NUMBER (3,0) | DELIVERABLE | Count of Patch severity 2 | Count |
| CPATCTS3 | NUMBER (3,0) | DELIVERABLE | Count of Patch severity 3 | Count |
| DROPOFFS1 | NUMBER (3,0) | DELIVERABLE | Length of Shoulder that meets the dropoff depth specified in ASTM D6433. The difference between the pavement edge and shoulder is >25 and #50 mm (>1 and #2 in.) | Feet Only reported where road width permits. |
| DROPOFFS2 | NUMBER (3,0) | DELIVERABLE | Length of Shoulder that meets the dropoff depth specified in ASTM D6433. The difference between the pavement edge and shoulder is >50mm and <100 mm (>2 and <4 in.) | Feet Only reported where road width permits. |
| DROPOFFS3 | NUMBER (3,0) | DELIVERABLE | Length of Shoulder that meets the dropoff depth specified in ASTM D6433. The difference between the pavement edge and shoulder is >100 mm (4 in.) | Feet Only reported where road width permits. |

| Attribute | Data Type | Status | Description | Notes |
|-------------|---------------|-------------|---|--|
| B_LAT | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Tangent | NAD83 |
| E_LAT | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Tangent | NAD83 |
| B_LON | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Tangent | NAD83 |
| E_LON | NUMBER (13,8) | DELIVERABLE | GPS Reference at Point of Tangent | NAD83 |
| B_ELE | NUMBER (7,1) | DELIVERABLE | GPS Reference at Point of Tangent | NAD83 |
| E_ELE | NUMBER (7,1) | DELIVERABLE | GPS Reference at Point of Tangent | NAD83 |
| SOURCE | VARCHAR2 (15) | DELIVERABLE | Collection cycle | Always MS2018 |
| LRM_NAME | VARCHAR2 (10) | PROVIDED | | Always CDS |
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |

Notes:

- Delivery format: SQL insert in the form of a derby database
- 0.1 miles intervals
- 10% rule -- If 10% of a crack shows a higher severity classify the crack as the higher severity.

Road Feature Inventory

Table Description: Line and polygon feature inventory table format

Common Attributes: Common fields for the following line and polygon assets:

| Attribute | Data Type | Status | Description | Notes |
|--------------|---------------|-------------|---|--|
| SESSION_NAME | VARCHAR2 (50) | DELIVERABLE | Mandli naming convention | Oahu_SR_H-1_CTR+_2016 |
| BEG_FRAME | NUMBER (5,0) | DELIVERABLE | Frame distance of section or asset start | |
| END_FRAME | NUMBER (5,0) | DELIVERABLE | Frame distance of section or asset start | |
| ISLAND | VARCHAR2 (7) | DELIVERABLE | The island name | |
| PREFIX | VARCHAR2 (3) | DELIVERABLE | The route owner. SR is a state route, CR is a county route. | SR |
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE_ID | VARCHAR2 (3) | DELIVERABLE | The lane that is traveled. | i.e. CTR, SIN, CON, etc. |
| BMP | NUMBER (8,5) | DELIVERABLE | Measured distance of section or asset begin | miles |
| EMP | NUMBER (8,5) | DELIVERABLE | Measured distance of section or asset begin | miles |
| DIRECTION | VARCHAR2 (3) | DELIVERABLE | Route direction | -MP/+MP |
| SURVEYED | DATE TIME | DELIVERABLE | Collection Date | MM/DD/YYYY |
| COMMENTS | VARCHAR2 (50) | DELIVERABLE | Rater comment on feature condition | Rater Comments |
| B_LAT | NUMBER (13,8) | DELIVERABLE | GPS Location of section or asset start | Decimal degrees (NAD83) |
| B_LON | NUMBER (13,8) | DELIVERABLE | GPS Location of section or asset start | Decimal degrees (NAD83) (include - sign) |

| Attribute | Data Type | Status | Description | Notes |
|---------------|----------------|-------------|---|--|
| B_ELE | NUMBER (7,1) | DELIVERABLE | GPS Location of section or asset start | Ellipsoid height in feet (NAD83) |
| E_LAT | NUMBER (13,8) | DELIVERABLE | GPS Location of section or asset end | Decimal degrees (NAD83) |
| E_LON | NUMBER (13,8) | DELIVERABLE | GPS Location of section or asset end | Decimal degrees (NAD83) (include - sign) |
| E_ELE | NUMBER (7,1) | DELIVERABLE | GPS Location of section or asset end | Ellipsoid height in feet (NAD83) |
| SOURCE | VARCHAR2 (15) | DELIVERABLE | Collection cycle | Always MS2018 |
| LRM_NAME | VARCHAR2 (10) | PROVIDED | | Always CDS |
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |
| SDO GEOMETRY* | ORACLE SPACIAL | | Line or Polygon | |

Notes:

- Assets will be extracted from the CTR lane only
- *SDO Geometry will be provided in an appropriate format (i.e. GeoMedia, MDB table, etc)
- Configuration of a Numetric Workbook.

Polygons

Bridges and Culverts

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|----------------|-------|
| BRIDGEID | VARCHAR2 (7) | DELIVERABLE | Bridge deck ID | |
| HPMS_CODE | NUMBER (2,0) | DELIVERABLE | always 1 | |
| WIDTH | NUMBER (3,0) | DELIVERABLE | | Feet |

| | | | | |
|-----------|--------------|-------------|---|----------------------------|
| SURF_TYPE | VARCHAR2 (7) | DELIVERABLE | <ul style="list-style-type: none"> • Asphalt • Concrete • Steel • Wood • Other | |
| CONDITION | VARCHAR2 (4) | DELIVERABLE | Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | Derived from distress data |

Notes:

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Lane Polygons

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|--|----------------------------|
| LANE_TYPE | VARCHAR2 (12) | DELIVERABLE | <ul style="list-style-type: none"> • Through Lane • Turn Right • Turn Left • Bike Lane • Accel Lane • Deccel Lane • HOV Lane • Climb Lane • Aux Lane • Parking Lane (only when paint is present) • Passing Lane • Peak Lane • Counter peak Lane | |
| LANE_MAT | VARCHAR2 (8) | DELIVERABLE | <ul style="list-style-type: none"> • Asphalt • Concrete • Gravel • Other | |
| LANE_WID | NUMBER (4,1) | DELIVERABLE | Average width of lane polygon | Feet |
| LANE_LEN | NUMBER (8,1) | DELIVERABLE | Length of polygon | Feet |
| LANE_AREA | NUMBER (8,1) | DELIVERABLE | Area of polygon | square feet |
| CONDITION | VARCHAR2 (4) | DELIVERABLE | Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | Derived from distress data |

Notes:

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Shoulder Polygons

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|--|---|
| SHOULDER | VARCHAR2 (14) | DELIVERABLE | <ul style="list-style-type: none"> • Left Shoulder • Right Shoulder | |
| SHLDR_MAT | VARCHAR2 (8) | DELIVERABLE | <ul style="list-style-type: none"> • Asphalt • Concrete • Gravel • Combination • None | |
| SHLDR_WID | NUMBER (4,1) | DELIVERABLE | Average width of shoulder polygon | feet |
| SHLDR_LEN | NUMBER (8,1) | DELIVERABLE | Length of shoulder polygon | feet |
| SHLDR_AREA | NUMBER (8,1) | DELIVERABLE | Area of shoulder polygon | square feet |
| HPMS_CODE | NUMBER (2,0) | DELIVERABLE | <ul style="list-style-type: none"> • 2 • 3 • 5 | <ul style="list-style-type: none"> • 2=Aphalt • 3=Concrete • 5=Combination |

Notes:

- Shoulder polygons will only be derived from paved shoulders. The other shoulder types will be reported as polylines with SHLDR_MAT of none and zero for width and area.

Medians

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|---|--|
| MED_TYPE | VARCHAR2 (20) | DELIVERABLE | <ul style="list-style-type: none"> • Curbed • Flexible • Rigid • Semi-rigid • Unprotected • No Median | |
| LOCATION | VARCHAR2 (5) | DELIVERABLE | Median location is always "Left" | |
| WIDTH | NUMBER (3,0) | DELIVERABLE | Median width in feet | |
| HPMS_CODE | NUMBER (2,0) | DELIVERABLE | <ul style="list-style-type: none"> • 1 • 2 • 3 • 4 • 5 • 6 • 7 | <ul style="list-style-type: none"> • 1=No Median • 2=Unprotected • 2=Painted - Passing • 2=Painted - No Passing • 3=Curbed • 5=Flex • 6=Semi-rigid • 7=Rigid |
| PROTECTION | VARCHAR2 (20) | DELIVERABLE | <ul style="list-style-type: none"> • Flexible • Semi-Rigid • Rigid • Unspecified | |

Notes:

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Tunnels

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|-------------|-------|
| HPMS_CODE | NUMBER (2,0) | DELIVERABLE | always 2 | |

Notes:

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Pavement Messages

| Attribute | Data Type | Status | Description | Notes |
|-----------|-----------|--------|-------------|-------|
|-----------|-----------|--------|-------------|-------|

| | | | | |
|-------------|--------------|-------------|---|--------------------------|
| MESS_TYPE | VARCHAR2(20) | DELIVERABLE | <p>Message Type:</p> <ul style="list-style-type: none"> • Right Turn Arrow • Left Turn Arrow • Through Arrow • Stop Line • Yield Line • Text • Diagonal Crosshatch Markings • Chevron Crosshatch Markings • Right Turn with Through Arrows • Left Turn with Through Arrows • Left And Right Turn Arrows • Left and Right Turn with Through Arrows • Crosswalk • Line Extension • Bicycle • Shared Lane • Railroad Crossing • Lane-Reduction Arrow • Wrong Way Arrow • HOV • Route Shield • Other • Unknown | Need Customer Info |
| DESCRIPTION | VARCHAR2(10) | DELIVERABLE | Pavement text description | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |
| CONDITION | VARCHAR2 (4) | | <p>Condition:</p> <ul style="list-style-type: none"> • GOOD • FAIR • POOR | Not filled out by Mandli |

| | | | | |
|-----------|--------------|-------------|---|--|
| INTENSITY | VARCHAR2 (5) | DELIVERABLE | INTENSITY of the paint marking: <ul style="list-style-type: none"> • Pass • Fail | |
|-----------|--------------|-------------|---|--|

Notes:

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Bus Pads

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|--------------------------|
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |
| CONDITION | VARCHAR2 (4) | | Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | Not filled out by Mandli |

Notes:

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Pull Box

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|--------------------------|
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |
| CONDITION | VARCHAR2 (4) | | Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | Not filled out by Mandli |

Notes:

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Polylines

Guardrails and Jersey Barriers

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|--|--------------------------|
| TYPE | VARCHAR2 (30) | DELIVERABLE | <ul style="list-style-type: none"> • Attenuators • Box Beam • Bridge Parapet • Cable Barrier • Constant Slope Barrier • Jersey Barrier • Other • Thrie Beam • Unspecified • W-Beam | |
| LOCATION | VARCHAR2 (5) | DELIVERABLE | <ul style="list-style-type: none"> • Left • Right | |
| HORZ_OFFST | NUMBER (6,1) | DELIVERABLE | Average horizontal offset of barrier | Feet |
| VERT_OFFST | NUMBER (6,1) | DELIVERABLE | average vertical offset from edge of travel to barrier | Inches |
| POST_TYPE | VARCHAR2 (20) | DELIVERABLE | Barrier post types: <ul style="list-style-type: none"> • Steel • Wood • Concrete • Other | |
| LENGTH | NUMBER (4,0) | DELIVERABLE | Length of Guardrail | Feet |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |
| CONDITION | VARCHAR2 (4) | | Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | Not filled out by Mandli |

Notes:

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Shoulder Polyline

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|--|---|
| SHOULDER | VARCHAR2 (14) | DELIVERABLE | <ul style="list-style-type: none"> • Left Shoulder • Right Shoulder | |
| SHLDR_MAT | VARCHAR2 (8) | DELIVERABLE | <ul style="list-style-type: none"> • Gravel • Earth • Curbed • Rigid • None | |
| SHLDR_WID | NUMBER (4,1) | DELIVERABLE | always zero | feet |
| SHLDR_LEN | NUMBER (8,1) | DELIVERABLE | Length of shoulder polyline | feet |
| SHLDR_AREA | NUMBER (8,1) | DELIVERABLE | always zero | square feet |
| HPMS_CODE | NUMBER (2,0) | DELIVERABLE | <ul style="list-style-type: none"> • 1 • 4 • 6 • 7 | <ul style="list-style-type: none"> • 1=None • 4=Gravel • 6=Earth • 7=Curbed (No Shoulder) |

Notes:

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Paint Stripping

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|--|-------|
| LANE_MARK | VARCHAR2 (50) | DELIVERABLE | <ul style="list-style-type: none"> • White 12" Dashed Line, Single • White 4" Dashed Line, Single • White 4" Solid Line, Lane Separator • White 4" Solid Line, Single • White 6" Dashed Line, Single • White 6" Solid Line, Lane Separator • White 6" Solid Line, Single • White 8" Dashed Line, Single • White 8" Solid Line, Lane Separator • White 8" Solid Line, Single • Yellow 4" Dashed Line, Single • Yellow 4" Double Skip Centerline • Yellow 4" Solid & Dashed Lines, Double • Yellow 4" Solid Line, Single • Yellow 4" Solid Lines, Double • Yellow 6" Dashed Line, Single • Yellow 6" Solid & Dashed Lines, Double • Yellow 6" Solid Line, Single • Yellow 6" Solid Lines, Double • Yellow 8" Dashed Line, Single • Yellow 8" Solid & Dashed Lines, Double • Yellow 8" Solid Line, Single • Yellow 8" Solid Lines, Double • Parking Lane | |
| INTENSITY | VARCHAR2 (5) | DELIVERABLE | INTENSITY of the paint marking: <ul style="list-style-type: none"> • Pass • Fail | |

Notes:

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Rumble Strips

| Attribute | Data Type | Status | Description | Notes |
|-----------|-----------|--------|-------------|-------|
|-----------|-----------|--------|-------------|-------|

| | | | | |
|-----------|--------------|-------------|---|--|
| TYPE | VARCHAR2 (6) | DELIVERABLE | Type of rumble strip: • Rolled • Milled | |
| WITHPAINT | VARCHAR2 (3) | DELIVERABLE | Rumble is located on the paint line: • Yes • No | |

Notes:

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Raised Pavement Markers

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--------------------------------------|-------|
| TYPE | VARCHAR2 (5) | DELIVERABLE | • Nonreflective • Retroreflective | |

Notes:

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Delineators

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|--------|
| TYPE | VARCHAR2 | DELIVERABLE | Type of delineator: • Ground-Mounted Delineator • Tubular Marker | |
| LENGTH | NUMBER (6,3) | DELIVERABLE | Length of road with delineators | Miles |
| HEIGHT | NUMBER (6,1) | DELIVERABLE | average vertical offset from edge of travel to barrier | Inches |

Notes:

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Curbs

| Attribute | Data Type | Status | Description | Notes |
|-----------|-----------|--------|-------------|-------|
|-----------|-----------|--------|-------------|-------|

| | | | | |
|--------|---------------|-------------|---|--|
| TYPE | VARCHAR2 (15) | DELIVERABLE | Type of curb <ul style="list-style-type: none"> • Mountable • Non-Mountable • Gutter Only | |
| REVEAL | VARCHAR2 (10) | DELIVERABLE | Approximated reveal of curb face: <ul style="list-style-type: none"> • 3 • 6 or more | |

Notes:

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ROW Barriers

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|---|-------|
| TYPE | VARCHAR2 (30) | DELIVERABLE | Type of barrier: <ul style="list-style-type: none"> • Stock Fence • Chainlink Fence • Concrete Cast-In-Place Retaining Wall • Rock Retaining Wall • Slope Protection • Soil Nail • Rock Catchment Fencing • Shotcrete • Gabion • Bin • Precast/MSE • Soldier Pile • Other Cast-In-Place | |
| LENGTH | NUMBER (3,1) | DELIVERABLE | ROW Barrier length | Feet |
| HEIGHT | NUMBER (3,1) | DELIVERABLE | Average height of barrier from edge of travel | Feet |
| LOCATION | VARCHAR2 (8) | DELIVERABLE | <ul style="list-style-type: none"> • Left • Right | |

Notes:

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Sidewalks

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|---|-------|
| TYPE | VARCHAR2 (10) | DELIVERABLE | Type of sidewalk: <ul style="list-style-type: none"> • Asphalt • Concrete • Other | |
| LENGTH | NUMBER (5,0) | DELIVERABLE | Length of sidewalk | Feet |

Notes:

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Driveway

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|---|-------|
| TYPE | VARCHAR | DELIVERABLE | <ul style="list-style-type: none"> • Residential • Commercial • Industrial/ Institutional • Other | |
| WIDTH | NUMBER (5,1) | DELIVERABLE | Width of driveway throat | Feet |
| SIDEWALK | VARCHAR | DELIVERABLE | Yes or No | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Ditches

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|---|-------|
| TYPE | VARCHAR | DELIVERABLE | <ul style="list-style-type: none"> • Paved • Unpaved • Other | |
| LENGTH | NUMBER (5,0) | DELIVERABLE | Length of sidewalk | Feet |

Notes:

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Points

Table Description: Point feature inventory table format

Common Attributes: Common fields for the following point assets:

| Attribute | Data Type | Status | Description | Notes |
|--------------|---------------|-------------|---|--|
| ASSET_ID | VARCHAR2 (30) | DELIVERABLE | Mandli unique asset ID | |
| SESSION_NAME | VARCHAR2 (50) | DELIVERABLE | Mandli naming convention | Oahu_SR_H-1_CTR+_2016 |
| FRAME | NUMBER (5,0) | DELIVERABLE | Frame of asset | |
| ISLAND | VARCHAR2 (7) | DELIVERABLE | The island name | |
| PREFIX | VARCHAR2 (3) | DELIVERABLE | The route owner. SR is a state route, CR is a county route. | SR |
| ROUTE | VARCHAR2 (20) | PROVIDED | The route number | H-1 |
| LANE_ID | VARCHAR2 (3) | DELIVERABLE | The lane that is traveled. | i.e. CTR, SIN, CON, etc. |
| MP | NUMBER (8,5) | DELIVERABLE | Measured distance of asset | miles |
| DIRECTION | VARCHAR2 (3) | DELIVERABLE | Route direction | -MP/+MP |
| SURVEYED | DATE TIME | DELIVERABLE | Date collected | MM/DD/YYYY |
| COMMENTS | VARCHAR2 (50) | DELIVERABLE | Rater comment on feature condition | Rater comments |
| LAT | NUMBER (13,8) | DELIVERABLE | GPS Location of asset | Decimal degrees (NAD83) |
| LON | NUMBER (13,8) | DELIVERABLE | GPS Location of asset | Decimal degrees (NAD83) (include - sign) |
| ELE | NUMBER (7,1) | DELIVERABLE | GPS Location of asset | Ellipsoid height in feet (NAD83) |
| SOURCE | VARCHAR2 (15) | DELIVERABLE | Collection cycle | Always MS2016 |
| LRM_NAME | VARCHAR2 (10) | PROVIDED | | Always CDS |

| Attribute | Data Type | Status | Description | Notes |
|---------------|----------------|--------|---|--|
| DELIVERY ID | VARCHAR2 (30) | | Month of delivery, year, and delivery number for said month | Example: June_2019_2 (second delivery for month of June in 2019) |
| SDO GEOMETRY* | ORACLE SPACIAL | | Point | |

Notes:

- Assets will be extracted from the CTR lane only
- *SDO Geometry will be provided in an appropriate format (i.e. GeoMedia, MDB table, etc)
- Configuration of a Numetric Workbook.

Sign Faces

| Attribute | Data Type | Status | Description | Notes |
|-----------|----------------|-------------|--|-----------------------------------|
| MUTCD | VARCHAR2 (6) | DELIVERABLE | MUTCD code of sign face | R1-1 |
| MUTCD_DES | VARCHAR2 (255) | DELIVERABLE | MUTCD sign description | Marker, STOP (Note any Variation) |
| LOCATION | VARCHAR2 (8) | DELIVERABLE | Sign face location <ul style="list-style-type: none"> • Left • Right • Overhead | |
| SIGN_TYPE | VARCHAR2 (20) | DELIVERABLE | MUTCD group sign face belongs to: <ul style="list-style-type: none"> -Regulatory -Warning -Guide -School | |
| FACE_DIR | VARCHAR2 (2) | DELIVERABLE | Facing Direction: <ul style="list-style-type: none"> • N • NE • E • SE • S • SW • W • NW | |

| | | | | |
|------------|----------------|-------------|--|--------|
| COLOR | VARCHAR2 (8) | DELIVERABLE | Sign face color: <ul style="list-style-type: none"> • Yellow • White • Brown • Orange • Blue | |
| FAC_COND | VARCHAR2 (8) | DELIVERABLE | Sign Face Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | |
| INTENSITY | VARCHAR2 (5) | DELIVERABLE | INTENSITY of the sign face: <ul style="list-style-type: none"> • Pass • Fail | |
| LEGEND | VARCHAR2 (255) | DELIVERABLE | Legend of sign text that is not included in the MUTCD description | |
| SIGN_HT | NUMBER (4,0) | DELIVERABLE | Sign face height | inches |
| SIGN_WD | NUMBER (4,0) | DELIVERABLE | Sign face width | inches |
| HORZ_OFFST | NUMBER (6,1) | DELIVERABLE | Horizontal offset from edge of travel to sign | feet |
| VERT_OFFST | NUMBER (6,1) | DELIVERABLE | Vertical offset from edge of travel to sign | feet |

Notes:

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Sign Support

| Attribute | Data Type | Status | Description | Notes |
|-----------|-----------|--------|-------------|-------|
|-----------|-----------|--------|-------------|-------|

| | | | | |
|-----------|---------------|-------------|--|--|
| TYPE | VARCHAR2 (50) | DELIVERABLE | Sign Support Type <ul style="list-style-type: none"> • One Post - Metal • Two Post - Metal • 3+ Post - Metal • One Post - Wood • Two Post - Wood • 3+ Post Wood • Bridge/Overpass Mounted • Cantilever • Truss Bridge • Tube Bridge • Signal Pole • Utility Pole • Light Post/Luminaire • Span Wire • Other | |
| SUPP_COND | VARCHAR2 (4) | DELIVERABLE | Sign Support Condition: <ul style="list-style-type: none"> • GOOD • FAIR • POOR | |

Notes:

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Intersections

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|---|-------|
| INTER_TYPE | VARCHAR2 (14) | DELIVERABLE | <ul style="list-style-type: none"> • At Grade • Stop Sign • Traffic Signal • Roundabout | |
| LEGS | NUMBER (2,0) | DELIVERABLE | Number of legs of the intersection | |
| INTER_STR | VARCHAR2 (50) | DELIVERABLE | Intersecting Street Name | |
| COUNTS | NUMBER (2,0) | DELIVERABLE | always 1 | |

Notes:

- Intersections will be divided into individual GeoMedia for each intersection type.
-

Attenuators and End Treatments

| Attribute | Data Type | Status | Description | Notes |
|-----------|-----------|--------|-------------|-------|
|-----------|-----------|--------|-------------|-------|

| TYPE | VARCHAR2 (100) | DELIVERABLE | <p>Type = Cable Barrier</p> <ul style="list-style-type: none"> • Brifen • Gibraltar • Mid-Span • No Type (Meets No Classification) • Nu-Cable • Safence • Trinity CASS • Unidentifiable (Damaged or Obstructed) <p>Type = W-Beam, Thrie Beam, Box Beam</p> <ul style="list-style-type: none"> • Anchored Breakaway Terminal • Barrier Transition • BEAT-SCCC • BEST • Buried • Eccentric Loader • ET-2000 • ET-Plus • Flared End Terminal • FLEAT 350 • FLEAT-MT • Mid-Span • Modified Eccentric Loader • No Type (Meets No Classification) • None • SKT 350 • Slotted Rail Terminal • SoftStop • Trend 350 Flared • Turned Down End • Unanchored End Shoe • Unidentifiable (Damaged or Obstructed) • X-Lite • X-Tension |
|------|----------------|-------------|--|
| | | | |

| | | | | |
|---------------------|----------------|-------------|--|-------------------------------------|
| TYPE (Continued) | VARCHAR2 (100) | DELIVERABLE | <ul style="list-style-type: none"> Type = Attenuators • Barrel Array • Barrier Transition • Brakemaster • Bullnose • CAT 350 • Compressor • G.R.E.A.T. • HEART • HEX-FOAM • Mid-Span • No Type (Meets No Classification) • None • QuadGuard Elite • QuadGuard Narrow • QuadGuard Wide • QuadTrend • QUEST • REACT • TAU-II Narrow • TAU-II Wide • TRACC Narrow • TRACC Wide • TREND • Unidentifiable (Damaged or Obstructed) Type = Unspecified, Other • Mid-Span • None | |
| LOCATION | VARCHAR2 (5) | DELIVERABLE | <ul style="list-style-type: none"> • Left • Right | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |
| CONDITION | VARCHAR2 (4) | DELIVERABLE | <ul style="list-style-type: none"> Condition: • GOOD • FAIR • POOR | Will be left blank for customer use |
| BARRIER_ID | VARCHAR2 (30) | DELIVERABLE | Mandli Asset ID from the parent barrier | |

Notes:

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ManHoles

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|-------------|-------|
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Monuments

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|-------------|-------|
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Catch Basins

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|-------------|-------|
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Overpasses

| Attribute | Data Type | Status | Description | Notes |
|-------------|----------------|-------------|---|-------|
| BRIDGEID | VARCHAR2 (7) | DELIVERABLE | Structure ID | |
| MIN_CLEAR | NUMBER (5,1) | DELIVERABLE | Minimum Clearance (feet) +/- 2" | feet |
| DESCRIPTION | VARCHAR2 (255) | DELIVERABLE | Name of overpass Street | |
| PEDESTRIAN | VARCHAR2 (3) | DELIVERABLE | Overpass is only used for Pedestrians: • Yes • No | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Sign Bridge Vert Clearance

| Attribute | Data Type | Status | Description | Notes |
|-------------|----------------|-------------|------------------------------------|-------|
| BRIDGEID | VARCHAR2 (7) | DELIVERABLE | Structure ID | |
| MIN_CLEAR | NUMBER (5,1) | DELIVERABLE | Minimum Clearance (feet) +/- 2" | feet |
| DESCRIPTION | VARCHAR2 (255) | DELIVERABLE | Name of overpass Street | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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ADA Ramps

| Attribute | Data Type | Status | Description | Notes |
|------------|--------------|-------------|--|-------|
| TYPE | VARCHAR2 | DELIVERABLE | Type of curb ramp: <ul style="list-style-type: none"> • Side Flare • Parallel • Other • Missing | |
| DETEC_WARN | VARCHAR2 (3) | DELIVERABLE | Detectable warning: <ul style="list-style-type: none"> • Yes • No | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

Signal Poles (Signalized Intersection Only)

| Attribute | Data Type | Status | Description | Notes |
|-----------|-----------|--------|-------------|-------|
|-----------|-----------|--------|-------------|-------|

| | | | | |
|-----------|--------------|-------------|---|--|
| POLE_TYPE | VARCHAR2 | DELIVERABLE | Type of signal pole: <ul style="list-style-type: none"> • Double Mast Arm Pole • Double Mast Arm Pole with Luminary Extension • Single Mast Arm Pole • Single Mast Arm Pole with Luminary Extension • Other | |
| HEADS | NUMBER | DELIVERABLE | Number of signal heads | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Signal Heads (Signalized Intersection Only)

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|---|-------|
| HEAD_TYPE | VARCHAR2 | DELIVERABLE | Signal head type: <ul style="list-style-type: none"> • 1 SIGNAL SECTION • 2 SIGNAL SECTIONS • 3 SIGNAL SECTIONS • 4 SIGNAL SECTIONS • 5 SIGNAL SECTIONS • HAWK • Ped • School • Railroad • Other | |
| DIRECTION | VARCHAR2 (2) | DELIVERABLE | Facing Direction: <ul style="list-style-type: none"> • N • NE • E • SE • S • SW • W • NW | |
| VISORS | VARCHAR2 (3) | DELIVERABLE | Presents of visors: <ul style="list-style-type: none"> • Yes • No | |

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|--|-------|
| BACKPLATE | VARCHAR2 (3) | DELIVERABLE | Presents of backplate • Yes • No | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Signal Cabinets (Signalized Intersection Only)

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|-------------|-------|
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Streetlight (Signalized Intersection Only)

| Attribute | Data Type | Status | Description | Notes |
|-----------|--------------|-------------|---|-------|
| TYPE | VARCHAR2 (8) | DELIVERABLE | Type of Streetlights: • Roadway • Mast • Other | |
| POLE_TYPE | VARCHAR2 (8) | DELIVERABLE | Pole type: • Wood • Aluminum • Other | |
| DAMAGED | VARCHAR2 (3) | DELIVERABLE | Yes or No | |

Notes:

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Numetric Deliverables

PFES-PFES Section Table

Table Description: Provided by HDOT and used to update the PFES system.

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|--|---------|
| SECTIONID | VARCHAR2 (50) | DELIVERABLE | Concatenation of Island, Route, Direction, and BMP | |
| JOIN_NAME | VARCHAR2 (50) | DELIVERABLE | Concatenation of Island, Route, and Direction | |
| ISLANDS | VARCHAR2 (10) | PROVIDED | The island name | |
| ROUTE | VARCHAR2 (50) | PROVIDED | Hawaii route name | |
| DIRECTION | VARCHAR2 (3) | DELIVERABLE | Route direction | -MP/+MP |
| FUN_CLASS | VARCHAR2 (50) | PROVIDED | Functional Classification | |
| BMP | DOUBLE (6,2) | PROVIDED | Section Begin Mile Point | |
| EMP | DOUBLE (6,2) | PROVIDED | Section End Mile Point | |
| LENGTH | DOUBLE (8,4) | DELIVERABLE | Section Length | |
| NOTES | | | | |
| SURF_TYPE | VARCHAR2 (50) | PROVIDED | Pavement Surface Type | |
| LST_TRT_YR | VARCHAR2 (5) | PROVIDED | Last Treatment Year | |
| LST_TRT_TP | VARCHAR2 (50) | PROVIDED | Last Treatment Type | |
| URBAN_CODE | VARCHAR2 (50) | PROVIDED | HPMS Urban Code | |

PFES-Mandli Condition Data

Table Description: Tenth mile Mandli condition report is organized into Hawaii provided PFES sections. The fields below are in addition to the condition fields in the Distress Table. The condition fields are summarized or average based on the mile points provided by HDOT.

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|--|-------|
| SECTIONID | VARCHAR2 (50) | DELIVERABLE | Concatenation of Island, Route, Direction, and BMP | |

| Attribute | Data Type | Status | Description | Notes |
|------------|---------------|-------------|---|-------|
| JOIN_NAME | VARCHAR2 (50) | DELIVERABLE | Concatenation of Island, Route, and Direction | |
| ISLAND | VARCHAR2 (10) | PROVIDED | The island name | |
| ROUTE | VARCHAR2 (50) | PROVIDED | Hawaii route name | |
| ROAD_TYPE | VARCHAR2 (50) | PROVIDED | Hawaii road type | |
| FUN_CLASS | VARCHAR2 (50) | PROVIDED | Functional Classification | |
| SURF_TYPE | VARCHAR2 (50) | PROVIDED | Pavement Surface Type | |
| LST_TRT_YR | VARCHAR2 (5) | PROVIDED | Last Treatment Year | |
| LST_TRT_TP | VARCHAR2 (50) | PROVIDED | Last Treatment Type | |
| NOTES | VARCHAR2 (50) | PROVIDED | Hawaii Provided Notes | |
| SEC_BMP | DOUBLE (6,2) | PROVIDED | Section Begin Mile Point | |
| SEC_EMP | DOUBLE (6,2) | PROVIDED | Section End Mile Point | |
| LENGTH | DOUBLE (8,4) | DELIVERABLE | Section Length | |
| SUM_LENGTH | DOUBLE (8,4) | DELIVERABLE | Length of all lanes within section | |
| CYCLE | INT (4) | DELIVERABLE | Collection Cycle Year | |

Notes:

- Table will be plotted over an LRS provided by Hawaii.

PFES-Mandli Surface Area Report

Table Description: Reported in 0.001 mile intervals

| Attribute | Data Type | Status | Description | Notes |
|-----------|---------------|-------------|--|-------|
| SECTIONID | VARCHAR2 (50) | DELIVERABLE | Concatenation of Island, Route, Direction, and BMP | |
| BMP | DOUBLE (6,2) | PROVIDED | Section Begin Mile Point | Miles |

| Attribute | Data Type | Status | Description | Notes |
|-----------------|---------------|-------------|--|-------------|
| EMP | DOUBLE (6,2) | PROVIDED | Section End Mile Point | Miles |
| SECTIONPAVETYPE | VARCHAR2 (50) | PROVIDED | Pavement type defined in the PFES section | |
| ASPHAL TSA | DOUBLE (10,2) | DELIVERABLE | Asphalt surface area within PFES section | Square Feet |
| CONCRETE SA | DOUBLE (10,2) | DELIVERABLE | Concrete surface area within PFES section | Square Feet |
| GRAVEL SA | DOUBLE (10,2) | DELIVERABLE | Gravel surface area within PFES section | Square Feet |
| COMB SA | DOUBLE (10,2) | DELIVERABLE | Combination surface area within PFES section | Square Feet |

PFES-Traffic Count Table

Table Description: HPMS traffic count data summarized by PFES section

| Attribute | Data Type | Status | Description | Notes |
|----------------------|---------------|-------------|--|-------|
| SECTIONID | VARCHAR2 (50) | DELIVERABLE | Concatenation of Island, Route, Direction, and BMP | |
| BMP | DOUBLE (6,2) | PROVIDED | Section Begin Mile Point | Miles |
| EMP | DOUBLE (6,2) | PROVIDED | Section End Mile Point | Miles |
| avg_aadt | INT | DELIVERABLE | Average of Average Annual Daily Traffic reported in HPMS sections that fall within the PFES section | |
| avg_aadt_combo | INT | DELIVERABLE | Average of Average Annual Daily Traffic for combination trucks reported in HPMS sections that fall within the PFES section | |
| avg_aadt_single_unit | INT | DELIVERABLE | Average of Average Annual Daily Traffic for single unit trucks and buses reported in HPMS sections that fall within the PFES section | |
| max_aadt | INT | DELIVERABLE | Maximum of Average Annual Daily Traffic reported in HPMS sections that fall within the PFES section | |

| Attribute | Data Type | Status | Description | Notes |
|----------------------|------------------|---------------|--|--------------|
| max_aadt_combo | INT | DELIVERABLE | Maximum of Average Annual Daily Traffic for combination tracks reported in HPMS sections that fall within the PFES section | |
| max_aadt_single_unit | INT | DELIVERABLE | Maximum of Average Annual Daily Traffic for single unit trucks and buses reported in HPMS sections that fall within the PFES section | |
| min_aadt | INT | DELIVERABLE | Minimum of Average Annual Daily Traffic reported in HPMS sections that fall within the PFES section | |
| min_aadt_combo | INT | DELIVERABLE | Maximum of Average Annual Daily Traffic for combination tracks reported in HPMS sections that fall within the PFES section | |
| min_aadt_single_unit | INT | DELIVERABLE | Maximum of Average Annual Daily Traffic for single unit trucks and buses reported in HPMS sections that fall within the PFES section | |

Appendix A: Distress Data Source

Table Description: All distress types and the data source (automatic or manual).

| Distress Type | Pavement Type | Source | Reporting |
|---------------------------|------------------|------------------|-------------------|
| TRANSVERSE | ASPHALT | Automated | Count/Length |
| ALLIGATOR | ASPHALT | Automated | Area |
| BLOCK | ASPHALT | Automated | Length/Area |
| LONGITUDINAL NWP CRACKING | ASPHALT | Automated | Length |
| SEALED CRACKING | ASPHALT | Automated | Length |
| POTHOLE | ASPHALT | Automated | Count |
| JOINT REFLECTION CRACKING | ASPHALT | Manual | Count |
| RAVELING | ASPHALT | Automated | Area |
| BLEEDING | ASPHALT | Automated | Area |
| EDGE CRACKING | ASPHALT | Manual | Length |
| SHOVING | ASPHALT | Manual | Length |
| PATCHING | ASPHALT/CONCRETE | Manual | Area/Count |
| CORNER BREAK | CONCRETE | Manual | Slab Count |
| DURABILITY CRACKING | CONCRETE | Manual | Slab Count |
| LONGITUDINAL | CONCRETE | Manual | Slab Count/Length |
| TRANSVERSE | CONCRETE | Manual | Slab Count/Length |
| TRANSVERSE JOINT | CONCRETE | Automated/Manual | Count |
| JOINT SPALLING | CONCRETE | Manual | Slab Count |
| MAP CRACKING | CONCRETE | Manual | Slab Count |
| DIVIDED SLAB | CONCRETE | Manual | Slab Count |
| POPOUTS | CONCRETE | Manual | Slab Count |
| BUCKLING | CONCRETE | Manual | Slab Count |

Geodatabase Documentation

Date: Wednesday, October 17, 2018
Time: 9:58:21 AM

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No Geometric Networks
No Rasters

[18 Tables \(Object Classes\)](#)

No Relationship Classes

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Feature Datasets and Child Classes

Rasters

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[LRSE_MAINTENANCEDISTRICT - Feature Class](#)

[LRSE_MAINTENANCESERVICELVL - Feature Class](#)

AGGREGATE_CLASS_ID
AGGREGATE_TYPE_ID
AT_GRADE_CROSSING_ID
BASE_TYPE_ID
CITY_NUMBER_ID
COMMERCIAL_NETWORK_ID
COST_GROUP_ID
COUNTY_NUMBER_ID
CURBED_ID
CURVE_SPEED_ADVISORY_ID
dActivityType
DIRECTION_ID
dLRNetworks
DOMAIN_CODE_ID
dReferentMethod
FACILITY_TYPE_ID
FED_FUNCTIONAL_CLASS_ID
GEOGRAPHIC_IDENTIFIER_ID
GEOGRAPHIC_IDENTIFIER_LU
H_AND_T_ID
HIGHWAY_RESPONSIBILITY_ID
ICE_CORRIDOR_ID
INSTITUTION_NUMBER_ID
LANE_POSITION_ID
LANE_TYPE_ID
MAINTENANCE_CONTRACT_ID
MAINTENANCE_COST_CENTER_ID
MAINTENANCE_DISTRICT_ID
MAINTENANCE_GARAGE_ID
MAINTENANCE_RESIDENCY_ID
MAINTENANCE_SERVICE_LV_ID
MEASUREMENT_METHODS_ID
MEDIAN_BARRIER_TYPE_ID
MEDIAN_TYPE_ID
NATIONAL_HIGHWAY_SYSTEM_ID
NUMBER_LANES_ID
OWNER_CODE_ID
PARKING_TYPE_ID
PASSING_RESTRICTION_ID
PAVEMENT_MATERIAL_ID
PLANNING_CLASS_ID
PROJECT_WORK_TYPE_ID
RAMP_SEQUENCE_ID
REMOVAL_TYPE_ID
ROAD_FUNCTION_ID
ROAD_STATUS_ID
ROAD_SYSTEM_ID
ROADWAY_ENTRANCE_ID
ROUTE_DIRECTION_LU
ROUTE_QUALIFIER_ID
ROUTE_SIGNING_ID
RR_AAR_CODE_ID
RR_AWHORNCHK_ID
RR_BRANCH_ID
RR_CANTI_FLASH_TYPE_ID
RR_CHANGE_REASON_LU
RR_CHANNEL_ID
RR_COMMPOWER_ID
RR_CROSSING_CODE_ID
RR_CROSSING_SURFACE_ID
RR_DEVELTYPEID_ID
RR_DIVISION_ID

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[RR_GATECONF_ID](#)
[RR_GATECONFTYPE_ID](#)
[RR_HEALTHMONITOR_ID](#)
[RR_HWTRFPSIG_ID](#)
[RR_HWYCLASSCD_ID](#)
[RR_HWYCLASSRDTPID_ID](#)
[RR_HWYNEAR_ID](#)
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[RR_INTRPRMP_ID](#)
[RR_LLSOURCE_ID](#)
[RR_LOW_GRND_ID](#)
[RR_LT1MOV_ID](#)
[RR_LT1PASSMOV_ID](#)
[RR_MAST_BACKLIGHT_ID](#)
[RR_MAST_FLASH_TYPE_ID](#)
[RR_MAST_SIDELIGHT_ID](#)
[RR_MONITOR_DEVICE_ID](#)
[RR_NEAR_CITY_ID](#)
[RR_NOSIGNS_ID](#)
[RR_OPENPUB_ID](#)
[RR_OTHSGN_ID](#)
[RR_PAVEMENT_MARKINGS_ID](#)
[RR_PED_SIDEWALK_ID](#)
[RR_POSXING_ID](#)
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[RR_PREMPTYPE_ID](#)
[RR_PRVXSIGN_ID](#)
[RR_SAME_TRACKS_ID](#)
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[RR_SEPARATE_TRACKS_ID](#)
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[RR_STATUS_LU](#)
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[RR_TYPERNSRVCIDS_ID](#)
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[RR_TYPEXING_LU](#)
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[STRUC_HIST_SIG_ID](#)
[STRUC_KIND_CROSS_ID](#)
[STRUC_MAINT_DESC_ID](#)
[STRUC_NBIA_ITEM_ID](#)
[STRUC_STATUS_ID](#)
[STRUC_TWIN_DIVIDED_ID](#)
[STRUC_TYPE_RECORD_ID](#)
[STRUC_VERT_REF_FEA_ID](#)
[STRUCTURE_CODE_ID](#)
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[SYSTEM_CODE_ID](#)
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[TERRAIN_ID](#)
[TIM_ALT_TYPE_ID](#)
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[TOLL_AUTHORITY_ID](#)
[TOLL_CHARGED_ID](#)
[TOLL_STATUS_ID](#)
[TOLL_TYPE_ID](#)
[TRANSPORTATION_DISTRICT_ID](#)
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[TYPE_AREA_ID](#)
[TYPE_DEVELOPMENT_ID](#)
[URBAN_AREA_CODE_ID](#)
[URBAN_LOCATION_ID](#)
[WIDENING_POTENTIAL_ID](#)
[YES_NO_ID](#)

LRS_Calibration_Point - FeatureClass

Name LRS_Calibration_Point
ShapeType Point
FeatureType Simple
AliasName RAMS.LRS_Calibration_Point
HasM false
HasZ false
HasAttachments false
Description LRS_Calibration_Point

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|--------------|--------|----------------------|----------------------|------------------------------|--------------|------------|-----------|-------|
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| NETWORK_ID | SmallInteger | 2 | NETWORK_ID | NETWORK_ID | dLRSNetworks | | true | 5 | 0 |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | true | | |
| MEASURE | Double | 8 | MEASURE | MEASURE | | | true | 38 | 8 |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | true | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | true | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |

LRS_Centerline - FeatureClass

Name LRS_Centerline
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRS_Centerline
HasM false
HasZ true
HasAttachments false
Description LRS_Centerline

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|----------------------|--------|--------------|------------|-----------|-------|
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| ROADWAYIDGUID | GUID | 38 | ROADWAYIDGUID | ROADWAYIDGUID | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | true | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | true | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |

LRS_Redline - FeatureClass

Name LRS_Redline
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRS_Redline
HasM false
HasZ false
HasAttachments false
Description LRS_Redline

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------------|--------------|--------|--------------------|--------------------|-------------------------------|--------------|------------|-----------|-------|
| FROMMEASURE | Double | 8 | FROMMEASURE | FROMMEASURE | | | true | 38 | 8 |
| TOMEASURE | Double | 8 | TOMEASURE | TOMEASURE | | | true | 38 | 8 |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | true | | |
| ROUTE_NAME | String | 30 | ROUTE_NAME | ROUTE_NAME | | | true | | |
| EFFECTIVE_DATE | Date | 8 | EFFECTIVE_DATE | EFFECTIVE_DATE | | | true | | |
| ACTIVITYTYPE | SmallInteger | 2 | ACTIVITYTYPE | ACTIVITYTYPE | dActivityType | | true | 5 | 0 |
| NETWORK_ID | SmallInteger | 2 | NETWORK_ID | NETWORK_ID | | | true | 5 | 0 |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |

LRSE_ACCESSCONTROL - FeatureClass

Name LRSE_ACCESSCONTROL
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ACCESSCONTROL
HasM true
HasZ true

HasAttachments false

Description This field indicates the type and number of points at which traffic is allowed to enter or exit a roadway. Access control is on primary roads only and is obtained from the color-coded map provided by the Office of Maintenance.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|--|-----------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS. | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | The begin mile point for the event along a route extent. | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | The end mile point for the event along a route extent. | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start Date for the event. | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End Date for the Event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | User Name that created event. | | | false | | |
| USER_MOD | String | 100 | USER_MOD | User Name that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and Time the record was inserted in database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and Time Event was modified in database | | | true | | |
| ACCESS_CONTROL | Integer | 4 | ACCESS_CONTROL | This field indicates the type of access at which traffic is allowed to enter or exit a roadway | ACCESS_CONTROL_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by Roads and Highways. | | | true | | |

LRSE_ADJACENTCITYNUMBER - FeatureClass

Name LRSE_ADJACENTCITYNUMBER

ShapeType Polyline

FeatureType Simple

AliasName RAMS.LRSE_ADJACENTCITYNUMBER

HasM true

HasZ true

HasAttachments false

Description On primary, secondary, and municipal roads, this field indicates roads that are on city lines

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|----------|--------|-----------|-------------------------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS. | | | false | | |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|--|--------------------------------|--|-------|----|---|
| FROM_MEASURE | Double | 8 | FROM_MEASURE | The begin mile point for the event along a route extent. | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | The end mile point for the event along a route extent. | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start Date for the event. | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End Date for the Event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | User Name that created event. | | | false | | |
| USER_MOD | String | 100 | USER_MOD | User Name that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and Time the record was inserted in database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and Time Event was modified in database | | | true | | |
| ADJACENT_CITY_NUMBER | Integer | 4 | ADJACENT_CITY_NUMBER | On primary, secondary, and municipal roads, this field indicates roads that are on city lines. | CITY_NUMBER_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by Roads and Highways. | | | true | | |

LRSE_ADJACENTCOUNTYNUMBER - FeatureClass

Name LRSE_ADJACENTCOUNTYNUMBER
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ADJACENTCOUNTYNUMBER
HasM true
HasZ true
HasAttachments false
Description On primary, secondary, and municipal roads, this field indicates roads that are on county lines.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|---------------|----------|--------|---------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS | | | false | | |
| TO_MEASURE | Double | 8 | TO_MEASURE | The end mile point for the event along a route extent | | | false | 13 | 8 |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | The begin mile point for the event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred | | | true | | |

| | | | | | | | | | |
|------------------------|---------|-----|------------------------|--|----------------------------------|--|-------|---|---|
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | in the field Start Date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End Date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | User Name that created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | User Name that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time the record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and Time Event was modified in database | | | true | | |
| ADJACENT_COUNTY_NUMBER | Integer | 4 | ADJACENT_COUNTY_NUMBER | On primary, secondary, and municipal roads, this field indicates roads that are on county lines. | COUNTY_NUMBER_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by Roads and Highways. | | | true | | |

LRSE_CITYNUMBER - FeatureClass

Name LRSE_CITYNUMBER
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_CITYNUMBER
HasM true
HasZ true
HasAttachments false
Description Indicates whether the road segment lies within the city by containing the four digit city number

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|--|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | The begin mile point for the event along a route extent. | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | The end mile point for the event along a route extent. | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start Date for the event. | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End Date for the Event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | User Name that created event. | | | false | | |

| | | | | | | | | | |
|--------------------|---------|-----|--------------------|---|--------------------------------|--|-------|---|---|
| USER_MOD | String | 100 | USER_MOD | User Name that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and Time the record was inserted in database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and Time Event was modified in database | | | true | | |
| CITY_NUMBER | Integer | 4 | CITY_NUMBER | Indicates whether the road segment lies within the city by containing the four digit city number. | CITY_NUMBER_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by Roads and Highways. | | | true | | |

LRSE_COMMERCIALNETWORK - FeatureClass

Name LRSE_COMMERCIALNETWORK
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_COMMERCIALNETWORK
HasM true
HasZ true
HasAttachments false
Description This field indicates whether or not the road is on a truck route on the primary road system only

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | A ROUTE EXTENTint for the event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | The end mile point for the event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in the field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start Date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End Date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | User Name that created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Name that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time record was modified in | | | true | | |

| | | | | | | | | |
|--------------------|---------|-----|--------------------|--|---------------------------------------|------|---|---|
| COMMERCIAL_NETWORK | Integer | 4 | COMMERCIAL_NETWORK | database Is the road segment part of the commercial network | COMMERCIAL_NETWORK_ID | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by Roads and Highways | | true | | |

LRSE_CONSTRUCTIONHISTORY - FeatureClass

Name LRSE_CONSTRUCTIONHISTORY
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_CONSTRUCTIONHISTORY
HasM true
HasZ true
HasAttachments false
Description LRSE_CONSTRUCTIONHISTORY

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|----------------------|--------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| LAYER_YEAR | Integer | 4 | LAYER_YEAR | LAYER_YEAR | | | true | 5 | 0 |
| SURFACE_THICKNESS | Single | 4 | SURFACE_THICKNESS | SURFACE_THICKNESS | | | true | 3 | 1 |
| BASE_THICKNESS | Single | 4 | BASE_THICKNESS | BASE_THICKNESS | | | true | 3 | 1 |
| REMOVAL_THICKNESS | Single | 4 | REMOVAL_THICKNESS | REMOVAL_THICKNESS | | | true | 3 | 1 |
| AGGREGATE_SOURCE | String | 20 | AGGREGATE_SOURCE | AGGREGATE_SOURCE | | | true | | |
| REMARKS | String | 200 | REMARKS | REMARKS | | | true | | |
| SUBDRAIN_PROJ_NUMBER | String | 20 | SUBDRAIN_PROJ_NUMBER | SUBDRAIN_PROJ_NUMBER | | | true | | |
| SUBDRAIN_PERCENT | Integer | 4 | SUBDRAIN_PERCENT | SUBDRAIN_PERCENT | | | true | 5 | 0 |
| SURFACE_TREATMENT | String | 2 | SURFACE_TREATMENT | SURFACE_TREATMENT | SURFACE_TREATMENT_ID | | true | | |
| PROJECT_WORK_TYPE | String | 1 | PROJECT_WORK_TYPE | PROJECT_WORK_TYPE | PROJECT_WORK_TYPE_ID | | true | | |
| SURFACE_MATERIAL | String | 3 | SURFACE_MATERIAL | SURFACE_MATERIAL | PAVEMENT_MATERIAL_ID | | true | | |
| SUBDRAIN_MULTI | String | 1 | SUBDRAIN_MULTI | SUBDRAIN_MULTI | YES_NO_ID | | true | | |
| REMOVAL_TYPE | String | 3 | REMOVAL_TYPE | REMOVAL_TYPE | REMOVAL_TYPE_ID | | true | | |
| AGGREGATE_CLASS_ID | String | 1 | AGGREGATE_CLASS_ID | AGGREGATE_CLASS_ID | AGGREGATE_CLASS_ID | | true | | |
| AGGREGATE_TYPE | String | 10 | AGGREGATE_TYPE | AGGREGATE_TYPE | AGGREGATE_TYPE_ID | | true | | |
| COMPLEX | String | 1 | COMPLEX | COMPLEX | YES_NO_ID | | true | | |
| BASE_MATERIAL | String | 3 | BASE_MATERIAL | BASE_MATERIAL | PAVEMENT_MATERIAL_ID | | true | | |
| SUB_MATERIAL | String | 3 | SUB_MATERIAL | SUB_MATERIAL | PAVEMENT_MATERIAL_ID | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

| | | | | | | | | | |
|----------------|--------|----|----------------|----------------|--|--|------|---|---|
| PROJECT_NUMBER | String | 36 | PROJECT_NUMBER | PROJECT_NUMBER | | | true | | |
| SUB_THICKNESS | Single | 4 | SUB_THICKNESS2 | SUB_THICKNESS | | | true | 3 | 1 |

LRSE_COSTGROUP - FeatureClass

| | |
|-----------------------|--|
| Name | LRSE_COSTGROUP |
| ShapeType | Polyline |
| FeatureType | Simple |
| AliasName | RAMS.LRSE_COSTGROUP |
| HasM | true |
| HasZ | true |
| HasAttachments | false |
| Description | This field is used on municipal or urban road segments and indicates the ROW cost group code in the following manner for all road systems. |

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|--|-------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | The begin mile post along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | The end mile post along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in the field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start Date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End Date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | User Name that created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Name that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time record was modified in database | | | true | | |
| COST_GROUP | Integer | 4 | COST_GROUP | This field is used on municipal or urban road segments and indicates the ROW cost group code in the following manner for all road systems. | COST_GROUP_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by Roads and Highway | | | true | | |

LRSE_COUNTYNUMBER - FeatureClass

| | |
|--------------------|-------------------|
| Name | LRSE_COUNTYNUMBER |
| ShapeType | Polyline |
| FeatureType | Simple |

AliasName RAMS.LRSE_COUNTYNUMBER
HasM true
HasZ true
HasAttachments false
Description The number assigned to the county name in the county_name field.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|----------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Concatenated route id used in ALRS | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date of event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| COUNTY_NUMBER | Integer | 4 | COUNTY_NUMBER | County number | COUNTY_NUMBER_ID | | false | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_DOMAINCODE - FeatureClass

Name LRSE_DOMAINCODE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_DOMAINCODE
HasM true
HasZ true
HasAttachments false
Description This field identifies the federal, state or local agency having control over the land thru which the road segment passes.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|----------|--------|--------------|--|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route | | | false | 13 | 8 |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|--|--------------------------------|--|-------|----|---|
| | | | | extent | | | | | |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| DOMAIN_CODE | Integer | 4 | DOMAIN_CODE | This field identifies the federal, state, local agency having control over the land through which the road segment passes. | DOMAIN_CODE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_EXPANSIONFACTOR - FeatureClass

Name LRSE_EXPANSIONFACTOR
ShapeType Polyline
FeatureType Simple
AliasName EXPANSION FACTOR
HasM true
HasZ true
HasAttachments false
Description LRSE_EXPANSIONFACTOR

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|----------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| EXPANSION_FACTOR | Single | 4 | EXPANSION_FACTOR | EXPANSION_FACTOR | | | true | 5 | 4 |

| | | | | | | | | | |
|----------|--------|-----|----------|----------|--|--|------|--|--|
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |
|----------|--------|-----|----------|----------|--|--|------|--|--|

LRSE_FACILITYTYPE - FeatureClass

Name LRSE_FACILITYTYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_FACILITYTYPE
HasM true
HasZ true
HasAttachments false
Description The operational characteristic of the roadway.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|----------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time event was modified in database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| FACILITY_TYPE | Integer | 4 | FACILITY_TYPE | The operational characteristic of the roadway. | FACILITY_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_FEDFUNCTIONALCLASS - FeatureClass

Name LRSE_FEDFUNCTIONALCLASS
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_FEDFUNCTIONALCLASS
HasM true
HasZ true

HasAttachments false
Description LRSE_FEDFUNCTIONALCLASS

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|----------------------|---|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| FED_FUNCTIONAL_CLASS | Integer | 4 | FED_FUNCTIONAL_CLASS | FED_FUNCTIONAL_CLASS | FED_FUNCTIONAL_CLASS_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_HANDT - FeatureClass

Name LRSE_HANDT
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_HANDT
HasM true
HasZ true
HasAttachments false
Description This field is used in creating the H and T maps. It is a computer generated field.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |

| | | | | | | | | | |
|-----------------|---------|-----|-----------------|--|----------------------------|--|------|---|---|
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| H_AND_T | Integer | 4 | H_AND_T | This field is used in creating the H and T maps. It is a computer generated field. | H_AND_T_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_HIGHWAYRESPONSIBILITY - FeatureClass

Name LRSE_HIGHWAYRESPONSIBILITY
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_HIGHWAYRESPONSIBILITY
HasM true
HasZ true
HasAttachments false
Description Indicates the level of service provided by the highway

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|------------------------|----------|--------|------------------------|--|---|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| HIGHWAY_RESPONSIBILITY | String | 1 | HIGHWAY_RESPONSIBILITY | Indicates the level of service provided by the highway | HIGHWAY_RESPONSIBILITY_ID | | true | | |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by | | | true | | |

LRSE_HPMSSAMPLESECTIONS - FeatureClass

Name LRSE_HPMSSAMPLESECTIONS
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_HPMSSAMPLESECTIONS
HasM true
HasZ true
HasAttachments false

Description Within the extent of all Federal-aid eligible roads, a random selection of roadway sections is used to represent various attributes at a system-wide level for the purposes of assessing the performance and condition of the network. This process helps to reduce any burden that may be imposed on the States to perform data collection to meet their HPMS reporting requirements. These sections of the network are referred to as Sample Panel sections. Moreover, the Sample Panel sections are selected randomly and are intended to give a statistically valid representation of the State's road network. Due to the structure of the HPMS data model, the States are not required to extract the Sample Panel data items, as long as the data in their submittal covers the Sample Panel. States are encouraged to submit their entire dataset for each data item. FHWA will dynamically assign values to the Sample Panel sections, using the data provided by the States. This should help to lessen the data processing burden on States that are currently collecting more than the minimum coverage.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNull | Precision | Scale |
|----------------------|--------------|--------|----------------------|---|--------|--------------|--------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| HPMS_SAMPLE_ID | String | 12 | HPMS_SAMPLE_ID | Unique ID for HPMS Sample | | | true | | |
| PEAK_LANES | SmallInteger | 2 | PEAK_LANES | The number of lanes in the peak direction of flow during the peak period. | | | true | 2 | 0 |
| COUNTER_PEAK_LANES | SmallInteger | 2 | COUNTER_PEAK_LANES | The number of lanes in the counter-peak direction of flow during the peak period. | | | true | 2 | 0 |
| TURN_LANES_R | SmallInteger | 2 | TURN_LANES_R | The presence of | | | true | 2 | 0 |

| | | | | | | | | | |
|----------------------|--------------|---|----------------------|---|--|--|------|----|---|
| | | | | right turn lanes at a typical intersection. | | | | | |
| TURN_LANES_L | SmallInteger | 2 | TURN_LANES_L | The presence of left turn lanes at a typical intersection | | | true | 2 | 0 |
| AADT_SINGLE_UNIT | Integer | 4 | AADT_SINGLE_UNIT | Annual Average Daily Traffic for single-unit trucks and buses | | | true | 10 | 0 |
| PCT_PEAK_SINGLE | Double | 8 | PCT_PEAK_SINGLE | Peak hour single-unit truck and bus volume as a percentage of total AADT | | | true | 8 | 3 |
| AADT_COMBINATION | Integer | 4 | AADT_COMBINATION | Annual Average Daily Traffic for Combination Trucks | | | true | 10 | 0 |
| PCT_PEAK_COMBINATION | Double | 8 | PCT_PEAK_COMBINATION | Peak hour combination truck volume as a percentage of total AADT | | | true | 8 | 3 |
| K_FACTOR | Double | 8 | K_FACTOR | The design hour volume (30th largest hourly volume for a given calendar year) as a percentage of AADT | | | true | 8 | 3 |
| DIR_FACTOR | Double | 8 | DIR_FACTOR | The percent of design hour volume (30th largest hourly volume for a given calendar year) flowing in the higher volume direction | | | true | 8 | 3 |
| FUTURE_AADT | Integer | 4 | FUTURE_AADT | Forecasted AADT | | | true | 8 | 0 |
| PCT_GREEN_TIME | Double | 8 | PCT_GREEN_TIME | The percent of green time allocated for through-traffic at intersections | | | true | 8 | 3 |
| NUMBER_SIGNALS | SmallInteger | 2 | NUMBER_SIGNALS | A count of the signalized at-grade intersections | | | true | 3 | 0 |
| STOP_SIGNS | SmallInteger | 2 | STOP_SIGNS | A count of the at-grade intersections with stop signs | | | true | 3 | 0 |
| AT_GRADE_OTHER | SmallInteger | 2 | AT_GRADE_OTHER | A count of the intersections without stop sign or signal controls | | | true | 3 | 0 |
| SIGNAL_TYPE | Integer | 4 | SIGNAL_TYPE | The predominant type of signal system on a sample section | | | true | 5 | 0 |
| LANE_WIDTH | SmallInteger | 2 | LANE_WIDTH | The measure of existing lane width | | | true | 3 | 0 |
| PCT_PASS_SIGHT | Double | 8 | PCT_PASS_SIGHT | The percent of a Sample Panel section meeting the sight distance requirement for | | | true | 8 | 3 |

| | | | | | | | | | |
|----------|--------|-----|----------|--|--|--|------|--|--|
| LOCERROR | String | 100 | LOCERROR | passing LRS location error populated by roads and highway | | | true | | |
|----------|--------|-----|----------|--|--|--|------|--|--|

LRSE_ICECORRIDORS - FeatureClass

Name LRSE_ICECORRIDORS
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ICECORRIDORS
HasM true
HasZ true
HasAttachments false
Description LRSE_ICECORRIDORS

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|--------------|--------|----------------------|----------------------|-----------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| CORRIDOR_ID | SmallInteger | 2 | CORRIDOR_ID | CORRIDOR_ID | ICE CORRIDOR ID | | true | 4 | 0 |
| ROUTE_NAME | String | 255 | ROUTE_NAME | ROUTE_NAME | | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_INSTITUTIONALNUMBER - FeatureClass

Name LRSE_INSTITUTIONALNUMBER
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_INSTITUTIONALNUMBER
HasM true
HasZ true
HasAttachments false
Description This is the number assigned to the institution.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|----------|--------|--------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for | | | false | 13 | 8 |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|---|---------------------------------------|--|-------|---|---|
| | | | | event along a route extent | | | | | |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| INSTITUTION_NUMBER | Integer | 4 | INSTITUTION_NUMBER | This is the number assigned to the institution. | INSTITUTION_NUMBER_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_LANETYPE - FeatureClass

Name LRSE_LANETYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_LANETYPE
HasM true
HasZ true
HasAttachments false
Description LRSE_LANETYPE

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|----------------------|-------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| LANE_TYPE | String | 1 | LANE_TYPE | LANE_TYPE | LANE_TYPE_ID | | true | | |
| TRAVEL_DIRECTION | String | 1 | TRAVEL_DIRECTION | TRAVEL_DIRECTION | TRAVEL_DIRECTION_ID | | true | | |
| LANE_POSITION | String | 1 | LANE_POSITION | LANE_POSITION | LANE_POSITION_ID | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_LEFTSHOULDERCURBED - FeatureClass

Name LRSE_LEFTSHOULDERCURBED
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_LEFTSHOULDERCURBED
HasM true
HasZ true
HasAttachments false
Description This field indicates whether the left side or inside shoulder has a curb.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|---------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| LEFT_SHOULDER_CURBED | Integer | 4 | LEFT_SHOULDER_CURBED | This field indicates whether the left side or inside shoulder has a curb. | CURBED_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_LEFTSHOULDERRUMBLE - FeatureClass

Name LRSE_LEFTSHOULDERRUMBLE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_LEFTSHOULDERRUMBLE
HasM true
HasZ true
HasAttachments false

Description

This field indicates whether a rumble strip exists on the left side or inside shoulder.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| LEFT_SHOULDER_RUMBLE | Integer | 4 | LEFT_SHOULDER_RUMBLE | This field indicates whether a rumble strip exists on the left side or inside shoulder. | RUMBLE_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_LEFTSHOULDER_TIED - FeatureClass

Name LRSE_LEFTSHOULDER_TIED
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_LEFTSHOULDER_TIED
HasM true
HasZ true
HasAttachments false
Description This field indicates if the left side or inside shoulder is tied to the roadway surface.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|----------|--------|--------------|--|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Date event occurred in field | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route | | | false | 13 | 8 |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|--|----------------------------------|--|-------|----|---|
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| LEFT_SHOULDER_TIED | Integer | 4 | LEFT_SHOULDER_TIED | This field indicates if the left side or inside shoulder is tied to the roadway surface. | SHOULDER_TIED_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_LEFTSHOULDERTYPE - FeatureClass

Name LRSE_LEFTSHOULDERTYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_LEFTSHOULDERTYPE
HasM true
HasZ true
HasAttachments false
Description This field indicates the left side or inside shoulder type for all road systems using the following criteria.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the | | | true | | |

| | | | | | | | | | |
|--------------------|---------|-----|--------------------|---|----------------------------------|--|-------|---|---|
| | | | | event | | | | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| LEFT_SHOULDER_TYPE | Integer | 4 | LEFT_SHOULDER_TYPE | This field indicates the left side or inside shoulder type for all road systems using the following criteria. | SHOULDER_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_LEFTSHOULDERWIDTH - FeatureClass

Name LRSE_LEFTSHOULDERWIDTH
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_LEFTSHOULDERWIDTH
HasM true
HasZ true
HasAttachments false
Description This field indicates the width of the left side or inside shoulder to the nearest foot. It is used on all road systems.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |

| | | | | | | | | | |
|---------------------|---------|-----|---------------------|---|--|--|------|---|---|
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| LEFT_SHOULDER_WIDTH | Integer | 4 | LEFT_SHOULDER_WIDTH | This field indicates the width of the left side or inside shoulder to the nearest foot. It is used on all road systems. | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_MAINTENANCECONTRACT - FeatureClass

Name LRSE_MAINTENANCECONTRACT

ShapeType Polyline

FeatureType Simple

AliasName RAMS.LRSE_MAINTENANCECONTRACT

HasM true

HasZ true

HasAttachments false

Description This field indicates a maintenance contract with a city or county. The Office of Maintenance-Programs is responsible for keeping this information current. This is used for primary and institutional roads.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|---|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| MAINTENANCE_CONTRACT | Integer | 4 | MAINTENANCE_CONTRACT | This field indicates a maintenance | MAINTENANCE_CONTRACT_ID | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|---|--|--|------|--|--|
| | | | | contract with a city or county. The Office of Maintenance-Programs is responsible for keeping this information current. This is used for primary and institutional roads. | | | | | |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_MAINTENANCECOSTCENTER - FeatureClass

Name LRSE_MAINTENANCECOSTCENTER
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_MAINTENANCECOSTCENTER
HasM true
HasZ true
HasAttachments false
Description Number made up of a two digit cost center identifier, district number, residency number and garage number

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |

| | | | | | | | | | |
|-------------------------|---------|-----|-------------------------|---|--|--|------|---|---|
| MAINTENANCE_COST_CENTER | Integer | 4 | MAINTENANCE_COST_CENTER | Number made up of a two digit cost center identifier, district number, residency number and garage number | MAINTENANCE_COST_CENTER_ID | | true | 6 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_MAINTENANCEDISTRICT - FeatureClass

Name LRSE_MAINTENANCEDISTRICT
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_MAINTENANCEDISTRICT
HasM true
HasZ true
HasAttachments false
Description This field is used to identify the Maintenance District number. The District is assigned by the Office of Maintenance-Programs. This is used on primary and institutional roads. Districts 1-6

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|---|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| MAINTENANCE_DISTRICT | Integer | 4 | MAINTENANCE_DISTRICT | This field is used to identify the Maintenance District number. The District is assigned by the Office of | MAINTENANCE_DISTRICT_ID | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|--|--|--|------|--|--|
| | | | | Maintenance-Programs. This is used on primary and institutional roads. Districts 1-6 | | | | | |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_MAINTENANCESERVICELVL - FeatureClass

Name LRSE_MAINTENANCESERVICELVL
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_MAINTENANCESERVICELVL
HasM true
HasZ true
HasAttachments false
Description This field is entered by the Office of Maintenance-Programs. It is used for primary and institutional roads.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|------------------------|-----------|--------|------------------------|--|---|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Date event occurred in field | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| MAINTENANCE_SERVICE_LV | String | 1 | MAINTENANCE_SERVICE_LV | This field is entered by the Office of Maintenance-Programs. It is used for primary and institutional roads. | MAINTENANCE_SERVICE_LV_ID | | true | | |

| | | | | | | | | | |
|----------|--------|-----|----------|---|--|--|------|--|--|
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |
|----------|--------|-----|----------|---|--|--|------|--|--|

LRSE_MANAGEMENTSECTIONS - FeatureClass

Name LRSE_MANAGEMENTSECTIONS
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_MANAGEMENTSECTIONS
HasM true
HasZ true
HasAttachments false
Description LRSE_MANAGEMENTSECTIONS

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------------|--------------|--------|----------------------------|----------------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| ORIG_KEY | String | 20 | ORIG_KEY | ORIG_KEY | | | true | | |
| MANAGE_SECTION_DESCRIPTION | String | 200 | MANAGE_SECTION_DESCRIPTION | MANAGE_SECTION_DESCRIPTION | | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |
| CONSTRUCTION_YEAR | SmallInteger | 2 | CONYR | CONSTRUCTION_YEAR | | | true | 4 | 0 |
| RECONSTRUCTION_YEAR | SmallInteger | 2 | RESYR | RECONSTRUCTION_YEAR | | | true | 4 | 0 |
| PAVTYP | String | 2 | PAVTYP | PAVTYP | | | true | | |

LRSE_MEDIANTYPE - FeatureClass

Name LRSE_MEDIANTYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_MEDIANTYPE
HasM true
HasZ true
HasAttachments false

Description The characteristics of the median on all road sections are entered using the following criteria. If median has a curb, the curb is placed on the inside shoulder. A barrier is .152 meters or more. A painted median is not considered a median.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|-----------|--------|-----------|-----------------------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|--|--------------------------------|--|-------|----|---|
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| MEDIAN_TYPE | Integer | 4 | MEDIAN_TYPE | The characteristics of the median on all road sections are entered using the following criteria. If median has a curb, the curb is placed on the inside shoulder. A barrier is .152 meters or more. A painted median is not considered a median. | MEDIAN_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_MEDIANWIDTH - FeatureClass

Name LRSE_MEDIANWIDTH

ShapeType Polyline

FeatureType Simple

AliasName RAMS.LRSE_MEDIANWIDTH

HasM true

HasZ true

HasAttachments false

Description This code indicates the width of the median between the edges of traffic lanes recorded to the nearest foot. This field is applicable for all road systems.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|-----------|--------|--------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|---|--|--|-------|----|---|
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| MEDIAN_WIDTH | Integer | 4 | MEDIAN_WIDTH | This code indicates the width of the median between the edges of traffic lanes recorded to the nearest foot. This field is applicable for all road systems. | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_MINIMUM_SPEEDLIMIT - FeatureClass

Name LRSE_MINIMUM_SPEEDLIMIT
ShapeType Polyline
FeatureType Simple
AliasName MINIMUM SPEED LIMIT
HasM true
HasZ true
HasAttachments false
Description LRSE_MINIMUM_SPEEDLIMIT

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|----------------------|--------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| MINIMUM_SPEED_LIMIT | Integer | 4 | MINIMUM_SPEED_LIMIT | MINIMUM_SPEED_LIMIT | SPEED_LIMIT_ID | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|----------|--|--|------|--|--|
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |
|----------|--------|-----|----------|----------|--|--|------|--|--|

LRSE_NATIONALHIGHWAYSYSTEM - FeatureClass

Name LRSE_NATIONALHIGHWAYSYSTEM
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_NATIONALHIGHWAYSYSTEM
HasM true
HasZ true
HasAttachments false
Description This field indicates the state functional classification of the road segment. NATIONAL HIGHWAY SYSTEM

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-------------------------|-----------|--------|-------------------------|---|--|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| NATIONAL_HIGHWAY_SYSTEM | Integer | 4 | NATIONAL_HIGHWAY_SYSTEM | This field indicates the state functional classification of the road segment. NATIONAL HIGHWAY SYSTEM | NATIONAL_HIGHWAY_SYSTEM_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_NUMBERLANES - FeatureClass

Name LRSE_NUMBERLANES
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_NUMBERLANES
HasM true
HasZ true
HasAttachments false
Description LRSE_NUMBERLANES

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|----------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| NUMBER_LANES | Integer | 4 | NUMBER_LANES | NUMBER_LANES | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_PARKINGTYPE - FeatureClass

Name LRSE_PARKINGTYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_PARKINGTYPE
HasM true
HasZ true
HasAttachments false
Description This field indicates the type of parking in municipal and/or urban areas on primary, municipal and institutional roads

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |

| | | | | | | | | | |
|--------------------|---------|-----|--------------------|--|---------------------------------|--|-------|---|---|
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| PARKING_TYPE | Integer | 4 | PARKING_TYPE | This field indicates the type of parking in municipal and/or urban areas on primary, municipal and institutional roads | PARKING_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_PLANNINGCLASS - FeatureClass

Name LRSE_PLANNINGCLASS
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_PLANNINGCLASS
HasM true
HasZ true
HasAttachments false
Description This field is a five-level classification for use in planning and programming for the primary road system. The Office of Systems Planning is responsible for providing the data for this field.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted | | | false | | |

| | | | | | | | | | |
|-----------------|---------|-----|-----------------|---|-----------------------------------|--|------|---|---|
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | into database Date and time event was modified in database | | | true | | |
| PLANNING_CLASS | Integer | 4 | PLANNING_CLASS | This field is a five-level classification for use in planning and programming for the primary road system. The Office of Systems Planning is responsible for providing the data for this field. | PLANNING_CLASS_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_PROJECT_SCOPING - FeatureClass

Name LRSE_PROJECT_SCOPING
ShapeType Polyline
FeatureType Simple
AliasName PROJECT_SCOPING
HasM true
HasZ true
HasAttachments false
Description LRSE_PROJECT_SCOPING

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|----------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| PROJECT_SCOPE_ID | String | 38 | PROJECT_SCOPE_ID | PROJECT_SCOPE_ID | | | true | | |
| PSS_PIN_ID | String | 38 | PSS_PIN_ID | PSS_PIN_ID | | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_REFERENCEPOSTS - FeatureClass

Name LRSE_REFERENCEPOSTS
ShapeType Point
FeatureType Simple
AliasName RAMS.LRSE_REFERENCEPOSTS
HasM true
HasZ true

HasAttachments false

Description provides localized, but consistently placed points of reference from which to measure a linear location. The reference post LRM uses the mileposts along the primary routes. Note that the LRS does not allow using the post values as a representation of accumulated distance; this subsystem applies the posts and relative offsets to locate events. For example, the accumulated distance of 10.06 is not the same location as reference post 10, offset 6 miles.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|--|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| MEASURE | Double | 8 | MEASURE | Mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| REFERENCE_POST_VALUE | String | 10 | REFERENCE_POST_VALUE | Reference post number printed on sign | | | true | | |
| REFERENCE_POST_NAME | String | 255 | REFERENCE_POST_NAME | Combination of reference post value, route name, and direction | | | true | | |
| OPPOSITE_SIDE | String | 1 | OPPOSITE_SIDE | Indicates if post is on non-cardinal side of road | | | true | | |
| VIRTUAL | String | 1 | VIRTUAL | Non-physical reference post for measuring purposes. | | | true | | |
| MEASURED_LAT | Double | 8 | MEASURED_LAT | Latitudinal position of post | | | true | 8 | 5 |
| MEASURED_LON | Double | 8 | MEASURED_LON | Longitudinal position of post | | | true | 8 | 5 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_RIGHTSHOULDERCURBED - FeatureClass

Name LRSE_RIGHTSHOULDERCURBED
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_RIGHTSHOULDERCURBED
HasM true
HasZ true

HasAttachments false

Description This field indicates whether the right side or outside shoulder has a curb

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------------------|----------|--------|-----------------------|--|---------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| RIGHT_SHOULDER_CURBED | Integer | 4 | RIGHT_SHOULDER_CURBED | This field indicates whether the right side or outside shoulder has a curb | CURBED_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_RIGHTSHOULDERRUMBLE - FeatureClass

Name LRSE_RIGHTSHOULDERRUMBLE

ShapeType Polyline

FeatureType Simple

AliasName RAMS.LRSE_RIGHTSHOULDERRUMBLE

HasM true

HasZ true

HasAttachments false

Description This field indicates whether a rumble strip exists on the right side or outside shoulder.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|----------|--------|--------------|--|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route | | | false | 13 | 8 |

| | | | | | | | | | |
|-----------------------|---------|-----|-----------------------|---|--------------------------------|--|-------|----|---|
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| RIGHT_SHOULDER_RUMBLE | Integer | 4 | RIGHT_SHOULDER_RUMBLE | This field indicates whether a rumble strip exists on the right side or outside shoulder. | RUMBLE_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_RIGHTSHOULDER_TIED - FeatureClass

Name LRSE_RIGHTSHOULDER_TIED
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_RIGHTSHOULDER_TIED
HasM true
HasZ true
HasAttachments false
Description This field indicates if the right side or outside shoulder is tied to the roadway surface.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the | | | true | | |

| | | | | | | | | | |
|---------------------|---------|-----|---------------------|--|----------------------------------|--|-------|---|---|
| | | | | event | | | | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| RIGHT_SHOULDER_TIED | Integer | 4 | RIGHT_SHOULDER_TIED | This field indicates if the right side or outside shoulder is tied to the roadway surface. | SHOULDER_TIED_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_RIGHTSHOULDERTYPE - FeatureClass

Name LRSE_RIGHTSHOULDERTYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_RIGHTSHOULDERTYPE
HasM true
HasZ true
HasAttachments false
Description This field indicates the right side or outside shoulder type for all road systems using the following criteria.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event | | | true | | |

| | | | | | | | | | |
|---------------------|---------|-----|---------------------|---|----------------------------------|--|------|---|---|
| | | | | was modified in database | | | | | |
| RIGHT_SHOULDER_TYPE | Integer | 4 | RIGHT_SHOULDER_TYPE | This field indicates the right side or outside shoulder type for all road systems using the following criteria. | SHOULDER_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_RIGHTSHOULDERWIDTH - FeatureClass

Name LRSE_RIGHTSHOULDERWIDTH
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_RIGHTSHOULDERWIDTH
HasM true
HasZ true
HasAttachments false
Description This field indicates the width of the right side or outside shoulder to the nearest foot. It is used on all road systems.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| RIGHT_SHOULDER_WIDTH | Integer | 4 | RIGHT_SHOULDER_WIDTH | This field indicates the width of the right side or outside shoulder to the nearest foot. It is used on all road systems. | | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|---|--|--|------|--|--|
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |
|----------|--------|-----|----------|---|--|--|------|--|--|

LRSE_ROADFUNCTION - FeatureClass

Name LRSE_ROADFUNCTION
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROADFUNCTION
HasM true
HasZ true
HasAttachments false
Description This field designates the difference between mainline and non-mainline road sections, and designates other normal roadway uses. (This field is applicable only to primary roads.)

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|----------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROAD_FUNCTION | Integer | 4 | ROAD_FUNCTION | This field designates the difference between mainline and non-mainline road sections, and designates other normal roadway uses. (This field is applicable only to primary roads.) | ROAD_FUNCTION_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROADOWNERSHIP - FeatureClass

Name LRSE_ROADOWNERSHIP
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROADOWNERSHIP
HasM true
HasZ true
HasAttachments false
Description The entity that has legal ownership of a roadway

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|--|-------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| OWNER_CODE | Integer | 4 | OWNER_CODE | For apportionment, administrative, legislative, analytical, and national highway database purposes, and in cost allocation studies | OWNER_CODE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROADSTATUS - FeatureClass

Name LRSE_ROADSTATUS
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROADSTATUS

HasM true
HasZ true
HasAttachments false
Description Identifies the road segment as open, legal not open, or proposed.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROAD_STATUS | Integer | 4 | ROAD_STATUS | Identifies the road segment as open, legal not open, or proposed. | ROAD_STATUS_ID | | false | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROADSYSTEM - FeatureClass

Name LRSE_ROADSYSTEM
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROADSYSTEM
HasM true
HasZ true
HasAttachments false
Description Indicates the state assigned system for the segment of road.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|-----------|--------|-----------|-----------------------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|--|--------------------------------|--|-------|----|---|
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date event occurred in field | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROAD_SYSTEM | Integer | 4 | ROAD_SYSTEM | Indicates the state assigned system for the segment of road. | ROAD_SYSTEM_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTEDOMINANCE - FeatureClass

Name LRSE_ROUTEDOMINANCE
ShapeType Polyline
FeatureType Simple
AliasName ROUTE DOMINANCE
HasM true
HasZ true
HasAttachments false
Description LRSE_ROUTEDOMINANCE

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|----------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| RTE_DOMINANCE | Integer | 4 | RTE_DOMINANCE | RTE_DOMINANCE | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_ROUTEQUALIFIER - FeatureClass

Name LRSE_ROUTEQUALIFIER
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTEQUALIFIER
HasM true
HasZ true
HasAttachments false
Description The route signing descriptive qualifier

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Start date for the event | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_QUALIFIER | Integer | 4 | ROUTE_QUALIFIER | The route signing descriptive qualifier | ROUTE_QUALIFIER_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTESCOUNTYSIGNED - FeatureClass

Name LRSE_ROUTESCOUNTYSIGNED
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESCOUNTYSIGNED
HasM true
HasZ true
HasAttachments false
Description This field identifies numbers assigned to county roads

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-------|----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
|-------|----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|---|--|--|-------|----|---|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_NAME | String | 255 | ROUTE_NAME | This field identifies numbers assigned to county roads | | | true | | |
| PRIORITY | Integer | 4 | PRIORITY | Sets hierarchical precedence with lower numbers receiving higher priority | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTESIGNING - FeatureClass

Name LRSE_ROUTESIGNING
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESIGNING
HasM true
HasZ true
HasAttachments false
Description The type of route signing

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|-----------|--------|--------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|---|--|--|-------|----|---|
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_SIGNING | Integer | 4 | ROUTE_SIGNING | The type of route signing | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTESINSTITUTIONAL - FeatureClass

Name LRSE_ROUTESINSTITUTIONAL
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESINSTITUTIONAL
HasM true
HasZ true
HasAttachments false
Description This field identifies names assigned to roads

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Date event occurred in field | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that | | | true | | |

| | | | | | | | | | |
|--------------------|---------|-----|--------------------|---|--|--|-------|---|---|
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | modified event Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_NAME | String | 255 | ROUTE_NAME | This field identifies names assigned to roads | | | true | | |
| PRIORITY | Integer | 4 | PRIORITY | Sets hierarchical precedence with lower numbers receiving higher priority | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTESMUNICIPALE911 - FeatureClass

Name LRSE_ROUTESMUNICIPALE911
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESMUNICIPALE911
HasM true
HasZ true
HasAttachments false
Description This field identifies names assigned to local roads

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in | | | true | | |

| | | | | | | | | | |
|------------|---------|-----|------------|---|--|--|------|---|---|
| ROUTE_NAME | String | 255 | ROUTE_NAME | database This field identifies names assigned to local roads | | | true | | |
| PRIORITY | Integer | 4 | PRIORITY | Sets hierarchical precedence with lower numbers receiving higher priority | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTESRAMP - FeatureClass

Name LRSE_ROUTESRAMP
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESRAMP
HasM true
HasZ true
HasAttachments false
Description This field identifies names assigned to ramps

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_NAME | String | 255 | ROUTE_NAME | This field identifies names assigned to ramps | | | true | | |
| PRIORITY | Integer | 4 | PRIORITY | Sets hierarchical precedence with | | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|---|--|--|------|--|--|
| | | | | lower numbers receiving higher priority | | | | | |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_ROUTESECONDRARYE911 - FeatureClass

Name LRSE_ROUTESECONDRARYE911
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESECONDRARYE911
HasM true
HasZ true
HasAttachments false
Description This field identifies names assigned to secondary routes within the E911 System

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_NAME | String | 255 | ROUTE_NAME | This field identifies names assigned to secondary routes within the E911 System | | | true | | |
| PRIORITY | Integer | 4 | PRIORITY | Sets hierarchical precedence with lower numbers receiving higher priority | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads | | | true | | |

and highway

LRSE_ROUTESSTATESIGNED - FeatureClass

Name LRSE_ROUTESSTATESIGNED
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_ROUTESSTATESIGNED
HasM true
HasZ true
HasAttachments false
Description This field identifies names assigned to state roads

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| ROUTE_NAME | String | 255 | ROUTE_NAME | This field identifies names assigned to state roads | | | true | | |
| PRIORITY | Integer | 4 | PRIORITY | Sets hierarchical precedence with lower numbers receiving higher priority | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_RRCROSSINGS - FeatureClass

Name LRSE_RRCROSSINGS
ShapeType Point

FeatureType Simple
AliasName RAMS.LRSE_RRCROSSINGS
HasM true
HasZ true
HasAttachments false

Description A level crossing, or grade crossing, is an intersection where a railway line crosses a road or path at the same level, as opposed to the railway line crossing over or under using a bridge or tunnel.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|--|--|---------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| MEASURE | Double | 8 | MEASURE | Mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| CROSSINGID | String | 20 | D. DOT CROSSING INVENTORY NUMBER | DOT Crossing Inventory Number | | | true | | |
| RAILROAD | Integer | 4 | I.1. PRIMARY OPERATING RAILROAD | Primary Operating Railroad | RR_AAR_CODE_ID | | true | 5 | 0 |
| STATECD | String | 2 | I.2. STATE | State Numeric Code | | | true | | |
| CNTYCD | Integer | 4 | I.3. COUNTY | County Numeric Code | COUNTY_NUMBER_ID | | true | 5 | 0 |
| NEAREST | Integer | 4 | I.4. NEAR CITY | In or Near City Indicator | RR_NEAR_CITY_ID | | true | 5 | 0 |
| CITYCD | Integer | 4 | I.4. CITY/MUNICIPALITY | City/Municipality Numeric Code | CITY_NUMBER_ID | | true | 5 | 0 |
| STREET | String | 256 | I.5. STREET | Street or Road Name | | | true | | |
| BLOCKNUMB | String | 6 | I.5. BLOCKNUMB | Block Number of Street or Road | | | true | | |
| HIGHWAY | String | 256 | I.6. HIGHWAY TYPE & NO | Highway Type and No. | | | true | | |
| SEPIND | Integer | 4 | I.7. DO OTHER RAILROADS OPERATE A SEPERATE TRACK | Do Other RRs Operate a Separate Track at Crossing? | RR_SEPARATE_TRACKS_ID | | true | 5 | 0 |
| SEPRR1 | Integer | 4 | I.7. OTHER RR 1 | Specify RR Code of Other Railroads that Operate Separate Track | RR_AAR_CODE_ID | | true | 5 | 0 |
| SEPRR2 | Integer | 4 | I.7. OTHER RR 2 | Specify RR Code of Other Railroads that Operate Separate Track | RR_AAR_CODE_ID | | true | 5 | 0 |

| | | | | | | | | | |
|----------------|---------|-----|---|--|--------------------------------------|--|------|---|---|
| SEPRR3 | Integer | 4 | I.7. OTHER RR 3 | Specify RR Code of Other Railroads that Operate Separate Track | RR_AAR_CODE_ID | | true | 5 | 0 |
| SEPRR4 | Integer | 4 | I.7. OTHER RR 4 | Specify RR Code of Other Railroads that Operate Separate Track | RR_AAR_CODE_ID | | true | 5 | 0 |
| SAMEIND | Integer | 4 | I.8. DO OTHER RAILROADS OPERATE OVER YOUR TRACK | Do other RRs Operate Over Your Track at Crossing? | RR_SAME_TRACKS_ID | | true | 5 | 0 |
| SAMERR1 | Integer | 4 | I.8. SAME RR 1 | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | RR_AAR_CODE_ID | | true | 5 | 0 |
| SAMERR2 | Integer | 4 | I.8. SAME RR 2 | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | RR_AAR_CODE_ID | | true | 5 | 0 |
| SAMERR3 | Integer | 4 | I.8. SAME RR 3 | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | RR_AAR_CODE_ID | | true | 5 | 0 |
| SAMERR4 | Integer | 4 | I.8. SAME RR 4 | Specify RR Code(s) of Other Railroads that Operate Over Your Track at Crossing | RR_AAR_CODE_ID | | true | 5 | 0 |
| RRDIV | Integer | 4 | I.9. RAILROAD DIVISION OR REGION | Railroad Division or Region | RR_DIVISION_ID | | true | 5 | 0 |
| RRSUBDIV | Integer | 4 | I.10. RAILROAD SUBDIVISION OR DISTRICT | Railroad Subdivision or District | RR_SUB_DIVISION_ID | | true | 5 | 0 |
| BRANCH | Integer | 4 | I.11. BRANCH OR LINE NAME | Branch or Line Name | RR_BRANCH_ID | | true | 5 | 0 |
| PRFXMILEPOST | String | 3 | I.12. RR MILEPOST PREFIX | RR Milepost Prefix | | | true | | |
| MILEPOST | String | 8 | I.12. RR MILEPOST | RR Milepost | | | true | | |
| SFXMILEPOST | String | 3 | I.12. RR MILEPOST SUFFIX | RR Milepost Suffix | | | true | | |
| RRID | String | 256 | I.13. LINE SEGMENT | Line Segment | | | true | | |
| TTSTNNAM | String | 256 | I.14. NEAREST RR TIMETABLE STATION | Nearest RR Timetable Station Name | | | true | | |
| RRMAIN | Integer | 4 | I.15. PARENT RR | Parent RR | RR_AAR_CODE_ID | | true | 5 | 0 |
| XINGOWNR | Integer | 4 | I.16. CROSSING OWNER | Crossing Owner | RR_AAR_CODE_ID | | true | 5 | 0 |
| TYPEXING | Integer | 4 | I.17. CROSSING TYPE | Crossing Type | RR_TYPEXING_ID | | true | 5 | 0 |
| XPURPOSE | Integer | 4 | I.18. CROSSING PURPOSE | Crossing Purpose | RR_XPURPOSE_ID | | true | 5 | 0 |
| POSXING | Integer | 4 | I.19. CROSSING POSITION | Crossing Position | RR_POSXING_ID | | true | 5 | 0 |
| OPENPUB | Integer | 4 | I.20. PUBLIC ACCESS | Public Access | RR_OPENPUB_ID | | true | 5 | 0 |
| TYPETRNSRVCIDS | Integer | 4 | I.21. TYPE OF TRAIN | Type of Train | RR_TYPETRNSRVCIDS_ID | | true | 5 | 0 |
| LT1PASSMOV | Integer | 4 | I.22. LESS THAN 1 PASSENGER TRAIN PER DAY | Less Than One Average Passenger Train Count Per Day? | RR_LT1PASSMOV_ID | | true | 5 | 0 |
| PASSCNT | Integer | 4 | I.22. AVERAGE PASSENGER TRAIN COUNT PER DAY | Number Per Day | | | true | 5 | 0 |
| DEVELTYPID | Integer | 4 | I.23. TYPE OF LAND USE | Type of Land Use | RR_DEVELTYPEID_ID | | true | 5 | 0 |
| XINGADJ | Integer | 4 | I.24. IS THERE AN ADJACENT CROSSING | Is there an Adjacent Crossing with a Separate Number? | RR_XINGADJ_ID | | true | 5 | 0 |
| XNGADJNO | String | 7 | I.24. ADJACENT CROSSING NUMBER | If Yes, Provide Crossing Number | | | true | | |
| WHISTBAN | Integer | 4 | I.25. QUIET ZONE TYPE | Quiet Zone (FRA | RR_WHISTBAN_ID | | true | 5 | 0 |

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| | | | | Provided) | | | | | |
| WHISTDATE | Date | 8 | I.25. QUIET ZONE DATE | Date Established | | | true | | |
| SFXHSCORRID | String | 4 | I.26. HSR CORRIDOR SUFFIX | HSR Corridor ID Suffix | | | true | | |
| HSCORRID | String | 4 | I.26. HSR CORRIDOR ID | HSR Corridor ID | | | true | | |
| LATITUDE | Double | 8 | I.27. LATITUDE | Latitude in decimal degrees (max 10 char., WGS84 std nn.nnnnnn) | | | true | 10 | 7 |
| LONGITUDE | Double | 8 | I.28. LONGITUDE | Longitude in decimal degrees (max 11 char., WGS84 std - nnn.nnnnnn) | | | true | 11 | 7 |
| LLSOURCE | Integer | 4 | I.29. LAT/LONG SOURCE | Latitude/Longitude Source | RR_LLSOURCE_ID | | true | 5 | 0 |
| RRNAAR1 | String | 256 | I.30.A. RAILROAD USE 1 | Railroad Use | | | true | | |
| RRNAAR2 | String | 256 | I.30.B. RAILROAD USE 2 | Railroad Use | | | true | | |
| RRNAAR3 | String | 256 | I.30.C. RAILROAD USE 3 | Railroad Use | | | true | | |
| RRNAAR4 | String | 256 | I.30.D. RAILROAD USE 4 | Railroad Use | | | true | | |
| STNAAR1 | String | 256 | I.31.A. STATE USE 1 | State Use | | | true | | |
| STNAAR2 | String | 256 | I.31.B. STATE USE 2 | State Use | | | true | | |
| STNAAR3 | String | 256 | I.31.C. STATE USE 3 | State Use | | | true | | |
| STNAAR4 | String | 256 | I.31.D. STATE USE 4 | State Use | | | true | | |
| RRNAAR | String | 256 | I.32.A. NARRATIVE (RR USE) | Railroad Narrative | | | true | | |
| STNAAR | String | 256 | I.32.B. NARRATIVE (STATE) | State Narrative | | | true | | |
| POLCONT | String | 10 | I.33. EMERGENCY NOTIFICATION PHONE NUMBER (POSTED) | Emergency Notification Telephone No. (Posted) | | | true | | |
| RRCONT | String | 10 | I.34. RAILROAD CONTACT(TELEPHONE NO) | Railroad Contact (Telephone No.) | | | true | | |
| HWYCONT | String | 10 | I.35. STATE CONTACT(TELEPHONE NO) | State Contact (Telephone No.) | | | true | | |
| DAYTHRU | Integer | 4 | II.1.A. TOTAL DAY THRU TRAINS | Total Day Thru Trains (6 AM to 6 PM) | | | true | 5 | 0 |
| NGHTTHRU | Integer | 4 | II.1.B. TOTAL NIGHT THRU TRAINS | Night Thru Trains (6 PM to 6AM) | | | true | 5 | 0 |
| TOTALSWT | Integer | 4 | II.1.C. TOTAL SWITCHING TRAINS | Total Switching Trains (6 AM to 6 PM) | | | true | 5 | 0 |
| TOTALLTR | Integer | 4 | II.1.D. TOTAL TRANSIT TRAINS | Total Transit Trains | | | true | 5 | 0 |
| LT1MOV | Integer | 4 | II.1.E. CHECK IF LESS THAN ONE MOVEMENT PER DAY | Check if Less Than One Movement Per Day | RR_LT1MOV_ID | | true | 5 | 0 |
| WEEKTRNMOV | Integer | 4 | II.1.E. HOW MANY TRAINS PER WEEK | How many trains per week? | | | true | 5 | 0 |
| YEARTRNMOV | Integer | 4 | II.2. YEAR OF TRAIN COUNT DATA | Year of Train Count Data | | | true | 5 | 0 |
| MAXTTSPD | Integer | 4 | II.3.A. MAXIMUM TIMETABLE SPEED | Maximum Timetable Speed | | | true | 5 | 0 |
| MINSPD | Integer | 4 | II.3.B. TYPICAL SPEED MINIMUM | Typical Speed Range Over Crossing (mph) From | | | true | 5 | 0 |
| MAXSPD | Integer | 4 | II.3.B. TYPICAL SPEED MAXIMUM | Typical Speed Range Over Crossing (mph) To | | | true | 5 | 0 |

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|-----------------|---------|----|--|---|---|--|------|---|---|
| MAINTRK | Integer | 4 | II.4. MAIN TRACK COUNT | Main | | | true | 5 | 0 |
| SIDINGTRK | Integer | 4 | II.4. SIDING TRACK COUNT | Siding | | | true | 5 | 0 |
| YARDTRK | Integer | 4 | II.4. YARD TRACK COUNT | Yard | | | true | 5 | 0 |
| TRANSITTRK | Integer | 4 | II.4. TRANSIT TRACK COUNT | Transit | | | true | 5 | 0 |
| INDUSTRYTRK | Integer | 4 | II.4. INDUSTRY TRACK COUNT | Industry | | | true | 5 | 0 |
| SPSELIDS | Integer | 4 | II.5. TRAIN DETECTION | Train Detection (Main Track Only) | RR_SPSELIDS_ID | | true | 5 | 0 |
| SGNLEQP | Integer | 4 | II.6. IS TRACK SIGNALLED | Is Track Signaled? | RR_SGNLEQP_ID | | true | 5 | 0 |
| EMONITORDVCE | Integer | 4 | II.7.A. EVENT RECORDER | Event Recorder | RR_EMONITORDVCE_ID | | true | 5 | 0 |
| HEALTHMONITOR | Integer | 4 | II.7.B. REMOTE HEALTH MONITORING | Remote Health Monitoring | RR_HEALTHMONITOR_ID | | true | 5 | 0 |
| NOSIGNS | Integer | 4 | III.1. SIGNS OR SIGNALS | Are there Signs or Signals? | RR_NOSIGNS_ID | | true | 5 | 0 |
| XBUCK | Integer | 4 | III.2.A. CROSSBUCK ASSEMBLIES | Crossbuck Assemblies (count) | | | true | 5 | 0 |
| STOPSTD | Integer | 4 | III.2.B. STOP SIGNS | Stop Signs (R1-1) | | | true | 5 | 0 |
| YIELDSTD | Integer | 4 | III.2.C. YIELD SIGN | Yield Signs (R1-2) | | | true | 5 | 0 |
| ADVW10_1 | Integer | 4 | III.2.D. ADV WARN 10_1 COUNT | Advance Warning Signs (W10-1) | | | true | 5 | 0 |
| ADVW10_2 | Integer | 4 | III.2.D. ADV WARN 10_2 COUNT | Advance Warning Signs (W10-2) | | | true | 5 | 0 |
| ADVW10_3 | Integer | 4 | III.2.D. ADV WARN 10_3 COUNT | Advance Warning Signs (W10-3) | | | true | 5 | 0 |
| ADVW10_4 | Integer | 4 | III.2.D. ADV WARN 10_4 COUNT | Advance Warning Signs (W10-4) | | | true | 5 | 0 |
| ADVW10_11 | Integer | 4 | III.2.D. ADV WARN 10_11 COUNT | Advance Warning Signs (W10-11) | | | true | 5 | 0 |
| ADVW10_12 | Integer | 4 | III.2.D. ADV WARN 10_12 COUNT | Advance Warning Signs (W10-12) | | | true | 5 | 0 |
| LOW_GRND | Integer | 4 | III.2.E. LOW GROUND CLEARANCE SIGN | Low Ground Clearance Signs (W10-5) | RR_LOW_GRND_ID | | true | 5 | 0 |
| LOW_GRNDSIGNS | Integer | 4 | III.2.E. LOW GROUND CLEARANCE SIGN COUNT | Low Ground Clearance Signs (W10-5) count | | | true | 5 | 0 |
| PAVEMRK_STOP | String | 1 | III.2.F. PAVEMENT MARKING - STOP LINES | Stop Line pavement markings are present based on MUTCD | RR_PAVEMENT_MARKINGS_ID | | true | | |
| PAVEMRK_SYMBOL | String | 1 | III.2.F. PAVEMENT MARKING - XING SYMBOLS | Pavement Markings - RR Xing Symbols | RR_PAVEMENT_MARKINGS_ID | | true | | |
| PAVEMRK_DYNEENV | String | 1 | III.2.F. PAVEMENT MARKING - DYNAMIC ENVELOPE | Dynamic Envelope pavement markings are present based on MUTCD | RR_PAVEMENT_MARKINGS_ID | | true | | |
| CHANNEL | Integer | 4 | III.2.G. CHANNELIZATION DEVICES/MEDIANS | Channelization Devices | RR_CHANNEL_ID | | true | 5 | 0 |
| EXEMPT | Integer | 4 | III.2.H. EXEMPT SIGNS | Exempt Sign (R15-3) | RR_EXEMPT_ID | | true | 5 | 0 |
| ENSSIGN | Integer | 4 | III.2.I. ENS SIGN DISPLAYED | ENS Sign Displayed (I-13) | RR_ENSSIGN_ID | | true | 5 | 0 |
| OTHSIGN | String | 1 | III.2.J. OTHER MUTCD SIGNS | Other MUTCD Signs | RR_OTHSIGN_ID | | true | | |
| OTHSIGN1 | Integer | 4 | III.2.J. OTHER SIGNS COUNT 1 | Other MUTCD Signs: Count | | | true | 5 | 0 |
| OTHDES1 | String | 10 | III.2.J. OTHER SIGNS DESC 1 | Specify Type | | | true | | |

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|---------------|---------|-----|--|--|--|------|---|---|
| OTHSGN2 | Integer | 4 | III.2.J. OTHER SIGNS COUNT 2 | Other MUTCD Signs: Count | | true | 5 | 0 |
| OTHDES2 | String | 10 | III.2.J. OTHER SIGNS DESC 2 | Specify Type | | true | | |
| OTHSGN3 | Integer | 4 | III.2.J. OTHER SIGNS COUNT 3 | Other MUTCD Signs: Count | | true | 5 | 0 |
| OTHDES3 | String | 10 | III.2.J. OTHER SIGNS DESC 3 | Specify Type | | true | | |
| PRVXSIGN | Integer | 4 | III.2.K. PRIVATE CROSSING SIGNS | Private Crossing Signs | RR_PRIVXSIGN_ID | true | 5 | 0 |
| LED | String | 256 | III.2.L. LED ENHANCED SIGNS | LED Enhanced Signs | | true | | |
| GATES | Integer | 4 | III.3.A. GATE ARMS (COUNT) - ROADWAY | Gate Arms: Roadway | | true | 5 | 0 |
| GATEPED | Integer | 4 | III.3.A. GATE ARMS (COUNT) - PEDESTRIAN | Gate Arms: Pedestrian | | true | 5 | 0 |
| GATECONF | Integer | 4 | III.3.B. GATE CONFIGURATION | Gate Configuration | RR_GATECONF_ID | true | 5 | 0 |
| GATECONFTYPE | Integer | 4 | III.3.B. GATE CONFIGURATION TYPE | Gate Configuration Type | RR_GATECONFTYPE_ID | true | 5 | 0 |
| FLASHOV | Integer | 4 | III.3.C. CANTILEVERED FLASHING LIGHT OVER TRAFFIC LANE | Cantilevered (or Bridged) Flashing Light Structures: Over Traffic Lane | | true | 5 | 0 |
| FLASHNOV | Integer | 4 | III.3.C. CANTILEVERED FLASHING LIGHT NOT OVER TRAFFIC LANE | Cantilevered (or Bridged) Flashing Light Structures: Not Over Traffic Lane | | true | 5 | 0 |
| CFLASHTYPE | Integer | 4 | III.3.C. CANTILEVERED FLASHING LIGHT TYPE | Cantilevered (or Bridged) Flashing Light Structures (Type) | RR_CANTI_FLASH_TYPE_ID | true | 5 | 0 |
| FLASHPOST | Integer | 4 | III.3.D. MAST MOUNTED FLASHING LIGHTS COUNT OF MASTS | Mast Mounted Flashing Lights (count of masts) | | true | 5 | 0 |
| FLASHPOSTTYPE | Integer | 4 | III.3.D. MAST MOUNTED FLASHING LIGHTS - TYPE | Mast Mounted Flashing Lights (Type) | RR_MAST_FLASH_TYPE_ID | true | 5 | 0 |
| BKL_FLASHPOST | Integer | 4 | III.3.D. MAST MOUNTED FLASHING LIGHTS - BACKLIGHTS | Mast Mounted Flashing Lights: Back Lights Included | RR_MAST_BACKLIGHT_ID | true | 5 | 0 |
| SDL_FLASHPOST | Integer | 4 | III.3.D. MAST MOUNTED FLASHING LIGHTS - SIDE LIGHTS | Mast Mounted Flashing Lights: Side Lights Included | RR_MAST_SIDELIGHT_ID | true | 5 | 0 |
| FLASHPAI | Integer | 4 | III.3.E. TOTAL COUNT OF FLASHING LIGHT PAIRS | Total Count of Flashing Light Pairs | | true | 5 | 0 |
| AWDIDATE | String | 6 | III.3.F. INSTALLATION DATE OF CURRENT ACTIVE WARNING DEVICES | Installation Date of Current Active Warning Devices | | true | | |
| AWHORNCHK | Integer | 4 | III.3.G. WAYSIDE HORN | Wayside Horn | RR_AWHORNCHK_ID | true | 5 | 0 |
| AWHORNIDATE | String | 6 | III.3.G. WAYSIDE HORN DATE | Wayside Horn Installed On | | true | | |
| HWYTRAFSIGNAL | Integer | 4 | III.3.H. HIGHWAY TRAFFIC SIGNALS CONTROLLING CROSSING | Highway Traffic Signals Controlling Crossing | RR_HWYTRAFSIGNAL_ID | true | 5 | 0 |
| BELLS | Integer | 4 | III.3.I. BELLS (COUNT) | Bells | | true | 5 | 0 |
| SPECPRO | Integer | 4 | III.3.J. NON-TRAIN ACTIVE WARNING | Non-Train Active Warning | RR_SPECPRO_ID | true | 5 | 0 |

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| FLASHOTH | Integer | 4 | III.3.K. OTHER FLASHING LIGHTS OR WARNING DEVICE - COUNT | Other Flashing Lights or Warning Devices: Count | | | true | 5 | 0 |
| FLATHOTDES | String | 256 | III.3.K. OTHER FLASHING LIGHTS OR WARNING DEVICE - SPECIFY TYPE | Other Flashing Lights or Warning Devices: Specify Type | | | true | | |
| HWYNRSIG | Integer | 4 | III.4.A. DOES NEARBY HWY INTERSECTION HAVE TRAFFIC SIGNAL | Does Nearby Hwy Intersection have Traffic Signal? | RR_HWYNRSIG_ID | | true | 5 | 0 |
| INTRPRMP_NINT | String | 1 | III.4.B. HIGHWAY TRAFFIC SIGNAL - NOT INTERCONNECTED | crossings equipped with active warning systems that do not have an electrical connection between the railroad active warning system and the traffic signal controller assembly for the purpose of preemption | RR_INTRPRMP_ID | | true | | |
| INTRPRMP_TRAF | String | 1 | III.4.B. HWY TRAFFIC SIGNAL - FOR TRAFFIC SIGNALS | crossings having an electrical connection between the railroad active warning system and the traffic signal controller assembly for the purpose of preemption | RR_INTRPRMP_ID | | true | | |
| INTRPRMP_WARN | String | 1 | III.4.B. HWY TRAFFIC SIGNAL - FOR WARNING SIGNS | signs that are electrically connected to a railroad crossing control circuit that is designed to illuminate the signs upon the approach or presence of a train | RR_INTRPRMP_ID | | true | | |
| PREMPTYPE | Integer | 4 | III.4.C. HIGHWAY TRAFFIC SIGNAL PREEMPTION | Highway Traffic Signal Preemption | RR_PREMPTYPE_ID | | true | 5 | 0 |
| HWTRFPSIG | Integer | 4 | III.5. HIGHWAY TRAFFIC PRE-SIGNALS | Highway Traffic Pre-Signals | RR_HWTRFPSIG_ID | | true | 5 | 0 |
| HWTRFPSIGSDIS | Integer | 4 | III.5. HIGHWAY TRAFFIC PRE-SIGNALS - STORAGE DISTANCE | Highway Traffic Pre-Signals – Storage Distance | | | true | 5 | 0 |
| HWTRFPSIGLNDIS | Integer | 4 | III.5. HIGHWAY TRAFFIC PRE-SIGNALS - STOP LINE DISTANCE | Highway Traffic Pre-Signals – Stop Line Distance | | | true | 5 | 0 |
| MONITORDEV_NON | String | 1 | III.6. HIGHWAY MONITORING DEVICES - NONE | Highway Monitoring Device - None | RR_MONITOR_DEVICE_ID | | true | | |
| MONITORDEV_VIDEO | String | 1 | III.6. HIGHWAY MONITORING DEVICES - PHOTO/VIDEO | Photo/Video Recording is the use of high-resolution cameras to photograph or record motorists driving under or around railroad crossing gates. The camera equipment is typically mounted in a 12-foot-high bullet-resistant cabinet. | RR_MONITOR_DEVICE_ID | | true | | |

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| | | | | There may be signs, installed on all street approaches to the crossing, that inform motorists that photo citations are being issued to violators at the crossing. Note – The Temporary installation of photo/video recording devices (e.g., for research purposes) are not to be reported. | | | | | |
| MONITORDEV_VEH | String | 1 | III.6. HIGHWAY MONITORING DEVICES - VEHICLE PRESENCE | Vehicle Presence Detection is a system capable of detecting and reporting in real time the presence of a vehicle on the crossing. An example includes a series of looped wire, coils, or magnetometers that are placed below ground level within the field side and gauge side of the railroad tracks, at a distance between the approach gate and the exit gate. The loop detectors or magnetometers use a magnetic effect caused by the presence of a roadway vehicle, which then sends a signal to the exit gate to remain in the up position, or can send a signal to the train operator that a vehicle is still occupying the restricted area of the grade crossing. | RR_MONITOR_DEVICE_ID | | true | | |
| TRAFICLN | String | 2 | IV.1. NUMBER OF CROSSING LANES | Traffic Lanes Crossing Railroad: Number of Lanes | | | true | | |
| TRAFLNTYPE | Integer | 4 | IV.1. TYPE OF CROSSING LANES | Traffic Lanes Crossing Railroad – Type | RR_TRAFLNTYPE_ID | | true | 5 | 0 |
| HWYPVED | Integer | 4 | IV.2. IS ROAD/PATHWAY PAVED | Is Roadway Paved? | RR_HWYPVED_ID | | true | 5 | 0 |
| DOWNST | Integer | 4 | IV.3. DOES TRACK RUN DOWN A STREET | Does Track Run Down a Street? | RR_DOWNST_ID | | true | 5 | 0 |
| ILLUMINA | Integer | 4 | IV.4. IS CROSSING ILLUMINATED | Is Crossing Illuminated? | RR_ILLUMINA_ID | | true | 5 | 0 |
| XSURFDATE | String | 6 | IV.5. CROSSING SURFACE INSTALLATION DATE | Crossing Surface: Installation Date | | | true | | |
| XSURFWIDTH | Integer | 4 | IV.5. CROSSING SURFACE WIDTH | Crossing Surface: Width | | | true | 5 | 0 |

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| XSURFLENGTH | Integer | 4 | IV.5. CROSSING SURFACE LENGTH | Crossing Surface: Length | | | true | 5 | 0 |
| XSURFIDS_TIMBER | String | 1 | IV.5. CROSSING SURFACE - TIMBER | Includes sectional treated timber and full wood plank. Sectional treated timber consists of prefabricated units approximately 8 feet in length of treated timber individually installed and removed for maintenance and replacement purposes. Full wood plank consists of timber surface that covers the entire crossing area above the crossties, made of ties, boards, bridge ties, etc. | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_ASP | String | 1 | IV.5. CROSSING SURFACE - ASPHALT | asphalt surface over the entire crossing area | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_ASPTIM | String | 1 | IV.5. CROSSING SURFACE - ASPHALT TIMBER | asphalt surface in the area between flange timber planks or other material forming a flangeway openings that may include the use of rubber | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_CONCRETE | String | 1 | IV.5. CROSSING SURFACE - CONCRETE | includes concrete slab and concrete pavement. Concrete slab consists of pre-cast concrete sections that are usually individually installed and removable for maintenance and replacement purposes. Concrete pavement is a concrete surface that is continuous over the track area and is not removable except by destruction of the surface. | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_CONCRUB | String | 1 | IV.5. CROSSING SURFACE - CONCRETE RUBBER | an installed crossing surface that consists of both concrete and rubber materials. | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_RUBBER | String | 1 | IV.5. CROSSING SURFACE - RUBBER | preformed rubber sections that are usually individually installed and removable for maintenance and replacement purposes | RR_CROSSING_SURFACE_ID | | true | | |

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| XSURFIDS_METAL | String | 1 | IV.5. CROSSING SURFACE - METAL | sections of steel or other metal that are usually individually installed and removable for maintenance purposes and provide complete coverage of the crossing area within the track. | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_UNCON | String | 1 | IV.5. CROSSING SURFACE - UNCONSOLIDATED | Ballast or other unconsolidated material placed over crossties, with or without planks, on one or both sides of the running rails. | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_COMP | String | 1 | IV.5. CROSSING SURFACE - COMPOSITE | an engineered material formed from two or more distinct materials generally incorporating a polymer binder with reinforcing fibers and/or fillers to contribute enhanced properties and/or other property modifiers in a polymer matrix, typically post-consumer recycled high-density polyethylene, or HDPE, that are usually individually installed and removable for maintenance and replacement purposes. | RR_CROSSING_SURFACE_ID | | true | | |
| XSURFIDS_OTHER | String | 1 | IV.5. CROSSING SURFACE - OTHER | surfaces other than the previously described surfaces including structural foam, plastic, "high-tech", etc. | | | true | | |
| XSUROTHR | String | 256 | IV.5. CROSSING SURFACE OTHER DESCRIPTION | Crossing Surface for Other (specify) | | | true | | |
| HWYNEAR | Integer | 4 | IV.6. INTERSECTING ROADWAY WITHIN 500 FEET | Intersecting Roadway within 500 feet? | RR_HWYNEAR_ID | | true | 5 | 0 |
| HWYNDIST | Integer | 4 | IV.6. INTERSECTING ROADWAY APPROX DISTANCE | If Yes, Approximate Distance (feet) | | | true | 5 | 0 |
| XANGLE | Integer | 4 | IV.7. SMALLEST CROSSING ANGLE | Smallest Crossing Angle | RR_XANGLE_ID | | true | 5 | 0 |
| COMPOWER | Integer | 4 | IV.8. COMMERCIAL POWER AVAILABLE | Is Commercial Power Available? | RR_COMMPOWER_ID | | true | 5 | 0 |
| HWYSYS | Integer | 4 | V.1. HIGHWAY SYSTEM | Highway System | RR_HWYSYS_ID | | true | 5 | 0 |
| HWYCLASSCD | Integer | 4 | V.2. RURAL URBAN DESIGNATION | Functional Classification of Road at Crossing | RR_HWYCLASSCD_ID | | true | 5 | 0 |

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| HWYCLASSRDTPID | Integer | 4 | V.2. FEDERAL FUNCTIONAL CLASSIFICATION | Functional Classification of Road at Crossing | RR_HWYCLASSRDTPID_ID | | true | 5 | 0 |
| STHWY1 | Integer | 4 | V.3. IS CROSSING ON STATE HIGHWAY SYSTEM | Is Crossing on State Highway System? | RR_STHWY1_ID | | true | 5 | 0 |
| HWYSPEED | Integer | 4 | V.4. HIGHWAY SPEED LIMIT | Highway Speed Limit (MPH) | | | true | 5 | 0 |
| HWYSPEEDPS | Integer | 4 | V.4. HIGHWAY SPEED LIMIT POSTED | Highway Speed Limit - Posted or Statutory | RR_HWYSPEEDPS_ID | | true | 5 | 0 |
| AAITYEAR | String | 4 | V.7. AADT YEAR | Annual Average Daily Traffic (AADT) | | | true | | |
| AAIT | String | 6 | V.7. AADT | Annual Average Daily Traffic (AADT) | | | true | | |
| PCTTRUK | String | 2 | V.8. PERCENT TRUCKS | Estimated Percent Trucks | | | true | | |
| SCHLBUSCHK | Integer | 4 | V.9. REGULARLY USED BY SCHOOL BUSES | Regularly Used by School Buses? | RR_SCHLBUSCHK_ID | | true | 5 | 0 |
| SCHLBSCNT | Integer | 4 | V.9. AVERAGE SCHOOL BUS PER DAY | Average No. of School Buses Passing Over the Crossing on a School Day | | | true | 5 | 0 |
| EMRGNCYSRVC | Integer | 4 | V.10. EMERGENCY SERVICES ROUTE | Emergency Services Route | RR_EMRGNCYSRVC_ID | | true | 5 | 0 |
| CHANGE_REASON | Integer | 4 | RAMS CHANGE REASON | Reason for update to fields | RR_CHANGE_REASON_LU | | true | 5 | 0 |
| STATUS | Integer | 4 | CROSSING STATUS | This is a status field that we can use to track if a crossing is open to traffic, closed to traffic but still in our inventory or being built and pending completion. | RR_STATUS_ID | | true | 5 | 0 |
| STAGING_OFFSET | Double | 8 | STAGING_OFFSET | temporary field so we know how the crossing transitioned from GIMS to RAMS. Will be removed in the next year | | | true | 13 | 8 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |
| COMMENTS | String | 250 | COMMENTS | area for the Analytics office to make comments | | | true | | |
| NO_ROAD_DATA | String | 1 | NO_ROAD_DATA | flag that the crossing did not locate on a road correctly during the transition from GIMS to RAMS. Will be removed in the next year | | | true | | |
| CROSSING_CODE | Integer | 4 | CROSSING_CODE | This is a code that lets us have multiple locations for a single crossing number. There are cases where a rail line crosses multiple lanes of roadway but the | RR_CROSSING_CODE_ID | | true | 10 | 0 |

| | | | | | | | | | |
|-------------|---------|---|---------------------|---|------------------------------------|--|------|----|---|
| | | | | FRA only considers it one crossing. We can create another crossing record with the same FRA Inventory Number but a different crossing code to designate the non-cardinal side crossing. | | | | | |
| PEDSIDEWALK | Integer | 4 | PEDESTRIAN SIDEWALK | PEDSIDEWALK | RR_PED_SIDEWALK_ID | | true | 10 | 0 |

LRSE_SPECIALSYSTEM - FeatureClass

Name LRSE_SPECIALSYSTEM
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_SPECIALSYSTEM
HasM true
HasZ true
HasAttachments false
Description Indicates if a road segment falls under a special funding category.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|-----------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Start date for the event | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| SPECIAL_SYSTEM | Integer | 4 | SPECIAL_SYSTEM | Indicates if a road segment falls under a special funding category. | SPECIAL_SYSTEM_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_SPEEDLIMIT - FeatureClass

Name LRSE_SPEEDLIMIT
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_SPEEDLIMIT
HasM true
HasZ true
HasAttachments false
Description The posted speed limit

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | Username of who created event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| SPEED_LIMIT | Integer | 4 | SPEED_LIMIT | The posted speed limit | SPEED_LIMIT_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_STATEFREIGHTNETWORK - FeatureClass

Name LRSE_STATEFREIGHTNETWORK
ShapeType Polyline
FeatureType Simple
AliasName STATE FREIGHT NETWORK
HasM true
HasZ true
HasAttachments false
Description LRSE_STATEFREIGHTNETWORK

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------------------|----------|--------|-----------------------|-----------------------|--------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | true | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | true | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | true | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | true | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | true | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | true | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| STATE_FREIGHT_NETWORK | Integer | 4 | STATE_FREIGHT_NETWORK | STATE_FREIGHT_NETWORK | STATE_FREIGHT_NETWORK_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_STRATEGICHIGHWAY - FeatureClass

Name LRSE_STRATEGICHIGHWAY
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_STRATEGICHIGHWAY
HasM true
HasZ true
HasAttachments false
Description The Strategic Highway Network (used for Department of Defense purposes)

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was | | | true | | |

| | | | | | | | | | |
|-----------------------|---------|-----|-----------------------|---|--|--|------|---|---|
| | | | | modified in database | | | | | |
| STRATEGIC_HWY_NETWORK | Integer | 4 | STRATEGIC_HWY_NETWORK | The Strategic Highway Network (used for Department of Defense purposes) | STRATEGIC_HWY_NETWORK_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_STRUCTURECONTROL - FeatureClass

Name LRSE_STRUCTURECONTROL
ShapeType Point
FeatureType Simple
AliasName RAMS.LRSE_STRUCTURECONTROL
HasM true
HasZ true
HasAttachments false
Description Information related to structures on the road network

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| MEASURE | Double | 8 | MEASURE | Mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| FHWA_NUMBER | Double | 8 | FHWA_NUMBER | Identifies each structure with a unique number. If the structure number is 6 digits long and starts | | | true | 11 | 0 |

| | | | | | | | | | |
|-------------------------|--------------|----|-------------------------|--|---|--|------|----|---|
| | | | | with 900, this structure is a special request structure which is not reported on NBI. | | | | | |
| FACILITY_CARRIED | String | 18 | FACILITY_CARRIED | Name of facility carried on structure | | | true | | |
| NBIA_ITEM | String | 1 | NBIA_ITEM | Item 112 in the National Bridge Inventory Manual. Does this bridge meet or exceed the minimum length specified to be designated as a bridge for National Bridge Inspection Standards purposes? | STRUC_NBIA_ITEM_ID | | true | | |
| STRUC_COUNTY_NUMBER | Integer | 4 | STRUC_COUNTY_NUMBER | County in which structure exists | COUNTY_NUMBER_ID | | true | 5 | 0 |
| DESIGN_NUMBER | String | 6 | DESIGN_NUMBER | Number assigned to each structure by designing organization (state, co., etc.) when plans were drawn. | | | true | | |
| CONSTRUCTION_YEAR | SmallInteger | 2 | CONSTRUCTION_YEAR | Date structure was constructed under present design. | | | true | 4 | 0 |
| OWNER_CODE | Integer | 4 | OWNER_CODE | Name of the primary owner agency of structure. | OWNER_CODE_ID | | true | 5 | 0 |
| MEASURED_LAT | Double | 8 | MEASURED_LAT | Latitude | | | true | 11 | 8 |
| MEASURED_LON | Double | 8 | MEASURED_LON | Longitude | | | true | 11 | 8 |
| HISTORICAL_SIGNIFICANCE | Integer | 4 | HISTORICAL_SIGNIFICANCE | This field indicates the historical significance of the bridge. | STRUC_HIST_SIG_ID | | true | 5 | 0 |
| MAINTENANCE_CENTER | Integer | 4 | MAINTENANCE_CENTER | Transportation center in which the structure is located. | MAINTENANCE_DISTRICT_ID | | true | 5 | 0 |
| MAINTENANCE_AREA | Integer | 4 | MAINTENANCE_AREA | Area number, within a Transportation Center, in which the structure is located. | | | true | 5 | 0 |
| MAINTENANCE_GARAGE | Integer | 4 | MAINTENANCE_GARAGE | Indicates the maintenance garage number. The garage is assigned by the | | | true | 5 | 0 |

| | | | | | | | | | |
|----------------------------|---------|-----|----------------------------|--|---------------------------------------|--|------|---|---|
| | | | | Office of Maintenance-Programs. This is used on primary and institutional roads | | | | | |
| BRIDGE_ID | String | 16 | BRIDGE_ID | Unique identifier for the bridge | | | true | | |
| VERTICAL_REFERENCE_FEATURE | String | 1 | VERTICAL_REFERENCE_FEATURE | This field refers to the reference feature from which the minimum vertical underclearance measurement is taken. | STRUC_VERT_REF_FEA_ID | | true | | |
| VERTICAL_UNDER_CLEARANCE | Integer | 4 | VERTICAL_UNDER_CLEARANCE | The minimum vertical clearance from the roadway or railroad track beneath the structure to the underside of the structure. The first two digits are feet and the second two digits are inches. | | | true | 5 | 0 |
| FRA_CROSSING_NUMBER | String | 7 | FRA_CROSSING_NUMBER | Number assigned by Federal Railroad Administration to rail crossing. | | | true | | |
| STRUC_STATUS | Integer | 4 | STRUC_STATUS | Identifies the road segment as open, legal not open, proposed, or open with no data | STRUC_STATUS_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_STRUCTUREONANDUNDER - FeatureClass

Name LRSE_STRUCTUREONANDUNDER
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_STRUCTUREONANDUNDER
HasM true
HasZ true
HasAttachments false
Description Information related to overpasses and underpasses

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|-----------|--------|--------------|------------------------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a | | | false | 13 | 8 |

| | | | | | | | | | | |
|---------------------------|---------|-----|---------------------------|---|---------------------------------------|--|-------|----|---|--|
| | | | | route extent | | | | | | |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 | |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | | |
| FHWA_NUMBER | Integer | 4 | FHWA_NUMBER | Identifies each structure with a unique number. If the structure number is 6 digits long and starts with 900, this structure is a special request structure which is not reported on NBI. | | | true | 10 | 0 | |
| STRUCTURE_CODE | String | 1 | STRUCTURE_CODE | Used to indicate whether bridge record is over a feature or under a feature. Zero (0) indicating data for record over, greater than zero indicating data for record under a feature. | STRUCTURE_CODE_ID | | true | | | |
| TYPE_RECORD | Integer | 4 | TYPE_RECORD | Describes direction and type of structure | STRUC_TYPE_RECORD_ID | | true | 5 | 0 | |
| MAINT_MPOST_DISTANCE | Single | 4 | MAINT_MPOST_DISTANCE | Indicates miles, in tenths, from beginning of route within the state. | | | true | 4 | 1 | |
| MAINT_DESCRIPTION | String | 1 | MAINT_DESCRIPTION | Maintenance description | STRUC_MAINT_DESC_ID | | true | | | |
| MAINT_MPOST_ROUTE | Integer | 4 | MAINT_MPOST_ROUTE | Entered for all bridges with a Printcode of 1 (indicating Primary). The majority of bridges use the route number of the traffic carried on the bridge. If there is a secondary or municipal street over a primary route, the underpass route(primary) number would be used. This is entered into the Underpass/Overpass screen on the bridge form. Used when adding a new bridge. | | | true | 5 | 0 | |
| DESCRIPTION_FEATURE_CROSS | String | 25 | DESCRIPTION_FEATURE_CROSS | Name or description of feature being crossed. ex. Creek, Stream, Railroad | | | true | | | |
| KIND_CROSS | Integer | 4 | KIND_CROSS | This field indicates what kind of crossing the structure crosses. | STRUC_KIND_CROSS_ID | | true | 5 | 0 | |
| VERTICAL_CLEARANCE | Integer | 4 | VERTICAL_CLEARANCE | This field indicates in feet and inches the vertical clearance of the structure roadway width. | | | true | 5 | 0 | |
| APPROACH_WIDTH | Integer | 4 | APPROACH_WIDTH | This field indicates the normal width of the roadway approaching the structure and is entered to the nearest foot. This includes both shoulders, roadways and median. | | | true | 5 | 0 | |
| TWIN_DIVIDED | String | 1 | TWIN_DIVIDED | This field indicates if the structure is a twin or divided bridge. Twin structures are any pair of structures that bridge the same obstacle and are separate and carrying traffic in opposite directions. A divided structure is any single structure that is divided by a median or barrier. Underpasses that are divided are considered divided | STRUC_TWIN_DIVIDED_ID | | true | | | |

| | | | | | | | | | |
|-------------------------------|---------|-----|-------------------------------|--|--|--|------|---|---|
| | | | | structures although they may have unlimited horizontal clearance. | | | | | |
| STRUCTURE_DESCRIPTION | String | 50 | STRUCTURE_DESCRIPTION | This is a text description of the structure location. Up to 50 characters. | | | true | | |
| HORIZONTAL_CLEARANCE | Integer | 4 | HORIZONTAL_CLEARANCE | This field indicates in feet and inches the horizontal clearance of the structure roadway width. | | | true | 5 | 0 |
| POSTED_CLEARANCE | Integer | 4 | POSTED_CLEARANCE | Clearance posted on sign at location | | | true | 5 | 0 |
| LEFT_EDGE_PAVEMENT_VERTCLEAR | Integer | 4 | LEFT_EDGE_PAVEMENT_VERTCLEAR | LEFT_EDGE_PAVEMENT_VERTCLEAR | | | true | 5 | 0 |
| LANE1_VERTCLEAR | Integer | 4 | LANE1_VERTCLEAR | LANE1_VERTCLEAR | | | true | 5 | 0 |
| LANE2_VERTCLEAR | Integer | 4 | LANE2_VERTCLEAR | LANE2_VERTCLEAR | | | true | 5 | 0 |
| LANE3_VERTCLEAR | Integer | 4 | LANE3_VERTCLEAR | LANE3_VERTCLEAR | | | true | 5 | 0 |
| LANE4_VERTCLEAR | Integer | 4 | LANE4_VERTCLEAR | LANE4_VERTCLEAR | | | true | 5 | 0 |
| LANE5_VERTCLEAR | Integer | 4 | LANE5_VERTCLEAR | LANE5_VERTCLEAR | | | true | 5 | 0 |
| LANE6_VERTCLEAR | Integer | 4 | LANE6_VERTCLEAR | LANE6_VERTCLEAR | | | true | 5 | 0 |
| LANE7_VERTCLEAR | Integer | 4 | LANE7_VERTCLEAR | LANE7_VERTCLEAR | | | true | 5 | 0 |
| LANE8_VERTCLEAR | Integer | 4 | LANE8_VERTCLEAR | LANE8_VERTCLEAR | | | true | 5 | 0 |
| LANE9_VERTCLEAR | Integer | 4 | LANE9_VERTCLEAR | LANE9_VERTCLEAR | | | true | 5 | 0 |
| RIGHT_EDGE_PAVEMENT_VERTCLEAR | Integer | 4 | RIGHT_EDGE_PAVEMENT_VERTCLEAR | RIGHT_EDGE_PAVEMENT_VERTCLEAR | | | true | 5 | 0 |
| VC_MEASUREMENT_METHOD | Integer | 4 | VC_MEASUREMENT_METHOD | VC_MEASUREMENT_METHOD | MEASUREMENT_METHODS_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_SURFACETYPE - FeatureClass

Name LRSE_SURFACETYPE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_SURFACETYPE
HasM true
HasZ true
HasAttachments false
Description The following table is used to show the surface of the road for all road systems.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |

| | | | | | | | | | |
|--------------------|---------|-----|--------------------|---|---------------------------------|--|-------|---|---|
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| SURFACE_TYPE | Integer | 4 | SURFACE_TYPE | The following table is used to show the surface of the road for all road systems. | SURFACE_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_SURFACEWIDTH - FeatureClass

Name LRSE_SURFACEWIDTH
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_SURFACEWIDTH
HasM true
HasZ true
HasAttachments false
Description This field indicates the width of a road to the nearest foot for all road systems.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|--|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| SURFACE_WIDTH | Integer | 4 | SURFACE_WIDTH | This field indicates the width of a road to the nearest foot | | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|---|--|--|------|--|--|
| | | | | for all road systems. | | | | | |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_TERRAIN - FeatureClass

Name LRSE_TERRAIN
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_TERRAIN
HasM true
HasZ true
HasAttachments false
Description This field indicates the type of terrain located on both sides of the road segments on the primary, secondary and institutional roads.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|--|----------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| TERRAIN | Integer | 4 | TERRAIN | This field indicates the type of terrain located on both sides of the road segments on the primary, secondary and institutional roads. | TERRAIN_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_THROUGHLANES - FeatureClass

Name LRSE_THROUGHLANES
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_THROUGHLANES
HasM true
HasZ true
HasAttachments false
Description LRSE_THROUGHLANES

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|----------------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| THROUGH_LANES | Integer | 4 | THROUGH_LANES | THROUGH_LANES | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_TIM_ALT_ROUTES - FeatureClass

Name LRSE_TIM_ALT_ROUTES
ShapeType Polyline
FeatureType Simple
AliasName TIM ALTERNATE ROUTES
HasM true
HasZ true
HasAttachments false
Description LRSE_TIM_ALT_ROUTES

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|-----------------------|----------------------|---------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| TIM_ID | Integer | 4 | TIM_ID | TIM_ID | | | false | 5 | 0 |
| ACTIVE_DMS | String | 1 | Digital Message Signs | ACTIVE_DMS | YES_NO_ID | | true | | |
| SIGNAL_TIMING | String | 1 | Traffic Signals | SIGNAL_TIMING | YES_NO_ID | | true | | |

| | | | | | | | | | |
|-------------------|---------|-----|--------------------------|-------------------|---------------------------------------|--|-------|---|---|
| DIVERSION_TYPE | Integer | 4 | Type of Alternate Route | DIVERSION_TYPE | TIM_DIVERSION_TYPE_ID | | true | 5 | 0 |
| PRIORITY | Integer | 4 | Priority | PRIORITY | TIM_ALT_TYPE_ID | | true | 5 | 0 |
| FROM_DESCR | String | 50 | Beginning Of Segment | FROM_DESCR | | | true | | |
| DIRECTION | String | 1 | Direction | DIRECTION | | | true | | |
| TIM_ALT_ROUTE | Integer | 4 | TIM_ALT_ROUTE | TIM_ALT_ROUTE | | | false | 5 | 0 |
| TIM_ALT_ROUTE_SEQ | Integer | 4 | Alternate Route Sequence | TIM_ALT_ROUTE_SEQ | | | false | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_TIM_CLOSURE - FeatureClass

| | |
|-----------------------|------------------|
| Name | LRSE_TIM_CLOSURE |
| ShapeType | Polyline |
| FeatureType | Simple |
| AliasName | TIM CLOSURES |
| HasM | true |
| HasZ | true |
| HasAttachments | false |
| Description | LRSE_TIM_CLOSURE |

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|------------------------|-----------|--------|-------------------------------|------------------------|---------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| TIM_ID | Integer | 4 | TIM_ID | TIM_ID | | | false | 5 | 0 |
| CRITICAL_INTERSECTIONS | String | 1000 | Critical Locations To Monitor | CRITICAL_INTERSECTIONS | | | true | | |
| FROM_DESCR | String | 50 | Beginning of Segment | FROM_DESCR | | | true | | |
| ACTIVE_DMS | String | 1 | Digital Message Sign | ACTIVE_DMS | YES_NO_ID | | true | | |
| SIGNAL_TIMING | String | 1 | Traffic Signals | SIGNAL_TIMING | YES_NO_ID | | true | | |
| DIVERSION_TYPE | Integer | 4 | Type of Alternate Route | DIVERSION_TYPE | TIM_DIVERSION_TYPE_ID | | true | 5 | 0 |
| PRIORITY | Integer | 4 | Priority | PRIORITY | TIM_ALT_TYPE_ID | | true | 5 | 0 |
| PDF | String | 1000 | PDF | PDF | | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSE_TOLLROAD - FeatureClass

| | |
|--------------------|--------------------|
| Name | LRSE_TOLLROAD |
| ShapeType | Polyline |
| FeatureType | Simple |
| AliasName | RAMS.LRSE_TOLLROAD |
| HasM | true |
| HasZ | true |

HasAttachments false

Description This field indicates if the road segment traveled can be traveled with or without the payment of a toll.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|--|-------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| TOLL_CHARGED | Integer | 4 | TOLL_CHARGED | How toll is assessed on segment, one direction, both or not at all | TOLL_CHARGED_ID | | true | 5 | 0 |
| TOLL_AUTHORITY | Integer | 4 | TOLL_AUTHORITY | Entity that collects the toll | TOLL_AUTHORITY_ID | | true | 5 | 0 |
| TOLL_TYPE | Integer | 4 | TOLL_TYPE | Type of toll | TOLL_TYPE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_TRAFFIC - FeatureClass

Name LRSE_TRAFFIC
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_TRAFFIC
HasM true
HasZ true
HasAttachments false
Description LRSE_TRAFFIC

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|-----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |

| | | | | | | | | |
|-----------------------------|--------------|-----|-----------------------------|-----------------------------|---------------------------|-------|----|---|
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | true | | |
| AADT | Integer | 4 | AADT | AADT | | true | 10 | 0 |
| TRUCK_AADT | Integer | 4 | TRUCK_AADT | TRUCK_AADT | | true | 10 | 0 |
| MOTORCYCLE | Integer | 4 | MOTORCYCLE | MOTORCYCLE | | true | 10 | 0 |
| AUTOMOBILE | Integer | 4 | AUTOMOBILE | AUTOMOBILE | | true | 10 | 0 |
| PICKUP | Integer | 4 | PICKUP | PICKUP | | true | 10 | 0 |
| BUS | Integer | 4 | BUS | BUS | | true | 10 | 0 |
| SU2AXLE | Integer | 4 | SU2AXLE | SU2AXLE | | true | 10 | 0 |
| SU3AXLE | Integer | 4 | SU3AXLE | SU3AXLE | | true | 10 | 0 |
| SU4AXLE | Integer | 4 | SU4AXLE | SU4AXLE | | true | 10 | 0 |
| ST4AXLE | Integer | 4 | ST4AXLE | ST4AXLE | | true | 10 | 0 |
| ST5AXLE | Integer | 4 | ST5AXLE | ST5AXLE | | true | 10 | 0 |
| ST6AXLE | Integer | 4 | ST6AXLE | ST6AXLE | | true | 10 | 0 |
| MT5AXLE | Integer | 4 | MT5AXLE | MT5AXLE | | true | 10 | 0 |
| MT6AXLE | Integer | 4 | MT6AXLE | MT6AXLE | | true | 10 | 0 |
| MT7AXLE | Integer | 4 | MT7AXLE | MT7AXLE | | true | 10 | 0 |
| SINGLEUNIT | Integer | 4 | SINGLEUNIT | SINGLEUNIT | | true | 10 | 0 |
| SINGMULTTRAILER | Integer | 4 | SINGMULTTRAILER | SINGMULTTRAILER | | true | 10 | 0 |
| ESTIMATE | String | 1 | ESTIMATE | ESTIMATE | YES_NO_ID | true | | |
| PERCENT_TRUCK | Integer | 4 | PERCENT_TRUCK | PERCENT_TRUCK | | true | 5 | 0 |
| AADT_YEAR | Integer | 4 | AADT_YEAR | AADT_YEAR | | true | 5 | 0 |
| TRUCK_AADT_YEAR | Integer | 4 | TRUCK_AADT_YEAR | TRUCK_AADT_YEAR | | true | 5 | 0 |
| EXPANDED_AADT | Double | 8 | EXPANDED_AADT | EXPANDED_AADT | | true | 10 | 2 |
| SECTION_TYPE | SmallInteger | 2 | SECTION_TYPE | SECTION_TYPE | | true | 1 | 0 |
| HEADING1 | String | 34 | HEADING1 | HEADING1 | | true | | |
| HEADING2 | String | 34 | HEADING2 | HEADING2 | | true | | |
| HEADING3 | String | 34 | HEADING3 | HEADING3 | | true | | |
| HEADING4 | String | 34 | HEADING4 | HEADING4 | | true | | |
| DESCRIPTION | String | 34 | DESCRIPTION | DESCRIPTION | | true | | |
| COMMENT6 | String | 34 | COMMENT6 | COMMENT6 | | true | | |
| COMMENT7 | String | 34 | COMMENT7 | COMMENT7 | | true | | |
| COMMENT8 | String | 34 | COMMENT8 | COMMENT8 | | true | | |
| COMMENT9 | String | 34 | COMMENT9 | COMMENT9 | | true | | |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | true | | |
| DIRECTIONAL_AADT | Integer | 4 | DIRECTIONAL_AADT | DIRECTIONAL_AADT | | true | 10 | 0 |
| DIRECTIONAL_SINGLEUNIT | Integer | 4 | DIRECTIONAL_SINGLEUNIT | DIRECTIONAL_SINGLEUNIT | | true | 10 | 0 |
| DIRECTIONAL_SINGMULTTRAILER | Integer | 4 | DIRECTIONAL_SINGMULTTRAILER | DIRECTIONAL_SINGMULTTRAILER | | true | 10 | 0 |
| DIRECTIONAL_ESTIMATE | String | 1 | DIRECTIONAL_ESTIMATE | DIRECTIONAL_ESTIMATE | YES_NO_ID | true | | |

LRSE_TRAFFICATRLLOCATION - FeatureClass

Name LRSE_TRAFFICATRLLOCATION

ShapeType Point
FeatureType Simple
AliasName RAMS.LRSE_TRAFFICATRLLOCATION
HasM true
HasZ true
HasAttachments false
Description Traffic count using Automated Traffic Recorder

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| MEASURE | Double | 8 | MEASURE | Mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Start date for the event | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Username of who created event | | | true | | |
| ATR_NUMBER | Integer | 4 | ATR_NUMBER | Traffic count using Automated Traffic Recorder | | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_TRUCKROUTE - FeatureClass

Name LRSE_TRUCKROUTE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_TRUCKROUTE
HasM true
HasZ true
HasAttachments false
Description This field indicates whether or not the road is on a truck route on the primary road system only.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|----------|--------|--------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |

| | | | | | | | | | |
|----------------------|---------|-----|----------------------|---|--------------------------------|--|-------|----|---|
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| TRUCK_ROUTE | Integer | 4 | TRUCK_ROUTE | This field indicates whether or not the road is on a truck route on the primary road system only. | TRUCK_ROUTE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_TYPEAREA - FeatureClass

Name LRSE_TYPEAREA
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_TYPEAREA
HasM true
HasZ true
HasAttachments false
Description The type of area in which the municipal or urban road segments are located.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |

| | | | | | | | | | |
|--------------------|---------|-----|--------------------|---|--------------|--|-------|---|---|
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| TYPE_AREA | Integer | 4 | TYPE_AREA | The type of area in which the municipal or urban road segments are located. | TYPE_AREA_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_TPEDEVELOPMENT - FeatureClass

Name LRSE_TPEDEVELOPMENT
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_TPEDEVELOPMENT
HasM true
HasZ true
HasAttachments false

Description This field indicates the predominant type of development. It is used for non-urban areas. Applies to all road systems.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |

| | | | | | | | | | |
|------------------|---------|-----|------------------|--|-------------------------------------|--|------|---|---|
| TYPE_DEVELOPMENT | Integer | 4 | TYPE_DEVELOPMENT | This field indicates the predominant type of development. It is used for non-urban areas. Applies to all road systems. | TYPE_DEVELOPMENT_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_URBANAREACODE - FeatureClass

Name LRSE_URBANAREACODE
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_URBANAREACODE
HasM true
HasZ true
HasAttachments false
Description The U.S. Census Urban Area Code

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| URBAN_AREA_CODE | Integer | 4 | URBAN_AREA_CODE | The U.S. Census Urban Area Code | URBAN_AREA_CODE_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_URBANLOCATION - FeatureClass

Name LRSE_URBANLOCATION
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_URBANLOCATION
HasM true
HasZ true
HasAttachments false

Description Coded only for Des Moines, Council Bluffs and Davenport urban areas with a population of 200,000 or more people. The purpose of this data item is to identify the general character of the land surrounding each road segment. The process of doing so, however, must fully recognize that "pure" delineations are the exceptions rather than the rule. This field is applicable to all road systems.

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|----------|--------|----------------------|---|-----------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | A unique identifier for the event | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | Generated from LRS Iowa Network | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | begin mile point for event along a route extent | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | End mile point for event along a route extent | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | Date event occurred in field | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | false | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Date and time record was inserted into database | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| URBAN_LOCATION | Integer | 4 | URBAN_LOCATION | Coded only for Des Moines, Council Bluffs and Davenport urban areas with a population of 200,000 or more people. The purpose of this data item is to identify the general character of the land surrounding each road segment. The process of doing so, however, must fully recognize that "pure" delineations are the exceptions rather than the rule. This field is | URBAN_LOCATION_ID | | true | 5 | 0 |

| | | | | | | | | | |
|----------|--------|-----|----------|---|--|--|------|--|--|
| | | | | applicable to all road systems. | | | | | |
| LOCERROR | String | 100 | LOCERROR | LRS location error populated by roads and highway | | | true | | |

LRSE_WIDENINGPOTENTIAL - FeatureClass

Name LRSE_WIDENINGPOTENTIAL
ShapeType Polyline
FeatureType Simple
AliasName RAMS.LRSE_WIDENINGPOTENTIAL
HasM true
HasZ true
HasAttachments false
Description LRSE_WIDENINGPOTENTIAL

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|----------------------|---------------------------------------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| WIDENING_POTENTIAL | Integer | 4 | WIDENING_POTENTIAL | WIDENING_POTENTIAL | WIDENING_POTENTIAL_ID | | true | 5 | 0 |
| LOCERROR | String | 100 | LOCERROR | LOCERROR | | | true | | |

LRSN_IOWA_LRS_NETWORK - FeatureClass

Name LRSN_IOWA_LRS_NETWORK
ShapeType Polyline
FeatureType Simple
AliasName IOWA_LRS_NETWORK
HasM true
HasZ true
HasAttachments false
Description

The network feature class contains the route features for use in the ALRS. These routes have attributes, geometry that comes from the centerline feature class, and calibration that comes from the calibration point feature class. Combined these elements constitute a route with a LRM that can be used to locate events on that route. Each route should have a unique route identifier, called a routeID. This routeID can be a single field or a concatenation of multiple fields. If the network will use a concatenated routeID, all the fields that compose the routeID should be present in the network feature class, in addition to the routeID field.

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|-----------|--------|----------------------|--------------------------|--------|--------------|------------|-----------|-------|
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | Start date for the event | | | true | | |

| | | | | | | | | | |
|-----------------------|--------|-----|-----------------------|--|--|--|------|--|--|
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | End date for the event | | | true | | |
| GEOGRAPHIC_IDENTIFIER | String | 5 | GEOGRAPHIC_IDENTIFIER | The geographic location of the associated route. The list of geographic identifiers has been derived using the City, County, and Park and Institution codes generated by the Iowa DOT. | GEOGRAPHIC_IDENTIFIER_ID | | true | | |
| SYSTEM_CODE | String | 1 | SYSTEM_CODE | Designates the type of route. | SYSTEM_CODE_ID | | true | | |
| ROUTE_NUMBER | String | 4 | ROUTE_NUMBER | Random number associated with the route | | | true | | |
| DIRECTION | String | 1 | DIRECTION | Cardinal direction of the route | ROUTE_DIRECTION_LU | | true | | |
| RAMP_SEQUENCE | String | 4 | RAMP_SEQUENCE | Identification sequence number of the ramp route in an interchange. | | | true | | |
| ROUTE_ID | String | 15 | ROUTE_ID | A unique identifier for the route consisting of the Route Descriptor, Geographic Identifier, System Code, Route Number, Direction, and Ramp sequence if present | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | Start date for the event | | | true | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | Date and time event was modified in database | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | Username of who created event | | | true | | |
| USER_MOD | String | 100 | USER_MOD | Username that modified event | | | true | | |

ATR_FACTOR_PER_VOL_GROUP_2016 - Table

Name ATR_FACTOR_PER_VOL_GROUP_2016
AliasName TDS_OUTPUT.ATR_FACTOR_PER_VOL_GROUP_2016
HasAttachments false
Description ATR_FACTOR_PER_VOL_GROUP_2016

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------------|-----------|--------|-----------------|-----------------|--------|--------------|------------|-----------|-------|
| F_CLASS | Double | 8 | F_CLASS | F_CLASS | | | true | 38 | 10 |
| VOLUME_GROUP | Double | 8 | VOLUME_GROUP | VOLUME_GROUP | | | true | 38 | 10 |
| SU_PEAK_PERCENT | Single | 4 | SU_PEAK_PERCENT | SU_PEAK_PERCENT | | | true | 5 | 3 |
| SU_AVG_PERCENT | Single | 4 | SU_AVG_PERCENT | SU_AVG_PERCENT | | | true | 5 | 3 |

| | | | | | | | | | |
|--------------------|--------|---|--------------------|--------------------|--|--|------|---|---|
| COMBO_PEAK_PERCENT | Single | 4 | COMBO_PEAK_PERCENT | COMBO_PEAK_PERCENT | | | true | 5 | 3 |
| COMBO_AVG_PERCENT | Single | 4 | COMBO_AVG_PERCENT | COMBO_AVG_PERCENT | | | true | 5 | 3 |
| K_FACTOR | Single | 4 | K_FACTOR | K_FACTOR | | | true | 5 | 2 |
| D_FACTOR | Single | 4 | D_FACTOR | D_FACTOR | | | true | 5 | 2 |

ATR_FACTOR_PER_VOL_GROUP_2017 - Table

Name ATR_FACTOR_PER_VOL_GROUP_2017
AliasName TDS_OUTPUT.ATR_FACTOR_PER_VOL_GROUP_2017
HasAttachments false
Description ATR_FACTOR_PER_VOL_GROUP_2017

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------------|----------|--------|--------------------|--------------------|--------|--------------|------------|-----------|-------|
| F_CLASS | Double | 8 | F_CLASS | F_CLASS | | | true | 38 | 10 |
| VOLUME_GROUP | Double | 8 | VOLUME_GROUP | VOLUME_GROUP | | | true | 38 | 10 |
| SU_PEAK_PERCENT | Single | 4 | SU_PEAK_PERCENT | SU_PEAK_PERCENT | | | true | 5 | 3 |
| SU_AVG_PERCENT | Single | 4 | SU_AVG_PERCENT | SU_AVG_PERCENT | | | true | 5 | 3 |
| COMBO_PEAK_PERCENT | Single | 4 | COMBO_PEAK_PERCENT | COMBO_PEAK_PERCENT | | | true | 5 | 3 |
| COMBO_AVG_PERCENT | Single | 4 | COMBO_AVG_PERCENT | COMBO_AVG_PERCENT | | | true | 5 | 3 |
| K_FACTOR | Single | 4 | K_FACTOR | K_FACTOR | | | true | 5 | 2 |
| D_FACTOR | Single | 4 | D_FACTOR | D_FACTOR | | | true | 5 | 2 |

ATR_FACTORS_2017 - Table

Name ATR_FACTORS_2017
AliasName TDS_OUTPUT.ATR_FACTORS_2017
HasAttachments false
Description ATR_FACTORS_2017

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------------|--------------|--------|--------------------|--------------------|--------|--------------|------------|-----------|-------|
| SITE | SmallInteger | 2 | SITE | SITE | | | true | 3 | 0 |
| HOURL30AADT | Integer | 4 | HOURL30AADT | HOURL30AADT | | | true | 10 | 0 |
| PERCENTOFAADT | Single | 4 | PERCENTOFAADT | PERCENTOFAADT | | | true | 5 | 2 |
| AADT | Integer | 4 | AADT | AADT | | | true | 10 | 0 |
| SU_PEAK_PERCENT | Single | 4 | SU_PEAK_PERCENT | SU_PEAK_PERCENT | | | true | 5 | 2 |
| SU_AVG_PERCENT | Single | 4 | SU_AVG_PERCENT | SU_AVG_PERCENT | | | true | 5 | 2 |
| COMBO_PEAK_PERCENT | Single | 4 | COMBO_PEAK_PERCENT | COMBO_PEAK_PERCENT | | | true | 5 | 2 |
| COMBO_AVG_PERCENT | Single | 4 | COMBO_AVG_PERCENT | COMBO_AVG_PERCENT | | | true | 5 | 2 |
| K_FACTOR | Single | 4 | K_FACTOR | K_FACTOR | | | true | 5 | 2 |
| D_FACTOR | Single | 4 | D_FACTOR | D_FACTOR | | | true | 5 | 2 |

EV_TRAFFIC_0717 - Table

Name EV_TRAFFIC_0717
AliasName RAMS_STAGE.EV_TRAFFIC_0717
HasAttachments false
Description EV_TRAFFIC_0717

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | false | | |

| | | | | | | | | |
|-----------------------|--------------|-----|-----------------------|-----------------------|--|-------|----|---|
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | true | | |
| AADT | Integer | 4 | AADT | AADT | | true | 10 | 0 |
| TRUCK_AADT | Integer | 4 | TRUCK_AADT | TRUCK_AADT | | true | 10 | 0 |
| MOTORCYCLE | Integer | 4 | MOTORCYCLE | MOTORCYCLE | | true | 10 | 0 |
| AUTOMOBILE | Integer | 4 | AUTOMOBILE | AUTOMOBILE | | true | 10 | 0 |
| PICKUP | Integer | 4 | PICKUP | PICKUP | | true | 10 | 0 |
| BUS | Integer | 4 | BUS | BUS | | true | 10 | 0 |
| SU2AXLE | Integer | 4 | SU2AXLE | SU2AXLE | | true | 10 | 0 |
| SU3AXLE | Integer | 4 | SU3AXLE | SU3AXLE | | true | 10 | 0 |
| SU4AXLE | Integer | 4 | SU4AXLE | SU4AXLE | | true | 10 | 0 |
| ST4AXLE | Integer | 4 | ST4AXLE | ST4AXLE | | true | 10 | 0 |
| ST5AXLE | Integer | 4 | ST5AXLE | ST5AXLE | | true | 10 | 0 |
| ST6AXLE | Integer | 4 | ST6AXLE | ST6AXLE | | true | 10 | 0 |
| MT5AXLE | Integer | 4 | MT5AXLE | MT5AXLE | | true | 10 | 0 |
| MT6AXLE | Integer | 4 | MT6AXLE | MT6AXLE | | true | 10 | 0 |
| MT7AXLE | Integer | 4 | MT7AXLE | MT7AXLE | | true | 10 | 0 |
| SINGLEUNIT | Integer | 4 | SINGLEUNIT | SINGLEUNIT | | true | 10 | 0 |
| SINGMULTTRAILER | Integer | 4 | SINGMULTTRAILER | SINGMULTTRAILER | | true | 10 | 0 |
| ESTIMATE | String | 1 | ESTIMATE | ESTIMATE | | true | | |
| PERCENT_TRUCK | Integer | 4 | PERCENT_TRUCK | PERCENT_TRUCK | | true | 5 | 0 |
| AADT_COUNT_YEAR | Integer | 4 | AADT_COUNT_YEAR | AADT_COUNT_YEAR | | true | 5 | 0 |
| TRUCK_AADT_COUNT_YEAR | Integer | 4 | TRUCK_AADT_COUNT_YEAR | TRUCK_AADT_COUNT_YEAR | | true | 5 | 0 |
| EXPANDED_AADT | Double | 8 | EXPANDED_AADT | EXPANDED_AADT | | true | 10 | 2 |
| SECTION_TYPE | SmallInteger | 2 | SECTION_TYPE | SECTION_TYPE | | true | 1 | 0 |
| HEADING1 | String | 34 | HEADING1 | HEADING1 | | true | | |
| HEADING2 | String | 34 | HEADING2 | HEADING2 | | true | | |
| HEADING3 | String | 34 | HEADING3 | HEADING3 | | true | | |
| HEADING4 | String | 34 | HEADING4 | HEADING4 | | true | | |
| DESCRIPTION | String | 34 | DESCRIPTION | DESCRIPTION | | true | | |
| COMMENT6 | String | 34 | COMMENT6 | COMMENT6 | | true | | |
| COMMENT7 | String | 34 | COMMENT7 | COMMENT7 | | true | | |
| COMMENT8 | String | 34 | COMMENT8 | COMMENT8 | | true | | |
| COMMENT9 | String | 34 | COMMENT9 | COMMENT9 | | true | | |

EV_TRAFFIC_0717B - Table

Name EV_TRAFFIC_0717B
AliasName RAMS_STAGE.EV_TRAFFIC_0717B
HasAttachments false
Description EV_TRAFFIC_0717B

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
| EVENT_ID | String | 38 | EVENT_ID | EVENT_ID | | | false | | |

| | | | | | | | | |
|-----------------------|--------------|-----|-----------------------|-----------------------|--|-------|----|---|
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | false | | |
| FROM_MEASURE | Double | 8 | FROM_MEASURE | FROM_MEASURE | | false | 13 | 8 |
| TO_MEASURE | Double | 8 | TO_MEASURE | TO_MEASURE | | false | 13 | 8 |
| BUSINESS_DATE | Date | 8 | BUSINESS_DATE | BUSINESS_DATE | | true | | |
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | false | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | false | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | true | | |
| AADT | Integer | 4 | AADT | AADT | | true | 10 | 0 |
| TRUCK_AADT | Integer | 4 | TRUCK_AADT | TRUCK_AADT | | true | 10 | 0 |
| MOTORCYCLE | Integer | 4 | MOTORCYCLE | MOTORCYCLE | | true | 10 | 0 |
| AUTOMOBILE | Integer | 4 | AUTOMOBILE | AUTOMOBILE | | true | 10 | 0 |
| PICKUP | Integer | 4 | PICKUP | PICKUP | | true | 10 | 0 |
| BUS | Integer | 4 | BUS | BUS | | true | 10 | 0 |
| SU2AXLE | Integer | 4 | SU2AXLE | SU2AXLE | | true | 10 | 0 |
| SU3AXLE | Integer | 4 | SU3AXLE | SU3AXLE | | true | 10 | 0 |
| SU4AXLE | Integer | 4 | SU4AXLE | SU4AXLE | | true | 10 | 0 |
| ST4AXLE | Integer | 4 | ST4AXLE | ST4AXLE | | true | 10 | 0 |
| ST5AXLE | Integer | 4 | ST5AXLE | ST5AXLE | | true | 10 | 0 |
| ST6AXLE | Integer | 4 | ST6AXLE | ST6AXLE | | true | 10 | 0 |
| MT5AXLE | Integer | 4 | MT5AXLE | MT5AXLE | | true | 10 | 0 |
| MT6AXLE | Integer | 4 | MT6AXLE | MT6AXLE | | true | 10 | 0 |
| MT7AXLE | Integer | 4 | MT7AXLE | MT7AXLE | | true | 10 | 0 |
| SINGLEUNIT | Integer | 4 | SINGLEUNIT | SINGLEUNIT | | true | 10 | 0 |
| SINGMULTTRAILER | Integer | 4 | SINGMULTTRAILER | SINGMULTTRAILER | | true | 10 | 0 |
| ESTIMATE | String | 1 | ESTIMATE | ESTIMATE | | true | | |
| PERCENT_TRUCK | Integer | 4 | PERCENT_TRUCK | PERCENT_TRUCK | | true | 5 | 0 |
| AADT_COUNT_YEAR | Integer | 4 | AADT_COUNT_YEAR | AADT_COUNT_YEAR | | true | 5 | 0 |
| TRUCK_AADT_COUNT_YEAR | Integer | 4 | TRUCK_AADT_COUNT_YEAR | TRUCK_AADT_COUNT_YEAR | | true | 5 | 0 |
| EXPANDED_AADT | Double | 8 | EXPANDED_AADT | EXPANDED_AADT | | true | 10 | 2 |
| SECTION_TYPE | SmallInteger | 2 | SECTION_TYPE | SECTION_TYPE | | true | 1 | 0 |
| HEADING1 | String | 34 | HEADING1 | HEADING1 | | true | | |
| HEADING2 | String | 34 | HEADING2 | HEADING2 | | true | | |
| HEADING3 | String | 34 | HEADING3 | HEADING3 | | true | | |
| HEADING4 | String | 34 | HEADING4 | HEADING4 | | true | | |
| DESCRIPTION | String | 34 | DESCRIPTION | DESCRIPTION | | true | | |
| COMMENT6 | String | 34 | COMMENT6 | COMMENT6 | | true | | |
| COMMENT7 | String | 34 | COMMENT7 | COMMENT7 | | true | | |
| COMMENT8 | String | 34 | COMMENT8 | COMMENT8 | | true | | |
| COMMENT9 | String | 34 | COMMENT9 | COMMENT9 | | true | | |
| EFFECTIVE_START_DATE2 | Date | 8 | EFFECTIVE_START_DATE2 | EFFECTIVE_START_DATE2 | | true | | |
| EFFECTIVE_END_DATE2 | Date | 8 | EFFECTIVE_END_DATE2 | EFFECTIVE_END_DATE2 | | true | | |

HA_HPMS2017A_DATA - Table

Name HA_HPMS2017A_DATA
AliasName TDS_OUTPUT.HA_HPMS2017A_DATA
HasAttachments false

Description

HA_HPMS2017A_DATA

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------------------|--------------|--------|--------------------------|--------------------------|--------|--------------|------------|-----------|-------|
| ID | String | 38 | ID | ID | | | false | | |
| AADT_SINGLE_UNIT | Integer | 4 | AADT_SINGLE_UNIT | AADT_SINGLE_UNIT | | | true | 6 | 0 |
| AADT_SINGLE_UNIT_CMT | String | 100 | AADT_SINGLE_UNIT_CMT | AADT_SINGLE_UNIT_CMT | | | true | | |
| PCT_PEAK_SINGLE | Single | 4 | PCT_PEAK_SINGLE | PCT_PEAK_SINGLE | | | true | 5 | 3 |
| PCT_PEAK_SINGLE_CMT | String | 100 | PCT_PEAK_SINGLE_CMT | PCT_PEAK_SINGLE_CMT | | | true | | |
| AADT_COMBINATION | Integer | 4 | AADT_COMBINATION | AADT_COMBINATION | | | true | 6 | 0 |
| AADT_COMBINATION_CMT | String | 100 | AADT_COMBINATION_CMT | AADT_COMBINATION_CMT | | | true | | |
| PCT_PEAK_COMBINATION | Single | 4 | PCT_PEAK_COMBINATION | PCT_PEAK_COMBINATION | | | true | 5 | 3 |
| PCT_PEAK_COMBINATION_CMT | String | 100 | PCT_PEAK_COMBINATION_CMT | PCT_PEAK_COMBINATION_CMT | | | true | | |
| K_FACTOR | SmallInteger | 2 | K_FACTOR | K_FACTOR | | | true | 2 | 0 |
| K_FACTOR_CMT | String | 100 | K_FACTOR_CMT | K_FACTOR_CMT | | | true | | |
| DIR_FACTOR | SmallInteger | 2 | DIR_FACTOR | DIR_FACTOR | | | true | 3 | 0 |
| DIR_FACTOR_CMT | String | 100 | DIR_FACTOR_CMT | DIR_FACTOR_CMT | | | true | | |
| FUTURE_AADT | Integer | 4 | FUTURE_AADT | FUTURE_AADT | | | true | 6 | 0 |
| FUTURE_AADT_CMT | String | 100 | FUTURE_AADT_CMT | FUTURE_AADT_CMT | | | true | | |
| SIGNAL_TYPE | Integer | 4 | SIGNAL_TYPE | SIGNAL_TYPE | | | true | 5 | 0 |
| SIGNAL_TYPE_CMT | String | 100 | SIGNAL_TYPE_CMT | SIGNAL_TYPE_CMT | | | true | | |
| PCT_GREEN_TIME | SmallInteger | 2 | PCT_GREEN_TIME | PCT_GREEN_TIME | | | true | 2 | 0 |
| PCT_GREEN_TIME_CMT | String | 100 | PCT_GREEN_TIME_CMT | PCT_GREEN_TIME_CMT | | | true | | |
| NUMBER_SIGNALS | SmallInteger | 2 | NUMBER_SIGNALS | NUMBER_SIGNALS | | | true | 2 | 0 |
| NUMBER_SIGNALS_CMT | String | 100 | NUMBER_SIGNALS_CMT | NUMBER_SIGNALS_CMT | | | true | | |
| STOP_SIGNS | SmallInteger | 2 | STOP_SIGNS | STOP_SIGNS | | | true | 2 | 0 |
| STOP_SIGNS_CMT | String | 100 | STOP_SIGNS_CMT | STOP_SIGNS_CMT | | | true | | |
| AT_GRADE_OTHER | SmallInteger | 2 | AT_GRADE_OTHER | AT_GRADE_OTHER | | | true | 2 | 0 |
| AT_GRADE_OTHER_CMT | String | 100 | AT_GRADE_OTHER_CMT | AT_GRADE_OTHER_CMT | | | true | | |
| CAPACITY | Integer | 4 | CAPACITY | CAPACITY | | | true | 6 | 0 |
| CAPACITY_CMT | String | 100 | CAPACITY_CMT | CAPACITY_CMT | | | true | | |
| ROUTE_NUMBER | String | 8 | ROUTE_NUMBER | ROUTE_NUMBER | | | true | | |
| ROUTE_NUMBER_CMT | String | 100 | ROUTE_NUMBER_CMT | ROUTE_NUMBER_CMT | | | true | | |
| ROUTE_SIGNING | Integer | 4 | ROUTE_SIGNING | ROUTE_SIGNING | | | true | 5 | 0 |
| ROUTE_SIGNING_CMT | String | 100 | ROUTE_SIGNING_CMT | ROUTE_SIGNING_CMT | | | true | | |
| F_SYSTEM | Integer | 4 | F_SYSTEM | F_SYSTEM | | | true | 5 | 0 |
| F_SYSTEM_CMT | String | 100 | F_SYSTEM_CMT | F_SYSTEM_CMT | | | true | | |
| PEAK_LANES | SmallInteger | 2 | PEAK_LANES | PEAK_LANES | | | true | 2 | 0 |
| PEAK_LANES_CMT | String | 100 | PEAK_LANES_CMT | PEAK_LANES_CMT | | | true | | |
| COUNTER_PEAK_LANES | SmallInteger | 2 | COUNTER_PEAK_LANES | COUNTER_PEAK_LANES | | | true | 2 | 0 |
| COUNTER_PEAK_LANES_CMT | String | 100 | COUNTER_PEAK_LANES_CMT | COUNTER_PEAK_LANES_CMT | | | true | | |
| TURN_LANES_R | Integer | 4 | TURN_LANES_R | TURN_LANES_R | | | true | 5 | 0 |
| TURN_LANES_R_CMT | String | 100 | TURN_LANES_R_CMT | TURN_LANES_R_CMT | | | true | | |
| TURN_LANES_L | Integer | 4 | TURN_LANES_L | TURN_LANES_L | | | true | 5 | 0 |
| TURN_LANES_L_CMT | String | 100 | TURN_LANES_L_CMT | TURN_LANES_L_CMT | | | true | | |
| SPEED_LIMIT | SmallInteger | 2 | SPEED_LIMIT | SPEED_LIMIT | | | true | 2 | 0 |
| SPEED_LIMIT_CMT | String | 100 | SPEED_LIMIT_CMT | SPEED_LIMIT_CMT | | | true | | |
| TOLL_CHARGED | Integer | 4 | TOLL_CHARGED | TOLL_CHARGED | | | true | 5 | 0 |
| TOLL_CHARGED_CMT | String | 100 | TOLL_CHARGED_CMT | TOLL_CHARGED_CMT | | | true | | |
| TOLL_TYPE | Integer | 4 | TOLL_TYPE | TOLL_TYPE | | | true | 5 | 0 |
| TOLL_TYPE_CMT | String | 100 | TOLL_TYPE_CMT | TOLL_TYPE_CMT | | | true | | |
| MAINTENANCE_OPERATIONS | Integer | 4 | MAINTENANCE_OPERATIONS | MAINTENANCE_OPERATIONS | | | true | 5 | 0 |

| | | | | | | | | | |
|----------------------------|--------------|-----|----------------------------|----------------------------|--|--|------|---|---|
| MAINTENANCE_OPERATIONS_CMT | String | 100 | MAINTENANCE_OPERATIONS_CMT | MAINTENANCE_OPERATIONS_CMT | | | true | | |
| COUNTY_CODE | Integer | 4 | COUNTY_CODE | COUNTY_CODE | | | true | 5 | 0 |
| COUNTY_CODE_CMT | String | 100 | COUNTY_CODE_CMT | COUNTY_CODE_CMT | | | true | | |
| URBAN_CODE | Integer | 4 | URBAN_CODE | URBAN_CODE | | | true | 5 | 0 |
| URBAN_CODE_CMT | String | 100 | URBAN_CODE_CMT | URBAN_CODE_CMT | | | true | | |
| FACILITY_TYPE | Integer | 4 | FACILITY_TYPE | FACILITY_TYPE | | | true | 5 | 0 |
| FACILITY_TYPE_CMT | String | 100 | FACILITY_TYPE_CMT | FACILITY_TYPE_CMT | | | true | | |
| STRUCTURE_TYPE | Integer | 4 | STRUCTURE_TYPE | STRUCTURE_TYPE | | | true | 5 | 0 |
| STRUCTURE_TYPE_CMT | String | 100 | STRUCTURE_TYPE_CMT | STRUCTURE_TYPE_CMT | | | true | | |
| ACCESS_CONTROL | Integer | 4 | ACCESS_CONTROL | ACCESS_CONTROL | | | true | 5 | 0 |
| ACCESS_CONTROL_CMT | String | 100 | ACCESS_CONTROL_CMT | ACCESS_CONTROL_CMT | | | true | | |
| OWNERSHIP | Integer | 4 | OWNERSHIP | OWNERSHIP | | | true | 5 | 0 |
| OWNERSHIP_CMT | String | 100 | OWNERSHIP_CMT | OWNERSHIP_CMT | | | true | | |
| THROUGH_LANES | SmallInteger | 2 | THROUGH_LANES | THROUGH_LANES | | | true | 2 | 0 |
| THROUGH_LANES_CMT | String | 100 | THROUGH_LANES_CMT | THROUGH_LANES_CMT | | | true | | |
| HOV_TYPE | Integer | 4 | HOV_TYPE | HOV_TYPE | | | true | 5 | 0 |
| HOV_TYPE_CMT | String | 100 | HOV_TYPE_CMT | HOV_TYPE_CMT | | | true | | |
| HOV_LANES | SmallInteger | 2 | HOV_LANES | HOV_LANES | | | true | 2 | 0 |
| HOV_LANES_CMT | String | 100 | HOV_LANES_CMT | HOV_LANES_CMT | | | true | | |
| AADT | Integer | 4 | AADT | AADT | | | true | 6 | 0 |
| AADT_CMT | String | 100 | AADT_CMT | AADT_CMT | | | true | | |
| ROUTE_QUALIFIER | Integer | 4 | ROUTE_QUALIFIER | ROUTE_QUALIFIER | | | true | 5 | 0 |
| ROUTE_QUALIFIER_CMT | String | 100 | ROUTE_QUALIFIER_CMT | ROUTE_QUALIFIER_CMT | | | true | | |
| YEAR_LAST_IMPROV | SmallInteger | 2 | YEAR_LAST_IMPROV | YEAR_LAST_IMPROV | | | true | 4 | 0 |
| YEAR_LAST_IMPROV_CMT | String | 100 | YEAR_LAST_IMPROV_CMT | YEAR_LAST_IMPROV_CMT | | | true | | |
| YEAR_LAST_CONSTRUCTION | SmallInteger | 2 | YEAR_LAST_CONSTRUCTION | YEAR_LAST_CONSTRUCTION | | | true | 4 | 0 |
| YEAR_LAST_CONSTRUCTION_CMT | String | 100 | YEAR_LAST_CONSTRUCTION_CMT | YEAR_LAST_CONSTRUCTION_CMT | | | true | | |
| LAST_OVERLAY_THICKNESS | Single | 4 | LAST_OVERLAY_THICKNESS | LAST_OVERLAY_THICKNESS | | | true | 3 | 1 |
| LAST_OVERLAY_THICKNESS_CMT | String | 100 | LAST_OVERLAY_THICKNESS_CMT | LAST_OVERLAY_THICKNESS_CMT | | | true | | |
| THICKNESS_RIGID | Single | 4 | THICKNESS_RIGID | THICKNESS_RIGID | | | true | 3 | 1 |
| THICKNESS_RIGID_CMT | String | 100 | THICKNESS_RIGID_CMT | THICKNESS_RIGID_CMT | | | true | | |
| THICKNESS_FLEXIBLE | Single | 4 | THICKNESS_FLEXIBLE | THICKNESS_FLEXIBLE | | | true | 3 | 1 |
| THICKNESS_FLEXIBLE_CMT | String | 100 | THICKNESS_FLEXIBLE_CMT | THICKNESS_FLEXIBLE_CMT | | | true | | |
| BASE_TYPE | Integer | 4 | BASE_TYPE | BASE_TYPE | | | true | 5 | 0 |
| BASE_TYPE_CMT | String | 100 | BASE_TYPE_CMT | BASE_TYPE_CMT | | | true | | |
| BASE_THICKNESS | SmallInteger | 2 | BASE_THICKNESS | BASE_THICKNESS | | | true | 2 | 0 |
| BASE_THICKNESS_CMT | String | 100 | BASE_THICKNESS_CMT | BASE_THICKNESS_CMT | | | true | | |
| CLIMATE_ZONE | Integer | 4 | CLIMATE_ZONE | CLIMATE_ZONE | | | true | 5 | 0 |
| CLIMATE_ZONE_CMT | String | 100 | CLIMATE_ZONE_CMT | CLIMATE_ZONE_CMT | | | true | | |
| SOIL_TYPE | Integer | 4 | SOIL_TYPE | SOIL_TYPE | | | true | 5 | 0 |
| SOIL_TYPE_CMT | String | 100 | SOIL_TYPE_CMT | SOIL_TYPE_CMT | | | true | | |
| NHS | Integer | 4 | NHS | NHS | | | true | 5 | 0 |
| NHS_CMT | String | 100 | NHS_CMT | NHS_CMT | | | true | | |
| STRAHNET_TYPE | Integer | 4 | STRAHNET_TYPE | STRAHNET_TYPE | | | true | 5 | 0 |
| STRAHNET_TYPE_CMT | String | 100 | STRAHNET_TYPE_CMT | STRAHNET_TYPE_CMT | | | true | | |
| TRUCK | Integer | 4 | TRUCK | TRUCK | | | true | 5 | 0 |
| TRUCK_CMT | String | 100 | TRUCK_CMT | TRUCK_CMT | | | true | | |
| FUTURE_FACILITY | Integer | 4 | FUTURE_FACILITY | FUTURE_FACILITY | | | true | 5 | 0 |
| FUTURE_FACILITY_CMT | String | 100 | FUTURE_FACILITY_CMT | FUTURE_FACILITY_CMT | | | true | | |
| CRACKING_LENGTH | Single | 4 | CRACKING_LENGTH | CRACKING_LENGTH | | | true | 6 | 1 |

| | | | | | | | | | |
|-----------------------------|--------------|-----|-----------------------------|-----------------------------|--|--|------|---|---|
| FULL_ROUTE_NUMBER | String | 50 | FULL_ROUTE_NUMBER | FULL_ROUTE_NUMBER | | | true | | |
| FUTURE_AADT_YEAR | SmallInteger | 2 | FUTURE_AADT_YEAR | FUTURE_AADT_YEAR | | | true | 4 | 0 |
| IRI_DATE_VALUE | Date | 8 | IRI_DATE_VALUE | IRI_DATE_VALUE | | | true | | |
| ROUTE_NUMBER_VALUE_TEXT | String | 50 | ROUTE_NUMBER_VALUE_TEXT | ROUTE_NUMBER_VALUE_TEXT | | | true | | |
| TOLL_CHARGED_VALUE_TEXT | String | 50 | TOLL_CHARGED_VALUE_TEXT | TOLL_CHARGED_VALUE_TEXT | | | true | | |
| TOLL_TYPE_VALUE_TEXT | String | 50 | TOLL_TYPE_VALUE_TEXT | TOLL_TYPE_VALUE_TEXT | | | true | | |
| RUTTING_DATE_VALUE | Date | 8 | RUTTING_DATE_VALUE | RUTTING_DATE_VALUE | | | true | | |
| FAULTING_DATE_VALUE | Date | 8 | FAULTING_DATE_VALUE | FAULTING_DATE_VALUE | | | true | | |
| CRACKING_PERCENT_DATE_VALUE | Date | 8 | CRACKING_PERCENT_DATE_VALUE | CRACKING_PERCENT_DATE_VALUE | | | true | | |
| BEGIN_POINT | Double | 8 | BEGIN_POINT | BEGIN_POINT | | | true | 8 | 3 |
| END_POINT | Double | 8 | END_POINT | END_POINT | | | true | 8 | 3 |
| ROUTE_ID | String | 60 | ROUTE_ID | ROUTE_ID | | | true | | |
| SAMPLE_ID | String | 12 | SAMPLE_ID | SAMPLE_ID | | | true | | |
| TERRAIN_TYPE | Integer | 4 | TERRAIN_TYPE | TERRAIN_TYPE | | | true | 5 | 0 |
| TERRAIN_TYPE_CMT | String | 100 | TERRAIN_TYPE_CMT | TERRAIN_TYPE_CMT | | | true | | |
| GRADES_A | Single | 4 | GRADES_A | GRADES_A | | | true | 6 | 3 |
| GRADES_A_CMT | String | 100 | GRADES_A_CMT | GRADES_A_CMT | | | true | | |
| GRADES_B | Single | 4 | GRADES_B | GRADES_B | | | true | 6 | 3 |
| GRADES_B_CMT | String | 100 | GRADES_B_CMT | GRADES_B_CMT | | | true | | |
| GRADES_C | Single | 4 | GRADES_C | GRADES_C | | | true | 6 | 3 |
| GRADES_C_CMT | String | 100 | GRADES_C_CMT | GRADES_C_CMT | | | true | | |
| GRADES_D | Single | 4 | GRADES_D | GRADES_D | | | true | 6 | 3 |
| GRADES_D_CMT | String | 100 | GRADES_D_CMT | GRADES_D_CMT | | | true | | |
| GRADES_E | Single | 4 | GRADES_E | GRADES_E | | | true | 6 | 3 |
| GRADES_E_CMT | String | 100 | GRADES_E_CMT | GRADES_E_CMT | | | true | | |
| GRADES_F | Single | 4 | GRADES_F | GRADES_F | | | true | 6 | 3 |
| GRADES_F_CMT | String | 100 | GRADES_F_CMT | GRADES_F_CMT | | | true | | |
| PCT_PASS_SIGHT | SmallInteger | 2 | PCT_PASS_SIGHT | PCT_PASS_SIGHT | | | true | 3 | 0 |
| PCT_PASS_SIGHT_CMT | String | 100 | PCT_PASS_SIGHT_CMT | PCT_PASS_SIGHT_CMT | | | true | | |
| IRI | SmallInteger | 2 | IRI | IRI | | | true | 4 | 0 |
| IRI_CMT | String | 100 | IRI_CMT | IRI_CMT | | | true | | |
| PSR | Single | 4 | PSR | PSR | | | true | 3 | 1 |
| PSR_CMT | String | 100 | PSR_CMT | PSR_CMT | | | true | | |
| SURFACE_TYPE | Integer | 4 | SURFACE_TYPE | SURFACE_TYPE | | | true | 5 | 0 |
| SURFACE_TYPE_CMT | String | 100 | SURFACE_TYPE_CMT | SURFACE_TYPE_CMT | | | true | | |
| RUTTING | Single | 4 | RUTTING | RUTTING | | | true | 3 | 1 |
| RUTTING_CMT | String | 100 | RUTTING_CMT | RUTTING_CMT | | | true | | |
| FAULTING | Single | 4 | FAULTING | FAULTING | | | true | 4 | 1 |
| FAULTING_CMT | String | 100 | FAULTING_CMT | FAULTING_CMT | | | true | | |
| CRACKING_PERCENT | Single | 4 | CRACKING_PERCENT | CRACKING_PERCENT | | | true | 4 | 1 |
| CRACKING_PERCENT_CMT | String | 100 | CRACKING_PERCENT_CMT | CRACKING_PERCENT_CMT | | | true | | |
| ALTERNATIVE_ROUTE_NAME | String | 50 | ALTERNATIVE_ROUTE_NAME | ALTERNATIVE_ROUTE_NAME | | | true | | |
| ALTERNATIVE_ROUTE_NAME_CMT | String | 100 | ALTERNATIVE_ROUTE_NAME_CMT | ALTERNATIVE_ROUTE_NAME_CMT | | | true | | |
| LANE_WIDTH | SmallInteger | 2 | LANE_WIDTH | LANE_WIDTH | | | true | 2 | 0 |
| LANE_WIDTH_CMT | String | 100 | LANE_WIDTH_CMT | LANE_WIDTH_CMT | | | true | | |
| MEDIAN_TYPE | Integer | 4 | MEDIAN_TYPE | MEDIAN_TYPE | | | true | 5 | 0 |
| MEDIAN_TYPE_CMT | String | 100 | MEDIAN_TYPE_CMT | MEDIAN_TYPE_CMT | | | true | | |
| MEDIAN_WIDTH | SmallInteger | 2 | MEDIAN_WIDTH | MEDIAN_WIDTH | | | true | 2 | 0 |
| MEDIAN_WIDTH_CMT | String | 100 | MEDIAN_WIDTH_CMT | MEDIAN_WIDTH_CMT | | | true | | |
| SHOULDER_TYPE | Integer | 4 | SHOULDER_TYPE | SHOULDER_TYPE | | | true | 5 | 0 |

| | | | | | | | | | |
|------------------------|--------------|-----|------------------------|------------------------|--|--|------|---|---|
| SHOULDER_TYPE_CMT | String | 100 | SHOULDER_TYPE_CMT | SHOULDER_TYPE_CMT | | | true | | |
| SHOULDER_WIDTH_R | SmallInteger | 2 | SHOULDER_WIDTH_R | SHOULDER_WIDTH_R | | | true | 2 | 0 |
| SHOULDER_WIDTH_R_CMT | String | 100 | SHOULDER_WIDTH_R_CMT | SHOULDER_WIDTH_R_CMT | | | true | | |
| SHOULDER_WIDTH_L | SmallInteger | 2 | SHOULDER_WIDTH_L | SHOULDER_WIDTH_L | | | true | 2 | 0 |
| SHOULDER_WIDTH_L_CMT | String | 100 | SHOULDER_WIDTH_L_CMT | SHOULDER_WIDTH_L_CMT | | | true | | |
| PEAK_PARKING | Integer | 4 | PEAK_PARKING | PEAK_PARKING | | | true | 5 | 0 |
| PEAK_PARKING_CMT | String | 100 | PEAK_PARKING_CMT | PEAK_PARKING_CMT | | | true | | |
| WIDENING_OBSTACLE | String | 7 | WIDENING_OBSTACLE | WIDENING_OBSTACLE | | | true | | |
| WIDENING_OBSTACLE_CMT | String | 100 | WIDENING_OBSTACLE_CMT | WIDENING_OBSTACLE_CMT | | | true | | |
| WIDENING_POTENTIAL | SmallInteger | 2 | WIDENING_POTENTIAL | WIDENING_POTENTIAL | | | true | 1 | 0 |
| WIDENING_POTENTIAL_CMT | String | 100 | WIDENING_POTENTIAL_CMT | WIDENING_POTENTIAL_CMT | | | true | | |
| CURVES_A | Single | 4 | CURVES_A | CURVES_A | | | true | 6 | 3 |
| CURVES_A_CMT | String | 100 | CURVES_A_CMT | CURVES_A_CMT | | | true | | |
| CURVES_B | Single | 4 | CURVES_B | CURVES_B | | | true | 6 | 3 |
| CURVES_B_CMT | String | 100 | CURVES_B_CMT | CURVES_B_CMT | | | true | | |
| CURVES_C | Single | 4 | CURVES_C | CURVES_C | | | true | 6 | 3 |
| CURVES_C_CMT | String | 100 | CURVES_C_CMT | CURVES_C_CMT | | | true | | |
| CURVES_D | Single | 4 | CURVES_D | CURVES_D | | | true | 6 | 3 |
| CURVES_D_CMT | String | 100 | CURVES_D_CMT | CURVES_D_CMT | | | true | | |
| CURVES_E | Single | 4 | CURVES_E | CURVES_E | | | true | 6 | 3 |
| CURVES_E_CMT | String | 100 | CURVES_E_CMT | CURVES_E_CMT | | | true | | |
| CURVES_F | Single | 4 | CURVES_F | CURVES_F | | | true | 6 | 3 |
| YEAR_RECORD | SmallInteger | 2 | YEAR_RECORD | YEAR_RECORD | | | true | 4 | 0 |
| SECTION_LENGTH | Double | 8 | SECTION_LENGTH | SECTION_LENGTH | | | true | 8 | 3 |
| STATE_CODE | SmallInteger | 2 | STATE_CODE | STATE_CODE | | | true | 2 | 0 |

LRS_Centerline_Sequence - Table

Name LRS_Centerline_Sequence
AliasName RAMS.LRS_Centerline_Sequence
HasAttachments false
Description LRS_Centerline_Sequence

| Field | Data Type | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------------------|--------------|--------|----------------------|----------------------|------------------------------|--------------|------------|-----------|-------|
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| NETWORK_ID | SmallInteger | 2 | NETWORK_ID | NETWORK_ID | dLRSNetworks | | true | 5 | 0 |
| ROUTE_ID | String | 15 | ROUTE_ID | ROUTE_ID | | | true | | |
| ROADWAYIDGUID | GUID | 38 | ROADWAYIDGUID | ROADWAYIDGUID | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | true | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | true | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| DOMINANCE_VALUE | String | 1 | DOMINANCE_VALUE | DOMINANCE_VALUE | | | true | | |

Lrs_Edit_Log - Table

Name Lrs_Edit_Log
AliasName RAMS.Lrs_Edit_Log
HasAttachments false
Description Lrs_Edit_Log

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------------|--------------|--------|-----------------|-----------------|--------|--------------|------------|-----------|-------|
| TRANSACTIONID | GUID | 38 | TRANSACTIONID | TRANSACTIONID | | | false | | |
| TRANSACTIONDATE | Date | 8 | TRANSACTIONDATE | TRANSACTIONDATE | | | false | | |
| USERNAME | String | 272 | USERNAME | USERNAME | | | true | | |
| ACTIVITYTYPE | SmallInteger | 2 | ACTIVITYTYPE | ACTIVITYTYPE | | | false | 5 | 0 |
| LRSID | GUID | 38 | LRSID | LRSID | | | true | | |
| NETWORKID | Integer | 4 | NETWORKID | NETWORKID | | | true | 10 | 0 |
| ROUTEID | String | 255 | ROUTEID | ROUTEID | | | true | | |
| FROMDATE | Date | 8 | FROMDATE | FROMDATE | | | true | | |
| TODATE | Date | 8 | TODATE | TODATE | | | true | | |
| EDITDATA | Blob | 0 | EDITDATA | EDITDATA | | | true | | |

Lrs_Event_Behavior - Table

Name Lrs_Event_Behavior
AliasName RAMS.Lrs_Event_Behavior
HasAttachments false
Description Lrs_Event_Behavior

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|--------------|--------------|--------|--------------|--------------|--------|--------------|------------|-----------|-------|
| LRSID | GUID | 38 | LRSID | LRSID | | | false | | |
| NETWORKID | Integer | 4 | NETWORKID | NETWORKID | | | false | 10 | 0 |
| EVENTTABLEID | GUID | 38 | EVENTTABLEID | EVENTTABLEID | | | false | | |
| ACTIVITYTYPE | SmallInteger | 2 | ACTIVITYTYPE | ACTIVITYTYPE | | | false | 5 | 0 |
| BEHAVIORTYPE | SmallInteger | 2 | BEHAVIORTYPE | BEHAVIORTYPE | | | false | 5 | 0 |

Lrs_Locks - Table

Name Lrs_Locks
AliasName RAMS.Lrs_Locks
HasAttachments false
Description Lrs_Locks

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-------------------|--------------|--------|-------------------|-------------------|------------------------------|--------------|------------|-----------|-------|
| NETWORKID | SmallInteger | 2 | NETWORKID | NETWORKID | dLRSNetworks | | true | 5 | 0 |
| ROUTEID | String | 255 | ROUTEID | ROUTEID | | | true | | |
| LOCKUSER | String | 255 | LOCKUSER | LOCKUSER | | | true | | |
| LOCKVERSION | String | 100 | LOCKVERSION | LOCKVERSION | | | true | | |
| LOCKDATETIME | Date | 8 | LOCKDATETIME | LOCKDATETIME | | | true | | |
| EVENTFEATURECLASS | String | 255 | EVENTFEATURECLASS | EVENTFEATURECLASS | | | true | | |

Lrs_Metadata - Table

Name Lrs_Metadata
AliasName RAMS.Lrs_Metadata
HasAttachments false
Description Lrs_Metadata

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-------|----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
| LRSID | GUID | 38 | LRSID | LRSID | | | false | | |

| | | | | | | | | | |
|-------------|--------|-----|-------------|-------------|--|--|-------|--|--|
| NAME | String | 32 | NAME | NAME | | | false | | |
| DESCRIPTION | String | 255 | DESCRIPTION | DESCRIPTION | | | true | | |
| METADATA | Blob | 0 | METADATA | METADATA | | | true | | |

LRS_Route - Table

Name LRS_Route
AliasName RAMS.LRS_Route
HasAttachments false
Description LRS_Route

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------------------|----------|--------|-----------------------|-----------------------|--|--------------|------------|-----------|-------|
| EFFECTIVE_START_DATE | Date | 8 | EFFECTIVE_START_DATE | EFFECTIVE_START_DATE | | | true | | |
| EFFECTIVE_END_DATE | Date | 8 | EFFECTIVE_END_DATE | EFFECTIVE_END_DATE | | | true | | |
| GEOGRAPHIC_IDENTIFIER | String | 5 | GEOGRAPHIC_IDENTIFIER | GEOGRAPHIC_IDENTIFIER | GEOGRAPHIC_IDENTIFIER_ID | | true | | |
| SYSTEM_CODE | String | 1 | SYSTEM_CODE | SYSTEM_CODE | SYSTEM_CODE_ID | | true | | |
| ROUTE_NUMBER | String | 4 | ROUTE_NUMBER | ROUTE_NUMBER | | | true | | |
| DIRECTION | String | 1 | DIRECTION | DIRECTION | ROUTE_DIRECTION_LU | | true | | |
| RAMP_SEQUENCE | String | 4 | RAMP_SEQUENCE | RAMP_SEQUENCE | | | true | | |
| SYSTEM_CREATE_DATE | Date | 8 | SYSTEM_CREATE_DATE | SYSTEM_CREATE_DATE | | | true | | |
| SYSTEM_MOD_DATE | Date | 8 | SYSTEM_MOD_DATE | SYSTEM_MOD_DATE | | | true | | |
| USER_CREATE | String | 100 | USER_CREATE | USER_CREATE | | | true | | |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |

PMIS15 - Table

Name PMIS15
AliasName RAMS_STAGE.PMIS15
HasAttachments false
Description PMIS15

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|----------|--------------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
| A_INDX | SmallInteger | 2 | A_INDX | A_INDX | | | true | 3 | 0 |
| ACRACK | Integer | 4 | ACRACK | ACRACK | | | true | 6 | 0 |
| ACRACKH | Integer | 4 | ACRACKH | ACRACKH | | | true | 6 | 0 |
| ACRACKL | Integer | 4 | ACRACKL | ACRACKL | | | true | 6 | 0 |
| ACRACKM | Integer | 4 | ACRACKM | ACRACKM | | | true | 6 | 0 |
| ADT | Integer | 4 | ADT | ADT | | | true | 7 | 0 |
| AGGCLAS1 | String | 1 | AGGCLAS1 | AGGCLAS1 | | | true | | |
| AGGCLAS2 | String | 1 | AGGCLAS2 | AGGCLAS2 | | | true | | |
| AGGCLAS3 | String | 1 | AGGCLAS3 | AGGCLAS3 | | | true | | |
| AGGCLAS4 | String | 1 | AGGCLAS4 | AGGCLAS4 | | | true | | |
| AGGCLAS5 | String | 1 | AGGCLAS5 | AGGCLAS5 | | | true | | |
| AGGCLAS6 | String | 1 | AGGCLAS6 | AGGCLAS6 | | | true | | |
| AGGCLAS7 | String | 1 | AGGCLAS7 | AGGCLAS7 | | | true | | |
| AGGCLAS8 | String | 1 | AGGCLAS8 | AGGCLAS8 | | | true | | |
| AGGCLDUR | String | 2 | AGGCLDUR | AGGCLDUR | | | true | | |
| AGGSRC1 | String | 16 | AGGSRC1 | AGGSRC1 | | | true | | |
| AGGSRC2 | String | 16 | AGGSRC2 | AGGSRC2 | | | true | | |
| AGGSRC3 | String | 16 | AGGSRC3 | AGGSRC3 | | | true | | |
| AGGSRC4 | String | 16 | AGGSRC4 | AGGSRC4 | | | true | | |

| | | | | | | | | | |
|------------|--------------|----|------------|------------|--|--|------|----|---|
| AGGSRC5 | String | 16 | AGGSRC5 | AGGSRC5 | | | true | | |
| AGGSRC6 | String | 16 | AGGSRC6 | AGGSRC6 | | | true | | |
| AGGSRC7 | String | 16 | AGGSRC7 | AGGSRC7 | | | true | | |
| AGGSRC8 | String | 16 | AGGSRC8 | AGGSRC8 | | | true | | |
| AGGTYP1 | String | 7 | AGGTYP1 | AGGTYP1 | | | true | | |
| AGGTYP2 | String | 7 | AGGTYP2 | AGGTYP2 | | | true | | |
| AGGTYP3 | String | 7 | AGGTYP3 | AGGTYP3 | | | true | | |
| AGGTYP4 | String | 7 | AGGTYP4 | AGGTYP4 | | | true | | |
| AGGTYP5 | String | 7 | AGGTYP5 | AGGTYP5 | | | true | | |
| AGGTYP6 | String | 7 | AGGTYP6 | AGGTYP6 | | | true | | |
| AGGTYP7 | String | 7 | AGGTYP7 | AGGTYP7 | | | true | | |
| AGGTYP8 | String | 7 | AGGTYP8 | AGGTYP8 | | | true | | |
| ALTOBS | Integer | 4 | ALTOBS | ALTOBS | | | true | 5 | 0 |
| AREA | SmallInteger | 2 | AREA | AREA | | | true | 4 | 0 |
| AVEK | SmallInteger | 2 | AVEK | AVEK | | | true | 3 | 0 |
| BASTHK1 | Single | 4 | BASTHK1 | BASTHK1 | | | true | 5 | 2 |
| BASTHK2 | Single | 4 | BASTHK2 | BASTHK2 | | | true | 5 | 2 |
| BASTHK3 | Single | 4 | BASTHK3 | BASTHK3 | | | true | 5 | 2 |
| BASTHK4 | Single | 4 | BASTHK4 | BASTHK4 | | | true | 5 | 2 |
| BASTHK5 | Single | 4 | BASTHK5 | BASTHK5 | | | true | 5 | 2 |
| BASTHK6 | Single | 4 | BASTHK6 | BASTHK6 | | | true | 5 | 2 |
| BASTHK7 | Single | 4 | BASTHK7 | BASTHK7 | | | true | 5 | 2 |
| BASTHK8 | Single | 4 | BASTHK8 | BASTHK8 | | | true | 5 | 2 |
| BASTYP1 | String | 3 | BASTYP1 | BASTYP1 | | | true | | |
| BASTYP2 | String | 3 | BASTYP2 | BASTYP2 | | | true | | |
| BASTYP3 | String | 3 | BASTYP3 | BASTYP3 | | | true | | |
| BASTYP4 | String | 3 | BASTYP4 | BASTYP4 | | | true | | |
| BASTYP5 | String | 3 | BASTYP5 | BASTYP5 | | | true | | |
| BASTYP6 | String | 3 | BASTYP6 | BASTYP6 | | | true | | |
| BASTYP7 | String | 3 | BASTYP7 | BASTYP7 | | | true | | |
| BASTYP8 | String | 3 | BASTYP8 | BASTYP8 | | | true | | |
| BPOST | String | 6 | BPOST | BPOST | | | true | | |
| BPOST_OS | Double | 8 | BPOST_OS | BPOST_OS | | | true | 38 | 0 |
| BPOST_TAG | String | 6 | BPOST_TAG | BPOST_TAG | | | true | | |
| CAPDAT | Date | 8 | CAPDAT | CAPDAT | | | true | | |
| CITY | SmallInteger | 2 | CITY | CITY | | | true | 4 | 0 |
| COMPLEX | String | 1 | COMPLEX | COMPLEX | | | true | | |
| CONRTE1 | SmallInteger | 2 | CONRTE1 | CONRTE1 | | | true | 3 | 0 |
| CONRTE2 | SmallInteger | 2 | CONRTE2 | CONRTE2 | | | true | 3 | 0 |
| CONYR | SmallInteger | 2 | CONYR | CONYR | | | true | 4 | 0 |
| COUNTY | SmallInteger | 2 | COUNTY | COUNTY | | | true | 2 | 0 |
| COVERAGE | SmallInteger | 2 | COVERAGE | COVERAGE | | | true | 3 | 0 |
| CRACK_INDX | SmallInteger | 2 | CRACK_INDX | CRACK_INDX | | | true | 3 | 0 |
| CRACK_PCT | Single | 4 | CRACK_PCT | CRACK_PCT | | | true | 5 | 2 |
| CURB | Double | 8 | CURB | CURB | | | true | 38 | 0 |
| DCRACKH | Integer | 4 | DCRACKH | DCRACKH | | | true | 6 | 0 |
| DCRACKM | Integer | 4 | DCRACKM | DCRACKM | | | true | 6 | 0 |
| DESCRIPT | String | 58 | DESCRIPT | DESCRIPT | | | true | | |
| DIR | SmallInteger | 2 | DIR | DIR | | | true | 4 | 0 |
| DISTRICT | SmallInteger | 2 | DISTRICT | DISTRICT | | | true | 4 | 0 |

| | | | | | | | | | |
|------------|--------------|----|------------|------------|--|--|------|----|---|
| DROPOFF | Double | 8 | DROPOFF | DROPOFF | | | true | 38 | 0 |
| EPOST | String | 6 | EPOST | EPOST | | | true | | |
| EPOST_OS | Double | 8 | EPOST_OS | EPOST_OS | | | true | 38 | 0 |
| EPOST_TAG | String | 6 | EPOST_TAG | EPOST_TAG | | | true | | |
| FAULT | Single | 4 | FAULT | FAULT | | | true | 4 | 1 |
| FAULT_INDX | SmallInteger | 2 | FAULT_INDX | FAULT_INDX | | | true | 3 | 0 |
| FAULTAV | Single | 4 | FAULTAV | FAULTAV | | | true | 5 | 4 |
| FCLASS | SmallInteger | 2 | FCLASS | FCLASS | | | true | 4 | 0 |
| FLTPCT | SmallInteger | 2 | FLTPCT | FLTPCT | | | true | 3 | 0 |
| FRICT | SmallInteger | 2 | FRICT | FRICT | | | true | 2 | 0 |
| FRIDAT | SmallInteger | 2 | FRIDAT | FRIDAT | | | true | 4 | 0 |
| FWD_DATE | Date | 8 | FWD_DATE | FWD_DATE | | | true | | |
| GARAGE | SmallInteger | 2 | GARAGE | GARAGE | | | true | 2 | 0 |
| IRI | Single | 4 | IRI | IRI | | | true | 5 | 2 |
| IRI_INDX | SmallInteger | 2 | IRI_INDX | IRI_INDX | | | true | 3 | 0 |
| IRIDAT | SmallInteger | 2 | IRIDAT | IRIDAT | | | true | 4 | 0 |
| ISHLDTHK | Single | 4 | ISHLDTHK | ISHLDTHK | | | true | 5 | 2 |
| ISHLDTIE | String | 1 | ISHLDTIE | ISHLDTIE | | | true | | |
| ISHLDTYP | String | 10 | ISHLDTYP | ISHLDTYP | | | true | | |
| ISHLDWID | Single | 4 | ISHLDWID | ISHLDWID | | | true | 3 | 1 |
| JTSPALLH | Integer | 4 | JTSPALLH | JTSPALLH | | | true | 6 | 0 |
| JTSPALLM | Integer | 4 | JTSPALLM | JTSPALLM | | | true | 6 | 0 |
| KIPSANN | Double | 8 | KIPSANN | KIPSANN | | | true | 11 | 0 |
| KIPSCON | Double | 8 | KIPSCON | KIPSCON | | | true | 11 | 0 |
| KIPSRES | Double | 8 | KIPSRES | KIPSRES | | | true | 11 | 0 |
| L_INDX | SmallInteger | 2 | L_INDX | L_INDX | | | true | 3 | 0 |
| LANES | SmallInteger | 2 | LANES | LANES | | | true | 4 | 0 |
| LAYR1 | SmallInteger | 2 | LAYR1 | LAYR1 | | | true | 4 | 0 |
| LAYR2 | SmallInteger | 2 | LAYR2 | LAYR2 | | | true | 4 | 0 |
| LAYR3 | SmallInteger | 2 | LAYR3 | LAYR3 | | | true | 4 | 0 |
| LAYR4 | SmallInteger | 2 | LAYR4 | LAYR4 | | | true | 4 | 0 |
| LAYR5 | SmallInteger | 2 | LAYR5 | LAYR5 | | | true | 4 | 0 |
| LAYR6 | SmallInteger | 2 | LAYR6 | LAYR6 | | | true | 4 | 0 |
| LAYR7 | SmallInteger | 2 | LAYR7 | LAYR7 | | | true | 4 | 0 |
| LAYR8 | SmallInteger | 2 | LAYR8 | LAYR8 | | | true | 4 | 0 |
| LCRACK | Integer | 4 | LCRACK | LCRACK | | | true | 6 | 0 |
| LCRACKH | Integer | 4 | LCRACKH | LCRACKH | | | true | 6 | 0 |
| LCRACKL | Integer | 4 | LCRACKL | LCRACKL | | | true | 6 | 0 |
| LCRACKM | Integer | 4 | LCRACKM | LCRACKM | | | true | 6 | 0 |
| LCRACKWH | Integer | 4 | LCRACKWH | LCRACKWH | | | true | 6 | 0 |
| LCRACKWL | Integer | 4 | LCRACKWL | LCRACKWL | | | true | 6 | 0 |
| LCRACKWM | Integer | 4 | LCRACKWM | LCRACKWM | | | true | 6 | 0 |
| LCURB | String | 1 | LCURB | LCURB | | | true | | |
| LLW_INDX | SmallInteger | 2 | LLW_INDX | LLW_INDX | | | true | 3 | 0 |
| LRS_LENGTH | Single | 4 | LRS_LENGTH | LRS_LENGTH | | | true | 5 | 2 |
| LW_INDX | SmallInteger | 2 | LW_INDX | LW_INDX | | | true | 3 | 0 |
| LWCRACK | Integer | 4 | LWCRACK | LWCRACK | | | true | 6 | 0 |
| MDIST | SmallInteger | 2 | MDIST | MDIST | | | true | 4 | 0 |
| MEDIAN | String | 1 | MEDIAN | MEDIAN | | | true | | |
| MLEVEL | String | 1 | MLEVEL | MLEVEL | | | true | | |

| | | | | | | | | | |
|----------|--------------|----|----------|----------|--|--|------|---|---|
| NHS | String | 1 | NHS | NHS | | | true | | |
| ORIGKEY | String | 19 | ORIGKEY | ORIGKEY | | | true | | |
| OSHLDTHK | Single | 4 | OSHLDTHK | OSHLDTHK | | | true | 5 | 2 |
| OSHLDTIE | String | 1 | OSHLDTIE | OSHLDTIE | | | true | | |
| OSHLDTYP | String | 10 | OSHLDTYP | OSHLDTYP | | | true | | |
| OSHLDWID | Single | 4 | OSHLDWID | OSHLDWID | | | true | 3 | 1 |
| PATCHAB | Integer | 4 | PATCHAB | PATCHAB | | | true | 6 | 0 |
| PATCHAG | Integer | 4 | PATCHAG | PATCHAG | | | true | 6 | 0 |
| PATCHES | Single | 4 | PATCHES | PATCHES | | | true | 6 | 1 |
| PAVTHICK | Single | 4 | PAVTHICK | PAVTHICK | | | true | 5 | 2 |
| PAVECODE | String | 20 | PAVECODE | PAVECODE | | | true | | |
| PAVTYP | String | 2 | PAVTYP | PAVTYP | | | true | | |
| PCI_2 | SmallInteger | 2 | PCI_2 | PCI_2 | | | true | 3 | 0 |
| PCI_2DEF | String | 2 | PCI_2DEF | PCI_2DEF | | | true | | |
| PCLASS | SmallInteger | 2 | PCLASS | PCLASS | | | true | 4 | 0 |
| PIN | String | 60 | PIN | PIN | | | true | | |
| PMIS_ID | Integer | 4 | PMIS_ID | PMIS_ID | | | true | 8 | 0 |
| PMISYR | SmallInteger | 2 | PMISYR | PMISYR | | | true | 4 | 0 |
| PROGCOM | String | 25 | PROGCOM | PROGCOM | | | true | | |
| PROGRAM | SmallInteger | 2 | PROGRAM | PROGRAM | | | true | 4 | 0 |
| PROJECT1 | String | 60 | PROJECT1 | PROJECT1 | | | true | | |
| PROJECT2 | String | 60 | PROJECT2 | PROJECT2 | | | true | | |
| PROJECT3 | String | 60 | PROJECT3 | PROJECT3 | | | true | | |
| PROJECT4 | String | 60 | PROJECT4 | PROJECT4 | | | true | | |
| PROJECT5 | String | 60 | PROJECT5 | PROJECT5 | | | true | | |
| PROJECT6 | String | 60 | PROJECT6 | PROJECT6 | | | true | | |
| PROJECT7 | String | 60 | PROJECT7 | PROJECT7 | | | true | | |
| PROJECT8 | String | 60 | PROJECT8 | PROJECT8 | | | true | | |
| PROJTYP1 | String | 1 | PROJTYP1 | PROJTYP1 | | | true | | |
| PROJTYP2 | String | 1 | PROJTYP2 | PROJTYP2 | | | true | | |
| PROJTYP3 | String | 1 | PROJTYP3 | PROJTYP3 | | | true | | |
| PROJTYP4 | String | 1 | PROJTYP4 | PROJTYP4 | | | true | | |
| PROJTYP5 | String | 1 | PROJTYP5 | PROJTYP5 | | | true | | |
| PROJTYP6 | String | 1 | PROJTYP6 | PROJTYP6 | | | true | | |
| PROJTYP7 | String | 1 | PROJTYP7 | PROJTYP7 | | | true | | |
| PROJTYP8 | String | 1 | PROJTYP8 | PROJTYP8 | | | true | | |
| PROVIDER | String | 1 | PROVIDER | PROVIDER | | | true | | |
| RCURB | String | 1 | RCURB | RCURB | | | true | | |
| RDRDAT | Date | 8 | RDRDAT | RDRDAT | | | true | | |
| REMARKS1 | String | 26 | REMARKS1 | REMARKS1 | | | true | | |
| REMARKS2 | String | 26 | REMARKS2 | REMARKS2 | | | true | | |
| REMARKS3 | String | 26 | REMARKS3 | REMARKS3 | | | true | | |
| REMARKS4 | String | 26 | REMARKS4 | REMARKS4 | | | true | | |
| REMARKS5 | String | 26 | REMARKS5 | REMARKS5 | | | true | | |
| REMARKS6 | String | 26 | REMARKS6 | REMARKS6 | | | true | | |
| REMARKS7 | String | 26 | REMARKS7 | REMARKS7 | | | true | | |
| REMARKS8 | String | 26 | REMARKS8 | REMARKS8 | | | true | | |
| RESYR | SmallInteger | 2 | RESYR | RESYR | | | true | 4 | 0 |
| RMVTHK1 | Single | 4 | RMVTHK1 | RMVTHK1 | | | true | 5 | 2 |
| RMVTHK2 | Single | 4 | RMVTHK2 | RMVTHK2 | | | true | 5 | 2 |

| | | | | | | | | | |
|------------|--------------|----|------------|------------|--|--|------|---|---|
| RMVTHK3 | Single | 4 | RMVTHK3 | RMVTHK3 | | | true | 5 | 2 |
| RMVTHK4 | Single | 4 | RMVTHK4 | RMVTHK4 | | | true | 5 | 2 |
| RMVTHK5 | Single | 4 | RMVTHK5 | RMVTHK5 | | | true | 5 | 2 |
| RMVTHK6 | Single | 4 | RMVTHK6 | RMVTHK6 | | | true | 5 | 2 |
| RMVTHK7 | Single | 4 | RMVTHK7 | RMVTHK7 | | | true | 5 | 2 |
| RMVTHK8 | Single | 4 | RMVTHK8 | RMVTHK8 | | | true | 5 | 2 |
| RMVTYP1 | String | 3 | RMVTYP1 | RMVTYP1 | | | true | | |
| RMVTYP2 | String | 3 | RMVTYP2 | RMVTYP2 | | | true | | |
| RMVTYP3 | String | 3 | RMVTYP3 | RMVTYP3 | | | true | | |
| RMVTYP4 | String | 3 | RMVTYP4 | RMVTYP4 | | | true | | |
| RMVTYP5 | String | 3 | RMVTYP5 | RMVTYP5 | | | true | | |
| RMVTYP6 | String | 3 | RMVTYP6 | RMVTYP6 | | | true | | |
| RMVTYP7 | String | 3 | RMVTYP7 | RMVTYP7 | | | true | | |
| RMVTYP8 | String | 3 | RMVTYP8 | RMVTYP8 | | | true | | |
| ROUTE | SmallInteger | 2 | ROUTE | ROUTE | | | true | 3 | 0 |
| RUT | Single | 4 | RUT | RUT | | | true | 5 | 2 |
| RUT_INDX | SmallInteger | 2 | RUT_INDX | RUT_INDX | | | true | 3 | 0 |
| SLAB_CRACK | Single | 4 | SLAB_CRACK | SLAB_CRACK | | | true | 5 | 2 |
| SPECIAL | String | 1 | SPECIAL | SPECIAL | | | true | | |
| SPEED | SmallInteger | 2 | SPEED | SPEED | | | true | 2 | 0 |
| STRUC80 | Single | 4 | STRUC80 | STRUC80 | | | true | 5 | 2 |
| STRUCAV | Single | 4 | STRUCAV | STRUCAV | | | true | 5 | 2 |
| STRUCJTR | Single | 4 | STRUCJTR | STRUCJTR | | | true | 5 | 2 |
| SUBDMULT | String | 1 | SUBDMULT | SUBDMULT | | | true | | |
| SUBDPCT | SmallInteger | 2 | SUBDPCT | SUBDPCT | | | true | 3 | 0 |
| SUBDRAIN | String | 30 | SUBDRAIN | SUBDRAIN | | | true | | |
| SUBTHK1 | Single | 4 | SUBTHK1 | SUBTHK1 | | | true | 5 | 2 |
| SUBTHK2 | Single | 4 | SUBTHK2 | SUBTHK2 | | | true | 5 | 2 |
| SUBTHK3 | Single | 4 | SUBTHK3 | SUBTHK3 | | | true | 5 | 2 |
| SUBTHK4 | Single | 4 | SUBTHK4 | SUBTHK4 | | | true | 5 | 2 |
| SUBTHK5 | Single | 4 | SUBTHK5 | SUBTHK5 | | | true | 5 | 2 |
| SUBTHK6 | Single | 4 | SUBTHK6 | SUBTHK6 | | | true | 5 | 2 |
| SUBTHK7 | Single | 4 | SUBTHK7 | SUBTHK7 | | | true | 5 | 2 |
| SUBTHK8 | Single | 4 | SUBTHK8 | SUBTHK8 | | | true | 5 | 2 |
| SUBTYP1 | String | 3 | SUBTYP1 | SUBTYP1 | | | true | | |
| SUBTYP2 | String | 3 | SUBTYP2 | SUBTYP2 | | | true | | |
| SUBTYP3 | String | 3 | SUBTYP3 | SUBTYP3 | | | true | | |
| SUBTYP4 | String | 3 | SUBTYP4 | SUBTYP4 | | | true | | |
| SUBTYP5 | String | 3 | SUBTYP5 | SUBTYP5 | | | true | | |
| SUBTYP6 | String | 3 | SUBTYP6 | SUBTYP6 | | | true | | |
| SUBTYP7 | String | 3 | SUBTYP7 | SUBTYP7 | | | true | | |
| SUBTYP8 | String | 3 | SUBTYP8 | SUBTYP8 | | | true | | |
| SURFACE | SmallInteger | 2 | SURFACE | SURFACE | | | true | 2 | 0 |
| SURTHK1 | Single | 4 | SURTHK1 | SURTHK1 | | | true | 5 | 2 |
| SURTHK2 | Single | 4 | SURTHK2 | SURTHK2 | | | true | 5 | 2 |
| SURTHK3 | Single | 4 | SURTHK3 | SURTHK3 | | | true | 5 | 2 |
| SURTHK4 | Single | 4 | SURTHK4 | SURTHK4 | | | true | 5 | 2 |
| SURTHK5 | Single | 4 | SURTHK5 | SURTHK5 | | | true | 5 | 2 |
| SURTHK6 | Single | 4 | SURTHK6 | SURTHK6 | | | true | 5 | 2 |
| SURTHK7 | Single | 4 | SURTHK7 | SURTHK7 | | | true | 5 | 2 |

| | | | | | | | | | |
|------------|--------------|---|------------|------------|--|--|------|---|---|
| SURTHK8 | Single | 4 | SURTHK8 | SURTHK8 | | | true | 5 | 2 |
| SURTP1 | String | 3 | SURTP1 | SURTP1 | | | true | | |
| SURTP2 | String | 3 | SURTP2 | SURTP2 | | | true | | |
| SURTP3 | String | 3 | SURTP3 | SURTP3 | | | true | | |
| SURTP4 | String | 3 | SURTP4 | SURTP4 | | | true | | |
| SURTP5 | String | 3 | SURTP5 | SURTP5 | | | true | | |
| SURTP6 | String | 3 | SURTP6 | SURTP6 | | | true | | |
| SURTP7 | String | 3 | SURTP7 | SURTP7 | | | true | | |
| SURTP8 | String | 3 | SURTP8 | SURTP8 | | | true | | |
| SYSTEM | Integer | 4 | SYSTEM | SYSTEM | | | true | 8 | 0 |
| T_CRACK | Integer | 4 | T_CRACK | T_CRACK | | | true | 6 | 0 |
| T_INDX | SmallInteger | 2 | T_INDX | T_INDX | | | true | 3 | 0 |
| TCRACKH | Integer | 4 | TCRACKH | TCRACKH | | | true | 6 | 0 |
| TCRACKL | Integer | 4 | TCRACKL | TCRACKL | | | true | 6 | 0 |
| TCRACKM | Integer | 4 | TCRACKM | TCRACKM | | | true | 6 | 0 |
| TREATMNT | String | 2 | TREATMNT | TREATMNT | | | true | | |
| TREATYR | SmallInteger | 2 | TREATYR | TREATYR | | | true | 4 | 0 |
| TRUCKS | Integer | 4 | TRUCKS | TRUCKS | | | true | 7 | 0 |
| TRYR | SmallInteger | 2 | TRYR | TRYR | | | true | 4 | 0 |
| URBAN | SmallInteger | 2 | URBAN | URBAN | | | true | 3 | 0 |
| WDRIVELN | String | 1 | WDRIVELN | WDRIVELN | | | true | | |
| WIDTH | Single | 4 | WIDTH | WIDTH | | | true | 4 | 1 |
| FRIDATE | Date | 8 | FRIDATE | FRIDATE | | | true | | |
| IRIDATE | Date | 8 | IRIDATE | IRIDATE | | | true | | |
| SPEED_MODE | SmallInteger | 2 | SPEED_MODE | SPEED_MODE | | | true | 2 | 0 |
| SPEED_MIN | SmallInteger | 2 | SPEED_MIN | SPEED_MIN | | | true | 2 | 0 |
| CRACK_HPMS | Single | 4 | CRACK_HPMS | CRACK_HPMS | | | true | 5 | 2 |

SA_HPMSAMPLES_AND_FEDFUNC - Table

Name SA_HPMSAMPLES_AND_FEDFUNC
AliasName TDS_OUTPUT.SA_HPMSAMPLES_AND_FEDFUNC
HasAttachments false
Description SA_HPMSAMPLES_AND_FEDFUNC

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------------------------|----------|--------|-----------------------------|-----------------------------|--------|--------------|------------|-----------|-------|
| ID | String | 38 | ID | ID | | | false | | |
| ROUTEID | String | 15 | ROUTEID | ROUTEID | | | true | | |
| FROMMEASURE | Double | 8 | FROMMEASURE | FROMMEASURE | | | true | 13 | 8 |
| TOMEASURE | Double | 8 | TOMEASURE | TOMEASURE | | | true | 13 | 8 |
| HPMS_SAMPLE_ID | String | 12 | HPMS_SAMPLE_ID | HPMS_SAMPLE_ID | | | true | | |
| PREDOM_FED_FUNCTIONAL_CLASS | Integer | 4 | PREDOM_FED_FUNCTIONAL_CLASS | PREDOM_FED_FUNCTIONAL_CLASS | | | true | 5 | 0 |
| PREDOM_EXPANDED_AADT | Double | 8 | PREDOM_EXPANDED_AADT | PREDOM_EXPANDED_AADT | | | true | 10 | 2 |
| AVERAGE_EXPANSION_FACTOR | Single | 4 | AVERAGE_EXPANSION_FACTOR | AVERAGE_EXPANSION_FACTOR | | | true | 5 | 4 |

TRAFFIC_13CLASS - Table

Name TRAFFIC_13CLASS
AliasName TDS_OUTPUT.TRAFFIC_13CLASS
HasAttachments false
Description TRAFFIC_13CLASS

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-------------|----------|--------|-------------|-------------|--------|--------------|------------|-----------|-------|
| DATA_YEAR | Integer | 4 | DATA_YEAR | DATA_YEAR | | | true | 10 | 0 |
| DESCRIPTION | String | 50 | DESCRIPTION | DESCRIPTION | | | true | | |
| PCT_MC | Single | 4 | PCT_MC | PCT_MC | | | true | 5 | 4 |
| PCT_PC | Single | 4 | PCT_PC | PCT_PC | | | true | 5 | 4 |
| PCT_PU | Single | 4 | PCT_PU | PCT_PU | | | true | 5 | 4 |
| PCT_BUS | Single | 4 | PCT_BUS | PCT_BUS | | | true | 5 | 4 |
| PCT_SU2AXLE | Single | 4 | PCT_SU2AXLE | PCT_SU2AXLE | | | true | 5 | 4 |
| PCT_SU3AXLE | Single | 4 | PCT_SU3AXLE | PCT_SU3AXLE | | | true | 5 | 4 |
| PCT_SU4AXLE | Single | 4 | PCT_SU4AXLE | PCT_SU4AXLE | | | true | 5 | 4 |
| PCT_ST4AXLE | Single | 4 | PCT_ST4AXLE | PCT_ST4AXLE | | | true | 5 | 4 |
| PCT_ST5AXLE | Single | 4 | PCT_ST5AXLE | PCT_ST5AXLE | | | true | 5 | 4 |
| PCT_ST6AXLE | Single | 4 | PCT_ST6AXLE | PCT_ST6AXLE | | | true | 5 | 4 |
| PCT_MT5AXLE | Single | 4 | PCT_MT5AXLE | PCT_MT5AXLE | | | true | 5 | 4 |
| PCT_MT6AXLE | Single | 4 | PCT_MT6AXLE | PCT_MT6AXLE | | | true | 5 | 4 |
| PCT_MT7AXLE | Single | 4 | PCT_MT7AXLE | PCT_MT7AXLE | | | true | 5 | 4 |

USER_TRACKING - Table

Name USER_TRACKING
AliasName RAMS.USER_TRACKING
HasAttachments false
Description USER_TRACKING

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|---------------------------|----------|--------|---------------------------|---------------------------|--------|--------------|------------|-----------|-------|
| VN | String | 50 | VN | VN | | | true | | |
| MODDATE | Date | 8 | MODDATE | MODDATE | | | true | | |
| 'IDOTCENTRAL\jclemen' | Double | 8 | 'IDOTCENTRAL\jclemen' | 'IDOTCENTRAL\jclemen' | | | true | 38 | 10 |
| 'IDOTCENTRAL\JTaylo2' | Double | 8 | 'IDOTCENTRAL\JTaylo2' | 'IDOTCENTRAL\JTaylo2' | | | true | 38 | 10 |
| 'IDOTCENTRAL\yli' | Double | 8 | 'IDOTCENTRAL\yli' | 'IDOTCENTRAL\yli' | | | true | 38 | 10 |
| 'IDOTCENTRAL\kprasad' | Double | 8 | 'IDOTCENTRAL\kprasad' | 'IDOTCENTRAL\kprasad' | | | true | 38 | 10 |
| 'RWYLLIE' | Double | 8 | 'RWYLLIE' | 'RWYLLIE' | | | true | 38 | 10 |
| 'IDOTCENTRAL\alucius' | Double | 8 | 'IDOTCENTRAL\alucius' | 'IDOTCENTRAL\alucius' | | | true | 38 | 10 |
| 'IDOTCENTRAL\hdiaz' | Double | 8 | 'IDOTCENTRAL\hdiaz' | 'IDOTCENTRAL\hdiaz' | | | true | 38 | 10 |
| 'IDOTCENTRAL\PMAUER' | Double | 8 | 'IDOTCENTRAL\PMAUER' | 'IDOTCENTRAL\PMAUER' | | | true | 38 | 10 |
| 'RAMS' | Double | 8 | 'RAMS' | 'RAMS' | | | true | 38 | 10 |
| 'JDENKER' | Double | 8 | 'JDENKER' | 'JDENKER' | | | true | 38 | 10 |
| 'IDOTCENTRAL\rwyllie' | Double | 8 | 'IDOTCENTRAL\rwyllie' | 'IDOTCENTRAL\rwyllie' | | | true | 38 | 10 |
| 'IDOTCENTRAL\jdenker' | Double | 8 | 'IDOTCENTRAL\jdenker' | 'IDOTCENTRAL\jdenker' | | | true | 38 | 10 |
| 'IDOTCENTRAL\gscheib' | Double | 8 | 'IDOTCENTRAL\gscheib' | 'IDOTCENTRAL\gscheib' | | | true | 38 | 10 |
| 'IDOTCENTRAL\mclemen' | Double | 8 | 'IDOTCENTRAL\mclemen' | 'IDOTCENTRAL\mclemen' | | | true | 38 | 10 |
| 'IDOTCENTRAL\rpeugh' | Double | 8 | 'IDOTCENTRAL\rpeugh' | 'IDOTCENTRAL\rpeugh' | | | true | 38 | 10 |
| 'IDOTCENTRAL\NTGEORAMT\$' | Double | 8 | 'IDOTCENTRAL\NTGEORAMT\$' | 'IDOTCENTRAL\NTGEORAMT\$' | | | true | 38 | 10 |
| 'IDOTCENTRAL\jrenfro' | Double | 8 | 'IDOTCENTRAL\jrenfro' | 'IDOTCENTRAL\jrenfro' | | | true | 38 | 10 |
| 'IDOTCENTRAL\ramsap' | Double | 8 | 'IDOTCENTRAL\ramsap' | 'IDOTCENTRAL\ramsap' | | | true | 38 | 10 |
| 'JRENFRO' | Double | 8 | 'JRENFRO' | 'JRENFRO' | | | true | 38 | 10 |
| 'IDOTCENTRAL\acarman' | Double | 8 | 'IDOTCENTRAL\acarman' | 'IDOTCENTRAL\acarman' | | | true | 38 | 10 |
| 'IDOTCENTRAL\tsulli1' | Double | 8 | 'IDOTCENTRAL\tsulli1' | 'IDOTCENTRAL\tsulli1' | | | true | 38 | 10 |
| 'IDOTCENTRAL\akoethe' | Double | 8 | 'IDOTCENTRAL\akoethe' | 'IDOTCENTRAL\akoethe' | | | true | 38 | 10 |
| 'IDOTCENTRAL\rbuntin' | Double | 8 | 'IDOTCENTRAL\rbuntin' | 'IDOTCENTRAL\rbuntin' | | | true | 38 | 10 |

| | | | | | | | | | |
|-------------------------|--------|---|-------------------------|-------------------------|--|--|------|----|----|
| 'IDOTCENTRAL\jhuston' | Double | 8 | 'IDOTCENTRAL\jhuston' | 'IDOTCENTRAL\jhuston' | | | true | 38 | 10 |
| 'IDOTCENTRAL\vbrace' | Double | 8 | 'IDOTCENTRAL\vbrace' | 'IDOTCENTRAL\vbrace' | | | true | 38 | 10 |
| 'BATCH_FIX2' | Double | 8 | 'BATCH_FIX2' | 'BATCH_FIX2' | | | true | 38 | 10 |
| 'BATCH_FIX' | Double | 8 | 'BATCH_FIX' | 'BATCH_FIX' | | | true | 38 | 10 |
| 'sql_factor_primary_v1' | Double | 8 | 'sql_factor_primary_v1' | 'sql_factor_primary_v1' | | | true | 38 | 10 |

USER_TRACKING_2 - Table

Name USER_TRACKING_2
AliasName RAMS.USER_TRACKING_2
HasAttachments false
Description USER_TRACKING_2

| Field | DataType | Length | AliasName | Description | Domain | DefaultValue | IsNullable | Precision | Scale |
|-----------|----------|--------|-----------|-------------|--------|--------------|------------|-----------|-------|
| CNT | Double | 8 | CNT | CNT | | | true | 38 | 10 |
| USER_MOD | String | 100 | USER_MOD | USER_MOD | | | true | | |
| MODDATE | Date | 8 | MODDATE | MODDATE | | | true | | |
| VIEW_NAME | String | 32 | VIEW_NAME | VIEW_NAME | | | true | | |

ACCESS_CONTROL_ID - Domain

DomainName ACCESS_CONTROL_ID
Description ACCESS_CONTROL_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--|
| 1 | 1 - INTERSTATE AND FREEWAY |
| 2 | 2 - EXPRESSWAY |
| 3 | 3 - PLANNED WITH THROUGH TRAFFIC GIVEN PRIMARY CONSIDERATION |
| 4 | 4 - PLANNED WITH ALL TRAFFIC GIVEN EQUAL CONSIDERATION |

AGGREGATE_CLASS_ID - Domain

DomainName AGGREGATE_CLASS_ID
Description AGGREGATE_CLASS_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------------------|
| 1 | 1 = Class 1 Durability (<10 yrs) |
| 2 | 2 = Class 2 Durability (10-20 yrs) |
| 3 | 3 = Class 3 Durability (>20 yrs) |
| I | I = Class 3i Durability (20-30) |

AGGREGATE_TYPE_ID - Domain

DomainName AGGREGATE_TYPE_ID
Description AGGREGATE_TYPE_DESC

FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|---------|----------------------------|
| C.LST. | C.LST. = Crushed Limestone |
| GRAVEL | GRAVEL = Gravel |
| C.ST/GR | C.ST/GR |
| SLAG | SLAG |
| QUARTZ | QUARTZ |
| C.CON. | C.CON. CRUSHED CONCRETE |
| C.GRAVL | C.GRAVL CRUSHED GRAVEL |
| CR.ST. | CR.ST. CRUSHED STONE |
| STONE | STONE |
| CONC.ST | CONC.ST |
| C.LST/G | C.LST/G |
| C.LST/Q | C.LST/Q |
| C.QTZT | C.QTZT |
| BASALT | BASALT |
| CHIPS | CHIPS |
| DOLOM. | DOLOM. |
| DUST | DUST |
| GRANITE | GRANITE |
| SAND | SAND |

AT_GRADE_CROSSING_ID - Domain

DomainName AT_GRADE_CROSSING_ID
Description AT_GRADE_CROSSING_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------------|
| 1 | 1 - STOP SIGN |
| 2 | 2 - TRAFFIC SIGNAL |
| 3 | 3 - OTHER |

BASE_TYPE_ID - Domain

DomainName BASE_TYPE_ID
Description BASE_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------------|
| 1 | NO BASE |
| 2 | AGGREGATE |
| 3 | ASPHALT OR CEMENT STABILIZED |

| | |
|---|----------------------------------|
| 5 | HOT MIX AD (BITUMINOUS) |
| 6 | LEAN CONCRETE |
| 7 | STABILIZED OPEN-GRADED PERMEABLE |
| 8 | FRACTURED PCC |

CITY_NUMBER_ID - Domain

| | |
|--------------------|------------------|
| DomainName | CITY_NUMBER_ID |
| Description | CITY_NUMBER_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|-------------|
| 15 | ACKLEY |
| 17 | ACKWORTH |
| 22 | ADAIR |
| 35 | ADEL |
| 45 | AFTON |
| 50 | AGENCY |
| 52 | AINSWORTH |
| 55 | AKRON |
| 62 | ALBERT CITY |
| 65 | ALBIA |
| 70 | ALBION |
| 72 | ALBURNETT |
| 77 | ALDEN |
| 82 | ALEXANDER |
| 85 | ALGONA |
| 92 | ALLEMAN |
| 110 | ALLERTON |
| 112 | ALLISON |
| 125 | ALTA |
| 127 | ALTA VISTA |
| 130 | ALTON |
| 132 | ALTOONA |
| 135 | ALVORD |
| 155 | AMES |
| 165 | ANAMOSA |
| 170 | ANDOVER |
| 172 | ANDREW |
| 182 | ANITA |
| 187 | ANKENY |
| 192 | ANTHON |
| 195 | APLINGTON |
| 200 | ARCADIA |
| 202 | ARCHER |
| 207 | AREDALE |
| 215 | ARION |
| 217 | ARISPE |

| | |
|-----|--------------|
| 220 | ARLINGTON |
| 227 | ARMSTRONG |
| 232 | ARNOLDS PARK |
| 247 | ARTHUR |
| 252 | ASBURY |
| 265 | ASHTON |
| 272 | ASPINWALL |
| 277 | ATALISSA |
| 282 | ATKINS |
| 285 | ATLANTIC |
| 297 | AUBURN |
| 300 | AUDUBON |
| 310 | AURELIA |
| 315 | AURORA |
| 327 | AVOCA |
| 335 | AYRSHIRE |
| 345 | BADGER |
| 352 | BAGLEY |
| 367 | BALDWIN |
| 375 | BALLTOWN |
| 380 | BANCROFT |
| 385 | BANKSTON |
| 407 | BARNES CITY |
| 412 | BARNUM |
| 420 | BASSETT |
| 422 | BATAVIA |
| 425 | BATTLE CREEK |
| 432 | BAXTER |
| 437 | BAYARD |
| 452 | BEACON |
| 455 | BEACONSFIELD |
| 460 | BEAMAN |
| 470 | BEAVER |
| 487 | BEDFORD |
| 515 | BELLE PLAINE |
| 520 | BELLEVUE |
| 527 | BELMOND |
| 535 | BENNETT |
| 547 | BENTON |
| 562 | BERKLEY |
| 565 | BERNARD |
| 575 | BERTRAM |
| 587 | BETTENDORF |
| 595 | BEVINGTON |
| 652 | BIRMINGHAM |
| 672 | BLAIRSBURG |
| 675 | BLAIRSTOWN |
| 677 | BLAKESBURG |
| 682 | BLANCHARD |
| 687 | BLENCOE |

| | |
|------|-----------------|
| 697 | BLOCKTON |
| 702 | BLOOMFIELD |
| 707 | BLUE GRASS |
| 722 | BODE |
| 740 | BONAPARTE |
| 747 | BONDURANT |
| 750 | BOONE |
| 765 | BOUTON |
| 775 | BOXHOLM |
| 785 | BOYDEN |
| 792 | BRADDYVILLE |
| 800 | BRADGATE |
| 807 | BRANDON |
| 812 | BRAYTON |
| 817 | BREDA |
| 837 | BRIDGEWATER |
| 842 | BRIGHTON |
| 855 | BRISTOW |
| 857 | BRITT |
| 867 | BRONSON |
| 870 | BROOKLYN |
| 905 | BRUNSVILLE |
| 935 | BUCK GROVE |
| 937 | BUCKEYE |
| 952 | BUFFALO |
| 957 | BUFFALO CENTER |
| 977 | BURLINGTON |
| 990 | BURT |
| 997 | BUSSEY |
| 1015 | CALAMUS |
| 1027 | CALLENDER |
| 1030 | CALMAR |
| 1037 | CALUMET |
| 1040 | CAMANCHE |
| 1045 | CAMBRIDGE |
| 1080 | CANTRIL |
| 1087 | CARBON |
| 1105 | CARLISLE |
| 1122 | CARPENTER |
| 1125 | CARROLL |
| 1140 | CARSON |
| 1142 | CARTER LAKE |
| 1147 | CASCADE |
| 1152 | CASEY |
| 1162 | CASTALIA |
| 1165 | CASTANA |
| 1185 | CEDAR FALLS |
| 1187 | CEDAR RAPIDS |
| 1197 | CENTER JUNCTION |
| 1205 | CENTER POINT |

| | |
|------|-------------------|
| 1210 | CENTERVILLE |
| 1217 | CENTRAL CITY |
| 1225 | CENTRALIA |
| 1237 | CHARITON |
| 1242 | CHARLES CITY |
| 1250 | CHARLOTTE |
| 1252 | CHARTER OAK |
| 1255 | CHATSWORTH |
| 1265 | CHELSEA |
| 1272 | CHEROKEE |
| 1277 | CHESTER |
| 1300 | CHILLICOTHE |
| 1317 | CHURDAN |
| 1320 | CINCINNATI |
| 1327 | CLARE |
| 1330 | CLARENCE |
| 1332 | CLARINDA |
| 1337 | CLARION |
| 1347 | CLARKSVILLE |
| 1362 | CLAYTON |
| 1372 | CLEAR LAKE |
| 1385 | CLEARFIELD |
| 1387 | CLEGHORN |
| 1390 | CLEMONS |
| 1395 | CLERMONT |
| 1415 | CLINTON |
| 1422 | CLIO |
| 1425 | CLIVE |
| 1430 | CLUTIER |
| 1447 | COBURG |
| 1452 | COGGON |
| 1455 | COIN |
| 1465 | COLESBURG |
| 1467 | COLFAX |
| 1472 | COLLEGE SPRINGS |
| 1477 | COLLINS |
| 1480 | COLO |
| 1487 | COLUMBUS CITY |
| 1490 | COLUMBUS JUNCTION |
| 1492 | COLWELL |
| 1510 | CONESVILLE |
| 1525 | CONRAD |
| 1535 | CONWAY |
| 1542 | COON RAPIDS |
| 1550 | COPPOCK |
| 1557 | CORALVILLE |
| 1590 | CORNING |
| 1595 | CORRECTIONVILLE |
| 1597 | CORWITH |
| 1602 | CORYDON |

| | |
|------|----------------|
| 1625 | COTTER |
| 1640 | COULTER |
| 1642 | COUNCIL BLUFFS |
| 1682 | CRAIG |
| 1695 | CRAWFORDSVILLE |
| 1700 | CRESCENT |
| 1705 | CRESCO |
| 1710 | CRESTON |
| 1725 | CROMWELL |
| 1747 | CRYSTAL LAKE |
| 1755 | CUMBERLAND |
| 1757 | CUMMING |
| 1762 | CURLEW |
| 1770 | CUSHING |
| 1775 | CYLINDER |
| 1787 | DAKOTA CITY |
| 1802 | DALLAS CENTER |
| 1815 | DANA |
| 1817 | DANBURY |
| 1822 | DANVILLE |
| 1827 | DAVENPORT |
| 1835 | DAVIS CITY |
| 1840 | DAWSON |
| 1845 | DAYTON |
| 1850 | DE SOTO |
| 1855 | DE WITT |
| 1862 | DECATUR CITY |
| 1867 | DECORAH |
| 1872 | DEDHAM |
| 1875 | DEEP RIVER |
| 1887 | DEFIANCE |
| 1900 | DELAWARE |
| 1902 | DELHI |
| 1905 | DELMAR |
| 1907 | DELOIT |
| 1910 | DELPHOS |
| 1912 | DELTA |
| 1920 | DENISON |
| 1935 | DENVER |
| 1942 | DERBY |
| 1945 | DES MOINES |
| 1972 | DEXTER |
| 1975 | DIAGONAL |
| 1987 | DICKENS |
| 1997 | DIKE |
| 2005 | DIXON |
| 2025 | DOLLIVER |
| 2032 | DONAHUE |
| 2040 | DONNELLSON |
| 2042 | DOON |

| | |
|------|-----------------|
| 2060 | DOUGHERTY |
| 2072 | DOW CITY |
| 2080 | DOWS |
| 2085 | DRAKESVILLE |
| 2100 | DUBUQUE |
| 2120 | DUMONT |
| 2130 | DUNCOMBE |
| 2132 | DUNDEE |
| 2140 | DUNKERTON |
| 2142 | DUNLAP |
| 2150 | DURANGO |
| 2152 | DURANT |
| 2160 | DYERSVILLE |
| 2162 | DYSART |
| 2170 | EAGLE GROVE |
| 2190 | EARLHAM |
| 2195 | EARLING |
| 2197 | EARLVILLE |
| 2200 | EARLY |
| 2215 | EAST PERU |
| 2240 | EDDYVILLE |
| 2247 | EDGEWOOD |
| 2267 | ELBERON |
| 2275 | ELDON |
| 2280 | ELDORA |
| 2290 | ELDRIDGE |
| 2297 | ELGIN |
| 2305 | ELK HORN |
| 2312 | ELK RUN HEIGHTS |
| 2315 | ELKADER |
| 2320 | ELKHART |
| 2322 | ELKPORT |
| 2335 | ELLIOTT |
| 2352 | ELLSTON |
| 2355 | ELLSWORTH |
| 2365 | ELMA |
| 2382 | ELY |
| 2387 | EMERSON |
| 2395 | EMMETSBURG |
| 2405 | EPWORTH |
| 2412 | ESSEX |
| 2417 | ESTHERVILLE |
| 2432 | EVANSDALE |
| 2442 | EVERLY |
| 2452 | EXIRA |
| 2455 | EXLINE |
| 2460 | FAIRBANK |
| 2462 | FAIRFAX |
| 2465 | FAIRFIELD |
| 2497 | FARLEY |

| | |
|------|----------------|
| 2505 | FARMERSBURG |
| 2507 | FARMINGTON |
| 2512 | FARNHAMVILLE |
| 2515 | FARRAGUT |
| 2525 | FAYETTE |
| 2530 | FENTON |
| 2532 | FERGUSON |
| 2547 | FERTILE |
| 2620 | FLORIS |
| 2625 | FLOYD |
| 2642 | FONDA |
| 2647 | FONTANELLE |
| 2660 | FOREST CITY |
| 2680 | FORT ATKINSON |
| 2690 | FORT DODGE |
| 2697 | FORT MADISON |
| 2712 | FOSTORIA |
| 2737 | FRANKLIN |
| 2745 | FRASER |
| 2750 | FREDERICKSBURG |
| 2752 | FREDERIKA |
| 2755 | FREDONIA |
| 2762 | FREMONT |
| 2780 | FRUITLAND |
| 2802 | GALT |
| 2805 | GALVA |
| 2815 | GARBER |
| 2820 | GARDEN GROVE |
| 2835 | GARNAVILLO |
| 2837 | GARNER |
| 2845 | GARRISON |
| 2850 | GARWIN |
| 2865 | GENEVA |
| 2875 | GEORGE |
| 2895 | GIBSON |
| 2902 | GILBERT |
| 2905 | GILBERTVILLE |
| 2912 | GILLETT GROVE |
| 2920 | GILMAN |
| 2922 | GILMORE CITY |
| 2932 | GLADBROOK |
| 2955 | GLENWOOD |
| 2962 | GLIDDEN |
| 2972 | GOLDFIELD |
| 2977 | GOODELL |
| 2980 | GOOSE LAKE |
| 3007 | GOWRIE |
| 3015 | GRAETTINGER |
| 3017 | GRAF |
| 3020 | GRAFTON |

| | |
|------|----------------|
| 3030 | GRAND JUNCTION |
| 3032 | GRAND MOUND |
| 3035 | GRAND RIVER |
| 3040 | GRANDVIEW |
| 3042 | GRANGER |
| 3052 | GRANT |
| 3062 | GRANVILLE |
| 3070 | GRAVITY |
| 3072 | GRAY |
| 3080 | GREELEY |
| 3102 | GREENE |
| 3107 | GREENFIELD |
| 3112 | GREENVILLE |
| 3125 | GRIMES |
| 3127 | GRINNELL |
| 3132 | GRISWOLD |
| 3142 | GRUNDY CENTER |
| 3147 | GRUVER |
| 3150 | GUERNSEY |
| 3162 | GUTHRIE CENTER |
| 3167 | GUTTENBERG |
| 3192 | HALBUR |
| 3212 | HAMBURG |
| 3217 | HAMILTON |
| 3222 | HAMPTON |
| 3230 | HANCOCK |
| 3240 | HANLONTOWN |
| 3252 | HANSELL |
| 3257 | HARCOURT |
| 3270 | HARDY |
| 3275 | HARLAN |
| 3285 | HARPER |
| 3287 | HARPERS FERRY |
| 3290 | HARRIS |
| 3300 | HARTFORD |
| 3305 | HARTLEY |
| 3310 | HARTWICK |
| 3315 | HARVEY |
| 3322 | HASTINGS |
| 3335 | HAVELOCK |
| 3340 | HAVERHILL |
| 3345 | HAWARDEN |
| 3350 | HAWKEYE |
| 3365 | HAYESVILLE |
| 3385 | HAZLETON |
| 3395 | HEDRICK |
| 3405 | HENDERSON |
| 3415 | HEPBURN |
| 3432 | HIAWATHA |
| 3472 | HILLS |

| | |
|------|------------------|
| 3475 | HILLSBORO |
| 3485 | HINTON |
| 3505 | HOLLAND |
| 3515 | HOLSTEIN |
| 3520 | HOLY CROSS |
| 3542 | HOPKINTON |
| 3547 | HORNICK |
| 3557 | HOSPERS |
| 3562 | HOUGHTON |
| 3575 | HUBBARD |
| 3577 | HUDSON |
| 3590 | HULL |
| 3595 | HUMBOLDT |
| 3602 | HUMESTON |
| 3630 | HUXLEY |
| 3650 | IDA GROVE |
| 3660 | IMOGENE |
| 3665 | INDEPENDENCE |
| 3680 | INDIANOLA |
| 3700 | INWOOD |
| 3710 | IONIA |
| 3715 | IOWA CITY |
| 3720 | IOWA FALLS |
| 3742 | IRETON |
| 3755 | IRWIN |
| 3772 | JACKSON JUNCTION |
| 3782 | JAMAICA |
| 3792 | JANESVILLE |
| 3800 | JEFFERSON |
| 3817 | JESUP |
| 3820 | JEWELL |
| 3827 | JOHNSTON |
| 3830 | JOICE |
| 3835 | JOLLEY |
| 3870 | KALONA |
| 3875 | KAMRAR |
| 3877 | KANAWHA |
| 3892 | KELLERTON |
| 3895 | KELLEY |
| 3897 | KELLOGG |
| 3927 | KENSETT |
| 3942 | KEOKUK |
| 3948 | KEOMAH VILLAGE |
| 3950 | KEOSAUQUA |
| 3952 | KEOTA |
| 3960 | KESWICK |
| 3972 | KEYSTONE |
| 3985 | KIMBALLTON |
| 3992 | KINGSLEY |
| 4000 | KINROSS |

| | |
|------|---------------|
| 4002 | KIRKMAN |
| 4005 | KIRKVILLE |
| 4010 | KIRON |
| 4012 | KLEMME |
| 4025 | KNIERIM |
| 4040 | KNOXVILLE |
| 4080 | LA MOTTE |
| 4082 | LA PORTE CITY |
| 4092 | LACONA |
| 4100 | LADORA |
| 4110 | LAKE CITY |
| 4135 | LAKE MILLS |
| 4150 | LAKE PARK |
| 4157 | LAKE VIEW |
| 4170 | LAKESIDE |
| 4182 | LAKOTA |
| 4185 | LAMBS GROVE |
| 4187 | LAMONI |
| 4190 | LAMONT |
| 4195 | LANESBORO |
| 4205 | LANSING |
| 4212 | LARCHWOOD |
| 4222 | LARRABEE |
| 4230 | LATIMER |
| 4237 | LAUREL |
| 4240 | LAURENS |
| 4245 | LAWLER |
| 4250 | LAWTON |
| 4252 | LE CLAIRE |
| 4255 | LE GRAND |
| 4257 | LE MARS |
| 4262 | LE ROY |
| 4280 | LEDYARD |
| 4290 | LEHIGH |
| 4292 | LEIGHTON |
| 4297 | LELAND |
| 4305 | LENOX |
| 4307 | LEON |
| 4315 | LESTER |
| 4317 | LETTS |
| 4325 | LEWIS |
| 4345 | LIBERTYVILLE |
| 4350 | LIDDERDALE |
| 4367 | LIME SPRINGS |
| 4377 | LINCOLN |
| 4382 | LINDEN |
| 4392 | LINEVILLE |
| 4395 | LINN GROVE |
| 4410 | LISBON |
| 4412 | LISCOMB |

| | |
|------|----------------------|
| 4427 | LITTLE ROCK |
| 4430 | LITTLE SIOUX |
| 4457 | LIVERMORE |
| 4477 | LOCKRIDGE |
| 4482 | LOGAN |
| 4487 | LOHRVILLE |
| 4490 | LONE ROCK |
| 4492 | LONE TREE |
| 4497 | LONG GROVE |
| 4515 | LORIMOR |
| 4525 | LOST NATION |
| 4545 | LOVILIA |
| 4552 | LOW MOOR |
| 4555 | LOWDEN |
| 4595 | LU VERNE |
| 4565 | LUANA |
| 4570 | LUCAS |
| 4587 | LUTHER |
| 4597 | LUXEMBURG |
| 4600 | LUZERNE |
| 4612 | LYNNVILLE |
| 4620 | LYTTON |
| 4625 | MACEDONIA |
| 4630 | MACKSBURG |
| 4640 | MADRID |
| 4647 | MAGNOLIA |
| 4650 | MAHARISHI VEDIC CITY |
| 4655 | MALCOM |
| 4657 | MALLARD |
| 4667 | MALOY |
| 4672 | MALVERN |
| 4682 | MANCHESTER |
| 4695 | MANILLA |
| 4697 | MANLY |
| 4702 | MANNING |
| 4710 | MANSON |
| 4737 | MAPLETON |
| 4742 | MAQUOKETA |
| 4750 | MARATHON |
| 4757 | MARBLE ROCK |
| 4762 | MARCUS |
| 4765 | MARENGO |
| 4775 | MARION |
| 4780 | MARNE |
| 4782 | MARQUETTE |
| 4797 | MARSHALLTOWN |
| 4802 | MARTELLE |
| 4805 | MARTENSDALE |
| 4812 | MARTINSBURG |
| 4820 | MARYSVILLE |

| | |
|------|-----------------|
| 4822 | MASON CITY |
| 4830 | MASONVILLE |
| 4832 | MASSENA |
| 4847 | MATLOCK |
| 4857 | MAURICE |
| 4865 | MAXWELL |
| 4870 | MAYNARD |
| 4872 | MAYSVILLE |
| 4880 | MCCALLSBURG |
| 4882 | MCCAUSLAND |
| 4885 | MCCLELLAND |
| 4892 | MCGREGOR |
| 4900 | MCINTIRE |
| 4922 | MECHANICSVILLE |
| 4930 | MEDIAPOLIS |
| 4935 | MELBOURNE |
| 4937 | MELCHER-DALLAS |
| 4945 | MELROSE |
| 4950 | MELVIN |
| 4952 | MENLO |
| 4962 | MERIDEN |
| 4975 | MERRILL |
| 4985 | MESERVEY |
| 5035 | MIDDLETOWN |
| 5052 | MILES |
| 5057 | MILFORD |
| 5075 | MILLERSBURG |
| 5077 | MILLERTON |
| 5085 | MILLVILLE |
| 5087 | MILO |
| 5092 | MILTON |
| 5095 | MINBURN |
| 5097 | MINDEN |
| 5110 | MINGO |
| 5130 | MISSOURI VALLEY |
| 5135 | MITCHELL |
| 5137 | MITCHELLVILLE |
| 5142 | MODALE |
| 5152 | MONDAMIN |
| 5160 | MONMOUTH |
| 5162 | MONONA |
| 5165 | MONROE |
| 5172 | MONTEZUMA |
| 5182 | MONTICELLO |
| 5190 | MONTOUR |
| 5195 | MONTROSE |
| 5205 | MOORHEAD |
| 5207 | MOORLAND |
| 5212 | MORAVIA |
| 5225 | MORLEY |

| | |
|------|-------------------|
| 5227 | MORNING SUN |
| 5235 | MORRISON |
| 5252 | MOULTON |
| 5257 | MOUNT AUBURN |
| 5262 | MOUNT AYR |
| 5292 | MOUNT PLEASANT |
| 5297 | MOUNT STERLING |
| 5300 | MOUNT UNION |
| 5302 | MOUNT VERNON |
| 5307 | MOVILLE |
| 5327 | MURRAY |
| 5330 | MUSCATINE |
| 5357 | MYSTIC |
| 5375 | NASHUA |
| 5392 | NEMAHA |
| 5397 | NEOLA |
| 5405 | NEVADA |
| 5412 | NEW ALBIN |
| 5427 | NEW HAMPTON |
| 5432 | NEW HARTFORD |
| 5437 | NEW LIBERTY |
| 5440 | NEW LONDON |
| 5442 | NEW MARKET |
| 5447 | NEW PROVIDENCE |
| 5450 | NEW SHARON |
| 5452 | NEW VIENNA |
| 5455 | NEW VIRGINIA |
| 5470 | NEWELL |
| 5472 | NEWHALL |
| 5482 | NEWTON |
| 5490 | NICHOLS |
| 5517 | NODAWAY |
| 5527 | NORA SPRINGS |
| 5547 | NORTH BUENA VISTA |
| 5555 | NORTH ENGLISH |
| 5557 | NORTH LIBERTY |
| 5565 | NORTH WASHINGTON |
| 5570 | NORTHBORO |
| 5580 | NORTHWOOD |
| 5587 | NORWALK |
| 5590 | NORWAY |
| 5607 | NUMA |
| 5630 | OAKLAND |
| 5631 | OAKLAND ACRES |
| 5642 | OAKVILLE |
| 5650 | OCHEYEDAN |
| 5655 | ODEBOLT |
| 5657 | OELWEIN |
| 5662 | OGDEN |
| 5667 | OKOBOJI |

| | |
|------|------------------|
| 5682 | OLDS |
| 5687 | OLIN |
| 5692 | OLLIE |
| 5700 | ONAWA |
| 5720 | ONSLow |
| 5732 | ORANGE CITY |
| 5737 | ORCHARD |
| 5742 | ORIENT |
| 5747 | ORLEANS |
| 5760 | OSAGE |
| 5772 | OSCEOLA |
| 5780 | OSKALOOSA |
| 5785 | OSSIAN |
| 5787 | OSTERDOCK |
| 5792 | OTHO |
| 5800 | OTO |
| 5822 | OTTOSEN |
| 5825 | OTTUMWA |
| 5832 | OWASA |
| 5845 | OXFORD |
| 5847 | OXFORD JUNCTION |
| 5852 | OYENS |
| 5860 | PACIFIC JUNCTION |
| 5865 | PACKWOOD |
| 5880 | PALMER |
| 5887 | PALO |
| 5897 | PANAMA |
| 5900 | PANORA |
| 5902 | PANORAMA PARK |
| 5915 | PARKERSBURG |
| 5917 | PARNELL |
| 5920 | PATON |
| 5922 | PATTERSON |
| 5927 | PAULLINA |
| 5947 | PELLA |
| 5957 | PEOSTA |
| 5970 | PERRY |
| 5980 | PERSIA |
| 5990 | PETERSON |
| 6012 | PIERSON |
| 6040 | PILOT MOUND |
| 6062 | PIONEER |
| 6072 | PISGAH |
| 6082 | PLAINFIELD |
| 6087 | PLANO |
| 6102 | PLEASANT HILL |
| 6112 | PLEASANT PLAIN |
| 6122 | PLEASANTON |
| 6125 | PLEASANTVILLE |
| 6130 | PLOVER |

| | |
|------|---------------|
| 6142 | PLYMOUTH |
| 6150 | POCAHONTAS |
| 6170 | POLK CITY |
| 6175 | POMEROY |
| 6180 | POPEJOY |
| 6195 | PORTSMOUTH |
| 6197 | POSTVILLE |
| 6207 | PRAIRIE CITY |
| 6222 | PRAIRIEBURG |
| 6232 | PRESCOTT |
| 6235 | PRESTON |
| 6240 | PRIMGHAR |
| 6247 | PRINCETON |
| 6255 | PROMISE CITY |
| 6257 | PROTIVIN |
| 6265 | PULASKI |
| 6282 | QUASQUETON |
| 6287 | QUIMBY |
| 6297 | RADCLIFFE |
| 6307 | RAKE |
| 6312 | RALSTON |
| 6317 | RANDALIA |
| 6320 | RANDALL |
| 6322 | RANDOLPH |
| 6332 | RATHBUN |
| 6342 | RAYMOND |
| 6345 | READLYN |
| 6347 | REASNOR |
| 6360 | RED OAK |
| 6377 | REDDING |
| 6380 | REDFIELD |
| 6397 | REINBECK |
| 6405 | REMBRANDT |
| 6407 | REMSEN |
| 6410 | RENWICK |
| 6422 | RHODES |
| 6427 | RICEVILLE |
| 6437 | RICHLAND |
| 6447 | RICKARDSVILLE |
| 6450 | RICKETTS |
| 6457 | RIDGEWAY |
| 6467 | RINARD |
| 6472 | RINGSTED |
| 6475 | RIPPEY |
| 6492 | RIVERDALE |
| 6495 | RIVERSIDE |
| 6497 | RIVERTON |
| 6520 | ROBINS |
| 6537 | ROCK FALLS |
| 6542 | ROCK RAPIDS |

| | |
|------|----------------|
| 6550 | ROCK VALLEY |
| 6567 | ROCKFORD |
| 6575 | ROCKWELL |
| 6577 | ROCKWELL CITY |
| 6585 | RODMAN |
| 6587 | RODNEY |
| 6597 | ROLAND |
| 6600 | ROLFE |
| 6610 | ROME |
| 6615 | ROSE HILL |
| 6630 | ROSSIE |
| 6650 | ROWAN |
| 6652 | ROWLEY |
| 6655 | ROYAL |
| 6670 | RUDD |
| 6675 | RUNNELLS |
| 0 | RURAL |
| 6687 | RUSSELL |
| 6692 | RUTHVEN |
| 6695 | RUTLAND |
| 6700 | RYAN |
| 6705 | SABULA |
| 6717 | SAC CITY |
| 6732 | SAGEVILLE |
| 6735 | SAINT ANSGAR |
| 6737 | SAINT ANTHONY |
| 6742 | SAINT CHARLES |
| 6745 | SAINT DONATUS |
| 6750 | SAINT LUCAS |
| 6752 | SAINT MARYS |
| 6755 | SAINT OLAF |
| 6757 | SAINT PAUL |
| 6762 | SALEM |
| 6770 | SALIX |
| 6775 | SANBORN |
| 6790 | SANDYVILLE |
| 6830 | SCARVILLE |
| 6832 | SCHALLER |
| 6840 | SCHLESWIG |
| 6865 | SCRANTON |
| 6867 | SEARSBORO |
| 6890 | SERGEANT BLUFF |
| 6907 | SEYMOUR |
| 6917 | SHAMBAUGH |
| 6920 | SHANNON CITY |
| 6932 | SHARPSBURG |
| 6940 | SHEFFIELD |
| 6945 | SHELBY |
| 6947 | SHELDAHL |
| 6950 | SHELDON |

| | |
|------|------------------|
| 6955 | SHELL ROCK |
| 6962 | SHELLSBURG |
| 6965 | SHENANDOAH |
| 6982 | SHERRILL |
| 7007 | SHUEYVILLE |
| 7012 | SIBLEY |
| 7017 | SIDNEY |
| 7027 | SIGOURNEY |
| 7030 | SILVER CITY |
| 7055 | SIOUX CENTER |
| 7057 | SIOUX CITY |
| 7062 | SIOUX RAPIDS |
| 7075 | SLATER |
| 7085 | SLOAN |
| 7092 | SMITHLAND |
| 7125 | SOLDIER |
| 7130 | SOLOM |
| 7135 | SOMERS |
| 7152 | SOUTH ENGLISH |
| 7170 | SPENCER |
| 7180 | SPILLVILLE |
| 7185 | SPIRIT LAKE |
| 7202 | SPRAGUEVILLE |
| 7210 | SPRING HILL |
| 7225 | SPRINGBROOK |
| 7237 | SPRINGVILLE |
| 7250 | STACYVILLE |
| 7257 | STANHOPE |
| 7260 | STANLEY |
| 7262 | STANTON |
| 7265 | STANWOOD |
| 7272 | STATE CENTER |
| 7357 | STEAMBOAT ROCK |
| 7402 | STOCKPORT |
| 7405 | STOCKTON |
| 7422 | STORM LAKE |
| 7430 | STORY CITY |
| 7432 | STOUT |
| 7440 | STRATFORD |
| 7442 | STRAWBERRY POINT |
| 7455 | STRUBLE |
| 7457 | STUART |
| 7467 | SULLY |
| 7490 | SUMNER |
| 7505 | SUPERIOR |
| 7507 | SUTHERLAND |
| 7512 | SWALEDALE |
| 7515 | SWAN |
| 7535 | SWEA CITY |
| 7545 | SWISHER |

| | |
|------|--------------------|
| 7555 | TABOR |
| 7575 | TAMA |
| 7597 | TEMPLETON |
| 7602 | TENNANT |
| 7617 | TERRIL |
| 7622 | THAYER |
| 7635 | THOMPSON |
| 7637 | THOR |
| 7640 | THORNBURG |
| 7642 | THORNTON |
| 7657 | THURMAN |
| 7662 | TIFFIN |
| 7672 | TINGLEY |
| 7677 | TIPTON |
| 7680 | TITONKA |
| 7692 | TOLEDO |
| 7702 | TORONTO |
| 7710 | TRAER |
| 7727 | TREYNOR |
| 7735 | TRIPOLI |
| 7752 | TRUESDALE |
| 7757 | TRURO |
| 7760 | TURIN |
| 7825 | UDELL |
| 7830 | UNDERWOOD |
| 7832 | UNION |
| 7845 | UNIONVILLE |
| 7855 | UNIVERSITY HEIGHTS |
| 7860 | UNIVERSITY PARK |
| 7872 | URBANA |
| 7875 | URBANDALE |
| 7920 | UTE |
| 7927 | VAIL |
| 7932 | VALERIA |
| 7952 | VAN HORNE |
| 7957 | VAN METER |
| 7960 | VAN WERT |
| 7965 | VARINA |
| 7967 | VENTURA |
| 7990 | VICTOR |
| 8002 | VILLISCA |
| 8010 | VINCENT |
| 8012 | VINING |
| 8017 | VINTON |
| 8032 | VOLGA CITY |
| 8045 | WADENA |
| 8050 | WAHPETON |
| 8052 | WALCOTT |
| 8060 | WALFORD |
| 8062 | WALKER |

| | |
|------|-----------------|
| 8065 | WALL LAKE |
| 8085 | WALLINGFORD |
| 8087 | WALNUT |
| 8107 | WAPELLO |
| 8140 | WASHINGTON |
| 8150 | WASHTA |
| 8155 | WATERLOO |
| 8160 | WATERVILLE |
| 8175 | WAUCOMA |
| 8177 | WAUKEE |
| 8180 | WAUKON |
| 8190 | WAVERLY |
| 8197 | WAYLAND |
| 8205 | WEBB |
| 8207 | WEBSTER |
| 8212 | WEBSTER CITY |
| 8217 | WELDON |
| 8222 | WELLMAN |
| 8227 | WELLSBURG |
| 8235 | WELTON |
| 8242 | WESLEY |
| 8250 | WEST BEND |
| 8252 | WEST BRANCH |
| 8255 | WEST BURLINGTON |
| 8257 | WEST CHESTER |
| 8260 | WEST DES MOINES |
| 8275 | WEST LIBERTY |
| 8280 | WEST OKOBOJI |
| 8290 | WEST POINT |
| 8295 | WEST UNION |
| 8305 | WESTFIELD |
| 8307 | WESTGATE |
| 8312 | WESTPHALIA |
| 8315 | WESTSIDE |
| 8319 | WESTWOOD |
| 8322 | WHAT CHEER |
| 8325 | WHEATLAND |
| 8365 | WHITING |
| 8370 | WHITTEMORE |
| 8375 | WHITTEN |
| 8422 | WILLEY |
| 8425 | WILLIAMS |
| 8427 | WILLIAMSBURG |
| 8432 | WILLIAMSON |
| 8471 | WILTON |
| 8477 | WINDSOR HEIGHTS |
| 8480 | WINFIELD |
| 8497 | WINTERSET |
| 8502 | WINTHROP |
| 8505 | WIOTA |

| | |
|------|-------------|
| 8517 | WODEN |
| 8525 | WOODBINE |
| 8530 | WOODBURN |
| 8545 | WOODWARD |
| 8550 | WOOLSTOCK |
| 8552 | WORTHINGTON |
| 8562 | WYOMING |
| 8565 | YALE |
| 8587 | YETTER |
| 8602 | YORKTOWN |
| 8612 | ZEARING |
| 8637 | ZWINGLE |

COMMERCIAL_NETWORK_ID - Domain

DomainName COMMERCIAL_NETWORK_ID
Description COMMERCIAL_NETWORK_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------|
| 1 | 1 - COMMERCIAL NETWORK |

COST_GROUP_ID - Domain

DomainName COST_GROUP_ID
Description COST_GROUP_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------------------------------|
| 0 | 0 - RURAL AGRICULTURAL ON BOTH SIDES |
| 1 | 1 - LOW COST |
| 2 | 2 - AVERAGE COST |
| 3 | 3 - HIGH COST |

COUNTY_NUMBER_ID - Domain

DomainName COUNTY_NUMBER_ID
Description COUNTY_NUMBER_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------|
| 1 | 1 - ADAIR |
| 2 | 2 - ADAMS |
| 3 | 3 - ALLAMAKEE |

| | |
|----|------------------|
| 4 | 4 - APPANOOSE |
| 5 | 5 - AUDUBON |
| 6 | 6 - BENTON |
| 7 | 7 - BLACK HAWK |
| 8 | 8 - BOONE |
| 9 | 9 - BREMER |
| 10 | 10 - BUCHANAN |
| 11 | 11 - BUENA VISTA |
| 12 | 12 - BUTLER |
| 13 | 13 - CALHOUN |
| 14 | 14 - CARROLL |
| 15 | 15 - CASS |
| 16 | 16 - CEDAR |
| 17 | 17 - CERRO GORDO |
| 18 | 18 - CHEROKEE |
| 19 | 19 - CHICKASAW |
| 20 | 20 - CLARKE |
| 21 | 21 - CLAY |
| 22 | 22 - CLAYTON |
| 23 | 23 - CLINTON |
| 24 | 24 - CRAWFORD |
| 25 | 25 - DALLAS |
| 26 | 26 - DAVIS |
| 27 | 27 - DECATUR |
| 28 | 28 - DELAWARE |
| 29 | 29 - DES MOINES |
| 30 | 30 - DICKINSON |
| 31 | 31 - DUBUQUE |
| 32 | 32 - EMMET |
| 33 | 33 - FAYETTE |
| 34 | 34 - FLOYD |
| 35 | 35 - FRANKLIN |
| 36 | 36 - FREMONT |
| 37 | 37 - GREENE |
| 38 | 38 - GRUNDY |
| 39 | 39 - GUTHRIE |
| 40 | 40 - HAMILTON |
| 41 | 41 - HANCOCK |
| 42 | 42 - HARDIN |
| 43 | 43 - HARRISON |
| 44 | 44 - HENRY |
| 45 | 45 - HOWARD |
| 46 | 46 - HUMBOLDT |
| 47 | 47 - IDA |
| 48 | 48 - IOWA |
| 49 | 49 - JACKSON |
| 50 | 50 - JASPER |
| 51 | 51 - JEFFERSON |
| 52 | 52 - JOHNSON |
| 53 | 53 - JONES |

| | |
|----|--------------------|
| 54 | 54 - KEOKUK |
| 55 | 55 - KOSSUTH |
| 56 | 56 - LEE |
| 57 | 57 - LINN |
| 58 | 58 - LOUISA |
| 59 | 59 - LUCAS |
| 60 | 60 - LYON |
| 61 | 61 - MADISON |
| 62 | 62 - MAHASKA |
| 63 | 63 - MARION |
| 64 | 64 - MARSHALL |
| 65 | 65 - MILLS |
| 66 | 66 - MITCHELL |
| 67 | 67 - MONONA |
| 68 | 68 - MONROE |
| 69 | 69 - MONTGOMERY |
| 70 | 70 - MUSCATINE |
| 71 | 71 - O BRIEN |
| 72 | 72 - OSCEOLA |
| 73 | 73 - PAGE |
| 74 | 74 - PALO ALTO |
| 75 | 75 - PLYMOUTH |
| 76 | 76 - POCAHONTAS |
| 77 | 77 - POLK |
| 78 | 78 - POTTAWATTAMIE |
| 79 | 79 - POWESHIEK |
| 80 | 80 - RINGGOLD |
| 81 | 81 - SAC |
| 82 | 82 - SCOTT |
| 83 | 83 - SHELBY |
| 84 | 84 - SIOUX |
| 85 | 85 - STORY |
| 86 | 86 - TAMA |
| 87 | 87 - TAYLOR |
| 88 | 88 - UNION |
| 89 | 89 - VAN BUREN |
| 90 | 90 - WAPELLO |
| 91 | 91 - WARREN |
| 92 | 92 - WASHINGTON |
| 93 | 93 - WAYNE |
| 94 | 94 - WEBSTER |
| 95 | 95 - WINNEBAGO |
| 96 | 96 - WINNESHIEK |
| 97 | 97 - WOODBURY |
| 98 | 98 - WORTH |
| 99 | 99 - WRIGHT |

CURBED_ID - Domain

DomainName

CURBED_ID

Description CURBED_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------|
| 1 | CURBED |

CURVE_SPEED_ADVISORY_ID - Domain

DomainName CURVE_SPEED_ADVISORY_ID
Description CURVE_SPEED_ADVISORY_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------|
| 1 | 0 - 29 MPH |
| 2 | 30 - 39 MPH |
| 3 | 40 - 49 MPH |
| 4 | 50 - 55 MPH |

dActivityType - Domain

DomainName dActivityType
FieldType SmallInteger
Domain Type CodedValue
Owner SDE

| Code | Name |
|------|-----------------|
| 1 | Create Route |
| 2 | Calibrate Route |
| 3 | Reverse Route |
| 4 | Retire Route |
| 5 | Extend Route |
| 6 | Reassign Route |
| 7 | Realign Route |

DIRECTION_ID - Domain

DomainName DIRECTION_ID
Description DIRECTION_DESC
FieldType String
Domain Type Range
Owner RAMS

| Minimum Value | Maximum Value |
|---------------|---------------|
| | |

dLRSNetworks - Domain

DomainName dLRSNetworks
FieldType SmallInteger
Domain Type CodedValue
Owner SDE

| Code | Name |
|------|------------------|
| 1 | IOWA_LRS_NETWORK |

DOMAIN_CODE_ID - Domain

DomainName DOMAIN_CODE_ID
Description DOMAIN_CODE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---|
| 10 | 10 - LOCAL AGENCY |
| 11 | 11 - COUNTY CONSERVATION BOARD |
| 12 | 12 - CITY PARKS BOARDS |
| 13 | 13 - BOARD OF SUPERVISORS |
| 14 | 14 - CITY COUNCILS |
| 30 | 30 - STATE AGENCY |
| 31 | 31 - BOARD OF REGENTS INSTITUTIONS |
| 32 | 32 - SOCIAL SERVICES INSTITUTIONS |
| 33 | 33 - DEPARTMENT OF NATURAL RESOURCES |
| 34 | 34 - STATE FAIR BOARD |
| 35 | 35 - DEPARTMENT OF PUBLIC INSTRUCTION |
| 60 | 60 - FEDERAL AGENCY |
| 62 | 62 - BUREAU OF INDIAN AFFAIRS |
| 63 | 63 - INDIAN RESERVATION ACCESS ROAD |
| 64 | 64 - U.S. FOREST SERVICE |
| 66 | 66 - NATIONAL PARK SERVICE |
| 68 | 68 - BUREAU OF LAND MANAGEMENT |
| 70 | 70 - MILITARY RESERVATION |
| 72 | 72 - CORPS OF ENGINEERS |
| 74 | 74 - ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION |
| 76 | 76 - TENNESSEE VALLEY AUTHORITY |
| 78 | 78 - NATIONAL AERONAUTICS AND SPACE ADMINISTRATION |
| 80 | 80 - FISH AND WILDLIFE SERVICES |

dReferentMethod - Domain

DomainName dReferentMethod
FieldType SmallInteger
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 0 | X/Y |

| | |
|----|----------------------------|
| 1 | Length |
| 2 | Stationing |
| 11 | LRSE_STRUCTURECONTROL |
| 12 | LRSE_STRUCTUREONANDUNDER |
| 13 | LRSE_DOMAINCODE |
| 14 | LRSE_ROUTEIGNING |
| 15 | LRSE_ROUTEQUALIFIER |
| 16 | LRSE_HPMSSAMPLESECTIONS |
| 17 | LRSE_TOLLROAD |
| 18 | LRSE_WIDENINGPOTENTIAL |
| 19 | LRSE_THROUGHLANES |
| 20 | LRSE_MAINTENANCECOSTCENTER |
| 21 | LRSE_ICECORRIDORS |
| 22 | LRSE_RRCROSSING |
| 23 | LRSE_RRCROSSINGS |
| 24 | LRSE_1CONSTRUCTIONHISTORY |
| 25 | LRSE_CONSTRUCTIONHISTORY |
| 26 | LRSE_MANAGEMENTSECTIONS |
| 27 | LRSE_STATEFREIGHTNETWORK |
| 28 | LRSE_EXPANSIONFACTOR |
| 29 | LRSE_FEDFUNCTIONALCLASS |
| 30 | LRSE_NUMBERLANES |
| 31 | LRSE_LANETYPE |
| 32 | LRSE_TRAFFIC |
| 33 | LRSE_ROUTE_DOMINANCE |
| 34 | LRSE_ROUTEDOMINANCE |
| 35 | EV_PROJ_SCOPE |
| 36 | LRSE_PROJECT_SCOPING |
| 37 | LRSE_TIM_ALT_ROUTES |
| 38 | LRSE_TIM_CLOSURE |
| 39 | LRSE_MINIMUM_SPEEDLIMIT |

FACILITY_TYPE_ID - Domain

| | |
|--------------------|--------------------|
| DomainName | FACILITY_TYPE_ID |
| Description | FACILITY_TYPE_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|-----------------------------|
| 1 | 1 - ONE-WAY ROADWAY |
| 2 | 2 - TWO-WAY ROADWAY |
| 4 | 4 - RAMP |
| 5 | 5 - NON MAINLINE |
| 6 | 6 - NON INVENTORY DIRECTION |
| 7 | 7 - PLANNED UNBUILT |

FED_FUNCTIONAL_CLASS_ID - Domain

DomainName FED_FUNCTIONAL_CLASS_ID
Description FED_FUNCTIONAL_CLASS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---|
| 1 | 1 - INTERSTATE |
| 2 | 2 - PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS |
| 3 | 3 - PRINCIPAL ARTERIAL - OTHER |
| 4 | 4 - MINOR ARTERIAL |
| 5 | 5 - MAJOR COLLECTOR |
| 6 | 6 - MINOR COLLECTOR |
| 7 | 7 - LOCAL |

GEOGRAPHIC_IDENTIFIER_ID - Domain

DomainName GEOGRAPHIC_IDENTIFIER_ID
Description GEOGRAPHIC_IDENTIFIER_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------|---|
| M5787 | CITY OF OSTERDOCK - M5787 |
| M5902 | CITY OF PANORAMA PARK - M5902 |
| M5922 | CITY OF PATTERSON - M5922 |
| M6082 | CITY OF PLAINFIELD - M6082 |
| M6122 | CITY OF PLEASANTON - M6122 |
| M6222 | CITY OF PRAIRIEBURG - M6222 |
| M6282 | CITY OF QUASQUETON - M6282 |
| M6347 | CITY OF REASNOR - M6347 |
| P0527 | SOO ACCESS - P0527 |
| P0533 | LITTLE SIOUX WMA - P0533 |
| P0554 | NEW ALBIN ACCESS - P0554 |
| P0558 | ALDO LEOPOLD WMA - P0558 |
| P0575 | RATHBUN FISH HATCHERY - P0575 |
| P0581 | ORLEAN FISH HATCHERY - P0581 |
| P0596 | ASHTON PITS WMA - P0596 |
| P0600 | BIG SPRINGS TROUT HATCHERY - P0600 |
| I0745 | IA NATIONAL GUARD, BOONE - I0745 |
| I0750 | OSCEOLA ARMORY - LOCATION PENDING - I0750 |
| I0770 | CEDAR RAPIDS ARMORY - I0770 |
| I0775 | IA NATIONAL GUARD, GLENWOOD - I0775 |
| I0789 | SIOUX CENTER ARMORY - 102 S MAIN - I0789 |
| M6437 | CITY OF RICHLAND - M6437 |
| M6475 | CITY OF RIPPEY - M6475 |
| M6497 | CITY OF RIVERTON - M6497 |
| M6587 | CITY OF RODNEY - M6587 |
| M6610 | CITY OF ROME - M6610 |
| M6687 | CITY OF RUSSELL - M6687 |

| | |
|-------|---------------------------------|
| M6742 | CITY OF SAINT CHARLES - M6742 |
| M6762 | CITY OF SALEM - M6762 |
| M6840 | CITY OF SCHLESWIG - M6840 |
| M6890 | CITY OF SERGEANT BLUFF - M6890 |
| M6982 | CITY OF SHERRILL - M6982 |
| M2922 | CITY OF GILMORE CITY - M2922 |
| M2980 | CITY OF GOOSE LAKE - M2980 |
| M3017 | CITY OF GRAF - M3017 |
| M3042 | CITY OF GRANGER - M3042 |
| M3070 | CITY OF GRAVITY - M3070 |
| M3080 | CITY OF GREELEY - M3080 |
| M3132 | CITY OF GRISWOLD - M3132 |
| M3192 | CITY OF HALBUR - M3192 |
| M3222 | CITY OF HAMPTON - M3222 |
| M3290 | CITY OF HARRIS - M3290 |
| M3305 | CITY OF HARTLEY - M3305 |
| M3385 | CITY OF HAZLETON - M3385 |
| M3415 | CITY OF HEPBURN - M3415 |
| M3525 | CITY OF HOMESTEAD - M3525 |
| M3590 | CITY OF HULL - M3590 |
| M3630 | CITY OF HUXLEY - M3630 |
| M3782 | CITY OF JAMAICA - M3782 |
| M3820 | CITY OF JEWELL - M3820 |
| M3948 | CITY OF KEOMAH VILLAGE - M3948 |
| M3972 | CITY OF KEYSTONE - M3972 |
| M4092 | CITY OF LACONA - M4092 |
| M4182 | CITY OF LAKOTA - M4182 |
| M4195 | CITY OF LANESBORO - M4195 |
| M4280 | CITY OF LEDYARD - M4280 |
| M4305 | CITY OF LENOX - M4305 |
| M4395 | CITY OF LINN GROVE - M4395 |
| M4490 | CITY OF LONE ROCK - M4490 |
| M4595 | CITY OF LU VERNE - M4595 |
| M4625 | CITY OF MACEDONIA - M4625 |
| M4667 | CITY OF MALOY - M4667 |
| M4710 | CITY OF MANSON - M4710 |
| M4750 | CITY OF MARATHON - M4750 |
| M4782 | CITY OF MARQUETTE - M4782 |
| M4822 | CITY OF MASON CITY - M4822 |
| M4870 | CITY OF MAYNARD - M4870 |
| M4930 | CITY OF MEDIAPOLIS - M4930 |
| M4950 | CITY OF MELVIN - M4950 |
| M4962 | CITY OF MERIDEN - M4962 |
| M5085 | CITY OF MILLVILLE - M5085 |
| M5130 | CITY OF MISSOURI VALLEY - M5130 |
| M5162 | CITY OF MONONA - M5162 |
| M7017 | CITY OF SIDNEY - M7017 |
| M7075 | CITY OF SLATER - M7075 |
| M7125 | CITY OF SOLDIER - M7125 |
| M7142 | CITY OF SOUTH AMANA - M7142 |

| | |
|-------|---------------------------------|
| M7225 | CITY OF SPRINGBROOK - M7225 |
| M7260 | CITY OF STANLEY - M7260 |
| M7357 | CITY OF STEAMBOAT ROCK - M7357 |
| M7455 | CITY OF STRUBLE - M7455 |
| M7535 | CITY OF SWEA CITY - M7535 |
| M7637 | CITY OF THOR - M7637 |
| M7680 | CITY OF TITONKA - M7680 |
| M7727 | CITY OF TREYNOR - M7727 |
| M7875 | CITY OF URBANDALE - M7875 |
| M7952 | CITY OF VAN HORNE - M7952 |
| M8052 | CITY OF WALCOTT - M8052 |
| M8150 | CITY OF WASHTA - M8150 |
| M8175 | CITY OF WAUCOMA - M8175 |
| M8242 | CITY OF WESLEY - M8242 |
| M8255 | CITY OF WEST BURLINGTON - M8255 |
| M8322 | CITY OF WHAT CHEER - M8322 |
| C0001 | COUNTY OF ADAIR - C0001 |
| C0010 | COUNTY OF BUCHANAN - C0010 |
| C0014 | COUNTY OF CARROLL - C0014 |
| C0023 | COUNTY OF CLINTON - C0023 |
| C0029 | COUNTY OF DES MOINES - C0029 |
| C0036 | COUNTY OF FREMONT - C0036 |
| C0042 | COUNTY OF HARDIN - C0042 |
| C0045 | COUNTY OF HOWARD - C0045 |
| C0055 | COUNTY OF KOSSUTH - C0055 |
| C0058 | COUNTY OF LOUISA - C0058 |
| C0068 | COUNTY OF MONROE - C0068 |
| C0071 | COUNTY OF O'BRIEN - C0071 |
| C0077 | COUNTY OF POLK - C0077 |
| C0084 | COUNTY OF SIOUX - C0084 |
| C0090 | COUNTY OF WAPELLO - C0090 |
| M0022 | CITY OF ADAIR - M0022 |
| M0055 | CITY OF AKRON - M0055 |
| M0070 | CITY OF ALBION - M0070 |
| M0132 | CITY OF ALTOONA - M0132 |
| M0187 | CITY OF ANKENY - M0187 |
| M0265 | CITY OF ASHTON - M0265 |
| M0280 | CITY OF ATHELSTAN - M0280 |
| M0335 | CITY OF AYRSHIRE - M0335 |
| M0380 | CITY OF BANCROFT - M0380 |
| M0420 | CITY OF BASSETT - M0420 |
| M0470 | CITY OF BEAVER - M0470 |
| M0520 | CITY OF BELLEVUE - M0520 |
| M0595 | CITY OF BEVINGTON - M0595 |
| M0677 | CITY OF BLAKESBURG - M0677 |
| M0747 | CITY OF BONDURANT - M0747 |
| M0837 | CITY OF BRIDGEWATER - M0837 |
| M0952 | CITY OF BUFFALO - M0952 |
| M0990 | CITY OF BURT - M0990 |
| M1015 | CITY OF CALAMUS - M1015 |

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| M1122 | CITY OF CARPENTER - M1122 |
| M1162 | CITY OF CASTALIA - M1162 |
| M1210 | CITY OF CENTERVILLE - M1210 |
| M1252 | CITY OF CHARTER OAK - M1252 |
| M1317 | CITY OF CHURDAN - M1317 |
| M1347 | CITY OF CLARKSVILLE - M1347 |
| M1425 | CITY OF CLIVE - M1425 |
| M1452 | CITY OF COGGON - M1452 |
| M1467 | CITY OF COLFAX - M1467 |
| M1535 | CITY OF CONWAY - M1535 |
| M1597 | CITY OF CORWITH - M1597 |
| M1640 | CITY OF COULTER - M1640 |
| M1682 | CITY OF CRAIG - M1682 |
| M1787 | CITY OF DAKOTA CITY - M1787 |
| M1845 | CITY OF DAYTON - M1845 |
| M1902 | CITY OF DELHI - M1902 |
| M1935 | CITY OF DENVER - M1935 |
| M2072 | CITY OF DOW CITY - M2072 |
| M2120 | CITY OF DUMONT - M2120 |
| M2200 | CITY OF EARLY - M2200 |
| M2240 | CITY OF EDDYVILLE - M2240 |
| M2312 | CITY OF ELK RUN HEIGHTS - M2312 |
| M2432 | CITY OF EVANSDALE - M2432 |
| M2462 | CITY OF FAIRFAX - M2462 |
| M2547 | CITY OF FERTILE - M2547 |
| M2660 | CITY OF FOREST CITY - M2660 |
| M2755 | CITY OF FREDONIA - M2755 |
| M2802 | CITY OF GALT - M2802 |
| M2845 | CITY OF GARRISON - M2845 |
| M2905 | CITY OF GILBERTVILLE - M2905 |
| P0427 | SCOTT I-29 WMA - P0427 |
| P0433 | SILVER LAKE (DICKINSON) WMA - P0433 |
| M6422 | CITY OF RHODES - M6422 |
| M6447 | CITY OF RICKARDSVILLE - M6447 |
| M6472 | CITY OF RINGSTED - M6472 |
| M6495 | CITY OF RIVERSIDE - M6495 |
| M6550 | CITY OF ROCK VALLEY - M6550 |
| M6577 | CITY OF ROCKWELL CITY - M6577 |
| M6615 | CITY OF ROSE HILL - M6615 |
| M6650 | CITY OF ROWAN - M6650 |
| M6675 | CITY OF RUNNELLS - M6675 |
| M6695 | CITY OF RUTLAND - M6695 |
| M6737 | CITY OF SAINT ANTHONY - M6737 |
| M6745 | CITY OF SAINT DONATUS - M6745 |
| M6757 | CITY OF SAINT PAUL - M6757 |
| M6775 | CITY OF SANBORN - M6775 |
| M6867 | CITY OF SEARSBORO - M6867 |
| M6907 | CITY OF SEYMOUR - M6907 |
| M6932 | CITY OF SHARPSBURG - M6932 |
| M6950 | CITY OF SHELDON - M6950 |

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| M6965 | CITY OF SHENANDOAH - M6965 |
| M7027 | CITY OF SIGOURNEY - M7027 |
| M7057 | CITY OF SIOUX CITY - M7057 |
| M7130 | CITY OF SOLON - M7130 |
| M7135 | CITY OF SOMERS - M7135 |
| M7170 | CITY OF SPENCER - M7170 |
| M7237 | CITY OF SPRINGVILLE - M7237 |
| M7250 | CITY OF STACYVILLE - M7250 |
| M7422 | CITY OF STORM LAKE - M7422 |
| M7442 | CITY OF STRAWBERRY POINT - M7442 |
| M7512 | CITY OF SWALEDALE - M7512 |
| M7515 | CITY OF SWAN - M7515 |
| M7622 | CITY OF THAYER - M7622 |
| M7642 | CITY OF THORNTON - M7642 |
| M7702 | CITY OF TORONTO - M7702 |
| M7757 | CITY OF TRURO - M7757 |
| M7832 | CITY OF UNION - M7832 |
| M7920 | CITY OF UTE - M7920 |
| M7932 | CITY OF VALERIA - M7932 |
| M7965 | CITY OF VARINA - M7965 |
| M8045 | CITY OF WADENA - M8045 |
| M8060 | CITY OF WALFORD - M8060 |
| M8107 | CITY OF WAPELLO - M8107 |
| M8180 | CITY OF WAUKON - M8180 |
| M8205 | CITY OF WEBB - M8205 |
| M8227 | CITY OF WELLSBURG - M8227 |
| M8252 | CITY OF WEST BRANCH - M8252 |
| M8295 | CITY OF WEST UNION - M8295 |
| M8312 | CITY OF WESTPHALIA - M8312 |
| C0005 | COUNTY OF AUDUBON - C0005 |
| C0006 | COUNTY OF BENTON - C0006 |
| C0011 | COUNTY OF BUENA VISTA - C0011 |
| C0015 | COUNTY OF CASS - C0015 |
| C0019 | COUNTY OF CHICKASAW - C0019 |
| C0021 | COUNTY OF CLAY - C0021 |
| C0025 | COUNTY OF DALLAS - C0025 |
| C0028 | COUNTY OF DELAWARE - C0028 |
| C0031 | COUNTY OF DUBUQUE - C0031 |
| C0035 | COUNTY OF FRANKLIN - C0035 |
| C0037 | COUNTY OF GREENE - C0037 |
| C0043 | COUNTY OF HARRISON - C0043 |
| C0046 | COUNTY OF HUMBOLDT - C0046 |
| C0050 | COUNTY OF JASPER - C0050 |
| C0053 | COUNTY OF JONES - C0053 |
| C0057 | COUNTY OF LINN - C0057 |
| C0059 | COUNTY OF LUCAS - C0059 |
| C0063 | COUNTY OF MARION - C0063 |
| C0067 | COUNTY OF MONONA - C0067 |
| C0069 | COUNTY OF MONTGOMERY - C0069 |
| C0073 | COUNTY OF PAGE - C0073 |

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| C0078 | COUNTY OF POTTAWATTAMIE - C0078 |
| C0082 | COUNTY OF SCOTT - C0082 |
| C0083 | COUNTY OF SHELBY - C0083 |
| C0088 | COUNTY OF UNION - C0088 |
| C0093 | COUNTY OF WAYNE - C0093 |
| C0097 | COUNTY OF WOODBURY - C0097 |
| M0017 | CITY OF ACKWORTH - M0017 |
| M0045 | CITY OF AFTON - M0045 |
| M0082 | CITY OF ALEXANDER - M0082 |
| M0112 | CITY OF ALLISON - M0112 |
| M0130 | CITY OF ALTON - M0130 |
| M0172 | CITY OF ANDREW - M0172 |
| M0200 | CITY OF ARCADIA - M0200 |
| M0215 | CITY OF ARION - M0215 |
| M0247 | CITY OF ARTHUR - M0247 |
| M0297 | CITY OF AUBURN - M0297 |
| M0310 | CITY OF AURELIA - M0310 |
| M0352 | CITY OF BAGLEY - M0352 |
| M0422 | CITY OF BATAVIA - M0422 |
| M0452 | CITY OF BEACON - M0452 |
| M0527 | CITY OF BELMOND - M0527 |
| M0535 | CITY OF BENNETT - M0535 |
| M0675 | CITY OF BLAIRSTOWN - M0675 |
| M0697 | CITY OF BLOCKTON - M0697 |
| M0707 | CITY OF BLUE GRASS - M0707 |
| M0800 | CITY OF BRADGATE - M0800 |
| M0817 | CITY OF BREDA - M0817 |
| M0867 | CITY OF BRONSON - M0867 |
| M0935 | CITY OF BUCK GROVE - M0935 |
| M0997 | CITY OF BUSSEY - M0997 |
| M1027 | CITY OF CALLENDER - M1027 |
| M1040 | CITY OF CAMANCHE - M1040 |
| M1125 | CITY OF CARROLL - M1125 |
| M1140 | CITY OF CARSON - M1140 |
| M1152 | CITY OF CASEY - M1152 |
| M1205 | CITY OF CENTER POINT - M1205 |
| M1217 | CITY OF CENTRAL CITY - M1217 |
| M1250 | CITY OF CHARLOTTE - M1250 |
| M1255 | CITY OF CHATSWORTH - M1255 |
| M1320 | CITY OF CINCINNATI - M1320 |
| M1332 | CITY OF CLARINDA - M1332 |
| M1372 | CITY OF CLEAR LAKE - M1372 |
| M1390 | CITY OF CLEMONS - M1390 |
| M1422 | CITY OF CLIO - M1422 |
| M1455 | CITY OF COIN - M1455 |
| M1465 | CITY OF COLESBURG - M1465 |
| M1492 | CITY OF COLWELL - M1492 |
| M1525 | CITY OF CONRAD - M1525 |
| M1542 | CITY OF COON RAPIDS - M1542 |
| M1602 | CITY OF CORYDON - M1602 |

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| M1642 | CITY OF COUNCIL BLUFFS - M1642 |
| M1725 | CITY OF CROMWELL - M1725 |
| M1755 | CITY OF CUMBERLAND - M1755 |
| M1815 | CITY OF DANA - M1815 |
| M1840 | CITY OF DAWSON - M1840 |
| M1862 | CITY OF DECATUR CITY - M1862 |
| M1912 | CITY OF DELTA - M1912 |
| M1920 | CITY OF DENISON - M1920 |
| M1945 | CITY OF DES MOINES - M1945 |
| M2040 | CITY OF DONNELSON - M2040 |
| M2132 | CITY OF DUNDEE - M2132 |
| M2140 | CITY OF DUNKERTON - M2140 |
| M2160 | CITY OF DYERSVILLE - M2160 |
| M2247 | CITY OF EDGEWOOD - M2247 |
| M2275 | CITY OF ELDON - M2275 |
| M2320 | CITY OF ELKHART - M2320 |
| M2365 | CITY OF ELMA - M2365 |
| M2387 | CITY OF EMERSON - M2387 |
| M2452 | CITY OF EXIRA - M2452 |
| M2465 | CITY OF FAIRFIELD - M2465 |
| M2532 | CITY OF FERGUSON - M2532 |
| M2625 | CITY OF FLOYD - M2625 |
| M2680 | CITY OF FORT ATKINSON - M2680 |
| M2780 | CITY OF FRUITLAND - M2780 |
| M2815 | CITY OF GARBER - M2815 |
| M2835 | CITY OF GARNAVILLO - M2835 |
| M2865 | CITY OF GENEVA - M2865 |
| M2912 | CITY OF GILLETT GROVE - M2912 |
| M2955 | CITY OF GLENWOOD - M2955 |
| M2972 | CITY OF GOLDFIELD - M2972 |
| M3020 | CITY OF GRAFTON - M3020 |
| M3035 | CITY OF GRAND RIVER - M3035 |
| M3062 | CITY OF GRANVILLE - M3062 |
| M3102 | CITY OF GREENE - M3102 |
| M3125 | CITY OF GRIMES - M3125 |
| M3147 | CITY OF GRUVER - M3147 |
| M3167 | CITY OF GUTTENBERG - M3167 |
| M3230 | CITY OF HANCOCK - M3230 |
| M3257 | CITY OF HARCOURT - M3257 |
| M3270 | CITY OF HARDY - M3270 |
| M3310 | CITY OF HARTWICK - M3310 |
| M3335 | CITY OF HAVELOCK - M3335 |
| M3365 | CITY OF HAYESVILLE - M3365 |
| M3395 | CITY OF HEDRICK - M3395 |
| M3515 | CITY OF HOLSTEIN - M3515 |
| M3520 | CITY OF HOLY CROSS - M3520 |
| M3562 | CITY OF HOUGHTON - M3562 |
| M3650 | CITY OF IDA GROVE - M3650 |
| M3660 | CITY OF IMOGENE - M3660 |
| M3772 | CITY OF JACKSON JUNCTION - M3772 |

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| M3817 | CITY OF JESUP - M3817 |
| M3877 | CITY OF KANAWHA - M3877 |
| M3892 | CITY OF KELLERTON - M3892 |
| M3960 | CITY OF KESWICK - M3960 |
| M4000 | CITY OF KINROSS - M4000 |
| M4082 | CITY OF LA PORTE CITY - M4082 |
| M4110 | CITY OF LAKE CITY - M4110 |
| M4187 | CITY OF LAMONI - M4187 |
| M4212 | CITY OF LARCHWOOD - M4212 |
| M4240 | CITY OF LAURENS - M4240 |
| M4262 | CITY OF LE ROY - M4262 |
| M4297 | CITY OF LELAND - M4297 |
| M4367 | CITY OF LIME SPRINGS - M4367 |
| M4392 | CITY OF LINEVILLE - M4392 |
| M4457 | CITY OF LIVERMORE - M4457 |
| M4492 | CITY OF LONE TREE - M4492 |
| M4555 | CITY OF LOWDEN - M4555 |
| M4565 | CITY OF LUANA - M4565 |
| M4612 | CITY OF LYNNVILLE - M4612 |
| M4655 | CITY OF MALCOM - M4655 |
| M4672 | CITY OF MALVERN - M4672 |
| M4702 | CITY OF MANNING - M4702 |
| M4742 | CITY OF MAQUOKETA - M4742 |
| M4762 | CITY OF MARCUS - M4762 |
| M4797 | CITY OF MARSHALLTOWN - M4797 |
| M4802 | CITY OF MARTELLE - M4802 |
| M4832 | CITY OF MASSENA - M4832 |
| M4865 | CITY OF MAXWELL - M4865 |
| M4885 | CITY OF MCCLELLAND - M4885 |
| M4922 | CITY OF MECHANICSVILLE - M4922 |
| M4945 | CITY OF MELROSE - M4945 |
| M4975 | CITY OF MERRILL - M4975 |
| M4985 | CITY OF MESERVEY - M4985 |
| M5077 | CITY OF MILLERTON - M5077 |
| M5092 | CITY OF MILTON - M5092 |
| M5097 | CITY OF MINDEN - M5097 |
| M5152 | CITY OF MONDAMIN - M5152 |
| M5165 | CITY OF MONROE - M5165 |
| M5172 | CITY OF MONTEZUMA - M5172 |
| M5212 | CITY OF MORAVIA - M5212 |
| M5235 | CITY OF MORRISON - M5235 |
| M5297 | CITY OF MOUNT STERLING - M5297 |
| M5300 | CITY OF MOUNT UNION - M5300 |
| M5375 | CITY OF NASHUA - M5375 |
| M5412 | CITY OF NEW ALBIN - M5412 |
| M5452 | CITY OF NEW VIENNA - M5452 |
| M5472 | CITY OF NEWHALL - M5472 |
| M5527 | CITY OF NORA SPRINGS - M5527 |
| M5570 | CITY OF NORTHBORO - M5570 |
| M5587 | CITY OF NORWALK - M5587 |

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| M5650 | CITY OF OCHEYEDAN - M5650 |
| M5692 | CITY OF OLLIE - M5692 |
| M5720 | CITY OF ONSLOW - M5720 |
| M5785 | CITY OF OSSIAN - M5785 |
| M5822 | CITY OF OTTOSEN - M5822 |
| M5845 | CITY OF OXFORD - M5845 |
| M5900 | CITY OF PANORA - M5900 |
| M5920 | CITY OF PATON - M5920 |
| M5990 | CITY OF PETERSON - M5990 |
| M6072 | CITY OF PISGAH - M6072 |
| M6125 | CITY OF PLEASANTVILLE - M6125 |
| M6170 | CITY OF POLK CITY - M6170 |
| M6180 | CITY OF POPEJOY - M6180 |
| M6255 | CITY OF PROMISE CITY - M6255 |
| M6287 | CITY OF QUIMBY - M6287 |
| M6322 | CITY OF RANDOLPH - M6322 |
| M6360 | CITY OF RED OAK - M6360 |
| M6377 | CITY OF REDDING - M6377 |
| M4630 | CITY OF MACKSBURG - M4630 |
| M5432 | CITY OF NEW HARTFORD - M5432 |
| M5470 | CITY OF NEWELL - M5470 |
| M5580 | CITY OF NORTHWOOD - M5580 |
| M5630 | CITY OF OAKLAND - M5630 |
| M5700 | CITY OF ONAWA - M5700 |
| M5772 | CITY OF OSCEOLA - M5772 |
| M0220 | CITY OF ARLINGTON - M0220 |
| M0282 | CITY OF ATKINS - M0282 |
| M0367 | CITY OF BALDWIN - M0367 |
| M0432 | CITY OF BAXTER - M0432 |
| M0487 | CITY OF BEDFORD - M0487 |
| M0682 | CITY OF BLANCHARD - M0682 |
| M0740 | CITY OF BONAPARTE - M0740 |
| M0842 | CITY OF BRIGHTON - M0842 |
| M0870 | CITY OF BROOKLYN - M0870 |
| M1030 | CITY OF CALMAR - M1030 |
| M1105 | CITY OF CARLISLE - M1105 |
| M1147 | CITY OF CASCADE - M1147 |
| M1242 | CITY OF CHARLES CITY - M1242 |
| M1265 | CITY OF CHELSEA - M1265 |
| M6312 | CITY OF RALSTON - M6312 |
| P0523 | WILLOWS ACCESS WMA - P0523 |
| P0568 | GULL POINT STATE PARK - P0568 |
| P0591 | CENTER LAKE COMPLEX - P0591 |
| P0605 | BELLEVUE STATE PARK - P0605 |
| I0780 | SHELDON ARMORY - I0780 |
| M6410 | CITY OF RENWICK - M6410 |
| M6630 | CITY OF ROSSIE - M6630 |
| M6732 | CITY OF SAGEVILLE - M6732 |
| M6920 | CITY OF SHANNON CITY - M6920 |
| M3150 | CITY OF GUERNSEY - M3150 |

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| M3275 | CITY OF HARLAN - M3275 |
| M3472 | CITY OF HILLS - M3472 |
| M3557 | CITY OF HOSPERS - M3557 |
| M3870 | CITY OF KALONA - M3870 |
| M4002 | CITY OF KIRKMAN - M4002 |
| M4135 | CITY OF LAKE MILLS - M4135 |
| M4325 | CITY OF LEWIS - M4325 |
| M4430 | CITY OF LITTLE SIOUX - M4430 |
| M4695 | CITY OF MANILLA - M4695 |
| M4765 | CITY OF MARENGO - M4765 |
| M4847 | CITY OF MATLOCK - M4847 |
| M5017 | CITY OF MIDDLE AMANA - M5017 |
| M5095 | CITY OF MINBURN - M5095 |
| M7505 | CITY OF SUPERIOR - M7505 |
| M7662 | CITY OF TIFFIN - M7662 |
| M7760 | CITY OF TURIN - M7760 |
| M8085 | CITY OF WALLINGFORD - M8085 |
| M8217 | CITY OF WELDON - M8217 |
| C0004 | COUNTY OF APPANOOSE - C0004 |
| C0017 | COUNTY OF CERRO GORDO - C0017 |
| C0039 | COUNTY OF GUTHRIE - C0039 |
| C0052 | COUNTY OF JOHNSON - C0052 |
| C0074 | COUNTY OF PALO ALTO - C0074 |
| C0087 | COUNTY OF TAYLOR - C0087 |
| C0098 | COUNTY OF WORTH - C0098 |
| M0165 | CITY OF ANAMOSA - M0165 |
| M0227 | CITY OF ARMSTRONG - M0227 |
| M0905 | CITY OF BRUNSVILLE - M0905 |
| M1037 | CITY OF CALUMET - M1037 |
| M8550 | CITY OF WOOLSTOCK - M8550 |
| M1802 | CITY OF DALLAS CENTER - M1802 |
| M4487 | CITY OF LOHRVILLE - M4487 |
| M1330 | CITY OF CLARENCE - M1330 |
| M1395 | CITY OF CLERMONT - M1395 |
| M1557 | CITY OF CORALVILLE - M1557 |
| M1710 | CITY OF CRESTON - M1710 |
| M1907 | CITY OF DELOIT - M1907 |
| M2032 | CITY OF DONAHUE - M2032 |
| M2150 | CITY OF DURANGO - M2150 |
| M2395 | CITY OF EMMETSBURG - M2395 |
| M2515 | CITY OF FARRAGUT - M2515 |
| M2820 | CITY OF GARDEN GROVE - M2820 |
| P0428 | MCPAUL I-29 WMA - P0428 |
| P0438 | FRENCH CREEK WMA - P0438 |
| P0442 | HAWKEYE WMA - P0442 |
| P0448 | LITTLE MILL CREEK WMA - P0448 |
| P0459 | FOX HILLS WMA - P0459 |
| P0464 | DUDGEON LAKE WMA - P0464 |
| P0475 | CARDINAL MARSH WMA - P0475 |
| P0479 | LAHART WMA - P0479 |

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| P0489 | LAKIN SLOUGH WMA - P0489 |
| P0495 | MCPAHON ACCESS - P0495 |
| P0499 | UPPER DECATUR BEND WMA - P0499 |
| P0512 | MILE LONG ISLAND WMA - P0512 |
| P0516 | BIG WALL LAKE WMA - P0516 |
| P0542 | WEST SWAN LAKE WMA - P0542 |
| P0549 | RUSH LAKE (OSCEOLA) WMA - P0549 |
| P0556 | CASINO BAY MARINA - P0556 |
| P0572 | LOST GROVE LAKE WMA - P0572 |
| P0582 | TRIBOJI BEACH ACCESS - P0582 |
| P0597 | SWEET MARSH WMA - P0597 |
| P0606 | BIXBY STATE PRESERVE - P0606 |
| P0615 | FORT DEFIANCE STATE PARK - P0615 |
| P0620 | GULL POINT STATE PARK - P0620 |
| P0624 | LEDGES STATE PARK - P0624 |
| P0636 | PALISADES-KEPLER STATE PARK - P0636 |
| P0643 | PRAIRIE ROSE STATE PARK - P0643 |
| P0653 | LAKE OF THREE FIRES STATE PARK - P0653 |
| P0666 | RAINBOW BEND WMA - P0666 |
| P0670 | WILSON ISLAND STATE RECREATION AREA - P0670 |
| P0682 | LOWER GAR LAKE ACCESS STATE RECREATION AREA - P0682 |
| P0694 | HAWTHORN LAKE WMA - P0694 |
| P0699 | RIVERTON WMA - P0699 |
| I0707 | WOODWARD STATE RESOURCE CENTER - I0707 |
| I0714 | STATE TRAINING SCHOOL, ELDORA - I0714 |
| I0746 | STORM LAKE ARMORY - I0746 |
| I0751 | SPENCER ARMORY - I0751 |
| I0759 | CHARLES CITY ARMORY - I0759 |
| I0764 | NEWTON ARMORY - I0764 |
| I0779 | MUSCATINE ARMORY - I0779 |
| I0785 | COUNCIL BLUFFS OMS - I0785 |
| I0790 | OTTUMWA ARMORY - I0790 |
| I0794 | EAGLE GROVE ARMORY - I0794 |
| I0816 | IOWA STATE UNIVERSITY-FICK OBSERV. AND FARMS - I0816 |
| I0850 | CAMP DODGE, JOHNSTON - I0850 |
| I0862 | DES MOINES AREA COMM COLLEGE (AREA XI), ANKENY - I0862 |
| I0874 | IOWA LAKES COMM COLLEGE (AREA III), ESTHERVILLE - I0874 |
| I0880 | N. IOWA AREA COMM COLLEGE (AREA II), MASON CITY - I0880 |
| I0913 | UPPER MISSISSIPPI LAND ACQUISITION, ALLAMAKEE - I0913 |
| I0927 | CORALVILLE RESERVOIR - I0927 |
| I0941 | FORT DES MOINES MEMORIAL PARK - I0941 |
| M7507 | CITY OF SUTHERLAND - M7507 |
| M7677 | CITY OF TIPTON - M7677 |
| M7927 | CITY OF VAIL - M7927 |
| M8250 | CITY OF WEST BEND - M8250 |
| C0095 | COUNTY OF WINNEBAGO - C0095 |
| M8370 | CITY OF WHITTEMORE - M8370 |
| M8425 | CITY OF WILLIAMS - M8425 |
| M8502 | CITY OF WINTHROP - M8502 |
| M8525 | CITY OF WOODBINE - M8525 |

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| M8587 | CITY OF YETTER - M8587 |
| M8637 | CITY OF ZWINGLE - M8637 |
| M0217 | CITY OF ARISPE - M0217 |
| M0455 | CITY OF BEACONSFIELD - M0455 |
| M0672 | CITY OF BLAIRSBURG - M0672 |
| M1850 | CITY OF DE SOTO - M1850 |
| M2025 | CITY OF DOLLIVER - M2025 |
| M2142 | CITY OF DUNLAP - M2142 |
| M2460 | CITY OF FAIRBANK - M2460 |
| M3577 | CITY OF HUDSON - M3577 |
| M3942 | CITY OF KEOKUK - M3942 |
| M4150 | CITY OF LAKE PARK - M4150 |
| M4382 | CITY OF LINDEN - M4382 |
| M4570 | CITY OF LUCAS - M4570 |
| M5687 | CITY OF OLIN - M5687 |
| M5792 | CITY OF OTHO - M5792 |
| M5880 | CITY OF PALMER - M5880 |
| M6062 | CITY OF PIONEER - M6062 |
| M6307 | CITY OF RAKE - M6307 |
| M6380 | CITY OF REDFIELD - M6380 |
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| P0494 | KEG CREEK I29 WMA - P0494 |
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| P0519 | MOUNT AYR WMA - P0519 |
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| P0439 | CLEAR CREEK WMA - P0439 |
| P0441 | BARBER CREEK WMA - P0441 |
| P0445 | WIESE SLOUGH WMA - P0445 |
| P0449 | DALTON POND WMA - P0449 |
| P0451 | KLUM LAKE WMA - P0451 |
| P0452 | CONE MARSH WMA - P0452 |
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| P0465 | ELDON WMA - P0465 |
| P0467 | TROY MILLS WMA - P0467 |
| P0471 | VENTURA MARSH WMA - P0471 |
| P0473 | COON CREEK WMA - P0473 |
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| P0488 | MCCORD POND WMA - P0488 |
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| P0496 | DUNBAR SLOUGH WMA - P0496 |
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| P0503 | BOONE FORKS WMA - P0503 |
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| P0510 | WEEDLAND ACCESS - P0510 |

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| P0521 | BRADGATE WMA - P0521 |
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| P0584 | LOESS HILLS STATE FOREST - P0584 |
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| P0593 | DEER CREEK WMA - P0593 |
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| P0604 | BEEDS LAKE STATE PARK - P0604 |
| P0609 | NORTH TWIN LAKE STATE PARK - P0609 |
| P0612 | LAKE DARLING STATE PARK - P0612 |
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| P0632 | MILL CREEK STATE PARK - P0632 |
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| P0639 | GULL POINT STATE PARK - P0639 |
| P0645 | RED HAW STATE PARK - P0645 |
| P0647 | ROCK CREEK STATE PARK - P0647 |
| P0650 | SPRINGBROOK STATE PARK - P0650 |
| P0655 | UNION GROVE STATE PARK - P0655 |
| P0656 | VIKING LAKE STATE PARK - P0656 |
| P0662 | WILDCAT DEN STATE PARK - P0662 |
| P0663 | EAGLE LAKE STATE PARK - P0663 |
| P0667 | OAK GROVE STATE PARK - P0667 |
| P0669 | LAKE ANITA STATE PARK - P0669 |
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| I0718 | CLARINDA CORRECTIONAL FACILITY, CLARINDA - I0718 |
| I0724 | IOWA MEDICAL AND CLASSIFICATION CENTER, OAKDALE - I0724 |
| I0743 | CENTERVILLE ARMORY - I0743 |
| I0747 | CARROLL ARMORY - I0747 |
| I0752 | CLINTON ARMORY - 1200 13TH AVE N - I0752 |
| I0753 | DENISON ARMORY - I0753 |
| I0761 | JEFFERSON ARMORY - ON E53 BY AIRPORT - I0761 |
| I0767 | IOWA CITY ARMORY - I0767 |
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| I0778 | VILLISCA ARMORY - 316 E 3RD ST - I0778 |
| I0781 | CLARINDA ARMORY - I0781 |
| I0787 | DAVENPORT OMS - I0787 |
| I0791 | WASHINGTON ARMORY - I0791 |
| I0792 | FORT DODGE ARMORY - I0792 |
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| I0804 | UNIVERSITY OF IOWA - OAKDALE CAMPUS - I0804 |
| I0810 | IOWA STATE UNIVERSITY, AMES - I0810 |
| P0814 | IOWA STATE UNIVERSITY-EXPERIMENTAL FARM - P0814 |
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| M7265 | CITY OF STANWOOD - M7265 |
| M7457 | CITY OF STUART - M7457 |
| M7597 | CITY OF TEMPLETON - M7597 |
| M7710 | CITY OF TRAER - M7710 |
| M7752 | CITY OF TRUESDALE - M7752 |
| M8017 | CITY OF VINTON - M8017 |
| M8050 | CITY OF WAHPETON - M8050 |

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| M8160 | CITY OF WATERVILLE - M8160 |
| M8235 | CITY OF WELTON - M8235 |
| M8260 | CITY OF WEST DES MOINES - M8260 |
| M0035 | CITY OF ADEL - M0035 |
| M0052 | CITY OF AINSWORTH - M0052 |
| M0077 | CITY OF ALDEN - M0077 |
| M8325 | CITY OF WHEATLAND - M8325 |
| M8365 | CITY OF WHITING - M8365 |
| M8375 | CITY OF WHITTEN - M8375 |
| M8427 | CITY OF WILLIAMSBURG - M8427 |
| M8432 | CITY OF WILLIAMSON - M8432 |
| M8480 | CITY OF WINFIELD - M8480 |
| M8505 | CITY OF WIOTA - M8505 |
| M8517 | CITY OF WODEN - M8517 |
| M8530 | CITY OF WOODBURN - M8530 |
| M8562 | CITY OF WYOMING - M8562 |
| M8565 | CITY OF YALE - M8565 |
| M8612 | CITY OF ZEARING - M8612 |
| M0192 | CITY OF ANTHON - M0192 |
| M0202 | CITY OF ARCHER - M0202 |
| M0272 | CITY OF ASPINWALL - M0272 |
| M0315 | CITY OF AURORA - M0315 |
| M0345 | CITY OF BADGER - M0345 |
| M0515 | CITY OF BELLE PLAINE - M0515 |
| M0587 | CITY OF BETTENDORF - M0587 |
| M0750 | CITY OF BOONE - M0750 |
| M0785 | CITY OF BOYDEN - M0785 |
| M1835 | CITY OF DAVIS CITY - M1835 |
| M1900 | CITY OF DELAWARE - M1900 |
| M1910 | CITY OF DELPHOS - M1910 |
| M2042 | CITY OF DOON - M2042 |
| M2130 | CITY OF DUNCOMBE - M2130 |
| M2267 | CITY OF ELBERON - M2267 |
| M2297 | CITY OF ELGIN - M2297 |
| M2442 | CITY OF EVERLY - M2442 |
| M2505 | CITY OF FARMERSBURG - M2505 |
| M2647 | CITY OF FONTANELLE - M2647 |
| M3602 | CITY OF HUMESTON - M3602 |
| M3800 | CITY OF JEFFERSON - M3800 |
| M3875 | CITY OF KAMRAR - M3875 |
| M3895 | CITY OF KELLEY - M3895 |
| M4005 | CITY OF KIRKVILLE - M4005 |
| M4185 | CITY OF LAMBS GROVE - M4185 |
| M4250 | CITY OF LAWTON - M4250 |
| M4315 | CITY OF LESTER - M4315 |
| M4452 | CITY OF LITTLEPORT - M4452 |
| M4552 | CITY OF LOW MOOR - M4552 |
| M1362 | CITY OF CLAYTON - M1362 |
| M1447 | CITY OF COBURG - M1447 |
| M1480 | CITY OF COLO - M1480 |

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| M1550 | CITY OF COPPOCK - M1550 |
| M1625 | CITY OF COTTER - M1625 |
| M1705 | CITY OF CRESCO - M1705 |
| M1817 | CITY OF DANBURY - M1817 |
| M1855 | CITY OF DE WITT - M1855 |
| M1972 | CITY OF DEXTER - M1972 |
| M2005 | CITY OF DIXON - M2005 |
| M2100 | CITY OF DUBUQUE - M2100 |
| M2205 | CITY OF EAST AMANA - M2205 |
| M2290 | CITY OF ELDRIDGE - M2290 |
| M2405 | CITY OF EPWORTH - M2405 |
| M2455 | CITY OF EXLINE - M2455 |
| M2642 | CITY OF FONDA - M2642 |
| M2737 | CITY OF FRANKLIN - M2737 |
| M2805 | CITY OF GALVA - M2805 |
| M2902 | CITY OF GILBERT - M2902 |
| M2932 | CITY OF GLADBROOK - M2932 |
| M3030 | CITY OF GRAND JUNCTION - M3030 |
| M3052 | CITY OF GRANT - M3052 |
| M3142 | CITY OF GRUNDY CENTER - M3142 |
| M3212 | CITY OF HAMBURG - M3212 |
| M3285 | CITY OF HARPER - M3285 |
| M3315 | CITY OF HARVEY - M3315 |
| M3350 | CITY OF HAWKEYE - M3350 |
| M3485 | CITY OF HINTON - M3485 |
| M3542 | CITY OF HOPKINTON - M3542 |
| M3700 | CITY OF INWOOD - M3700 |
| M3792 | CITY OF JANESVILLE - M3792 |
| M3835 | CITY OF JOLLEY - M3835 |
| M3985 | CITY OF KIMBALLTON - M3985 |
| M4012 | CITY OF KEMME - M4012 |
| M4190 | CITY OF LAMONT - M4190 |
| M4245 | CITY OF LAWLER - M4245 |
| M4350 | CITY OF LIDDERDALE - M4350 |
| M4410 | CITY OF LISBON - M4410 |
| M4545 | CITY OF LOVILIA - M4545 |
| M4587 | CITY OF LUTHER - M4587 |
| M4647 | CITY OF MAGNOLIA - M4647 |
| M5225 | CITY OF MORLEY - M5225 |
| M5252 | CITY OF MOULTON - M5252 |
| M5302 | CITY OF MOUNT VERNON - M5302 |
| M5330 | CITY OF MUSCATINE - M5330 |
| M5392 | CITY OF NEMAHA - M5392 |
| M5427 | CITY OF NEW HAMPTON - M5427 |
| M5455 | CITY OF NEW VIRGINIA - M5455 |
| M5490 | CITY OF NICHOLS - M5490 |
| M5631 | CITY OF OAKLAND ACRES - M5631 |
| M5662 | CITY OF OGDEN - M5662 |
| M5760 | CITY OF OSAGE - M5760 |
| M5832 | CITY OF OWASA - M5832 |

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| M5852 | CITY OF OYENS - M5852 |
| M5927 | CITY OF PAULLINA - M5927 |
| M5980 | CITY OF PERSIA - M5980 |
| M6102 | CITY OF PLEASANT HILL - M6102 |
| M6207 | CITY OF PRAIRIE CITY - M6207 |
| M6240 | CITY OF PRIMGHAR - M6240 |
| M6320 | CITY OF RANDALL - M6320 |
| M6345 | CITY OF READLYN - M6345 |
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| P0436 | DIAMOND LAKE WMA - P0436 |
| P0447 | RED CEDAR WMA - P0447 |
| P0450 | BIG MILL CREEK WMA - P0450 |
| P0456 | EVELAND ACCESS - P0456 |
| P0463 | MUSKRAT SLOUGH WMA - P0463 |
| P0470 | SHELL ROCK BEND WMA - P0470 |
| P0478 | PELLA WMA - P0478 |
| P0484 | HIGHWAY 44 ACCESS - P0484 |
| P0487 | WILLIAMSON POND WMA - P0487 |
| P0491 | NOBLES LAKE WMA - P0491 |
| P0502 | LOESS HILL WMA - P0502 |
| P0505 | DEKALB WMA - P0505 |
| P0511 | WINNEBAGO BEND WMA - P0511 |
| P0524 | SUNKEN GROVE WMA - P0524 |
| P0528 | EAST TWIN LAKE WMA - P0528 |
| P0536 | HAWK VALLEY WMA - P0536 |
| P0550 | BLACKHAWK POINT WMA - P0550 |
| P0553 | FOLSOM LAKE WMA - P0553 |
| P0567 | DEWEYS PASTURE WMA - P0567 |
| P0573 | HALES SLOUGH WMA - P0573 |
| P0583 | KETTLESON-HOGBACK COMPLEX - P0583 |
| P0589 | BIG MARSH WMA - P0589 |
| P0598 | MANCHESTER FISH HATCHERY - P0598 |
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| P0614 | ECHO VALLEY STATE PARK - P0614 |
| P0618 | GITCHIE MANITOU STATE PRESERVE - P0618 |
| P0622 | LAKE KEOMAH STATE PARK - P0622 |
| P0629 | MARGO FRANKEL WOODS STATE PARK - P0629 |
| P0638 | PIKES PEAK STATE PARK - P0638 |
| P0646 | RICE LAKE STATE PARK - P0646 |
| P0654 | TRAPPERS BAY STATE PARK - P0654 |
| P0661 | WAUBONSIE STATE PARK - P0661 |
| P0668 | SWAN LAKE STATE PARK - P0668 |
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| P0688 | FORT ATKINSON STATE PRESERVE - P0688 |
| P0696 | BEAVER LAKE WMA - P0696 |
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| I0712 | IOWA STATE PENITENTIARY, FORT MADISON - I0712 |
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| I0758 | OELWEIN ARMORY - I0758 |
| I0762 | IOWA FALLS ARMORY - I0762 |
| I0765 | FAIRFIELD ARMORY - I0765 |
| I0773 | KNOXVILLE ARMORY - I0773 |
| I0777 | RED OAK ARMORY - I0777 |
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| I0942 | WAVERLY NAVAL HOUSING - I0942 |
| M7405 | CITY OF STOCKTON - M7405 |
| M7657 | CITY OF THURMAN - M7657 |
| M7830 | CITY OF UNDERWOOD - M7830 |
| M8065 | CITY OF WALL LAKE - M8065 |
| M8305 | CITY OF WESTFIELD - M8305 |
| M0065 | CITY OF ALBIA - M0065 |
| M0140 | CITY OF AMANA - M0140 |
| M0547 | CITY OF BENTON - M0547 |
| M0722 | CITY OF BODE - M0722 |
| M1770 | CITY OF CUSHING - M1770 |
| M1872 | CITY OF DEDHAM - M1872 |
| M2080 | CITY OF DOWS - M2080 |
| M2195 | CITY OF EARLING - M2195 |
| M2315 | CITY OF ELKADER - M2315 |
| M2525 | CITY OF FAYETTE - M2525 |
| M2697 | CITY OF FORT MADISON - M2697 |
| M3827 | CITY OF JOHNSTON - M3827 |
| M3952 | CITY OF KEOTA - M3952 |
| M4040 | CITY OF KNOXVILLE - M4040 |
| M4292 | CITY OF LEIGHTON - M4292 |
| M4412 | CITY OF LISCOMB - M4412 |
| M4657 | CITY OF MALLARD - M4657 |
| M4697 | CITY OF MANLY - M4697 |
| M4780 | CITY OF MARNE - M4780 |
| M4820 | CITY OF MARYSVILLE - M4820 |
| M4857 | CITY OF MAURICE - M4857 |
| M4935 | CITY OF MELBOURNE - M4935 |
| M4952 | CITY OF MENLO - M4952 |
| M5052 | CITY OF MILES - M5052 |
| M5110 | CITY OF MINGO - M5110 |
| M5160 | CITY OF MONMOUTH - M5160 |
| M5227 | CITY OF MORNING SUN - M5227 |
| M5262 | CITY OF MOUNT AYR - M5262 |
| M5405 | CITY OF NEVADA - M5405 |
| M5440 | CITY OF NEW LONDON - M5440 |
| M5565 | CITY OF NORTH WASHINGTON - M5565 |
| M5642 | CITY OF OAKVILLE - M5642 |

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| M5747 | CITY OF ORLEANS - M5747 |
| M5800 | CITY OF OTO - M5800 |
| M5917 | CITY OF PARNELL - M5917 |
| M5957 | CITY OF PEOSTA - M5957 |
| M6087 | CITY OF PLANO - M6087 |
| M6197 | CITY OF POSTVILLE - M6197 |
| M6257 | CITY OF PROTIVIN - M6257 |
| M6317 | CITY OF RANDALIA - M6317 |
| M5517 | CITY OF NODAWAY - M5517 |
| M5655 | CITY OF ODEBOLT - M5655 |
| M5847 | CITY OF OXFORD JUNCTION - M5847 |
| M6012 | CITY OF PIERSON - M6012 |
| M6492 | CITY OF RIVERDALE - M6492 |
| M6600 | CITY OF ROLFE - M6600 |
| M6830 | CITY OF SCARVILLE - M6830 |
| M6962 | CITY OF SHELLSBURG - M6962 |
| M7092 | CITY OF SMITHLAND - M7092 |
| M7575 | CITY OF TAMA - M7575 |
| M7735 | CITY OF TRIPOLI - M7735 |
| M8177 | CITY OF WAUKEE - M8177 |
| M8257 | CITY OF WEST CHESTER - M8257 |
| C0002 | COUNTY OF ADAMS - C0002 |
| C0027 | COUNTY OF DECATUR - C0027 |
| C0038 | COUNTY OF GRUNDY - C0038 |
| C0065 | COUNTY OF MILLS - C0065 |
| C0076 | COUNTY OF POCAHONTAS - C0076 |
| M0072 | CITY OF ALBURNETT - M0072 |
| M0182 | CITY OF ANITA - M0182 |
| M0277 | CITY OF ATALISSA - M0277 |
| M0575 | CITY OF BERTRAM - M0575 |
| M0775 | CITY OF BOXHOLM - M0775 |
| M0937 | CITY OF BUCKEYE - M0937 |
| M1185 | CITY OF CEDAR FALLS - M1185 |
| M1277 | CITY OF CHESTER - M1277 |
| M1595 | CITY OF CORRECTIONVILLE - M1595 |
| M1775 | CITY OF CYLINDER - M1775 |
| M2197 | CITY OF EARLVILLE - M2197 |
| M2335 | CITY OF ELLIOTT - M2335 |
| M2762 | CITY OF FREMONT - M2762 |
| M2895 | CITY OF GIBSON - M2895 |
| M3072 | CITY OF GRAY - M3072 |
| M3405 | CITY OF HENDERSON - M3405 |
| M3547 | CITY OF HORNICK - M3547 |
| M3742 | CITY OF IRETON - M3742 |
| M4222 | CITY OF LARRABEE - M4222 |
| M4482 | CITY OF LOGAN - M4482 |
| M4737 | CITY OF MAPLETON - M4737 |
| M4892 | CITY OF MCGREGOR - M4892 |
| M5035 | CITY OF MIDDLETOWN - M5035 |
| M5307 | CITY OF MOVILLE - M5307 |

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| M5450 | CITY OF NEW SHARON - M5450 |
| M5742 | CITY OF ORIENT - M5742 |
| M6232 | CITY OF PRESCOTT - M6232 |
| M6342 | CITY OF RAYMOND - M6342 |
| M6247 | CITY OF PRINCETON - M6247 |
| P0548 | BIG SIOUX RIVER COMPLEX WMA - P0548 |
| M6457 | CITY OF RIDGEWAY - M6457 |
| M6700 | CITY OF RYAN - M6700 |
| M6945 | CITY OF SHELBY - M6945 |
| P0430 | WATERLOO CREEK WMA - P0430 |
| P0455 | SOUTH SKUNK RIVER ACCESS - P0455 |
| P0469 | GRANNIS CREEK WMA - P0469 |
| P0493 | WILLOW SLOUGH WMA - P0493 |
| P0522 | OTTOSEN POTHOLES WMA - P0522 |
| P0544 | FOUR MILE LAKE WMA - P0544 |
| P0587 | COLYN WMA - P0587 |
| P0602 | AMBROSE A. CALL STATE PARK - P0602 |
| P0613 | DOLLIVER MEMORIAL STATE PARK - P0613 |
| P0644 | PREPARATION CANYON STATE PARK - P0644 |
| P0660 | WAPSIPINICON STATE PARK - P0660 |
| P0687 | FAIRPORT RECREATION AREA - P0687 |
| I0704 | MENTAL HEALTH INSTITUTE, INDEPENDENCE - I0704 |
| I0755 | BURLINGTON ARMORY - I0755 |
| I0772 | OSKALOOSA ARMORY - I0772 |
| I0788 | DAVENPORT AASF - I0788 |
| I0861 | CLINTON COMM. COLLEGE (AREA IX), CLINTON - I0861 |
| M7440 | CITY OF STRATFORD - M7440 |
| M7957 | CITY OF VAN METER - M7957 |
| C0091 | COUNTY OF WARREN - C0091 |
| M8477 | CITY OF WINDSOR HEIGHTS - M8477 |
| M0170 | CITY OF ANDOVER - M0170 |
| M2215 | CITY OF EAST PERU - M2215 |
| M2750 | CITY OF FREDERICKSBURG - M2750 |
| M4100 | CITY OF LADORA - M4100 |
| M6427 | CITY OF RICEVILLE - M6427 |
| M6467 | CITY OF RINARD - M6467 |
| M6520 | CITY OF ROBINS - M6520 |
| M6597 | CITY OF ROLAND - M6597 |
| M6652 | CITY OF ROWLEY - M6652 |
| M6735 | CITY OF SAINT ANSGAR - M6735 |
| M6750 | CITY OF SAINT LUCAS - M6750 |
| M6865 | CITY OF SCRANTON - M6865 |
| M6917 | CITY OF SHAMBAUGH - M6917 |
| M7007 | CITY OF SHUEYVILLE - M7007 |
| M7030 | CITY OF SILVER CITY - M7030 |
| M7152 | CITY OF SOUTH ENGLISH - M7152 |
| M7210 | CITY OF SPRING HILL - M7210 |
| M7432 | CITY OF STOUT - M7432 |
| M7490 | CITY OF SUMNER - M7490 |
| M7555 | CITY OF TABOR - M7555 |

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| M7692 | CITY OF TOLEDO - M7692 |
| M7825 | CITY OF UDELL - M7825 |
| M7960 | CITY OF VAN WERT - M7960 |
| M8032 | CITY OF VOLGA CITY - M8032 |
| M8155 | CITY OF WATERLOO - M8155 |
| M8207 | CITY OF WEBSTER - M8207 |
| M8290 | CITY OF WEST POINT - M8290 |
| M8319 | CITY OF WESTWOOD - M8319 |
| C0003 | COUNTY OF ALLAMAKEE - C0003 |
| C0012 | COUNTY OF BUTLER - C0012 |
| C0018 | COUNTY OF CHEROKEE - C0018 |
| C0030 | COUNTY OF DICKINSON - C0030 |
| C0034 | COUNTY OF FLOYD - C0034 |
| C0044 | COUNTY OF HENRY - C0044 |
| C0048 | COUNTY OF IOWA - C0048 |
| C0054 | COUNTY OF KEOKUK - C0054 |
| C0066 | COUNTY OF MITCHELL - C0066 |
| C0070 | COUNTY OF MUSCATINE - C0070 |
| C0081 | COUNTY OF SAC - C0081 |
| C0085 | COUNTY OF STORY - C0085 |
| C0099 | COUNTY OF WRIGHT - C0099 |
| M0050 | CITY OF AGENCY - M0050 |
| M0092 | CITY OF ALLEMAN - M0092 |
| M0195 | CITY OF APLINGTON - M0195 |
| M5825 | CITY OF OTTUMWA - M5825 |
| M5970 | CITY OF PERRY - M5970 |
| M6195 | CITY OF PORTSMOUTH - M6195 |
| M6332 | CITY OF RATHBUN - M6332 |
| P0539 | HARMON LAKE WMA - P0539 |
| P0564 | BAYS BRANCH WMA - P0564 |
| P0586 | KIOWA MARSH WMA - P0586 |
| I0723 | STATE PENITENTIARY FARM 3, FORT MADISON - I0723 |
| I0760 | HAMPTON ARMORY - 315 12TH AVE NW - I0760 |
| M6397 | CITY OF REINBECK - M6397 |
| M6575 | CITY OF ROCKWELL - M6575 |
| M6655 | CITY OF ROYAL - M6655 |
| M6752 | CITY OF SAINT MARYS - M6752 |
| M6955 | CITY OF SHELL ROCK - M6955 |
| M2962 | CITY OF GLIDDEN - M2962 |
| M3032 | CITY OF GRAND MOUND - M3032 |
| M3112 | CITY OF GREENVILLE - M3112 |
| M3252 | CITY OF HANSELL - M3252 |
| M3345 | CITY OF HAWARDEN - M3345 |
| M3505 | CITY OF HOLLAND - M3505 |
| M3680 | CITY OF INDIANOLA - M3680 |
| M3897 | CITY OF KELLOGG - M3897 |
| M4025 | CITY OF KNIERIM - M4025 |
| M4237 | CITY OF LAUREL - M4237 |
| M4377 | CITY OF LINCOLN - M4377 |
| M4525 | CITY OF LOST NATION - M4525 |

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| M4650 | CITY OF MAHARISHI VEDIC CITY - M4650 |
| M4805 | CITY OF MARTENSDALE - M4805 |
| M4882 | CITY OF MCCAUSLAND - M4882 |
| M5057 | CITY OF MILFORD - M5057 |
| M5142 | CITY OF MODALE - M5142 |
| M7055 | CITY OF SIOUX CENTER - M7055 |
| M7180 | CITY OF SPILLVILLE - M7180 |
| M7430 | CITY OF STORY CITY - M7430 |
| M7602 | CITY OF TENNANT - M7602 |
| M7845 | CITY OF UNIONVILLE - M7845 |
| M8012 | CITY OF VINING - M8012 |
| M8197 | CITY OF WAYLAND - M8197 |
| M8307 | CITY OF WESTGATE - M8307 |
| C0007 | COUNTY OF BLACK HAWK - C0007 |
| C0020 | COUNTY OF CLARKE - C0020 |
| C0033 | COUNTY OF FAYETTE - C0033 |
| C0049 | COUNTY OF JACKSON - C0049 |
| C0064 | COUNTY OF MARSHALL - C0064 |
| C0080 | COUNTY OF RINGGOLD - C0080 |
| C0094 | COUNTY OF WEBSTER - C0094 |
| M0125 | CITY OF ALTA - M0125 |
| M0207 | CITY OF AREDALE - M0207 |
| M0300 | CITY OF AUDUBON - M0300 |
| M0437 | CITY OF BAYARD - M0437 |
| M0562 | CITY OF BERKLEY - M0562 |
| M0702 | CITY OF BLOOMFIELD - M0702 |
| M0857 | CITY OF BRITT - M0857 |
| M1080 | CITY OF CANTRIL - M1080 |
| M1187 | CITY OF CEDAR RAPIDS - M1187 |
| M1272 | CITY OF CHEROKEE - M1272 |
| M1385 | CITY OF CLEARFIELD - M1385 |
| M1490 | CITY OF COLUMBUS JUNCTION - M1490 |
| M1757 | CITY OF CUMMING - M1757 |
| M1867 | CITY OF DECORAH - M1867 |
| M1987 | CITY OF DICKENS - M1987 |
| M2170 | CITY OF EAGLE GROVE - M2170 |
| M2355 | CITY OF ELLSWORTH - M2355 |
| M2497 | CITY OF FARLEY - M2497 |
| M5667 | CITY OF OKOBOJI - M5667 |
| M0327 | CITY OF AVOCA - M0327 |
| M0565 | CITY OF BERNARD - M0565 |
| M0812 | CITY OF BRAYTON - M0812 |
| M0977 | CITY OF BURLINGTON - M0977 |
| M1197 | CITY OF CENTER JUNCTION - M1197 |
| M1327 | CITY OF CLARE - M1327 |
| P0543 | IOWA LAKE (EMMET) WMA - P0543 |
| I0756 | DUBUQUE ARMORY - I0756 |
| M6542 | CITY OF ROCK RAPIDS - M6542 |
| M6790 | CITY OF SANDYVILLE - M6790 |
| M3322 | CITY OF HASTINGS - M3322 |

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| M3720 | CITY OF IOWA FALLS - M3720 |
| M4252 | CITY OF LE CLAIRE - M4252 |
| M4597 | CITY OF LUXEMBURG - M4597 |
| M4900 | CITY OF MCINTIRE - M4900 |
| M5182 | CITY OF MONTICELLO - M5182 |
| M7967 | CITY OF VENTURA - M7967 |
| M8280 | CITY OF WEST OKOBOJI - M8280 |
| C0026 | COUNTY OF DAVIS - C0026 |
| C0061 | COUNTY OF MADISON - C0061 |
| M0085 | CITY OF ALGONA - M0085 |
| M0792 | CITY OF BRADDYVILLE - M0792 |
| M1142 | CITY OF CARTER LAKE - M1142 |
| M1237 | CITY OF CHARITON - M1237 |
| M1477 | CITY OF COLLINS - M1477 |
| M1822 | CITY OF DANVILLE - M1822 |
| M2280 | CITY OF ELDORA - M2280 |
| M2712 | CITY OF FOSTORIA - M2712 |
| P0434 | MINNEWASHTA LAKE WMA - P0434 |
| P0454 | SKUNK RIVER WMA - P0454 |
| P0468 | OTTERVILLE WMA - P0468 |
| P0485 | PLEASANT VALLEY WMA - P0485 |
| P0506 | SAND CREEK WMA - P0506 |
| P0526 | BLUEBIRD ACCESS - P0526 |
| P0537 | BARRINGER SLOUGH WMA - P0537 |
| P0566 | GREEN ISLAND WMA - P0566 |
| P0590 | RUTHVEN WILDLIFE AREA - P0590 |
| P0611 | CLEAR LAKE STATE PARK - P0611 |
| P0631 | MCINTOSH WOODS STATE PARK - P0631 |
| P0648 | FORNEY LAKE WMA - P0648 |
| P0659 | LAKE WAPELLO STATE PARK - P0659 |
| P0677 | BIG CREEK STATE PARK - P0677 |
| P0689 | MINES OF SPAIN STATE RECREATION AREA - P0689 |
| I0722 | STATE PENITENTIARY FARMS 1 AND 2, FORT MADISON - I0722 |
| I0771 | CHARITON ARMORY - 1415 LUCAS - I0771 |
| I0803 | UNIVERSITY OF IOWA - MACBRIDE NATURE RECREATION AREA - I0803 |
| I0867 | HAWKEYE INST. OF TECH. (AREA VII), WATERLOO - I0867 |
| I0885 | W. IOWA TECH. COMM COLLEGE (AREA XII), SIOUX CITY - I0885 |
| M7202 | CITY OF SPRAGUEVILLE - M7202 |
| M8140 | CITY OF WASHINGTON - M8140 |
| M0110 | CITY OF ALLERTON - M0110 |
| M8471 | CITY OF WILTON - M8471 |
| M8552 | CITY OF WORTHINGTON - M8552 |
| M0285 | CITY OF ATLANTIC - M0285 |
| M1700 | CITY OF CRESCENT - M1700 |
| M2352 | CITY OF ELLSTON - M2352 |
| M3755 | CITY OF IRWIN - M3755 |
| M4257 | CITY OF LE MARS - M4257 |
| M5557 | CITY OF NORTH LIBERTY - M5557 |
| M6175 | CITY OF POMEROY - M6175 |
| P0429 | CEDAR ROCK STATE PARK - P0429 |

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| P0466 | WHITE PINE HOLLOW STATE PRESERVE - P0466 |
| P0540 | GOOSE LAKE (KOSSUTH) WMA - P0540 |
| P0437 | CHRISTOPHERSON SLOUGH - P0437 |
| P0446 | CEDAR BOTTOMS WMA - P0446 |
| P0457 | CLIFFLAND ACCESS - P0457 |
| P0462 | PICTURED ROCKS COUNTY PARK - P0462 |
| P0472 | SIEWERS SPRINGS FISH HATCHERY - P0472 |
| P0480 | MITCHELL MARSH WMA - P0480 |
| P0490 | TYSON BEND WMA - P0490 |
| P0498 | ARTESIAN LAKE WMA - P0498 |
| P0504 | FIVE ISLAND LAKE WMA - P0504 |
| P0515 | ELM LAKE WMA - P0515 |
| P0525 | LIZARD LAKE WMA - P0525 |
| P0538 | MYRE SLOUGH WMA - P0538 |
| P0546 | CHEEVER LAKE STATE PRESERVE - P0546 |
| P0555 | ELINOR BEDELL STATE PARK - P0555 |
| P0570 | LAKE SUGEMA WMA - P0570 |
| P0579 | BANNER LAKES AT SUMMERSET STATE PARK - P0579 |
| P0599 | INGHAM-HIGH WETLAND COMPLEX - P0599 |
| P0608 | BOB WHITE STATE PARK - P0608 |
| P0616 | GEODE STATE PARK - P0616 |
| P0621 | HEERY WOODS STATE PARK - P0621 |
| P0627 | LAKE MANAWA STATE PARK - P0627 |
| P0634 | NINE EAGLES STATE PARK - P0634 |
| P0640 | PILOT KNOB STATE PARK - P0640 |
| P0652 | STONE STATE PARK - P0652 |
| P0657 | WALNUT WOODS STATE PARK - P0657 |
| P0664 | GOTCH COUNTY PARK - P0664 |
| P0672 | OKAMANPEDAN STATE PARK - P0672 |
| P0678 | VOLGA RIVER LAKE STATE RECREATION AREA - P0678 |
| P0686 | MARBLE BEACH STATE RECREATION AREA - P0686 |
| P0695 | NOBLES ISLAND ACCESS - P0695 |
| I0705 | MOUNT PLEASANT CORRECTIONAL FACILITY - I0705 |
| I0710 | IOWA VETERANS HOME, MARSHALLTOWN - I0710 |
| I0716 | CORRECTIONAL RELEASE CENTER - I0716 |
| I0742 | AUDUBON ARMORY - I0742 |
| I0749 | MASON CITY ARMORY - I0749 |
| I0757 | ESTHERVILLE ARMORY - I0757 |
| I0763 | MT PLEASANT ARMORY - I0763 |
| I0774 | MARSHALLTOWN ARMORY - NINTH & SUMMIT - I0774 |
| I0783 | LE MARS ARMORY - I0783 |
| I0793 | IA NATIONAL GUARD - I0793 |
| P0802 | IOWA LAKESIDE LABORATORY - P0802 |
| I0812 | IOWA STATE UNIVERSITY - LAKESIDE LABORATORY - I0812 |
| I0830 | IOWA BRAILLE AND SIGHT SAVING SCHOOL, VINTON - I0830 |
| I0864 | NE IOWA COMM COLLEGE (AREA 1), PEOSTA - I0864 |
| I0869 | INDIAN HILLS COMM COLLEGE (AREA XV), OTTUMWA - I0869 |
| I0872 | IOWA CENTRAL COMM COLLEGE (AREA V), WEBSTER CITY - I0872 |
| I0879 | MUSCATINE COMM COLLEGE (AREA IX), MUSCATINE - I0879 |
| I0884 | SOUTHEASTERN COMM COLLEGE (AREA XVI), W BURLING - I0884 |

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| I0912 | PORT LOUISA NATIONAL WILDLIFE REFUGE - I0912 |
| I0919 | NEIL SMITH NATIONAL WILDLIFE REFUGE - I0919 |
| I0956 | HERBERT HOOVER NATIONAL HISTORICAL SITE - I0956 |
| M7635 | CITY OF THOMPSON - M7635 |
| M7855 | CITY OF UNIVERSITY HEIGHTS - M7855 |
| M8190 | CITY OF WAVERLY - M8190 |
| M8315 | CITY OF WESTSIDE - M8315 |
| M0127 | CITY OF ALTA VISTA - M0127 |
| M8422 | CITY OF WILLEY - M8422 |
| M8497 | CITY OF WINTERSSET - M8497 |
| M8545 | CITY OF WOODWARD - M8545 |
| M8602 | CITY OF YORKTOWN - M8602 |
| M0232 | CITY OF ARNOLDS PARK - M0232 |
| M0375 | CITY OF BALLTOWN - M0375 |
| M0687 | CITY OF BLENCOE - M0687 |
| M1747 | CITY OF CRYSTAL LAKE - M1747 |
| M1942 | CITY OF DERBY - M1942 |
| M2162 | CITY OF DYSART - M2162 |
| M2382 | CITY OF ELY - M2382 |
| M2620 | CITY OF FLORIS - M2620 |
| M3715 | CITY OF IOWA CITY - M3715 |
| M3992 | CITY OF KINGSLEY - M3992 |
| M4230 | CITY OF LATIMER - M4230 |
| M4345 | CITY OF LIBERTYVILLE - M4345 |
| M1415 | CITY OF CLINTON - M1415 |
| M1510 | CITY OF CONESVILLE - M1510 |
| M1762 | CITY OF CURLEW - M1762 |
| M1887 | CITY OF DEFIANCE - M1887 |
| M2152 | CITY OF DURANT - M2152 |
| M2322 | CITY OF ELKPORT - M2322 |
| M2530 | CITY OF FENTON - M2530 |
| M2837 | CITY OF GARNER - M2837 |
| M2977 | CITY OF GOODELL - M2977 |
| M3107 | CITY OF GREENFIELD - M3107 |
| M3240 | CITY OF HANLONTOWN - M3240 |
| M3432 | CITY OF HIAWATHA - M3432 |
| M3595 | CITY OF HUMBOLDT - M3595 |
| M3932 | CITY OF KENT - M3932 |
| M4157 | CITY OF LAKE VIEW - M4157 |
| M4290 | CITY OF LEHIGH - M4290 |
| M4477 | CITY OF LOCKRIDGE - M4477 |
| M5205 | CITY OF MOORHEAD - M5205 |
| M5292 | CITY OF MOUNT PLEASANT - M5292 |
| M5442 | CITY OF NEW MARKET - M5442 |
| M5590 | CITY OF NORWAY - M5590 |
| M5732 | CITY OF ORANGE CITY - M5732 |
| M5915 | CITY OF PARKERSBURG - M5915 |
| M6130 | CITY OF PLOVER - M6130 |
| M6265 | CITY OF PULASKI - M6265 |
| I0713 | NORTH CENTRAL CORRECTIONAL FAC., ROCKWELL CITY - I0713 |

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| P0440 | GOOSE LAKE (CLINTON) WMA - P0440 |
| P0460 | DEVOSS FOSTER WMA - P0460 |
| P0474 | MALANAPHY SPRINGS STATE PRESERVE - P0474 |
| P0497 | MIDDLE DECATUR BEND WMA - P0497 |
| P0514 | MORSE LAKE WMA - P0514 |
| P0545 | EAST SWAN LAKE WMA - P0545 |
| P0562 | RAND ACCESS - P0562 |
| P0578 | FOGLE LAKE WMA - P0578 |
| P0594 | STATE FOREST NURSERY - P0594 |
| P0607 | BLACK HAWK LAKE RECREATION RESERVE - P0607 |
| P0626 | LAKE MACBRIDE STATE PARK - P0626 |
| P0641 | PINE LAKE STATE PARK - P0641 |
| P0658 | WANATA STATE PARK - P0658 |
| P0671 | COLD SPRINGS STATE PARK - P0671 |
| P0684 | BRUSHY CREEK STATE RECREATION AREA - P0684 |
| I0706 | GLENWOOD STATE HOSPITAL AND SCHOOL - I0706 |
| I0748 | ATLANTIC ARMORY - 201 POPLAR ST - I0748 |
| I0786 | DAVENPORT ARMORY - I0786 |
| I0820 | UNIVERSITY OF NORTHERN IOWA, CEDAR FALLS - I0820 |
| I0873 | IOWA LAKES COMM COLLEGE (AREA III), EMMETSBURG - I0873 |
| I0926 | LAKE RATHBUN WMA - I0926 |
| I0970 | NATIONAL ANIMAL DISEASE LABORATORY - I0970 |
| M8212 | CITY OF WEBSTER CITY - M8212 |
| M0412 | CITY OF BARNUM - M0412 |
| M0807 | CITY OF BRANDON - M0807 |
| M1975 | CITY OF DIAGONAL - M1975 |
| M2412 | CITY OF ESSEX - M2412 |
| M3665 | CITY OF INDEPENDENCE - M3665 |
| M4205 | CITY OF LANSING - M4205 |
| M4515 | CITY OF LORIMOR - M4515 |
| M4757 | CITY OF MARBLE ROCK - M4757 |
| M4880 | CITY OF MCCALLSBURG - M4880 |
| M5087 | CITY OF MILO - M5087 |
| M5190 | CITY OF MONTOUR - M5190 |
| M5327 | CITY OF MURRAY - M5327 |
| M5482 | CITY OF NEWTON - M5482 |
| M5682 | CITY OF OLDS - M5682 |
| M5860 | CITY OF PACIFIC JUNCTION - M5860 |
| M6142 | CITY OF PLYMOUTH - M6142 |
| M5397 | CITY OF NEOLA - M5397 |
| M5737 | CITY OF ORCHARD - M5737 |
| M6150 | CITY OF POCAHONTAS - M6150 |
| M6717 | CITY OF SAC CITY - M6717 |
| M7272 | CITY OF STATE CENTER - M7272 |
| M8002 | CITY OF VILLISCA - M8002 |
| C0013 | COUNTY OF CALHOUN - C0013 |
| C0051 | COUNTY OF JEFFERSON - C0051 |
| C0092 | COUNTY OF WASHINGTON - C0092 |
| M0407 | CITY OF BARNES CITY - M0407 |
| M1087 | CITY OF CARBON - M1087 |

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| M1387 | CITY OF CLEGHORN - M1387 |
| M1905 | CITY OF DELMAR - M1905 |
| M2745 | CITY OF FRASER - M2745 |
| M3162 | CITY OF GUTHRIE CENTER - M3162 |
| M4080 | CITY OF LA MOTTE - M4080 |
| M4620 | CITY OF LYTTON - M4620 |
| M5207 | CITY OF MOORLAND - M5207 |
| M5865 | CITY OF PACKWOOD - M5865 |
| M5555 | CITY OF NORTH ENGLISH - M5555 |
| P0610 | BRUSH CREEK CANYON STATE PRESERVE - P0610 |
| P0444 | SYRACUSE WMA - P0444 |
| P0482 | ADAIR WMA - P0482 |
| P0507 | LIZARD CREEK WMA - P0507 |
| P0560 | HONEY CREEK DESTINATION RESORT - P0560 |
| P0628 | MAQUOKETA CAVES STATE PARK - P0628 |
| P0673 | LAKE CORNELIA STATE PARK - P0673 |
| I0740 | CORNING ARMORY - I0740 |
| I0811 | BRAYTON MEMORIAL FOREST, ISU - I0811 |
| I0876 | IOWA WESTERN COMM COLL. (AREA XIII),COUNCIL BLUFFS - I0876 |
| M0425 | CITY OF BATTLE CREEK - M0425 |
| P0633 | GULL POINT STATE PARK - P0633 |
| P0665 | KEARNY STATE PARK - P0665 |
| P0675 | HONEY CREEK STATE PARK - P0675 |
| P0692 | TEMPLER PARK STATE RECREATION AREA - P0692 |
| I0754 | PERRY ARMORY - I0754 |
| I0769 | KEOKUK ARMORY - I0769 |
| I0782 | SHENANDOAH ARMORY - I0782 |
| I0852 | STATE CAPITOL COMPLEX, DES MOINES - I0852 |
| I0930 | ROCK ISLAND ARSENAL - I0930 |
| M7545 | CITY OF SWISHER - M7545 |
| M7990 | CITY OF VICTOR - M7990 |
| M0015 | CITY OF ACKLEY - M0015 |
| M2060 | CITY OF DOUGHERTY - M2060 |
| M2507 | CITY OF FARMINGTON - M2507 |
| M3007 | CITY OF GOWRIE - M3007 |
| M3927 | CITY OF KENSSETT - M3927 |
| M4317 | CITY OF LETTS - M4317 |
| M4812 | CITY OF MARTINSBURG - M4812 |
| M5607 | CITY OF NUMA - M5607 |
| M6040 | CITY OF PILOT MOUND - M6040 |
| M5887 | CITY OF PALO - M5887 |
| P0642 | PRAIRIE LAKE WMA - P0642 |
| P0951 | YELLOW BANKS PARK - P0951 |
| S0031 | STATE OF NEBRASKA - S0031 |
| S0029 | STATE OF MISSOURI - S0029 |
| M2752 | CITY OF FREDERIKA - M2752 |
| M2875 | CITY OF GEORGE - M2875 |
| P0431 | LEKWA MARSH WMA - P0431 |
| P0435 | JEMMERSON SLOUGH COMPLEX - P0435 |
| M6407 | CITY OF REMSEN - M6407 |

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| M6450 | CITY OF RICKETTS - M6450 |
| M6537 | CITY OF ROCK FALLS - M6537 |
| M6585 | CITY OF RODMAN - M6585 |
| M6670 | CITY OF RUDD - M6670 |
| M6705 | CITY OF SABULA - M6705 |
| M6755 | CITY OF SAINT OLAF - M6755 |
| M6832 | CITY OF SCHALLER - M6832 |
| M6940 | CITY OF SHEFFIELD - M6940 |
| M7012 | CITY OF SIBLEY - M7012 |
| M7062 | CITY OF SIOUX RAPIDS - M7062 |
| M7185 | CITY OF SPIRIT LAKE - M7185 |
| M7402 | CITY OF STOCKPORT - M7402 |
| M7467 | CITY OF SULLY - M7467 |
| M7617 | CITY OF TERRIL - M7617 |
| M7672 | CITY OF TINGLEY - M7672 |
| M7860 | CITY OF UNIVERSITY PARK - M7860 |
| M8010 | CITY OF VINCENT - M8010 |
| M8087 | CITY OF WALNUT - M8087 |
| M8222 | CITY OF WELLMAN - M8222 |
| M8275 | CITY OF WEST LIBERTY - M8275 |
| S0019 | STATE OF IOWA - S0019 |
| C0009 | COUNTY OF BREMER - C0009 |
| C0016 | COUNTY OF CEDAR - C0016 |
| C0024 | COUNTY OF CRAWFORD - C0024 |
| C0032 | COUNTY OF EMMET - C0032 |
| C0041 | COUNTY OF HANCOCK - C0041 |
| C0047 | COUNTY OF IDA - C0047 |
| C0056 | COUNTY OF LEE - C0056 |
| C0062 | COUNTY OF MAHASKA - C0062 |
| C0072 | COUNTY OF OSCEOLA - C0072 |
| C0079 | COUNTY OF POWESHIEK - C0079 |
| C0086 | COUNTY OF TAMA - C0086 |
| C0096 | COUNTY OF WINNESHIEK - C0096 |
| M0062 | CITY OF ALBERT CITY - M0062 |
| M0155 | CITY OF AMES - M0155 |
| M0252 | CITY OF ASBURY - M0252 |
| M0385 | CITY OF BANKSTON - M0385 |
| M0460 | CITY OF BEAMAN - M0460 |
| M0652 | CITY OF BIRMINGHAM - M0652 |
| M0765 | CITY OF BOUTON - M0765 |
| M0855 | CITY OF BRISTOW - M0855 |
| M0957 | CITY OF BUFFALO CENTER - M0957 |
| M1045 | CITY OF CAMBRIDGE - M1045 |
| M1165 | CITY OF CASTANA - M1165 |
| M1225 | CITY OF CENTRALIA - M1225 |
| M1300 | CITY OF CHILLICOTHE - M1300 |
| M1337 | CITY OF CLARION - M1337 |
| M1430 | CITY OF CLUTIER - M1430 |
| M1487 | CITY OF COLUMBUS CITY - M1487 |
| M1590 | CITY OF CORNING - M1590 |

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| M1695 | CITY OF CRAWFORDSVILLE - M1695 |
| M1827 | CITY OF DAVENPORT - M1827 |
| M1875 | CITY OF DEEP RIVER - M1875 |
| M1997 | CITY OF DIKE - M1997 |
| M2085 | CITY OF DRAKESVILLE - M2085 |
| M2190 | CITY OF EARLHAM - M2190 |
| M2305 | CITY OF ELK HORN - M2305 |
| M2417 | CITY OF ESTHERVILLE - M2417 |
| M2512 | CITY OF FARNHAMVILLE - M2512 |
| M2690 | CITY OF FORT DODGE - M2690 |
| M2850 | CITY OF GARWIN - M2850 |
| M2920 | CITY OF GILMAN - M2920 |
| M3015 | CITY OF GRAETTINGER - M3015 |
| M3040 | CITY OF GRANDVIEW - M3040 |
| M3127 | CITY OF GRINNELL - M3127 |
| M3217 | CITY OF HAMILTON - M3217 |
| M3300 | CITY OF HARTFORD - M3300 |
| M3340 | CITY OF HAVERHILL - M3340 |
| M3445 | CITY OF HIGH AMANA - M3445 |
| M3475 | CITY OF HILLSBORO - M3475 |
| M3575 | CITY OF HUBBARD - M3575 |
| M3710 | CITY OF IONIA - M3710 |
| M3830 | CITY OF JOICE - M3830 |
| M3950 | CITY OF KEOSAUQUA - M3950 |
| M4010 | CITY OF KIRON - M4010 |
| M4170 | CITY OF LAKESIDE - M4170 |
| M4255 | CITY OF LE GRAND - M4255 |
| M4307 | CITY OF LEON - M4307 |
| M4427 | CITY OF LITTLE ROCK - M4427 |
| M4497 | CITY OF LONG GROVE - M4497 |
| M4640 | CITY OF MADRID - M4640 |
| M4682 | CITY OF MANCHESTER - M4682 |
| M4775 | CITY OF MARION - M4775 |
| M4830 | CITY OF MASONVILLE - M4830 |
| M4872 | CITY OF MAYSVILLE - M4872 |
| M4937 | CITY OF MELCHER-DALLAS - M4937 |
| M5075 | CITY OF MILLERSBURG - M5075 |
| M5137 | CITY OF MITCHELLVILLE - M5137 |
| M5195 | CITY OF MONTROSE - M5195 |
| M5257 | CITY OF MOUNT AUBURN - M5257 |
| M5357 | CITY OF MYSTIC - M5357 |
| M5437 | CITY OF NEW LIBERTY - M5437 |
| M5547 | CITY OF NORTH BUENA VISTA - M5547 |
| M5657 | CITY OF OELWEIN - M5657 |
| M5780 | CITY OF OSKALOOSA - M5780 |
| M5897 | CITY OF PANAMA - M5897 |
| M5947 | CITY OF PELLA - M5947 |
| M6112 | CITY OF PLEASANT PLAIN - M6112 |
| M6235 | CITY OF PRESTON - M6235 |
| M6297 | CITY OF RADCLIFFE - M6297 |

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| M4600 | CITY OF LUZERNE - M4600 |
| M5447 | CITY OF NEW PROVIDENCE - M5447 |
| M6405 | CITY OF REMBRANDT - M6405 |
| M6567 | CITY OF ROCKFORD - M6567 |
| M6692 | CITY OF RUTHVEN - M6692 |
| M6770 | CITY OF SALIX - M6770 |
| M6947 | CITY OF SHELDAHL - M6947 |
| M7085 | CITY OF SLOAN - M7085 |
| M7262 | CITY OF STANTON - M7262 |
| M7640 | CITY OF THORNBURG - M7640 |
| M7872 | CITY OF URBANA - M7872 |
| M8062 | CITY OF WALKER - M8062 |
| M8245 | CITY OF WEST AMANA - M8245 |
| C0008 | COUNTY OF BOONE - C0008 |
| C0022 | COUNTY OF CLAYTON - C0022 |
| C0040 | COUNTY OF HAMILTON - C0040 |
| C0060 | COUNTY OF LYON - C0060 |
| C0075 | COUNTY OF PLYMOUTH - C0075 |
| C0089 | COUNTY OF VAN BUREN - C0089 |
| M0135 | CITY OF ALVORD - M0135 |
| P0649 | SHARON BLUFFS STATE PARK - P0649 |
| I0717 | FORT DODGE CORRECTIONAL FACILITY, FORT DODGE - I0717 |
| I0878 | MARSHALLTOWN COMM COLLEGE(AREA VI), MARSHALLTOWN - I0878 |
| M1472 | CITY OF COLLEGE SPRINGS - M1472 |
| M3287 | CITY OF HARPERS FERRY - M3287 |
| M5135 | CITY OF MITCHELL - M5135 |
| I0917 | UPPER MISSISSIPPI LAND ACQUISITION, LOUISA - I0917 |
| S0046 | STATE OF SOUTH DAKOTA - S0046 |
| P0425 | BARKLEY MEMORIAL PARK - P0425 |
| P0697 | BIRDLAND PARK - P0697 |
| P0635 | EASTER LAKE PARK - P0635 |
| P0426 | OLIN REC AREA ACCESS - P0426 |

GEOGRAPHIC_IDENTIFIER_LU - Domain

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| DomainName | GEOGRAPHIC_IDENTIFIER_LU |
| Description | ID_GEOGRAPHIC_NAME |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | SDE |

| Code | Name |
|-------|-------------------------------|
| M6407 | M6407 - CITY OF REMSEN |
| M6422 | M6422 - CITY OF RHODES |
| M6447 | M6447 - CITY OF RICKARDSVILLE |
| M6450 | M6450 - CITY OF RICKETTS |
| M6472 | M6472 - CITY OF RINGSTED |
| M6495 | M6495 - CITY OF RIVERSIDE |
| M6537 | M6537 - CITY OF ROCK FALLS |
| M6550 | M6550 - CITY OF ROCK VALLEY |

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|-------|----------------------------------|
| M6577 | M6577 - CITY OF ROCKWELL CITY |
| M6585 | M6585 - CITY OF RODMAN |
| M6615 | M6615 - CITY OF ROSE HILL |
| M6650 | M6650 - CITY OF ROWAN |
| M6670 | M6670 - CITY OF RUDD |
| M6675 | M6675 - CITY OF RUNNELLS |
| M6695 | M6695 - CITY OF RUTLAND |
| M6705 | M6705 - CITY OF SABULA |
| M6737 | M6737 - CITY OF SAINT ANTHONY |
| M6745 | M6745 - CITY OF SAINT DONATUS |
| M6755 | M6755 - CITY OF SAINT OLAF |
| M6757 | M6757 - CITY OF SAINT PAUL |
| M6775 | M6775 - CITY OF SANBORN |
| M6832 | M6832 - CITY OF SCHALLER |
| M6867 | M6867 - CITY OF SEARSBORO |
| M6907 | M6907 - CITY OF SEYMOUR |
| M6932 | M6932 - CITY OF SHARPSBURG |
| M6940 | M6940 - CITY OF SHEFFIELD |
| M6950 | M6950 - CITY OF SHELDON |
| M6965 | M6965 - CITY OF SHENANDOAH |
| M7012 | M7012 - CITY OF SIBLEY |
| M7027 | M7027 - CITY OF SIGOURNEY |
| M7057 | M7057 - CITY OF SIOUX CITY |
| M7062 | M7062 - CITY OF SIOUX RAPIDS |
| M7130 | M7130 - CITY OF SOLON |
| M7135 | M7135 - CITY OF SOMERS |
| M7170 | M7170 - CITY OF SPENCER |
| M7185 | M7185 - CITY OF SPIRIT LAKE |
| M7237 | M7237 - CITY OF SPRINGVILLE |
| M7250 | M7250 - CITY OF STACYVILLE |
| M7402 | M7402 - CITY OF STOCKPORT |
| M7422 | M7422 - CITY OF STORM LAKE |
| M7442 | M7442 - CITY OF STRAWBERRY POINT |
| M7467 | M7467 - CITY OF SULLY |
| M7512 | M7512 - CITY OF SWALEDALE |
| M7515 | M7515 - CITY OF SWAN |
| M7617 | M7617 - CITY OF TERRIL |
| M7622 | M7622 - CITY OF THAYER |
| M7642 | M7642 - CITY OF THORNTON |
| M7672 | M7672 - CITY OF TINGLEY |
| M7702 | M7702 - CITY OF TORONTO |
| M7757 | M7757 - CITY OF TRURO |
| M7832 | M7832 - CITY OF UNION |
| M7860 | M7860 - CITY OF UNIVERSITY PARK |
| M7920 | M7920 - CITY OF UTE |
| M7932 | M7932 - CITY OF VALERIA |
| M7965 | M7965 - CITY OF VARINA |
| M8010 | M8010 - CITY OF VINCENT |
| M8045 | M8045 - CITY OF WADENA |
| M8060 | M8060 - CITY OF WALFORD |

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|-------|---------------------------------|
| M8087 | M8087 - CITY OF WALNUT |
| M8107 | M8107 - CITY OF WAPELLO |
| M8180 | M8180 - CITY OF WAUKON |
| M8205 | M8205 - CITY OF WEBB |
| M8222 | M8222 - CITY OF WELLMAN |
| M8227 | M8227 - CITY OF WELLSBURG |
| M8252 | M8252 - CITY OF WEST BRANCH |
| M8275 | M8275 - CITY OF WEST LIBERTY |
| M8295 | M8295 - CITY OF WEST UNION |
| M8312 | M8312 - CITY OF WESTPHALIA |
| S0019 | S0019 - STATE OF IOWA |
| C0005 | C0005 - COUNTY OF AUDUBON |
| C0006 | C0006 - COUNTY OF BENTON |
| C0009 | C0009 - COUNTY OF BREMER |
| C0011 | C0011 - COUNTY OF BUENA VISTA |
| C0015 | C0015 - COUNTY OF CASS |
| C0016 | C0016 - COUNTY OF CEDAR |
| C0019 | C0019 - COUNTY OF CHICKASAW |
| C0021 | C0021 - COUNTY OF CLAY |
| C0024 | C0024 - COUNTY OF CRAWFORD |
| C0025 | C0025 - COUNTY OF DALLAS |
| C0028 | C0028 - COUNTY OF DELAWARE |
| C0031 | C0031 - COUNTY OF DUBUQUE |
| C0032 | C0032 - COUNTY OF EMMET |
| C0035 | C0035 - COUNTY OF FRANKLIN |
| C0037 | C0037 - COUNTY OF GREENE |
| C0041 | C0041 - COUNTY OF HANCOCK |
| C0043 | C0043 - COUNTY OF HARRISON |
| C0046 | C0046 - COUNTY OF HUMBOLDT |
| C0047 | C0047 - COUNTY OF IDA |
| C0050 | C0050 - COUNTY OF JASPER |
| C0053 | C0053 - COUNTY OF JONES |
| C0056 | C0056 - COUNTY OF LEE |
| C0057 | C0057 - COUNTY OF LINN |
| C0059 | C0059 - COUNTY OF LUCAS |
| C0062 | C0062 - COUNTY OF MAHASKA |
| C0063 | C0063 - COUNTY OF MARION |
| C0067 | C0067 - COUNTY OF MONONA |
| C0069 | C0069 - COUNTY OF MONTGOMERY |
| C0072 | C0072 - COUNTY OF OSCEOLA |
| C0073 | C0073 - COUNTY OF PAGE |
| C0078 | C0078 - COUNTY OF POTTAWATTAMIE |
| C0079 | C0079 - COUNTY OF POWESHIEK |
| C0082 | C0082 - COUNTY OF SCOTT |
| C0083 | C0083 - COUNTY OF SHELBY |
| C0086 | C0086 - COUNTY OF TAMA |
| C0088 | C0088 - COUNTY OF UNION |
| C0093 | C0093 - COUNTY OF WAYNE |
| C0096 | C0096 - COUNTY OF WINNESHIEK |
| C0097 | C0097 - COUNTY OF WOODBURY |

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| M0017 | M0017 - CITY OF ACKWORTH |
| M0045 | M0045 - CITY OF AFTON |
| M0062 | M0062 - CITY OF ALBERT CITY |
| M0082 | M0082 - CITY OF ALEXANDER |
| M0112 | M0112 - CITY OF ALLISON |
| M0130 | M0130 - CITY OF ALTON |
| M0155 | M0155 - CITY OF AMES |
| M0172 | M0172 - CITY OF ANDREW |
| M0200 | M0200 - CITY OF ARCADIA |
| M0215 | M0215 - CITY OF ARION |
| M0247 | M0247 - CITY OF ARTHUR |
| M0252 | M0252 - CITY OF ASBURY |
| M0297 | M0297 - CITY OF AUBURN |
| M0310 | M0310 - CITY OF AURELIA |
| M0352 | M0352 - CITY OF BAGLEY |
| M0385 | M0385 - CITY OF BANKSTON |
| M0422 | M0422 - CITY OF BATAVIA |
| M0452 | M0452 - CITY OF BEACON |
| M0460 | M0460 - CITY OF BEAMAN |
| M0527 | M0527 - CITY OF BELMOND |
| M0535 | M0535 - CITY OF BENNETT |
| M0652 | M0652 - CITY OF BIRMINGHAM |
| M0675 | M0675 - CITY OF BLAIRSTOWN |
| M0697 | M0697 - CITY OF BLOCKTON |
| M0707 | M0707 - CITY OF BLUE GRASS |
| M0765 | M0765 - CITY OF BOUTON |
| M0800 | M0800 - CITY OF BRADGATE |
| M0817 | M0817 - CITY OF BREDA |
| M0855 | M0855 - CITY OF BRISTOW |
| M0867 | M0867 - CITY OF BRONSON |
| M0935 | M0935 - CITY OF BUCK GROVE |
| M0957 | M0957 - CITY OF BUFFALO CENTER |
| M0997 | M0997 - CITY OF BUSSEY |
| M1027 | M1027 - CITY OF CALLENDER |
| M1040 | M1040 - CITY OF CAMANCHE |
| M1045 | M1045 - CITY OF CAMBRIDGE |
| M1125 | M1125 - CITY OF CARROLL |
| M1140 | M1140 - CITY OF CARSON |
| M1152 | M1152 - CITY OF CASEY |
| M1165 | M1165 - CITY OF CASTANA |
| M1205 | M1205 - CITY OF CENTER POINT |
| M1217 | M1217 - CITY OF CENTRAL CITY |
| M1225 | M1225 - CITY OF CENTRALIA |
| M1250 | M1250 - CITY OF CHARLOTTE |
| M1255 | M1255 - CITY OF CHATSWORTH |
| M1300 | M1300 - CITY OF CHILLICOTHE |
| M1320 | M1320 - CITY OF CINCINNATI |
| M1332 | M1332 - CITY OF CLARINDA |
| M1337 | M1337 - CITY OF CLARION |
| M1372 | M1372 - CITY OF CLEAR LAKE |

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| M1390 | M1390 - CITY OF CLEMONS |
| M1422 | M1422 - CITY OF CLIO |
| M1430 | M1430 - CITY OF CLUTIER |
| M1455 | M1455 - CITY OF COIN |
| M1465 | M1465 - CITY OF COLESBURG |
| M1487 | M1487 - CITY OF COLUMBUS CITY |
| M1492 | M1492 - CITY OF COLWELL |
| M1525 | M1525 - CITY OF CONRAD |
| M1542 | M1542 - CITY OF COON RAPIDS |
| M1590 | M1590 - CITY OF CORNING |
| M1602 | M1602 - CITY OF CORYDON |
| M1642 | M1642 - CITY OF COUNCIL BLUFFS |
| M1695 | M1695 - CITY OF CRAWFORDSVILLE |
| M1725 | M1725 - CITY OF CROMWELL |
| M1755 | M1755 - CITY OF CUMBERLAND |
| M1815 | M1815 - CITY OF DANA |
| M1827 | M1827 - CITY OF DAVENPORT |
| M1840 | M1840 - CITY OF DAWSON |
| M1862 | M1862 - CITY OF DECATUR CITY |
| M1875 | M1875 - CITY OF DEEP RIVER |
| M1912 | M1912 - CITY OF DELTA |
| M1920 | M1920 - CITY OF DENISON |
| M1945 | M1945 - CITY OF DES MOINES |
| M1997 | M1997 - CITY OF DIKE |
| M2040 | M2040 - CITY OF DONNELSON |
| M2085 | M2085 - CITY OF DRAKESVILLE |
| M2132 | M2132 - CITY OF DUNDEE |
| M2140 | M2140 - CITY OF DUNKERTON |
| M2160 | M2160 - CITY OF DYERSVILLE |
| M2190 | M2190 - CITY OF EARLHAM |
| M2247 | M2247 - CITY OF EDGEWOOD |
| M2275 | M2275 - CITY OF ELDON |
| M2305 | M2305 - CITY OF ELK HORN |
| M2320 | M2320 - CITY OF ELKHART |
| M2365 | M2365 - CITY OF ELMA |
| M2387 | M2387 - CITY OF EMERSON |
| M2417 | M2417 - CITY OF ESTHERVILLE |
| M2452 | M2452 - CITY OF EXIRA |
| M2465 | M2465 - CITY OF FAIRFIELD |
| M2512 | M2512 - CITY OF FARNHAMVILLE |
| M2532 | M2532 - CITY OF FERGUSON |
| M2625 | M2625 - CITY OF FLOYD |
| M2680 | M2680 - CITY OF FORT ATKINSON |
| M2690 | M2690 - CITY OF FORT DODGE |
| M2780 | M2780 - CITY OF FRUITLAND |
| M2815 | M2815 - CITY OF GARBER |
| M2835 | M2835 - CITY OF GARNAVILLO |
| M2850 | M2850 - CITY OF GARWIN |
| M2865 | M2865 - CITY OF GENEVA |
| M2912 | M2912 - CITY OF GILLETT GROVE |

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| M2920 | M2920 - CITY OF GILMAN |
| M2955 | M2955 - CITY OF GLENWOOD |
| M2972 | M2972 - CITY OF GOLDFIELD |
| M3015 | M3015 - CITY OF GRAETTINGER |
| M3020 | M3020 - CITY OF GRAFTON |
| M3035 | M3035 - CITY OF GRAND RIVER |
| M3040 | M3040 - CITY OF GRANDVIEW |
| M3062 | M3062 - CITY OF GRANVILLE |
| M3102 | M3102 - CITY OF GREENE |
| M3125 | M3125 - CITY OF GRIMES |
| M3127 | M3127 - CITY OF GRINNELL |
| M3147 | M3147 - CITY OF GRUVER |
| M3167 | M3167 - CITY OF GUTTENBERG |
| M3217 | M3217 - CITY OF HAMILTON |
| M3230 | M3230 - CITY OF HANCOCK |
| M3257 | M3257 - CITY OF HARCOURT |
| M3270 | M3270 - CITY OF HARDY |
| M3300 | M3300 - CITY OF HARTFORD |
| M3310 | M3310 - CITY OF HARTWICK |
| M3335 | M3335 - CITY OF HAVELOCK |
| M3340 | M3340 - CITY OF HAVERHILL |
| M3365 | M3365 - CITY OF HAYESVILLE |
| M3395 | M3395 - CITY OF HEDRICK |
| M3445 | M3445 - CITY OF HIGH AMANA |
| M3475 | M3475 - CITY OF HILLSBORO |
| M3515 | M3515 - CITY OF HOLSTEIN |
| M3520 | M3520 - CITY OF HOLY CROSS |
| M3562 | M3562 - CITY OF HOUGHTON |
| M3575 | M3575 - CITY OF HUBBARD |
| M3650 | M3650 - CITY OF IDA GROVE |
| M3660 | M3660 - CITY OF IMOGENE |
| M3710 | M3710 - CITY OF IONIA |
| M3772 | M3772 - CITY OF JACKSON JUNCTION |
| M3817 | M3817 - CITY OF JESUP |
| M3830 | M3830 - CITY OF JOICE |
| M3877 | M3877 - CITY OF KANAWHA |
| M3892 | M3892 - CITY OF KELLERTON |
| M3950 | M3950 - CITY OF KEOSAUQUA |
| M3960 | M3960 - CITY OF KESWICK |
| M4000 | M4000 - CITY OF KINROSS |
| M4010 | M4010 - CITY OF KIRON |
| M4082 | M4082 - CITY OF LA PORTE CITY |
| M4110 | M4110 - CITY OF LAKE CITY |
| M4170 | M4170 - CITY OF LAKESIDE |
| M4187 | M4187 - CITY OF LAMONI |
| M4212 | M4212 - CITY OF LARCHWOOD |
| M4240 | M4240 - CITY OF LAURENS |
| M4255 | M4255 - CITY OF LE GRAND |
| M4262 | M4262 - CITY OF LE ROY |
| M4297 | M4297 - CITY OF LELAND |

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| M4307 | M4307 - CITY OF LEON |
| M4367 | M4367 - CITY OF LIME SPRINGS |
| M4392 | M4392 - CITY OF LINEVILLE |
| M4427 | M4427 - CITY OF LITTLE ROCK |
| M4457 | M4457 - CITY OF LIVERMORE |
| M4492 | M4492 - CITY OF LONE TREE |
| M4497 | M4497 - CITY OF LONG GROVE |
| M4555 | M4555 - CITY OF LOWDEN |
| M4565 | M4565 - CITY OF LUANA |
| M4612 | M4612 - CITY OF LYNNVILLE |
| M4640 | M4640 - CITY OF MADRID |
| M4655 | M4655 - CITY OF MALCOM |
| M4672 | M4672 - CITY OF MALVERN |
| M4682 | M4682 - CITY OF MANCHESTER |
| M4702 | M4702 - CITY OF MANNING |
| M4742 | M4742 - CITY OF MAQUOKETA |
| M4762 | M4762 - CITY OF MARCUS |
| M4775 | M4775 - CITY OF MARION |
| M4797 | M4797 - CITY OF MARSHALLTOWN |
| M4802 | M4802 - CITY OF MARTELLE |
| M4830 | M4830 - CITY OF MASONVILLE |
| M4832 | M4832 - CITY OF MASSENA |
| M4865 | M4865 - CITY OF MAXWELL |
| M4872 | M4872 - CITY OF MAYSVILLE |
| M4885 | M4885 - CITY OF MCCLELLAND |
| M4922 | M4922 - CITY OF MECHANICSVILLE |
| M4937 | M4937 - CITY OF MELCHER-DALLAS |
| M4945 | M4945 - CITY OF MELROSE |
| M4975 | M4975 - CITY OF MERRILL |
| M4985 | M4985 - CITY OF MESERVEY |
| M5075 | M5075 - CITY OF MILLERSBURG |
| M5077 | M5077 - CITY OF MILLERTON |
| M5092 | M5092 - CITY OF MILTON |
| M5097 | M5097 - CITY OF MINDEN |
| M5137 | M5137 - CITY OF MITCHELLVILLE |
| M5152 | M5152 - CITY OF MONDAMIN |
| M5165 | M5165 - CITY OF MONROE |
| M5172 | M5172 - CITY OF MONTEZUMA |
| M5195 | M5195 - CITY OF MONTROSE |
| M5212 | M5212 - CITY OF MORAVIA |
| M5235 | M5235 - CITY OF MORRISON |
| M5257 | M5257 - CITY OF MOUNT AUBURN |
| M5297 | M5297 - CITY OF MOUNT STERLING |
| M5300 | M5300 - CITY OF MOUNT UNION |
| M5357 | M5357 - CITY OF MYSTIC |
| M5375 | M5375 - CITY OF NASHUA |
| M5412 | M5412 - CITY OF NEW ALBIN |
| M5437 | M5437 - CITY OF NEW LIBERTY |
| M5452 | M5452 - CITY OF NEW VIENNA |
| M5472 | M5472 - CITY OF NEWHALL |

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| M5527 | M5527 - CITY OF NORA SPRINGS |
| M5547 | M5547 - CITY OF NORTH BUENA VISTA |
| M5570 | M5570 - CITY OF NORTHBORO |
| M5587 | M5587 - CITY OF NORWALK |
| M5650 | M5650 - CITY OF OCHEYEDAN |
| M5657 | M5657 - CITY OF OELWEIN |
| M5692 | M5692 - CITY OF OLLIE |
| M5720 | M5720 - CITY OF ONSLOW |
| M5780 | M5780 - CITY OF OSKALOOSA |
| M5785 | M5785 - CITY OF OSSIAN |
| M5822 | M5822 - CITY OF OTTOSEN |
| M5845 | M5845 - CITY OF OXFORD |
| M5897 | M5897 - CITY OF PANAMA |
| M5900 | M5900 - CITY OF PANORA |
| M5920 | M5920 - CITY OF PATON |
| M5947 | M5947 - CITY OF PELLA |
| M5990 | M5990 - CITY OF PETERSON |
| M6072 | M6072 - CITY OF PISGAH |
| M6112 | M6112 - CITY OF PLEASANT PLAIN |
| M6125 | M6125 - CITY OF PLEASANTVILLE |
| M6170 | M6170 - CITY OF POLK CITY |
| M6180 | M6180 - CITY OF POPEJOY |
| M6235 | M6235 - CITY OF PRESTON |
| M6255 | M6255 - CITY OF PROMISE CITY |
| M6287 | M6287 - CITY OF QUIMBY |
| M6297 | M6297 - CITY OF RADCLIFFE |
| M6322 | M6322 - CITY OF RANDOLPH |
| M6360 | M6360 - CITY OF RED OAK |
| M6377 | M6377 - CITY OF REDDING |
| M4600 | M4600 - CITY OF LUZERNE |
| M4630 | M4630 - CITY OF MACKSBURG |
| M5432 | M5432 - CITY OF NEW HARTFORD |
| M5447 | M5447 - CITY OF NEW PROVIDENCE |
| M5470 | M5470 - CITY OF NEWELL |
| M5580 | M5580 - CITY OF NORTHWOOD |
| M5630 | M5630 - CITY OF OAKLAND |
| M5667 | M5667 - CITY OF OKOBOJI |
| M5700 | M5700 - CITY OF ONAWA |
| M5772 | M5772 - CITY OF OSCEOLA |
| M5787 | M5787 - CITY OF OSTERDOCK |
| M5825 | M5825 - CITY OF OTTUMWA |
| M5902 | M5902 - CITY OF PANORAMA PARK |
| M5922 | M5922 - CITY OF PATTERSON |
| M5970 | M5970 - CITY OF PERRY |
| M6082 | M6082 - CITY OF PLAINFIELD |
| M6122 | M6122 - CITY OF PLEASANTON |
| M6195 | M6195 - CITY OF PORTSMOUTH |
| M6222 | M6222 - CITY OF PRAIRIEBURG |
| M6282 | M6282 - CITY OF QUASQUETON |
| M6332 | M6332 - CITY OF RATHBUN |

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| M6347 | M6347 - CITY OF REASNOR |
| P0527 | P0527 - SOO ACCESS |
| P0533 | P0533 - LITTLE SIOUX WMA |
| P0539 | P0539 - HARMON LAKE WMA |
| P0554 | P0554 - NEW ALBIN ACCESS |
| P0558 | P0558 - ALDO LEOPOLD WMA |
| P0564 | P0564 - BAYS BRANCH WMA |
| P0575 | P0575 - RATHBUN FISH HATCHERY |
| P0581 | P0581 - ORLEAN FISH HATCHERY |
| P0586 | P0586 - KIOWA MARSH WMA |
| P0596 | P0596 - ASHTON PITS WMA |
| P0600 | P0600 - BIG SPRINGS TROUT HATCHERY |
| I0723 | I0723 - STATE PENITENTIARY FARM 3, FORT MADISON |
| I0745 | I0745 - IA NATIONAL GUARD, BOONE |
| I0750 | I0750 - OSCEOLA ARMORY - LOCATION PENDING |
| I0760 | I0760 - HAMPTON ARMORY - 315 12TH AVE NW |
| I0770 | I0770 - CEDAR RAPIDS ARMORY |
| I0775 | I0775 - IA NATIONAL GUARD, GLENWOOD |
| I0789 | I0789 - SIOUX CENTER ARMORY - 102 S MAIN |
| M6397 | M6397 - CITY OF REINBECK |
| M6437 | M6437 - CITY OF RICHLAND |
| M6475 | M6475 - CITY OF RIPPEY |
| M6497 | M6497 - CITY OF RIVERTON |
| M6575 | M6575 - CITY OF ROCKWELL |
| M6587 | M6587 - CITY OF RODNEY |
| M6610 | M6610 - CITY OF ROME |
| M6655 | M6655 - CITY OF ROYAL |
| M6687 | M6687 - CITY OF RUSSELL |
| M6742 | M6742 - CITY OF SAINT CHARLES |
| M6752 | M6752 - CITY OF SAINT MARYS |
| M6762 | M6762 - CITY OF SALEM |
| M6840 | M6840 - CITY OF SCHLESWIG |
| M6890 | M6890 - CITY OF SERGEANT BLUFF |
| M6955 | M6955 - CITY OF SHELL ROCK |
| M6982 | M6982 - CITY OF SHERRILL |
| M2922 | M2922 - CITY OF GILMORE CITY |
| M2962 | M2962 - CITY OF GLIDDEN |
| M2980 | M2980 - CITY OF GOOSE LAKE |
| M3017 | M3017 - CITY OF GRAF |
| M3032 | M3032 - CITY OF GRAND MOUND |
| M3042 | M3042 - CITY OF GRANGER |
| M3070 | M3070 - CITY OF GRAVITY |
| M3080 | M3080 - CITY OF GREELEY |
| M3112 | M3112 - CITY OF GREENVILLE |
| M3132 | M3132 - CITY OF GRISWOLD |
| M3192 | M3192 - CITY OF HALBUR |
| M3222 | M3222 - CITY OF HAMPTON |
| M3252 | M3252 - CITY OF HANSELL |
| M3290 | M3290 - CITY OF HARRIS |
| M3305 | M3305 - CITY OF HARTLEY |

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| M3345 | M3345 - CITY OF HAWARDEN |
| M3385 | M3385 - CITY OF HAZLETON |
| M3415 | M3415 - CITY OF HEPBURN |
| M3505 | M3505 - CITY OF HOLLAND |
| M3525 | M3525 - CITY OF HOMESTEAD |
| M3590 | M3590 - CITY OF HULL |
| M3630 | M3630 - CITY OF HUXLEY |
| M3680 | M3680 - CITY OF INDIANOLA |
| M3782 | M3782 - CITY OF JAMAICA |
| M3820 | M3820 - CITY OF JEWELL |
| M3897 | M3897 - CITY OF KELLOGG |
| M3948 | M3948 - CITY OF KEOMAH VILLAGE |
| M3972 | M3972 - CITY OF KEYSTONE |
| M4025 | M4025 - CITY OF KNIERIM |
| M4092 | M4092 - CITY OF LACONA |
| M4182 | M4182 - CITY OF LAKOTA |
| M4195 | M4195 - CITY OF LANESBORO |
| M4237 | M4237 - CITY OF LAUREL |
| M4280 | M4280 - CITY OF LEDYARD |
| M4305 | M4305 - CITY OF LENOX |
| M4377 | M4377 - CITY OF LINCOLN |
| M4395 | M4395 - CITY OF LINN GROVE |
| M4490 | M4490 - CITY OF LONE ROCK |
| M4525 | M4525 - CITY OF LOST NATION |
| M4595 | M4595 - CITY OF LU VERNE |
| M4625 | M4625 - CITY OF MACEDONIA |
| M4650 | M4650 - CITY OF MAHARISHI VEDIC CITY |
| M4667 | M4667 - CITY OF MALOY |
| M4710 | M4710 - CITY OF MANSON |
| M4750 | M4750 - CITY OF MARATHON |
| M4782 | M4782 - CITY OF MARQUETTE |
| M4805 | M4805 - CITY OF MARTENSDALE |
| M4822 | M4822 - CITY OF MASON CITY |
| M4870 | M4870 - CITY OF MAYNARD |
| M4882 | M4882 - CITY OF MCCAUSLAND |
| M4930 | M4930 - CITY OF MEDIAPOLIS |
| M4950 | M4950 - CITY OF MELVIN |
| M4962 | M4962 - CITY OF MERIDEN |
| M5057 | M5057 - CITY OF MILFORD |
| M5085 | M5085 - CITY OF MILLVILLE |
| M5130 | M5130 - CITY OF MISSOURI VALLEY |
| M5142 | M5142 - CITY OF MODALE |
| M5162 | M5162 - CITY OF MONONA |
| M7017 | M7017 - CITY OF SIDNEY |
| M7055 | M7055 - CITY OF SIOUX CENTER |
| M7075 | M7075 - CITY OF SLATER |
| M7125 | M7125 - CITY OF SOLDIER |
| M7142 | M7142 - CITY OF SOUTH AMANA |
| M7180 | M7180 - CITY OF SPILLVILLE |
| M7225 | M7225 - CITY OF SPRINGBROOK |

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| M7260 | M7260 - CITY OF STANLEY |
| M7357 | M7357 - CITY OF STEAMBOAT ROCK |
| M7430 | M7430 - CITY OF STORY CITY |
| M7455 | M7455 - CITY OF STRUBLE |
| M7535 | M7535 - CITY OF SWEA CITY |
| M7602 | M7602 - CITY OF TENNANT |
| M7637 | M7637 - CITY OF THOR |
| M7680 | M7680 - CITY OF TITONKA |
| M7727 | M7727 - CITY OF TREYNOR |
| M7845 | M7845 - CITY OF UNIONVILLE |
| M7875 | M7875 - CITY OF URBANDALE |
| M7952 | M7952 - CITY OF VAN HORNE |
| M8012 | M8012 - CITY OF VINING |
| M8052 | M8052 - CITY OF WALCOTT |
| M8150 | M8150 - CITY OF WASHTA |
| M8175 | M8175 - CITY OF WAUCOMA |
| M8197 | M8197 - CITY OF WAYLAND |
| M8242 | M8242 - CITY OF WESLEY |
| M8255 | M8255 - CITY OF WEST BURLINGTON |
| M8307 | M8307 - CITY OF WESTGATE |
| M8322 | M8322 - CITY OF WHAT CHEER |
| C0001 | C0001 - COUNTY OF ADAIR |
| C0007 | C0007 - COUNTY OF BLACK HAWK |
| C0010 | C0010 - COUNTY OF BUCHANAN |
| C0014 | C0014 - COUNTY OF CARROLL |
| C0020 | C0020 - COUNTY OF CLARKE |
| C0023 | C0023 - COUNTY OF CLINTON |
| C0029 | C0029 - COUNTY OF DES MOINES |
| C0033 | C0033 - COUNTY OF FAYETTE |
| C0036 | C0036 - COUNTY OF FREMONT |
| C0042 | C0042 - COUNTY OF HARDIN |
| C0045 | C0045 - COUNTY OF HOWARD |
| C0049 | C0049 - COUNTY OF JACKSON |
| C0055 | C0055 - COUNTY OF KOSSUTH |
| C0058 | C0058 - COUNTY OF LOUISA |
| C0064 | C0064 - COUNTY OF MARSHALL |
| C0068 | C0068 - COUNTY OF MONROE |
| C0071 | C0071 - COUNTY OF O'BRIEN |
| C0077 | C0077 - COUNTY OF POLK |
| C0080 | C0080 - COUNTY OF RINGGOLD |
| C0084 | C0084 - COUNTY OF SIOUX |
| C0090 | C0090 - COUNTY OF WAPELLO |
| C0094 | C0094 - COUNTY OF WEBSTER |
| M0022 | M0022 - CITY OF ADAIR |
| M0055 | M0055 - CITY OF AKRON |
| M0070 | M0070 - CITY OF ALBION |
| M0125 | M0125 - CITY OF ALTA |
| M0132 | M0132 - CITY OF ALTOONA |
| M0187 | M0187 - CITY OF ANKENY |
| M0207 | M0207 - CITY OF AREDALE |

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| M0265 | M0265 - CITY OF ASHTON |
| M0280 | M0280 - CITY OF ATHELSTAN |
| M0300 | M0300 - CITY OF AUDUBON |
| M0335 | M0335 - CITY OF AYRSHIRE |
| M0380 | M0380 - CITY OF BANCROFT |
| M0420 | M0420 - CITY OF BASSETT |
| M0437 | M0437 - CITY OF BAYARD |
| M0470 | M0470 - CITY OF BEAVER |
| M0520 | M0520 - CITY OF BELLEVUE |
| M0562 | M0562 - CITY OF BERKLEY |
| M0595 | M0595 - CITY OF BEVINGTON |
| M0677 | M0677 - CITY OF BLAKESBURG |
| M0702 | M0702 - CITY OF BLOOMFIELD |
| M0747 | M0747 - CITY OF BONDURANT |
| M0837 | M0837 - CITY OF BRIDGEWATER |
| M0857 | M0857 - CITY OF BRITT |
| M0952 | M0952 - CITY OF BUFFALO |
| M0990 | M0990 - CITY OF BURT |
| M1015 | M1015 - CITY OF CALAMUS |
| M1080 | M1080 - CITY OF CANTRIL |
| M1122 | M1122 - CITY OF CARPENTER |
| M1162 | M1162 - CITY OF CASTALIA |
| M1187 | M1187 - CITY OF CEDAR RAPIDS |
| M1210 | M1210 - CITY OF CENTERVILLE |
| M1252 | M1252 - CITY OF CHARTER OAK |
| M1272 | M1272 - CITY OF CHEROKEE |
| M1317 | M1317 - CITY OF CHURDAN |
| M1347 | M1347 - CITY OF CLARKSVILLE |
| M1385 | M1385 - CITY OF CLEARFIELD |
| M1425 | M1425 - CITY OF CLIVE |
| M1452 | M1452 - CITY OF COGGON |
| M1467 | M1467 - CITY OF COLFAX |
| M1490 | M1490 - CITY OF COLUMBUS JUNCTION |
| M1535 | M1535 - CITY OF CONWAY |
| M1597 | M1597 - CITY OF CORWITH |
| M1640 | M1640 - CITY OF COULTER |
| M1682 | M1682 - CITY OF CRAIG |
| M1757 | M1757 - CITY OF CUMMING |
| M1787 | M1787 - CITY OF DAKOTA CITY |
| M1845 | M1845 - CITY OF DAYTON |
| M1867 | M1867 - CITY OF DECORAH |
| M1902 | M1902 - CITY OF DELHI |
| M1935 | M1935 - CITY OF DENVER |
| M1987 | M1987 - CITY OF DICKENS |
| M2072 | M2072 - CITY OF DOW CITY |
| M2120 | M2120 - CITY OF DUMONT |
| M2170 | M2170 - CITY OF EAGLE GROVE |
| M2200 | M2200 - CITY OF EARLY |
| M2240 | M2240 - CITY OF EDDYVILLE |
| M2312 | M2312 - CITY OF ELK RUN HEIGHTS |

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| M2355 | M2355 - CITY OF ELLSWORTH |
| M2432 | M2432 - CITY OF EVANSDALE |
| M2462 | M2462 - CITY OF FAIRFAX |
| M2497 | M2497 - CITY OF FARLEY |
| M2547 | M2547 - CITY OF FERTILE |
| M2660 | M2660 - CITY OF FOREST CITY |
| M2752 | M2752 - CITY OF FREDERIKA |
| M2755 | M2755 - CITY OF FREDONIA |
| M2802 | M2802 - CITY OF GALT |
| M2845 | M2845 - CITY OF GARRISON |
| M2875 | M2875 - CITY OF GEORGE |
| M2905 | M2905 - CITY OF GILBERTVILLE |
| P0427 | P0427 - SCOTT I-29 WMA |
| P0431 | P0431 - LEKWA MARSH WMA |
| P0433 | P0433 - SILVER LAKE (DICKINSON) WMA |
| P0435 | P0435 - JEMMERSON SLOUGH COMPLEX |
| P0437 | P0437 - CHRISTOPHERSON SLOUGH |
| P0439 | P0439 - CLEAR CREEK WMA |
| P0441 | P0441 - BARBER CREEK WMA |
| P0445 | P0445 - WIESE SLOUGH WMA |
| P0446 | P0446 - CEDAR BOTTOMS WMA |
| P0449 | P0449 - DALTON POND WMA |
| P0451 | P0451 - KLUM LAKE WMA |
| P0452 | P0452 - CONE MARSH WMA |
| P0457 | P0457 - CLIFFLAND ACCESS |
| P0458 | P0458 - MIAMI LAKE WMA |
| P0461 | P0461 - INDIAN BLUFFS WMA |
| P0462 | P0462 - PICTURED ROCKS COUNTY PARK |
| P0465 | P0465 - ELDON WMA |
| P0467 | P0467 - TROY MILLS WMA |
| P0471 | P0471 - VENTURA MARSH WMA |
| P0472 | P0472 - SIEWERS SPRINGS FISH HATCHERY |
| P0473 | P0473 - COON CREEK WMA |
| P0476 | P0476 - BLUFFTON FIR STAND STATE PRESERVE |
| P0477 | P0477 - BRIGHTS LAKE WMA |
| P0480 | P0480 - MITCHELL MARSH WMA |
| P0483 | P0483 - POLK CITY REFUGE |
| P0486 | P0486 - PERRY ACCESS WMA |
| P0488 | P0488 - MCCORD POND WMA |
| P0490 | P0490 - TYSON BEND WMA |
| P0492 | P0492 - DEER ISLAND WMA |
| P0496 | P0496 - DUNBAR SLOUGH WMA |
| P0498 | P0498 - ARTESIAN LAKE WMA |
| P0501 | P0501 - LOUISVILLE BEND WMA |
| P0503 | P0503 - BOONE FORKS WMA |
| P0504 | P0504 - FIVE ISLAND LAKE WMA |
| P0509 | P0509 - SAC CITY ACCESS |
| P0510 | P0510 - WEEDLAND ACCESS |
| P0513 | P0513 - BIGELOW COUNTY PARK |
| P0515 | P0515 - ELM LAKE WMA |

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| P0517 | P0517 - RINGGOLD WMA |
| P0521 | P0521 - BRADGATE WMA |
| P0525 | P0525 - LIZARD LAKE WMA |
| P0531 | P0531 - SILVER LAKE (PALO ALTO) WMA |
| P0532 | P0532 - RUSH LAKE (PALO ALTO) WMA |
| P0538 | P0538 - MYRE SLOUGH WMA |
| P0541 | P0541 - GRASS LAKE WMA |
| P0546 | P0546 - CHEEVER LAKE STATE PRESERVE |
| P0547 | P0547 - BURR OAK LAKE WMA |
| P0551 | P0551 - FISH FARM MOUNDS WMA |
| P0552 | P0552 - SOUTHFORK ACCESS WMA |
| P0555 | P0555 - ELINOR BEDELL STATE PARK |
| P0559 | P0559 - ELK CREEK WMA |
| P0565 | P0565 - OAKDALE - GEOLOGICAL SURVEY |
| P0569 | P0569 - UPPER IOWA RIVER WMA |
| P0570 | P0570 - LAKE SUGEMA WMA |
| P0576 | P0576 - THREE MILE LAKE WMA |
| P0577 | P0577 - OTTER CREEK MARSH WMA |
| P0579 | P0579 - BANNER LAKES AT SUMMERSET STATE PARK |
| P0588 | P0588 - BLOOD RUN HISTORIC SITE |
| P0593 | P0593 - DEER CREEK WMA |
| P0595 | P0595 - LAKE ODESSA WMA |
| P0599 | P0599 - INGHAM-HIGH WETLAND COMPLEX |
| P0601 | P0601 - LAKE AHQUABI STATE PARK |
| P0604 | P0604 - BEEDS LAKE STATE PARK |
| P0608 | P0608 - BOB WHITE STATE PARK |
| P0609 | P0609 - NORTH TWIN LAKE STATE PARK |
| P0612 | P0612 - LAKE DARLING STATE PARK |
| P0616 | P0616 - GEODE STATE PARK |
| P0617 | P0617 - GEORGE WYTH STATE PARK |
| P0619 | P0619 - GREEN VALLEY STATE PARK |
| P0621 | P0621 - HEERY WOODS STATE PARK |
| P0623 | P0623 - LACEY-KEOSAUQUA STATE PARK |
| P0625 | P0625 - LEWIS AND CLARK STATE PARK |
| P0627 | P0627 - LAKE MANAWA STATE PARK |
| P0630 | P0630 - MCGREGOR HEIGHTS (PIKES PEAK) |
| P0632 | P0632 - MILL CREEK STATE PARK |
| P0634 | P0634 - NINE EAGLES STATE PARK |
| P0637 | P0637 - PAMMEL STATE PARK |
| P0640 | P0640 - PILOT KNOB STATE PARK |
| P0645 | P0645 - RED HAW STATE PARK |
| P0647 | P0647 - ROCK CREEK STATE PARK |
| P0650 | P0650 - SPRINGBROOK STATE PARK |
| P0652 | P0652 - STONE STATE PARK |
| P0655 | P0655 - UNION GROVE STATE PARK |
| P0656 | P0656 - VIKING LAKE STATE PARK |
| P0657 | P0657 - WALNUT WOODS STATE PARK |
| P0662 | P0662 - WILDCAT DEN STATE PARK |
| P0663 | P0663 - EAGLE LAKE STATE PARK |
| P0664 | P0664 - GOTCH COUNTY PARK |

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| P0667 | P0667 - OAK GROVE STATE PARK |
| P0669 | P0669 - LAKE ANITA STATE PARK |
| P0672 | P0672 - OKAMANPEDAN STATE PARK |
| P0674 | P0674 - SOUTH TWIN LAKE WMA |
| P0676 | P0676 - ELK ROCK STATE PARK |
| P0678 | P0678 - VOLGA RIVER LAKE STATE RECREATION AREA |
| P0681 | P0681 - LAKE ICARIA COUNTY PARK |
| P0683 | P0683 - BADGER CREEK STATE RECREATION AREA |
| P0685 | P0685 - EMERSON BAY STATE RECREATION AREA |
| P0686 | P0686 - MARBLE BEACH STATE RECREATION AREA |
| P0695 | P0695 - NOBLES ISLAND ACCESS |
| P0698 | P0698 - PRINCETON WMA |
| I0702 | I0702 - MENTAL HEALTH INSTITUTE, CHEROKEE |
| I0705 | I0705 - MOUNT PLEASANT CORRECTIONAL FACILITY |
| I0709 | I0709 - IOWA JUVENILE HOME, TOLEDO |
| I0710 | I0710 - IOWA VETERANS HOME, MARSHALLTOWN |
| I0711 | I0711 - ANAMOSA STATE PENITENTIARY |
| I0715 | I0715 - IOWA CORRECTIONAL INST. FOR WOMEN |
| I0716 | I0716 - CORRECTIONAL RELEASE CENTER |
| I0718 | I0718 - CLARINDA CORRECTIONAL FACILITY, CLARINDA |
| I0724 | I0724 - IOWA MEDICAL AND CLASSIFICATION CENTER, OAKDALE |
| I0742 | I0742 - AUDUBON ARMORY |
| I0743 | I0743 - CENTERVILLE ARMORY |
| I0747 | I0747 - CARROLL ARMORY |
| I0749 | I0749 - MASON CITY ARMORY |
| I0752 | I0752 - CLINTON ARMORY - 1200 13TH AVE N |
| I0753 | I0753 - DENISON ARMORY |
| I0757 | I0757 - ESTHERVILLE ARMORY |
| I0761 | I0761 - JEFFERSON ARMORY - ON E53 BY AIRPORT |
| I0763 | I0763 - MT PLEASANT ARMORY |
| I0767 | I0767 - IOWA CITY ARMORY |
| I0768 | I0768 - IA NATIONAL GUARD, ALGONA |
| I0774 | I0774 - MARSHALLTOWN ARMORY - NINTH & SUMMIT |
| I0776 | I0776 - MAPLETON ARMORY - ON E16 W OF CITY |
| I0778 | I0778 - VILLISCA ARMORY - 316 E 3RD ST |
| I0781 | I0781 - CLARINDA ARMORY |
| I0783 | I0783 - LE MARS ARMORY |
| I0787 | I0787 - DAVENPORT OMS |
| I0791 | I0791 - WASHINGTON ARMORY |
| I0792 | I0792 - FORT DODGE ARMORY |
| I0801 | I0801 - THE UNIVERSITY OF IOWA, OAKDALE RESEARCH CAMPUS |
| P0802 | P0802 - IOWA LAKESIDE LABORATORY |
| I0804 | I0804 - UNIVERSITY OF IOWA - OAKDALE CAMPUS |
| I0810 | I0810 - IOWA STATE UNIVERSITY, AMES |
| I0812 | I0812 - IOWA STATE UNIVERSITY - LAKESIDE LABORATORY |
| P0814 | P0814 - IOWA STATE UNIVERSITY-EXPERIMENTAL FARM |
| I0830 | I0830 - IOWA BRAILLE AND SIGHT SAVING SCHOOL, VINTON |
| I0840 | I0840 - IOWA SCHOOL FOR THE DEAF, COUNCIL BLUFFS |
| I0851 | I0851 - IOWA STATE FAIRGROUNDS, DES MOINES |
| I0860 | I0860 - NE IOWA AREA TECH. INST. (AREA 1), CALMAR |

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| I0864 | I0864 - NE IOWA COMM COLLEGE (AREA 1), PEOSTA |
| I0865 | I0865 - SCOTT COMM COLLEGE (AREA IX), RIVERDALE |
| I0866 | I0866 - ELLSWORTH COMM COLLEGE (AREA VI), IOWA FALLS |
| I0869 | I0869 - INDIAN HILLS COMM COLLEGE (AREA XV), OTTUMWA |
| I0870 | I0870 - IOWA CENTRAL COMM COLLEGE (AREA V), EAGLE GROVE |
| I0871 | I0871 - IOWA CENTRAL COMM COLLEGE (AREA V), FORT DODGE |
| I0872 | I0872 - IOWA CENTRAL COMM COLLEGE (AREA V), WEBSTER CITY |
| I0875 | I0875 - IOWA WESTERN COMM COLL. (AREA XIII), CLARINDA |
| I0877 | I0877 - KIRKWOOD COMM COLLEGE (AREA X), CEDAR RAPIDS |
| I0879 | I0879 - MUSCATINE COMM COLLEGE (AREA IX), MUSCATINE |
| I0881 | I0881 - NW IOWA COMM COLLEGE (AREA IV), SHELDON |
| I0882 | I0882 - SOUTHWESTERN COMM COLLEGE (AREAXIV), CRESTON |
| I0884 | I0884 - SOUTHEASTERN COMM COLLEGE (AREA XVI), W BURLING |
| I0886 | I0886 - DES MOINES AREA COMM COLL.(AREA XI), DES MOINES |
| I0901 | I0901 - TAMA INDIAN SETTLEMENT |
| I0911 | I0911 - UNION SLOUGH NATIONAL WILDLIFE REFUGE |
| I0912 | I0912 - PORT LOUISA NATIONAL WILDLIFE REFUGE |
| I0916 | I0916 - UPPER MISSISSIPPI LAND ACQUISITION, JACKSON |
| I0918 | I0918 - DESOTO NATIONAL WILDLIFE REFUGE |
| I0919 | I0919 - NEIL SMITH NATIONAL WILDLIFE REFUGE |
| I0928 | I0928 - RED ROCK WMA |
| I0931 | I0931 - SAYLORVILLE RESERVOIR |
| I0943 | I0943 - IOWA ARMY AMMUNITION PLANT |
| I0956 | I0956 - HERBERT HOOVER NATIONAL HISTORICAL SITE |
| I0957 | I0957 - EFFIGY MOUNDS NATIONAL MONUMENT |
| M7257 | M7257 - CITY OF STANHOPE |
| M7265 | M7265 - CITY OF STANWOOD |
| M7457 | M7457 - CITY OF STUART |
| M7597 | M7597 - CITY OF TEMPLETON |
| M7635 | M7635 - CITY OF THOMPSON |
| M7710 | M7710 - CITY OF TRAER |
| M7752 | M7752 - CITY OF TRUESDALE |
| M7855 | M7855 - CITY OF UNIVERSITY HEIGHTS |
| M8017 | M8017 - CITY OF VINTON |
| M8050 | M8050 - CITY OF WAHPETON |
| M8160 | M8160 - CITY OF WATERVILLE |
| M8190 | M8190 - CITY OF WAVERLY |
| M8235 | M8235 - CITY OF WELTON |
| M8260 | M8260 - CITY OF WEST DES MOINES |
| M8315 | M8315 - CITY OF WESTSIDE |
| M0035 | M0035 - CITY OF ADEL |
| M0052 | M0052 - CITY OF AINSWORTH |
| M0077 | M0077 - CITY OF ALDEN |
| M0127 | M0127 - CITY OF ALTA VISTA |
| M8325 | M8325 - CITY OF WHEATLAND |
| M8365 | M8365 - CITY OF WHITING |
| M8375 | M8375 - CITY OF WHITTEN |
| M8422 | M8422 - CITY OF WILLEY |
| M8427 | M8427 - CITY OF WILLIAMSBURG |
| M8432 | M8432 - CITY OF WILLIAMSON |

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| M8480 | M8480 - CITY OF WINFIELD |
| M8497 | M8497 - CITY OF WINTERSET |
| M8505 | M8505 - CITY OF WIOTA |
| M8517 | M8517 - CITY OF WODEN |
| M8530 | M8530 - CITY OF WOODBURN |
| M8545 | M8545 - CITY OF WOODWARD |
| M8562 | M8562 - CITY OF WYOMING |
| M8565 | M8565 - CITY OF YALE |
| M8602 | M8602 - CITY OF YORKTOWN |
| M8612 | M8612 - CITY OF ZEARING |
| M0192 | M0192 - CITY OF ANTHON |
| M0202 | M0202 - CITY OF ARCHER |
| M0232 | M0232 - CITY OF ARNOLDS PARK |
| M0272 | M0272 - CITY OF ASPINWALL |
| M0315 | M0315 - CITY OF AURORA |
| M0345 | M0345 - CITY OF BADGER |
| M0375 | M0375 - CITY OF BALLTOWN |
| M0515 | M0515 - CITY OF BELLE PLAINE |
| M0587 | M0587 - CITY OF BETTENDORF |
| M0687 | M0687 - CITY OF BLENCOE |
| M0750 | M0750 - CITY OF BOONE |
| M0785 | M0785 - CITY OF BOYDEN |
| M1747 | M1747 - CITY OF CRYSTAL LAKE |
| M1835 | M1835 - CITY OF DAVIS CITY |
| M1900 | M1900 - CITY OF DELAWARE |
| M1910 | M1910 - CITY OF DELPHOS |
| M1942 | M1942 - CITY OF DERBY |
| M2042 | M2042 - CITY OF DOON |
| M2130 | M2130 - CITY OF DUNCOMBE |
| M2162 | M2162 - CITY OF DYSART |
| M2267 | M2267 - CITY OF ELBERON |
| M2297 | M2297 - CITY OF ELGIN |
| M2382 | M2382 - CITY OF ELY |
| M2442 | M2442 - CITY OF EVERLY |
| M2505 | M2505 - CITY OF FARMERSBURG |
| M2620 | M2620 - CITY OF FLORIS |
| M2647 | M2647 - CITY OF FONTANELLE |
| M3602 | M3602 - CITY OF HUMESTON |
| M3715 | M3715 - CITY OF IOWA CITY |
| M3800 | M3800 - CITY OF JEFFERSON |
| M3875 | M3875 - CITY OF KAMRAR |
| M3895 | M3895 - CITY OF KELLEY |
| M3992 | M3992 - CITY OF KINGSLEY |
| M4005 | M4005 - CITY OF KIRKVILLE |
| M4185 | M4185 - CITY OF LAMBS GROVE |
| M4230 | M4230 - CITY OF LATIMER |
| M4250 | M4250 - CITY OF LAWTON |
| M4315 | M4315 - CITY OF LESTER |
| M4345 | M4345 - CITY OF LIBERTYVILLE |
| M4452 | M4452 - CITY OF LITTLEPORT |

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| M4552 | M4552 - CITY OF LOW MOOR |
| M1362 | M1362 - CITY OF CLAYTON |
| M1415 | M1415 - CITY OF CLINTON |
| M1447 | M1447 - CITY OF COBURG |
| M1480 | M1480 - CITY OF COLO |
| M1510 | M1510 - CITY OF CONESVILLE |
| M1550 | M1550 - CITY OF COPPOCK |
| M1625 | M1625 - CITY OF COTTER |
| M1705 | M1705 - CITY OF CRESCO |
| M1762 | M1762 - CITY OF CURLEW |
| M1817 | M1817 - CITY OF DANBURY |
| M1855 | M1855 - CITY OF DE WITT |
| M1887 | M1887 - CITY OF DEFIANCE |
| M1972 | M1972 - CITY OF DEXTER |
| M2005 | M2005 - CITY OF DIXON |
| M2100 | M2100 - CITY OF DUBUQUE |
| M2152 | M2152 - CITY OF DURANT |
| M2205 | M2205 - CITY OF EAST AMANA |
| M2290 | M2290 - CITY OF ELDRIDGE |
| M2322 | M2322 - CITY OF ELKPORT |
| M2405 | M2405 - CITY OF EPWORTH |
| M2455 | M2455 - CITY OF EXLINE |
| M2530 | M2530 - CITY OF FENTON |
| M2642 | M2642 - CITY OF FONDA |
| M2737 | M2737 - CITY OF FRANKLIN |
| M2805 | M2805 - CITY OF GALVA |
| M2837 | M2837 - CITY OF GARNER |
| M2902 | M2902 - CITY OF GILBERT |
| M2932 | M2932 - CITY OF GLADBROOK |
| M2977 | M2977 - CITY OF GOODELL |
| M3030 | M3030 - CITY OF GRAND JUNCTION |
| M3052 | M3052 - CITY OF GRANT |
| M3107 | M3107 - CITY OF GREENFIELD |
| M3142 | M3142 - CITY OF GRUNDY CENTER |
| M3212 | M3212 - CITY OF HAMBURG |
| M3240 | M3240 - CITY OF HANLONTOWN |
| M3285 | M3285 - CITY OF HARPER |
| M3315 | M3315 - CITY OF HARVEY |
| M3350 | M3350 - CITY OF HAWKEYE |
| M3432 | M3432 - CITY OF HIAWATHA |
| M3485 | M3485 - CITY OF HINTON |
| M3542 | M3542 - CITY OF HOPKINTON |
| M3595 | M3595 - CITY OF HUMBOLDT |
| M3700 | M3700 - CITY OF INWOOD |
| M3792 | M3792 - CITY OF JANESVILLE |
| M3835 | M3835 - CITY OF JOLLEY |
| M3932 | M3932 - CITY OF KENT |
| M3985 | M3985 - CITY OF KIMBALLTON |
| M4012 | M4012 - CITY OF KLEMME |
| M4157 | M4157 - CITY OF LAKE VIEW |

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| M4190 | M4190 - CITY OF LAMONT |
| M4245 | M4245 - CITY OF LAWLER |
| M4290 | M4290 - CITY OF LEHIGH |
| M4350 | M4350 - CITY OF LIDDERDALE |
| M4410 | M4410 - CITY OF LISBON |
| M4477 | M4477 - CITY OF LOCKRIDGE |
| M4545 | M4545 - CITY OF LOVILIA |
| M4587 | M4587 - CITY OF LUTHER |
| M4647 | M4647 - CITY OF MAGNOLIA |
| M5205 | M5205 - CITY OF MOORHEAD |
| M5225 | M5225 - CITY OF MORLEY |
| M5252 | M5252 - CITY OF MOULTON |
| M5292 | M5292 - CITY OF MOUNT PLEASANT |
| M5302 | M5302 - CITY OF MOUNT VERNON |
| M5330 | M5330 - CITY OF MUSCATINE |
| M5392 | M5392 - CITY OF NEMAHA |
| M5427 | M5427 - CITY OF NEW HAMPTON |
| M5442 | M5442 - CITY OF NEW MARKET |
| M5455 | M5455 - CITY OF NEW VIRGINIA |
| M5490 | M5490 - CITY OF NICHOLS |
| M5590 | M5590 - CITY OF NORWAY |
| M5631 | M5631 - CITY OF OAKLAND ACRES |
| M5662 | M5662 - CITY OF OGDEN |
| M5732 | M5732 - CITY OF ORANGE CITY |
| M5760 | M5760 - CITY OF OSAGE |
| M5832 | M5832 - CITY OF OWASA |
| M5852 | M5852 - CITY OF OYENS |
| M5915 | M5915 - CITY OF PARKERSBURG |
| M5927 | M5927 - CITY OF PAULLINA |
| M5980 | M5980 - CITY OF PERSIA |
| M6102 | M6102 - CITY OF PLEASANT HILL |
| M6130 | M6130 - CITY OF PLOVER |
| M6207 | M6207 - CITY OF PRAIRIE CITY |
| M6240 | M6240 - CITY OF PRIMGHAR |
| M6265 | M6265 - CITY OF PULASKI |
| M6320 | M6320 - CITY OF RANDALL |
| M6345 | M6345 - CITY OF READLYN |
| I0713 | I0713 - NORTH CENTRAL CORRECTIONAL FAC., ROCKWELL CITY |
| I0766 | I0766 - FAIRFIELD OMS |
| I0784 | I0784 - COUNCIL BLUFFS ARMORY |
| P0432 | P0432 - SPRING RUN WETLAND COMPLEX |
| P0436 | P0436 - DIAMOND LAKE WMA |
| P0440 | P0440 - GOOSE LAKE (CLINTON) WMA |
| P0447 | P0447 - RED CEDAR WMA |
| P0450 | P0450 - BIG MILL CREEK WMA |
| P0456 | P0456 - EVELAND ACCESS |
| P0460 | P0460 - DEVOSS FOSTER WMA |
| P0463 | P0463 - MUSKRAT SLOUGH WMA |
| P0470 | P0470 - SHELL ROCK BEND WMA |
| P0474 | P0474 - MALANAPHY SPRINGS STATE PRESERVE |

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| P0478 | P0478 - PELLA WMA |
| P0484 | P0484 - HIGHWAY 44 ACCESS |
| P0487 | P0487 - WILLIAMSON POND WMA |
| P0491 | P0491 - NOBLES LAKE WMA |
| P0497 | P0497 - MIDDLE DECATUR BEND WMA |
| P0502 | P0502 - LOESS HILL WMA |
| P0505 | P0505 - DEKALB WMA |
| P0511 | P0511 - WINNEBAGO BEND WMA |
| P0514 | P0514 - MORSE LAKE WMA |
| P0524 | P0524 - SUNKEN GROVE WMA |
| P0528 | P0528 - EAST TWIN LAKE WMA |
| P0536 | P0536 - HAWK VALLEY WMA |
| P0545 | P0545 - EAST SWAN LAKE WMA |
| P0550 | P0550 - BLACKHAWK POINT WMA |
| P0553 | P0553 - FOLSOM LAKE WMA |
| P0562 | P0562 - RAND ACCESS |
| P0567 | P0567 - DEWEYS PASTURE WMA |
| P0573 | P0573 - HALES SLOUGH WMA |
| P0578 | P0578 - FOGLE LAKE WMA |
| P0583 | P0583 - KETTLESON-HOGBACK COMPLEX |
| P0589 | P0589 - BIG MARSH WMA |
| P0594 | P0594 - STATE FOREST NURSERY |
| P0598 | P0598 - MANCHESTER FISH HATCHERY |
| P0603 | P0603 - BACKBONE STATE PARK |
| P0607 | P0607 - BLACK HAWK LAKE RECREATION RESERVE |
| P0614 | P0614 - ECHO VALLEY STATE PARK |
| P0618 | P0618 - GITCHIE MANITOU STATE PRESERVE |
| P0622 | P0622 - LAKE KEOMAH STATE PARK |
| P0626 | P0626 - LAKE MACBRIDE STATE PARK |
| P0629 | P0629 - MARGO FRANKEL WOODS STATE PARK |
| P0638 | P0638 - PIKES PEAK STATE PARK |
| P0641 | P0641 - PINE LAKE STATE PARK |
| P0646 | P0646 - RICE LAKE STATE PARK |
| P0654 | P0654 - TRAPPERS BAY STATE PARK |
| P0658 | P0658 - WANATA STATE PARK |
| P0661 | P0661 - WAUBONSIE STATE PARK |
| P0668 | P0668 - SWAN LAKE STATE PARK |
| P0671 | P0671 - COLD SPRINGS STATE PARK |
| P0679 | P0679 - PLEASANT CREEK STATE RECREATION AREA |
| P0684 | P0684 - BRUSHY CREEK STATE RECREATION AREA |
| P0688 | P0688 - FORT ATKINSON STATE PRESERVE |
| P0696 | P0696 - BEAVER LAKE WMA |
| I0703 | I0703 - CLARINDA TREATMENT CENTER |
| I0706 | I0706 - GLENWOOD STATE HOSPITAL AND SCHOOL |
| I0712 | I0712 - IOWA STATE PENITENTIARY, FORT MADISON |
| I0741 | I0741 - CENTERVILLE ARMORY |
| I0744 | I0744 - WATERLOO AASF |
| I0748 | I0748 - ATLANTIC ARMORY - 201 POPLAR ST |
| I0758 | I0758 - OELWEIN ARMORY |
| I0762 | I0762 - IOWA FALLS ARMORY |

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| I0765 | I0765 - FAIRFIELD ARMORY |
| I0773 | I0773 - KNOXVILLE ARMORY |
| I0777 | I0777 - RED OAK ARMORY |
| I0786 | I0786 - DAVENPORT ARMORY |
| I0820 | I0820 - UNIVERSITY OF NORTHERN IOWA, CEDAR FALLS |
| I0863 | I0863 - DES MOINES AREA COMM COLLEGE (AREA XI), BOONE |
| I0868 | I0868 - INDIAN HILLS COMM COLLEGE (AREA XV), CENTERVILLE |
| I0873 | I0873 - IOWA LAKES COMM COLLEGE (AREA III), EMMETSBURG |
| I0883 | I0883 - SOUTHEASTERN COMM COLLEGE (AREA XVI), KEOKUK |
| I0902 | I0902 - WINNEBAGO INDIAN LAND |
| I0915 | I0915 - UPPER MISSISSIPPI LAND ACQUISITION, CLAYTON |
| I0926 | I0926 - LAKE RATHBUN WMA |
| I0942 | I0942 - WAVERLY NAVAL HOUSING |
| I0970 | I0970 - NATIONAL ANIMAL DISEASE LABORATORY |
| M7405 | M7405 - CITY OF STOCKTON |
| M7657 | M7657 - CITY OF THURMAN |
| M7830 | M7830 - CITY OF UNDERWOOD |
| M8065 | M8065 - CITY OF WALL LAKE |
| M8212 | M8212 - CITY OF WEBSTER CITY |
| M8305 | M8305 - CITY OF WESTFIELD |
| M0065 | M0065 - CITY OF ALBIA |
| M0140 | M0140 - CITY OF AMANA |
| M0412 | M0412 - CITY OF BARNUM |
| M0547 | M0547 - CITY OF BENTON |
| M0722 | M0722 - CITY OF BODE |
| M0807 | M0807 - CITY OF BRANDON |
| M1770 | M1770 - CITY OF CUSHING |
| M1872 | M1872 - CITY OF DEDHAM |
| M1975 | M1975 - CITY OF DIAGONAL |
| M2080 | M2080 - CITY OF DOWS |
| M2195 | M2195 - CITY OF EARLING |
| M2315 | M2315 - CITY OF ELKADER |
| M2412 | M2412 - CITY OF ESSEX |
| M2525 | M2525 - CITY OF FAYETTE |
| M2697 | M2697 - CITY OF FORT MADISON |
| M3665 | M3665 - CITY OF INDEPENDENCE |
| M3827 | M3827 - CITY OF JOHNSTON |
| M3952 | M3952 - CITY OF KEOTA |
| M4040 | M4040 - CITY OF KNOXVILLE |
| M4205 | M4205 - CITY OF LANSING |
| M4292 | M4292 - CITY OF LEIGHTON |
| M4412 | M4412 - CITY OF LISCOMB |
| M4515 | M4515 - CITY OF LORIMOR |
| M4657 | M4657 - CITY OF MALLARD |
| M4697 | M4697 - CITY OF MANLY |
| M4757 | M4757 - CITY OF MARBLE ROCK |
| M4780 | M4780 - CITY OF MARNE |
| M4820 | M4820 - CITY OF MARYSVILLE |
| M4857 | M4857 - CITY OF MAURICE |
| M4880 | M4880 - CITY OF MCCALLSBURG |

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| M4935 | M4935 - CITY OF MELBOURNE |
| M4952 | M4952 - CITY OF MENLO |
| M5052 | M5052 - CITY OF MILES |
| M5087 | M5087 - CITY OF MILO |
| M5110 | M5110 - CITY OF MINGO |
| M5160 | M5160 - CITY OF MONMOUTH |
| M5190 | M5190 - CITY OF MONTOUR |
| M5227 | M5227 - CITY OF MORNING SUN |
| M5262 | M5262 - CITY OF MOUNT AYR |
| M5327 | M5327 - CITY OF MURRAY |
| M5405 | M5405 - CITY OF NEVADA |
| M5440 | M5440 - CITY OF NEW LONDON |
| M5482 | M5482 - CITY OF NEWTON |
| M5565 | M5565 - CITY OF NORTH WASHINGTON |
| M5642 | M5642 - CITY OF OAKVILLE |
| M5682 | M5682 - CITY OF OLDS |
| M5747 | M5747 - CITY OF ORLEANS |
| M5800 | M5800 - CITY OF OTO |
| M5860 | M5860 - CITY OF PACIFIC JUNCTION |
| M5917 | M5917 - CITY OF PARNELL |
| M5957 | M5957 - CITY OF PEOSTA |
| M6087 | M6087 - CITY OF PLANO |
| M6142 | M6142 - CITY OF PLYMOUTH |
| M6197 | M6197 - CITY OF POSTVILLE |
| M6257 | M6257 - CITY OF PROTIVIN |
| M6317 | M6317 - CITY OF RANDALIA |
| M5397 | M5397 - CITY OF NEOLA |
| M5517 | M5517 - CITY OF NODAWAY |
| M5655 | M5655 - CITY OF ODEBOLT |
| M5737 | M5737 - CITY OF ORCHARD |
| M5847 | M5847 - CITY OF OXFORD JUNCTION |
| M6012 | M6012 - CITY OF PIERSON |
| M6150 | M6150 - CITY OF POCAHONTAS |
| M6492 | M6492 - CITY OF RIVERDALE |
| M6600 | M6600 - CITY OF ROLFE |
| M6717 | M6717 - CITY OF SAC CITY |
| M6830 | M6830 - CITY OF SCARVILLE |
| M6962 | M6962 - CITY OF SHELLSBURG |
| M7092 | M7092 - CITY OF SMITHLAND |
| M7272 | M7272 - CITY OF STATE CENTER |
| M7575 | M7575 - CITY OF TAMA |
| M7735 | M7735 - CITY OF TRIPOLI |
| M8002 | M8002 - CITY OF VILLISCA |
| M8177 | M8177 - CITY OF WAUKEE |
| M8257 | M8257 - CITY OF WEST CHESTER |
| C0002 | C0002 - COUNTY OF ADAMS |
| C0013 | C0013 - COUNTY OF CALHOUN |
| C0027 | C0027 - COUNTY OF DECATUR |
| C0038 | C0038 - COUNTY OF GRUNDY |
| C0051 | C0051 - COUNTY OF JEFFERSON |

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| C0065 | C0065 - COUNTY OF MILLS |
| C0076 | C0076 - COUNTY OF POCAHONTAS |
| C0092 | C0092 - COUNTY OF WASHINGTON |
| M0072 | M0072 - CITY OF ALBURNETT |
| M0182 | M0182 - CITY OF ANITA |
| M0277 | M0277 - CITY OF ATALISSA |
| M0407 | M0407 - CITY OF BARNES CITY |
| M0575 | M0575 - CITY OF BERTRAM |
| M0775 | M0775 - CITY OF BOXHOLM |
| M0937 | M0937 - CITY OF BUCKEYE |
| M1087 | M1087 - CITY OF CARBON |
| M1185 | M1185 - CITY OF CEDAR FALLS |
| M1277 | M1277 - CITY OF CHESTER |
| M1387 | M1387 - CITY OF CLEGHORN |
| M1595 | M1595 - CITY OF CORRECTIONVILLE |
| M1775 | M1775 - CITY OF CYLINDER |
| M1905 | M1905 - CITY OF DELMAR |
| M2197 | M2197 - CITY OF EARLVILLE |
| M2335 | M2335 - CITY OF ELLIOTT |
| M2745 | M2745 - CITY OF FRASER |
| M2762 | M2762 - CITY OF FREMONT |
| M2895 | M2895 - CITY OF GIBSON |
| M3072 | M3072 - CITY OF GRAY |
| M3162 | M3162 - CITY OF GUTHRIE CENTER |
| M3405 | M3405 - CITY OF HENDERSON |
| M3547 | M3547 - CITY OF HORNICK |
| M3742 | M3742 - CITY OF IRETON |
| M4080 | M4080 - CITY OF LA MOTTE |
| M4222 | M4222 - CITY OF LARRABEE |
| M4482 | M4482 - CITY OF LOGAN |
| M4620 | M4620 - CITY OF LYTTON |
| M4737 | M4737 - CITY OF MAPLETON |
| M4892 | M4892 - CITY OF MCGREGOR |
| M5035 | M5035 - CITY OF MIDDLETOWN |
| M5207 | M5207 - CITY OF MOORLAND |
| M5307 | M5307 - CITY OF MOVILLE |
| M5450 | M5450 - CITY OF NEW SHARON |
| M5742 | M5742 - CITY OF ORIENT |
| M5865 | M5865 - CITY OF PACKWOOD |
| M6232 | M6232 - CITY OF PRESCOTT |
| M6342 | M6342 - CITY OF RAYMOND |
| M5555 | M5555 - CITY OF NORTH ENGLISH |
| M6247 | M6247 - CITY OF PRINCETON |
| P0548 | P0548 - BIG SIOUX RIVER COMPLEX WMA |
| P0610 | P0610 - BRUSH CREEK CANYON STATE PRESERVE |
| M6457 | M6457 - CITY OF RIDGEWAY |
| M6700 | M6700 - CITY OF RYAN |
| M6945 | M6945 - CITY OF SHELBY |
| P0430 | P0430 - WATERLOO CREEK WMA |
| P0444 | P0444 - SYRACUSE WMA |

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| P0455 | P0455 - SOUTH SKUNK RIVER ACCESS |
| P0469 | P0469 - GRANNIS CREEK WMA |
| P0482 | P0482 - ADAIR WMA |
| P0493 | P0493 - WILLOW SLOUGH WMA |
| P0507 | P0507 - LIZARD CREEK WMA |
| P0522 | P0522 - OTTOSEN POTHOLES WMA |
| P0544 | P0544 - FOUR MILE LAKE WMA |
| P0560 | P0560 - HONEY CREEK DESTINATION RESORT |
| P0587 | P0587 - COLYN WMA |
| P0602 | P0602 - AMBROSE A. CALL STATE PARK |
| P0613 | P0613 - DOLLIVER MEMORIAL STATE PARK |
| P0628 | P0628 - MAQUOKETA CAVES STATE PARK |
| P0644 | P0644 - PREPARATION CANYON STATE PARK |
| P0660 | P0660 - WAPSIPINICON STATE PARK |
| P0673 | P0673 - LAKE CORNELIA STATE PARK |
| P0687 | P0687 - FAIRPORT RECREATION AREA |
| I0704 | I0704 - MENTAL HEALTH INSTITUTE, INDEPENDENCE |
| I0740 | I0740 - CORNING ARMORY |
| I0755 | I0755 - BURLINGTON ARMORY |
| I0772 | I0772 - OSKALOOSA ARMORY |
| I0788 | I0788 - DAVENPORT AASF |
| I0811 | I0811 - BRAYTON MEMORIAL FOREST, ISU |
| I0861 | I0861 - CLINTON COMM. COLLEGE (AREA IX), CLINTON |
| I0876 | I0876 - IOWA WESTERN COMM COLL. (AREA XIII),COUNCIL BLUFFS |
| M7440 | M7440 - CITY OF STRATFORD |
| M7957 | M7957 - CITY OF VAN METER |
| C0091 | C0091 - COUNTY OF WARREN |
| M8477 | M8477 - CITY OF WINDSOR HEIGHTS |
| M0170 | M0170 - CITY OF ANDOVER |
| M0425 | M0425 - CITY OF BATTLE CREEK |
| M2215 | M2215 - CITY OF EAST PERU |
| M2750 | M2750 - CITY OF FREDERICKSBURG |
| M4100 | M4100 - CITY OF LADORA |
| M6405 | M6405 - CITY OF REMBRANDT |
| M6427 | M6427 - CITY OF RICEVILLE |
| M6467 | M6467 - CITY OF RINARD |
| M6520 | M6520 - CITY OF ROBINS |
| M6567 | M6567 - CITY OF ROCKFORD |
| M6597 | M6597 - CITY OF ROLAND |
| M6652 | M6652 - CITY OF ROWLEY |
| M6692 | M6692 - CITY OF RUTHVEN |
| M6735 | M6735 - CITY OF SAINT ANSGAR |
| M6750 | M6750 - CITY OF SAINT LUCAS |
| M6770 | M6770 - CITY OF SALIX |
| M6865 | M6865 - CITY OF SCRANTON |
| M6917 | M6917 - CITY OF SHAMBAUGH |
| M6947 | M6947 - CITY OF SHELDAHL |
| M7007 | M7007 - CITY OF SHUEYVILLE |
| M7030 | M7030 - CITY OF SILVER CITY |
| M7085 | M7085 - CITY OF SLOAN |

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| M7152 | M7152 - CITY OF SOUTH ENGLISH |
| M7210 | M7210 - CITY OF SPRING HILL |
| M7262 | M7262 - CITY OF STANTON |
| M7432 | M7432 - CITY OF STOUT |
| M7490 | M7490 - CITY OF SUMNER |
| M7555 | M7555 - CITY OF TABOR |
| M7640 | M7640 - CITY OF THORNBURG |
| M7692 | M7692 - CITY OF TOLEDO |
| M7825 | M7825 - CITY OF UDELL |
| M7872 | M7872 - CITY OF URBANA |
| M7960 | M7960 - CITY OF VAN WERT |
| M8032 | M8032 - CITY OF VOLGA CITY |
| M8062 | M8062 - CITY OF WALKER |
| M8155 | M8155 - CITY OF WATERLOO |
| M8207 | M8207 - CITY OF WEBSTER |
| M8245 | M8245 - CITY OF WEST AMANA |
| M8290 | M8290 - CITY OF WEST POINT |
| M8319 | M8319 - CITY OF WESTWOOD |
| C0003 | C0003 - COUNTY OF ALLAMAKEE |
| C0008 | C0008 - COUNTY OF BOONE |
| C0012 | C0012 - COUNTY OF BUTLER |
| C0018 | C0018 - COUNTY OF CHEROKEE |
| C0022 | C0022 - COUNTY OF CLAYTON |
| C0030 | C0030 - COUNTY OF DICKINSON |
| C0034 | C0034 - COUNTY OF FLOYD |
| C0040 | C0040 - COUNTY OF HAMILTON |
| C0044 | C0044 - COUNTY OF HENRY |
| C0048 | C0048 - COUNTY OF IOWA |
| C0054 | C0054 - COUNTY OF KEOKUK |
| C0060 | C0060 - COUNTY OF LYON |
| C0066 | C0066 - COUNTY OF MITCHELL |
| C0070 | C0070 - COUNTY OF MUSCATINE |
| C0075 | C0075 - COUNTY OF PLYMOUTH |
| C0081 | C0081 - COUNTY OF SAC |
| C0085 | C0085 - COUNTY OF STORY |
| C0089 | C0089 - COUNTY OF VAN BUREN |
| C0099 | C0099 - COUNTY OF WRIGHT |
| M0050 | M0050 - CITY OF AGENCY |
| M0092 | M0092 - CITY OF ALLEMAN |
| M0135 | M0135 - CITY OF ALVORD |
| M0195 | M0195 - CITY OF ARLINGTON |
| M0220 | M0220 - CITY OF ARLINGTON |
| M0282 | M0282 - CITY OF ATKINS |
| M0327 | M0327 - CITY OF AVOCA |
| M0367 | M0367 - CITY OF BALDWIN |
| M0432 | M0432 - CITY OF BAXTER |
| M0487 | M0487 - CITY OF BEDFORD |
| M0565 | M0565 - CITY OF BERNARD |
| M0682 | M0682 - CITY OF BLANCHARD |
| M0740 | M0740 - CITY OF BONAPARTE |

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| M0812 | M0812 - CITY OF BRAYTON |
| M0842 | M0842 - CITY OF BRIGHTON |
| M0870 | M0870 - CITY OF BROOKLYN |
| M0977 | M0977 - CITY OF BURLINGTON |
| M1030 | M1030 - CITY OF CALMAR |
| M1105 | M1105 - CITY OF CARLISLE |
| M1147 | M1147 - CITY OF CASCADE |
| M1197 | M1197 - CITY OF CENTER JUNCTION |
| M1242 | M1242 - CITY OF CHARLES CITY |
| M1265 | M1265 - CITY OF CHELSEA |
| M1327 | M1327 - CITY OF CLARE |
| M6312 | M6312 - CITY OF RALSTON |
| P0523 | P0523 - WILLOWS ACCESS WMA |
| P0543 | P0543 - IOWA LAKE (EMMET) WMA |
| P0591 | P0591 - CENTER LAKE COMPLEX |
| P0605 | P0605 - BELLEVUE STATE PARK |
| I0756 | I0756 - DUBUQUE ARMORY |
| I0780 | I0780 - SHELDON ARMORY |
| M6410 | M6410 - CITY OF RENWICK |
| M6542 | M6542 - CITY OF ROCK RAPIDS |
| M6630 | M6630 - CITY OF ROSSIE |
| M6732 | M6732 - CITY OF SAGEVILLE |
| M6790 | M6790 - CITY OF SANDYVILLE |
| M6920 | M6920 - CITY OF SHANNON CITY |
| M3150 | M3150 - CITY OF GUERNSEY |
| M3275 | M3275 - CITY OF HARLAN |
| M3322 | M3322 - CITY OF HASTINGS |
| M3472 | M3472 - CITY OF HILLS |
| M3557 | M3557 - CITY OF HOSPERS |
| M3720 | M3720 - CITY OF IOWA FALLS |
| M3870 | M3870 - CITY OF KALONA |
| M4002 | M4002 - CITY OF KIRKMAN |
| M4135 | M4135 - CITY OF LAKE MILLS |
| M4252 | M4252 - CITY OF LE CLAIRE |
| M4325 | M4325 - CITY OF LEWIS |
| M4430 | M4430 - CITY OF LITTLE SIOUX |
| M4597 | M4597 - CITY OF LUXEMBURG |
| M4695 | M4695 - CITY OF MANILLA |
| M4765 | M4765 - CITY OF MARENGO |
| M4847 | M4847 - CITY OF MATLOCK |
| M4900 | M4900 - CITY OF MCINTIRE |
| M5017 | M5017 - CITY OF MIDDLE AMANA |
| M5095 | M5095 - CITY OF MINBURN |
| M5182 | M5182 - CITY OF MONTICELLO |
| M7505 | M7505 - CITY OF SUPERIOR |
| M7662 | M7662 - CITY OF TIFFIN |
| M7760 | M7760 - CITY OF TURIN |
| M7967 | M7967 - CITY OF VENTURA |
| M8085 | M8085 - CITY OF WALLINGFORD |
| M8217 | M8217 - CITY OF WELDON |

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| M8280 | M8280 - CITY OF WEST OKOBOJI |
| C0004 | C0004 - COUNTY OF APPANOOSE |
| C0017 | C0017 - COUNTY OF CERRO GORDO |
| C0026 | C0026 - COUNTY OF DAVIS |
| C0039 | C0039 - COUNTY OF GUTHRIE |
| C0052 | C0052 - COUNTY OF JOHNSON |
| C0061 | C0061 - COUNTY OF MADISON |
| C0074 | C0074 - COUNTY OF PALO ALTO |
| C0087 | C0087 - COUNTY OF TAYLOR |
| C0098 | C0098 - COUNTY OF WORTH |
| M0085 | M0085 - CITY OF ALGONA |
| M0165 | M0165 - CITY OF ANAMOSA |
| M0227 | M0227 - CITY OF ARMSTRONG |
| M0792 | M0792 - CITY OF BRADDYVILLE |
| M0905 | M0905 - CITY OF BRUNSVILLE |
| M1037 | M1037 - CITY OF CALUMET |
| M1142 | M1142 - CITY OF CARTER LAKE |
| M8550 | M8550 - CITY OF WOOLSTOCK |
| M1802 | M1802 - CITY OF DALLAS CENTER |
| M4487 | M4487 - CITY OF LOHRVILLE |
| M1237 | M1237 - CITY OF CHARITON |
| M1330 | M1330 - CITY OF CLARENCE |
| M1395 | M1395 - CITY OF CLERMONT |
| M1477 | M1477 - CITY OF COLLINS |
| M1557 | M1557 - CITY OF CORALVILLE |
| M1710 | M1710 - CITY OF CRESTON |
| M1822 | M1822 - CITY OF DANVILLE |
| M1907 | M1907 - CITY OF DELOIT |
| M2032 | M2032 - CITY OF DONAHUE |
| M2150 | M2150 - CITY OF DURANGO |
| M2280 | M2280 - CITY OF ELDORA |
| M2395 | M2395 - CITY OF EMMETSBURG |
| M2515 | M2515 - CITY OF FARRAGUT |
| M2712 | M2712 - CITY OF FOSTORIA |
| M2820 | M2820 - CITY OF GARDEN GROVE |
| P0428 | P0428 - MCPAUL I-29 WMA |
| P0434 | P0434 - MINNEWASHTA LAKE WMA |
| P0438 | P0438 - FRENCH CREEK WMA |
| P0442 | P0442 - HAWKEYE WMA |
| P0448 | P0448 - LITTLE MILL CREEK WMA |
| P0454 | P0454 - SKUNK RIVER WMA |
| P0459 | P0459 - FOX HILLS WMA |
| P0464 | P0464 - DUDGEON LAKE WMA |
| P0468 | P0468 - OTTERVILLE WMA |
| P0475 | P0475 - CARDINAL MARSH WMA |
| P0479 | P0479 - LAHART WMA |
| P0485 | P0485 - PLEASANT VALLEY WMA |
| P0489 | P0489 - LAKIN SLOUGH WMA |
| P0495 | P0495 - MCMAHON ACCESS |
| P0499 | P0499 - UPPER DECATUR BEND WMA |

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| P0506 | P0506 - SAND CREEK WMA |
| P0512 | P0512 - MILE LONG ISLAND WMA |
| P0516 | P0516 - BIG WALL LAKE WMA |
| P0526 | P0526 - BLUEBIRD ACCESS |
| P0537 | P0537 - BARRINGER SLOUGH WMA |
| P0542 | P0542 - WEST SWAN LAKE WMA |
| P0549 | P0549 - RUSH LAKE (OSCEOLA) WMA |
| P0556 | P0556 - CASINO BAY MARINA |
| P0566 | P0566 - GREEN ISLAND WMA |
| P0572 | P0572 - LOST GROVE LAKE WMA |
| P0582 | P0582 - TRIBOJI BEACH ACCESS |
| P0590 | P0590 - RUTHVEN WILDLIFE AREA |
| P0597 | P0597 - SWEET MARSH WMA |
| P0606 | P0606 - BIXBY STATE PRESERVE |
| P0611 | P0611 - CLEAR LAKE STATE PARK |
| P0615 | P0615 - FORT DEFIANCE STATE PARK |
| P0620 | P0620 - GULL POINT STATE PARK |
| P0624 | P0624 - LEDGES STATE PARK |
| P0631 | P0631 - MCINTOSH WOODS STATE PARK |
| P0636 | P0636 - PALISADES-KEPLER STATE PARK |
| P0643 | P0643 - PRAIRIE ROSE STATE PARK |
| P0648 | P0648 - FORNEY LAKE WMA |
| P0653 | P0653 - LAKE OF THREE FIRES STATE PARK |
| P0659 | P0659 - LAKE WAPELLO STATE PARK |
| P0666 | P0666 - RAINBOW BEND WMA |
| P0670 | P0670 - WILSON ISLAND STATE RECREATION AREA |
| P0677 | P0677 - BIG CREEK STATE PARK |
| P0682 | P0682 - LOWER GAR LAKE ACCESS STATE RECREATION AREA |
| P0689 | P0689 - MINES OF SPAIN STATE RECREATION AREA |
| P0694 | P0694 - HAWTHORN LAKE WMA |
| P0699 | P0699 - RIVERTON WMA |
| I0714 | I0714 - STATE TRAINING SCHOOL, ELDORA |
| I0722 | I0722 - STATE PENITENTIARY FARMS 1 AND 2, FORT MADISON |
| I0746 | I0746 - STORM LAKE ARMORY |
| I0751 | I0751 - SPENCER ARMORY |
| I0759 | I0759 - CHARLES CITY ARMORY |
| I0764 | I0764 - NEWTON ARMORY |
| I0771 | I0771 - CHARITON ARMORY - 1415 LUCAS |
| I0779 | I0779 - MUSCATINE ARMORY |
| I0785 | I0785 - COUNCIL BLUFFS OMS |
| I0790 | I0790 - OTTUMWA ARMORY |
| I0794 | I0794 - EAGLE GROVE ARMORY |
| I0803 | I0803 - UNIVERSITY OF IOWA - MACBRIDE NATURE RECREATION AREA |
| I0816 | I0816 - IOWA STATE UNIVERSITY-FICK OBSERV. AND FARMS |
| I0850 | I0850 - CAMP DODGE, JOHNSTON |
| I0862 | I0862 - DES MOINES AREA COMM COLLEGE (AREA XI), ANKENY |
| I0867 | I0867 - HAWKEYE INST. OF TECH. (AREA VII), WATERLOO |
| I0874 | I0874 - IOWA LAKES COMM COLLEGE (AREA III), ESTHERVILLE |
| I0880 | I0880 - N. IOWA AREA COMM COLLEGE (AREA II), MASON CITY |
| I0885 | I0885 - W. IOWA TECH. COMM COLLEGE (AREA XII), SIOUX CITY |

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| I0913 | I0913 - UPPER MISSISSIPPI LAND ACQUISITION, ALLAMAKEE |
| I0927 | I0927 - CORALVILLE RESERVOIR |
| I0941 | I0941 - FORT DES MOINES MEMORIAL PARK |
| M7202 | M7202 - CITY OF SPRAGUEVILLE |
| M7507 | M7507 - CITY OF SUTHERLAND |
| M7677 | M7677 - CITY OF TIPTON |
| M7927 | M7927 - CITY OF VAIL |
| M8140 | M8140 - CITY OF WASHINGTON |
| M8250 | M8250 - CITY OF WEST BEND |
| C0095 | C0095 - COUNTY OF WINNEBAGO |
| M0110 | M0110 - CITY OF ALLERTON |
| M8370 | M8370 - CITY OF WHITTEMORE |
| M8425 | M8425 - CITY OF WILLIAMS |
| M8471 | M8471 - CITY OF WILTON |
| M8502 | M8502 - CITY OF WINTHROP |
| M8525 | M8525 - CITY OF WOODBINE |
| M8552 | M8552 - CITY OF WORTHINGTON |
| M8587 | M8587 - CITY OF YETTER |
| M8637 | M8637 - CITY OF ZWINGLE |
| M0217 | M0217 - CITY OF ARISPE |
| M0285 | M0285 - CITY OF ATLANTIC |
| M0455 | M0455 - CITY OF BEACONSFIELD |
| M0672 | M0672 - CITY OF BLAIRSBURG |
| M1700 | M1700 - CITY OF CRESCENT |
| M1850 | M1850 - CITY OF DE SOTO |
| M2025 | M2025 - CITY OF DOLLIVER |
| M2142 | M2142 - CITY OF DUNLAP |
| M2352 | M2352 - CITY OF ELLSTON |
| M2460 | M2460 - CITY OF FAIRBANK |
| M3577 | M3577 - CITY OF HUDSON |
| M3755 | M3755 - CITY OF IRWIN |
| M3942 | M3942 - CITY OF KEOKUK |
| M4150 | M4150 - CITY OF LAKE PARK |
| M4257 | M4257 - CITY OF LE MARS |
| M4382 | M4382 - CITY OF LINDEN |
| M4570 | M4570 - CITY OF LUCAS |
| M5557 | M5557 - CITY OF NORTH LIBERTY |
| M5687 | M5687 - CITY OF OLIN |
| M5792 | M5792 - CITY OF OTHO |
| M5880 | M5880 - CITY OF PALMER |
| M6062 | M6062 - CITY OF PIONEER |
| M6175 | M6175 - CITY OF POMEROY |
| M6307 | M6307 - CITY OF RAKE |
| M6380 | M6380 - CITY OF REDFIELD |
| P0429 | P0429 - CEDAR ROCK STATE PARK |
| P0443 | P0443 - IOWA RIVER CORRIDOR WMA |
| P0453 | P0453 - BRIGHTON ACCESS |
| P0466 | P0466 - WHITE PINE HOLLOW STATE PRESERVE |
| P0481 | P0481 - MEADOW LAKE WMA |
| P0494 | P0494 - KEG CREEK I29 WMA |

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| P0508 | P0508 - WHITE HORSE ACCESS |
| P0519 | P0519 - MOUNT AYR WMA |
| P0540 | P0540 - GOOSE LAKE (KOSSUTH) WMA |
| P0557 | P0557 - CLEAR LAKE AREA |
| P0649 | P0649 - SHARON BLUFFS STATE PARK |
| P0665 | P0665 - KEARNY STATE PARK |
| P0675 | P0675 - HONEY CREEK STATE PARK |
| P0692 | P0692 - TEMPLER PARK STATE RECREATION AREA |
| I0717 | I0717 - FORT DODGE CORRECTIONAL FACILITY, FORT DODGE |
| I0754 | I0754 - PERRY ARMORY |
| I0769 | I0769 - KEOKUK ARMORY |
| I0782 | I0782 - SHENANDOAH ARMORY |
| I0852 | I0852 - STATE CAPITOL COMPLEX, DES MOINES |
| I0878 | I0878 - MARSHALLTOWN COMM COLLEGE(AREA VI), MARSHALLTOWN |
| I0930 | I0930 - ROCK ISLAND ARSENAL |
| M7545 | M7545 - CITY OF SWISHER |
| M7990 | M7990 - CITY OF VICTOR |
| M0015 | M0015 - CITY OF ACKLEY |
| M1472 | M1472 - CITY OF COLLEGE SPRINGS |
| M2060 | M2060 - CITY OF DOUGHERTY |
| M2507 | M2507 - CITY OF FARMINGTON |
| M3007 | M3007 - CITY OF GOWRIE |
| M3287 | M3287 - CITY OF HARPERS FERRY |
| M3927 | M3927 - CITY OF KENSETT |
| M4317 | M4317 - CITY OF LETTS |
| M4812 | M4812 - CITY OF MARTINSBURG |
| M5135 | M5135 - CITY OF MITCHELL |
| M5607 | M5607 - CITY OF NUMA |
| M6040 | M6040 - CITY OF PILOT MOUND |
| M5887 | M5887 - CITY OF PALO |
| I0917 | I0917 - UPPER MISSISSIPPI LAND ACQUISITION, LOUISA |
| P0642 | P0642 - PRAIRIE LAKE WMA |
| P0951 | P0951 - YELLOW BANKS PARK |
| S0031 | S0031 - STATE OF NEBRASKA |
| S0029 | S0029 - STATE OF MISSOURI |
| S0046 | S0046 - STATE OF SOUTH DAKOTA |
| P0584 | P0584 - LOESS HILLS STATE FOREST |
| P0639 | P0639 - GULL POINT STATE PARK |
| P0690 | P0690 - SHIMEK STATE FOREST |
| P0691 | P0691 - YELLOW RIVER STATE FOREST |
| P0693 | P0693 - STEPHENS STATE FOREST |
| I0793 | I0793 - IA NATIONAL GUARD |
| I0817 | I0817 - IA STATE UNIV |
| I0815 | I0815 - MCNAY RESEARCH FARM, ISU |
| P0568 | P0568 - GULL POINT STATE PARK |
| I0707 | I0707 - WOODWARD STATE RESOURCE CENTER |
| P0633 | P0633 - GULL POINT STATE PARK |
| P0635 | P0635 - EASTER LAKE PARK |

H_AND_T_ID - Domain

DomainName H_AND_T_ID
Description H_AND_T_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------------------------|
| 0 | 0 - SECONDARY WITH BANDING |
| 1 | 1 - SECONDARY WITHOUT BANDING |
| 2 | 2 - WIDE MUNICIPALS |

HIGHWAY_RESPONSIBILITY_ID - Domain

DomainName HIGHWAY_RESPONSIBILITY_ID
Description HIGHWAY_RESPONSIBILITY_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------------------------|
| A | A - INTERSTATE ROUTES |
| B | B - MAJOR ARTERIAL SERVICE ROUTES |
| C | C - OTHER ARTERIAL SERVICE ROUTES |
| D | D - NON-ARTERIAL SERVICE ROUTES |

ICE_CORRIDOR_ID - Domain

DomainName ICE_CORRIDOR_ID
Description CORRIDOR_DESC
FieldType SmallInteger
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------------------------|
| 470 | 470 - I-380 terminus to IA 27 |
| 471 | 471 - IA 3 to US 75 |
| 472 | 472 - US 218 to IA 3 |
| 473 | 473 - NE border to I-29 |
| 474 | 474 - IL border to US 67 |
| 475 | 475 - NE border to I-29 |
| 477 | 477 - IA 14 to US 63 |
| 467 | 467 - IA 192 to I-80 |
| 478 | 478 - IA 175 to US 20 |
| 479 | 479 - Covington Road to Edgewood Road |
| 1 | 1 - US 71 to IA 4 |
| 2 | 2 - US 30 to US 20 |
| 3 | 3 - US 71 to US 169 |
| 4 | 4 - US 71 to US 20 |
| 5 | 5 - US 59 to US 71 |
| 6 | 6 - US 59 to IA 175 |

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| 7 | 7 - US 20 to IA 3 |
| 8 | 8 - US 71 to US 169 |
| 9 | 9 - IA 3 to US 18 |
| 10 | 10 - US 20 to US 18 |
| 11 | 11 - SD border to IA 60 |
| 12 | 12 - US 18 to MN border |
| 13 | 13 - IA 60 to US 71 |
| 14 | 14 - NE border to US 75 |
| 15 | 15 - Sioux City N CL to IA 10 |
| 16 | 16 - US 20 to IA 3 |
| 17 | 17 - I-29 to US 59 |
| 18 | 18 - NE border to US 59 |
| 19 | 19 - US 71 to IA 4 |
| 20 | 20 - US 30 to US 20 |
| 21 | 21 - MO border to US 34 |
| 22 | 22 - US 34 to US 65 |
| 23 | 23 - US 30 to US 20 |
| 24 | 24 - IA 38 to I-80 |
| 25 | 25 - IA 38 to Buffalo E CL |
| 26 | 26 - US 218 to US 34 |
| 27 | 27 - IA 2 to US 34 |
| 28 | 28 - US 63 to US 218 |
| 29 | 29 - US 61 to US 218 |
| 30 | 30 - IA 21 to IA 1 |
| 31 | 31 - IA 64 to US 20 |
| 32 | 32 - US 18 to MN border |
| 33 | 33 - US 65 to Cedar Falls W CL |
| 34 | 34 - IA 9 to MN border |
| 35 | 35 - IA 3 to US 52 |
| 36 | 36 - I-680 to IA 37 |
| 37 | 37 - US 30 to US 20 |
| 38 | 38 - IA 150 to I-380 |
| 39 | 39 - Waterloo E CL to IA 150 |
| 40 | 40 - US 63 to US 52 |
| 41 | 41 - IA 3 to US 18 |
| 42 | 42 - US 20 to IA 3 |
| 43 | 43 - IA 141 to US 30 |
| 44 | 44 - IA 5 to US 63 |
| 45 | 45 - IA 14 to US 63 |
| 46 | 46 - US 218 to US 63 |
| 47 | 47 - Mason City N CL to MN border |
| 48 | 48 - I-35 to US 63 |
| 49 | 49 - US 169 to I-35 |
| 50 | 50 - IA 92 to Norwalk S CL |
| 51 | 51 - Runnells E CL to IA 5 |
| 52 | 52 - I-35 to US 65 |
| 53 | 53 - US 65 to IA 5 |
| 54 | 54 - US 18 to IA 9 |
| 55 | 55 - US 18 to MN border |
| 56 | 56 - IA 3 to US 18 |

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| 57 | 57 - US 20 to IA 3 |
| 58 | 58 - Ames N CL to US 20 |
| 59 | 59 - Ankeny N CL to US 30 |
| 60 | 60 - IA 64 to US 52 |
| 61 | 61 - US 61 to IL border |
| 62 | 62 - Clinton N CL to US 52 |
| 63 | 63 - IA 92 to IA 22 |
| 64 | 64 - IA 70 to IA 38 |
| 66 | 66 - US 63 to I-80 |
| 67 | 67 - I-80 to US 30 |
| 68 | 68 - I-80 to IA 14 |
| 69 | 69 - US 34 to IA 5 |
| 70 | 70 - IA 2 to US 34 |
| 71 | 71 - MO border to IA 2 |
| 72 | 72 - MO border to IA 2 |
| 73 | 73 - US 63 to IA 21 |
| 74 | 74 - IA 146 to US 151 |
| 75 | 75 - I-80 to IA 146 |
| 76 | 76 - US 6 to US 151 |
| 77 | 77 - IA 21 to US 6 |
| 78 | 78 - I-80 to US 30 |
| 79 | 79 - IA 92 to I-80 |
| 80 | 80 - IA 78 to IA 92 |
| 81 | 81 - US 63 to IA 92 |
| 82 | 82 - IA 92 to I-80 |
| 83 | 83 - IA 38 to I-80 |
| 84 | 84 - US 59 to US 71 |
| 85 | 85 - IA 127 to IA 141 |
| 86 | 86 - I-29 to US 30 |
| 87 | 87 - US 20 to IA 7 |
| 88 | 88 - IA 3 to US 71 |
| 89 | 89 - US 169 to I-35 |
| 90 | 90 - Decorah E CL to IL border |
| 91 | 91 - IA 9 to MN border |
| 92 | 92 - IA 9 to MN border |
| 93 | 93 - US 18 to IA 9 |
| 94 | 94 - US 63 to IA 150 |
| 95 | 95 - US 151 to IA 965 |
| 96 | 96 - US 18 to IA 9 |
| 97 | 97 - US 18 to MN border |
| 98 | 98 - IA 9 to MN border |
| 99 | 99 - NE border to IA 60 |
| 100 | 100 - IA 83 to IA 44 |
| 101 | 101 - US 59 to IA 148 |
| 102 | 102 - IA 141 to US 30 |
| 103 | 103 - IA 163 to I-80 |
| 104 | 104 - I-80 to US 65 |
| 105 | 105 - IA 330 to US 30 |
| 106 | 106 - IA 141 to I-35 |
| 107 | 107 - US 218 to IA 70 |

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| 108 | 108 - IA 149 to IA 1 |
| 109 | 109 - IA 1 to US 218 |
| 110 | 110 - IA 149 to IA 92 |
| 111 | 111 - IA 3 to IA 150 |
| 112 | 112 - IA 150 to IA 13 |
| 113 | 113 - IA 13 to US 52 |
| 114 | 114 - IA 3 to US 218 |
| 115 | 115 - IA 141 to US 20 |
| 116 | 116 - US 59 to US 30 |
| 117 | 117 - US 30 to IA 175 |
| 118 | 118 - IA 3 to US 18 |
| 119 | 119 - US 20 to IA 3 |
| 120 | 120 - I-35 to IA 14 |
| 121 | 121 - IA 14 to US 63 |
| 122 | 122 - I-80 to US 30 |
| 123 | 123 - US 30 to US 151 |
| 124 | 124 - US 151 to US 20 |
| 125 | 125 - US 67 to US 61 |
| 126 | 126 - US 61 to US 151 |
| 127 | 127 - US 151 to US 20 |
| 128 | 128 - IA 44 to IA 141 |
| 129 | 129 - US 169 to IA 141 |
| 130 | 130 - US 169 to I-35/80 |
| 131 | 131 - I-35 to US 65 |
| 133 | 133 - IA 60 to US 71 |
| 134 | 134 - IA 3 to IA 10 |
| 135 | 135 - US 34 to I-80 |
| 136 | 136 - US 34 to I-80 |
| 137 | 137 - US 71 to US 169 |
| 138 | 138 - US 34 to IA 92 |
| 139 | 139 - MO border to US 34 |
| 140 | 140 - US 71 to US 169 |
| 141 | 141 - MO border to US 34 |
| 142 | 142 - IA 2 to US 34 |
| 143 | 143 - US 59 to US 34 |
| 144 | 144 - US 34 to US 6 |
| 145 | 145 - US 59 to US 71 |
| 146 | 146 - MO border to US 34 |
| 147 | 147 - I-29 to US 59 |
| 148 | 148 - MO border to IA 2 |
| 149 | 149 - I-29 to US 59 |
| 150 | 150 - I-80 to US 59 |
| 151 | 151 - US 59 to US 71 |
| 152 | 152 - US 71 to US 169 |
| 153 | 153 - I-80 to US 30 |
| 154 | 154 - US 59 to US 71 |
| 155 | 155 - US 34 to US 63 |
| 156 | 156 - US 63 to US 218 |
| 157 | 157 - IA 22 to US 6 |
| 158 | 158 - US 30 to US 59 |

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| 159 | 159 - IA 141 to Ankeny W CL |
| 160 | 160 - US 18 to MN border |
| 161 | 161 - I-35 to Mason City W CL |
| 162 | 162 - IA 163 to I-80 |
| 163 | 163 - I-280 to IA 461 |
| 164 | 164 - I-235 to I-35/80 |
| 165 | 165 - IA 86 to MN border |
| 166 | 166 - I-80 to US 30 |
| 167 | 167 - US 34 to I-80 |
| 168 | 168 - I-380 to IA 150 |
| 169 | 169 - IA 70 to US 61 |
| 170 | 170 - IA 60 to US 18 |
| 171 | 171 - US 20 to IA 60 |
| 172 | 172 - IA 1 to IA 70 |
| 173 | 173 - I-80 to US 30 |
| 174 | 174 - US 20 to IA 3 |
| 175 | 175 - US 30 to US 20 |
| 176 | 176 - I-80 to IA 141 |
| 177 | 177 - IA 92 to I-80 |
| 178 | 178 - IA 3 to US 18 |
| 179 | 179 - US 30 to IA 150 |
| 180 | 180 - US 34 to IA 92 |
| 181 | 181 - IA 27 to US 34 |
| 182 | 182 - US 61 to IA 27 |
| 183 | 183 - I-35/80 to Ankeny N CL |
| 184 | 184 - IA 5 to I-235 |
| 185 | 185 - I-80 to US 30 |
| 186 | 186 - I-74 to I-80 |
| 187 | 187 - US 61 to I-74 |
| 188 | 188 - US 18 to Mason City N CL |
| 189 | 189 - US 20 to IA 3 |
| 190 | 190 - I-80 to IA 330 |
| 191 | 191 - IA 5 to IA 163 |
| 192 | 192 - US 34 to IA 92 |
| 193 | 193 - MO border to US 34 |
| 194 | 194 - US 18 to MN border |
| 195 | 195 - IA 3 to US 18 |
| 196 | 196 - US 30 to US 20 |
| 197 | 197 - IA 149 to IA 92 |
| 198 | 198 - MO border to US 34 |
| 199 | 199 - I-80 to US 30 |
| 200 | 200 - Louisa Co line to IA 38 |
| 201 | 201 - Burlington N CL to Muscatine Co line |
| 202 | 202 - IA 2 to Burlington N CL |
| 203 | 203 - US 34 to I-80 |
| 204 | 204 - US 30 to US 20 |
| 205 | 205 - US 18 to IA 9 |
| 206 | 206 - IA 3/IA 136 to US 18 |
| 207 | 207 - I-29 to 0.8 mi W of US 275 |
| 208 | 208 - IA 25 to I-35 |

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| 209 | 209 - US 65 to IA 5 |
| 210 | 210 - IA 1 to US 218 |
| 211 | 211 - I-29 to US 59 |
| 212 | 212 - US 169 to IA 930 |
| 213 | 213 - I-35 to IA 14 |
| 214 | 214 - IA 14 to 3.3 mi E of US 63 |
| 215 | 215 - 3.3 mi E of US 63 to US 218 |
| 216 | 216 - I-380 to 2.4 mi W of IA 1 |
| 217 | 217 - 2.4 mi W of IA 1 to US 61 |
| 218 | 218 - US 61 to IL state line |
| 219 | 219 - US 75 to 3.5 mi E of IA 140 |
| 220 | 220 - 3.5 mi E of IA 140 to US 59 |
| 221 | 221 - US 71 to US 169 |
| 222 | 222 - US 169 to I-35 |
| 223 | 223 - US 65 to IA 14 |
| 224 | 224 - SD state line to US 75 |
| 225 | 225 - US 65 to US 218 |
| 226 | 226 - US 52 to IA 76 |
| 227 | 227 - IA 14 to US 63 |
| 228 | 228 - I-280 to US 67 |
| 229 | 229 - I-80 to US 30 |
| 230 | 230 - IA 92 to Iowa City S CL |
| 231 | 231 - US 59 to US 71 |
| 232 | 232 - IA 5 to US 63 |
| 233 | 233 - US 218 to US 61 |
| 234 | 234 - US 65/US 69 to IA 28 |
| 235 | 235 - E jct of IA 92 to W jct of IA 92 |
| 236 | 236 - US 34 to E jct of IA 92 |
| 237 | 237 - E16 to US 20 |
| 238 | 238 - US 151 to E16 |
| 239 | 239 - US 20 to IA 3 |
| 240 | 240 - US 69 to US 65 |
| 241 | 241 - US 30 to IA 14 |
| 242 | 242 - US 65 to US 30 |
| 243 | 243 - IA 3 to US 18 |
| 244 | 244 - I-35 to US 65 |
| 245 | 245 - US 63 to IA 1 |
| 246 | 246 - US 218 to US 61 |
| 247 | 247 - US 169 to I-35 |
| 248 | 248 - IA 150 to IA 13 |
| 249 | 249 - IA 141 to US 30 |
| 250 | 250 - US 71 to US 169 |
| 251 | 251 - US 63 to Decorah E CL |
| 252 | 252 - US 30 to US 20 |
| 253 | 253 - US 6 to US 30 |
| 254 | 254 - IA 163 to I-80 |
| 255 | 255 - US 61 to US 6 |
| 256 | 256 - US 75 to US 18 |
| 257 | 257 - MO border to US 218 |
| 258 | 258 - IA 4 to IA 144 |

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| 259 | 259 - US 169 to I-35/80 |
| 260 | 260 - US 20 to US 52 |
| 261 | 261 - NE border to I-29 |
| 262 | 262 - US 61/IA 146 to I-80 |
| 263 | 263 - US 20/I-129 to SD border |
| 264 | 264 - IA 175 to US 20/I-129 |
| 265 | 265 - IA 192 to I-680 |
| 266 | 266 - US 34 to I-80 |
| 267 | 267 - I-80 to US 30 |
| 268 | 268 - US 30 to IA 100 |
| 269 | 269 - IA 150 to US 20 |
| 270 | 270 - NE border to I-29 |
| 271 | 271 - I-280 to I-74 |
| 272 | 272 - E mixmaster to IA 14 |
| 273 | 273 - US 6/US 71 to US 169 |
| 274 | 274 - I-29 to I-80 |
| 275 | 275 - IL border to I-80 |
| 276 | 276 - MO border to US 34 |
| 277 | 277 - US 6 to IA 141 |
| 278 | 278 - US 30 to US 20 |
| 279 | 279 - IA 3 to US 18 |
| 280 | 280 - IA 160 to US 30 |
| 281 | 281 - US 69 to E mixmaster |
| 282 | 282 - MO border to IA 2 |
| 283 | 283 - IA 13 to US 61 |
| 286 | 286 - IA 60 to US 71 |
| 287 | 287 - US 71 to US 169 |
| 288 | 288 - US 169 to I-35 |
| 289 | 289 - US 18 to MN border |
| 290 | 290 - US 75 to IA 60 |
| 291 | 291 - US 20 to US 59 |
| 292 | 292 - US 30 to US 20 |
| 293 | 293 - US 20 to IA 3 |
| 294 | 294 - I-80 to US 30 |
| 295 | 295 - IA 2 to US 34 |
| 296 | 296 - MO border to US 34 |
| 297 | 297 - US 75 to US 59 |
| 298 | 298 - US 59 to US 71 |
| 299 | 299 - US 71 to US 169 |
| 300 | 300 - US 218 to I-380 |
| 301 | 301 - I-380 to US 20 |
| 302 | 302 - US 20 to IA 3 |
| 303 | 303 - US 63 to IA 150 |
| 304 | 304 - US 218 to US 63 |
| 305 | 305 - US 65 to US 218 |
| 306 | 306 - I-35 to US 65 |
| 307 | 307 - IA 3 to US 18 |
| 308 | 308 - IA 5 to IA 163 |
| 309 | 309 - US 65 to IA 14 |
| 310 | 310 - IA 2 to US 34 |

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| 311 | 311 - I-35 to US 65 |
| 312 | 312 - IA 5 to Ottumwa W CL |
| 313 | 313 - 0.8 mi W of US 275 to US 59 |
| 314 | 314 - US 59 to US 71 |
| 315 | 315 - IA 3 to US 18 |
| 316 | 316 - I-35 to US 65 |
| 317 | 317 - US 218 to US 63 |
| 318 | 318 - IA 141 to US 30 |
| 319 | 319 - US 30 to IA 175 |
| 320 | 320 - IA 3 to US 18 |
| 321 | 321 - US 18 to MN border |
| 322 | 322 - US 63 to IA 150 |
| 323 | 323 - IA 150 to US 52 |
| 324 | 324 - US 20 to IA 3 |
| 325 | 325 - IA 1 to US 218 |
| 326 | 326 - US 20 to IA 3 |
| 327 | 327 - IA 3 to US 18 |
| 328 | 328 - US 59 to US 71 |
| 329 | 329 - US 71 to US 169 |
| 330 | 330 - NE border to I-29 |
| 331 | 331 - IA 9 to MN border |
| 332 | 332 - IA 32 to IA 3/IA 136 |
| 333 | 333 - Jct of IA 32 to Jct of US 61 |
| 334 | 334 - US 20 to WI border |
| 335 | 335 - IA 64 to US 151 |
| 336 | 336 - US 30 to IA 64 |
| 338 | 338 - US 169 to I-35 |
| 339 | 339 - US 65 to IA 5 |
| 340 | 340 - W jct of IA 92 to US 65/US 69 |
| 342 | 342 - US 6 to I-80 |
| 343 | 343 - US 30 to IA 13 |
| 344 | 344 - IA 32 to US 52/US 61 |
| 345 | 345 - IA 136 to IA 32 |
| 346 | 346 - IA 13 to IA 136 |
| 347 | 347 - IA 150 to IA 13 |
| 348 | 348 - Waterloo N CL to IA 3 |
| 349 | 349 - US 20 to US 218 |
| 350 | 350 - IA 13 to IA 136 |
| 351 | 351 - US 30 to US 151 |
| 352 | 352 - US 61 to IL border |
| 353 | 353 - US 218 to US 61 |
| 354 | 354 - Ottumwa W CL to US 63 |
| 355 | 355 - US 63 to IA 1 |
| 356 | 356 - US 34 to IA 92 |
| 357 | 357 - IA 57 to IA 3 |
| 358 | 358 - US 20 to IA 3 |
| 359 | 359 - US 218 to IA 922 |
| 360 | 360 - US 59 to US 71 |
| 361 | 361 - US 218 to IA 2 |
| 362 | 362 - MO border to US 218 |

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| 363 | 363 - IA 92 to IA 1 |
| 364 | 364 - IA 1 to I-80 |
| 365 | 365 - US 18 to MN border |
| 366 | 366 - I-80 to I-480/US 6 |
| 368 | 368 - NE border to I-29 |
| 369 | 369 - US 59 to US 6/US 71 |
| 370 | 370 - US 6 to US 59 |
| 371 | 371 - US 169 to W mixmaster |
| 372 | 372 - IA 14 to US 63 |
| 373 | 373 - US 63 to US 151 |
| 374 | 374 - I-29 to NE border |
| 375 | 375 - US 30 to I-380 |
| 376 | 376 - I-380 to IA 100 |
| 377 | 377 - I-380 to US 151 |
| 378 | 378 - Retired Start of Route to JCT of US 218/US63 |
| 379 | 379 - US 20 to US 218 |
| 380 | 380 - Cedar Falls W CL to US 218 |
| 381 | 381 - Jct of US 20 to Jct of US 52 |
| 382 | 382 - IA 5 to I-235 |
| 383 | 383 - I-235 to US 6 |
| 384 | 384 - US 6 to I-35/80 |
| 386 | 386 - I-35/80 to IA 28 |
| 387 | 387 - IA 28 to US 69 |
| 388 | 388 - IA 160 to I-35/80 |
| 389 | 389 - US 69 to I-235 |
| 390 | 390 - I-235 to I-80 |
| 391 | 391 - IA 29 to Sioux City N CL |
| 392 | 392 - US 20/US 75 to IA 29 |
| 393 | 393 - I-29 to IA 12 |
| 394 | 394 - W mixmaster to IA 28 |
| 395 | 395 - IA 28 to US 69 |
| 396 | 396 - IA 28 to I-35 |
| 397 | 397 - Ankeny W CL to IA 160 |
| 398 | 398 - US 30 to Ames N CL |
| 399 | 399 - US 63 to US 20 |
| 400 | 400 - IA 27 to US 218 |
| 401 | 401 - US 18 to US 52 |
| 402 | 402 - IA 9 to MN border |
| 403 | 403 - IA 14 to IA 27 |
| 404 | 404 - IA 12 to US 75 |
| 405 | 405 - US 34 to IA 92 |
| 406 | 406 - IA 415 to E mixmaster |
| 407 | 407 - IA 141 to IA 28 |
| 408 | 408 - I-80/I-235 to IA 160 |
| 409 | 409 - IA 1 to US 6 |
| 410 | 410 - I-74 to IL border |
| 411 | 411 - US 6 to I-280 |
| 412 | 412 - IA 461 to I-74 |
| 413 | 413 - US 6 to I-80 |
| 414 | 414 - IL border to US 61/IA 146 |

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| 415 | 415 - Buffalo E CL to US 61 |
| 416 | 416 - IA 5 to US 63 |
| 417 | 417 - IA 163 to I-80 |
| 418 | 418 - Mason City W CL to Mason City E CL |
| 419 | 419 - MO border to IA 2 |
| 420 | 420 - IA 2 to US 34 |
| 422 | 422 - Retired Jct of US 6 to Jct of I-29 |
| 424 | 424 - US 71 to IA 9 |
| 425 | 425 - I-29 to US 6 |
| 426 | 426 - IA 192 to I-80 |
| 427 | 427 - Retired Jct of I-29/I-480 to Jct of IA 192 |
| 428 | 428 - IA 415 to I-35 |
| 429 | 429 - IA 92 to IA 5 |
| 430 | 430 - IA 5 to I-80/I-235 |
| 431 | 431 - US 18 to IA 9 |
| 432 | 432 - I-380 to IA 1 |
| 433 | 433 - IL border to US 61 |
| 434 | 434 - US 61 to US 218 |
| 435 | 435 - US 30 to Clinton N CL |
| 436 | 436 - IA 38 to I-280 |
| 437 | 437 - IA 144 to US 169 |
| 438 | 438 - US 30 to IA 175 |
| 439 | 439 - IA 100 to IA 150 |
| 440 | 440 - US 20 to end of route |
| 442 | 442 - IA 1 to US 218 |
| 443 | 443 - US 218 to US 61 |
| 444 | 444 - US 20 to IA 3 |
| 445 | 445 - US 169 to I-35 |
| 446 | 446 - US 218 to Waterloo N CL |
| 447 | 447 - IA 922 to I-380 |
| 449 | 449 - US 18 to IA 86 |
| 450 | 450 - I-80 to US 30 |
| 451 | 451 - US 151 to I-380 |
| 452 | 452 - US 6 to I-80 |
| 453 | 453 - US 71 to IA 25 |
| 454 | 454 - NE border to I-29 |
| 455 | 455 - IA 930 to I-35 |
| 456 | 456 - US 30 to 1.1 mi E of US 30 |
| 457 | 457 - I-29 to US 75 |
| 458 | 458 - I-35 to US 65 |
| 459 | 459 - US 67 to US 6 |
| 460 | 460 - Iowa City S CL to US 6 |
| 461 | 461 - IA 92 to IA 5 |
| 462 | 462 - IA 28 to IA 415 |
| 463 | 463 - W mixmaster to US 6 |
| 464 | 464 - NE border to I-29 |
| 465 | 465 - I-35/80 to US 6 |
| 466 | 466 - Norwalk S CL to IA 5 |
| 468 | 468 - US 151 to US 20 |
| 469 | 469 - US 52 to US 61 |

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| 65 | 65 - US 151 to US 61 |
| 337 | 337 - US 34 to IA 149 |
| 341 | 341 - IA 965 to IA 1 |
| 441 | 441 - Edgewood Road to I-380 |
| 448 | 448 - I-480/US 6 to Council Bluffs N CL |
| 421 | 421 - I-80 to IA 906 |

INSTITUTION_NUMBER_ID - Domain

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|--------------------|-------------------------|
| DomainName | INSTITUTION_NUMBER_ID |
| Description | INSTITUTION_NUMBER_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|------------------------------------|
| 482 | ADAIR WMA |
| 558 | ALDO LEOPOLD WILDLIFE MNGT AREA |
| 768 | ALGONA ARMORY |
| 602 | AMBROSE A. CALL |
| 711 | ANAMOSA STATE PENITENTIARY |
| 498 | ARTESIAN LAKE WMA |
| 596 | ASHTON PITS |
| 748 | ATLANTIC ARMORY |
| 742 | AUDUBON ARMORY |
| 603 | BACKBONE |
| 683 | BADGER CREEK |
| 579 | BANNER LAKES AT SUMMERSET STATE PK |
| 537 | BARRINGER SLOUGH WMA |
| 564 | BAYS BRANCH WILDLIFE AREA |
| 696 | BEAVER LAKE |
| 604 | BEEDES LAKE |
| 605 | BELLEVUE |
| 677 | BIG CREEK |
| 589 | BIG MARSH WILDLIFE MGMT A |
| 450 | BIG MILL CREEK WMA |
| 548 | BIG SIOUX RIVER COMPLEX WMA |
| 600 | BIG SPRING FISH HATCHERY |
| 516 | BIG WALL LAKE WMA |
| 513 | BIGELOW COUNTY PARK |
| 606 | BIXBY |
| 607 | BLACK HAWK LAKE |
| 550 | BLACKHAWK POINT WMA |
| 526 | BLUEBIRD ACCESS |
| 476 | BLUFFTON FIR STAND STATE PRESERVE |
| 608 | BOB WHITE |
| 745 | BOONE ARMORY |
| 503 | BOONE FORKS WMA |
| 521 | BRADGATE WMA |
| 811 | BRAYTON MEMORIAL FOREST, |

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| 453 | BRIGHTON ACCESS |
| 477 | BRIGHTS LAKE WMA |
| 610 | BRUSH CREEK CANYON |
| 684 | BRUSHY CREEK |
| 755 | BURLINGTON ARMORY |
| 547 | BURR OAK LAKE WMA |
| 475 | CARDINAL MARSH WMA |
| 747 | CARROLL ARMORY |
| 556 | CASINO BAY MARINA |
| 446 | CEDAR BOTTOMS WMA |
| 743 | CEDAR FALLS ARMORY |
| 770 | CEDAR RAPIDS ARMORY |
| 591 | CENTER LAKE |
| 741 | CENTERVILLE ARMORY |
| 771 | CHARITON ARMORY |
| 759 | CHARLES CITY ARMORY |
| 546 | CHEEVER LAKE STATE PRESERVE |
| 437 | CHRISTOPHERSON SLOUGH |
| 781 | CLARINDA ARMORY |
| 718 | CLARINDA CORRECTIONAL FACILITY |
| 703 | CLARINDA TREATMENT CENTER |
| 439 | CLEAR CREEK WMA |
| 611 | CLEAR LAKE |
| 457 | CLIFFLAND ACCESS |
| 752 | CLINTON ARMORY |
| 671 | COLD SPRINGS |
| 452 | CONE MARSH WMA |
| 473 | COON CREEK WMA |
| 927 | CORALVILLE RESERVOIR |
| 740 | CORNING ARMORY |
| 784 | COUNCIL BLUFFS ARMORY |
| 785 | COUNCIL BLUFFS OMS |
| 449 | DALTON POND WMA |
| 788 | DAVENPORT AASF |
| 786 | DAVENPORT ARMORY |
| 787 | DAVENPORT OMS |
| 593 | DEER CREEK WILDLIFE AREA |
| 492 | DEER ISLAND WMA |
| 505 | DEKALB WMA |
| 753 | DENISON ARMORY |
| 918 | DESOTO BEND WILDLIFE REFUGE |
| 460 | DEVOSS FOSTER WMA |
| 436 | DIAMOND LAKE WMA |
| 862 | DMACC AREA XI ANKENY |
| 886 | DMACC AREA XI DES MOINES |
| 863 | DMACC--BOONE |
| 613 | DOLLIVER MEMORIAL |
| 756 | DUBUQUE ARMORY |
| 464 | DUDGEON LAKE WMA |
| 496 | DUNBAR SLOUGH WMA |

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| 794 | EAGLE GROVE ARMORY |
| 663 | EAGLE LAKE |
| 568 | EAST OKOBOJI BEACH |
| 545 | EAST SWAN LAKE WMA |
| 528 | EAST TWIN LAKE WMA |
| 614 | ECHO VALLEY |
| 957 | EFFIGY MOUNDS NATL MONUME |
| 465 | ELDON WMA |
| 555 | ELINOR BEDELL STATE PARK |
| 559 | ELK CREEK WILDLIFE MNGT AREA |
| 676 | ELK ROCK |
| 515 | ELM LAKE WMA |
| 685 | EMERSON BAY |
| 757 | ESTHERVILLE ARMORY |
| 456 | EVELAND ACCESS |
| 765 | FAIRFIELD ARMORY |
| 766 | FAIRFIELD OMS |
| 687 | FAIRPORT STATION |
| 551 | FISH FARM MOUNDS WMA |
| 504 | FIVE ISLAND LAKE WMA |
| 578 | FOGLE LAKE WILDLIFE AREA |
| 553 | FOLSOM LAKE |
| 648 | FORNEY LAKE WILDLIFE AREA |
| 615 | FORT DEFIANCE |
| 941 | FORT DES MOINES |
| 792 | FORT DODGE ARMORY |
| 717 | FORT DODGE CORRECTIONAL |
| 544 | FOUR MILE LAKE WMA |
| 459 | FOX HILLS WMA |
| 664 | FRANK A. GOTCH |
| 438 | FRENCH CREEK WMA |
| 616 | GEODE |
| 617 | GEORGE WYTH MEMORIAL |
| 706 | GLENWOOD STATE HOSPITAL |
| 440 | GOOSE LAKE (CLINTON) WMA |
| 540 | GOOSE LAKE (KOSSUTH) WMA |
| 469 | GRANNIS CREEK WMA |
| 541 | GRASS LAKE WMA |
| 566 | GREEN ISLAND WILDLIFE MANAG |
| 619 | GREEN VALLEY |
| 620 | GULL POINT |
| 573 | HALES SLOUGH WILDLIFE |
| 760 | HAMPTON ARMORY |
| 539 | HARMON LAKE WMA |
| 536 | HAWK VALLEY WMA |
| 867 | HAWKEYE INSTITUTE OF TECH |
| 442 | HAWKEYE WMA |
| 694 | HAWTHORNE WILDLIFE MGMNT |
| 621 | HEERY WOODS |
| 956 | HERBERT HOOVER NATL HISTO |

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| 484 | HIGHWAY 44 ACCESS |
| 675 | HONEY CREEK |
| 830 | IA BRAILLE AND SIGHT SAVING |
| 872 | IA CENTRAL COMM COLL-WEBS |
| 873 | IA LAKES COMM COLL--EMMET |
| 874 | IA LAKES COMM COLL-ESTHER |
| 724 | IA MEDICAL AND CLASSIFICATION |
| 775 | IA NATL GUARD--GLENWOOD |
| 869 | INDAIN HILLS COM COL |
| 461 | INDIAN BLUFFS WMA |
| 868 | INDIAN HILLS-CENTERVILLE |
| 599 | INGHAM LAKE WILDLIFE AREA |
| 871 | IOWA CENTRL COM COL AREA |
| 767 | IOWA CITY ARMORY |
| 715 | IOWA CORRECTIONAL INST.(W |
| 762 | IOWA FALLS ARMORY |
| 709 | IOWA JUVENILE HOME, TOLED |
| 543 | IOWA LAKE (EMMET) WMA |
| 443 | IOWA RIVER CORRIDOR WMA |
| 840 | IOWA SCHOOL FOR THE DEAF, |
| 851 | IOWA STATE FAIRGROUNDS |
| 712 | IOWA STATE PENITENTIARY |
| 810 | IOWA STATE UNIVERSITY |
| 710 | IOWA VETERANS HOME |
| 876 | IOWA WEST. COMM.COL.AREA |
| 816 | ISU |
| 814 | ISU - EXPERIM. FARM |
| 817 | ISU FARMS AND OTHER LANDS |
| 802 | ISU LAKESIDE LAB |
| 815 | ISU-MCNAY RESEARCH FARM |
| 761 | JEFFERSON ARMORY |
| 435 | JEMMERSON SLOUGH COMPLEX |
| 665 | KEARNEY |
| 494 | KEG CREEK I29 WMA |
| 769 | KEOKUK ARMORY |
| 583 | KETTLESON HOGBACK WILDLIFE AREA |
| 586 | KIOWA MARSH WILDLIFE |
| 877 | KIRKWOOD COMM COLL |
| 451 | KLUM LAKE WMA |
| 773 | KNOXVILLE ARMORY |
| 623 | LACEY-KEOSAUQUA |
| 479 | LAHART WMA |
| 601 | LAKE AHQUABI |
| 669 | LAKE ANITA |
| 612 | LAKE DARLING |
| 681 | LAKE ICARIA |
| 622 | LAKE KEOMAH |
| 626 | LAKE MACBRIDE |
| 627 | LAKE MANAWA |
| 595 | LAKE ODESSA WILDLIFE AREA |

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| 653 | LAKE OF THREE FIRES |
| 926 | LAKE RATHBUN |
| 570 | LAKE SUQEMA WILDLIFE |
| 658 | LAKE WANATA |
| 659 | LAKE WAPELLO |
| 489 | LAKIN SLOUGH WMA |
| 624 | LEDGES |
| 431 | LEKWA MARSH WMA |
| 783 | LEMARS ARMORY |
| 625 | LEWIS AND CLARK |
| 448 | LITTLE MILL CREEK WMA |
| 533 | LITTLE SIOUX WMA |
| 507 | LIZARD CREEK WMA |
| 525 | LIZARD LAKE WMA |
| 502 | LOESS HILL WMA |
| 584 | LOESS HILLS PIONEER STATE FOREST |
| 572 | LOST GROVE WILDLIFE |
| 501 | LOUISVILLE BEND WMA |
| 682 | LOWER GAR LAKE |
| 474 | MALANAPHY SPRINGS STATE PRESERVE |
| 598 | MANCHESTER FISH HATCHERY |
| 776 | MAPLETON ARMORY |
| 628 | MAQUOKETA CAVES |
| 686 | MARBLE BEACH |
| 629 | MARGO FRANKEL WOODS |
| 912 | MARK TWAIN REFUGE |
| 774 | MARSHALLTOWN ARMORY |
| 878 | MARSHALLTOWN COMM COLL |
| 749 | MASON CITY ARMORY |
| 803 | MCBRIDE NRA |
| 488 | MCCORD POND WMA |
| 630 | MCGREGOR HEIGHTS |
| 631 | MCINTOSH WOODS |
| 495 | MCPAHON ACCESS |
| 428 | MCPAUL I-29 WMA |
| 481 | MEADOW LAKE WMA |
| 704 | MENTAL HEALTH INSTITUTE |
| 702 | MENTAL HEALTH INSTITUTE |
| 458 | MIAMI LAKE WMA |
| 497 | MIDDLE DECATUR BEND WMA |
| 512 | MILE LONG ISLAND WMA |
| 632 | MILL CREEK |
| 689 | MINES OF SPAIN |
| 633 | MINI-WAKAN |
| 434 | MINNEWASHTA LAKE WMA |
| 514 | MORSE LAKE WMA |
| 519 | MOUNT AYR WMA |
| 763 | MT PLEASANT ARMORY |
| 705 | MT PLEASANT CORRECTIONAL |
| 779 | MUSCATINE ARMORY |

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| 879 | MUSCATINE COMM COLL |
| 463 | MUSKRAT SLOUGH WMA |
| 538 | MYRE SLOUGH WMA |
| 713 | N CEN CORR FAC-ROCKWELL C |
| 880 | N IA AREA COMM COLL-MASON |
| 850 | NAT, GUARD CAMP DODGE |
| 970 | NATIONAL ANIMAL DISEASE CENTER |
| 860 | NE IOWA AREA TECH INST AR |
| 919 | NEAL SMITH WILDLIFE REFUGE |
| 864 | NEICC PEOSTA |
| 554 | NEW ALBIN WMA |
| 764 | NEWTON ARMORY |
| 716 | NEWTON CORRECTIONAL FACIL |
| 634 | NINE EAGLES |
| 695 | NOBLES ISLAND |
| 491 | NOBLES LAKE WMA |
| 0 | NOT APPLICABLE |
| 881 | NW IOWA COMM COL-IV-SHELD |
| 667 | OAK GROVE |
| 565 | OAKDALE-GEOLGICAL SURVEY |
| 635 | OAKLAND MILLS |
| 758 | OELWEIN ARMORY |
| 672 | OKAMANPEDAN |
| 750 | OSCEOLA ARMORY |
| 772 | OSKALOOSA ARMORY |
| 577 | OTTER CREEK WILDLIFE AREA |
| 468 | OTTERVILLE WMA |
| 522 | OTTOSEN POTHOLES WMA |
| 790 | OTTUMWA ARMORY |
| 636 | PALISADES-KEPLER |
| 637 | PAMMEL |
| 478 | PELLA WMA |
| 486 | PERRY ACCESS WMA |
| 754 | PERRY ARMORY |
| 462 | PICTURED ROCKS COUNTY PARK |
| 638 | PIKES PEAK |
| 639 | PIKES POINT |
| 640 | PILOT KNOB |
| 641 | PINE LAKE |
| 642 | PIONEER |
| 679 | PLEASANT CREEK |
| 485 | PLEASANT VALLEY WMA |
| 483 | POLK CITY REFUGE |
| 643 | PRAIRIE ROSE |
| 644 | PREPARATION CANYON |
| 698 | PRINCETON WILDLIFE AREA |
| 666 | RAINBOW BEND |
| 562 | RAND ACCESS WILDLIFE AREA |
| 575 | RATHBUN FISH HATCHERY |
| 587 | RATHBUN WILDLIFE |

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| 447 | RED CEDAR WMA |
| 645 | RED HAW |
| 777 | RED OAK ARMORY |
| 928 | RED ROCK RESERVOIR |
| 646 | RICE LAKE |
| 517 | RINGGOLD WMA |
| 699 | RIVERTON WILDLIFE MANAGEM |
| 647 | ROCK CREEK |
| 930 | ROCK ISLAND ARSENAL |
| 532 | RUSH LAKE (PALO ALTO) WMA |
| 549 | RUSH LAKE-OSCEOLA-WMA |
| 590 | RUTHVEN WILDLIFE AREA |
| 884 | S EASTERN COMM COLL-BURLI |
| 509 | SAC CITY ACCESS |
| 506 | SAND CREEK WMA |
| 931 | SAYLORVILLE RES |
| 865 | SCOTT COMM COL ARE IX |
| 427 | SCOTT I-29 WMA |
| 793 | SERGEANT BLUFF ARMORY |
| 649 | SHARON BLUFFS |
| 780 | SHELDON ARMORY |
| 470 | SHELL ROCK BEND WMA |
| 782 | SHENANDOAH ARMORY |
| 690 | SHIMEK STATE FOREST |
| 472 | SIEWERS SPRINGS FISH HATCHERY |
| 433 | SILVER LAKE (DICKINSON) WMA |
| 531 | SILVER LAKE (PALO ALTO) WMA |
| 789 | SIOUX CENTER ARMORY |
| 454 | SKUNK RIVER WMA |
| 527 | SOO ACCESS |
| 455 | SOUTH SKUNK RIVER ACCESS |
| 883 | SOUTHEASTERN COMM COLL--K |
| 552 | SOUTHFORK ACCESS WMA |
| 751 | SPENCER ARMORY |
| 581 | SPIRIT LAKE HATCHERY |
| 650 | SPRING BROOK |
| 651 | SPRING LAKE |
| 432 | SPRING RUN WETLAND COMPLEX |
| 852 | STATE CAPITOL COMPLEX |
| 594 | STATE FOREST NURSERY |
| 723 | STATE PENITENTIARY FARM # |
| 722 | STATE PENITENTIARY FARMS |
| 714 | STATE TRAINING SCHOOL |
| 693 | STEPHENS ST FOR |
| 652 | STONE - PLYMOUTH CO |
| 746 | STORM LAKE ARMORY |
| 524 | SUNKEN GROVE WMA |
| 882 | SW COMM. COL.AREA |
| 668 | SWAN LAKE |
| 597 | SWEET MARSH WILDLIFE AREA |

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| 444 | SYRACUSE WMA |
| 901 | TAMA INDIAN SETTLEMENT |
| 692 | TEMPLAR POINT |
| 576 | THREE MILE LAKE WILD LIFE AREA |
| 654 | TRAPPERS BAY |
| 582 | TRIBOJI BEACH ACCESS |
| 467 | TROY MILLS WMA |
| 567 | TRUMBULL LAKE STATE PARK |
| 674 | TWIN LAKES |
| 490 | TYSON BEND WMA |
| 804 | U OF IA OAKDALE CAMPUS |
| 655 | UNION GROVE |
| 911 | UNION SLOUGH REFUGE |
| 801 | UNIVERSITY OF IOWA |
| 820 | UNIVERSITY OF NORTHERN IA |
| 499 | UPPER DECATUR BEND WMA |
| 917 | UPPER MISSISSIPPI LAND AC |
| 915 | UPPER MISSISSIPPI LAND AC |
| 913 | UPPER MISSISSIPPI LAND AC |
| 916 | UPPER MISSISSIPPI LAND ACQUISITION |
| 557 | VENTURA MARSH |
| 471 | VENTURA MARSH WMA |
| 656 | VIKING LAKE |
| 778 | VILLISCA ARMORY |
| 678 | VOLGA RIVER |
| 885 | W IA TECH COMM COLL-AREA |
| 657 | WALNUT WOODS |
| 660 | WAPSIPINICON |
| 791 | WASHINGTON ARMORY |
| 744 | WATERLOO AASF |
| 569 | WATERLOO CREEK WMA |
| 430 | WATERLOO CREEK WMA |
| 661 | WAUBONSIE |
| 942 | WAVERLY NAVAL HOUSING |
| 510 | WEEDLAND ACCESS |
| 542 | WEST SWAN LAKE WMA |
| 508 | WHITE HORSE ACCESS |
| 466 | WHITE PINE HOLLOW STATE PRESERVE |
| 445 | WIESE SLOUGH WMA |
| 662 | WILD CAT DEN |
| 487 | WILLIAMSON POND WMA |
| 493 | WILLOW SLOUGH WMA |
| 523 | WILLOWS ACCESS WMA |
| 670 | WILSON ISLAND |
| 511 | WINNEBAGO BEND WMA |
| 707 | WOODWARD STATE HOSPITAL |
| 691 | YELLOW RIVER STATE FOREST |
| 951 | YELLOW BANKS PARK |
| 425 | BARKLEY MEMORIAL PARK |
| 697 | BIRDLAND PARK |

LANE_POSITION_ID - Domain

DomainName LANE_POSITION_ID
Description LANE_POSITION_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------|
| 1 | LANE 1 |
| 2 | LANE 2 |
| 3 | LANE 3 |
| 4 | LANE 4 |
| 5 | LANE 5 |
| 6 | LANE 6 |
| 7 | LANE 7 |
| 8 | LANE 8 |
| 9 | LANE 9 |

LANE_TYPE_ID - Domain

DomainName LANE_TYPE_ID
Description LANE_TYPE_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------|
| 1 | 1 - THROUGH LANE |
| 3 | 3 - RIGHT TURN LANE |
| 4 | 4 - LEFT TURN LANE |
| 5 | 5 - CENTER TURN LANE |
| 6 | 6 - EXIT LANE |
| 7 | 7 - ENTRANCE LANE |
| 8 | 8 - REVERSIBLE LANES |
| 9 | 9 - OTHER |
| 2 | 2 - CLIMBING LANE |

MAINTENANCE_CONTRACT_ID - Domain

DomainName MAINTENANCE_CONTRACT_ID
Description MAINTENANCE_CONTRACT_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------|
| 1 | MAINTENANCE CONTRACT |

MAINTENANCE_COST_CENTER_ID - Domain

DomainName MAINTENANCE_COST_CENTER_ID
Description MAINTENANCE_COST_CENTER_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------------|-------------------------------------|
| 551602 | 551602 - AMES GARAGE |
| 551604 | 551604 - MARSHALLTOWN GARAGE |
| 551605 | 551605 - TAMA GARAGE |
| 551607 | 551607 - GRUNDY CENTER GARAGE |
| 551608 | 551608 - IOWA FALLS GARAGE |
| 551609 | 551609 - WILLIAMS GARAGE |
| 551611 | 551611 - FORT DODGE GARAGE |
| 551612 | 551612 - GOWRIE GARAGE |
| 551613 | 551613 - JEFFERSON GARAGE |
| 551614 | 551614 - BOONE GARAGE |
| 551802 | 551802 - MALCOM INTERSTATE GARAGE |
| 551803 | 551803 - GRINNELL GARAGE |
| 551804 | 551804 - NEWTON INTERSTATE GARAGE |
| 551806 | 551806 - ALTOONA GARAGE |
| 551807 | 551807 - DES MOINES NORTH GARAGE |
| 551808 | 551808 - GRIMES GARAGE |
| 551809 | 551809 - CARLISLE GARAGE |
| 551810 | 551810 - HWY DIV HIGHWAY HELPER |
| 552617 | 552617 - MASON CITY GARAGE |
| 552634 | 552634 - CHARLES CITY GARAGE |
| 552635 | 552635 - LATIMER GARAGE |
| 552641 | 552641 - GARNER GARAGE |
| 552655 | 552655 - ALGONA GARAGE |
| 552656 | 552656 - SWEA CITY GARAGE |
| 552666 | 552666 - OSAGE GARAGE |
| 552698 | 552698 - HANLONTOWN GARAGE |
| 552699 | 552699 - CLARION GARAGE |
| 552803 | 552803 - WAUKON GARAGE |
| 552807 | 552807 - WATERLOO GARAGE |
| 552809 | 552809 - WAVERLY GARAGE |
| 552812 | 552812 - ALLISON GARAGE |
| 552819 | 552819 - NEW HAMPTON GARAGE |
| 552822 | 552822 - ELKADER GARAGE |
| 552833 | 552833 - WEST UNION GARAGE |
| 552896 | 552896 - DECORAH GARAGE |
| 553602 | 553602 - SIOUX CITY-HAMILTON GARAGE |
| 553603 | 553603 - SIOUX CITY-LEEDS GARAGE |
| 553604 | 553604 - CORRECTIONVILLE GARAGE |
| 553605 | 553605 - SAC CITY GARAGE |
| 553606 | 553606 - ROCKWELL CITY GARAGE |
| 553607 | 553607 - SLOAN GARAGE |
| 553608 | 553608 - IDA GROVE GARAGE |

| | |
|--------|--------------------------------------|
| 553609 | 553609 - ONAWA GARAGE |
| 553611 | 553611 - SOLDIER GARAGE |
| 553612 | 553612 - DENISON GARAGE |
| 553613 | 553613 - CARROLL GARAGE |
| 553802 | 553802 - AKRON GARAGE |
| 553803 | 553803 - LE MARS GARAGE |
| 553804 | 553804 - CHEROKEE GARAGE |
| 553805 | 553805 - STORM LAKE GARAGE |
| 553806 | 553806 - ROCK VALLEY GARAGE |
| 553807 | 553807 - ROCK RAPIDS GARAGE |
| 553808 | 553808 - ALTON GARAGE |
| 553810 | 553810 - ASHTON GARAGE |
| 553812 | 553812 - SPENCER GARAGE |
| 553813 | 553813 - POCAHONTAS GARAGE |
| 553814 | 553814 - EMMETSBURG GARAGE |
| 553815 | 553815 - SPIRIT LAKE GARAGE |
| 554602 | 554602 - ADAIR GARAGE |
| 554603 | 554603 - ATLANTIC GARAGE |
| 554605 | 554605 - CLARINDA GARAGE |
| 554606 | 554606 - CORNING GARAGE |
| 554607 | 554607 - CRESTON GARAGE |
| 554608 | 554608 - DESOTO GARAGE |
| 554609 | 554609 - GREENFIELD GARAGE |
| 554613 | 554613 - MOUNT AYR GARAGE |
| 554614 | 554614 - PERRY GARAGE |
| 554615 | 554615 - RED OAK GARAGE |
| 554802 | 554802 - AVOCA INTERSTATE GARAGE |
| 554803 | 554803 - COUNCIL BLUFFS NORTH GARAGE |
| 554804 | 554804 - COUNCIL BLUFFS SOUTH GARAGE |
| 554805 | 554805 - NEOLA GARAGE |
| 554806 | 554806 - OAKLAND GARAGE |
| 554807 | 554807 - PACIFIC JUNCTION GARAGE |
| 554808 | 554808 - SIDNEY GARAGE |
| 554810 | 554810 - MISSOURI VALLEY GARAGE |
| 555604 | 555604 - CENTERVILLE GARAGE |
| 555620 | 555620 - OSCEOLA GARAGE |
| 555627 | 555627 - LEON GARAGE |
| 555659 | 555659 - CHARITON GARAGE |
| 555662 | 555662 - OSKALOOSA GARAGE |
| 555663 | 555663 - KNOXVILLE GARAGE |
| 555668 | 555668 - ALBIA GARAGE |
| 555690 | 555690 - OTTUMWA GARAGE |
| 555691 | 555691 - MARTENSDALE GARAGE |
| 555826 | 555826 - BLOOMFIELD GARAGE |
| 555829 | 555829 - BURLINGTON GARAGE |
| 555830 | 555830 - WAPELLO GARAGE |
| 555844 | 555844 - MT PLEASANT GARAGE |
| 555851 | 555851 - FAIRFIELD GARAGE |
| 555854 | 555854 - SIGOURNEY GARAGE |
| 555856 | 555856 - DONNELSON GARAGE |

| | |
|--------|--------------------------------------|
| 555870 | 555870 - MUSCATINE GARAGE |
| 555892 | 555892 - WASHINGTON GARAGE |
| 556602 | 556602 - URBANA GARAGE |
| 556603 | 556603 - NEWHALL GARAGE |
| 556604 | 556604 - INDEPENDENCE GARAGE |
| 556605 | 556605 - MANCHESTER GARAGE |
| 556606 | 556606 - WILLIAMSBURG GARAGE |
| 556607 | 556607 - CORALVILLE GARAGE |
| 556608 | 556608 - CEDAR RAPIDS GARAGE |
| 556609 | 556609 - MARION GARAGE |
| 556802 | 556802 - TIPTON INTERSTATE GARAGE |
| 556804 | 556804 - DEWITT GARAGE |
| 556806 | 556806 - DUBUQUE GARAGE |
| 556807 | 556807 - DYERSVILLE GARAGE |
| 556808 | 556808 - MAQUOKETA GARAGE |
| 556809 | 556809 - SABULA GARAGE |
| 556810 | 556810 - ANAMOSA GARAGE |
| 556812 | 556812 - DAVENPORT INTERSTATE GARAGE |

MAINTENANCE_DISTRICT_ID - Domain

| | |
|--------------------|---------------------------|
| DomainName | MAINTENANCE_DISTRICT_ID |
| Description | MAINTENANCE_DISTRICT_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|------------------|
| 1 | 1 - CENTRAL |
| 2 | 2 - NORTHEAST |
| 3 | 3 - NORTHWEST |
| 4 | 4 - SOUTHWEST |
| 5 | 5 - SOUTHEAST |
| 6 | 6 - EAST CENTRAL |

MAINTENANCE_GARAGE_ID - Domain

| | |
|--------------------|-------------------------|
| DomainName | MAINTENANCE_GARAGE_ID |
| Description | MAINTENANCE_GARAGE_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|------|
| 22 | 22 |
| 30 | 30 |
| 54 | 54 |
| 51 | 51 |
| 91 | 91 |
| 34 | 34 |

| | |
|----|----|
| 6 | 6 |
| 11 | 11 |
| 13 | 13 |
| 44 | 44 |
| 29 | 29 |
| 59 | 59 |
| 70 | 70 |
| 2 | 2 |
| 14 | 14 |
| 90 | 90 |
| 20 | 20 |
| 26 | 26 |
| 66 | 66 |
| 5 | 5 |
| 4 | 4 |
| 68 | 68 |
| 96 | 96 |
| 8 | 8 |
| 63 | 63 |
| 17 | 17 |
| 35 | 35 |
| 55 | 55 |
| 33 | 33 |
| 56 | 56 |
| 41 | 41 |
| 99 | 99 |
| 3 | 3 |
| 7 | 7 |
| 27 | 27 |
| 10 | 10 |
| 12 | 12 |
| 15 | 15 |
| 9 | 9 |
| 92 | 92 |
| 62 | 62 |
| 19 | 19 |
| 98 | 98 |

MAINTENANCE_RESIDENCY_ID - Domain

DomainName MAINTENANCE_RESIDENCY_ID
Description MAINTENANCE_RESIDENCY_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 6 | 6 |
| 8 | 8 |

MAINTENANCE_SERVICE_LV_ID - Domain

DomainName MAINTENANCE_SERVICE_LV_ID
Description MAINTENANCE_SERVICE_LV_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------|
| A | A - INTERSTATE |
| B | B |
| C | C |

MEASUREMENT_METHODS_ID - Domain

DomainName MEASUREMENT_METHODS_ID
Description MEASUREMENT_METHODS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------------------|
| 1 | DEFAULT |
| 8 | DALLAS COUNTY 2001 - 2 FT |
| 118 | GIMS CENTERLINE 2005 MAP SOURCE |
| 134 | CROP FLIGHTS 2010 - USDA |
| 135 | CROP FLIGHTS 2010 - USDA |
| 136 | CROP FLIGHTS 2011 - USDA |
| 137 | CROP FLIGHTS 2011 - USDA |
| 138 | MANDLI LIDAR COLLECTION 2013 |
| 139 | VERTICAL CLEARANCE FORM |

MEDIAN_BARRIER_TYPE_ID - Domain

DomainName MEDIAN_BARRIER_TYPE_ID
Description MEDIAN_BARRIER_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------|
| 1 | 1 - UNSPECIFIED |
| 2 | 2 - FLEXIBLE |
| 3 | 3 - SEMI-RIGID |
| 4 | 4 - RIGID |

MEDIAN_TYPE_ID - Domain

DomainName MEDIAN_TYPE_ID
Description MEDIAN_TYPE_DESC
FieldType Integer

Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--|
| 1 | 1 - HARD SURFACE WITHOUT BARRIER (RAISED MEDIAN) |
| 2 | 2 - GRASS SURFACE WITHOUT BARRIER |
| 3 | 3 - HARD SURFACE WITH BARRIER |
| 4 | 4 - GRASS SURFACE WITH BARRIER |
| 5 | 5 - BARRIER |

NATIONAL_HIGHWAY_SYSTEM_ID - Domain

DomainName NATIONAL_HIGHWAY_SYSTEM_ID
Description NATIONAL_HIGHWAY_SYSTEM_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---|
| 1 | 1 - NHS |
| 2 | 2 - MAJOR AIRPORT NHS CONNECTOR |
| 3 | 3 - MAJOR PORT FACILITY NHS CONNECTOR |
| 4 | 4 - MAJOR AMTRACK STATION NHS CONNECTOR |
| 5 | 5 - MAJOR RAIL/TRUCK TERMINAL NHS CONNECTOR |
| 6 | 6 - MAJOR INTER CITY BUS TERMINAL NHS CONNECTOR |
| 7 | 7 - MAJOR PUBLIC TRANSPORTATION OR MULTI-MODAL PASSENGER TERMINAL NHS CONNECTOR |
| 8 | 8 - MAJOR PIPELINE TERMINAL NHS CONNECTOR |
| 9 | 9 - MAJOR FERRY TERMINAL NHS CONNECTOR |

NUMBER_LANES_ID - Domain

DomainName NUMBER_LANES_ID
Description NUMBER_LANES_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------|
| 1 | 1 - LANE |
| 2 | 2 - LANES |
| 3 | 3 - LANES |
| 4 | 4 - LANES |
| 5 | 5 - LANES |
| 6 | 6 - LANES |
| 7 | 7 - LANES |
| 8 | 8 - LANES |
| 9 | 9 - LANES |
| 10 | 10 - LANES |

OWNER_CODE_ID - Domain

DomainName OWNER_CODE_ID
Description OWNER_CODE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--|
| 1 | 1 - STATE HIGHWAY AGENCY |
| 2 | 2 - COUNTY HIGHWAY AGENCY |
| 3 | 3 - TOWN OR TOWNSHIP HIGHWAY AGENCY |
| 4 | 4 - CITY OR MUNICIPAL HIGHWAY AGENCY |
| 11 | 11 - STATE PARK, FOREST, OR RESERVATION AGENCY |
| 12 | 12 - LOCAL PARK, FOREST, OR RESERVATION AGENCY |
| 21 | 21 - OTHER STATE AGENCY |
| 25 | 25 - OTHER LOCAL AGENCY |
| 26 | 26 - PRIVATE (OTHER THAN RR) |
| 27 | 27 - RAILROAD |
| 31 | 31 - STATE TOLL AUTHORITY |
| 32 | 32 - LOCAL TOLL AUTHORITY |
| 40 | 40 - OTHER PUBLIC INSTRUMENTALITY (I.E. AIRPORT) |
| 50 | 50 - INDIAN TRIBE NATION |
| 60 | 60 - OTHER FEDERAL AGENCY (NOT LISTED) |
| 62 | 62 - BUREAU OF INDIAN AFFAIRS |
| 63 | 63 - BUREAU OF FISH AND WILDLIFE |
| 64 | 64 - U.S. FOREST SERVICE |
| 66 | 66 - NATIONAL PARK SERVICE |
| 67 | 67 - TENNESSEE VALLEY AUTHORITY |
| 68 | 68 - BUREAU OF LAND MANAGEMENT |
| 69 | 69 - BUREAU OF RECLAMATION |
| 70 | 70 - CORPS OF ENGINEERS (CIVIL) |
| 71 | 71 - CORPS OF ENGINEERS (MILITARY) |
| 72 | 72 - AIR FORCE |
| 73 | 73 - NAVY/MARINES |
| 74 | 74 - ARMY |
| 80 | 80 - OTHER |

PARKING_TYPE_ID - Domain

DomainName PARKING_TYPE_ID
Description PARKING_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---|
| 1 | NO PARKING IS POSTED |
| 2 | PARALLEL ONE SIDE - NO PARKING OTHER SIDE |
| 3 | PARALLEL ONE SIDE - DIAGONAL OTHER SIDE |
| 4 | PARALLEL BOTH SIDES |
| 5 | DIAGONAL ONE SIDE - NO PARKING OTHER SIDE |

| | |
|---|--|
| 6 | DIAGONAL BOTH SIDES |
| 7 | PARALLEL OR DIAGONAL ON ONE SHOULDER |
| 8 | PARALLEL OR DIAGONAL ON BOTH SHOULDERS |
| 9 | DIAGONAL CENTER - PARALLEL ON SIDES |

PASSING_RESTRICTION_ID - Domain

| | |
|--------------------|--------------------------|
| DomainName | PASSING_RESTRICTION_ID |
| Description | PASSING_RESTRICTION_DESC |
| FieldType | Integer |
| Domain Type | Range |
| Owner | RAMS |

| | |
|----------------------|----------------------|
| Minimum Value | Maximum Value |
|----------------------|----------------------|

PAVEMENT_MATERIAL_ID - Domain

| | |
|--------------------|------------------------|
| DomainName | PAVEMENT_MATERIAL_ID |
| Description | PAVEMENT_MATERIAL_DESC |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|------------------------------------|
| AAC | Type A Asphalt Cement Concrete |
| ARC | Asphalt Rubber Cement Concrete |
| ASC | Asphalt-Sand Surface Course |
| ATB | Asphalt Treated Base |
| BAC | Type B Asphalt Cement Concrete |
| BRK | Brick |
| BSC | Bituminous Seal Coat |
| BTB | Bituminous Treated Base |
| CIP | Cold in Place Recycled Asphalt |
| CTB | Cement Treated Base |
| ECB | Econocrete Base |
| GBF | Granular Backfill |
| GND | Diamond Grinding |
| GSB | Granular Subbase |
| FOA | Foamed Asphalt |
| HMA | Hot Mix Asphalt |
| MSB | Modified Subbase |
| MSS | Micro Surfacing |
| PC7 | 10'''-7'''-10''' PCC Concrete Slab |
| PC8 | 10'''-8'''-10''' PCC Concrete Slab |
| PCB | Portland Cement Base |
| PCC | Portland Cement Concrete |
| RAC | Recycled Asphalt Cement Concrete |
| RPC | Recycled PCC Pavement |
| RSB | Rolled Stone Base |
| SAS | Soil-Aggregate Subbase |

| | |
|-----|---|
| SBF | Special Backfill |
| SCS | Soil-Cement Subbase |
| SGT | Subgrade Treatment |
| SLS | Soil-Lime Subbase |
| SS | Slurry Seal |
| TBB | Type B Asphalt Base |
| UNK | Unknown |
| MAC | Macadam (Large Stone/Chocked off - mostly on shoulders) |

PLANNING_CLASS_ID - Domain

| | |
|--------------------|---------------------|
| DomainName | PLANNING_CLASS_ID |
| Description | PLANNING_CLASS_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|---------------------------------------|
| 1 | 1 - INTERSTATE |
| 2 | 2 - COMMERCIAL AND INDUSTRIAL NETWORK |
| 3 | 3 - AREA DEVELOPMENT |
| 4 | 4 - ACCESS ROUTES |
| 5 | 5 - LOCAL SERVICE |

PROJECT_WORK_TYPE_ID - Domain

| | |
|--------------------|------------------------|
| DomainName | PROJECT_WORK_TYPE_ID |
| Description | PROJECT_WORK_TYPE_DESC |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|----------------------------------|
| W | W = widening project |
| L | L = left (inside) lane(s) only |
| R | R = right (outside) lane(s) only |
| V | V = various locations |
| O | O = original construction |
| S | S = resurfacing |
| U | U = unknown |
| M | M = maintenance |

RAMP_SEQUENCE_ID - Domain

| | |
|--------------------|--------------------|
| DomainName | RAMP_SEQUENCE_ID |
| Description | RAMP_SEQUENCE_DESC |
| FieldType | String |
| Domain Type | Range |
| Owner | RAMS |

| | |
|----------------------|----------------------|
| Minimum Value | Maximum Value |
|----------------------|----------------------|

REMOVAL_TYPE_ID - Domain

DomainName REMOVAL_TYPE_ID
Description REMOVAL_TYPE_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------------|----------------------------|
| GND | GND = Grinding |
| MIL | MIL = Milling |
| SCR | SCR = Heater Scarification |

ROAD_FUNCTION_ID - Domain

DomainName ROAD_FUNCTION_ID
Description ROAD_FUNCTION_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------------|--------------------------------------|
| 1 | 1 - MAINLINE - NE RAMP CURVE |
| 2 | 2 - MAINLINE - SE RAMP CURVE |
| 3 | 3 - MAINLINE - SW RAMP CURVE |
| 4 | 4 - MAINLINE - NW RAMP CURVE |
| 5 | 5 - MAINLINE - NE LOOP |
| 6 | 6 - MAINLINE - SE LOOP |
| 7 | 7 - MAINLINE - SW LOOP |
| 8 | 8 - MAINLINE - NW LOOP |
| 9 | 9 - MAINLINE - 1ST INNERLEG |
| 10 | 10 - MAINLINE - 2ND INNERLEG |
| 11 | 11 - MAINLINE - 3RD INNERLEG |
| 12 | 12 - MAINLINE - 4TH INNERLEG |
| 13 | 13 - MAINLINE - 5TH INNERLEG |
| 14 | 14 - MAINLINE - 6TH INNERLEG |
| 15 | 15 - MAINLINE - TEMPORARY CONNECTION |
| 16 | 16 - MAINLINE - NORTH TANGENT |
| 17 | 17 - MAINLINE - SOUTH TANGENT |
| 18 | 18 - MAINLINE - EAST TANGENT |
| 19 | 19 - MAINLINE - WEST TANGENT |
| 20 | 20 - MAINLINE - EAST-WEST TANGENT |
| 21 | 21 - MAINLINE - NORTH-SOUTH TANGENT |
| 22 | 22 - MAINLINE - 7TH INNERLEG |
| 23 | 23 - MAINLINE - 8TH INNERLEG |
| 24 | 24 - MAINLINE - 9TH INNERLEG |
| 25 | 25 - MAINLINE - 10TH INNERLEG |
| 50 | 50 - NON-MAINLINE - SPECIAL CASE |

| | |
|----|--|
| 51 | 51 - NON-MAINLINE - NE RAMP CURVE |
| 52 | 52 - NON-MAINLINE - SE RAMP CURVE |
| 53 | 53 - NON-MAINLINE - SW RAMP CURVE |
| 54 | 54 - NON-MAINLINE - NW RAMP CURVE |
| 55 | 55 - NON-MAINLINE - NE LOOP |
| 56 | 56 - NON-MAINLINE - SE LOOP |
| 57 | 57 - NON-MAINLINE - SW LOOP |
| 58 | 58 - NON-MAINLINE - NW LOOP |
| 59 | 59 - NON-MAINLINE - 1ST INNERLEG |
| 60 | 60 - NON-MAINLINE - 2ND INNERLEG |
| 61 | 61 - NON-MAINLINE - 3RD INNERLEG |
| 62 | 62 - NON-MAINLINE - 4TH INNERLEG |
| 63 | 63 - NON-MAINLINE - 5TH INNERLEG |
| 64 | 64 - NON-MAINLINE - 6TH INNERLEG |
| 65 | 65 - NON-MAINLINE - TEMPORARY CONNECTION |
| 66 | 66 - NON-MAINLINE - NORTH TANGENT |
| 67 | 67 - NON-MAINLINE - SOUTH TANGENT |
| 68 | 68 - NON-MAINLINE - EAST TANGENT |
| 69 | 69 - NON-MAINLINE - WEST TANGENT |
| 70 | 70 - NON-MAINLINE - EAST-WEST TANGENT |
| 71 | 71 - NON-MAINLINE - NORTH-SOUTH TANGENT |
| 72 | 72 - NON-MAINLINE - 7TH INNERLEG |
| 73 | 73 - NON-MAINLINE - 8TH INNERLEG |
| 74 | 74 - NON-MAINLINE - 9TH INNERLEG |
| 75 | 75 - NON-MAINLINE - 10TH INNERLEG |

ROAD_STATUS_ID - Domain

| | |
|--------------------|------------------|
| DomainName | ROAD_STATUS_ID |
| Description | ROAD_STATUS_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|------------------------|
| 0 | 0 - OPEN |
| 1 | 1 - LEGAL NOT OPEN |
| 2 | 2 - PROPOSED |
| 4 | 4 - BORDER ROADS |
| 5 | 5 - PENDING COMPLETION |
| 6 | 6 - PRIVATE |
| 7 | 7 - OTHER STATE ROADS |
| 8 | 8 - CLOSED |

ROAD_SYSTEM_ID - Domain

| | |
|--------------------|------------------|
| DomainName | ROAD_SYSTEM_ID |
| Description | ROAD_SYSTEM_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |

Owner RAMS

| Code | Name |
|------|--|
| 1 | FARM TO MARKET |
| 2 | FARM TO MARKET EXTENSION |
| 3 | FARM TO MARKET EXTENSION LESS THAN 500 |
| 4 | AREA SERVICE |

ROADWAY_ENTRANCE_ID - Domain

DomainName ROADWAY_ENTRANCE_ID
Description ROADWAY_ENTRANCE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------|
| 1 | 1 - COMMERCIAL |
| 2 | 2 - INDUSTRIAL |
| 3 | 3 - RECREATIONAL |
| 4 | 4 - BUSINESS |
| 5 | 5 - PRIVATE |

ROUTE_DIRECTION_LU - Domain

DomainName ROUTE_DIRECTION_LU
Description ROUTE_DIRECTION_DESCRIPTION
FieldType String
Domain Type CodedValue
Owner SDE

| Code | Name |
|------|-----------|
| N | N - NORTH |
| S | S - SOUTH |
| E | E - EAST |
| W | W - WEST |

ROUTE_QUALIFIER_ID - Domain

DomainName ROUTE_QUALIFIER_ID
Description ROUTE_QUALIFIER_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------------|
| 1 | NO QUALIFIER OR NOT SIGNED |
| 2 | ALTERNATE |
| 3 | BUSINESS ROUTE |
| 4 | BYPASS BUSINESS |

| | |
|----|-------------------|
| 5 | SPUR |
| 6 | LOOP |
| 7 | PROPOSED |
| 8 | TEMPORARY |
| 9 | TRUCK ROUTE |
| 10 | NONE OF THE ABOVE |

ROUTE_SIGNING_ID - Domain

DomainName ROUTE_SIGNING_ID
Description ROUTE_SIGNING_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---|
| 2 | 2 - INTERSTATE |
| 3 | 3 - U.S. |
| 4 | 4 - STATE |
| 5 | 5 - OFF INTERSTATE BUSINESS MARKER |
| 6 | 6 - COUNTY |
| 7 | 7 - TOWNSHIP |
| 8 | 8 - MUNICIPAL |
| 9 | 9 - PARKWAY MARKER OR FOREST ROUTE MARKER |
| 10 | 10 - NONE OF THE ABOVE |

RR_AAR_CODE_ID - Domain

DomainName RR_AAR_CODE_ID
Description RR_AAR_CODE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | APNC |
| 3 | BJRY |
| 13 | BLK1 |
| 17 | BLK2 |
| 20 | BLK3 |
| 23 | BLK4 |
| 24 | BLK5 |
| 4 | BNSF |
| 5 | BSV |
| 36 | BSVY |
| 33 | CBEC |
| 6 | CBGR |
| 2 | CBRX |
| 7 | CC |
| 8 | CCRY |

| | |
|----|---------------------|
| 9 | CEDR |
| 31 | CGAQ |
| 10 | CIC |
| 38 | CN |
| 40 | CP |
| 29 | CSSX |
| 12 | DAIR |
| 21 | DME |
| 25 | DWRV |
| 14 | IAIS |
| 15 | IANR |
| 26 | IANW |
| 30 | IARR |
| 16 | IATR |
| 42 | ICE |
| 44 | IOPX |
| 46 | IOWZ |
| 68 | ISRY |
| 48 | ISUZ |
| 50 | IWPZ |
| 52 | KCS |
| 18 | KJRY |
| 19 | NS |
| 54 | NS |
| 0 | OTHR |
| 56 | PGR |
| 58 | PNRC |
| 28 | SBSX |
| 32 | SIBY |
| 34 | SOO |
| 22 | TKEZ |
| 11 | UP |
| 60 | XIPH |
| 62 | XSSD |
| 64 | ZIAP |
| 66 | ZIWR |
| 27 | ZMBU |
| 70 | ICG |
| 72 | CNW |
| 73 | AMTRAK |
| 75 | TPW |
| 77 | KJR |
| 79 | CM |
| 81 | PP |
| 83 | ST |
| 85 | BN |
| 87 | XSIB |
| 89 | MID-AMERICAN ENERGY |
| 91 | JBS INCORPORATED |

RR_AWHORNCHK_ID - Domain

DomainName RR_AWHORNCHK_ID
Description RR_AWHORNCHK_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_BRANCH_ID - Domain

DomainName RR_BRANCH_ID
Description RR_BRANCH_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------|
| 430 | 10TH AVE |
| 432 | 10TH AVE SPUR |
| 434 | 11 SUBDIVISION |
| 436 | 12TH ST LINE |
| 438 | 12TH ST SW |
| 289 | 12TH STRT LINE |
| 290 | 15TH AVE LEAD |
| 440 | 1C-INTERCHANGE |
| 442 | 1PS SPUR |
| 444 | 1ST AVE |
| 288 | 1ST AVE LINE |
| 446 | 3RD SUBDIVISION |
| 448 | 4TH ST SPUR |
| 450 | ABANDONED |
| 293 | ACKLEY IND LEAD |
| 452 | ADM |
| 139 | AGP SPUR TRACK |
| 454 | AIR BASE |
| 456 | AIR BASE BLUFF |
| 458 | AIR BASE TRACK |
| 4 | AIRPORT SPUR |
| 390 | ALBERT LEA |
| 462 | ALBIA-D MOINES |
| 464 | ALBIA-DESMO |
| 5 | ALBIA-DESMOINES |
| 460 | ALBIA D MOINES |
| 466 | ALDEN |
| 6 | ALDEN LEAD |
| 412 | ALDEN SPUR |
| 468 | ALDEN YARD |

| | |
|-----|-----------------|
| 7 | ALTOONA-PELLA |
| 56 | AMANA |
| 8 | AMES-EAGLE GR |
| 470 | AMES-EAGLEGR |
| 138 | AMPI SPUR TRACK |
| 472 | ANAMOSA LINE |
| 282 | ANKENY |
| 78 | ANKENY |
| 10 | ARMOUR DIAL LD |
| 11 | ARMSTRONG SPUR |
| 374 | ASHLAND-SIOUX C |
| 474 | ASPEN SPUR |
| 12 | ATLANTIC SPUR |
| 476 | AUDUBON |
| 510 | B-M |
| 478 | B.-M. |
| 480 | BACK LEAD |
| 482 | BALLON TRACK |
| 484 | BALLOON TRK |
| 486 | BARSTOW-CLINTON |
| 488 | BAYARD-C BLUFFS |
| 490 | BAYARD-HERNDON |
| 492 | BEACH-TRACK |
| 13 | BELMND-FORESTCY |
| 494 | BELMNO-FORESTCY |
| 496 | BELMOND |
| 14 | BELMOND SPUR |
| 498 | BIG E TRACK |
| 500 | BJRY |
| 16 | BLACKHAWK-LUMBR |
| 15 | BLACKHAWK ST SP |
| 502 | BLACKHAWKLUMBER |
| 413 | BLAIR SUB |
| 504 | BLAIR SUB. |
| 506 | BLANHRD-CBLUFFS |
| 9 | BLANK NUMBER 01 |
| 26 | BLANK NUMBER 02 |
| 38 | BLANK NUMBER 03 |
| 67 | BLANK NUMBER 04 |
| 70 | BLANK NUMBER 05 |
| 129 | BLANK NUMBER 06 |
| 131 | BLANK NUMBER 07 |
| 137 | BLANK NUMBER 08 |
| 143 | BLANK NUMBER 09 |
| 152 | BLANK NUMBER 10 |
| 165 | BLANK NUMBER 11 |
| 174 | BLANK NUMBER 12 |
| 178 | BLANK NUMBER 13 |
| 205 | BLANK NUMBER 15 |
| 508 | BM |

| | |
|-----|------------------|
| 512 | BN-JCT-CBLUFFS |
| 19 | BONDURANT LEAD |
| 514 | BONDURANT SPUR |
| 194 | BOONE |
| 350 | BOONE |
| 518 | BOONE-FREMONT |
| 20 | BOONE-MOVALLEY |
| 21 | BOONE-WOLF |
| 516 | BOONE SUB |
| 520 | BOONE-WOLF |
| 522 | BORDEN TRACKS |
| 524 | BORDEN TRK |
| 428 | BRANCH |
| 526 | BRANCH |
| 528 | BREWERY LEAD |
| 22 | BRICK YARD TRK |
| 530 | BRISTOW SPUR |
| 532 | BROADWAY ST |
| 23 | BSV CONN TRK |
| 367 | BURL-LINDENWD |
| 24 | BURLGTN-STLOUIS |
| 534 | BURLINGTON |
| 536 | BURLINGTON YARD |
| 538 | BURT |
| 540 | BUSINESS TRACK |
| 546 | C & GW |
| 420 | C FALL IND LEAD |
| 542 | C FALLS IND LEA |
| 544 | C YARD |
| 548 | C.F.C.A. SPUR |
| 550 | C.T.HOPPER SPUR |
| 27 | CAL JCT-SOOCITY |
| 552 | CALMAR |
| 28 | CALMAR SPUR |
| 80 | CAMERON LEAD |
| 29 | CANFIELD LUMBER |
| 30 | CARNARVN-IDAGRV |
| 196 | CBLUFF |
| 410 | CCW TRANSFER |
| 554 | CEDAR FALLS BR |
| 556 | Cedar falls spur |
| 31 | CEDAR FALLSMAIN |
| 558 | CEDAR RAPIDS |
| 560 | CEDAR RAPIDS LN |
| 562 | CEDAR RAPIDS N. |
| 33 | CEDAR RPDS IND |
| 32 | CEDARFALLS-LYLE |
| 564 | CEDARRAPIDSSPUR |
| 566 | CELOTEX TRACK |
| 295 | CENTERVIL-ALBIA |

| | |
|-----|-----------------|
| 34 | CENTRAL AVE LD |
| 35 | CEREAL LEAD TRK |
| 36 | CFALLS-MANLY |
| 425 | CFU SPUR |
| 37 | CHAPMAN LUMBER |
| 568 | CHARITON YARD |
| 570 | CHARLES CITY |
| 572 | CHEROKEE-SOOFLS |
| 574 | CHERRY LEAD |
| 39 | CHEVRON CHEM |
| 576 | CHK.MILL TRK |
| 40 | CIC TRANSFER |
| 578 | CITY |
| 584 | CITY-NO-3-SPUR |
| 582 | CITY-NO3 |
| 586 | CITY-NO4 |
| 588 | CITY-NO4-SPUR |
| 590 | CITY-YARDS |
| 580 | CITY NO 4 SPUR |
| 17 | CITY SWITCH TRK |
| 43 | CITY YARDS |
| 44 | CLAY EQUIP TRK |
| 592 | CLAY EQUIP. TRK |
| 45 | CLINTON |
| 405 | CLINTON |
| 598 | CLINTON-BOONE |
| 46 | CLINTON-CHICAGO |
| 600 | CLINTON-SUB |
| 594 | CLINTON SUB |
| 596 | CLINTON YARD |
| 47 | CLIVE-GRIMES |
| 602 | CLNTN-MRSHLLTWN |
| 604 | CNW INTERCHANGE |
| 606 | CNW TRANSFER |
| 608 | CO BLUFF-BAYARD |
| 610 | CO BLUFFS |
| 612 | CO BLUFFS SUB |
| 53 | COBLUFF-BAYARD |
| 52 | COBLUFF-PCFCJCT |
| 207 | COBLUFF INDSTRY |
| 51 | COBLUFF SWITCH |
| 614 | COLO MAIN |
| 363 | COLOR CONVERTIN |
| 616 | COLORADO MAIN |
| 618 | CONRAD |
| 418 | CONTINENTAL LEA |
| 419 | COOP SPUR TRACK |
| 620 | COOP TRACK |
| 55 | COUNCIL BLF YRD |
| 622 | COUNCIL BLUFFS |

| | |
|-----|-------------------|
| 626 | CR-AMANA |
| 57 | CR-HILLS |
| 58 | CR-MAIN |
| 624 | CR HILLS |
| 407 | CR YARD |
| 59 | CRAPIDS-CFALLS |
| 630 | CRESTON-CUMB |
| 60 | CRESTON-GRNFLD |
| 632 | CRESTON-LICOLN |
| 61 | CRESTON-LINCOLN |
| 628 | CRESTON YARD |
| 62 | DAVENPORT-IACTY |
| 634 | DECORAH |
| 638 | DEERE-(D-30) |
| 636 | DEERE-(D30) |
| 640 | DEERE-LEAD |
| 642 | DES MOINES |
| 654 | DES MOINES-AMES |
| 656 | DES MOINES-GRND |
| 658 | DES MOINES-SLAT |
| 660 | DES MOINES-SLTR |
| 644 | DES MOINES AMES |
| 646 | DES MOINES PO |
| 648 | DES MOINES POWR |
| 650 | DES MOINES SUB |
| 652 | DES MOINES YD |
| 662 | DESMOINES |
| 664 | DESMOINES-GRAND |
| 666 | DIKE |
| 668 | DIKE SPUR |
| 670 | DM & CI |
| 672 | DM & CI RR |
| 674 | DM & CIRR YRD TRK |
| 676 | DM & CIRRYRDTRACK |
| 1 | DMU SWITCH TRK |
| 678 | DMW R.R. |
| 680 | DMW RY. |
| 682 | DOCK COMM |
| 684 | DOCK COMM A.29 |
| 686 | DOCK COMM A.34 |
| 68 | DOCK COMM A29 |
| 69 | DOCK COMM A34 |
| 688 | DOCK TRACK |
| 71 | DOWS LEAD |
| 690 | DOWS SPUR |
| 416 | DPORT PRIV SPUR |
| 692 | DRI |
| 72 | DSM-CLIVE |
| 73 | DSM-COBLUFFS |
| 694 | DSM-KCMO |

| | |
|-----|-------------------|
| 75 | DSM-MAIN |
| 696 | DSM-MASONCY |
| 417 | DSM-RIPPEY |
| 698 | DSM-SLATER |
| 700 | DUB TANK-SPUR |
| 79 | DUBUQ TANK SPUR |
| 702 | DUBUQUE |
| 81 | DUBUQUE-WATRLOO |
| 704 | DUBUQUE SUB |
| 706 | DUBUQUE YARD |
| 82 | DUPONT SPUR |
| 708 | DWW RR |
| 710 | dysart spur |
| 742 | E"VILLE-BRICELN |
| 744 | E"VILLE-SIBLEY |
| 84 | E-W MAIN |
| 712 | E S CITY MILW Y |
| 714 | E"VILLE-SIBLEY |
| 83 | E. CARGILL TRK |
| 87 | EAGLEGR-BIGSIX |
| 716 | EAGLEGR-BURT |
| 718 | EAGLEGR-MARATHN |
| 720 | EAGLER-BURT |
| 89 | EAST INDUSTRY |
| 90 | EAST WYE TRACK |
| 722 | ELDRIDGE LINE |
| 91 | ELDRIDGE SPUR |
| 724 | ELDRIDGE SPUR IND |
| 726 | ELEVATOR |
| 426 | ELEVATOR SPUR |
| 94 | ELEVATOR TRACK |
| 728 | ELEVATOR TRK |
| 730 | ELK P TO CANTON |
| 732 | ELK TO CANTON |
| 96 | ELLIOTT LEAD |
| 734 | ELLSWORTH |
| 97 | ELLSWORTH LEAD |
| 736 | ELLSWORTH SPUR |
| 98 | ELY SPUR |
| 738 | ENGR-EQUIP-SPUR |
| 391 | ENTERPRISE-LEAD |
| 740 | ENTERPRISE LEAD |
| 99 | ENTERPRISE SPUR |
| 256 | ESTHERVILLE |
| 115 | ESTHRVL |
| 86 | ESTHRVL-MASONCY |
| 746 | FAIRGROUND SPUR |
| 183 | FAIRMONT |
| 748 | FAIRMONT BRANCH |
| 100 | FARMERS ELEV #1 |

| | |
|-----|------------------|
| 101 | FARMLAND SPUR |
| 25 | FARMLAND WYE |
| 102 | FARNHAMVILLE LD |
| 750 | FARNHAMVILLE SP |
| 752 | FEDA |
| 103 | FEDA SPUR |
| 104 | FERRY-WILLMAR |
| 754 | FERRY WILLMAR |
| 65 | FIRESTONE LD |
| 105 | FIRST MISS TRK |
| 106 | FIRST ST TRACK |
| 756 | FIRST ST. TRK |
| 107 | FISHER SPUR |
| 108 | FLAGSTAD |
| 758 | FLINTYD-GRANGER |
| 760 | FLUGSTAD |
| 762 | FLUGSTAD SUB |
| 392 | FOREST CITY |
| 109 | FOREST CITY SP |
| 764 | FORMER BRMR LN |
| 766 | FORT DODGE |
| 184 | FORT DODGE BR |
| 768 | FORT DODGE SUB |
| 770 | FPL |
| 415 | FPL SPUR |
| 772 | FREIGHT HOUSE45 |
| 774 | FRONT SPUR GPC |
| 778 | FRT-HO-LEAD |
| 110 | FRT-HO-SPUR |
| 780 | FRT-HO-TRK |
| 776 | FRT-HO LEAD |
| 782 | FT DODGE |
| 287 | FT DODGE IND |
| 784 | FT DODGE YD |
| 171 | FT MADISON-KCMO |
| 786 | FT MADISON YD |
| 788 | FTDDM & S |
| 406 | FTDDM AND S SPUR |
| 112 | FTDODGE |
| 111 | FTDODGE-CBLUFFS |
| 790 | FTDODGE-SOMERS |
| 792 | FTDODGE-SOUCTY |
| 794 | FTMADISON |
| 365 | FTMADISON-CONGO |
| 796 | GALES-CRESTON |
| 798 | GALES-PJCT |
| 113 | GALESBG-CRESTON |
| 114 | GATES RUBBER CO |
| 800 | GEORGIA PAC #1 |
| 802 | GEORGIA PAC #2 |

| | |
|-----|---------------------|
| 804 | GILBERT SEED |
| 808 | GOLDFLD-E"VILLE |
| 806 | GOLDFLD-E""VILLE |
| 810 | GOODWIN BRICK#1 |
| 812 | GOWRIE |
| 814 | GRANDJCT-TARA |
| 816 | GRIMES |
| 206 | GRN ISLAND SPUR |
| 818 | HALFA |
| 117 | HAMBURG SPUR |
| 118 | HANCOCK SPUR |
| 820 | HARLAN |
| 822 | HART PARR CONN. |
| 824 | HASTING-RAN. |
| 826 | HAWARDEN |
| 119 | HEINZ SPUR |
| 828 | HERRICK SPUR |
| 830 | HILLS BR |
| 832 | HILLS BR. |
| 834 | HILLS BRANCH |
| 120 | HOENER WALDORF |
| 836 | HOERNER WALDORF |
| 838 | HOLSTEIN |
| 840 | HORMEL #2 & #5 |
| 842 | HORMEL TRK #2 |
| 844 | HOUSE |
| 846 | HOUSE TRACK |
| 122 | HOUSE TRK |
| 848 | HYGRADE PACKING |
| 123 | IA CITY YARD |
| 850 | IAIS |
| 134 | IANR BYPASS TRK |
| 124 | IANR CONN TRACK |
| 852 | IASI |
| 854 | IBP HIDE HOUSE |
| 856 | IBP TRACK #1 & 2 |
| 125 | IBP TRACK #1 AND 2 |
| 858 | ICC 12 |
| 860 | ICC 351 |
| 862 | ICC TRK #43 |
| 240 | ICE TRANSFER |
| 864 | IDA GROVE |
| 866 | IND |
| 868 | IND LEAD |
| 126 | IND LEAD SPUR |
| 128 | IND SPUR TRK 10 |
| 870 | IND SPUR TRK10 |
| 872 | IND TRK |
| 386 | IND TRK 159 |
| 132 | IND TRK 3RD AND 4TH |

| | |
|-----|-----------------|
| 874 | IND. TRK. |
| 876 | INDANOLA |
| 878 | INDCHRSTNSNBROS |
| 127 | INDEPENDENCE SP |
| 880 | INDIANOLA |
| 133 | INDIANOLA LEAD |
| 882 | INDIANOLA SPUR |
| 884 | INDUSTRIAL |
| 886 | INDUSTRIAL LEAD |
| 888 | INDUSTRIAL PARK |
| 890 | INDUSTRIAL TRK |
| 892 | INDUSTRY |
| 135 | INDUSTRY LEAD |
| 894 | INDUSTRY LINE |
| 136 | INDUSTRY SPUR |
| 896 | INDUSTRY SPUR#1 |
| 898 | INDUSTRY SPUR#2 |
| 900 | INDUSTRY SPUR#3 |
| 140 | INDUSTRY TRACK |
| 902 | INDUSTRY TRACKS |
| 904 | INDUSTRY TRK |
| 906 | INDUSTRY TRKS |
| 908 | INDUSTRYLEAD |
| 910 | INNDUSTRY TRK |
| 912 | INRIP LEAD |
| 142 | INT MULT FOODS |
| 914 | INT.MULTI FOODS |
| 916 | INTERCHANGE TRK |
| 144 | IOWA BEEF TRACK |
| 918 | IOWA BEEF TRK. |
| 920 | IOWA FALLS |
| 393 | IOWA MFG LEAD |
| 145 | IOWACITY-NEWTON |
| 924 | IPS-IN-#1 |
| 926 | IPS-MATERIAL |
| 147 | IPS-STORAGE#4 |
| 146 | IPS SPUR |
| 3 | IPS SPUR |
| 922 | IPS TRK |
| 264 | IPSCO LEAD |
| 148 | ISU SPUR |
| 928 | J & M INDUS TRK |
| 930 | J.DEERE-LEAD |
| 41 | JACKSON ST SPUR |
| 150 | JD #14 |
| 151 | JD #16 |
| 932 | JEFFERSON-PERRY |
| 424 | JERRO TRACK |
| 300 | JEWELL |
| 934 | JEWELL BRANCH |

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|------|----------------------|
| 936 | JOHN DEERE |
| 153 | JOHN DEERE LEAD |
| 938 | JOHN DEERE PLNT |
| 940 | JOHNSON BASKET |
| 154 | JOINT TRACK |
| 942 | JOINT TRK |
| 155 | JORDAN MILLWORK |
| 239 | JUNK YARD TRACK |
| 948 | K-D |
| 952 | K-D LINE |
| 944 | K.-D. |
| 156 | KANAWHA LEAD |
| 946 | KATELMAN SPUR |
| 381 | KC-CO BLUFF |
| 950 | KD AT MARKET |
| 157 | KENT SPUR |
| 954 | KEOKUK |
| 193 | KEOKUK INDUSTRY |
| 956 | KEOKUK YARD |
| 958 | KEOTA-WASHINGTON |
| 960 | KESLEY |
| 962 | KINGAN & CO.TRK |
| 964 | KJ MAIN |
| 320 | KLEMME |
| 966 | L & L DIST. TRK |
| 159 | L AND L DIST. TRACK |
| 160 | LAKE MILLS LEAD |
| 177 | LAURENS |
| 88 | LAURENS |
| 968 | LEAD |
| 970 | LEAD TRACK |
| 161 | LEAD TRACK #122 |
| 162 | LEAD TRACK #26 |
| 972 | LEAD,INDUSTRY |
| 163 | LEHIGH SPUR |
| 421 | LEMARS IND LEAD |
| 18 | LEMARS INDUSTRY |
| 974 | LEWIS & CLARK |
| 976 | LEWIS & CLARK |
| 978 | LEWIS & CLARK SPR |
| 164 | LEWIS AND CLARK SPUR |
| 980 | LIGHT CO SPUR |
| 982 | LIGHT CO. SPUR |
| 166 | LINKBELT LEAD |
| 984 | LUMBER TRACK |
| 986 | LUTHER |
| 167 | LUVERNE LEAD |
| 988 | LUVERNE SPUR |
| 992 | M" TOWN-K.C. |
| 1092 | M" TOWN |

| | |
|------|----------------------|
| 1100 | M" TOWN-ALBIA |
| 994 | M" TOWN-HUDSON |
| 1102 | M" TOWN-OELWEIN |
| 1096 | M" TOWN K-C |
| 1094 | M" TOWN KC |
| 1098 | M" TOWN KMC |
| 170 | M' TOWN-HUDSON |
| 185 | M' TOWN-STMBTRCK |
| 996 | M & ST.L LINE |
| 998 | M & STL LINE |
| 168 | M AND ST.L LINE |
| 360 | M TOWN |
| 396 | M TOWN-ALBIA |
| 990 | M TOWN-K.C. |
| 2 | M YARDS |
| 1000 | M.TOWN KMC |
| 1002 | M+ST.L LINE |
| 394 | MAIN |
| 173 | MAIN-LEVEE-WYE |
| 414 | MAIN LINE |
| 1004 | MAIN. |
| 1006 | MAINLINE |
| 175 | MANCHTR-CRAPIDS |
| 1008 | MANF. SPUR |
| 1010 | MANLY YARD |
| 1012 | MANU. SPUR |
| 1014 | MANUF SPUR |
| 176 | MANUF SPUR |
| 1016 | MANUFACTURES SP |
| 1018 | MAPLERIV-IDAGRV |
| 1020 | MAQUOKETA |
| 1022 | MARATHN-ALBRTCY |
| 1024 | MARGRET-MASON C |
| 1026 | MARIN INDUS LD |
| 1028 | MARION |
| 1030 | MARION BR |
| 395 | MARION INDUS LD |
| 1032 | MARION LEAD |
| 179 | MARION SPUR |
| 1034 | MARMIS & SOLOMON |
| 180 | MARMIS AND SOLOMON |
| 181 | MARQUET-MASONCY |
| 1036 | MARQUETTE-MASON CITY |
| 64 | MARQUETTE N WYE |
| 63 | MARQUETTE S WYE |
| 1038 | MARSHALLTOWN |
| 1042 | MARSHALLTOWN-KC |
| 362 | MARSHALLTOWN IN |
| 1040 | MARSHALLTOWN KC |
| 1044 | MARSHLLTWN-K.C. |

| | |
|------|---------------------|
| 1046 | MASON |
| 76 | MASON CITY |
| 1052 | MASON CITY-COMUS |
| 1048 | MASON CITY DIV |
| 1050 | MASON CITY IOWA |
| 187 | MASONCY |
| 182 | MASONCY-AUSTIN |
| 1054 | MASONCY-BRICELN |
| 1056 | MASONCY-FTDODGE |
| 1062 | MASONCY-M" TOWN |
| 1058 | MASONCY-M TOWN |
| 1060 | MASONCY-M"" TOWN |
| 186 | MASONCY-SHELDON |
| 1064 | MASONCY-STPAUL |
| 340 | MASONCY MTOWN |
| 310 | MASONCY SUB |
| 1066 | MASONOK-BRICELN |
| 188 | MATL TRK LADDER |
| 1068 | MC & CL LINE |
| 1070 | MC & CL LINE |
| 1072 | MC & CLRR CONN #8 |
| 190 | MC AND CLRR CONN #8 |
| 189 | MC LINE |
| 1074 | MENDOTA-CALMAR |
| 1076 | MEREDITH PLANT |
| 1078 | MILW SPUR |
| 1080 | MITCHELL |
| 191 | MONARCH TRACK |
| 1082 | MONARCH TRK |
| 192 | MONSANTO |
| 1084 | MONSANTO SPUR |
| 371 | MOOAR LINE |
| 1086 | MOULTON |
| 423 | MOULTON-DSM |
| 1088 | MOVALLEY-CBLUFF |
| 364 | MP59-FT MADISON |
| 1090 | MRLMFG & VILASCO |
| 210 | MUSCATINE-KCMO |
| 197 | MYSTIC MLNG CO. |
| 1104 | N INDUSTRIAL LD |
| 1106 | N WTRLOO IND LD |
| 1108 | NAHANT-OTTUMWA |
| 379 | NAPIER-PAC JCT |
| 198 | NAT BAT. CO. |
| 199 | NATIONAL-OATS |
| 1110 | ND LEAD SPUR |
| 54 | NEVADA CONNECTN |
| 204 | NEVADA WYE TRK |
| 200 | NEWTON-DSM |
| 1112 | NIAGARA SPUR |

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|------|------------------|
| 1114 | NIXON LEAD |
| 397 | NORTH OIL SPUR |
| 202 | NORTH SPUR |
| 1116 | NORTH. OIL SPUR |
| 1118 | NORTHLAND OIL S |
| 203 | NORTHRUP KING |
| 411 | NUTRA FLOW LEAD |
| 1120 | OAKLAND |
| 1122 | OELWEIN |
| 1126 | OELWEIN-HAMPTON |
| 1124 | OELWEIN SUB |
| 1128 | OLD CB & Q MAIN |
| 1130 | OLD M & STL |
| 1132 | OLD MAIN |
| 1134 | OLD MAIN LINE |
| 1136 | OLD MAIN SPUR |
| 1138 | OLD MILW. |
| 398 | OMAHA-IOWA |
| 1140 | OSCEOLA YARD |
| 169 | OSKALOOSA |
| 1142 | OSKALOOSA BR |
| 209 | OSKALOOSA SPUR |
| 0 | OTHER |
| 1144 | OTTUMWA |
| 1148 | OTTUMWA-KCMO |
| 1146 | OTTUMWA YARD |
| 1150 | OYENS YARD |
| 380 | PAC JCT-OMAHA |
| 1152 | PACIFIC JCT YD |
| 1154 | PACJCT-WMAHA |
| 211 | PACKING HO SPUR |
| 1156 | PALMER-ROYAL |
| 1158 | PAXTONVIERLING1 |
| 1160 | PAXTONVIERLING2 |
| 1162 | PAXTONVIERLING3 |
| 213 | PAYNE-NEBR |
| 1164 | PEDDAK-ELLIOTT |
| 1166 | PELLA |
| 1168 | PELLA LINE |
| 66 | PERRY SPUR TRK |
| 77 | PERRY SUB |
| 1170 | PILLSBURY ELEV. |
| 214 | PJCT-HAMBURG |
| 422 | PLATINUM ETHAN |
| 1172 | POCAHONTAS |
| 215 | POWERHOUSE SPUR |
| 1174 | POWERPLANT |
| 208 | POWERPLANT LEAD |
| 399 | POWERSVILLE SPUR |
| 1176 | PRIVATE TRACK |

| | |
|------|-------------------|
| 216 | PROGRESS PARK |
| 400 | PS SPUR |
| 217 | QUARRY SPUR |
| 85 | RAKE |
| 401 | RALSTON |
| 1178 | RAMP TRACK |
| 1180 | RAPID CITY |
| 218 | RATH LEAD |
| 1182 | RATH SUPPLY TRK |
| 1184 | REA |
| 1188 | REA-FMC |
| 219 | REA SPUR |
| 1186 | READLYN-WAVERLY |
| 1192 | RED OAK-ELLIOT |
| 1194 | RED OAK-FARRAGT |
| 1190 | RED OAK YARD |
| 220 | REDOAK-ELLIOTT |
| 1196 | REDOAK-FAR |
| 221 | REDOAK-FARRAGUT |
| 1198 | REDOAK-GRIS |
| 1200 | REINBECK SPUR |
| 222 | RIVER LINE |
| 223 | RIVER TRACK |
| 1202 | ROCHESTER |
| 224 | ROCKWELL CITY |
| 1204 | ROGERTON LINE |
| 1206 | ROUNDHOUSE TRACK |
| 212 | ROYAL IND LD |
| 1208 | RUTLEDGE |
| 372 | S CITY-ABERDEEN |
| 1210 | S CITY MILW YD |
| 1212 | S CITY TERM RY |
| 1214 | S.CITY-WILLMAR |
| 1216 | SABULA-LACRESCENT |
| 227 | SABULA-LACRESNT |
| 228 | SABULA-MUSCATIN |
| 1218 | SABULA-NAHANT |
| 1220 | SABULA-OTTUMWA |
| 402 | SABULA-WDAVENPT |
| 229 | SACTON LINE |
| 1222 | SALINA ST SPUR |
| 1224 | SALINAS-ST-SPUR |
| 230 | SALINAS ST SPUR |
| 1226 | SANTACLUS-IND |
| 231 | SARA LEE SPUR |
| 1228 | SCALE & HOUSE |
| 232 | SCRAP RAIL SPUR |
| 233 | SECOND ST TRACK |
| 1230 | SECOND ST. TRK |
| 361 | SGT BLUFF |

| | |
|------|-----------------|
| 1232 | SHAVER YARD LD |
| 404 | SHAVER YARD LEA |
| 291 | SHEFFIELD-RCKWL |
| 130 | SHEFFIELD LEAD |
| 1234 | SHELL RCK-COULT |
| 234 | SHELLRO-COULTER |
| 235 | SHINE BROS SPUR |
| 1236 | SHORT |
| 1238 | SHORT LINE |
| 236 | SIDE TRACK |
| 1240 | SIDE TRACK #3 |
| 1242 | SIDE TRK |
| 1244 | SIDE TRK #7 & 4 |
| 1246 | SIDE TRKS #3 |
| 1248 | SIDING |
| 1250 | SIOUX CITY |
| 1254 | SIOUX CITY-CALI |
| 241 | SIOUX CITY-MINN |
| 238 | SIOUX CITY-NEBR |
| 242 | SIOUX CITY-SDAK |
| 330 | SIOUX CITY SUB |
| 1252 | SIOUX CITY YARD |
| 1256 | SIOUX CTY-CLF J |
| 1258 | SIOUX QUALITY |
| 1260 | SIOUX RAPIDS |
| 1264 | SIOUXCITY-FERRY |
| 1262 | SIOUXCITYCALJCT |
| 1266 | SIOUXCTYCALIFJC |
| 1268 | SIOUXQUALITYTRK |
| 1270 | SOMERS |
| 1272 | SOO TRANSFER |
| 1274 | SOO TRANSFER TR |
| 243 | SOOCTY-SOOFALLS |
| 244 | SOOCTY-STJAMES |
| 1276 | SOUIX CITY |
| 245 | SOUTH YARD |
| 1278 | SPUR |
| 246 | SPUR FOUNDRY |
| 247 | SPUR TRACK |
| 403 | SRGNT BLUFF IND |
| 1280 | ST LOUIS BUR |
| 248 | STACY WYE-E.LEG |
| 249 | STACY WYE-W.LEG |
| 250 | STACYVILLE |
| 1282 | STANWOOD SPUR |
| 294 | STEAMBOAT ROCK |
| 1284 | STOCK YARD TRK |
| 1286 | STOCK YD |
| 251 | STOCK YD TRACK |
| 1288 | STOCK YDS |

| | |
|------|-----------------|
| 1290 | STOCKYARD TRACK |
| 408 | STONE CONTAINER |
| 1292 | STORM LAKE |
| 252 | STUB TRACK |
| 1294 | SUPERIOR |
| 1296 | SUTHERLAND LMBR |
| 253 | SWANWOOD IND LD |
| 1298 | SWISS VALLEY |
| 254 | SWITCH TRACKS |
| 255 | SWITCHING LEAD |
| 1300 | SWOFT & CP SPUR |
| 1302 | TAMA SPUR |
| 116 | TARA |
| 257 | TARA |
| 1308 | TARA-CO BLUFFS |
| 1310 | TARA-MALLARD |
| 258 | TARA-SIOUX CITY |
| 1304 | TARA -SIOUX CIT |
| 1306 | TARA SUB |
| 1312 | TEAM TRACKS |
| 259 | TEMPLEX TRACK |
| 1314 | THOMPSON |
| 1316 | TITONKA |
| 260 | TOWN LINE |
| 261 | TOWN TRACK |
| 1318 | TRACK #14 |
| 1320 | TRACK #185 |
| 1322 | TRACK 103 |
| 1324 | TRACK 1853 |
| 1326 | TRACK TO FRT HO |
| 1328 | TRACK#24 |
| 74 | TRENTON |
| 1330 | TRENTON SUB |
| 1332 | TRIPOLI BRANCH |
| 1334 | TRK #14 & MAIN |
| 1336 | TRK #19 |
| 1338 | TRK #49 |
| 1340 | TRK #7 |
| 1342 | TRK #9 |
| 384 | TRK 10 |
| 1344 | TRK 10 & 11 |
| 382 | TRK 122 |
| 368 | TRK 13 |
| 389 | TRK 14 |
| 376 | TRK 17 |
| 1346 | TRK 17-25 |
| 383 | TRK 185 |
| 377 | TRK 19 |
| 385 | TRK 2 |
| 366 | TRK 24 |

| | |
|------|------------------|
| 378 | TRK 26 |
| 375 | TRK 31 |
| 387 | TRK 49 |
| 370 | TRK 8 |
| 369 | TRK 82 |
| 1348 | TRK ICC 12 |
| 1350 | TRK V310 |
| 1352 | TRK#17 |
| 1354 | TRK#17 & 13 |
| 1356 | TRK#17, 14, & 31 |
| 1358 | TRK#25 |
| 1360 | TRK#25 & 19 |
| 1362 | TRK#31 |
| 1364 | TRK#9 |
| 1366 | TRK.#19 |
| 1368 | TRK.#26 |
| 1370 | TRKS 10 & 11 |
| 262 | UNION TRACK |
| 1372 | UNION TRK |
| 172 | UNKNOWN |
| 1374 | UP CONN |
| 263 | UP CONNECTING |
| 48 | UP INTERCHANGE |
| 50 | UP TRANSFER |
| 1376 | US YARD SPUR |
| 265 | US YARDS SPUR |
| 1378 | VILLISCA-CLAR |
| 1380 | VINTON-DYSART |
| 266 | VINTON SPUR |
| 268 | W'LOO ART ICETK |
| 1382 | W BURLINGTON |
| 1384 | W BURLINGTON YD |
| 267 | W. CARGILL TRK |
| 1386 | W.IND.LEAD |
| 1388 | WAGNER MFG. CO. |
| 269 | WALKER SPUR |
| 1390 | WALLACE IND SPU |
| 409 | WALLACE SPUR |
| 270 | WALNUT GROVE |
| 1392 | WALNUT GRV TRK |
| 1396 | WASH-JACKSON LD |
| 42 | WASHINGTON ST SP |
| 1394 | WASHINGTON BR |
| 271 | WATER WORK LEAD |
| 272 | WATER WORKS |
| 1398 | WATER WORKS SPR |
| 1400 | WATERLOO |
| 274 | WATRLOO |
| 273 | WATRLOO-FTDODGE |
| 1402 | WATRLOO-OELWEIN |

| | |
|------|-----------------------|
| 1404 | WAVERLY |
| 1406 | WAVERLY IND LD |
| 275 | WAVERLY SPUR |
| 1408 | WAVERLY SUB |
| 1410 | WEAVER READYMIX |
| 1412 | WEB COUNTY BRDG |
| 1414 | WEISSMAN SPUR |
| 276 | WEISSMAN STEEL |
| 277 | WERTZ FEED CO#1 |
| 1416 | WEST BEND SUB |
| 278 | WEST IND LEAD |
| 1418 | WEST SIDE BELT |
| 1420 | WEST UNION |
| 1422 | WEST UNION BR. |
| 279 | WEST WYE TRACK |
| 280 | WICKMAN SPUR |
| 373 | WILLMAR-S CITY |
| 1424 | WILSON LEAD |
| 281 | WILSON PLANT#1 |
| 1426 | WILSON PLANT#2 |
| 1428 | WILSON PLANT#3 |
| 1430 | WILSON PLANT#4 |
| 1432 | WILSON PLNT#2 & 3 |
| 1434 | WILSONICING#1 & 2 |
| 1436 | WINTERSET |
| 1438 | WOODWARD |
| 1440 | WOODWARD SPUR |
| 1442 | WORTHINGTON |
| 1444 | wye spur |
| 1446 | WYE TAIL TRK |
| 283 | WYE TRACK |
| 1448 | WYE TRACK LINE |
| 1450 | WYE TRK NO.176 |
| 284 | X-OVER |
| 1452 | X OVER |
| 1454 | XC-COBLUFF |
| 1456 | YALE-WAUKEE |
| 285 | YALE SPUR |
| 1458 | YARD |
| 1460 | YARD SWITCHING |
| 286 | YARD TRACK |
| 1462 | YARD TRACKS |
| 1464 | CARGILL LEAD |
| 1466 | BARTLETT |
| 1468 | MANLY |
| 1470 | MOULTON-SUB |
| 1472 | COMMON SPUR |
| 1474 | MIDAMERICAN FRUITLAND |

RR_CANTI_FLASH_TYPE_ID - Domain

DomainName RR_CANTI_FLASH_TYPE_ID
Description RR_CANTI_FLASH_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------|
| 0 | NONE |
| 1 | INCANDESCENT |
| 2 | LED |

RR_CHANGE_REASON_LU - Domain

DomainName RR_CHANGE_REASON_LU
Description RR_CHANGE_REASON
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------|
| 1 | FRA UPDATE |
| 2 | RAIL OFFICE |
| 3 | SUMMER INVENTORY |
| 9 | GIMS IMPORT |
| 4 | ANALYTICS EDIT |
| 5 | RR UPDATE |

RR_CHANNEL_ID - Domain

DomainName RR_CHANNEL_ID
Description RR_CHANNEL_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------------------|
| 1 | ALL APPROACHES |
| 2 | ONE APPROACH |
| 3 | MEDIAN - ALL APPROACHES |
| 4 | MEDIAN - ONE APPROACH |
| 5 | NONE |

RR_COMMPOWER_ID - Domain

DomainName RR_COMMPOWER_ID
Description RR_COMMPOWER_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_CROSSING_CODE_ID - Domain

DomainName RR_CROSSING_CODE_ID
Description RR_CROSSING_CODE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------|
| 1 | CARDINAL DIRECTION |
| 0 | NON CARDINAL DIRECTION |
| 3 | 3RD CROSSING CODE |
| 4 | 4TH CROSSING CODE |

RR_CROSSING_SURFACE_ID - Domain

DomainName RR_CROSSING_SURFACE_ID
Description RR_CROSSING_SURFACE_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_DEVELTYPEID_ID - Domain

DomainName RR_DEVELTYPEID_ID
Description RR_DEVELTYPEID_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------|
| 11 | OPEN SPACE |
| 12 | RESIDENTIAL |
| 13 | COMMERCIAL |
| 14 | INDUSTRIAL |
| 15 | INSTITUTIONAL |
| 16 | FARM |
| 17 | RECREATIONAL |
| 18 | RR YARD |

RR_DIVISION_ID - Domain

DomainName RR_DIVISION_ID
Description RR_DIVISION_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------|
| 21 | BLANK NO. 1 |
| 35 | CEDAR |
| 41 | CEDAR-RAPIDS |
| 37 | CEDAR RAPIDS |
| 39 | CEDAR RIVER |
| 26 | CENTERVILLE |
| 27 | CENTRAL |
| 43 | CHARLES CITY |
| 24 | CHICAGO |
| 28 | COUNCIL |
| 45 | COUNCIL BLUFF |
| 22 | COUNCIL BLUFFS |
| 32 | CR |
| 9 | DAKOTA |
| 47 | DALLAS |
| 49 | DES |
| 11 | DES MOINES |
| 51 | DES MOINES DIV |
| 53 | DESMOINES |
| 55 | DESMOINESDIV |
| 57 | EA |
| 59 | east |
| 61 | EAST IOWA |
| 63 | EAST REGION |
| 5 | EASTERN |
| 10 | EVERIST |
| 65 | GALESBURG |
| 14 | GATEWAY |
| 67 | GULF |
| 69 | HANN |
| 71 | HANNIBAL |
| 13 | HEARTLAND |
| 75 | IL-IA |
| 73 | IL IA |
| 81 | ILL-IA |
| 83 | ILL-IOWA |
| 77 | ILL IA |
| 79 | ILL IOWA |
| 6 | ILLINOIS |
| 85 | IM D |
| 87 | IM&D |
| 8 | IOWA |
| 89 | IOWA FALLS |
| 91 | IWOA |

| | |
|-----|----------------|
| 15 | KANSAS CITY |
| 93 | LAKES |
| 95 | LAKESGO |
| 97 | LEASED/FOREIGN |
| 99 | LEASEDFOREIGN |
| 101 | LIN. DIV. |
| 103 | LINCOLN |
| 30 | MASON CITY |
| 2 | MIDWEST |
| 105 | MINN |
| 107 | MO-KAN |
| 33 | MOBERLY |
| 109 | NEBR |
| 12 | NEBRASKA |
| 111 | NONCORE |
| 113 | NONE |
| 29 | NORTH |
| 19 | NORTHERN |
| 0 | OTHER |
| 115 | OTT |
| 117 | OTTUMWA |
| 31 | QUAD CITIES |
| 119 | SOUTH |
| 121 | SOUTH REGION |
| 20 | SOUTHERN |
| 25 | SPRINGFIELD |
| 3 | SYSTEM |
| 123 | SYSTEM |
| 125 | THREE |
| 23 | TWIN CITIES |
| 127 | UNION PACIFIC |
| 129 | WAVERLY |
| 131 | WEST |
| 133 | WEST BEND |
| 17 | WEST IOWA |
| 18 | WESTERN |
| 137 | WLOO-TERMINAL |
| 135 | WLOO TERMINAL |
| 139 | IAIS |
| 141 | NORTH PLATTE |

RR_DOWNST_ID - Domain

DomainName RR_DOWNST_ID
Description RR_DOWNST_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
|------|------|

| | |
|---|-----|
| 1 | YES |
| 2 | NO |

RR_EMONITORDVCE_ID - Domain

DomainName RR_EMONITORDVCE_ID
Description RR_EMONITORDVCE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_EMRGNCYSRVC_ID - Domain

DomainName RR_EMRGNCYSRVC_ID
Description RR_EMRGNCYSRVC_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_ENSSIGN_ID - Domain

DomainName RR_ENSSIGN_ID
Description RR_ENSSIGN_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_EXEMPT_ID - Domain

DomainName RR_EXEMPT_ID
Description RR_EXEMPT_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------------|
| 1 | YES CROSSING IS EXEMPT |
| 2 | NO CROSSING IS NOT EXEMPT |

RR_GATECONF_ID - Domain

DomainName RR_GATECONF_ID
Description RR_GATECONF_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------|
| 1 | 2 QUAD |
| 2 | 3 QUAD |
| 3 | 4 QUAD |

RR_GATECONFTYPE_ID - Domain

DomainName RR_GATECONFTYPE_ID
Description RR_GATECONFTYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------------|
| 4 | FULL (BARRIER) RESISTANCE |
| 6 | MEDIAN GATES |

RR_HEALTHMONITOR_ID - Domain

DomainName RR_HEALTHMONITOR_ID
Description RR_HEALTHMONITOR_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_HWTRFPSIG_ID - Domain

DomainName RR_HWTRFPSIG_ID
Description RR_HWTRFPSIG_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_HWYCLASSCD_ID - Domain

DomainName RR_HWYCLASSCD_ID
Description RR_HWYCLASSCD_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------|
| 0 | RURAL |
| 1 | URBAN |

RR_HWYCLASSRDTPID_ID - Domain

DomainName RR_HWYCLASSRDTPID_ID
Description RR_HWYCLASSRDTPID_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------------------------|
| 11 | INTERSTATE |
| 12 | OTHER FREEWAYS AND EXPRESSWAYS |
| 13 | OTHER PRINCIPAL ARTERIAL |
| 16 | MINOR ARTERIAL |
| 17 | MAJOR COLLECTOR |
| 18 | MINOR COLLECTOR |
| 19 | LOCAL |

RR_HWYNEAR_ID - Domain

DomainName RR_HWYNEAR_ID
Description RR_HWYNEAR_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_HWYNRSIG_ID - Domain

DomainName RR_HWYNRSIG_ID
Description RR_HWYNRSIG_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |

RR_HWYPVED_ID - Domain

DomainName RR_HWYPVED_ID
Description RR_HWYPVED_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_HWYSPEEDPS_ID - Domain

DomainName RR_HWYSPEEDPS_ID
Description RR_HWYSPEEDPS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------|
| 1 | POSTED |
| 2 | STATUTORY |

RR_HWYSYS_ID - Domain

DomainName RR_HWYSYS_ID
Description RR_HWYSYS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------------|
| 1 | INTERSTATE HIGHWAY SYSTEM |
| 2 | OTHER NAT HWY SYSTEM (NHS) |
| 3 | FEDERAL AID, NOT NHS |
| 8 | NON FEDERAL AID |

RR_HWYTRAFSIGNL_ID - Domain

DomainName RR_HWYTRAFSIGNL_ID
Description RR_HWYTRAFSIGNL_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |

RR_ILLUMINA_ID - Domain

DomainName RR_ILLUMINA_ID
Description RR_ILLUMINA_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_INTRPRMP_ID - Domain

DomainName RR_INTRPRMP_ID
Description RR_INTRPRMP_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_LLSOURCE_ID - Domain

DomainName RR_LLSOURCE_ID
Description RR_LLSOURCE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------|
| 1 | ACTUAL |
| 2 | ESTIMATED |

RR_LOW_GRND_ID - Domain

DomainName RR_LOW_GRND_ID
Description RR_LOW_GRND_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_LT1MOV_ID - Domain

DomainName RR_LT1MOV_ID
Description RR_LT1MOV_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------------------------|
| 1 | LESS THAN ONE MOVEMENT PER DAY |
| 2 | ONE OR MORE MOVEMENT PER DAY |

RR_LT1PASSMOV_ID - Domain

DomainName RR_LT1PASSMOV_ID
Description RR_LT1PASSMOV_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------------|
| 1 | LESS THAN ONE PER DAY |
| 2 | ONE OR MORE PER DAY |

RR_MAST_BACKLIGHT_ID - Domain

DomainName RR_MAST_BACKLIGHT_ID
Description RR_MAST_BACKLIGHT_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_MAST_FLASH_TYPE_ID - Domain

DomainName RR_MAST_FLASH_TYPE_ID
Description RR_MAST_FLASH_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------|
| 0 | NONE |
| 1 | INCANDESCENT |
| 2 | LED |

RR_MAST_SIDELIGHT_ID - Domain

DomainName RR_MAST_SIDELIGHT_ID
Description RR_MAST_SIDELIGHT_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_MONITOR_DEVICE_ID - Domain

DomainName RR_MONITOR_DEVICE_ID
Description RR_MONITOR_DEVICE_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_NEAR_CITY_ID - Domain

DomainName RR_NEAR_CITY_ID
Description RR_NEAR_CITY_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 0 | IN |
| 1 | NEAR |

RR_NOSIGNS_ID - Domain

DomainName RR_NOSIGNS_ID
Description RR_NOSIGNS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_OPENPUB_ID - Domain

DomainName RR_OPENPUB_ID
Description RR_OPENPUB_DESC

FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_OTHSGN_ID - Domain

DomainName RR_OTHSGN_ID
Description RR_OTHSGN_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_PAVEMENT_MARKINGS_ID - Domain

DomainName RR_PAVEMENT_MARKINGS_ID
Description RR_PAVEMENT_MARKINGS_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_PED_SIDEWALK_ID - Domain

DomainName RR_PED_SIDEWALK_ID
Description RR_PED_SIDEWALK_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------|
| 1 | 1 SIDE OF STREET |
| 2 | BOTH SIDES OF STREET |

RR_POSXING_ID - Domain

DomainName RR_POSXING_ID
Description RR_POSXING_DESC
FieldType Integer
Domain Type CodedValue

Owner RAMS

| Code | Name |
|------|----------|
| 1 | AT GRADE |
| 2 | RR UNDER |
| 3 | RR OVER |

RR_POSXING_LU - Domain

DomainName RR_POSXING_LU
Description RR_POSXING
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------|
| 1 | 1 - AT GRADE |
| 2 | 2 - RR UNDER |
| 3 | 3 - RR OVER |

RR_PREMPTYPE_ID - Domain

DomainName RR_PREMPTYPE_ID
Description RR_PREMPTYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------|
| 1 | SIMULTANEOUS |
| 2 | ADVANCE |

RR_PRVXSIGN_ID - Domain

DomainName RR_PRVXSIGN_ID
Description RR_PRVXSIGN_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 0 | NULL |
| 1 | YES |
| 2 | NO |

RR_SAME_TRACKS_ID - Domain

DomainName RR_SAME_TRACKS_ID
Description RR_SAME_TRACKS_DESC
FieldType Integer

Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_SCHLBUSCHK_ID - Domain

DomainName RR_SCHLBUSCHK_ID
Description RR_SCHLBUSCHK_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_SEPARATE_TRACKS_ID - Domain

DomainName RR_SEPARATE_TRACKS_ID
Description RR_SEPARATE_TRACKS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_SGNLEQP_ID - Domain

DomainName RR_SGNLEQP_ID
Description RR_SGNLEQP_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_SPECPRO_ID - Domain

DomainName RR_SPECPRO_ID
Description RR_SPECPRO_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------------|
| 0 | NONE |
| 1 | FLAGGING / FLAGMAN |
| 2 | MANUALLY OPERATED SIGNALS |
| 3 | WATCHMAN |
| 4 | FLOODLIGHTING |

RR_SPSELIDS_ID - Domain

DomainName RR_SPSELIDS_ID
Description RR_SPSELIDS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------------|
| 0 | NONE |
| 11 | CONSTANT WARNING TIME |
| 12 | MOTION DETECTION |
| 14 | OTHER |
| 16 | AFO |
| 17 | PTC |
| 18 | DC |

RR_STATUS_ID - Domain

DomainName RR_STATUS_ID
Description RR_STATUS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------------|
| 1 | OPEN |
| 2 | CLOSED |
| 3 | NO TRAIN TRAFFIC |
| -1 | OPEN NO ROAD DATA |

RR_STATUS_LU - Domain

DomainName RR_STATUS_LU
Description RR_STATUS
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------|
| 1 | 1 - OPEN |
| 2 | 2 - CLOSED |
| 3 | 3 - NO TRAIN TRAFFIC |

RR_STHWY1_ID - Domain

DomainName RR_STHWY1_ID
Description RR_STHWY1_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_SUB_DIVISION_ID - Domain

DomainName RR_SUB_DIVISION_ID
Description RR_SUB_DIVISION_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------|
| 141 | #4 |
| 143 | #5 |
| 145 | #N\A |
| 147 | OSKALOOSA |
| 119 | 10 |
| 149 | 10-B |
| 151 | 10TH SUBDIV. |
| 121 | 11 |
| 153 | 11 B |
| 155 | 11B |
| 157 | 11TH |
| 123 | 12 |
| 161 | 12-A |
| 163 | 12-B |
| 165 | 12-C |
| 159 | 12A |
| 167 | 12TH |
| 125 | 13 |
| 169 | 13A |
| 171 | 13C |
| 127 | 14 |
| 173 | 14-B |
| 175 | 14TH |
| 129 | 15 |
| 131 | 16 |
| 177 | 16-A |
| 179 | 16TH |

| | |
|-----|------------------|
| 133 | 17 |
| 135 | 25 |
| 137 | 26 |
| 181 | 2ND |
| 109 | 3 |
| 139 | 31 |
| 183 | 3RD |
| 111 | 4 |
| 185 | 4-A |
| 189 | 4-B |
| 187 | 4B |
| 113 | 5 |
| 191 | 5-A |
| 195 | 5-C |
| 193 | 5C |
| 197 | 7TH |
| 115 | 8 |
| 199 | 8TH |
| 117 | 9 |
| 37 | ABERDEEN |
| 201 | ALBERT LEA |
| 16 | ALBERT LEA |
| 203 | ALBERT LEA SUB |
| 205 | ALDEN |
| 2 | ALDEN IND LD |
| 207 | AMANA |
| 4 | ANKENY |
| 209 | ANKENY BR |
| 211 | ANKENY IND LD |
| 5 | APPANOOSE |
| 213 | AUSTIN |
| 50 | BANKED TRACK |
| 24 | BAYARD |
| 215 | BAYARD SUB |
| 84 | BELL AV IND LD |
| 217 | BELL AVE IND L |
| 219 | BELMOND |
| 221 | BERESFORD |
| 18 | BLAIR |
| 223 | BLAIR SUB |
| 225 | Bondurant Ind Ld |
| 19 | BOONE |
| 227 | BOONE SUB |
| 229 | BOONE SUBS |
| 8 | BRISTOW |
| 231 | BRISTOW spur |
| 9 | BURLINGTON |
| 233 | BURLINGTON YD, |
| 235 | BURT |
| 95 | CB RIVR TRK LD |

| | |
|-----|-------------------------|
| 237 | CEADR RAPIDS |
| 253 | CEDAR-RAPIDS |
| 239 | cedar falls |
| 241 | CEDAR FLLS SUB |
| 243 | CEDAR RADIPS |
| 245 | cedar rapdis |
| 11 | CEDAR RAPIDS |
| 247 | Cedar Rapids Ind Ld |
| 249 | Cedar Rapids North Yard |
| 251 | cedar rapidss |
| 23 | CEDRRPDS IND |
| 107 | CFU |
| 255 | cfu spur |
| 257 | CHARITON YD, I |
| 54 | CHARLES CITY |
| 12 | CHEROKEE |
| 259 | CHICAGO |
| 88 | CHILLICOTHE |
| 10 | CLINTON |
| 261 | CLINTON SUB |
| 93 | CLINTON YARD |
| 263 | CLINTON YD, IA |
| 265 | CO BLUFFS |
| 267 | CONRAD |
| 269 | COUNCIL BLUFFS |
| 13 | COUNCILBLUFFS |
| 66 | CRESTON |
| 89 | CRESTON-GREENF |
| 275 | CRESTON-GREENFIELD |
| 271 | CRESTON SUB |
| 273 | CRESTON YD, IA |
| 94 | CURWOOD |
| 96 | DAVENPORT |
| 15 | DES MOINES |
| 277 | DES MOINES NS |
| 279 | DES MOINES SUB |
| 281 | DES MOINES YD, |
| 283 | DIKE |
| 1 | DMU TERMINAL |
| 285 | Dows Ind Ld |
| 101 | DSM YARDS |
| 20 | DUBUQUE |
| 287 | DUBUQUE SUB |
| 289 | DUBUQUE YD IA |
| 291 | DYSART |
| 293 | EA |
| 295 | Eagle Grove Ind Ld |
| 17 | EAGLEGROVE IND |
| 297 | EAST IOWA |
| 299 | EASTERN |

| | |
|-----|------------------------------|
| 301 | EIGHTEENTH |
| 303 | EIGHTH |
| 100 | ELDRIDGE |
| 305 | ELEVENTH |
| 307 | ELLSWORTH |
| 33 | ELLSWORTH IND |
| 309 | ESTHERVILLE |
| 26 | ESTHERVILLE |
| 27 | FAIRMONT |
| 311 | Farnhamville Ind Ld |
| 97 | FARNHAMVILLE IN |
| 313 | FIFTEENTH |
| 315 | FIFTH |
| 30 | FIRST |
| 317 | FLUGSTAD |
| 319 | FLUGSTAD SUB |
| 321 | FOREST CITY |
| 323 | FOREST CITY SB |
| 325 | Fort Dodge |
| 31 | FORT DODGE IND |
| 327 | Fort Dodge Ind Ld |
| 51 | FORT DODGE SD |
| 329 | FORT DODGE ST |
| 331 | FORT DODGE SUB |
| 333 | FORT MADISON Y |
| 335 | FOUR |
| 67 | FOUR-A |
| 68 | FOUR-B |
| 337 | FOUR - A |
| 339 | FOUR - B |
| 341 | FOUR -B |
| 343 | FOURTEENTH |
| 32 | FOURTH |
| 345 | FT DODGE |
| 347 | FT DODGE SUB |
| 349 | FT MADISON YD |
| 102 | GARNER |
| 35 | GENEVA |
| 351 | GOWRIE |
| 353 | GRANGER |
| 355 | Great Western Council Bluffs |
| 357 | GREENE |
| 34 | GYPSUM LEAD |
| 85 | H |
| 359 | HALFA |
| 29 | HANNIBAL |
| 361 | HANNIBAL SUB |
| 363 | HARLAN |
| 365 | HAWARDEN |
| 367 | HAWARDEV |

| | |
|-----|-------------------|
| 369 | HAWAREDN |
| 371 | HERNDON |
| 373 | HICKS |
| 375 | HILLS |
| 377 | HOLLINGSWORTH |
| 379 | HOLSTEIN |
| 381 | HOLTSTEIN |
| 86 | HOLWTH IND LD |
| 47 | HULL AV IND LD |
| 383 | Hull Ave Ind Ld |
| 385 | IAIS |
| 387 | IASI |
| 38 | IDA GROVE |
| 39 | IOWA CITY |
| 389 | IOWA FALLS |
| 391 | JACKSON |
| 41 | JEWELL |
| 393 | JEWELL SUB |
| 395 | KANAWAHA IND L |
| 82 | KANAWHA IND LD |
| 42 | KANSAS CITY |
| 397 | KELSEY |
| 43 | KEOKUK |
| 399 | KEOKUK YD IA |
| 401 | KEOKUK YD, IA |
| 403 | KESLEY |
| 44 | KLEMME |
| 75 | LAKE MILLS IND |
| 405 | Lake Mills Ind Ld |
| 407 | LAREDO |
| 45 | LAURENS |
| 409 | LAURENS SUB |
| 411 | LE MARS |
| 413 | LEMARS |
| 72 | LUVERNE IND LD |
| 435 | M" TOWN |
| 415 | M TOWN |
| 417 | MAINLY |
| 419 | malny |
| 36 | MANLY |
| 77 | MARCELINE |
| 63 | MARQUETTE |
| 421 | MARSAHLLTOWN |
| 28 | MARSHALL |
| 423 | MARSHALLTOWN |
| 425 | MARSHALLTOWN I |
| 48 | MARSHALLTWN LD |
| 427 | MASION CITY |
| 49 | MASON CITY |
| 73 | MASON CITY |

| | |
|-----|-------------------|
| 429 | Mason City Ind Ld |
| 431 | MASON CITY SUB |
| 21 | MILWAUKEE |
| 433 | MOBERLY |
| 22 | NAPIER |
| 437 | NEBR |
| 439 | NEBRASKA |
| 441 | NEBRASKA DIV |
| 443 | NEWTON |
| 445 | NINTH |
| 447 | NONE |
| 449 | NS DES MOINES |
| 451 | NS: DES MOINES |
| 453 | NW |
| 103 | OELWEIN |
| 455 | OELWEIN SUB |
| 80 | OMAHA |
| 457 | OMAHA SUB |
| 459 | ONAWA |
| 461 | ONE |
| 52 | OSAGE |
| 463 | OSCEOLA YD, IA |
| 53 | OSKALOOSA |
| 40 | OSKALOOSA LEAD |
| 465 | OSKALOOSA SUB |
| 0 | OTHER |
| 78 | OTTUMWA |
| 467 | OTTUMWA SUB |
| 469 | OTTUMWA YD, IA |
| 471 | OWATANNO |
| 6 | OWATONNA |
| 473 | PACIFIC JCT YD |
| 475 | PALMER |
| 477 | PANORA |
| 479 | PARKERSBURG |
| 57 | PERRY |
| 481 | PERRY SUB |
| 483 | PERYY SUB |
| 485 | Powerville Ind Ld |
| 58 | RAKE |
| 487 | RAKE SUB |
| 90 | RED OAK-FARRAG |
| 491 | RED OAK-FARRAGUT |
| 92 | RED OAK-GRISWO |
| 489 | RED OAK YD, IA |
| 14 | RIVER |
| 493 | RIVER TRACK |
| 495 | RIVER TRACK LD |
| 76 | RIVER TRKLD-CB |
| 497 | ROCHESTER |

| | |
|-----|---------------------------|
| 65 | ROCKWELL IND |
| 499 | rockwell ind ld |
| 25 | ROELYN IND LD |
| 501 | ROELYND IND LD |
| 503 | ROYAL IND LD |
| 56 | ROYAL IND LEAD |
| 7 | SCENIC |
| 505 | SECOND |
| 104 | SERGEANT BLUFF |
| 507 | Sergeant Bluff Ind Ld |
| 509 | SEVENTEENTH |
| 511 | SEVENTH |
| 99 | SGT BLF IND LD |
| 106 | SHELDON |
| 61 | SIOUX CITY |
| 513 | SIOUX CITY EAS |
| 515 | SIOUX CITY EAST YD, IA |
| 517 | SIOUX CITY MIL |
| 519 | SIOUX CITY TER |
| 91 | SIOUX CITY YD |
| 521 | SIOUX CITY YD, |
| 523 | SIOUX CITY YD, IA |
| 525 | SIOUX FALLS |
| 527 | SIOUX RA |
| 529 | SIOUX RAPIDS |
| 531 | SIOUXCITY |
| 533 | SIXTEENTH |
| 535 | SIXTH |
| 537 | SOMERS |
| 79 | STACYVILLE |
| 81 | STEAMBOAT ROCK |
| 547 | SUB-DIVN 15 |
| 549 | SUB-DIVN 16 |
| 539 | SUBDIVISION |
| 541 | SUBDIVISION 1 |
| 543 | SUBDIVISION 3 |
| 545 | SUBDIVISION 4 |
| 105 | SUBDIVISION1 |
| 69 | SWANWOOD LEAD |
| 64 | TARA |
| 551 | TEN-B |
| 553 | TENTH |
| 59 | THIRD |
| 555 | THIRTEENTH |
| 3 | THREE |
| 70 | TRENTON |
| 557 | TRENTON SUB |
| 559 | TRRA: HANNIBAL |
| 561 | TWELFTH |
| 563 | Twelfth St. Lead C.Bluffs |

| | |
|-----|-------------------|
| 577 | TWENTY-EIGHTH |
| 581 | TWENTY-FOURTH |
| 583 | TWENTY-NI12 |
| 585 | TWENTY-NINTH |
| 587 | TWENTY-SEVENTH |
| 589 | TWENTY-SIXTH |
| 565 | TWENTY EIGHTH |
| 567 | TWENTY FIRST |
| 569 | TWENTY FOUR |
| 571 | TWENTY NINTH |
| 573 | TWENTY SIXTH |
| 575 | TWENTY THIRD |
| 579 | TWENTYFOURTH |
| 60 | UNKNOWN |
| 62 | UNKNOWN |
| 591 | WALL LACE |
| 593 | WALL LAKE |
| 595 | WASHINGTON |
| 98 | WATERLOO |
| 597 | Waterloo Ind Ld |
| 71 | WATERLOO LEAD |
| 55 | WAUKEE IND LD |
| 599 | WAVELY |
| 83 | WAVERLY |
| 601 | WAVERLY SUB |
| 603 | WEST BEND |
| 605 | WEST BURLINGTO |
| 74 | WEST IOWA |
| 607 | WESTERN |
| 87 | WICKMAN SPUR |
| 46 | WORTHINGTON |
| 609 | WORTHINGTON SU |
| 611 | YARDS |
| 613 | COUNCIL BLUFFS YD |
| 615 | ISRY |
| 617 | WORTHINGTON SUB |
| 619 | SIBLEY SPUR |

RR_TRAFLNTYPE_ID - Domain

| | |
|--------------------|--------------------|
| DomainName | RR_TRAFLNTYPE_ID |
| Description | RR_TRAFLNTYPE_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|-----------------|
| 1 | ONE WAY TRAFFIC |
| 2 | TWO WAY TRAFFIC |
| 3 | DIVIDED TRAFFIC |

RR_TYETRNSRVCIDS_ID - Domain

DomainName RR_TYETRNSRVCIDS_ID
Description RR_TYETRNSRVCIDS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------|
| 11 | FREIGHT |
| 12 | INTERCITY PASSENGER |
| 13 | COMMUTER |
| 14 | TRANSIT |
| 15 | SHARED USE TRANSIT |
| 16 | TOURIST / OTHER |

RR_TYEPXING_ID - Domain

DomainName RR_TYEPXING_ID
Description RR_TYEPXING_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------|
| 2 | PRIVATE |
| 3 | PUBLIC |
| 1 | PEDESTRIAN |

RR_TYEPXING_LU - Domain

DomainName RR_TYEPXING_LU
Description RR_TYEPXING
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------|
| 2 | 2 - PRIVATE |
| 3 | 3 - PUBLIC |
| 1 | 1 - PEDESTRIAN |

RR_WHISTBAN_ID - Domain

DomainName RR_WHISTBAN_ID
Description RR_WHISTBAN_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------|
| 0 | NO |
| 1 | 24 HOUR |
| 2 | PARTIAL |
| 3 | CHICAGO EXCUSED |

RR_XANGLE_ID - Domain

DomainName RR_XANGLE_ID
Description RR_XANGLE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------|
| 1 | 0-29 DEGREES |
| 2 | 30-59 DEGREES |
| 3 | 60-90 DEGREES |

RR_XINGADJ_ID - Domain

DomainName RR_XINGADJ_ID
Description RR_XINGADJ_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------|
| 1 | YES |
| 2 | NO |

RR_XPURPOSE_ID - Domain

DomainName RR_XPURPOSE_ID
Description RR_XPURPOSE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------------|
| 1 | HIGHWAY |
| 2 | PATHWAY PEDESTRIAN |
| 3 | STATION PEDESTRIAN |

RUMBLE_TYPE_ID - Domain

DomainName RUMBLE_TYPE_ID
Description RUMBLE_TYPE_DESC
FieldType Integer
Domain Type CodedValue

Owner RAMS

| Code | Name |
|------|-----------------------|
| 2 | LEFT SHOULDER RUMBLE |
| 3 | RIGHT SHOULDER RUMBLE |

SHOULDER_TIED_ID - Domain

DomainName SHOULDER_TIED_ID
Description SHOULDER_TIED_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------|
| 1 | SHOULDER TIED |

SHOULDER_TYPE_ID - Domain

DomainName SHOULDER_TYPE_ID
Description SHOULDER_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------------|
| 1 | 1 - EARTH |
| 2 | 2 - GRAVEL |
| 6 | 6 - PAVED |
| 7 | 7 - COMBO PAVED AND EARTH |
| 8 | 8 - COMBO PAVED AND GRAVEL |
| 9 | 9 - COMBO PAVED AND PAVED |

SPECIAL_SYSTEM_ID - Domain

DomainName SPECIAL_SYSTEM_ID
Description SPECIAL_SYSTEM_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--|
| 2 | 2 - NATIONAL FOREST HIGHWAY SYSTEM |
| 3 | 3 - NATIONAL FOREST DEVELOPMENT ROADS AND TRAILS |
| 4 | 4 - NATIONAL PARK SERVICE PARKWAY |
| 5 | 5 - NATIONAL PARK ROADS AND TRAILS |
| 6 | 6 - INDIAN RESERVATION ROADS AND BRIDGES |
| 10 | 10 - APPALACHAIN DEVELOPMENT HIGHWAY |
| 15 | 15 - APPALACHAIN HIGHWAY ACCESS ROAD |
| 25 | 25 - GREAT RIVER ROAD (23 U.S.C. 148) |

| | |
|----|--|
| 26 | 26 - LOESS HILLS SCENIC BYWAY SPINE (23 U.S.C.) |
| 27 | 27 - LOESS HILLS SCENIC BYWAY LOOPS (23 U.S.C.) |
| 30 | 30 - DEFENSE ACCESS ROAD (23 U.S.C. 210) |
| 40 | 40 - ADDITION TO THE INTERSTATE SYSTEM (23 U.S.C. 139 (A)) |
| 41 | 41 - ADDITION TO THE INTERSTATE SYSTEM (23 U.S.C. 139 (C)) |
| 42 | 42 - ADDITION TO THE INTERSTATE SYSTEM (23 U.S.C. 135 (B)) |
| 50 | 50 - CONGRESSIONAL HIGHWAY SYSTEM (AVENUE OF THE SAINTS) |

SPEED_LIMIT_ID - Domain

| | |
|--------------------|------------------|
| DomainName | SPEED_LIMIT_ID |
| Description | SPEED_LIMIT_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|--------|
| 5 | 5 MPH |
| 10 | 10 MPH |
| 15 | 15 MPH |
| 20 | 20 MPH |
| 25 | 25 MPH |
| 30 | 30 MPH |
| 35 | 35 MPH |
| 40 | 40 MPH |
| 45 | 45 MPH |
| 50 | 50 MPH |
| 55 | 55 MPH |
| 60 | 60 MPH |
| 65 | 65 MPH |
| 70 | 70 MPH |

STATE_FREIGHT_NETWORK_ID - Domain

| | |
|--------------------|----------------------------|
| DomainName | STATE_FREIGHT_NETWORK_ID |
| Description | STATE_FREIGHT_NETWORK_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|-----------------------|
| 1 | STATE FREIGHT NETWORK |

STOP_RESTRICTION_ID - Domain

| | |
|--------------------|-----------------------|
| DomainName | STOP_RESTRICTION_ID |
| Description | STOP_RESTRICTION_DESC |
| FieldType | Integer |
| Domain Type | Range |
| Owner | RAMS |

| | |
|----------------------|----------------------|
| Minimum Value | Maximum Value |
|----------------------|----------------------|

STRATEGIC_HWY_NETWORK_ID - Domain

DomainName STRATEGIC_HWY_NETWORK_ID
Description STRATEGIC_HWY_NETWORK_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------------|--------------------------------------|
| 1 | 1 - ON THE STRATEGIC HIGHWAY NETWORK |
| 2 | 2 - CONNECTOR |

STRUC_HIST_SIG_ID - Domain

DomainName STRUC_HIST_SIG_ID
Description STRUC_HIST_SIG_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------------|--|
| 1 | 1 - BRIDGE IS ON NATIONAL REGISTER OF HISTORICAL PLACES |
| 2 | 2 - BRIDGE IS ELIGIBLE FOR NATIONAL REGISTER OF HISTORICAL PLACES |
| 3 | 3 - BRIDGE IS POSSIBLY ELIGIBLE FOR NATIONAL REGISTER OF HISTORICAL PLACES |
| 4 | 4 - HISTORICAL SIGNIFICANCE NOT DETERMINED AT THIS TIME |
| 5 | 5 - BRIDGE IS NOT ELIGIBLE FOR NATIONAL REGISTER |

STRUC_KIND_CROSS_ID - Domain

DomainName STRUC_KIND_CROSS_ID
Description STRUC_KIND_CROSS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|-------------|---------------------------------------|
| 1 | 1 - FORD |
| 2 | 2 - FERRY |
| 3 | 3 - RAILROAD AT GRADE |
| 4 | 4 - OVER DRAINAGE |
| 5 | 5 - OVER RAILROAD |
| 6 | 6 - OVER RAILROAD AND STREAM |
| 7 | 7 - UNDER RAILROAD (SIMPLE) |
| 8 | 8 - UNDER RAILROAD (COMBINED) |
| 9 | 9 - OVER PARK OR INSTITUTIONAL ROAD |
| 10 | 10 - UNDER PARK OR INSTITUTIONAL ROAD |
| 11 | 11 - OVER PRIVATE ROAD |

| | |
|----|-------------------------------|
| 12 | 12 - UNDER PRIVATE ROAD |
| 15 | 15 - TUNNEL |
| 17 | 17 - UNDER PEDESTRIAN WALKWAY |
| 18 | 18 - SIDE DITCH |
| 20 | 20 - OVER INTERSTATE |
| 21 | 21 - UNDER INTERSTATE |
| 30 | 30 - OVER PRIMARY |
| 31 | 31 - UNDER PRIMARY |
| 40 | 40 - OVER ARTERIAL |
| 41 | 41 - UNDER ARTERIAL |
| 50 | 50 - OVER MAJOR COLLECTOR |
| 51 | 51 - UNDER MAJOR COLLECTOR |
| 52 | 52 - UNDER MINOR COLLECTOR |
| 53 | 53 - OVER MINOR COLLECTOR |
| 60 | 60 - OVER LOCAL |
| 61 | 61 - UNDER LOCAL |
| 62 | 62 - OVER TRAIL |

STRUC_MAINT_DESC_ID - Domain

| | |
|--------------------|-----------------------|
| DomainName | STRUC_MAINT_DESC_ID |
| Description | STRUC_MAINT_DESC_DESC |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|---|
| L | L - LEFT BRIDGE SB_WB LANE OF TWIN BRIDGES |
| R | R - RIGHT BRIDGE NB_EB LANE OF TWIN BRIDGES |
| S | S - SINGLE BRIDGE ON NORMAL ROADWAY |
| O | O - OVERHEAD BRIDGE TRAVELING UNDER BRIDGE |
| A | A - RAMP - LOOP - OTHER NON-MAINLINE BRIDGE |
| B | B - BRIDGELET - STRUCTURE SMALLER THAN NBI BRIDGE |
| X | X - RAILROAD BRIDGE OVERHEAD |
| P | P - PEDESTRIAN BRIDGE OVERHEAD |
| T | T - TUNNEL |

STRUC_NBIA_ITEM_ID - Domain

| | |
|--------------------|----------------------|
| DomainName | STRUC_NBIA_ITEM_ID |
| Description | STRUC_NBIA_ITEM_DESC |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|----------------|
| Y | NBI Bridge |
| N | Non-NBI Bridge |

STRUC_STATUS_ID - Domain

DomainName STRUC_STATUS_ID
Description STRUC_STATUS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------|
| 1 | 1 - OPEN |
| 2 | 2 - CLOSED |
| 3 | 3 - PENDING |

STRUC_TWIN_DIVIDED_ID - Domain

DomainName STRUC_TWIN_DIVIDED_ID
Description STRUC_TWIN_DIVIDED_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------------------|
| 0 | 0 - NOT TWIN OR DIVIDED |
| T | T - TWIN |
| D | D - DIVIDED |
| O | O - NOT TWIN OR DIVIDED |

STRUC_TYPE_RECORD_ID - Domain

DomainName STRUC_TYPE_RECORD_ID
Description STRUC_TYPE_RECORD_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------|
| 0 | 0 - ALL OTHER MAINLINE |
| 2 | 2 - EASTBOUND |
| 3 | 3 - WESTBOUND |
| 4 | 4 - NORTHBOUND |
| 5 | 5 - SOUTHBOUND |
| 6 | 6 - RAMP OR LOOP |
| 7 | 7 - SIDE DITCH BRIDGE |

STRUC_VERT_REF_FEA_ID - Domain

DomainName STRUC_VERT_REF_FEA_ID
Description STRUC_VERT_REF_FEA_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|---------------------------------------|
| H | H - HIGHWAY BENEATH STRUCTURE |
| R | R - RAILROAD BENEATH STRUCTURE |
| N | N - FEATURE NOT A HIGHWAY OR RAILROAD |

STRUCTURE_CODE_ID - Domain

| | |
|--------------------|---------------------|
| DomainName | STRUCTURE_CODE_ID |
| Description | STRUCTURE_CODE_DESC |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|--------------------------------|
| 0 | 0 - ON - OPPOSITE DIRECTION |
| 1 | 1 - ON |
| 2 | 2 - UNDER - SINGLE |
| 3 | 3 - ON - 3RD PRIORITY ROUTE |
| 4 | 4 - ON - 4TH PRIORITY ROUTE |
| 5 | 5 - ON - 5TH PRIORITY ROUTE |
| 6 | 6 - ON - 6TH PRIORITY ROUTE |
| 7 | 7 - ON - 7TH PRIORITY ROUTE |
| 8 | 8 - ON - 8TH PRIORITY ROUTE |
| 9 | 9 - ON - 9TH PRIORITY ROUTE |
| A | A - UNDER - 1ST PRIORITY ROUTE |
| B | B - UNDER - 2ND PRIORITY ROUTE |
| C | C - UNDER - 3RD PRIORITY ROUTE |
| D | D - UNDER - 4TH PRIORITY ROUTE |
| E | E - UNDER - 5TH PRIORITY ROUTE |
| F | F - UNDER - 6TH PRIORITY ROUTE |
| G | G - UNDER - 7TH PRIORITY ROUTE |
| H | H - UNDER - 8TH PRIORITY ROUTE |
| I | I - UNDER - 9TH PRIORITY ROUTE |

SURFACE_TREATMENT_ID - Domain

| | |
|--------------------|------------------------|
| DomainName | SURFACE_TREATMENT_ID |
| Description | SURFACE_TREATMENT_DESC |
| FieldType | String |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|---------------------|
| AC | AC = Asphalt |
| MS | MS = Microsurfacing |
| PC | PC = Concrete |
| SC | SC = Seal Coat |
| SS | SS = Slurry Seal |

SURFACE_TYPE_ID - Domain

DomainName SURFACE_TYPE_ID
Description SURFACE_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--|
| 0 | 0 - UNKNOWN |
| 3 | 3 - GRADE AND DRAINED EARTH |
| 20 | 20 - GRAVEL OR STONE |
| 30 | 30 - BITUMINOUS |
| 31 | 31 - BITUMINOUS OVER GRAVEL OR STONE |
| 60 | 60 - ASPHALT |
| 65 | 65 - ASPHALT OVER PORTLAND CEMENT CONCRETE |
| 69 | 69 - ASPHALT OVER ASPHALT |
| 70 | 70 - PORTLAND CEMENT CONCRETE |
| 74 | 74 - PORTLAND CEMENT CONCRETE NOT REINFORCED |
| 76 | 76 - PORTLAND CEMENT CONCRETE FULLY REINFORCED |
| 77 | 77 - PORTLAND CEMENT OVER PORTLAND CEMENT |
| 79 | 79 - PORTLAND CEMENT CONCRETE OVER ASPHALT |
| 81 | 81 - BRICK |
| 92 | 92 - COMBINATION SURFACE |
| 61 | 61 - HPMS ASPHALT |
| 71 | 71 - HPMS CONCRETE |

SYSTEM_CODE_ID - Domain

DomainName SYSTEM_CODE_ID
Description SYSTEM_CODE_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------|
| 1 | 1 - INTERSTATE |
| 2 | 2 - US |
| 3 | 3 - IOWA |
| 4 | 4 - LOCAL |

SYSTEM_CODE_LU - Domain

DomainName SYSTEM_CODE_LU
Description SYSTEM_CODE_DESCRIPTION
FieldType String
Domain Type CodedValue
Owner SDE

| Code | Name |
|------|----------------|
| 1 | 1 - INTERSTATE |
| 2 | 2 - US |

| | |
|---|-----------|
| 3 | 3 - IOWA |
| 4 | 4 - LOCAL |

TERRAIN_ID - Domain

DomainName TERRAIN_ID
Description TERRAIN_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------|
| 1 | 1 - FLAT |
| 2 | 2 - ROLLING |
| 3 | 3 - HILLY |

TIM_ALT_TYPE_ID - Domain

DomainName TIM_ALT_TYPE_ID
Description TIM_ALT_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------|
| 0 | PRIMARY |
| 1 | SECONDARY |

TIM_DIVERSION_TYPE_ID - Domain

DomainName TIM_DIVERSION_TYPE_ID
Description TIM_DIVERSION_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------|
| 0 | LOCAL |
| 1 | GLOBAL |

TOLL_AUTHORITY_ID - Domain

DomainName TOLL_AUTHORITY_ID
Description TOLL_AUTHORITY_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------------------|
| 70 | FRANK E. BAUER BRIDGE |

| | |
|------|----------------------|
| 71 | FORT MADISON BRIDGE |
| 80 | BELLEVUE BRIDGE |
| 81 | DECATUR BRIDGE |
| 1033 | CASSVILLE VILLAGE WI |
| 82 | PLATTSMOUTH BRIDGE |

TOLL_CHARGED_ID - Domain

DomainName TOLL_CHARGED_ID
Description TOLL_CHARGED_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------------------|
| 1 | TOLL CHARGED IN ONE DIRECTION ONLY |
| 2 | TOLL CHARGED IN BOTH DIRECTIONS |
| 3 | NO TOLL CHARGED |

TOLL_STATUS_ID - Domain

DomainName TOLL_STATUS_ID
Description TOLL_STATUS_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------------------------|
| 1 | 1 - TOLL CHARGED IN ONE DIRECTION |
| 2 | 2 - TOLL CHARGED IN BOTH DIRECTION |

TOLL_TYPE_ID - Domain

DomainName TOLL_TYPE_ID
Description TOLL_TYPE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--|
| 1 | THIS SECTION HAS TOLL LANES BUT NOT SPECIAL TOLLS (E.G. HOT LANES) |
| 2 | THIS SECTION HAS HOT LANES |
| 3 | THIS SECTION HAS OTHER SPECIAL TOLLS |

TRANSPORTATION_DISTRICT_ID - Domain

DomainName TRANSPORTATION_DISTRICT_ID
Description TRANSPORTATION_DISTRICT_DESC
FieldType Integer
Domain Type CodedValue

Owner RAMS

| Code | Name |
|------|------------------|
| 1 | 1 - CENTRAL |
| 2 | 2 - NORTHEAST |
| 3 | 3 - NORTHWEST |
| 4 | 4 - SOUTHWEST |
| 5 | 5 - SOUTHEAST |
| 6 | 6 - EAST CENTRAL |

TRAVEL_DIRECTION_ID - Domain

DomainName TRAVEL_DIRECTION_ID
Description TRAVEL_DIRECTION_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|------------------|
| C | C - CARDINAL |
| N | N - NON-CARDINAL |

TRUCK_ROUTE_ID - Domain

DomainName TRUCK_ROUTE_ID
Description TRUCK_ROUTE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-------------------------|
| 1 | 1 - FEDERAL TRUCK ROUTE |
| 2 | 2 - STATE TRUCK ROUTE |

TYPE_AREA_ID - Domain

DomainName TYPE_AREA_ID
Description TYPE_AREA_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|--------------------------------|
| 1 | 1 - CENTRAL BUSINESS DISTRICT |
| 2 | 2 - FRINGE BUSINESS DISTRICT |
| 3 | 3 - OUTLYING BUSINESS DISTRICT |
| 4 | 4 - RESIDENTIAL AREA |
| 5 | 5 - RURAL AREA |

TYPE_DEVELOPMENT_ID - Domain

DomainName TYPE_DEVELOPMENT_ID
Description TYPE_DEVELOPMENT_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|-----------|
| 1 | 1 - RURAL |
| 2 | 2 - DENSE |

URBAN_AREA_CODE_ID - Domain

DomainName URBAN_AREA_CODE_ID
Description URBAN_AREA_CODE_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------|
| 801 | ALGONA |
| 422 | AMES |
| 845 | ANAMOSA |
| 803 | ATLANTIC |
| 804 | BOONE |
| 872 | BURLINGTON |
| 805 | CARROLL |
| 148 | CEDAR RAPIDS |
| 806 | CENTERVILLE |
| 808 | CHARLES CITY |
| 810 | CLARINDA |
| 811 | CLEAR LAKE |
| 873 | CLINTON |
| 46 | COUNCIL BLUFFS |
| 812 | CRESTON |
| 74 | DAVENPORT |
| 813 | DECORAH |
| 814 | DENISON |
| 71 | DES MOINES |
| 206 | DUBUQUE |
| 815 | ESTHERVILLE |
| 816 | FAIRFIELD |
| 874 | FORT DODGE |
| 817 | FORT MADISON |
| 841 | GLENWOOD |
| 818 | GRINNELL |
| 849 | HUMBOLDT |
| 820 | INDEPENDENCE |
| 821 | INDIANOLA |
| 327 | IOWA CITY |
| 822 | IOWA FALLS |

| | |
|-----|----------------|
| 823 | KEOKUK |
| 824 | KNOXVILLE |
| 825 | LE MARS |
| 846 | MANCHESTER |
| 826 | MAQUOKETA |
| 876 | MARSHALLTOWN |
| 877 | MASON CITY |
| 850 | MCGREGOR |
| 827 | MOUNT PLEASANT |
| 851 | MOUNT VERNON |
| 828 | MUSCATINE |
| 842 | NEVADA |
| 829 | NEWTON |
| 830 | OELWEIN |
| 852 | ORANGE CITY |
| 831 | OSKALOOSA |
| 878 | OTTUMWA |
| 832 | PELLA |
| 833 | PERRY |
| 834 | RED OAK |
| 835 | SHENANDOAH |
| 848 | SIOUX CENTER |
| 156 | SIOUX CITY |
| 836 | SPENCER |
| 853 | SPIRIT LAKE |
| 837 | STORM LAKE |
| 844 | VINTON |
| 838 | WASHINGTON |
| 150 | WATERLOO |
| 839 | WAVERLY |
| 840 | WEBSTER CITY |
| 879 | WINTERSET |

URBAN_LOCATION_ID - Domain

| | |
|--------------------|---------------------|
| DomainName | URBAN_LOCATION_ID |
| Description | URBAN_LOCATION_DESC |
| FieldType | Integer |
| Domain Type | CodedValue |
| Owner | RAMS |

| Code | Name |
|------|-------------------------------|
| 1 | 1 - CENTRAL BUSINESS DISTRICT |
| 2 | 2 - HIGH DENSITY BUSINESS |
| 3 | 3 - LOW DENSITY COMMERCIAL |
| 4 | 4 - HIGH DENSITY RESIDENTIAL |
| 5 | 5 - LOW DENSITY RESIDENTIAL |
| 6 | 6 - OTHER |

WIDENING_POTENTIAL_ID - Domain

DomainName WIDENING_POTENTIAL_ID
Description WIDENING_POTENTIAL_DESC
FieldType Integer
Domain Type CodedValue
Owner RAMS

| Code | Name |
|------|----------------------------|
| 0 | 0 - LANES FEASIBLE |
| 1 | 1 - LANE FEASIBLE |
| 2 | 2 - LANES FEASIBLE |
| 3 | 3 - LANES FEASIBLE |
| 4 | 4 - LANES FEASIBLE |
| 5 | 5 - LANES FEASIBLE |
| 6 | 6 - LANES FEASIBLE |
| 7 | 7 - LANES FEASIBLE |
| 8 | 8 - LANES FEASIBLE |
| 9 | 9 - OR MORE LANES FEASIBLE |

YES_NO_ID - Domain

DomainName YES_NO_ID
Description YES_NO_DESC
FieldType String
Domain Type CodedValue
Owner RAMS

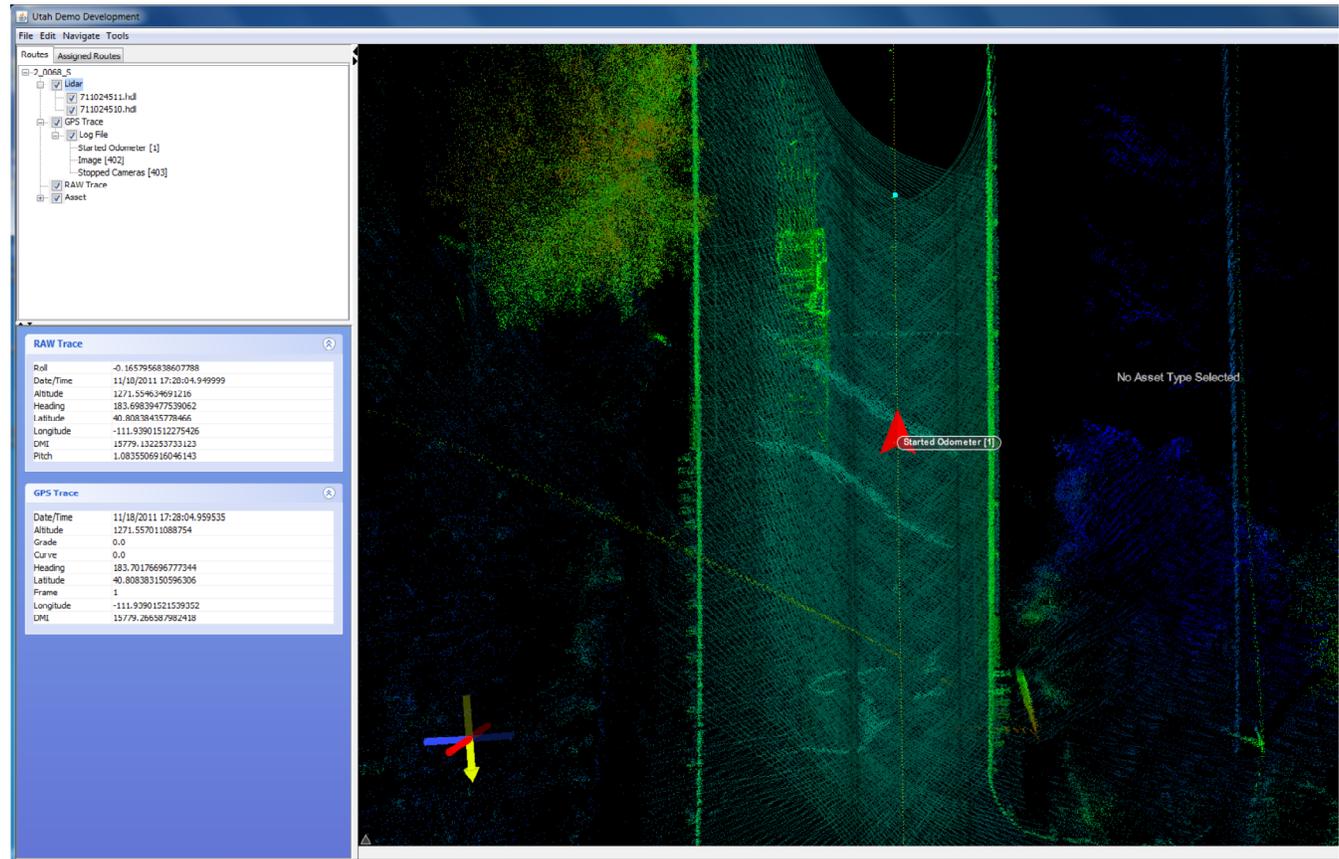
| Code | Name |
|------|-------|
| Y | Y=Yes |
| N | N=No |

Asset Management

Roadside Features or Assets are **ADDED** directly in Roadview LiDAR Viewer.

ADD or create an Asset.

Use the Advance Retreat Controls to move along the route to Identify and tag an asset.



Right Clicking in the Point Cloud (LiDAR) to create the first point of the asset. This also exposes the Asset Selection List. Click on the specific asset that you are **ADDING**. All assets have at least one point.



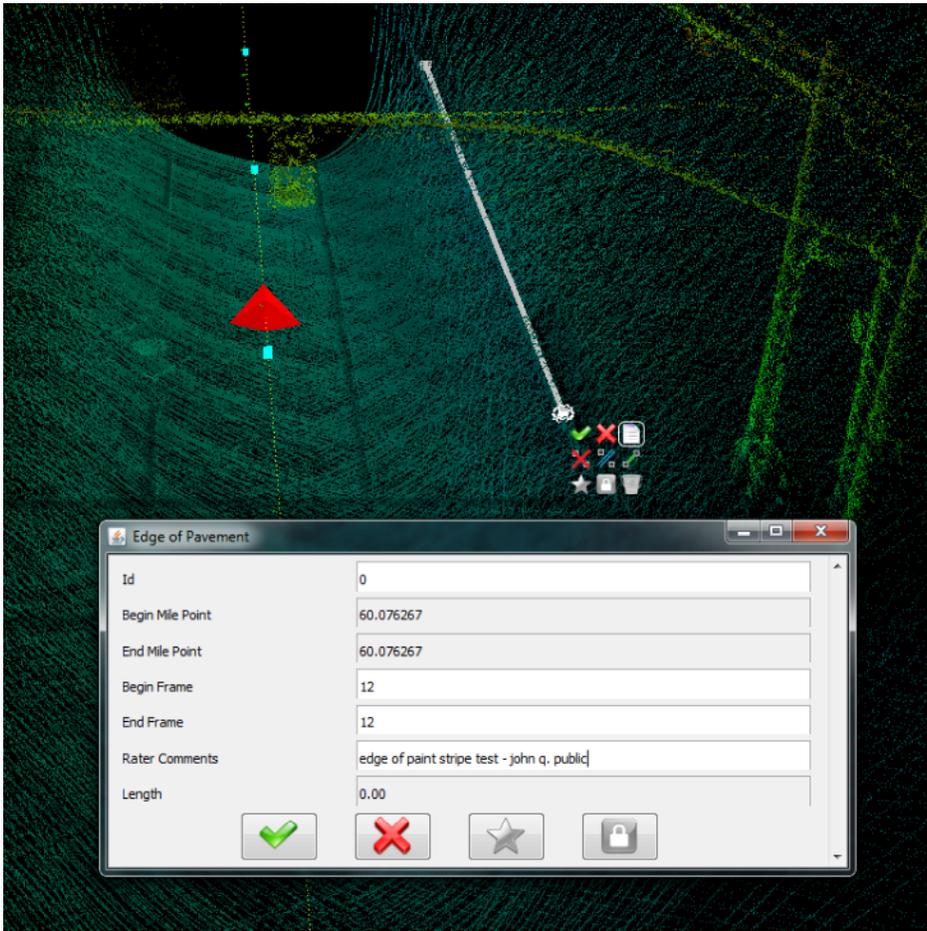
Pressing **ALT** then the **"A"** key **ADDS** points to the selected asset. Additional points are added in the same manner.



Points (polyline vertices) can be moved at any time by selecting the polyline and then clicking and dragging the desired point.



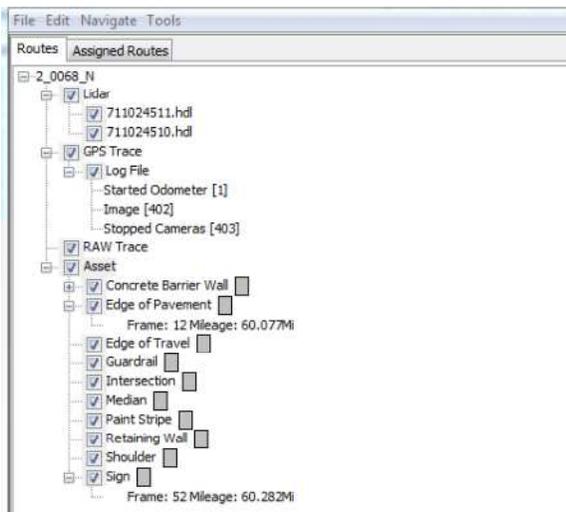
To ADD to the database click on any points to Display the Asset widget tools. A set of Icons in a grid arrangement is displayed. Click on the text file Icon to OPEN the database connection dialog.



Fill in the fields that need comments or input. PRESS the Check button to WRITE to the database.

| | |
|----------------------|-------------------|
| Id | 409571 |
| Begin Mile Point | 60.282272 |
| End Mile Point | 60.282272 |
| Begin Frame | 52 |
| End Frame | 52 |
| Rater Comments | Interstate Shield |
| Location | Right |
| Condition | N/A |
| Sequence | 0 |
| Mount Type | N/A |
| Measured Width | |
| Measured Height | |
| Line Length | 86.991 |
| Legend | |
| Sign Type | |
| Backing | FLATSHEET |
| MUTCD | |
| W | |
| H | |
| Distance from EOP | |
| Height Above Roadway | |

Look at the Routes Tab to expose the Asset subset. The asset is shown under the asset type with frame and mileage.



REPEAT this Process for all Assets. After an asset is entered clicking on that tag jumps the cloud to that location.

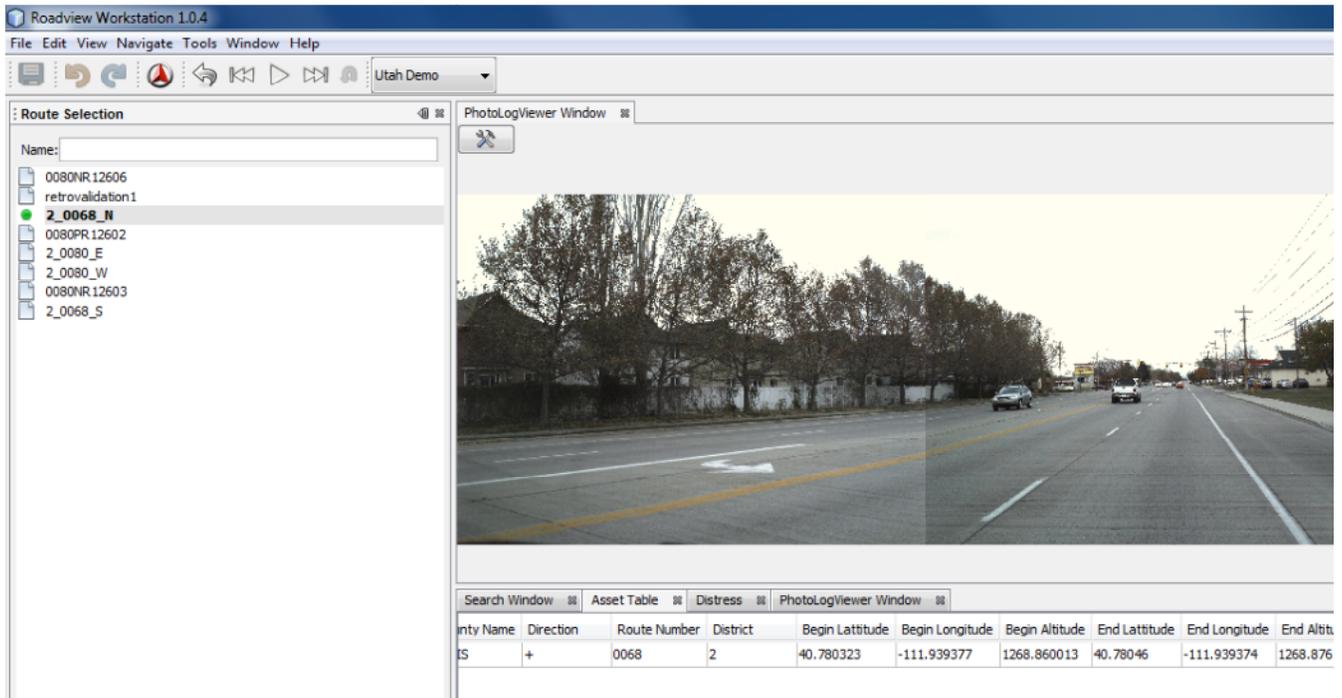
Editing an Existing Asset

Click on one of the asset points to highlight the polyline or polygon.
 Pick a point to edit. Move or adjust the point.
 ADD points as was performed previously.
 Click on the Database widget icon to access the database interface. Apply any text changes.
 PRESS the Check button to WRITE to the database.
 REPEAT this Process for all EDITS

Checking the Asset Table

Switch back to ROADVIEW WORKSTATION. Details are explained in that Help section.

Open the Search Assets Tab.



Searching per individual Asset categories (ie Edge of Pavement) displays the recorded ASSETS in the database.

The search can be further refined by filtering.

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Management Plan for Quality Pavement Condition Data

The screenshot displays the ROADVIEW EXPLORER 5 interface. At the top, it says "ROADVIEW EXPLORER 5" and "SELECT A ROUTE". The main view shows a road with overlaid data points in green, orange, and red. Below the road view is a metadata table:

| | | | |
|------------|--------------|--------------|------------------------|
| CDS_ITEMNO | H-1 | MILEPOST | 23.9576 |
| ISLAND | OAHU | PREFIX | SR |
| YEAR | 2017 | LANE | SIN |
| DIRECTION | + (POSITIVE) | DATE SHOT | 04/16/2017 |
| CNTY_NO | 3 | SESSION NAME | OAHU_SR_H-1_SIN_+ 2017 |
| FRAME | 12027 | | |

Below the table are playback controls including "PLAY SPEED (4X)" and "STEP INCREMENT (1 FRAME)". On the right, there is a map view and location data: "LATITUDE 21.295443", "LONGITUDE -157.822952", and "ELEVATION (FT)".

Hawaii Department of
Transportation (HDOT)

Highways Planning Survey Section

January 2019

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GOALS

HDOT has roughly 2,700 lane miles of roadway on the State Highway System (SHS), which is HDOT's largest asset. To help become better stewards of these roadways, HDOT needs to know the pavement condition, and to know how the condition changes over time. This management plan for quality pavement condition data is intended to help ensure the ability to have current, complete, accurate, and usable data to help sustainably manage HDOT's largest asset.

This plan is also being developed to meet the requirements stipulated by 23 CFR 490 for National Performance Management Measures. Specifically, HDOT will use this plan to collect and report pavement data required under 23 CFR 490.309 and 490.311.

This management plan begins by defining what data needs to be collected, how it will be collected, as well as how it will be reported and maintained after it is collected. Additionally, this plan will cover the process for reviewing and checking the data for acceptance, as well as all of the quality control measures required to assure the data is accurate and complete.

This plan includes a contractor data quality management plan that describes the data collection equipment, calibration, certification, and operator training used to collect pavement condition data at highway speeds for HDOT. This document also includes the contractor's quality control measures conducted before and during the data collection, during the data processing, and the checks to assure data completeness and validity.

OBJECTIVES

Pavement surface condition surveys will be conducted annually across the entire SHS to satisfy HDOT's data requirements for reporting, deterioration modeling, system analysis, funding needs forecasting, making project recommendations, various research activities, and monitoring. Additional Oahu mileages will also be annually surveyed that incorporate approximately 270 ramps in 35 interchanges which, combined with access and frontage roads make up another approximately 100 miles.

The surface condition data will include roughness with the International Roughness Index (IRI), wheel path rutting, environmental cracking, fatigue cracking, potholes, patching, raveling, bleeding, texture, joint spalling, joint faulting, and concrete slab cracking, along with other survey measures to additionally inventory, attribute, and assess the pavement characteristics.

Environmental cracking will include transverse, longitudinal, and block cracking types at low, medium and high severity levels, along with sealed cracks.

The same condition data will also be collected for roughly 2,100 miles of county routes across the entire state's functionally classified roads, collectors and above.

Pavement condition evaluations will be done in conformance with the Strategic Highway Research Program (SHRP) Long-term Pavement Performance Program (LTPP) distress identification manual (Publication Number FHWA-RD-03-031). This pavement condition data shall be further processed and reported in accordance with the Federal Highway Administration (FHWA) Highway Performance

Monitoring System (HPMS) Field Manual definitions. A detailed data dictionary for each data element with definitions and units is included in the appendix.

MANAGEMENT

The Highways Planning Survey Section will be the data steward. They will set the collection requirements and data definitions. They will review and approve the data before publishing the data. They will process the reported data and provide 0.1 mile datasets for use as needed.

The tenth mile data will be used for pavement management section condition index values used in the PMS software. The PMS software will forecast future conditions for making project recommendations, providing program funding requirements, and reporting.

HDOT intends to annually report full-extent Highway Performance Monitoring System (HPMS) pavement data for the entire state federal aid system. The Interstate and Non-Interstate NHS condition data will be used for the national performance measure reporting.

Datasets will be made available for each Island, the Highways GIS web portal, and formatted for the Pavement Management System (PMS) software and Pavement Condition performance dashboards.

Datasets will be made available for various research projects, and other users as needed.

COLLECTION

Collection will be performed annually for the entire SHS in both directions. Pavement condition data is typically collected in 1 lane in each direction and reported in 0.1 mile increments. Additional lanes of data will be collected as needed on the Interstates and multi-lane facilities. Data has been collected in both directions since 2003, typically on a biennial basis.

The pavement condition survey will be conducted by a Data Collection Contractor through a goods and services agreement. The distress data will be collected using a 3D pavement scanner, a laser crack measuring system (LCMS), driven at highway speeds and processed with automated analysis. There will not be any manual data collection for the SHS or other routes annually collected.

High-resolution roadway images and pavement images will also be collected at 500 frames per mile per camera, and synchronized with the distress data. LIDAR data will also be collected and all data records will include the GPS coordinates and the date/times collected.

Data collection will be mapped to the current HDOT state route system at the time of collection, with the route and mileage information provided by the Highways Planning Survey Section.

Additional data collection requirements are included in the appendix.

QUALITY

HDOT has developed procedures and guidelines for managing the quality of the pavement condition data collection, processing and reporting activities since 2003. The guidelines are incorporated into HDOT's Data Collection Contract specifications.

HDOT's Data Quality Management Plan includes three components:

Contractor Qualification & Experience
Contractor Quality Control Plan
Data Acceptance

Contractor Qualification & Experience

Using a qualified contractor is the first component of the pavement condition data quality plan. Our experience has shown that there is a learning curve for both the State and the contractor. We will only be using contractors that have successfully completed similar sized and scoped projects, using the latest 3D laser crack measuring system and automated detection technology.

Interested contractors will be required to have sufficient staff and equipment to collect, process, and report a large amount of data in the defined amount of time. HDOT has used the same contractor since 2003.

The contractor will be required to collect, process, and deliver sample data from designated test sections to assure they are capable of reporting data that has the acceptable level of accuracy, at the required resolution, and with the required precision before starting the contract data collection program. This will assure the reported distress has been identified correctly (accurate), at the appropriate severity level (resolution), and repeatable so the data is consistent across the state (precise).

The selected contractor will be required to develop a work plan prior to data collection and submit their Data Dictionary to assure a full understanding of the collection and reporting requirements.

The selected contractor will be required to establish local control sites and assure all vehicles are working correctly before any data collection begins, and that all vehicles continue working correctly during the data collection period.

Contractor Quality Control Plan

The selected contractor will provide and follow an approved Quality Control Plan (QCP).

The QCP will describe the vehicles and equipment that will be used, including the calibration procedures and copies of vehicle certifications for profile data.

The QCP will describe the qualifications for the staff that will collect and the staff that will process the pavement distress data, including training and experience.

The QCP will describe the quality control practices employed to assure quality images and data. This will describe the daily data collection quality checks. This must include using control sections to verify consistency of the data during the data collection period.

The QCP will describe the data processing processes that will be used to validate accuracy, resolution and precision of the data collected. Accuracy indicates that the distress is identified correctly, e.g., fatigue cracking is identified as fatigue cracking instead of block cracking. Resolution indicates that severity levels are identified accurately, e.g., low severity longitudinal cracking is identified and recorded rather than omitted. Precision indicates that repeated ratings produce reasonably similar reported distress type, severity and extent combinations.

Data processing must include checks of reported data for completeness, validity, consistency with historical data and checks of the Route referencing to assure no gaps, overlaps, or data beyond the route limits.

The QCP will describe the data reporting process and what review will take place to assure the deliverables being submitted are valid and meeting the contract requirements.

The QCP must also describe which corrective actions will be taken if the results of the data checks are not acceptable.

The current contractor QCP is included in the appendix.

Data Quality

When compared with random sample ground truth data it is expected that the reported distress data will be within +/- 15 % accuracy, 90% of the time. The IRI data will be within +/- 5% accuracy, 95% of the time. The rutting will be within +/- 0.1" accuracy, 95% of the time. The GPS location will be within +/- 5' accuracy, 95% of the time. The LRS location will be within +/- 0.005 miles, 95% of the time.

Data Standards and Protocols

Collect process and report data following the listed standards and protocols.

Data Metric

IRI for all pavement types

Protocol

- IRI collection device in accordance with AASHTO Standard M328-14
- Collection of IRI data in accordance with AASHTO Standard R57-14
- Quantification of IRI data in accordance with AASHTO Standard R43-13
- Certification of IRI data in accordance with AASHTO Standard R56-14

Cracking percent for all pavement types

- Collection of pavement surface images in accordance with AASHTO Standard PP 68-14
- Quantification of cracking from pavement surface images in accordance with AASHTO Standard PP 67-16
- Computation of Cracking Percent for each pavement type in accordance with the HPMS Field Manual

Rutting for asphalt pavements

- Collection of transverse pavement profiles in accordance with AASHTO Standard PP 70-14
- Quantification of Rut Depth values in accordance with AASHTO Standard PP 69-14, with the modifications specified in the HPMS Field Manual

Faulting for jointed concrete pavements

- Faulting computed based on AASHTO Standard R36-13 with the parameters specified in the HPMS Field Manual, using data measured with LCMS sensors.

DATA ACCEPTANCE

Contractor will not begin data collection until equipment certification results have been submitted and approved. Upon approval to begin data collection, Contractor will provide a KML file of all lanes and routes driven every day within 24 hours for preliminary acceptance against the approved schedule of collection. An initial imagery data set should be available within two weeks of survey for review. An initial pavement condition data set will be available within four weeks so the data acceptance review can begin and any required adjustments can be made while the data collection and processing is still being performed.

The data will be delivered in multiple formats, as defined in the accepted Contractor workplan, for review and acceptance.

All reported data is expected to be complete, correct and reported in compliance with the data dictionary.

The high-resolution roadway images, the pavement images and the distress data will be installed onto the HDOT data servers and configured for use by the Contractor.

HDOT or its contracted consultant will administer the data acceptance. Data and images will be reviewed for completeness and to check that it is within expected minimum and maximum values. The data will be checked for consistency and compared with historical values.

The distress data will be loaded onto an integrated workstation platform suitable for viewing roadway images, pavement images, and distress data at the same time. The pavement images will also include distress identified in colors indicating severity levels.

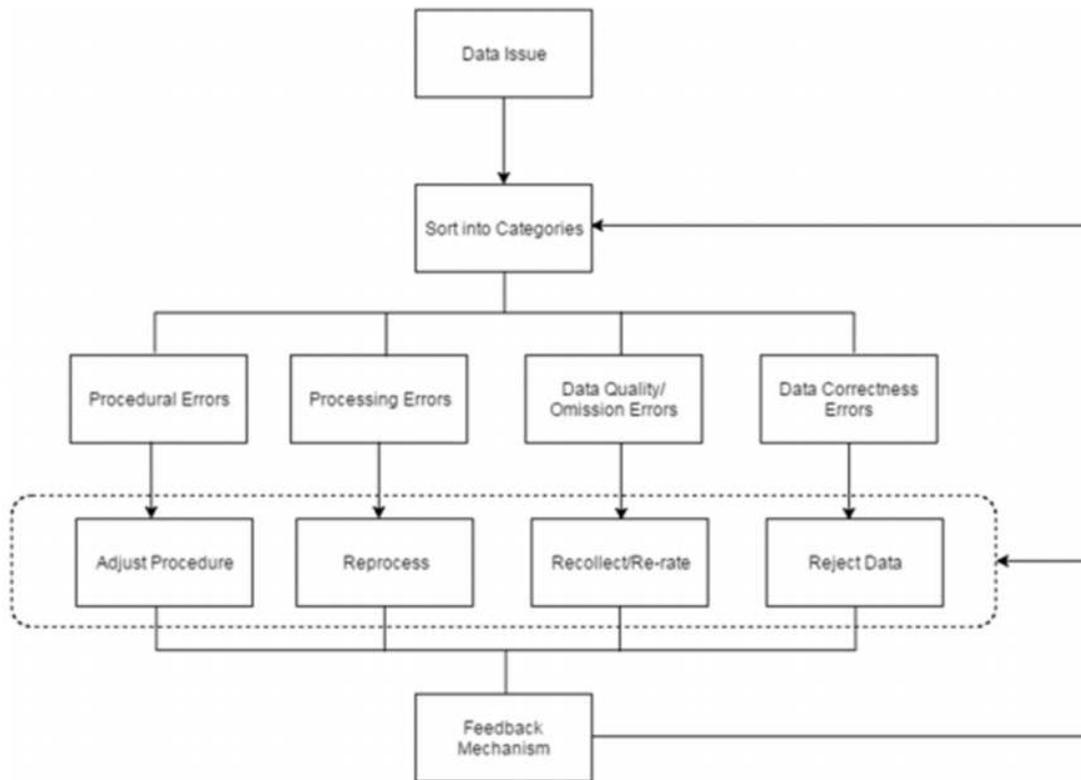
Ground Truth

Random sample sections will be selected and rated for comparison with the reported condition data. This will be from manual on-site surveys and / or review of the pavement and roadway images. The number and location for comparison will depend on the data. This will be a combination of randomly selected sections, and specifically targeted sections. Specifically targeted sections will ensure that sections with distress values of interest are checked. These will include a sufficient number of sections to ensure that all of the various types on distress and severity levels are being reported consistent with the actual distress type and severity.

The contractor will collect data with each of their vehicles on HDOT's control site for verifying IRI data. HDOT will also collect profile data on the contractor's control sites for verifying consistency.

Data Issues

All data issues will be reported to the data collection contractor as identified. The required action will depend on the type of issue following the process diagrammed (copied from FHWA-HIF-18-032).



If the contractor does not meet the requirements of the QCP or if HDOT determines that the collected data does not meet the data dictionary requirements, HDOT can issue a stop work order and require corrective actions per the Contract specifications. This may include reprocessing or re-rating collected data using different criteria, or re-collecting all sections tested since the last checks that showed the contractor was meeting the contract requirements. Multiple violations could result in termination of the data collection contract.

DATA PRODUCTS & REPORTS

An HPMS acceptable full extent report of all required pavement data for all roads by pavement type and a summary pavement report card following the HPMS guidelines for good, fair, poor condition ratings will be available for publication. The IRI, faulting, rutting, and pavement distress data from the pavement condition survey will also be summarized in at least four additional different pavement condition reports needed for the HDOT Transportation Asset Management Plan (TAMP) besides the HPMS reports. The first report should be an overall pavement report card by pavement type with good, fair, poor ratings aggregated by routes on or off the National Highway System (NHS) and conforming to the TAMP. The second report should be done for the State Highway System (SHS), which covers 92 routes, and to be compatible for use by the HDOT Pavement Management System. Finally, a 3D pavement texture map by pavement type with all areas of decreased skid resistance, slabs, potholes, patches and the distresses color coded as low, medium, and high severity shall be delineated and available for publication.

COST

The condition data collection, processing and reporting costs are approximately \$45/mile. Funding for condition data collection is provided by the Highways Planning Survey Section.

RELATED DATA

LIDAR point cloud data is usually collected concurrently with the pavement condition data. This LIDAR data has been used to extract multiple inventory data sets for other HPMS required assets, safety and traffic reports, and other maintenance and TAMP requirements. The LIDAR data is available for internal use through the workstation software.

Roadway images are being collected concurrently with the pavement condition data. These are published for internal use on the Highways GIS web portal, along with historical images.

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Kansas Pavement Condition Data Collection Quality Management Plan

Kansas Department of Transportation

Pavement Management 2018

Version 1.4.2



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Overview/Purpose of Document Questions

Why does this document exist?

Data Collection Process

What do we collect?

How does the collection process work?

How is the process checked?

How is the checking process documented?

Data Processing Process

How does the processing process work? (within non-disclosure limits)

How is the transformation from data to info checked?

How is the checking process documented?

Data Reporting Processes

How is the info converted into the required reports? (again within non-disclosure limits)

How is the reporting process checked?

How is the reporting process documented?

Future Steps

Overview/Purpose of Document

Why does this document exist? – it is required (and not a bad idea)

The Kansas Pavement Condition Data Quality Management Plan was completed largely to meet a federal requirement to have such a document. It is also probably a good idea to have this information documented both for succession planning purposes and to broaden the understanding of how the data is collected, processed, and reported. The layout of the document follows three basic parts of the process. The first section is collection of data. The second section is processing. And the third section is reporting. Within each of these sections are explanations about what is done, how it is done, how it is checked, and how those checks are documented.

Following submittal of the original version of this document, FHWA recommended changes that included adding Tables 1 and 2 showing quality control activities before and during collection, adding a description and process to show that KDOT was getting reasonable pavement data (see Data Reporting Process and Table 3), and more detail on checks and fixes to data collection when problems occur (see the Troubleshooting Appendix).

Data Collection Process

What is collected? – location information, forward images, longitudinal profile elevations, and FIS files with proprietarily stored information about intensity and relative elevations for the pavement surface.

Pavement condition data collection is not widely understood, as many people think that the process involves taking a vehicle out on the road and returning with pavement surface attributes like International Roughness Index (IRI), and rutting, and cracking. However, none of those attributes are directly measured. Instead, the systems have fairly limited types of measures they make and record that can be processed to create measures such as IRI, rutting, faulting, cracking, etc. This section describes the data the system actually collects and how it is/can be checked to see that the collection process is being done properly and within reasonable tolerances.

KDOT's Data Collection Vehicle

- 2012 Ford E-350 XLT Van
- Pavemetrics Laser Crack Measurement System
- Dynatest 5051 Mark III/IV Road Surface Profiler
- Mandli DVX and RoW Imaging

KDOT Data Collection Personnel

Bureau of Construction and Materials

Pavement Management Unit

Pavement Evaluation Section

- Pavement Evaluation Specialist
- 3 Trained Operators on Staff
- 1 Seasonal Operator

How does the collection process work? -- users supply referencing data, the systems collect linear and spatial movement, measurements of light reflection intensity and measurements of relative elevations.

Collection of pavement condition data begins with a list of what needs to be collected, an appropriately equipped vehicle, and operator(s). The list is generated by office staff to include all National Highway System Routes, all additional State Highways maintained by KDOT, and HPMS sample locations supplied by KDOT Transportation Planning. The configuration of the data collection system is also checked against established settings and per manufacturer recommendations and calibrations. Table 1 shows Quality control activities conducted before data collection. Table 1 lays out the obvious steps of determining what locations to collect, what to name those locations, verification that equipment is available to collect that data, and checks that equipment is configured and working correctly.

Table 1 - Quality Control Activities Before Data Collection

| Item | Quality Expectations | QC Activity | Frequency |
|-------------------|----------------------|--------------------------------|---|
| All Pavement Data | Completeness | Produce Route List | Once, prior to data collection |
| | | Define equipment configuration | Once, prior to data collection |
| | | Verify equipment configuration | Once, prior to data collection; Also conducted after any equipment changes |
| | | Equipment calibration | Once, prior to data collection; Also conducted after any equipment changes and before each day's collection |
| | | DMI calibration | Once, prior to data collection; Also conducted after any equipment changes |

Before data collection each day, operators evaluate the environment, vehicle, and collection components to determine if collection can proceed. Table 2 shows quality control activities conducted during data collection. How to perform most of these checks are in the vendor (Mandli Communications, Inc.) supplied Kansas Pavement Collection System User Manual Dated March 7, 2013. Temperature must be in the vendor specified range, the vehicle must be sound with appropriate tire pressures and all the equipment securely and properly connected both externally and internally. The vehicle must have the equipment to collect and store the relevant data and control the process plus to allow for the operator to input necessary information. The operator needs to supply some basic information about what they plan to collect. Typically, this is done using a preselected route and an

indicator if they are collecting in a counting up or counting down direction. The routes are preloaded and named following a standard reference with county, route prefix, number, and suffix and the begin and end county milepost. The operator can override the milepost if they are not starting at the begin or end of the route within the county. Once collection has started, systems within the vehicle are collecting GPS and distance measurement to keep track of location. The forward and downward cameras are being triggered by a wheel encoder based on distance, and the Road Surface Profiler (RSP) is triggered based on time. In Kansas, typical data collection is performed on Monday through Thursday. At the end of a collection week, the data is transferred from the vehicle to the Pavement Management System Unit office for processing. The processing process is described in a later section. Table 2 provides a tabular form of the checks that occur during the collection process.

Table 2 - Quality Control Activities During Data Collection

| Deliverable | Quality Expectations | QC Activity | Frequency |
|-------------------|----------------------|---|----------------------------|
| All Pavement Data | Safety/Efficiency | Mechanical Inspection | Daily |
| | | Preventive maintenance program | According to Program |
| | Completeness | Verifier report | After each Route |
| | Accuracy | Subsystem checks (sensors, computers, software) | Daily |
| | | Real-time quality monitoring (monitor error codes, images, and data streams during collection) | During Active Collection |
| | | Verifier report and KML | Daily |
| | | DMI calibration | Monthly and/or tire change |
| | | Check environmental conditions (dry pavement surface, temperature within equipment operating range) | During Active Collection |

How are the data collection processes checked? -- user supplied info is not really checked until the reporting process; GPS data is not checked other than that the system is collecting data and the coordinates provided are within bounding limits; linear referencing is checked by a periodic calibration process, the encoder is checked also through a periodic calibration process, intensity data and the

elevation measurement units are sent back to the manufacturer each year for service, each week height calibrations are performed on the RSP, and the RSP is certified annually by the equipment vendor.

Operators choose the route information to start the collection process. Methods to verify they selected the right route, are incrementing the linear referencing correctly, and are reasonably close to the correct begin and end points could be done with software, but historically these checks have not been needed or done. The driver is also an important piece of the data collection process. Both operators and drivers are trained to perform the necessary checks before collection, input the data needed to collect, monitor the computers during collection, maintain maps and logs, and drive to get good pavement data.

The GPS data is important but has not been checked historically other than relative to the operator supplied location, the GPS locations are reasonably consistent. The system contains an Inertial Measurement Unit as well as the GPS. During collection, the system monitors the GPS data and the IMU takes over if the GPS is not meeting established accuracy requirements. As well as the system monitoring the GPS data, each day's runs are reported back to the Pavement Evaluation Specialist, Pavement Management Engineer, and vendor staff through an email that includes status information about the runs from a verifier program and kml files that show where the data was collected. If the GPS data is not reasonably correct, the kml files do not show up on maps correctly and so KDOT would know that something was not right with the GPS data. GPS data becomes more important with the process stipulated to remove bridge data from a state's report. KDOT is working on a conflation process that will more consistently place the pavement data from year to year than relying on the linear distance alone.

The linear measurements are a function of a lot of variables and do change with tire wear and pressure and other influences. To keep the linear measurements in check, periodic trips to a known measured site are made and a procedure to calibrate the distance measure is followed. The calibration process results in an adjustment factor being stored in the system and then used for collection until a new calibration is performed. If the operators question the linear measurements while in the field and a long way from the calibration site, they know to look for locations with presumed distances to perform a calibration. Kansas has many county roads on the Public Land Survey System (PLSS) one-mile grid, so finding a location to use to check or calibrate can be done in many places. The calibration process updates both the DMI and the encoder used for linear distance measurement.

Finally, the RSP is "certified" by the vendor as part of annual maintenance on the vehicle. See Figure 1 for sample. They basically follow the process outlined in AASHTO R-56 and provide an annual certification to KDOT. The location they use is one that is also used for the vehicles that collect data in many other states. On a daily basis our operator/driver performs the manufacturer recommended bounce, block, and height tests to check that the height measurements are reasonable and that the accelerometers are reacting to vertical movement. These tests are described in the manufacturer's documentation. We do not record any of the information from the block test, but simply use it as a pass/fail to continue with collection. The bounce test is recorded and are transferred from the drives along with the other data collected each week to the processing computers in the Pavement Management System Unit office. Height tests for the LCMS are stored in the data file (xml) generated in the data processing step, so these values are available for future reference.

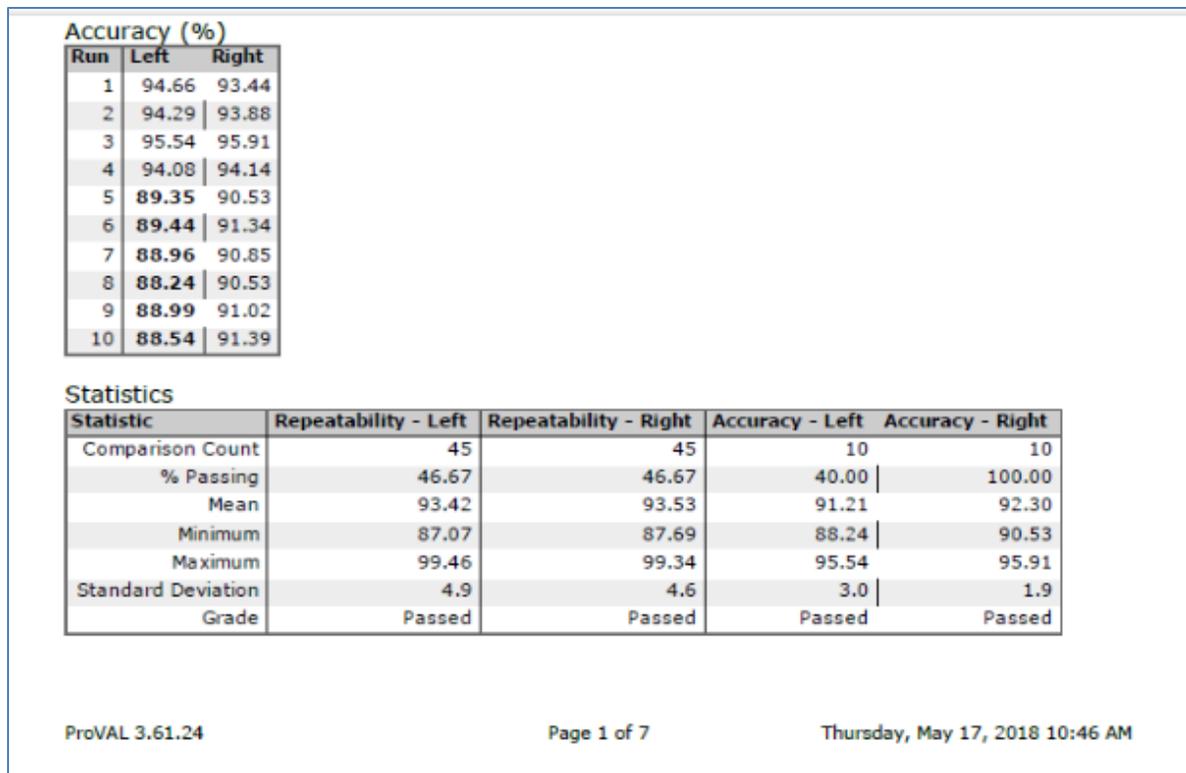


Figure 1 - Annual Profiler Certification Letter Excerpt

How is the checking process documented?

KDOT has quite a bit of documentation of various checks of data quality, but the documents are simply part of the collection process not specifically targeting quality documentation. These documents include, outputs from the verifier that is run at the end of each route that is collected. This verifier checks and cross-checks a lot of the information that was collected and provides a quick color-code of Green/Orange/Red to give the operator feedback at the conclusion of each collection run. At the end of each day, these verifier reports and the aforementioned kml files are emailed back to the Pavement Evaluation Specialist, Pavement Management Engineer, and Mandli Communications customer support staff. Thus, every run and every collection day is a form of checking that the system is collecting data as expected. Figures 2 and 3 respectively show the text from part of a verifier daily summary and the kml file on a Google Map showing the locations collected. The verifier is pretty simple to follow. If the route shows as green, everything is good. If it is orange or red, the operator will investigate the concern and the appropriate response. The example in Figure 2 shows a route that was red due to a “Frame Count Mismatch”. The operator likely looked deeper to determine that for a fairly long route, getting 5153 Front images and left images but only 5152 downward (LCMS) images is not really a concern, so they kept the data and went on to collecting other routes. We train our operators to make these kinds of decisions. However, we also provide the troubleshooting appendix of this document to assist the operators and to help with consistency in how issues are resolved. If the operator cannot independently make a determination, they call the Pavement Evaluation Specialist, the Pavement Management Engineer, or vendor customer service at Mandli Communications for support.

Verification done by digilog on Tue 05/08/18 05:12 PM
22 Routes Reported, 21 of which are Good.
223989 Files, 384757MB

008U0005400S0EB - 1 ERROR (last checked 05/08 11:42)

15462 Files, 26523MB
GPS 5153 frames (302KB) performing Standard Checks, Spacing 1.000ft
RSP (34555KB) performing Standard Checks, vs. Log Distance 0.1%
RAW 32606 points (2197KB) performing Standard Checks, Positional Acc 3.000m (2.00%), Vertical Acc 3.000m (2.00%), Fix Mode (1.00%)
Log 05/08/2018: 5154 frames, 0.0000-25.7730mi performing Standard Checks
GPS Fix Modes: RTCM DGPS=100.0%
Front(5153), Left(5153), LCMS(5152) (15458 files, 26487MB) performing Standard Checks
--> Frame Count mismatch

008K0025400S0EB - Verified 05/08 08:57

10202 Files, 18448MB
Log 05/08/2018: 3400 frames, 0.0000-16.9979mi performing Standard Checks
RSP (22793KB) performing Standard Checks, vs. Log Distance 0.1%
GPS 3400 frames (199KB) performing Standard Checks, Spacing 1.000ft
RAW 26138 points (1761KB) performing Standard Checks, Positional Acc 3.000m (2.00%), Vertical Acc 3.000m (2.00%), Fix Mode (1.00%)
GPS Fix Modes: RTCM DGPS=100.0%
Front(3400), Left(3400), LCMS(3398) (10198 files, 18424MB) performing Standard Checks

008K0025400S0WB - Verified 05/08 01:35

10157 Files, 18523MB
Log 05/08/2018: 3385 frames, 17.0500-0.1234mi performing Standard Checks
GPS 3385 frames (198KB) performing Standard Checks, Spacing 1.000ft
RAW 25917 points (1746KB) performing Standard Checks, Positional Acc 3.000m (2.00%), Vertical Acc 3.000m (2.00%), Fix Mode (1.00%)
RSP (22698KB) performing Standard Checks, vs. Log Distance 0.1%
GPS Fix Modes: RTCM DGPS=100.0%
Front(3385), Left(3385), LCMS(3383) (10153 files, 18499MB) performing Standard Checks

Figure 2 - Sample Verifier Output

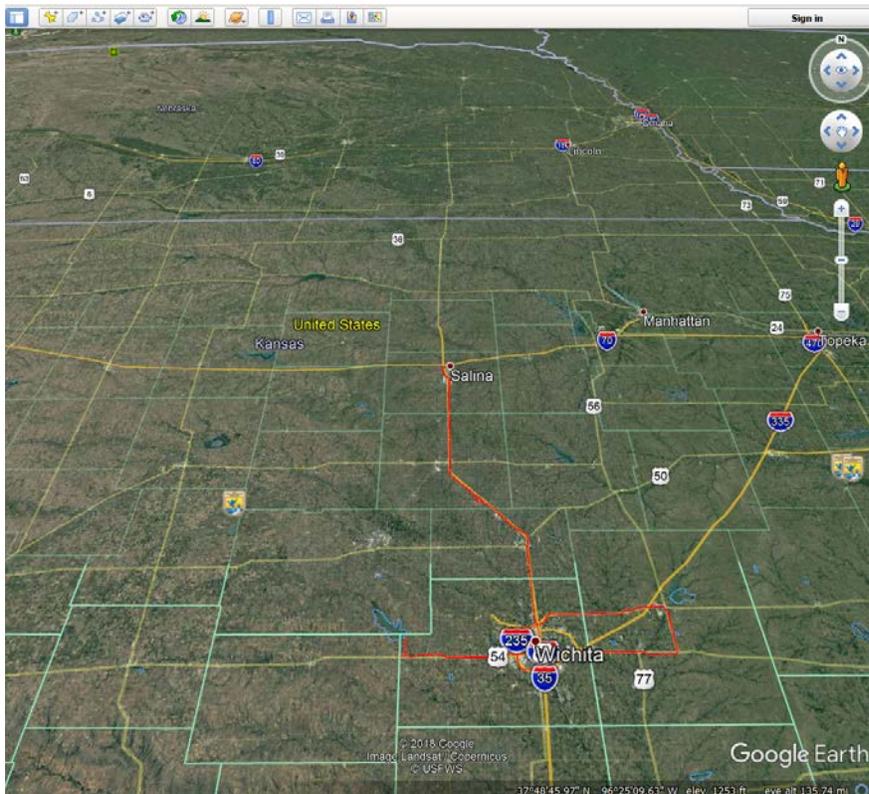


Figure 3 - Sample kml file from collection in red shown in Google Earth

Data Processing Process

How does the processing process work? (within non-disclosure limits) – A lot of this processing step is a black box to users and some of it is proprietary and cannot be disclosed, but basically the data that was collected as described in the previous section is turned into information in this step.

The transformation from data to information requires quite a bit of processing. Some of these processes are established and well documented. Other processes are proprietary and not publicly documented. The processing for KDOT begins with transferring the collected data from the vehicle to office computers. Next, images are viewed for each route and compared to data collection logs for pavement surface type changes, and visual quality of the forward images. At this point, operator logs from collection are also reviewed and any noted concerns are addressed such as collection mileage needs to be reversed, wrong input start/stop, wrong route name, construction, bridge missed, frame mismatch. All of these are possible but very infrequent and can be dealt with before processing. QC Checker software provided by the Mandli Communications is also run on the data at this point. This software provides a report indicating where some typical problems occur such as images with noise, images with excessive cracking in the left wheelpath, images with unusual rutting characteristics, or collection issues such as speed or temperature. Each of these “errors” are indications that something happened that may impact the data quality. The noise issue is usually when road roughness causes the lasers to go out of range, like crossing a railroad track or some manhole covers, or vehicle lean in a tight turn. In most cases, the noise is just accepted, but if it is severe enough recollection is ordered. The excessive cracking in the left-wheelpath is often an indicator of the vehicle being driven too close to the centerline. Again, when the software identifies this issue, the data is reviewed and if necessary recollected. The rutting indication from the QC checker typically occurs when the road has curb and gutter or unusual edge conditions combined with a narrow lane or atypical vehicle position. Again, locations identified as having rutting issues by the checker are reviewed. Use of the QC Checker is documented in the LCMS QC Design 1.0.8 document supplied to KDOT by Mandli Communications in March 2016. When the data all appears to be ready for processing, and the frames where pavement type changes are identified, processing is started. Processing here means to select each of the routes that was run as inputs to a Pavemetrics software that interprets the collected data and generates four output images and a XML data file for each 1/200th of a mile section.

How is the transformation from data to info checked?

There is not a lot of checking of the processing at this level by KDOT. The process itself is proprietary, so most of the checking is simply looking at outputs for reasonableness. KDOT has invested significant effort into looking at these outputs in the form of data and images and worked with the system vendors to better understand the processing and to improve the outputs to better meet KDOT needs. The vendor provides viewing tools that link together all the images and data, so users can view the images associated with the reported data as shown in Figures 4 and 5.

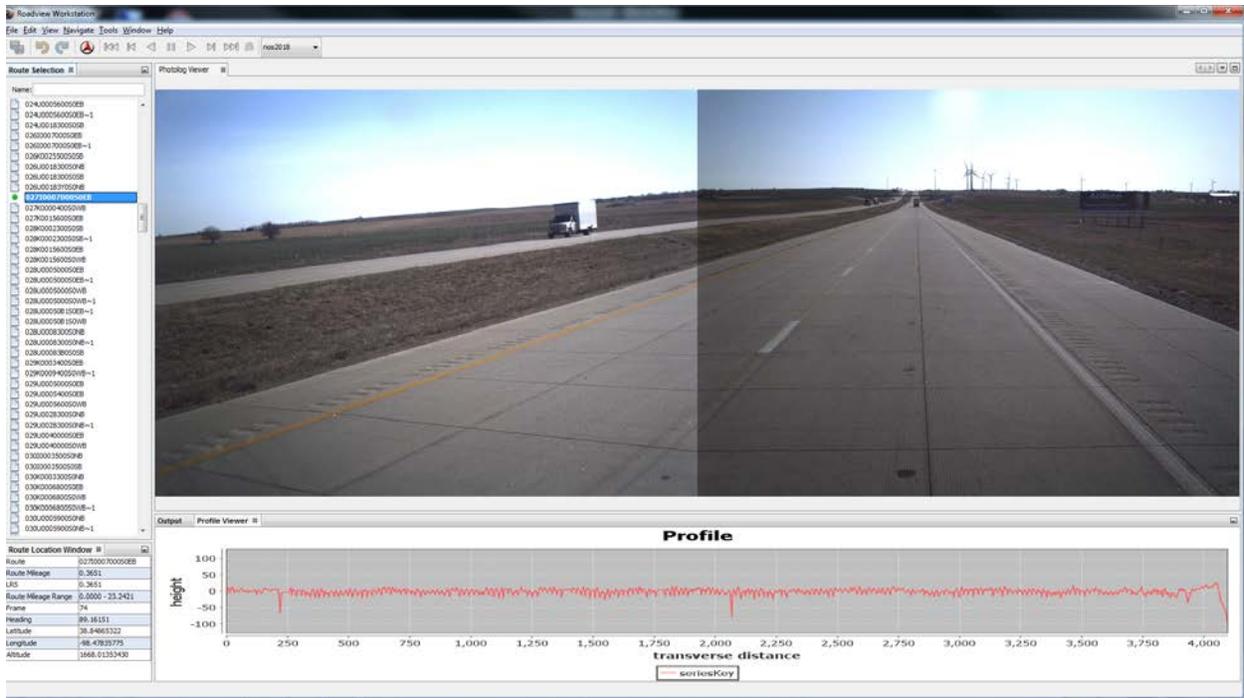


Figure 4 - Forward Image in Workstation

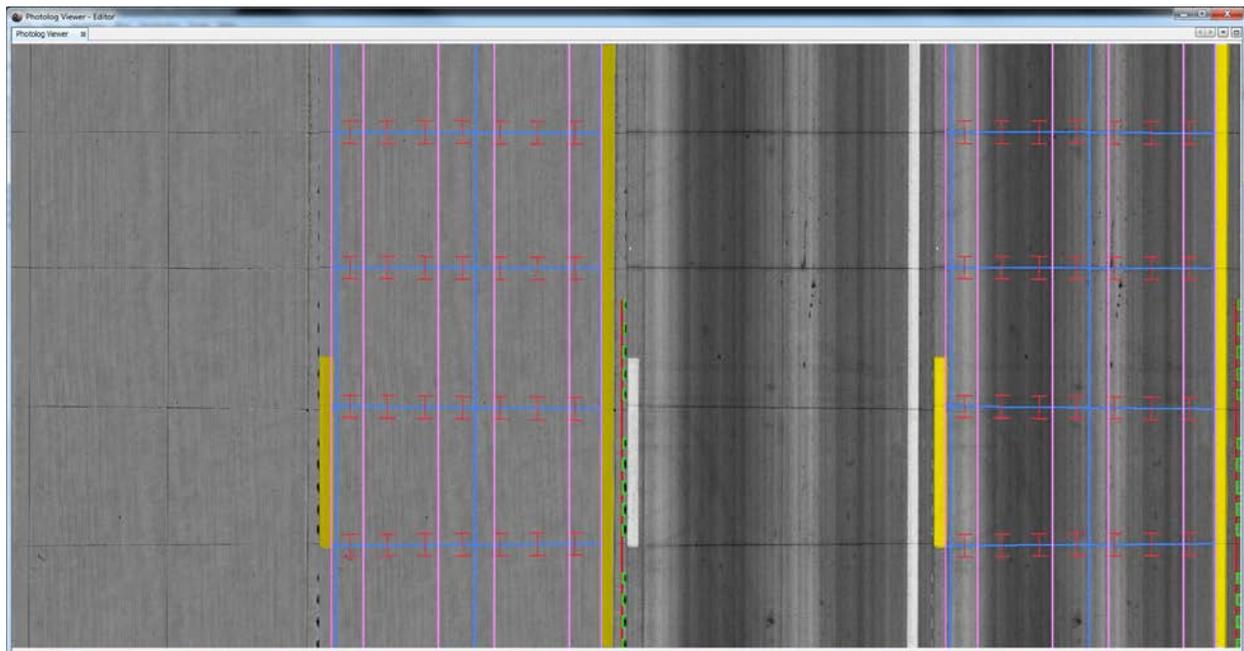


Figure 5- Downward Range and Intensity Images with Overlays

How is the checking process documented?

Again, KDOT spends significant time analyzing and viewing the process outputs but not documenting quality checks. KDOT thinks of the review process more as a cooperative process with the manufacturer and vendor in that any concerns are raised with them, so they can be reviewed and addressed. An

example of this is the minimum temperature at which data collection is allowed. The equipment will not operate below freezing, this was done by the manufacturer because they are not comfortable with the quality of data collected in those conditions. KDOT raised some issues about some of the time-series data that seemed to be inconsistent and the vendor and manufacturer reviewed the relevant data and determined that the questionable data was collected at temperatures above freezing but below about 40 degrees Fahrenheit. This led to the manufacturer discouraging data collection below 40 and the vendor introducing software that checked the temperature before collection and issued warnings to the operators if temperatures are out of bounds. This interaction is not really documented, but partly led to the Quality Checker described above and became part of a system check instead of an external quality documentation effort. This is as good of place as any to point out that systems like the one used by KDOT to collect pavement condition data continue to be refined. Thus, as the systems get better at collecting and processing information, the amount of the year-to-year variability in the data due to the change in the processing versus the amount due to change in pavement surface conditions is unknown. This is an area that KDOT and our partner vendors and manufacturers will continue to monitor and evaluate.

Data Reporting Processes

How is the info converted into the required reports? (again within non-disclosure limits) – two different reporting functions are followed to extract pavement condition information and generate the pavement pieces of the Highway Performance Monitoring System (HPMS) report and the reporting that KDOT does for state management and communication of pavement conditions. Currently this document only covers the reporting related to HPMS.

HPMS requirements were released in a December 2016 document entitled “Highway Performance Monitoring System Field Manual”. That document describes much more than the pavement attributes that must be reported, but the pieces of relevance for pavement condition reporting are 4-90 through 4-115. KDOT uses reporting software developed by the vendor to take the processed data and generate the elements required and described directly in the HPMS Field Manual or the standards it references. Unfortunately, most of this software was developed before the Field Manual was issued, so there is not an all-encompassing “Easy Button”. Currently, KDOT runs reports to generate HPMS data outputs at the finest resolution possible, that is at 1/200th of a mile. This allows pavement type changes, bridge locations, begin/end of routes all to be more precisely reported than just using the tenth of a mile incrementing required for federal reporting. The output reports are imported into a relational database for further processing and checking. Finally, the tenth mile HPMS compliant data is passed to KDOT Transportation Planning for further processing and submittal.

How is the reporting process checked?

The primary checking of the reporting process is a review of time-series data from 5 years of collecting and processing pavement condition data with this equipment and process. The process continues to evolve to better meet federal and state needs. Currently, KDOT is working through a conflation process to better locate the reported data spatially so that it will be consistent over time and so that the federal

process to remove bridges from the pavement data will more likely remove bridge data. KDOT is also working with the vendor to improve some of the reporting tools. The vendor's tool currently over-reports cracking percent on concrete pavements because it includes both transverse and longitudinal cracked slabs where the federal rule only counts transverse cracked slabs. KDOT has also talked to the vendor about improving their algorithms for unusual concrete joint configurations like 6x6 slabs. See Figures 4 and 5 for an example. The vendor is also reviewing their interpretation of the asphalt percent cracking based on feedback from KDOT. While this is not specifically process checking, it shows that KDOT pays attention to the data at all levels and constantly strives to improve it to meet our needs.

How is the reporting process documented?

KDOT Pavement Management is not big on documentation for the sake of documentation. However, KDOT has some checks to the overall process performed early in each year's collection process. To satisfy federal requirements for a "Data sampling, review and checking process," KDOT proposes to collect the Kansas Turnpike data very early in the collection cycle and compute median values for IRI and rutting in northbound and eastbound sections. These statistics will be compared to the prior year's data +/- 10% (20% for cracking since the variable was not publicly (and poorly) defined until December of 2016) to establish Quality Acceptance. It should be good enough for PM2 purposes and better than trying to make automated processes match subjective ratings!

The example of this process which will form the basis of future checks was done with the 2018 KTA frame-based data. The logic is that the Turnpike is being managed in a fashion that the pavement conditions measured do not change much from year to year. So, if the measured pavement condition does not change significantly from one year to the next, the data quality will be considered okay (at least it is consistent). An example of this comparison using the 2017 and 2018 data is in Table 3. If this test fails, KDOT will evaluate individual county turnpike data (for instance using northbound I-335 in Osage County and eastbound I-70 in Leavenworth County). This will be a similar check to the whole KTA, but easier to determine why disparities exist. If this check also fails, KDOT will consult with the Kansas FHWA Division Office to determine the cause for these discrepancies and will not use the data for HPMS reporting until the deviations can be documented and explained. Like much of this process, this check will need to be refined over time to address locations where actions are performed, maybe remove bridges and other known anomalies, eventually include conflation prior to the comparisons, etc.

Table 3 - Example KTA Median Values Comparison for Quality Assurance Screening

| | KTA Inventory Direction Miles | Median Avg IRI | Median Avg RutVal | Miles of Zero CrkgPct | Median Avg non-zero CrkgPct |
|---------------------------------------|-------------------------------|----------------|-------------------|-----------------------|-----------------------------|
| 2017 values | 224.132 | 42.9 | 0.097 | 175.057 | 7.131 |
| Acceptable Range for 2018 | | 38.6 – 47.2 | 0.087 - 0.107 | | 5.705 – 8.557 |
| 2018 values | | 42.8 | 0.106 | 173.14 | 7.062 |
| | | | | | |
| Osage 2017 values | 10.524 | 43.9 | 0.090 | 7.704 | 4.109 |
| Osage Acceptable Range for 2018 | | 39.5 – 48.3 | 0.081 -0.099 | | 3.287 – 4.931 |
| Osage 2018 values | 10.549 | 51.5 | 0.102 | 7.029 | 3.822 |
| | | | | | |
| Leavenworth 2017 values | 16.481 | 34.5 | 0.092 | 15.046 | 5.374 SMALL SAMPLE |
| Leavenworth Acceptable Range for 2018 | | 31.1 – 38.0 | 0.083 – 0.101 | | 4.299 – 6.449 |
| Leavenworth 2018 values | 16.5 | 35.9 | 0.101 | 14.925 | 7.759 |

This table shows that using this screen for data quality would have been met had it been in place in 2018. That is, the 2018 average values for the turnpike for IRI, Rut Value, and Cracking Percent were within 10% (20 for cracking) from the 2017 values. While this alone only shows consistency in the collected data from one year to the next, consistency in automated data should really be the goal to get quality over time. The next step towards quality is to determine how much of the variability in the data from one collection cycle to the next comes from changes in the pavement surface (what we really want to know) versus other factors like improvements in the collection system or process, equipment or operator variability, changes in the standards (like a more reasonable standard for cracking), environmental factors, etc. The bottom line is that KDOT will pay attention to the data we are collecting (as we were doing long before we were forced to write a document describing what we do) to meet our needs for quality data and to provide reasonably good data for federal purposes. We will document that we are making the effort to get good data for the federal purposes using the method shown in the table above. Note that the table above also shows that we would have had some additional digging to do if the check would not have passed at the system level as rutting failed for 2018 in the Osage County piece of the turnpike and cracking failed in the Leavenworth piece albeit a very small sample. In both cases, we would have dug deeper and tried to determine how different the 2018 data really is from the 2017 data for those locations and variables. At some point, we would document why they were showing the variability and consulted with the Kansas FHWA Division office.

Future Steps

What will KDOT do to continue to get quality pavement data?

Clearly KDOT recognizes the need for quality data and can take some steps to enhance the effort and to document the effort. Specifically, KDOT will continue to evolve the process to collect the data and process it to meet the needs of FHWA and KDOT. Some of the work needed will be for the vendor to refine the tools they provide for reporting of the data. Other parts of the work will be for KDOT, such as the conflation process to remove much of the spatial error that is currently in the data that should improve the quality of the location of the data relative to the locations of the bridges that get removed. Finally, Appendix A of this document is a troubleshooting guide. At this point, it is largely a framework, but we will attempt to populate it over the next couple of years and see if it becomes a useful tool.

Appendix A – Troubleshooting

This Troubleshooting Guide is intended to both document error resolution procedures and to help users identify data problems with some tools to remediate the problem.

| Problem Occurs During: | Problem is with: | Description of Problem: | Action: |
|-----------------------------|---------------------------------------|--|--|
| Collection System Startup | Collection Vehicle | Damaged | Assess and Report to office |
| | | Flat Tire | Check for cause, fix, recalibrate DMI |
| | | Won't Start | Check for cause, check switch at battery, call office |
| | Collection System Computer/Components | Won't Start | Check start up procedure document and repeat process. If still fails, contact the office. |
| | | Does Not Connect | Check network settings for "collection", startup procedure document and repeat process. If still fails, contact the office. |
| | | Gives Error Message | If known error and resolution, do it. Else contact manufacturer. |
| | | "Fails" Block/Bounce/Burn | Block: if 1, 2, or 3" heights vary by more than 0.02", reclean lasers, reset to zero to restart block check, and try again. If still fails, call manufacturer. HPMS Height: follow manufacturer's guide for instructions and troubleshooting. Bounce: if file was not produced for bounce test, repeat procedure, if still does not produce file, start over all of the system start up procedures, if that fails call manufacturer. If test completes and IRI values exceed 15, check the surface under the lasers is adequate to perform test. If not, move vehicle, put plate or appropriate surface on the ground under laser and repeat tests. Burn: should cover at least 1 mile of data collection, run verifier to check that all systems are working normally. If GPS accuracy fails, follow manufacturer procedures. |
| | | Does Not Have Route List | Reset the Mac Computer/Mesh. Reload route list from backup file. Contact office. |
| | | Missing or Incorrect Info in Route List | Add or correct route information. Contact office. |
| | | Gives Error Message | If known error and resolution, do it. Else contact manufacturer. |
| Collection System Operation | Collection System Computer/Components | Fog, Temperature, Moisture, or Other Weather Conditions Out of Range | Do not collect |
| | | Is Not Collecting Profile Data | stop collection, recollect route |
| | | Has Significant Linear Distance Discrepancy With End of Route | check tire pressures and recalibrate DMI |
| | | route verifier indicates problems | judge error severity for acceptance -- usually most "errors" are still acceptable. If RSP is missing or significant frame count mismatch, then recollect. |
| | | repeated verifier problems with frame mismatch | Check DMI and wheel encoder. Recalibrate, replace, check and call office. |
| | | route closed or anomalies | note problem in log stating closure, crap on road, questionable weather, etc. |
| | | [iPad/email stuff?] | |
| | | forward images are not aligned | contact office to reset camera positions. |
| | | forward images are fuzzy | clean windshield and contact office to check focus. |
| | | IRI graph does not match seat of pants | stop collection, check all connections and settings, recollect and continue to monitor. |
| | | RSP missing header | note problem in log for correction before processing |
| | | RSP wrong direction | note problem in log for correction before processing and run RSP Reverser |

| Problem Occurs During: | Problem is with: | Description of Problem: | Action: |
|-------------------------------|-------------------------|--|---|
| | | | |
| Processing | Software/Data | Drive appears empty when brought to office for processing | These drives are in Apple format, dummy. Use HFS to extract the data to match desktop drive format. |
| | | HFS gives error message during extract | This is normal after about 600 GB of data transfer. Figure out where the software blew up and restart it from that point. |
| | | RV7 won't load route | This could be a lot of things, so a whole document of possible causes and solutions is available in the Cliff Notes for RV7. |
| | | pvt file does not list all frames | This typically occurs when the pvt editor is started before all files have finished being extracted through HFS. Restart pvt editor or manually determine the appropriate frame ranges and enter them. |
| | | processed images have the measles | Check the pick out module setting |
| | | processed images show potholes | Check the processing settings, mostly the checkboxes. |
| | | processed images have continuous "crack" longitudinally through midframe | This is typically caused by an incorrect overlap setting. Typically, these are set by the manufacturer during annual system checks but can be set by KDOT. See manual for overlap setting instructions. |
| | | AASHTO bands dramatically change from frame to frame | Check the lane mark memory setting. |
| | | Error occurs during LCMS processing | Typically, this a problem with a source file or two. The typical remedy is to rerun just that file through processing. If it fails again, replace the file with the backup version and reprocess. |
| | | Quality Checker Summary File Lists Concerns | The manufacturer provides a manual for what these concerns mean and how to address them. |
| | | Error during copy to network drive | There are lots of files and some are pretty large. Space can be an issue. |
| | | Routes don't load into workstation | Check that the loads are not coming from a mapped drive (should be //titan not H:). Try to reload files. |
| | | Routes don't show up in workstation for collection year | Were they loaded to wrong year? Were they loaded from bad drive location? If so, reload them to right place from right location. If not, check for control (rtf) file and rebuild if necessary. |
| Reporting | Software/Data | TBD | TBD |