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**Review of South Dakota's Non-State Trunk Road Inventory  
and Cultural Inventory  
Study SD2009-02  
Final Report**

**Prepared by  
The Government Research Bureau  
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## TABLE OF ACRONYMS

Acronym	Definition
BIA	Bureau of Indian Affairs
CFR	Code of Federal Regulations
CI	Cultural Inventory
ESRI	Environmental Systems Research Institute
FAQ	Frequently Asked Questions
FHWA	Federal Highway Administration
FSA	Farm Services Agency -USDA
GIS	Geographic Information System
GPS	Global Positioning System
GRB	Government Research Bureau
HPMS	Highway Performance Monitoring System
NRCS	Natural Resources Conservation Service
NSTRI	Non-State Trunk Roadway Inventory
SDACC	South Dakota Association of County Commissioners
SDACO	South Dakota Association of County Officials
SDATAT	South Dakota Association of Towns & Townships
SDBIT	South Dakota Bureau of Information & Telecommunications
SDCL	South Dakota Codified Law
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Department of Game, Fish and Parks
SDDENR	South Dakota Department of Environment and Natural Resources
SDLTAP	South Dakota Local Transportation Assistance Program
SDML	South Dakota Municipal League
TIM	Transportation Inventory Management
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Survey





# 1 EXECUTIVE SUMMARY

The South Dakota Department of Transportation's (SDDOT's) Office of Transportation Inventory Management (TIM) is responsible for maintaining an inventory of more than 82,000 miles of roads. SDDOT maintains approximately 10 percent of this total network. The remaining 90 percent is part of the Non-State Trunk Road System, a system of roads under the jurisdiction of federal, tribal, county, township, and other governing entities in South Dakota.

The Non-State Trunk Road Inventory (NSTRI) is the source database used by SDDOT to report to the Federal Highway Performance Monitoring System (HPMS) and to provide information about the state's road mileage to the Federal Government. The NSTRI also is used in generating published maps for specific clientele groups in the state.<sup>1</sup>

The SDDOT relies on local entities that have jurisdiction over roads to identify needed changes to the NSTRI. This process is coordinated by SDDOT through contractors such as South Dakota Planning Districts and Councils of Government (e.g. Planning and Development District III, South Eastern Council of Governments, Northeast Council of Governments, and First District Association of Local Governments).

Once a year, the Contractor sends a cover letter and map to local officials requesting that they mark and return the map indicating any roadway alignment changes, surface changes, curb and gutter changes, new roads, vacated roads, any changes to city boundaries and any inaccuracies that become apparent during the review of the map. The local official marks changes on the map and sends it back to the Contractor along with documents filed with the county register of deeds office, verifying (if appropriate) that a road has been officially vacated. The Contractor drives newly constructed and realigned roads and collects roadway information, including surface type and curb and gutter changes. The Contractor then forwards that roadway information, along with city boundary maps and documents for vacated roads, to SDDOT. SDDOT adjusts city boundaries based on reported changes. Roads reported as vacated are deleted from the inventory if proper documents are provided. SDDOT creates mileage reports, places them on the Internet, notifies county auditors, and submits the annual certification of public road mileage to the Federal Highway Administration (FHWA) for apportionment of Federal funds.

In addition to the NSTRI, which contains road identification, location, and physical attribute information, SDDOT also maintains a Cultural Inventory (CI) that locates farms, rural residences, airports, and other visual markers along the road.

This final report—authored by the University of South Dakota's Government Research Bureau (GRB)—addresses the following objectives established in the RFP "SD2009-02, Review of SDDOT's Non-State Trunk Road Inventory & Cultural Inventory", which articulates the following research objectives for this project:

- Identify all purposes that use definitions of what is a public road and develop formal definitions for each purpose (i.e. federal reporting, local government responsibilities, hunting access, section line access, etc.)
- Assess the value of NSTRI data fields. Develop a rating system to qualify what is to be maintained in the database.

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<sup>1</sup> For example, the Hunting Atlas published by SD Game, Fish and Parks.

- Assess the value of the CI and identify whether other sources of this information exist.
- Review procedures, costs, and technical difficulties associated with data collection and maintenance of NSTRI and CI datasets. Define optimum data collection frequencies for data fields.
- Develop outreach materials that provide concise, easy-to-read information to local transportation agencies on reporting responsibilities and various data collection protocols.

To address the above research needs and requirements, this report:

- Reviews Federal Code and South Dakota Codified Law (SDCL) to establish the definition(s) and purpose(s) of public roads in South Dakota.
- Incorporates federal guidelines (e.g. HPMS) to provide clarity about what data should be collected about an identified public road.
- Uses qualitative interview and quantitative survey data to evaluate the NSTRI and CI. These data address the knowledge that those interviewed have about the NSTRI and CI and the specific data fields contained in each.
- Provides legal and procedural recommendations for SDDOT based on the aforementioned review of state and federal law and federal guidelines. The recommendations assess whether or not changes to SDCL can help clarify local officials' road-related reporting responsibilities.
- Offers recommendations about what items should be included in the NSTRI and CI, how frequently items in the former should be collected, and whether or not the latter should continue to be collected at all.

The final report is accompanied by two separate deliverables that are required in SD2009-02, "Review of SDDOT's Non-State Trunk Road Inventory & Cultural Inventory". The first is an educational brochure that can be provided by South Dakota's Local Transportation Assistance Program (SDLTAP) to local road stakeholders in South Dakota. The second is a PowerPoint presentation—also to be used by SDLTAP—to educate local road stakeholders about the NSTRI and the process by which public roads can be identified, reported, and vacated in South Dakota. Both of these deliverables address specific findings from the larger research effort documented in this final report.

## **1.1 Assessing "Purposes and Definitions" for Public Roads in Federal Code and South Dakota Codified Law**

23USC§101(a)(27) defines a public road as a "road under the jurisdiction of and maintained by a public authority and open to public travel." Federal Code further highlights a series of potential purposes for public roads and in other sections defines these public roads. These include roads that are part of the Interstate System (23 USC§104(b)(4)), Recreational Trails (23USC§104(h)), Forest Development Roads and Trails (23USC§202(a)), Public Lands Highways (23 USC§202(b)(1)), Park Roads and Parkways (23 USC§202(c)), Indian Reservation Roads (23USC§202(d)), Defense Access, Replacement, Maneuver Area, and Transporter-Erector Routes (23USC§660.507(a-g)), and Refuge Roads (23USC§202(e)).

SDCL is clear about a broad purpose for public roads: they are defined under SDCL §31-1 to be any way or place that is for the purpose of vehicular travel. The purpose of vehicular travel—no matter the reason for that vehicular travel—is the all-encompassing purpose that determines what

constitutes a public road in South Dakota. Section line roads in South Dakota are particularly important to note as being classified as public highways.

The federal and state definitions of public roads can be incorporated into two additional purposes: “documenting road mileage and changes” and “HPMS reporting”, both of which are related to the NSTRI. For the purposes of reporting local road information in South Dakota, federal and state laws together define a public road as any road that can be traveled by the public, without impediment. These roads include unblocked section line roads with visible wheel paths, private development roads that are open to the public, and roads that are minimum maintenance, among others.

## 1.2 Vacating Roads in South Dakota

According to the problem statement in the Request for Proposal (RFP) for SD2009-02 and later interviews with SDDOT and Planning District officials, local road officials (at the county, township, road district, or municipal government level) fail to always follow proper procedures for vacating public roads in the state. Local officials also improperly report to Planning Districts and Councils of Government<sup>2</sup> during the annual NSTRI process that local roads are vacated when, procedurally, they are not. The GRB’s review of the proper procedures for vacating roads in South Dakota suggests a very clear series of steps, outlined in SDCL §9 & §31, that municipalities, townships, and counties must follow to ensure that roads are properly vacated.

Roads are properly vacated in South Dakota when the 10 steps below are followed:

- The governing board or commission receives a valid petition to vacate a road. (SDCL §31-3-6; §9-45-7; §9-45-10)
- The governing body must publish notice of a public hearing on the petition once each week for at least two consecutive weeks. (SDCL §31-3-7; §9-45-8; §9-45-11)
- The governing body or a properly appointed committee must hold a public hearing to receive evidence about the action proposed by the petition. (SDCL §31-3-7; §9-45-9)
- To vacate a road, the governing body must pass a resolution approving the vacation. In the case of a municipal government, a two-thirds vote of all of the members of the governing body is required. (SDCL §31-3-7; §9-45-9)
- The resolution of vacation must be printed in the minutes of the governing body. (SDCL §31-3-9; §9-19-8)
- The resolution of vacation must be published in newspapers as required by law. (SDCL §31-3-9; §9-45-12; §9-19-8)
- A certified copy of the resolution of vacation must be recorded with the register of deeds in the county or counties where the road is located. (SDCL §31-3-11; §9-45-12)
- Vacation of a road within the extraterritorial area of a municipality must be approved by the governing bodies of both the municipality and the county or township. (SDCL §31-3-44; §9-45-13.1)
- If the road to be vacated is on a township boundary line, the governing bodies of each adjoining township must pass a like resolution and order to vacate the road. (SDCL §31-3-13)

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<sup>2</sup> From this point forward, the GRB will refer to the Planning Districts and Councils of Government contracted by SDDOT to collect changes to local roads information as “Contractors”.

- If the road to be vacated is a section line highway, a township or county may not vacate it if it: (1) is part of the state trunk highway system; (2) was constructed by state or federal aid; (3) is within the limits of a municipal corporation; or (4) provides access to public lands other than school and public lands. In addition, a township may not vacate a section line highway that is part of the county highway system. (SDCL §31-18-3)

After receiving notice from the Contractor that a local road has been vacated, SDDOT officials may contact the county register of deeds in the county of jurisdiction to confirm that the vacated road has been reported to the county having jurisdiction over that road.<sup>3</sup> If the vacating notice has been properly filed, SDDOT officials remove the road from the NSTRI.

Roads with shared jurisdiction, roads within road districts, and roads that are proposed to be constructed<sup>4</sup> are governed by specific statutes in SDCL. Even so, the vacating procedures are similar as long as the roads fit the definition of a public road.

Poor stakeholder understanding of the proper procedures for vacating public roads (noted in more detail below in the GRB’s survey analysis) contribute to the improper vacating of local roads in South Dakota. This can be tempered by educating local officials about the proper vacating process. Further, SDCL could be changed in the future to ensure that county register of deeds automatically report to TIM all roads that have been vacated in their jurisdictions.

### 1.3 Establishing Stakeholder Road Definitions

The GRB—between August and November of 2009—conducted 13 interviews with stakeholders that were identified by the Technical Panel overseeing SD2009-02. The GRB separately conducted a survey of 188 public road stakeholders in South Dakota drawn from a list provided by TIM. The interviews and surveys asked respondents to consider the definitions of a public road in South Dakota. The results offer important insights about how public roads are defined in practice in South Dakota.

Participants in the stakeholder interviews provided definitions of public roads that, although not identical to the definition provided in Federal Code, *for the most part*, were not in contradiction of it, either. Most commonly, respondents suggested that public roads were for vehicular travel and that public roads, by definition, are “owned” by public entities.

Survey respondents, however, expressed broad disagreement about the definition of a public road. The survey data suggests that local officials have varying definitions about what constitutes a public road, misconceptions about what fails to meet the criteria of a public road for the purpose of reporting local roads to the NSTRI, and a lack of clarity about the proper procedures for vacating a public road in South Dakota. The educational materials provided separately from this final report provide proper definitions and clarifications for local road stakeholders.

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<sup>3</sup> TIM only contacts the register of deeds if the proper documents are not forwarded to them by the local authority via the Contractors.

<sup>4</sup> Rights of way for constructed roads in South Dakota are often platted. In the remainder of the report, the GRB refers to such roads as “platted roads”.

## 1.4 Subjective Assessments of the Non-State Trunk Road and Cultural Inventories

Interviews and surveys conducted by the GRB assessed the perceived value of the NSTRI and CI to public road stakeholders in South Dakota. Respondents familiar with either the NSTRI or CI also evaluated individual data fields in each of the databases. Finally, the same interview and survey instruments requested feedback about the process by which data for the NSTRI and CI are collected.

### 1.4.1 Non-State Trunk Road Inventory Collection Process and Value of Data Fields

In addition to the NSTRI and CI themselves, the GRB reviewed a series of state and federal documents to inform the survey construction and respondent evaluation process. Those documents included a 2000 report entitled “Update of the Non-State Trunk Road Inventory” authored for SDDOT by GIS/Trans, Ltd<sup>5</sup>, a contractor employed to analyze how best to layer geographic information systems data into the NSTRI, a 2006 presentation<sup>6</sup> that offered additional background about the types of information collected for the NSTRI, the “HPMS Field Manual for the Continuing Analytical and Statistical Database”<sup>7</sup> and the most recent “HPMS Reassessment 2010+ Data Specification”<sup>8</sup> provided to the GRB by TIM, and the FHWA’s supplemental online document entitled “State Practices Used to Report Local Area Travel”.<sup>9</sup> The interview and survey instruments resulting from the review of these documents and from consultations with TIM and the Technical Panel—are included in this report as Appendices C and D.

The interviews and surveys offered a few key findings about the NSTRI collection process and the value of the NSTRI in general. First, few respondents made use of the NSTRI data, even though there was a high degree of awareness about the database. This finding held across both the interviews and surveys. Second, a majority of survey respondents indicated that little time is needed to report local road change information. Similarly, a majority reported no difficulty at all providing the information required for the NSTRI.

Contractors and TIM in particular, however, noted in interviews that various aspects of the NSTRI collection process are time consuming and labor intensive and that local officials find it confusing. These individuals further stated that challenges still persist in the NSTRI process. For example, public road officials still have difficulty in following the procedures for properly vacating roads in their jurisdictions, local officials unevenly respond to SDDOT information requests, and public roads that

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<sup>5</sup> This is the firm’s formal organization name. The report citation is GIS/Trans, Ltd. 2000. “Update of the Non-State Trunk Road Inventory”. Typescript available at [http://www.state.sd.us/Applications/HR19ResearchProjects/Projects%5CSD2000\\_03\\_Final\\_Report.pdf](http://www.state.sd.us/Applications/HR19ResearchProjects/Projects%5CSD2000_03_Final_Report.pdf). Accessed 23 June 2010.

<sup>6</sup> Redman, Harry and Ryan Hartley. 2006. “State of South Dakota Department of Transportation Non-State Trunk Road Inventory. PowerPoint presentation available at <http://66.132.139.69/uploads/sdgis.pdf>. Accessed 23 June 2010.

<sup>7</sup> Federal Highway Administration. 2005. “Federal Highway Performance Management System for the Continuing Analytical and Statistical Database. Available at <http://www.fhwa.dot.gov/ohim/hpmsmanl/hpms.cfm>. Accessed 23 June 2010.

<sup>8</sup> Federal Highway Administration. 2008. “Reassessment HPMS 2010+” Available at <http://www.fhwa.dot.gov/policy/ohpi/hpms/2010/index.cfm>. Accessed 23 June 2010.

<sup>9</sup> Federal Highway Administration. Date Unknown. “State Practices Used to Report Local Area Travel.” Available at <http://www.fhwa.dot.gov/ohim/statepractices.pdf>. Accessed 23 June 2010.

should be reported to the NSTRI are improperly identified (for example, the distinction between roads accessible to the public and private single-residence driveways).<sup>10</sup>

Interview and survey respondents generally were unified about updating the NSTRI: both indicated no need to collect optional information for the NSTRI or to gather NSTRI data at more frequent intervals than currently is required by SDDOT.

#### **1.4.2 Cultural Inventory Awareness and Value of Data**

As part of the interview and survey process, respondents also were asked to provide their perspectives about the CI. The responses to both instruments suggested that public road stakeholders in South Dakota lack awareness about this database. Those reporting awareness of the CI failed to recognize the database under that name and generally had to be prompted with statements about what the database includes before reporting that they were aware of the CI.

Only 15 percent of survey respondents<sup>11</sup>—but a majority of the interview respondents—were<sup>12</sup> familiar with the CI. Those familiar with the CI placed value on the entirety of its contents. For example, present and former staff members of South Dakota Department of Game, Fish and Parks (SDGFP) indicated that the data in the CI had been included in the maps produced for hunting atlases, although it was not presently the practice of SDGFP to do so. One individual interviewed via email from South Dakota Department of Environment and Natural Resources (SDDENR) noted the usefulness of the CI<sup>13</sup> in establishing locations of farmhouses and other rural structures so that septic tank locations also could be more easily located.<sup>14</sup>

Interview respondents also suggested that the data available in the CI is potentially useful for stakeholders at the local and county levels, particularly for purposes such as emergency management. According to TIM, SDDOT also receives numerous requests for information that rely on the data that populate the CI.

Although CI users found value in the database, only 8 of 26 survey respondents (31 percent) professing familiarity with the CI and answering the question indicated that they rely primarily on the CI. Further, 20 of 27 (74 percent) indicated that updates to the CI could occur less frequently than on an annual basis. Finally, only 5 of the 27 survey respondents (19 percent) indicated that their organizations would be adversely affected if the CI were no longer maintained.

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<sup>10</sup> This difficulty exists despite the fact that, as one should note in Section 1.1 above and in the remainder of this report, private roads that are accessible by the public (e.g. they are un-gated or there is no impediment to public travel on them) can be counted as public roads for the purpose of the NSTRI.

<sup>11</sup> For this particular question, 178 responses were collected. Of those, 27 (or 15 percent) indicated familiarity with the CI.

<sup>12</sup> Most of whom were identified for interview by TIM and the Technical Panel because they are recognized road experts in South Dakota, stakeholders in the NSTRI or CI, or both.

<sup>13</sup> The interviewee only expressed this after being prompted that the CI is the formal name of the database. The interviewee otherwise was unaware of the CI; he was, however, aware of its contents and value.

<sup>14</sup> This information is important for individuals working on the Missouri River Watershed Project. That project assesses how aged septic tanks in the Missouri River run-off area may be leeching their contents into the soil, groundwater, and eventually, the Missouri River.

## 1.5 Recommendations

The GRB reviewed the findings from its legal review and interview and survey work to craft a series of recommendations for SDDOT. The following represent those recommendations in the specific areas of defining and establishing purposes for public roads in South Dakota and assessing the value of and process for updating the NSTRI and CI.

- 1. SDDOT should publish and distribute the educational brochure—included in this report as Appendix E—to clarify for public road stakeholders what the definition of a public road is in South Dakota, what the NSTRI process is and how local road stakeholders participate in that process, how roads are to be properly vacated in South Dakota, and how to add or delete roads from the county primary road system.**
- 2. SDDOT and LTAP should present outreach training based on the PowerPoint presentation—included in this report as Appendix F—that includes the information noted in (1) above.**

The survey and interview data from SD2009-02 show that those requested to provide road information for the NSTRI have a number of different definitions about what constitutes a public road in South Dakota. The brochure and PowerPoint presentation provide specific definitions of public roads and the purposes of those roads. Those materials and the associated briefings offered by SDLTAP should help limit, or eliminate altogether, the lack of clarity that local road officials have about public roads definitions and purposes.

The brochure and PowerPoint presentation clarify that maintenance responsibility for highways does not equate to responsibility for reporting to the NSTRI. Maintenance responsibilities for roads in South Dakota are established under SDCL §31-1-4 and spread throughout three different titles: Title 9, Title 11, and Title 31. All three titles must be read in their entirety to find out who has jurisdictional maintenance responsibilities for the road. Also, the legislature has not defined the level of maintenance required by the authority that has jurisdiction over the highway. Consequently, the party that has jurisdiction over a road may be different from the party reporting on a public road. SDDOT should clarify the NSTRI reporting process by educating local public road stakeholders about the importance of reporting the public roads under their jurisdiction, which roads they should and should not report, and the proper procedure for reporting additions, changes, and vacations within their jurisdiction.

To enhance the NSTRI reporting process, the brochure and PowerPoint presentation highlight the purpose for collecting local roads data, define what the NSTRI is and why sending changes to the Contractors is important, explain how the NSTRI can be accessed and used by local officials, and clarify what items are included in the NSTRI. SDLTAP training and outreach efforts should emphasize the value of the NSTRI process and “what is in it” for local road officials when they are asked to report changes to the roads under their jurisdiction.

The brochure and PowerPoint presentation also include specific sections that address proper vacating procedures for public roads in South Dakota. SDCL by itself specifies how to vacate public roads in South Dakota, but the interview and survey data collected during this project suggest that some confusion exists among public road stakeholders about how to properly vacate public roads in the state. This confusion can be mitigated by educating public road stakeholders through the brochure and PowerPoint presentation.

Finally, the brochure and PowerPoint presentation detail how local road officials can properly add or delete roads from the county primary road system. These details were added to the educational

materials at the request of the Technical Panel with the supposition that the brochure—with information about defining and vacating public roads in the state—would be an appropriate venue to convey information about adding and deleting roads.

**3. TIM should include road districts officials in the NSTRI data collection process.**

Public roads that are under the jurisdiction of a formally established road district are likely to go unreported because TIM in the past has not contacted road district officials. Township, municipality, and county officials may assume that because road district roads are not under their legal jurisdiction, those roads should not be reported. To mitigate these reporting problems, TIM should create a list of points of contact for all road districts within South Dakota and include these administrators in subsequent requests for updates and information. Such a step will help ensure that road district public roads are properly identified and updated in the NSTRI.

**4. TIM should modify the data elements of the NSTRI to follow past recommendations and the current “HPMS Reassessment 2010+” requirements. These modifications include deleting data items and combining or deleting data codes, as necessary.**

FHWA reporting requirements indicate that there is little flexibility to collecting required NSTRI items and doing so on an annual basis. The GRB integrated the recommendations from SD2000-03 authored by GIS/Trans, Ltd., the 2006 “HPMS Field Manual”—and related “HPMS Reassessment 2010+” revision—and the GRB’s own assessment about the value of each item in the NSTRI to conclude that TIM delete the “rideability”, “surface condition”, and “year last surfaced” data fields.

Because the “HPMS Reassessment 2010+” requires a series of changes to what is to be reported to the FHWA,<sup>15</sup> TIM should combine the “shoulder type” data codes “Blotter” (less than 1” thick asphalt mix) and “Asphalt” (more than 1” thick asphalt mix) into one code, “Bituminous”. The “surface type” field also should combine data codes “Bituminous Surface-treated” (1” or less) and “Mixed Bituminous” (more than 1” thick) into one code, “Bituminous”. Data codes for “Parking” should be changed to match new HPMS requirements, where 0=not attributed, used for all roads outside of Urban Areas, 1=Parking allowed on one side, 2=Parking allowed on both sides, and 3=No parking allowed or none available. Finally, TIM should delete the data code “Hilly” in the “terrain” data field. All segments coded as “Hilly” will be converted to “Rolling” except the Black Hills area will be converted to “Mountainous”.

**5. TIM should archive, no longer update, and leave the CI data in a centralized repository.**

The interview and survey data indicate that little is known among South Dakota’s public road stakeholders about the CI. Further, the survey indicates that few public road stakeholders would be harmed by no longer having access to an updated CI. Knowing this, TIM—in concert with the South Dakota Bureau of Information and Telecommunications (SDBIT)—should archive the CI and make it easily accessible via a centralized online repository. The data included in the CI that is least likely to be available elsewhere is found in the most rural areas of the state, in which little significant change is expected. The database thus will remain static, but still a valuable resource for those who need it. No further time or money should be spent by SDDOT, however, to regularly update the CI. TIM or SDBIT should include on the front page of the online CI archive a disclaimer that reports that the information included in the CI is no longer updated.

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<sup>15</sup> Please see Appendix A for a full list of required changes.



Should existing CI users<sup>16</sup> wish to have access to more updated CI-like information, TIM should direct those users to a private vendor such as TeleAtlas. Further, the Federal Government is a resource for a good deal of this data (in particular, the U.S. Department of Agriculture, the U.S. Census Bureau, and the U.S. Geological Survey) and relationships between state and Federal agencies in South Dakota can be leveraged to make use of US Department of Agriculture access to the TeleAtlas and Intermap private vendor resources. Between private vendors, Federal Government sources, and a static CI, existing CI users should have a rich set of resources upon which to continue their work.<sup>17</sup>

**6. SDDOT should be prepared to author legislation to change SDCL §9-45 and SDCL §31-3 to require public entities, in particular: 1) a county register of deeds to inform TIM within 30 days that a public road has been vacated, and 2) a county auditor to inform TIM of transfers of roads among jurisdictions when an organized township is dissolved, or created, or 3) a county auditor or township clerk notify TIM when a township is dissolved, or created.**

TIM officials report that the process of validating vacated roads for the purpose of the NSTRI is complicated by a number of factors including getting vacated road documents from county officials or being notified of transfers of roads among jurisdictions (for example, when an organized township is dissolved and its roads are transferred to the county). This has become a challenge because some county officials willingly provide that information while others do not. When jurisdictions change without TIM being notified or vacated roads go unreported to TIM, TIM personnel must contact county officials to verify transfer of jurisdiction or that a road that has in fact been properly recorded as vacated with the county register of deeds. If the vacation documents are not recorded with the register of deeds, then the road remains in the inventory. One approach to ensuring that vacated roads or transfers of jurisdiction are received by TIM in a timely fashion is to add language to SDCL §31-3-11 and §9-45-12 that requires a county register of deeds to inform TIM that a public road has been vacated in a jurisdiction. The 30-day deadline will ensure timely reporting. Similarly, language could be added to SDCL §31-3-8 requiring County auditors to notify TIM of location, change and vacation of county and township highways, and language could be added to SDCL 9-45-37 requiring city auditors or clerks to notify TIM regarding any opening, altering, or vacating of any streets and alleys. Furthermore, SDCL 31-19-63 and 31-19-64 could be revised to require a public entity that is transferring rights of way to notify TIM of the transfer. Finally, SDCL 8-1-24 could be amended so that when a township is dissolved, the township clerk or the county auditor must notify TIM.

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<sup>16</sup> The number of survey respondents that were even aware of the CI was low (15 percent) and even fewer (5 of 178 respondents, or 2.9 percent) indicated that the CI was currently a primary source of information for them or their organization.

<sup>17</sup> According to Erik Nelson from SDBIT, SDBIT has limited access to the TeleAtlas product called Dynamap. Nelson contends that Dynamap's data for South Dakota is poor and that the CI is a more accurate representation of ground-truth. The GRB, in conversation with Nelson, determined that the CI is relatively static, however, so a lack of updates to the CI likely would have little overall effect on the database's accuracy and value. Source: Interview with Erik Nelson. 10 February 2010.

## 2 PROBLEM DESCRIPTION

The South Dakota Department of Transportation's (SDDOT's) Office of Transportation Inventory Management (TIM) is responsible for maintaining an inventory of more than 82,000 miles of roads. SDDOT maintains approximately 10 percent of this total network. The remaining 90 percent is part of the Non-State Trunk Road System, a system of roads under the jurisdiction of federal, tribal, county, township, and other governing entities in South Dakota. The Non-State Trunk Road Inventory (NSTRI) is a database that contains information concerning the identification, location, and physical attributes of those roads under the jurisdiction of federal, state, local, tribal, and other entities outside the jurisdiction of SDDOT.

The NSTRI is the source database drawn from by the SDDOT to report to the Federal Highway Administration's (FHWA's) Highway Performance Monitoring System (HPMS) and to provide information about the state's road mileage to the Federal Government. The NSTRI also is used in generating published maps for specific clientele groups in the state (for example, the Hunting Atlas published by South Dakota Game, Fish and Parks).

The SDDOT relies on local entities that have jurisdiction over roads to identify needed changes to the NSTRI. This process is coordinated by SDDOT through contractors such as South Dakota Planning Districts and Councils of Government (e.g. Planning and Development District III, South Eastern Council of Governments, Northeast Council of Governments, and First District Association of Local Governments).

Once a year, the Contractor sends a cover letter and map to local officials requesting that the local official mark and return the map indicating any roadway alignment changes, surface changes, curb and gutter changes, new roads, vacated roads, any changes to city boundaries and any inaccuracies that become apparent during the review of the map. The local official marks changes on the map and sends it back to the Contractor along with documents filed with the county register of deeds office, verifying (if appropriate) that a road has been officially vacated. The Contractor drives on newly constructed and realigned roads and collects roadway information, including surface type and curb and gutter changes. The Contractor then forwards that roadway information, along with city boundary maps and documents for vacated roads, to SDDOT. SDDOT adjusts city boundaries based on reported changes. Roads reported as vacated are deleted from the inventory if proper documents are provided. SDDOT creates mileage reports, places them on the Internet, notifies county auditors, and submits the annual certification of public road mileage to the Federal Highway Administration (FHWA) for apportionment of Federal funds.

The NSTRI process presents a number of challenges for public road stakeholders in South Dakota. Ongoing challenges related to maintenance of the NSTRI include:

- There is no well understood definition of what constitutes a public road to support the purpose of the NSTRI. Lacking such a definition, local road officials may incorrectly report roads under their jurisdiction(s). These road reporting errors can be one of two main types: either local road officials fail to report a public road because they have not properly identified it as a public road; or, they have reported a public road when, in fact, it is not one.<sup>18</sup>

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<sup>18</sup> While the scope of this project is public roads in general, the remainder of the report will make clearer that the purpose of reporting to the NSTRI requires a specific interpretation of what constitutes a public road.

- Proper vacating procedures are not always followed or may not be well understood. Failing to properly vacate a road may complicate the NSTRI updating process because, while local road officials believe that a vacated road should be excluded from the NSTRI, TIM officials only will exclude that information if the road has been properly vacated, which includes the vacated road being recorded with the county register of deeds. South Dakota Codified Law (SDCL) is clear about how roads should be properly vacated by local road officials.
- The jurisdictional responsibility for some roads, especially those on jurisdictional boundaries and primitive section line roads may be unclear. Unclear definitions for jurisdictional boundaries create uncertainty for local road officials about who reports changes to local roads during the NSTRI updating process.
- Some data fields, such as surfacing type, are difficult to observe and report accurately without access to historical records.
- Some data fields, such as surface condition and rideability, vary more rapidly than can be observed with the current survey frequency. The current NSTRI survey frequency—once per year, per HPMS guidelines—already requires resource investment by the Contractor and local road officials. Requesting more frequent updates may be an undue burden on South Dakota’s public road stakeholders.

In addition to the NSTRI, which contains road identification, location, and physical attribute information, TIM maintains a Cultural Inventory (CI) that identifies farms, rural residences, airports, city offices, churches, cemeteries, and other structures visible from public roadways. According to the Request for Proposal (RFP) SD2009-02, “Review of SDDOT’s Non-State Trunk Road Inventory & Cultural Inventory” (hereafter referred as SD2009-02), SDDOT assesses that the CI is difficult to maintain accurately and in a cost-effective manner. It also is unclear what value the CI has for public road stakeholders in South Dakota. It is important, then, to first determine if there is any benefit to the CI database and what the costs are for accurately maintaining the CI versus the benefits adopting alternatives to the CI.

SDDOT requested that the University of South Dakota’s Government Research Bureau (GRB) address the above challenges and provide recommendations to SDDOT. The report that follows offers insights about improving the NSTRI collection process. Further, SDDOT asked the GRB to assess the NSTRI and CI databases to determine if some items should be removed from the data collection process. The report that follows makes specific recommendations about what changes should be made. Finally, SDDOT requested that the GRB offer recommendations about whether or not the CI should be updated, amended, or discontinued altogether. The report that follows makes such recommendations. The research objectives in the next section offer more detail about SDDOT’s requirements and the GRB’s approach to addressing each of the project’s needs.

### 3 RESEARCH OBJECTIVES

SD2009-02 identifies five objectives for the proposed research. The GRB has listed below each of these objectives and the steps taken by the GRB to address each research objective:

- 1. Identify all purposes that use definitions of what is a public road and develop formal definitions for each purpose (i.e. federal reporting, local government responsibilities, hunting access, section line access, etc.)**

The GRB conducted a legal review of Federal Code, South Dakota Codified Law (SDCL), the FHWA's 2005 "Highway Performance Monitoring System Field Manual"<sup>19</sup> and the 2008 "HPMS Reassessment 2010+."<sup>20</sup> The GRB also interviewed 13 public road stakeholders in South Dakota and two Federal Highway Administration (FHWA) officials. Finally, the GRB conducted a stakeholder survey to assess the purposes and definitions of public roads in South Dakota. This research strategy was consistent with the idea that definitions of public roads rely on two perspectives. The first is what the law assesses a public road is; the second is what those with jurisdiction or those who gather data on the roads regard as being a public road even though that definition may not fit neatly within a state or federal legal definition. The overall research strategy creates a picture of the formal and informal definitions and purposes for public roads in South Dakota.

- 2. Assess the value of NSTRI data fields. Develop a rating system to qualify what is to be maintained in the database.**

The GRB examined the rating system established in SD2000-03 and authored by GIS/Trans, Ltd. The GIS/Trans, Ltd. rating system was combined with subsequent 2006 "Highway Performance Monitoring System Field Manual", and the related "HPMS Reassessment 2010+". Further, the GRB received guidance from the Technical Panel for SD2009-02 about how the "HPMS Reassessment 2010+" affects the NSTRI and conducted discussions with TIM staff to assess the data fields in the NSTRI and affirm any changes to the database. The GRB also integrated questions about the NSTRI into the previously mentioned interview process. Respondents were asked to identify the most and least useful data fields in the NSTRI and also to evaluate the difficulty of gathering specific NSTRI data fields. Finally, the GRB conducted a survey of 913 public road stakeholders in South Dakota. The sample was identified by SDDOT and the Technical Panel for SD2009-02 during preliminary project meetings and subsequent phone and email discussions. The survey asked respondents to assess the usefulness of items in the NSTRI database.

- 3. Assess the value of the Cultural Inventory and identify whether other sources of this information exists.**

The GRB approached an assessment of the CI in two steps. First, the GRB used the interviews and survey to collect feedback about the inventory. Second, the GRB evaluated public and private data sources to determine if data fields in the CI can be replaced by other available data sources. The emphasis of this effort was on information that is accurate and reliable.

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<sup>19</sup> Federal Highway Administration. 2005. "Federal Highway Performance Management System for the Continuing Analytical and Statistical Database. Available at <http://www.fhwa.dot.gov/ohim/hpmsmanl/hpms.cfm>. Accessed 23 June 2010.

<sup>20</sup> Federal Highway Administration. 2008. "Reassessment HPMS 2010+" Available at <http://www.fhwa.dot.gov/policy/ohpi/hpms/2010/index.cfm>. Accessed 23 June 2010.

**4. Review procedures, costs, and technical difficulties associated with data collection and maintenance of NSTRI and CI datasets. Define optimum data collection frequencies for dataset elements.**

The interview and survey instruments requested respondent feedback about the time, labor, technical difficulty/challenge, update cycles, and costs that stakeholders expend or encounter when asked to update the NSTRI or CI datasets. The GRB analyzed this data to produce findings and recommendations for this report.

**5. Develop outreach materials that provide concise, easy-to-read information to local transportation agencies on reporting responsibilities and various data collection protocols.**

The GRB prepared a color brochure and PowerPoint presentation that provided detailed information about the definition of a public road, the proper process for reporting public roads information to the NSTRI, how to access NSTRI data, how to properly vacate public roads, and the process for adding or deleting roads from the primary county road system.<sup>21</sup> These materials also provide more information about the purpose and value of reporting public roads information to TIM and offer relevant points of contact should local road stakeholders have questions. These deliverables were provided separately from this report in mid-March of 2010.

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<sup>21</sup> This list is not exhaustive, but illustrative.

## 4 RESEARCH TASKS

The GRB addressed each of the following research tasks that were delineated in RFP SD2009-02:

**1. Meet with the technical panel to review the project scope and work plan.**

The GRB met with the Technical Panel for SD2009-02 in mid-June 2009 to discuss the project scope and work plan, clarify project questions, and acquire initial data to begin work on the project.

**2. Identify all purposes using a definition of what is a public road (federal reporting, local government responsibilities, hunting access, section line access, etc). Interview key users (stakeholders) related to each purpose.**

The GRB reviewed Federal Code and SDCL, consulted with the Technical Panel for SD2009-02, interviewed 13 public road stakeholders and two FHWA officials, and conducted a survey with public road stakeholders to craft formal and informal definitions of public roads in South Dakota. The GRB's list of Federal Code- and SDCL-derived purposes, listed in Section 5 of this report, constitutes completion of this task.

**3. Develop a formal public road definition or definitions for each purpose identified in Task #2.**

The GRB used the purposes noted in Task #2, consulted Federal Code and SDCL, and analyzed the 13 interviews and two FHWA interviews to develop definitions for each purpose identified in the same task. The GRB analyzed the data by transcribing each interview from audio files, inputting the interviews into Nvivo8—a qualitative analysis software program—and using Nvivo8 to identify common themes between the interviews. The GRB's findings identified “documenting road mileage and changes” and “HPMS reporting” as purposes related to the NSTRI process.

**4. Review state and federal requirements (HPMS, codes, regulations, statutes, and official opinions) with respect to definitions and define responsibilities (i.e. locating and vacating) of state and local agencies that affect the NSTRI inventory.**

The GRB reviewed Federal Code, SDCL, HPMS reporting requirements, interviews with stakeholders, and survey responses to determine what roles state and local agencies have in locating, reporting changes to, and vacating local roads in South Dakota. In particular—and because of SD2009-02 Technical Panel guidance to do so—the GRB focused its attention on the roles state and local agencies have related to the NSTRI reporting purpose. Section 5 in this report specifically delineates the roles that local road officials, contractors, and TIM have in the NSTRI process. The report also highlights what responsibilities local road officials, county officials, and TIM have when vacating public roads in the state. Finally, the aforementioned training materials—a brochure and PowerPoint presentation—delineate the proper steps that a local road official should follow to make a change to the county road system.

**5. Assess the value of the CI and elements of the NSTRI and formulate recommendations for retention or elimination of the CI and, refinement of NSTRI datasets and data collection frequency. The technical panel will be available to assist with identification of stakeholders as the need arises to conduct interviews.**

The GRB reviewed past research, the 2005 “Highway Performance Management System Field Manual,”<sup>22</sup> and the “HPMS Reassessment 2010+”<sup>23</sup> to clarify what data fields and codes still should

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<sup>22</sup> Federal Highway Administration. 2005. “Federal Highway Performance Management System for the Continuing Analytical and Statistical Database. Available at <http://www.fhwa.dot.gov/ohim/hpmsmanl/hpms.cfm>. Accessed 23 June 2010.

be included in the NSTRI. Those steps alone resulted in the elimination of three NSTRI data fields and the combination of data codes in three other NSTRI data fields. The GRB also interviewed 13 public road stakeholders in South Dakota, two FHWA officials, and conducted two discussions with Technical Panel members<sup>24</sup> to address each of the NSTRI and CI data fields. The GRB for the same purpose also conducted a survey with a list sample of 913 stakeholders identified by SDDOT, TIM, and the Technical Panel. The survey returned 188 responses. Combined together (past research, current guidelines, and interviews/surveys), the GRB concluded that the NSTRI should remain unchanged, except for the data field and code changes required by the FHWA. The interviews and surveys also prompted the GRB to recommend that the CI be archived and no longer updated by TIM. These recommendations are detailed in Section 6 of this report.

**6. Prepare an interim report documenting definitions of purpose for dataset elements, review of relevant legal requirements, results of interviews, ratings of NSTRI inventory elements based on value, assessed value of the cultural inventory, and recommendations for refinement of inventory and data collection cycles.**

The GRB authored an interim technical memo delivered in SDDOT preferred format to the Technical Panel on the 22 December 2009 and subsequently met with the Technical Panel in early January 2010 via video teleconference.

**7. Identify prospective needs for legislation and formulate recommendations. This final report offers guidance about gaps in current understandings of definitions and process by those that provide the required information and how those gaps might be addressed through educational outreach materials and clarifications of procedure.**

The GRB reviewed SDCL to determine if changes are required to ease TIM's efforts to update the NSTRI. The GRB found that no immediate changes to SDCL are required; instead, TIM and the South Dakota Local Transportation Assistance Program (SDLTAP) should focus their attention on educating local road officials about how to 1) define public roads, 2) report those roads, and 3) vacate those roads. Because TIM expressed concern with regard to challenges associated with obtaining vacated documents from county register of deeds, the GRB recommends in the longer term—and if local road officials fail to properly follow vacating procedures—that SDDOT consider authoring legislation that requires county register of deeds to report vacated roads to TIM within 30 days of those changes being received at the County Courthouse. All of the recommendations above are noted in Section 6 of the report that follows.

**8. Prepare outreach materials that present information in a concise, easy to read format (packet, pamphlet, pocket guide, or brochure) to promote understanding and help transportation officials with activities and procedures in support of inventory management (i.e. clarification of definitions & terminology, jurisdiction issues, various reporting responsibilities including road/trail locating and vacating, filing of resolutions, etc.). Adapt this information to a PowerPoint presentation to serve as a training aid.**

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<sup>23</sup> Federal Highway Administration. 2008. "Reassessment HPMS 2010+" Available at <http://www.fhwa.dot.gov/policy/ohpi/hpms/2010/index.cfm>. Accessed 23 June 2010.

<sup>24</sup> The first discussion was the Technical Panel meeting in June 2009. The second discussion was specifically with Technical Panel members from TIM. That discussion focused only on the HPMS 2010+ guidelines and how those guidelines would affect data fields and codes in the NSTRI only.

The GRB delivered outreach materials—in the form of a color brochure and PowerPoint presentation—to the Technical Panel in early-March 2010.

**9. Meet with the technical panel to review and modify recommendations and outreach materials.**

The GRB conducted an email dialogue and telephone discussions with the Technical Panel that led to amendments to both the brochure and PowerPoint presentation.

**10. Upon review and approval of the recommendations by the Technical Panel, prepare a final report and executive summary of the research methodology, findings, conclusions, and recommendations.**

After receiving feedback, the GRB made final edits to this final project report and executive summary.

**11. Make an executive presentation to the SDDOT Research Review Board at the conclusion of the project.**

The GRB made an executive presentation to the SDDOT Research Review Board on 10 February 2010.



## 5 FINDINGS AND CONCLUSIONS

The subsections below detail the GRB’s findings about the purposes and definitions of public roads as expressed in Federal Code and SDCL, the proper vacating procedures for public roads in South Dakota, and public roads stakeholder perceptions about the NSTRI and CI.

### 5.1 Purposes and Definitions of Public Roads

This section details the GRB’s findings from a review of Federal Code and SDCL. The purpose of that review was to assess the purposes and definitions of a public road under existing federal and state statutes. Of particular note in the sections to follow is the finding that the NSTRI process of updating and reporting local roads in South Dakota is a purpose for which data about public roads are collected in the state. Updating the NSTRI and defining public roads for doing so require the combination of federal and state purpose and definitions. The means by which those purposes and definitions should be combined are detailed in the sections that follow.

#### 5.1.1 Defining of “Public Road”

23USC§101(a)(27)<sup>25</sup> defines a public road as a “road under the jurisdiction of and maintained by a public authority and open to public travel.” A few key elements of the definition are shaped around the terms “maintained by public authority” and “open to public travel”:

- According to FHWA briefing materials<sup>26</sup> provided on 4 January 2010 by Washington, DC-based FHWA Highway Engineer Paul Svercl, a public authority is defined as a state or local government, federal agency, Indian tribe, or instrumentality that is empowered to finance, build, operate, or maintain a public road.
- The FHWA, in the same briefing materials from FHWA Highway Engineer Paul Svercl, indicates that “open to public travel” means, a) being passable by a 4-wheel standard passenger car, b) open to the general public, except during scheduled periods, extreme weather, or emergency conditions, c) without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight, or class or registration, and d) where tolls, area use fees, limited hours, and other usage limits are not considered as restrictive. In other words, any road upon which a 4-wheel passenger vehicle can drive can be counted as a public road. Given the context of the briefing materials provided by FHWA, it is clear that any road upon which the public can regularly travel in an unfettered manner should be counted as a public road.

#### 5.1.2 Federal Purposes and Definitions of a Public Road

Under the federal definition established above, Federal Code highlights a series of potential purposes for public roads. The list below delineates some of those purposes and provides a series of definitions for these purposes:<sup>27</sup>

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<sup>25</sup> This Title from the Federal Code will hereafter be referred to as “Federal Code Title 23”.

<sup>26</sup> Svercl, Paul. 2009. “Public Road Inventory.” PowerPoint presentation available at <http://www.fhwa.dot.gov/policy/ohpi/hss/presentations/roadinventory.htm>. Accessed 23 June 2010.

<sup>27</sup> The first Federal Code reference listed behind each purpose represents where that purpose can be found in the Federal Code. The second Federal Code reference indicates where the definition for each purpose can be found in the Federal Code.

**Roads that are Part of the Interstate Highway System (23USC§104(b)(4)).** 23USC§101(13) defines the Interstate Highway System as the Dwight D. Eisenhower National System of Interstate and Defense Highways described in section 103(c) of the Federal Code. Interstate highways and other roads that fail to fit within the scope of this study of local roads will not be discussed further in this report.

**Recreational Trails (23USC§104(h)).** 23USC§206 describes multiple purposes for recreational trails, including motorized recreation—or off-road recreation using any motor-powered vehicle, except for a motorized wheelchair—and general recreational trails use. Recreational trails are thoroughfares or tracks across land or snow used for recreational purposes such as pedestrian activities, skating or skateboarding, equestrian activities, non-motorized trail activities including skiing, bicycling or use of other human-powered vehicles, aquatic or water activities, and motorized vehicular activities including all-terrain vehicle riding, motorcycling, snowmobiling, use of off-road light trucks, or use of other off-road motorized vehicles. Because the Federal Code is specific about the definition of a public road as being passable by a four-wheel passenger vehicle, recreational trails are not within the scope of this study and will be omitted from the remainder of the discussion.

**Forest Development Roads, Trails, and Highways (23USC§202(a)).** According to 23 USC§101(8), forest development roads and trails are forest roads and trails under the jurisdiction of the National Forest Service. 23USC§101(9) defines a “forest highway” as being under the jurisdiction of, and maintained by, a public authority and open to public travel and 23USC§101(10) defines a “forest road or trail” to mean a road or trail wholly or partly within, or adjacent to, and serving the National Forest System that is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources. Public forest roads, trails, and highways are, according to Federal Code, local public roads.

**Public Lands Highways (23USC§202(b)(1)).** 23USC§101(24) defines public lands development roads and trails as those roads and trails that the US Secretary of the Interior determines are of primary importance for the development, protection, administration, and utilization of public lands and resources under the control of the U.S. Secretary of the Interior. 23USC§101(25) further defines public lands highways as a forest road under the jurisdiction of and maintained by a public authority and open to public travel or any highway through unappropriated or unreserved public lands, nontaxable Indian lands, or other federal reservations under the jurisdiction of and maintained by a public authority and open to public travel. Finally, 23USC§101(26) defines public lands highways as main highways through unappropriated or unreserved public lands, nontaxable Indian lands, or other federal reservations, which are on the federal-aid systems. The combination of federal public lands highways definitions above encompasses any state or sub-unit government lands available for public use. Such lands include hunting lands, wetland preservation areas, and other, similar lands with passenger-vehicle capable roads. Roads in these areas that are passenger vehicle-capable are local public roads.

**Park Roads and Parkways (23USC§202(c)).** 23USC§101(19) and 23USC§101(20), respectively, define park roads and parkways as public roads, including bridges built primarily for pedestrian use, but with capacity for use by emergency vehicles, that are located within, or provide access to, an area in the National Park System with title and maintenance responsibilities vested in the United States. Park roads under the jurisdiction of any government entity are local public roads.

**Indian Reservation Roads (23USC§202(d)).** 23USC§101(12) defines an Indian Reservation Road as a public road that is located within or provides access to an Indian reservation or Indian trust land or restricted Indian land that is not subject to fee title alienation without the approval of the Federal

Government, or Indian and Alaska Native villages, groups, or communities in which Indians and Alaskan Natives reside, whom the Secretary of the Interior has determined are eligible for services generally available to Indians under federal laws specifically applicable to American Indians. Roads on Indian lands in South Dakota are local public roads.

**Defense Access, Replacement, Maneuver Area, and Transporter-Erector Routes.** (23USC§660.507(a-g)) defines a defense access road as an existing or proposed public highway which is needed to provide essential highway transportation services to a defense installation and may be defined as a public road only when right-of-way for such roads is dedicated to public use and the roads are maintained by a civil authority. Replacement roads are public roads constructed to replace one closed by establishment of a new, or the expansion of an old, defense installation. Maneuver area roads are public roads in an area delineated by official orders for field maneuvers or exercises of military forces. Finally, a transport-erector route is a public road specifically designated by the transporter-erector vehicle for access to missile sites. All of these routes are explicitly defined as local public roads.

**Refuge Roads (23USC§202(e)).** 23USC§101(28) defines refuge roads as providing access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibility is vested in the United States Government. Refuge roads are local public roads.

To summarize, Federal Code Title 23 identifies several purposes for public roads and carefully defines each of these purposes to highlight the road types that merit inclusion, particularly in funding formulas used by federal transportation agencies. One further point of clarification not provided in Federal Code, however, is the delineation of section line roads and whether or not those roads have a purpose or can be defined as public roads. South Dakota Codified Law (SDCL) provides such clarification and is discussed in the next section.

### 5.1.3 SDCL and the Section Line Purpose Defined

SDCL presents the statutory basis for defining and classifying highways in South Dakota.<sup>28</sup> SDCL §31-1-1 states “every way or place of whatever nature open to the public, as a matter of right, for purposes of vehicular travel, is a highway.”<sup>29</sup> Pursuant to SDCL §31-1-1, all roads open to the public and used for vehicular travel are encompassed by the definition of highway.

SDCL is largely consistent with the definition(s) and purposes of a public road as noted in Federal Code Title 23 cited above. Only two differences in Federal Code and SDCL merit mentioning. The first is trivial and relates to the terminology one uses to define what constitutes a public road. The second is more substantial because it may, particularly for the purposes of gathering local roads data in South Dakota, cause some disagreement over what roads should or should not be reported to the NSTRI.

The first point of disagreement between SDCL and the Federal Code is in the terminology used to describe a public road and the purposes for which those roads are defined. SDCL uses the term “highway” (rather than “public road”) to describe a public road in South Dakota. SDCL also uses the

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<sup>28</sup> SDCL §31-1. Available at <http://legis.state.sd.us/statutes/DisplayStatute.aspx?Statute=31-1&Type=Statute>. Accessed 23 June 2010.

<sup>29</sup> SDCL §31-1-1. Available at: <http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=31-1-1>. Accessed 23 June 2010.

term “vehicular travel” as the specific purpose for which the “public highway” is defined for use. These differences are semantic but not substantive.

In SDCL, “public highway” is synonymous with the Federal Code’s definition of a public road. Further, SDCL “vehicular travel”, although more ambiguous than the clarified Federal Code purpose noted above, is consistent with “four-wheel passenger vehicle travel” noted by local and DC-based FHWA officials. The broad definitions and purposes of a “public highway” for “vehicular travel” in South Dakota are sufficiently similar to Federal Code to permit SDCL to remain unchanged.

The more significant variation between Federal Code and SDCL is in SDCL’s definition of a section line public road (or “highway” in SDCL) under SDCL §31-18-1.<sup>30</sup> SDCL §31-18-1 provides that a public highway is located and operated along every section line in the state. The only exception is where such section line highways have been properly vacated or relocated. Section lines are so firmly established as public roads in SDCL that public entities such as county or township governments need not take any action to “open” or establish a public highway along section lines.<sup>31</sup>

The GRB finds that SDCL has protected section line roads for the general purpose of agricultural access between farm fields and for access to public lands. Agricultural access, however, is not recognized in the Federal Code as a defined purpose for public roads. The GRB, in a 4 January 2010 telephone conversation and email discussion with FHWA Highway Engineer Paul Svercl<sup>32</sup> affirmed that section line roads—absent clear evidence that those roads are maintained by a local jurisdiction—fail to meet the federal definition of a public road. A strict interpretation of Federal Code makes clear why this is the case: to be classified as a public road under Federal Code, a road must be maintained by a public entity. Section line roads frequently fail to meet even the minimum maintenance threshold.<sup>33</sup>

While the *letter* of the Federal Code indicates that section line roads in South Dakota fail to meet the concrete definition of a public road because of shortfalls in maintenance, a more careful interpretation of SDCL indicates that section line roads still should be defined as public roads under Federal Code by virtue of being protected<sup>34</sup> in state statute as public roads. SDCL in effect protects section line roads from closure via a series of vacating procedures and further specifies that section line roads are classified as highways as long as they are open to the public and accessible to vehicular travel.

When one considers the precise language of Federal Code Title 23—and the ambiguity of the term “maintenance” in that definition—SDDOT can support through SDCL that because SDCL maintains

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<sup>30</sup> The term “section” refers to a division or parcel of land, on the government survey, comprising one square mile or 640 acres. Section lines are the dividing lines between sections. There is a “public highway along each section line in South Dakota unless the highway has been vacated or relocated.”

<sup>31</sup> *Douville v. Christensen*, 2002 SD 33, 641 N.W.2d 651.

<sup>32</sup> Phone and Email Interview. FHWA Engineer Paul Svercl. 4 January 2010.

<sup>33</sup> The GRB in this case has highlighted Washington, DC-based FHWA officials’ perspectives about what constitutes a public road. The paragraph to follow makes clear, however, that SDCL maintains section line roads for the purpose of vehicular travel. This suggests that section line roads are public roads. It is important to report all of the perspectives about section line roads even if the GRB—after receiving information from the local FHWA representative and the Technical Panel for SD2009-02—finds that section line roads are public roads as defined by Federal Code Title 23.

<sup>34</sup> In this definition of protected, the GRB argues that it is sufficiently similar to “maintained” to be used almost interchangeably.

the *integrity* of section line roads, those roads fit under the blanket “maintenance” term in the Federal Code. Further, SDCL states that section line roads are public roads (or “highways”) and must be open to public travel.

Finally, GRB conversations with local FHWA representative Mark Hoines indicated that the FHWA’s South Dakota Division has been charged with interpreting the definitions of public roads in the state. Current practices in South Dakota regard section line roads with evidence of vehicle tracks and passable by a standard 4-wheel passenger car as public roads for the purposes of updating the NSTRI. Taken together,<sup>35</sup> section line roads in South Dakota are considered public roads under Federal Code Title 23.<sup>36</sup>

#### **5.1.4 Emergency Response as a Separate Purpose**

As noted in Section 4 of this report, the GRB interviewed 13 public road stakeholders in South Dakota. During the course of those interviews, respondents were asked to provide details about how they or their organization(s) use and define public roads. The interview protocol is included as part of Appendix C of this report.

While those interviewed listed purposes and definitions that are consistent with those highlighted in Sections 5.1.2 and 5.1.3 above, two public road stakeholders noted the following:

- “Well, you know, we’re kind of separate from the county highway, but for us, a public road has a 911 address tied to it, because we do a lot of maintenance for 911 dispatch centers, and so obviously for their mapping systems they need that information. That’s kind of where us and the state kind of differ.”
- [A public road is] “any road that we can access at any point... and I’m just thinking from the point of disaster mode and emergency management, we utilize anything that we can utilize.”

The above indicates that emergency responders may regard “emergency response” as a purpose separate from those noted above. The individual interviewed—during the same interview—noted that emergency responders regard a public road as any path that will permit them access to a home for the purpose of providing medical and/or other emergency assistance. This purpose and definition of a public road clearly is more expansive than those provided for in Federal Code Title 23 or in SDCL.

#### **5.1.5 Documenting Road Mileage and Changes and HPMS Reporting as Separate Purposes**

The NSTRI process in South Dakota is the means by which federally reportable road mileage and road changes are collected and internally documented by TIM. That road mileage and change data then is provided to the FHWA through the HPMS reporting process. Not all of the data collected during the NSTRI process must be reported to the FHWA through the HPMS reporting process (for example, urban-rural designation no longer is required by HPMS but will still be recorded by TIM).

The NSTRI process—the purpose of which is to “document public road mileage and changes”—collects data that need not be reported to the FHWA through the HPMS process. Because of this, the

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<sup>35</sup> The maintenance of the integrity of section line roads in SDCL; the definition of section line roads in SDCL as “highways”; and the local FHWA’s judgment that section line roads are only public roads if they are open and support or have past evidence of 4-wheel vehicular travel.

<sup>36</sup> This is the case only if section line roads have not been properly vacated. Properly vacated section line roads—like all other properly vacated roads—are no longer regarded as public roads in South Dakota.

GRB assesses that “documenting road mileage and changes” and “HPMS reporting” are separate purposes for which public roads must be defined in South Dakota. The GRB further assesses that the roads that are to be reported for each of these purposes are the same, even though the purposes themselves are different.

Federal and state laws provide sufficient guidance for understanding the purposes and definitions of public roads in South Dakota. The federal definition of a public road and the purposes and definitions nested under that definition are fairly complete and clear. Local road officials and contractors are requested to report local road mileage and changes for the “documenting road mileage and changes” and “HPMS reporting” purposes.

Using the “documenting road mileage and changes” and “HPMS reporting” purposes as guides, the following should be defined as public roads by local road officials when considering what local roads to report in South Dakota:

- Unblocked section lines with wheel tracks passable by a standard passenger car;
- Roadways in private subdivisions, regardless of who maintains them, as long as they are open to public travel without any gates or signs restricting access;
- Roadways developed and maintained by a public entity;
- Roadways that have been designated minimum maintenance;
- Roadways that belong to an organized road district;
- Publicly accessible roads to or within parks, wildlife or refuge areas, public hunting areas, or any designated public lands;
- Publicly accessible roads on Indian reservations; and
- Any passable roads that are not legally vacated.

The guidelines above suggest that any roadway developed or maintained by a public entity should be reported for the “documenting road mileage and changes” and “HPMS reporting” purposes. Further, any public roadway in the state that has not been legally vacated according to SDCL should remain in the NSTRI as a documented public road.

In addition to the road purposes and definitions noted above, past practices<sup>37</sup> have established the following as reportable roads for the “documenting road mileage and changes” and “HPMS reporting” purposes. These reportable roads, absent guidance that they should be reported, may fail to be properly counted by local road officials:

- Roads in private developments that remain open for public travel (e.g. no gates or other impediments preventing travel);
- Roads maintained by private home owners associations (HOAs) but that are open for public travel;
- Roadways that have been designated minimum maintenance; or

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<sup>37</sup> These past practices are those reflected in conversations with TIM and with local FHWA representative Mark Hoines during Technical Panel meetings.

- Roadways that belong to an organized road district.<sup>38</sup>

Roads that should not be reported for the “documenting road mileage and changes” and “HPMS reporting” purposes include:

- Roadways in a gated or restricted access private development;
- Roadways only accessible to 4-wheel drive vehicles year round due to condition;
- Roadways or section lines that have been properly and legally vacated; and
- Section lines with no evidence of travel (e.g. no evidence of 4-wheel passenger vehicle tracks).

For each of the cases above, it is clear why the roadways described fail to meet the purposes or definitions of federal or state roads. The first example—a roadway in a gated or restricted access private development—violates Federal Code requirements that a roadway be unrestricted and available for public travel. The second similarly is at odds with Federal Code because it only can be traveled year-around with a 4-wheel drive vehicle rather than a 4-wheel passenger car. The third is no longer a road to be reported on for “documenting road mileage and changes” or “HPMS reporting” purposes because it has been properly vacated and the notice of vacation has been filed with the county of jurisdiction. Finally, section lines with no evidence of travel are inconsistent with the definition of a public road established in Federal Code Title 23.

### 5.1.6 Stakeholder Perceptions of Definitions and Purposes of a Public Road

To clarify how individuals responsible for reporting changes to, vacating, and collecting information about the roads in South Dakota think about the definitions of roads in the state, 13 stakeholder interviews were conducted between August and November of 2009. Interview participants were identified by the SDDOT’s Office of Research in collaboration with SDDOT’s Technical Panel members as subject matter experts. The pool of those interviewed included individuals from TIM and SDDOT’s Office of Research; local transportation and street officials from five municipal and county offices around the state; officials from the U.S. Forestry Department and the SDGFP; and two emergency/911 coordinators (one state; one county). The informed consent and interview protocol used for this were approved by USD’s Office of Human Subjects Protection and are included in this report in Appendix C. Interviews were conducted both in person and by telephone, recorded via digital voice recorder, transcribed into text files, and later analyzed by the GRB for themes and content. The GRB transcribed each interview from audio files, inputted the interviews into NVivo8—a qualitative analysis software platform—and used Nvivo8 to identify common themes between the interviews.

**Defining a Public Road.** TIM identifies and reports public road mileage in compliance with requirements related to the apportionment of federal highway safety funds. To reiterate the definition from the previous section, a public road is defined in Federal Code (23USC§402(c)) as: “Any road under the jurisdiction of and maintained by a public authority and open to public travel.” Where:

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<sup>38</sup> Road districts present an interesting case that the GRB will address in the Section 6. Because SDDOT now is beginning to incorporate road district designated contacts into its larger list of public roadway stakeholders around the state, it is likely that better clarity about road district reporting will be achieved.

- *Public authority* means a federal, state, county, town, or township, Indian tribe, municipal or other local government or instrumentality thereof, with authority to finance, build, operate or maintain toll or toll-free highway facilities.
- *Open to public travel* means that the road section is available, except during scheduled periods, extreme weather or emergency conditions, passable by four-wheel standard passenger cars, and open to the general public for use without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight, or class of registration. Toll plazas of public toll roads are not considered restrictive gates.
- *Maintenance* means the preservation of the entire highway, including surfaces, shoulders, roadsides, structures, and such traffic control devices as are necessary for its safe and efficient utilization.

Participants in the stakeholder interviews conducted by the GRB were asked to provide definitions of public roads. These definitions, although not identical to the definition provided for in Federal Code, *for the most part* were not in contradiction of it either. Representative comments suggested that a public road included some of the following:

- “Basically, any road where...public funds have been expended on it...maintained and managed for public use.”
- “Other than how it’s specifically defined above there [in questionnaire], any road under jurisdiction or maintained by public authority or open to public travel. I mean, that’s how we define it in our... division.”
- “The big one that applies to this is Forest Service Manual 7700, which deals with travel management and road operation and maintenance. So when we talk about a public road, we’re talking about a road that is available except during scheduled periods, extreme weather or emergency conditions, is passable by four-wheel standard passenger cars and is open to the general public for use without restrictive gates, prohibitive signs or regulation other than restrictions based on size, weight, or class of registration.”
- “How you define a public road is, basically, it’s any road that’s within the right of way that’s funded with public money.”
- “To be a public road is any road owned by a city, county or state entity.”

### **5.1.7 Definition of a Public Road According to Survey Respondents**

The GRB supplemented the qualitative interviews by conducting a survey of 913 road stakeholders in South Dakota. The survey sampling frame consisted of a list of 1,989 individuals at the state, county, township, and city levels who were identified by the Technical Panel as local road stakeholders.

The sampling frame was comprised by a series of lists provided to the GRB by officials at the TIM. Those lists were duplicate-checked, cleaned, and forwarded to Qualified Pre-Sort in Sioux Falls, South Dakota for a University of South Dakota-mandated address confirmation and check. After confirming the addresses, the GRB—with guidance from SDDOT and the Technical Panel overseeing this project—constructed a sample of 913 potential respondents, among them<sup>39</sup>:

- One official from each of the four planning districts.

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<sup>39</sup> This sample was drawn through a mixed approach which included both randomization and intentionally selected respondents.



- All county, township, and municipal street and road officials in South Dakota that remained in the cleaned and verified sample. The survey was sent to 221 street and road officials in the state.
- All tribal points of contact provided by SDDOT. The survey was sent to 20 tribal road officials in South Dakota.
- A random sample of other public road stakeholders in South Dakota. The survey was sent to 668 of these individuals.<sup>40</sup>

The survey package sent included a cover letter describing the project, a black and white survey copy, and a postage-paid return envelope. The survey was deployed on November 2, 2009, one week later than initially anticipated, after the Technical Panel requested changes to the sample itself and the means by which the sample was drawn.<sup>41</sup> Survey reminder cards were sent to the sample 10 days following the initial survey deployment.

The survey instrument, which is included as Appendix D of this report, was designed in cooperation with the Technical Panel for this project and consisted of three primary sections. The first section addressed respondent's perspectives about the definitions of what constitutes a public road. The second section specifically addressed the NSTRI, including the challenges associated with collecting NSTRI data and the value that respondents find in the NSTRI. The third section was designed to assess respondents' perspectives about the CI. The survey instrument concluded with a brief series of questions about the respondent's organizational affiliation.

In all, 188 surveys were returned—a 20.06 percent response rate. This response rate was consistent with the research literature on paper-only surveys that typically receive between a 10 percent and 20 percent return rate. In fact the response rate was strong for what one would typically expect from this type of survey.

Survey respondents were first asked to identify which criteria were necessary for a roadway to qualify as a public road. This addressed the important question of how local jurisdictions determine whether to consider a roadway to be a public road for purposes of reporting to the NSTRI. The responses are summarized in Table 1.

When broken down by the elements of the definition of a public road, Table 1 makes evident a lack of a clear agreement about what constitutes a public road in South Dakota. The table of responses reveals that while there is some general consistency in elements of the definition of a public road, there is still a significant amount of variation or confusion regarding certain elements of the definition.

More than 90 percent of the respondents agreed that in order to be considered a public road, a roadway must be open to the public; however on most of the other criteria, significant percentages of respondents indicated incorrect definitions of public roads. For example, nearly 69 percent of respondents incorrectly assessed that a road must be on public land to be considered a public road. Over 30 percent of respondents incorrectly indicated that a road must be at least two lanes to be considered a public road. Overall, respondents frequently and incorrectly identified public roads.

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<sup>40</sup> The final survey sample spreadsheet is available by request for SDDOT or Technical Panel review.

<sup>41</sup> After the initial sample was drawn the Technical Panel twice forwarded additional names to the GRB to be sampled for the survey. New samples were drawn after receiving these updated lists of names.

**Table 1: Necessary Criteria for Definition of a Public Road**

Criteria for Public Road Definition (N = 188)	No	Yes	Don't know
Open to the general public	4.9%	93.4%	1.6%
Passable by a standard passenger car	23.9%	70.6%	5.6%
Passable by a 4-wheel drive vehicle	24.6%	71.5%	3.9%
Must be on public land	26.1%	68.9%	5.0%
Must be paved	97.8%	2.2%	0.0%
Must be constructed at public expense	33.7%	61.9%	4.4%
Must be maintained at public expense	19.9%	79.0%	1.1%
Must be on a public right of way or section line	24.0%	71.0%	4.9%
Must be at least two lanes	65.9%	33.0%	1.1%
Must have a 911 locate address associated with it.	36.7%	51.7%	11.7%

Next, the respondents were asked a slightly different question to illustrate their perceptions of what does and does not constitute a public road by definition. Rather than evaluating criteria, they were asked to identify whether specific examples of roadways would or would not count as a public road.

Table 2 provides a breakdown of survey respondents' perspectives about what constitutes a public road.

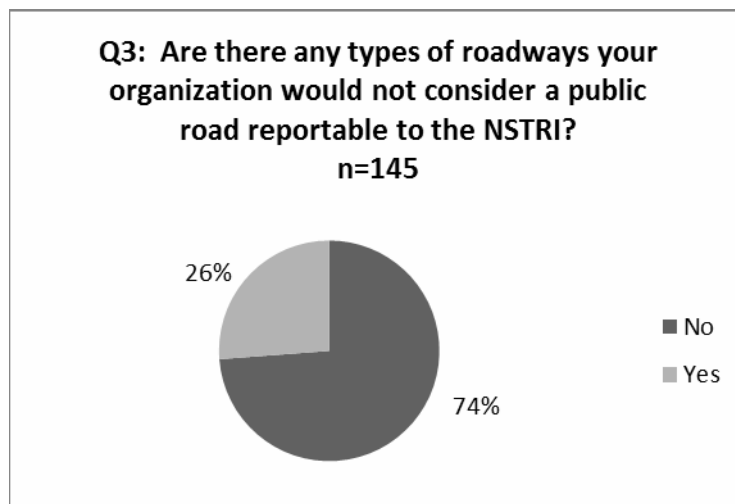
**Table 2: Examples of a Public Road According to Survey Respondents**

Does the example constitute a public road? (N= 188)	No	Yes	Don't know
An unblocked section line with no wheel tracks	59.1%	32.0%	8.8%
A section line that has been blocked by a private gate	59.3%	29.9%	10.7%
A section line with well worn vehicle tracks passable by a standard passenger car	24.2%	68.0%	7.9%
A roadway in a private subdivision maintained by the subdivision	56.7%	29.8%	13.5%
A roadway in a private subdivision maintained by a public entity	16.7%	73.3%	10.0%
A roadway passable only to 4-wheel drive vehicles due to condition	44.7%	41.9%	13.4%
A roadway developed and maintained by a public entity	3.3%	93.3%	3.3%
A trail accessible to all passenger vehicles in a state or federal park	22.7%	62.2%	15.1%
A roadway that has been designated minimum maintenance	18.3%	77.1%	4.6%
A roadway that is only seasonally passable	23.8%	65.7%	10.5%
A roadway that belongs to an organized road district	19.0%	67.2%	13.8%
A roadway that has been closed or abandoned but not legally vacated.	47.6%	39.4%	12.9%

The responses in Table 2 above reveal the same variation in definitions of a public road. In almost all cases, a full quarter to one-third of the survey respondents disagreed with the majority as to whether or not the example given would constitute a public road. The only exception is the obvious "roadway developed and maintained by a public entity", which more than 90 percent of respondents agreed would constitute a public road.

Table 1 and Table 2 reveal a greater variation in the survey responses than was apparent from the responses in the interview data. When asked to provide a general definition, those who were interviewed delivered fairly similar answers. When the criteria and examples are provided in the survey, however, the survey results suggest greater disagreement about the proper definition of public roads in South Dakota.

Next, respondents were asked if there are any types of roadways that they would *not* consider a public road to be reported to the NSTRI. As Figure 1 illustrates, 70 percent of the respondents indicated that all examples of a roadway should be considered a public road for updating the NSTRI.



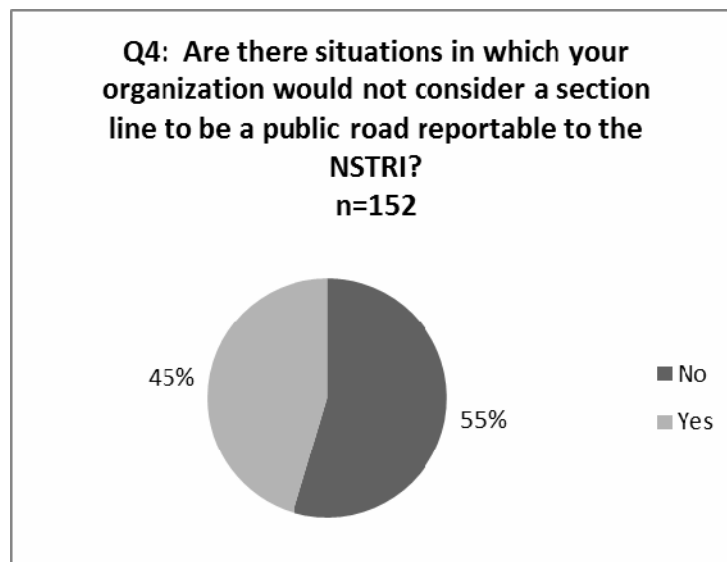
**Figure 1: Roadways Not Considered Reportable to NSTRI**

Respondents (26 percent) indicating that there were roadways that they would *not* consider public roads also appended that answer by clarifying that the following fail to meet the definition of a public road: 1) private drives and publicly traveled roads in private developments, 2) legally vacated roads,<sup>42</sup> 3) unimproved or untraveled section lines or section lines on which no one lives, 4) public roads maintained by businesses, parks, or cities, and 5) minimum maintenance and dirt roads.

Respondents next were asked specifically about situations in which their organization would *not* consider a section line to be a public road reportable to the NSTRI. As Figure 2 illustrates, just under half of the respondents indicated that there were instances in which section lines would not be considered public roads and thus not be reported to the NSTRI.

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<sup>42</sup> One survey respondent also cited “dead” roads as not being reportable. The GRB speculates that this could be synonymous with a legally vacated road, although the survey response provides no affirmation of this.



**Figure 2: Section Lines Not Considered Reportable to NSTRI**

When asked to cite situations in which an organization would not report a section line to the NSTRI, respondents suggested the following examples:

- A section line where a road was closed or legally vacated;
- A section line where a road has never legally existed;
- Section lines that are unmaintained or impassible due to terrain or hazards;
- Section lines which have been fenced off;
- Section lines which have never been “improved” to carry vehicle traffic and have no visible wheel paths;
- Section lines that are dead ends;
- Section lines which are only used for farming purposes; and
- Section lines which are not paved or graveled over.

The examples provided in the first five bullets above are not reportable to the NSTRI, but the last three examples cited would be reportable to the NSTRI if those section lines have visible wheel paths.

Respondents also were asked to indicate if their organization ever defined public roads in a different manner for purposes other than NSTRI reporting. The results are reported in Table 3. Table 3 suggests that there is a subset of respondents—about 40 percent—that define a public road differently based on perceived or actual use rather than how it is defined for the purposes of reporting to the NSTRI. While it is reasonable for 911 responders or parks officials to regard trails and roads slightly differently for internal use only, 43 alternate definitions also are more likely to be muddled when these organizations are asked to report road mileage and HPMS-related updates for the NSTRI. Taken together, the results indicate that education may be necessary so that individuals who update public roads information are able to clearly understand what does and does not constitute a public road.

<sup>43</sup> The qualitative interviews make some of these purposes clear.

**Table 3: Purposes for Defining a Public Road**

<b>Purposes for Which a Public Road May Be Defined Differently (N=188)</b>	<b>No</b>	<b>Yes</b>	<b>Don't know</b>
Determining township or county road maintenance responsibilities	44.7%	42.9%	12.4%
Monitoring the condition of your organization's roadway network	45.2%	42.8%	12.0%
Planning and tracking work on your organization's roadway network	41.9%	44.9%	13.2%
Identifying roads for use by public safety and emergency services	44.0%	42.8%	13.3%
Establishing 911 addressing	47.0%	38.1%	14.9%
Determining public access to section line right of way for hunters	61.1%	20.4%	18.6%
Other	34.3%	2.9%	62.9%

## 5.2 Proper Vacating Procedures for Public Roads in South Dakota

For a road to be vacated such that it is no longer accounted for in the NSTRI, local road stakeholders in municipalities, townships, counties, tribal, federal, state, and road districts must follow a series of formal steps outlined in SDCL. The section below offers extensive detail about the proper vacating procedures for public roads and does so for a very simple reason: unless the steps required in SDCL are followed, the road will not be removed from the NSTRI.

### 5.2.1 Statutory Requirements for Vacating a Public Road in South Dakota

Roads are properly vacated in South Dakota when the 10 steps below, outlined in SDCL Titles 9 and 31, are followed by local jurisdictions:

1. The governing board or commission receives a valid petition to vacate a road. (SDCL §31-3-6; §9-45-7; §9-45-10)
2. The governing body must publish notice of a public hearing on the petition once each week for at least two consecutive weeks. (SDCL §31-3-7; §9-45-8; §9-45-11)
3. The governing body or a properly appointed committee must hold a public hearing to receive evidence about the action proposed by the petition. (SDCL §31-3-7; §9-45-9)
4. To vacate a road, the governing body must pass a resolution approving the vacation. In the case of a municipal government, a two-thirds vote of all of the members of the governing body is required. (SDCL §31-3-7; §9-45-9)
5. The resolution of vacation must be printed in the minutes of the governing body. (SDCL §31-3-9; §9-19-8)
6. The resolution of vacation must be published in newspapers as required by law. (SDCL §31-3-9; §9-45-12; §9-19-8)
7. A certified copy of the resolution of vacation must be recorded with the register of deeds in the county or counties where the road is located. (SDCL §31-3-11; §9-45-12)
8. Vacation of a road within the extraterritorial area of a municipality must be approved by the governing bodies of both the municipality and the county or township. (SDCL §31-3-44; §9-45-13.1)

9. If the road to be vacated is on a township boundary line, the governing bodies of each adjoining township must pass a like resolution and order to vacate the road. (SDCL §31-3-13)
10. If the road to be vacated is a section line highway, a township or county may not vacate it if it: (1) is part of the state trunk highway system; (2) was constructed by state or federal aid; (3) is within the limits of a municipal corporation; or (4) provides access to public lands other than school and public lands. In addition, a township may not vacate a section line highway that is part of the county highway system. (SDCL §31-18-3)

After receiving notice from the Contractor that a local road has been vacated, SDDOT officials may contact the county register of deeds in the county of jurisdiction to confirm that the vacated road has been reported to the county having jurisdiction over that road.<sup>44</sup> If the vacating notice has been properly filed, SDDOT officials remove the road from the NSTRI.

The following provide more detail about the general process of vacating local roads in South Dakota:<sup>45</sup>

**Petition.** SDCL §31-3-6, §9-45-7, and §9-45-10 outline the power of county commissioners, township supervisors, and municipal governments to vacate, change, or locate highway on petition. Upon receiving the petition of two or more voters of an organized civil township or of the number of voters equal to or greater than one percent of the ballots cast for the last gubernatorial election in the affected county, the board of supervisors of the township or the board of county commissioners where the highway is located or is proposed to be located may, except as provided in SDCL §31-3-12 and §31-3-44, vacate, change, or locate any highway located or to be used within the township or county, if the public interest will be better served by the proposed vacating, changing, or locating of the highway. The petition of the voters sets the beginning, course, and termination of the highway proposed to be located, changed, or vacated, together with the names of the owners of the land through which the highway may pass. SDCL §31-3-38 establishes that the owner of a private road may change or vacate the road by presenting a petition to the board of county commissioners of the county in which the road is located. If there is no grievance to changing or vacating the road, the board of county commissioners may order the vacation without viewing the road.

**Due Hearing and Public Notice.** SDCL §31-3-7, §9-45-8, §9-45-9, and §9-45-11 establish that, if the petition for vacation or change of a highway is properly filled out and filed with the board having jurisdiction over the road, that board will conduct a public hearing regarding the petition. The board will 1) give notice of the hearing by publication in the official newspaper of the township or county, 2) hold a public hearing for the purpose of receiving public testimony about the action proposed by the petition, and, if appropriate, 3) pass a resolution for either affirming the petition for vacation or denying the same.

**Resolution to Vacate and Vacation of the Road.** SDCL §31-3-8 and §9-45-12 indicate that the resolution and order provided should describe the highway vacated, changed, or located in general language by description of the land across which the highway extends, or by landmarks or survey designate the particular highway intended. The county auditor must prepare and maintain a current map showing the course and location of all county highways within or on the border of the county.

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<sup>44</sup> TIM only contacts the register of deeds if the proper TIM documents are not forwarded to them by the local authority via the Contractors.

<sup>45</sup> In some cases, the GRB has taken language verbatim from SDCL to ensure that this is as precise and clear as possible.

The county auditor will, within 30 days of the resolution and order, make those changes to the map as necessary to reveal the course and location of any county highway vacated, changed, or located.

Resolution and Order, Entry in Minutes, and Publication. SDCL §31-3-9 and §9-45-12 require that the approved resolution and order to vacate a road be printed in the minutes of the meeting of the board and the resolution must be published in the official newspaper nearest to the highway being vacated, once each week for at least two consecutive weeks, and such highway will be, after a lapse of 30 days, vacated, changed, or located, without further proceedings unless appeal is filed. Appeals are to be filed according to SDCL §31-3-14 and §31-3-46. SDCL §31-3-11 and §9-45-12 require the county register of deeds to record a certified copy of the resolution.

Some notable exceptions and additions to the procedures highlighted above are worthy of mention so that stakeholders are aware of 1) the requirements for vacating boundary line roads, 2) the obligations that governing authorities have to one another when vacating roads, 3) how road districts vacate roads, and 4) under what conditions and how roads in platted private developments are to be vacated. These procedures are described below for the sake of completeness and per Technical Panel feedback on the project's interim technical memorandum:

- **Boundary Line Resolutions.** SDCL §31-3-13 requires that for boundary line roads, roads bordering two townships or other government entities, the multiple jurisdictions involved must pass resolutions and enter separate orders vacating, changing, or locating that public road.
- **Jurisdictional Obligations when Vacating Public Roads in South Dakota.** SDCL §31-18-3 indicates that a governing board may neither vacate nor change any portion of the state trunk highway system, any highway constructed with state or federal aid, or any public road within the bounds of a municipal corporation. Further, a governing board may not vacate or change portions of the county public roads system nor vacate a section line road that provides access to public lands such as hunting areas (excluding school and public lands). Section line roads in South Dakota can be closed temporarily<sup>46</sup> to vehicular traffic if the road in question is unsafe for vehicular traffic.
- **Defining Road Districts and Vacating Road District Roads.** SDCL §31-12A-12 defines road districts in South Dakota as government subdivisions and public bodies. Road districts are thus government subdivisions in the state and a public body. Road districts in South Dakota are treated as municipalities and are governed accordingly. SDCL §31-12A-25 further notes that laws applicable to the process for constructing roads, borrowing money, making special assessments, and issuing bonds all are vested with road districts. All requirements for constructing and maintaining the roads and the borrowing of money, making of special assessments, and issuing of bonds are stated in SDCL §9-12-1 and SDCL chapters §9-26, §9-40, §9-43, §9-45, and §9-46. All of these statutes govern municipalities in general in South Dakota. The GRB's reading of these statutes together—vetted with SDDOT legal staff—indicates that road districts are bound to the road vacating procedures specified for municipalities in SDCL §9-45-7 through §9-45-13.1.
- **Vacating Platted Roads.** Platted roads are to be vacated according to two principles. SDCL §11-3-16 specifies that any plat of any municipality or improvement district may be vacated by the proprietor before lots have been sold or any improvements (e.g. construction of roads) have begun. Doing so divests the public of all rights in the streets, alleys, commons,

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<sup>46</sup> This is not a formal vacation of the road, just a temporary restriction of access due to hazardous conditions.

and public grounds laid out as described in that plat. The county register of deeds having jurisdiction over the plat must then notify the governing municipality, township, or county within 10 days of the plat owner filing for a vacation of a plat. If any lots within a particular plat have been sold, the plat may be vacated by all the owners of lots in such plat joining in the execution of the writing aforesaid.

- SDCL §11-3-16 also notes that vacating a plat is impermissible when public improvements have been made such that public roads (in SDCL terms, “highways”) have been constructed according to how federal and state code define public roads. In sum, platted roads can be unilaterally vacated by the plat owner prior to the construction of public roads in the plat. After public roads have been constructed in the plat, the vacation procedures must follow the procedures for the authority with governing responsibility over that plat (e.g. municipalities, townships, or counties).

## 5.2.2 Survey Responses Related to Vacating a Public Road

Survey respondents were asked about the process they use to legally vacate a public road. Specifically, they were asked which steps they followed when legally vacating a road. The results are listed in Table 4.

**Table 4: Steps for Vacating a Public Road**

Steps followed when legally vacating a road (N=160)	No	Yes	Don't know
Issue public notice	1.9%	82.5%	15.6%
File with register of deeds	8.2%	70.9%	20.9%
Mark the vacated road on a map	5.7%	74.2%	20.1%
Notify SDDOT	22.4%	44.2%	33.3%
Notify planning district	21.7%	50.3%	28.0%
Other	15.6%	15.6%	68.8%

When legally vacating a road, the majority of respondents report that they issue public notice, file with the register of deeds and mark the road as vacated on a map maintained by their organization. Only 44 percent of respondents indicated that they report the change to SDDOT and only 50 percent notify the planning district. A significant proportion (between 15 and 33 percent in each case) of respondents indicated that they are unaware whether or not they or their organization(s) perform the action(s) stated above. Respondents indicating that they performed actions besides those noted in the survey explained that they held a township meeting to vote on the road closure, actually posted a sign that the road was closed, or notified the county highway department to take the road out of the NSTRI.

The results suggest that survey respondents were somewhat unclear about all of the steps that SDCL requires to properly vacate a public road. For example, almost 30 percent of respondents were unaware that filing a vacation notice with the register of deeds is a required step. This lack of awareness may create opportunities to clarify SDCL requirements in the minds of public road stakeholders around South Dakota.



## 5.3 Perspectives on the Non-State Trunk Road Inventory's Process and Value

The GRB examined both the process of collecting data for and the assessed value of the NSTRI. To do so, the GRB relied primarily on past analyses<sup>47</sup>, 13 qualitative interviews, and a survey of 188 stakeholders throughout South Dakota. The following sections report on the results of the initial review of SD2000-03, the results of the qualitative interviews with 13 road stakeholders, and the survey results from those participating in the broad survey analysis conducted by the GRB.

### 5.3.1 Review of Existing Literature on the Non-State Trunk Road Inventory

In 2000, SDDOT—working with the contractor GIS/Trans Ltd. of Austin, TX—examined the necessity and practicality of updating specific data fields in the NSTRI.<sup>48</sup> GIS/Trans, Ltd. assessed the NSTRI on three dimensions.

The first, “Priority”, indicates the degree to which collecting and reporting the information to FHWA or other entities is required or optional. Required items—regardless of the degree of collection difficulty or cost—cannot be redacted from the NSTRI database. Of the initial 37 items in NSTRI databases that were catalogued in SD2000-03, more than half (n=23) were regarded by GIS/Trans, Ltd. as “required”.

GIS/Trans, Ltd. also assessed the NSTRI by asking TIM staff how difficult the remaining items in the NSTRI were to gather and maintain. Among the 14 items rated as “required” by GIS/Trans, Ltd., nine (9) were given subjective ratings of “low priority” for continued collection. Of those, the updated NSTRI (2009) reflects removal of eight of these items. The remaining item—rideability—is difficult to document, according to GIS/Trans, Ltd., because there is no standard method for its assessment.<sup>49</sup> The GRB concurs that this item can be removed from the database, a recommendation consistent with the most recent HPMS guidelines.<sup>50</sup>

Table 5 provides a summary assessment about each of the data fields in the NSTRI as of 2009 and prior to the “HPMS Reassessment 2010+” revisions. The table includes four columns. The first, “NSTRI Data Field and Definition”, is self explanatory. The second, “Original Priority”, indicates the GIS/Trans, Ltd. ratings for the importance of updating that data field. Also included in this field (represented by the parenthetical below “Original Priority”) is a brief summary of the changes (if any) necessary per the “HPMS Reassessment 2010+”. The final two columns reflect the assessments of road stakeholder interviews and the modal—or most common—survey response (when available). Taken together, Table 5 offers perspective about what data fields should be included or excluded in the NSTRI.

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<sup>47</sup> GIS/Trans, Ltd. 2000. “Update of the Non-State Trunk Road Inventory”. Typescript available at [http://www.state.sd.us/Applications/HR19ResearchProjects/Projects%5CSD2000\\_03\\_Final\\_Report.pdf](http://www.state.sd.us/Applications/HR19ResearchProjects/Projects%5CSD2000_03_Final_Report.pdf). Accessed 23 June 2010.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid, p.22.

<sup>50</sup> Referring to “HPMS Reassessment 2010+” referenced and linked earlier in this report.

**Table 5: Summary of NSTRI Evaluation**

NSTRI Data Field	Definition	Original Priority (2010 HPMS changes)	Interview Assessment	Modal Survey Response
Road or Street Name	The road or street name	High	<ul style="list-style-type: none"> <li>▪ Cited as important for the development of maps and atlases for hunting</li> <li>▪ Cited as useful for mapmaking and planning/zoning, particularly for counties that do not have 911</li> <li>▪ Cited as useful for 911 Coordinators</li> </ul>	<ul style="list-style-type: none"> <li>▪ 85% of respondents surveyed found the road or street name to be at least "Somewhat Useful"</li> <li>▪ 8.2% found it not useful at all</li> </ul>
Roadway Geometry	A measure of the visual features of the highway.	Required		<ul style="list-style-type: none"> <li>▪ 62.5% of respondents surveyed found the roadway geometry elements to be at least "Somewhat Useful"</li> <li>▪ 25.0% found it not useful at all</li> </ul>
Surface Type	Surfacing types include: <ul style="list-style-type: none"> <li>▪ primitive</li> <li>▪ unimproved</li> <li>▪ graded and drained earth</li> <li>▪ brick</li> <li>▪ gravel or crushed rock</li> <li>▪ bituminous surface-treated</li> <li>▪ mixed bituminous</li> <li>▪ concrete</li> </ul>	Required (combine bituminous codes)	<ul style="list-style-type: none"> <li>▪ Cited as important for development of maps and atlases for hunting</li> <li>▪ Cited as useful for mapmaking and planning/zoning, particularly for counties that do not have 911</li> <li>▪ Cited as useful for determining federal funding levels.</li> <li>▪ Cited as useful for 911 Coordinators</li> </ul>	<ul style="list-style-type: none"> <li>▪ 77.4% of respondents surveyed found the surface type to be at least "Somewhat Useful"</li> <li>▪ 14.1% found it not useful at all</li> </ul>
Shoulder Type	Shoulder types include: <ul style="list-style-type: none"> <li>▪ earth</li> <li>▪ gravel or crushed stone</li> <li>▪ blotter (less than 1 inch thick asphalt mix)</li> <li>▪ asphalt (more than one inch thick asphalt mix)</li> <li>▪ concrete</li> </ul>	Required (combine blotter and asphalt)		
Year Last Surfaced		Required (Delete data field, included in Pavement Distress Database)		
Surface Condition/ Measured Pavement Roughness and Rideability	Measured Pavement Roughness is a general assessment of surface condition rated as Excellent, Good, Fair, or Poor. Rideability is rated with the same categories but is a more subjective and volatile assessment which can change due to weather conditions.	Required/Low (Delete data fields, no longer required. Surface Condition included in Pavement Distress Database)	<ul style="list-style-type: none"> <li>▪ Rideability cited as being redundant with surface condition</li> <li>▪ Cited as useful for mapmaking and planning/zoning, particularly for counties that do not have 911</li> </ul>	<ul style="list-style-type: none"> <li>▪ 69.4% of respondents surveyed found the surface condition and rideability data to be at least "Somewhat Useful"</li> <li>▪ 19.4% found it not useful at all</li> </ul>

Table 5: Summary of NSTRI Evaluation (continued)				
NSTRI Data Field	Definition	Original Priority (2010 HPMS changes)	Interview Assessment	Modal Survey Response
Terrain Type	A designation for terrain that includes: <ul style="list-style-type: none"> <li>level</li> <li>rolling</li> <li>hilly</li> <li>mountainous</li> </ul>	Required (Delete code of "hilly". Convert "hilly" to "rolling" except the Black Hills area will be converted to "mountainous")		<ul style="list-style-type: none"> <li>57.0% of respondents surveyed found the terrain type to be at least "Somewhat Useful"</li> <li>29.2% found it not useful at all</li> </ul>
Jurisdiction Type	A series of measures of who maintains control over the road	Required	<ul style="list-style-type: none"> <li>Cited as useful for 911 Coordinators</li> </ul>	<ul style="list-style-type: none"> <li>77.2% of respondents surveyed found the jurisdiction type to be at least "Somewhat Useful"</li> <li>8.2% found it not useful at all</li> </ul>
Federal Aid Eligibility	A designation based primarily on functional class	Not Required for HPMS, but used for Federal reporting		<ul style="list-style-type: none"> <li>64.8% of respondents surveyed found the federal aid eligibility data to be at least "Somewhat Useful"</li> <li>12.7% found it not useful at all</li> </ul>
Functional Class	The code distinguishes between principal and minor arterials as well as urban versus rural	Required		<ul style="list-style-type: none"> <li>57.1% of respondents surveyed found the functional class to be at least "Somewhat Useful"</li> <li>14.3% found it not useful at all</li> </ul>
Rural-Urban Designation	A designation coded as: <ul style="list-style-type: none"> <li>entirely rural</li> <li>incorporated place, but not part of a Federal Aid urban area</li> <li>unincorporated area included in a Federal Aid urban area</li> <li>incorporated place included in a Federal Aid urban area</li> </ul>	Required (HPMS Eliminated Rural/Urban Distinction, NSTRI will retain for other purposes)		<ul style="list-style-type: none"> <li>66.6% of respondents surveyed found the urban-rural designation to be at least "Somewhat Useful"</li> <li>14.5% found it not useful at all</li> </ul>
Speed Limit	The legal speed limit for this section of road	Required	<ul style="list-style-type: none"> <li>Cited as useful for 911 Coordinators</li> </ul>	<ul style="list-style-type: none"> <li>75.0% of respondents surveyed found the speed limit to be at least "Somewhat Useful"</li> <li>10.3% found it not useful at all</li> </ul>
Parking	Indicates whether and what type of parking is available along the road.	Required (change in codes: <ul style="list-style-type: none"> <li>Not Attributed, Used for all roads outside of Urban Areas</li> <li>Parking allowed on one side</li> <li>Parking allowed on both sides <ul style="list-style-type: none"> <li>No parking allowed or none available)</li> </ul> </li> </ul>		

### 5.3.2 Interview Assessments about the Non-State Trunk Road Inventory

The GRB conducted 13 valid interviews with stakeholders around the state. Those interviews specifically addressed the challenge of collecting NSTRI data and also assessed the value that stakeholders place on that data.

The interviews combined with the survey results offered a few key findings about the NSTRI updating process and the value of the NSTRI in general. First, few respondents made use of the NSTRI data, even though respondent awareness about the NSTRI was relatively high. This finding held across both the interviews and surveys. Second, a majority of survey respondents indicated that little time is needed to provide local road change information. Similarly, a majority reported no difficulty at all providing the information required for the NSTRI.

Interviews with contractors and TIM in particular, however, noted that various aspects of the NSTRI collection process are time consuming, labor intensive, and confusing to local officials. For example, public road officials have difficulty in following the procedures for properly vacating roads in their jurisdictions, local officials unevenly respond to SDDOT information requests, and public roads that should be reported to the NSTRI may not be because local officials improperly identify public roads (e.g. the distinction between roads accessible to the public and private single-residence driveways).<sup>51</sup> The following concerns were expressed in more detail by the Contractors and TIM:

**Vacation of Roads:** Roads are sometimes identified on the map as vacated. After much difficulty in contacting appropriate local officials, however, it is at times discovered that the roads have not, in fact, been properly vacated under SDCL §31-3, §9-45, and §31-18. As a staff member in TIM put it:

- “Probably...[the] most difficult or burdensome to obtain, is the vacate information, for us. That’s something the planning districts don’t go out and confirm and obtain that information. They’ll just indicate that it’s been informed to them that a road is closed, and then we get that information and then have to research to determine if it has been properly vacated.”

**Local Official Responsiveness:** The responsiveness of local officials presents another challenge. A staff member of a South Dakota Planning and Development District and a staff member at TIM, respectively, noted that:

- “Mostly getting the maps back from township boards or some of those entities, some of the small towns [is burdensome]. You know, it’s just like a lot of things – ‘oh, that’s not important, throw it away.’”
- “And this year, we asked the planning districts to make an extra effort to contact the person that wrote or made the comment on the map and they tried calling him three or four times and left messages on his telephone and they never could get a hold of him. So, I mean, that’s one example of trying to get a hold of him and explain the situation, I guess, to him, and just not being able to get through to him, I guess.”

**Inclusion of Private Roads:** Staff members at TIM and a South Dakota Planning District staffer indicated that, during the NSTRI updating process, local officials periodically report gated or blocked private roads to the NSTRI that are not for public travel. As described above, however, only public roads that permit unimpeded public travel as defined by Federal Code Title 23 are to be included for federal reporting purposes. The misunderstanding about what constitutes a public or private road for

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<sup>51</sup> This difficulty exists despite the fact that, as one should note in Section 1.1 above and in the remainder of this report, private roads that are accessible by the public (e.g. they are un-gated or there is no impediment to public travel on them) can be counted as public roads for the purpose of the NSTRI.

the purpose of NSTRI reporting was highlighted by a staff member of a South Dakota Planning and Development District, who indicated that:

- “The main issue is mostly the private road; what is classified as a public road, private road. And I understand DOT, where they’re coming from, because, for their needs, they don’t need that. That’s private road, but a lot of the counties use it for 911 and for local issues and, local issues, they need that road. So sometimes we end up maintaining two different layers. We’ll have a geo-coded layer for the county that they, the county will use for 911 and their situations and then we have the DOT layer that we work off of every year that comes from the state.”

### 5.3.3 Survey Assessments about Non-State Trunk Road Inventory Content and Updating Process

Survey respondents were asked a series of questions to assess the content of and updating process for the NSTRI. As reported in Figure 3, of the 175 individuals responding to the question, 90 (51.4 percent) were aware of the NSTRI.

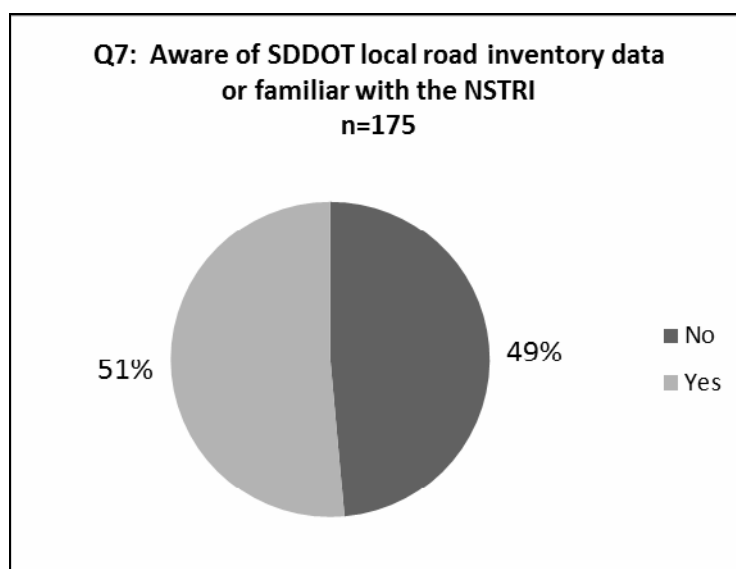


Figure 3: Familiarity with NSTRI

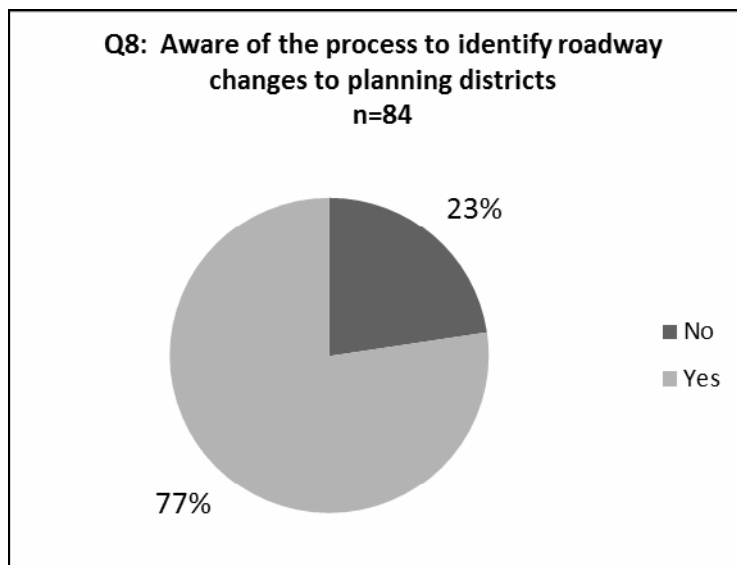
Respondents also were asked to provide employment background information. When broken down by respondent employment category, the data suggest that there is wide variation in the percentage of individuals aware that SDDOT collects and maintains local road data in the NSTRI. Among the individuals reporting employment data, county or city highway/street superintendents were the most aware (71.8 percent) of SDDOT’s collection and maintenance of this data, followed by finance officers (55.6 percent) and township officials (42.9 percent).

These results suggest that education efforts undertaken by SDDOT may be necessary so that individuals involved in the NSTRI process are aware of why and for what purposes that data is being reported. The survey data also are consistent with the interviews reported earlier: at least some individuals reporting information to the Contractors and SDDOT are unaware of how the NSTRI is used or the value of the information the NSTRI contains.

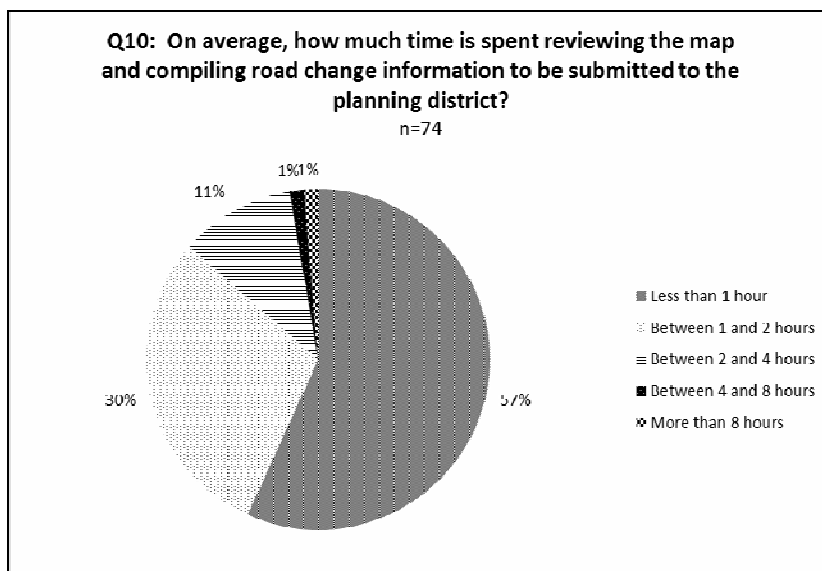
Next, survey respondents reporting an awareness of the NSTRI were asked to assess the process by which data is gathered for the NSTRI database and the degree to which that process is easy, difficult,

or otherwise. Figure 4 through Figure 6 suggest that respondents familiar with the NSTRI are aware of the process by which roadway changes are reported to the Planning Districts (77 percent), assessed that little time is needed to identify and report local road change information (87 percent reported it taking two or fewer hours), and reported no difficulty at all identifying and reporting the information requested by Contractors (76 percent).

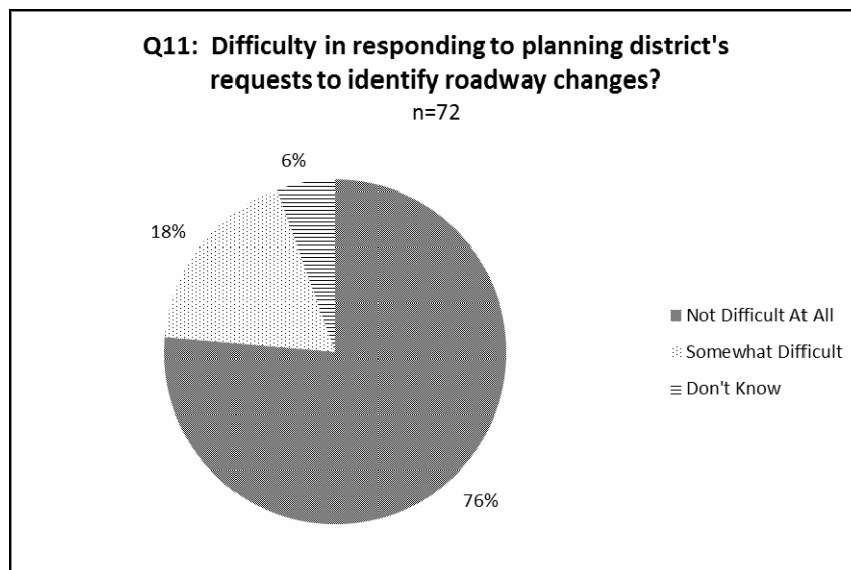
Taken together with the responses about road definitions, the survey data provide some useful insights into the perspective of those reporting on roads to the NSTRI. While the majority of respondents find the process to be relatively simple, many respondents are unaware of the possibility for confusion within the definition of a public road itself. So while local road officials are confident with their own definitions of a public road, those same officials are unaware that confusion may exist regarding the definition or that they may not be reporting information as completely and accurately as possible.



**Figure 4: Awareness of Process for Updating NSTRI**

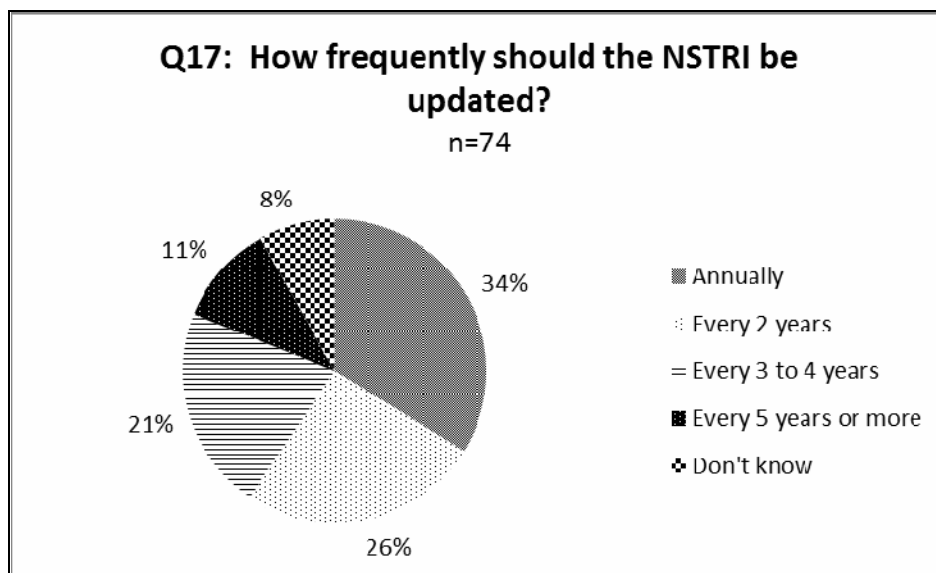


**Figure 5: Time Spent Responding to Requests for Information**



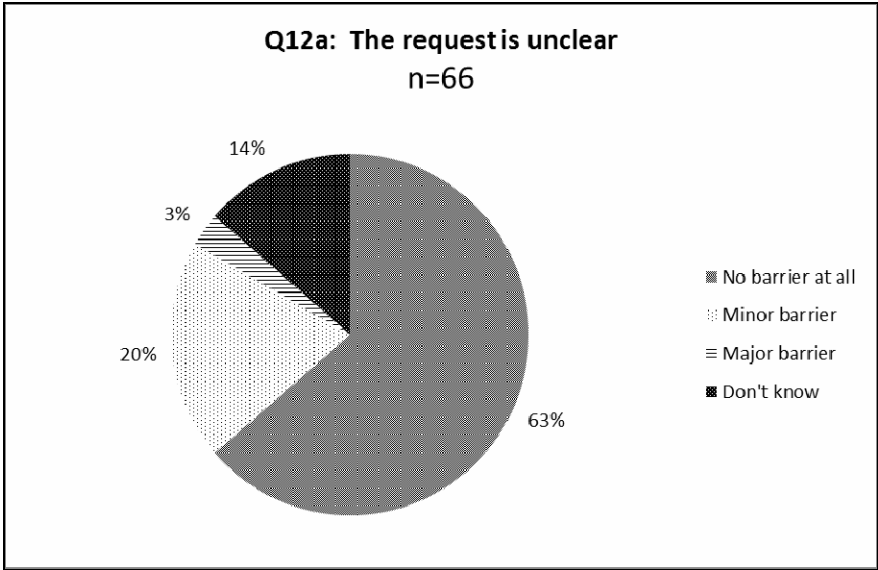
**Figure 6: Level of Difficulty in Responding to Requests**

Respondents also were asked to evaluate the frequency with which NSTRI information should be updated. Figure 7 suggests that a slight majority of respondents (58 percent) preferred to be on a two- or greater-year cycle. This indicates that there is no need to update more frequently. Since the majority of NSTRI elements are required to be updated annually, however, SDDOT has little reason to request the information less frequently.

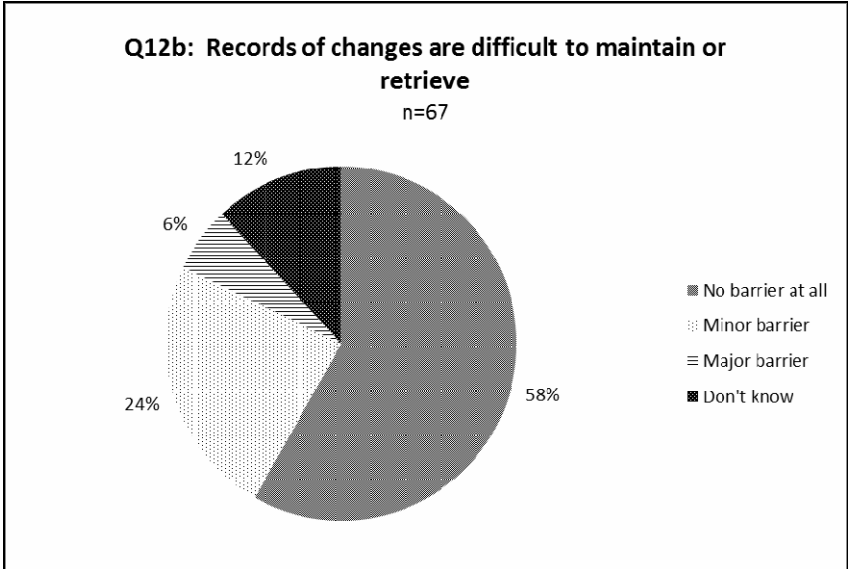


**Figure 7: Preference for Frequency of Updating NSTRI**

Among respondents familiar with the NSTRI, few reported significant barriers to providing the information requested by Contractors. Figure 8 through Figure 10 suggest that the clarity of the request (63 percent reporting no barrier at all), the difficulty of retrieving records about road changes (58 percent reporting no barrier at all), and time and manpower constraints (54 percent reporting no barrier at all) all pose little challenge in reporting information for the NSTRI.

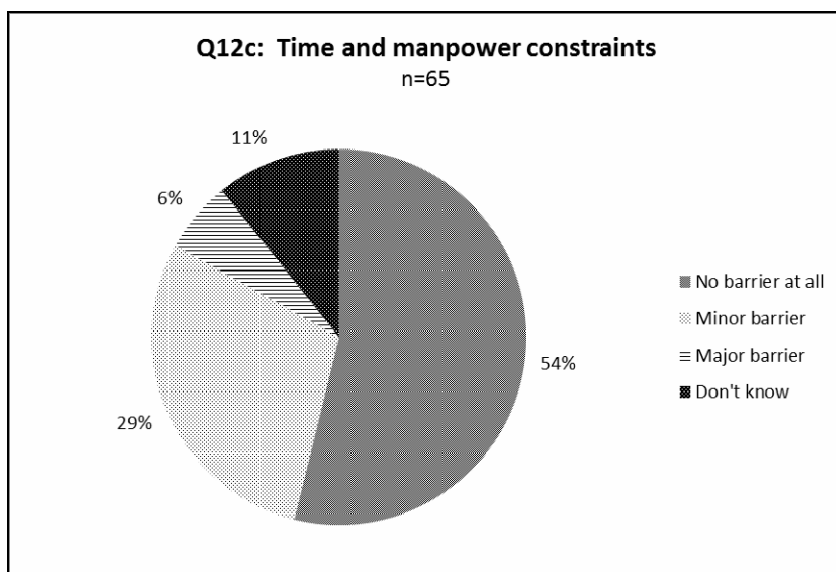


**Figure 8: Lack of Clarity as a Significant Barrier**



**Figure 9: Discovery of Changes as a Significant Barrier**





**Figure 10: Resource Constraints as a Significant Barrier**

Survey respondents were also asked if there were any other barriers to reporting to the NSTRI. Forty percent indicated that there were no other barriers at all and 60 percent reported being unaware of other barriers. Few respondents had any suggestions for other specific potential barriers.

Respondents next were asked to evaluate the difficulty of reporting particular types of information to the NSTRI. Among those indicating familiarity with the NSTRI, the majority reported little difficulty with reporting the critical information that populates the NSTRI.

For example, respondents suggested that alignment changes (67 percent reporting “not difficult at all”), surface type changes (77 percent reporting no difficulty), curb and gutter and shoulder changes (70 percent reporting no difficulty), vacated roads (72 percent reporting no difficulty), and newly constructed roads (79 percent reporting no difficulty) to be relatively easy to report.

Two exceptions are worth mentioning, however. First, 28 percent of the respondents reported that corrections to previously reported data were “somewhat difficult” to report (only 52 percent reported no difficulty). Second, while 70 percent of respondents indicated no difficulty in reporting vacated roads, 19 percent of respondents suggested some difficulty in reporting the same.

Respondents next were asked to evaluate the degree to which the changes that they report to the Contractors are considered and then incorporated into the NSTRI. Table summarizes responses from those noting familiarity with the NSTRI. The figure suggests that individuals reporting changes to the NSTRI are only somewhat certain<sup>52</sup> that the updates that they provide are acknowledged in the NSTRI.

<sup>52</sup> This conclusion comes from percentage of respondents reporting “don’t know” to the question.

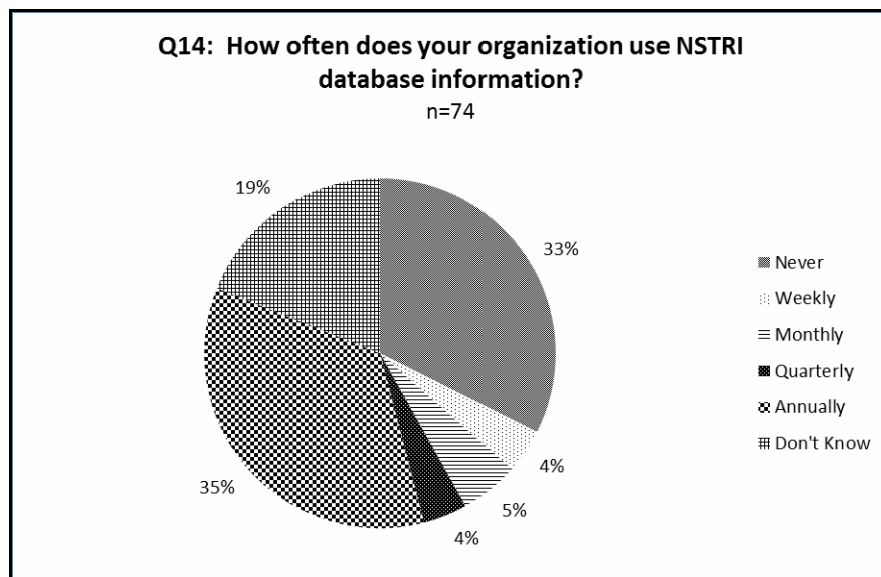
**Table 6: Respondents' Perspectives about Roadway Change Data Incorporation into NSTRI**

Change Type	Rarely or never incorporated	Usually incorporated	Always incorporated	Don't know
Alignment Changes (N=66)	30.3%	21.2%	19.7%	28.8%
Surface Types Changes (N=67)	29.9%	20.9%	25.4%	23.9%
Curb and Gutter/Shoulder Changes(N=63) <sup>53</sup>	27.0%	19.0%	20.6%	33.3%
Vacated Roads (N=65)	30.8%	23.1%	23.1%	23.1%
Newly Constructed Roads (N=65)	21.5%	23.1%	29.2%	26.2%
Corrections to Prior Data Errors (N=66)	22.7%	27.3%	18.2%	31.8%
Other (N=13)	23.1 %	15.4%	7.7%	53.8%

The results also suggest that a plurality of respondents reflecting on the alignment, surface, curb and gutter, and vacated roads changes believe that the updates provided at the local level are rarely or never incorporated into the NSTRI.

Given the interview data with SDDOT TIM officials and this survey data, it appears that misreporting at the local level and a need for clarity about what should or should not be reported by local authorities are contributing to a sense from respondents that their work is not being valued by the Contractors or SDDOT.

Respondents next reported on how frequently they or their organization uses the NSTRI, how useful the database is, and how useful individual items in the NSTRI are. The results are reported in Figure 11, Figure 12, and Table 7.

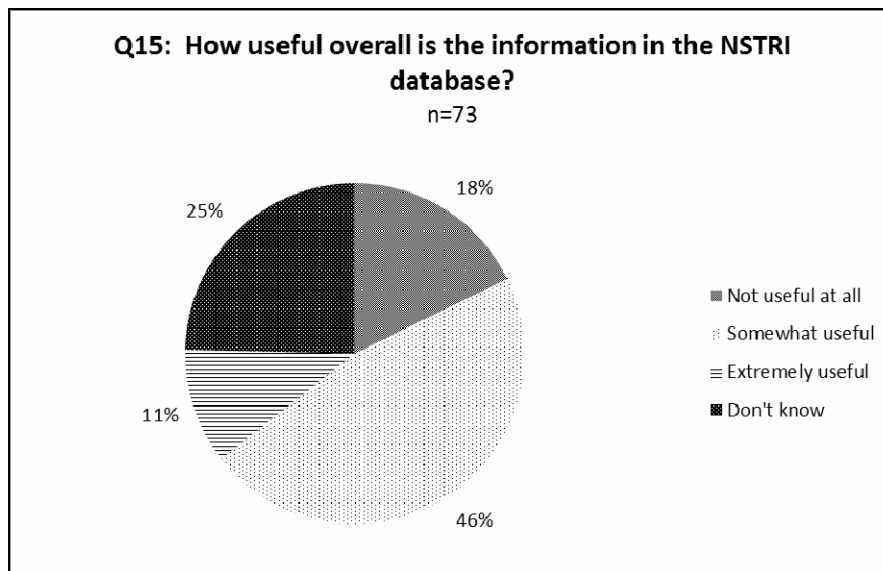


**Figure 11: Use of the NSTRI Database**

First, the NSTRI is rarely used even among those individuals familiar with it. Figure 11 indicates that a plurality of respondents (35 percent) consult the database only annually, with a slightly smaller percentage (33 percent) never consulting it at all.

<sup>53</sup> It should be noted that the curb and gutter changes are not depicted on maps that are sent out. Therefore, local authorities would not necessarily know from year-to-year if changes are incorporated into the database.

Figure 12 suggests that a majority of respondents familiar with the NSTRI also find the database either somewhat (46 percent) or extremely (11 percent) useful. Combined with Figure 11, the results indicate that individuals updating local roads data rarely are users of the NSTRI. Even so, some nonusers appear to regard the information in the database to be useful. The GRB assesses that, like most latent resources, those familiar with—but who choose not to use the NSTRI—appreciate knowing that it is available.



**Figure 12: Usefulness of the NSTRI**

When prompted to either directly assess or speculate about elements included in the NSTRI, respondents highlighted some elements of the NSTRI database to be more valuable than others. Table 7 suggests that there is nearly universal agreement that most of the elements in the database are at least somewhat useful. If one were to suggest potential cuts for collection, however, the lowest rated items appear to be “Terrain Type” (29.2 percent noting “not useful at all”), roadway geometry (25 percent not useful) and surface condition and rideability (19.4 percent not useful) data.

**Table 7: Usefulness of Individual NSTRI Data Fields**

NSTRI Element	Not useful at all	Somewhat useful	Extremely useful	Don't know
Road or Street Name (N=48)	8.2%	42.5%	42.5%	6.8%
Roadway Geometry (N=48)	25.0%	50.0%	12.5%	12.5%
Surface Type (N=47)	14.1%	54.9%	22.5%	8.5%
Surface Condition and Rideability (N=48)	19.4%	50.0%	19.4%	11.1%
Terrain Type (N=48)	29.2%	41.7%	15.3%	13.9%
Jurisdiction Type (N=48)	8.2%	45.2%	32.0%	13.7%
Federal Aid Eligibility (N=47)	12.7%	26.8%	38.0%	22.5%
Functional Class (N=46)	14.3%	37.1%	20.0%	28.6%
Urban-Rural Designation (N=45)	14.5%	44.9%	21.7%	18.8%
Speed Limit (N=44)	10.3%	54.4%	20.6%	14.7%

Beyond the specific questions asked, there were no substantive comments offered by respondents on the value, accuracy or elements of the NSTRI database. No relevant additional comments were offered in the section provided.<sup>54</sup>

## 5.4 Perspectives on the Cultural Inventory's Process and Value

The GRB examined the process of collecting Cultural Inventory data and the value of that data using two separate instruments: interviews and surveys. The sections below report the results of those efforts.

### 5.4.1 Interview Assessments of the Cultural Inventory

Most of the participants interviewed were unaware of the existence of the CI. Those that were aware of it often initially reported not being aware of it, and then upon being offered a context under which they may have come across it indicated that they may have some familiarity with it. For example, one respondent, after being offered some context, indicated:

- “Okay, well, then we probably have—we probably do use these, because we have airports, we have residences, we have churches, cemeteries. We have it, but we’re just—we don’t know that as a cultural inventory.”

Other participants who were familiar with the CI placed value on its contents. For example, present and former staff members of SDGFP indicated that the data in the CI had been included in the maps produced for hunting atlases, although it is not currently the practice of SDGFP to do so. An employee of the SDGFP offered the following assessment of why the CI data is no longer used:

- “And some of...the reason we removed that data is, is actually...because we had so many things on the map, it cluttered things up.”

However, according to a staff member of a SD Planning District, the data available in the CI is useful for a number of different actors at the local and county level. The following extended quote offers a participant’s assessment of how the CI data may be useful at the county and local level:

- “The biggest thing would always be for counties with planning and zoning. That is kind of a crucial piece of data when a county is dealing with planning and zoning because they like to buffer that cultural data by certain zoning constrictions... where they’ll say, no hog confinements within (for example) a lot of people always instantly throw out a mile – around an occupied structure or something like that. Well, once we buffer all those occupied structures, they’re able to geographically see – “wow, this really blocks out the whole county!”...They also utilize that data for emergency management, especially the utility information, all the cell tower locations, utility substation locations. Emergency management, at the local level - I don’t know what they do at the state – but at the local level, they utilize that information for a lot of pre-disaster mitigation plans, to where they can see where critical infrastructure is in the rural areas... The only times we have problems with that is – it’s dated. That data was only collected – we only maintain that information on new roads, but it’s the best information out there and counties would just like to see it somewhat updated.”

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54 Although the survey shows limited use of the NSTRI, each county auditor has access to mileage reports based on the NSTRI via TIM’s website. This information is provided to the counties to assist current and accurate proration of motor vehicle license funds. County Auditors were not included in the survey and other local officials may have been unaware of this use by county auditors.

Finally, a staff member in SDDOT's TIM office indicated that the office receives numerous requests from citizens and public officials for maps and information generated from the CI data base. As this respondent noted:

- "They go out to—anybody can request them, you can download them off of our Internet page or you can call and purchase them. We get people who are realtors, hunters, other tourists, other visitors. I've gotten calls from county officials looking for that information."

#### 5.4.2 Survey Assessments of the Cultural Inventory

Survey respondents were also asked in a series of questions to assess the CI data fields specifically. This section of the survey instrument included a screening question and skip logic such that respondents indicating no knowledge of the CI were guided to subsequent sections of the survey. Figure 13 indicates that a far smaller percentage of respondents (only 15 percent or 27 respondents) were familiar with the CI than were familiar with the NSTRI.<sup>55</sup> The small number of respondents reporting in the remainder of the CI questions should be kept in mind when interpreting the results.

<sup>56</sup>

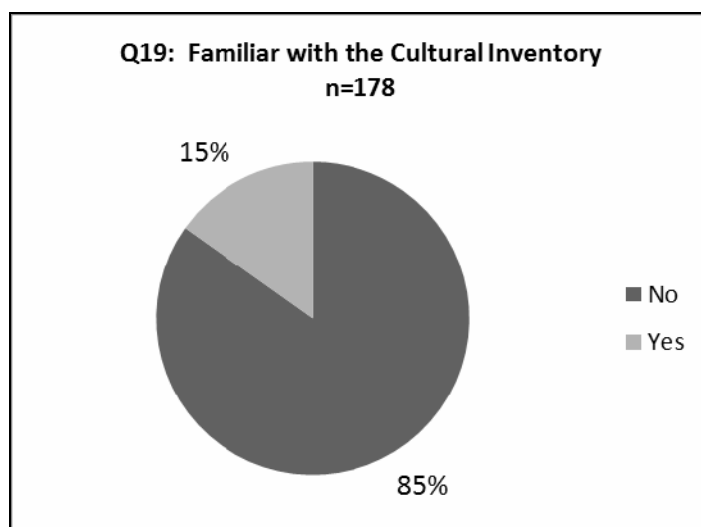
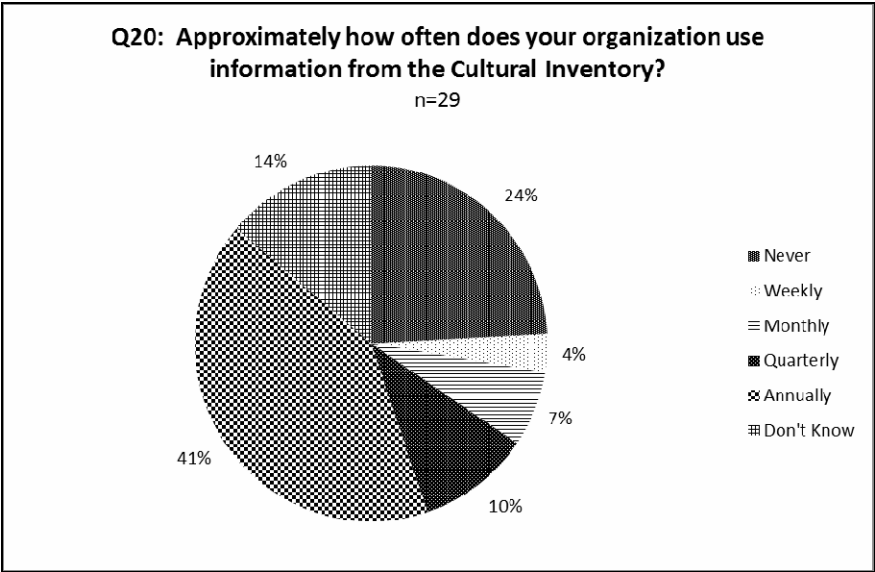


Figure 13: Familiarity with the CI

Respondents familiar with the CI were first asked about their frequency of use of the information derived from the CI, such as maps depicting the information. Figure 14 indicates that almost a quarter of respondents familiar with the database reported that they never use the information that the CI provides and only 21 percent reported more than once a year using the information from the CI.

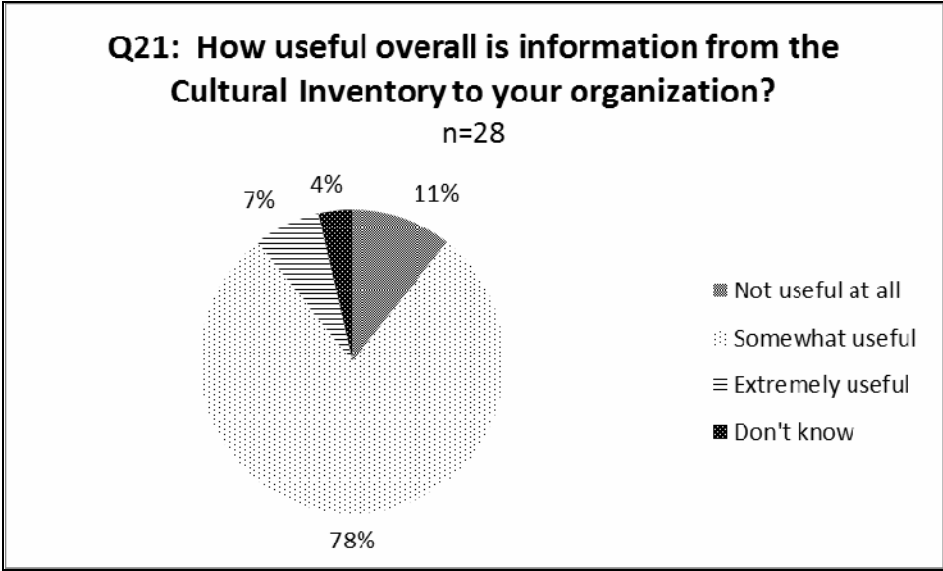
<sup>55</sup> While the small number of respondents makes it unadvisable to make generalizations from any trends, the GRB can report that more than half of those responding that indicated they were familiar with the CI were officials at the township level. More than a quarter of those familiar with the CI were county officials. This is roughly consistent with their overall representation in the sample.

<sup>56</sup> Of the 178 respondents answering Question 19, 27 indicated that they were familiar with the CI. Two respondents, however, failed to answer this question, but did answer subsequent questions in the CI section of the survey. Some respondents that indicated they were familiar with the CI failed to answer all of the subsequent questions. This explains the range of 26-29 respondents for the remainder of the graphs in this section.



**Figure 14: Use of the CI**

Next, respondents rated the usefulness of the information in the CI. Figure 15 illustrates that while the overwhelming majority of respondents familiar with the CI find the information at least somewhat useful, only 7 percent (2 respondents) indicate that it is extremely useful. Both of the respondents indicating that the information was extremely useful were city or county street/highway superintendents.



**Figure 15: Usefulness of the CI**

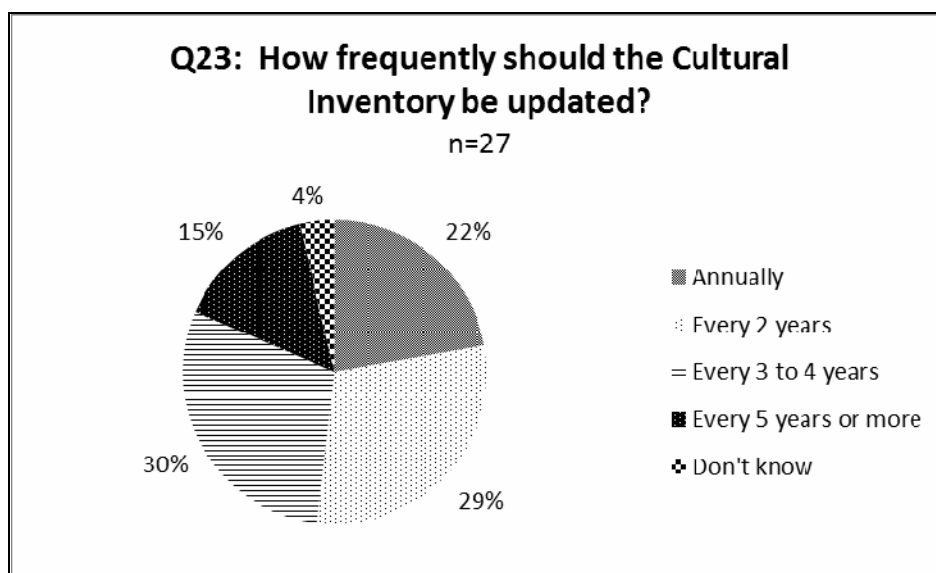
Respondents also were asked to indicate the usefulness of specific elements of the CI. Table 8 provides those results.

**Table 8: Respondents' Perception of Usefulness of CI Elements**

Cultural Inventory Element (N=27)	Not useful at all	Somewhat useful	Extremely useful	Don't Know
Utilities (Substations, power plants, water towers, waste water treatment facilities, etc.)	11.1%	59.3%	25.9%	3.7%
Emergency services (hospital, clinic, police, fire station, etc.)	18.5%	37.0%	44.4%	0.0%
Government buildings	29.6%	55.6%	14.8%	0.0%
Recreational facilities (pools, golf courses, fair grounds, etc.)	29.6%	48.1%	22.2%	0.0%
Schools	29.6%	37.0%	33.3%	0.0%
Churches	25.9%	48.1%	22.2%	3.7%
Airports	33.3%	40.7%	22.2%	3.7%
Rural residences	11.1%	44.4%	44.4%	0.0%
Rural businesses	14.8%	44.4%	37.0%	3.7%
Farms	15.4%	26.9%	57.7%	0.0%

The specific CI elements evaluated by survey respondents as being most useful are those that contain information about farms, rural businesses and residences, and emergency services. One interesting element that emerges from the analysis of the individual elements is that while only a small fraction of the respondents indicated the information in general was extremely useful, more of them found specific elements within the inventory to be extremely useful. It is important to remember, however, that the number responding to the CI questions was still a relatively small subset of total respondents. Results should be considered with this in mind.

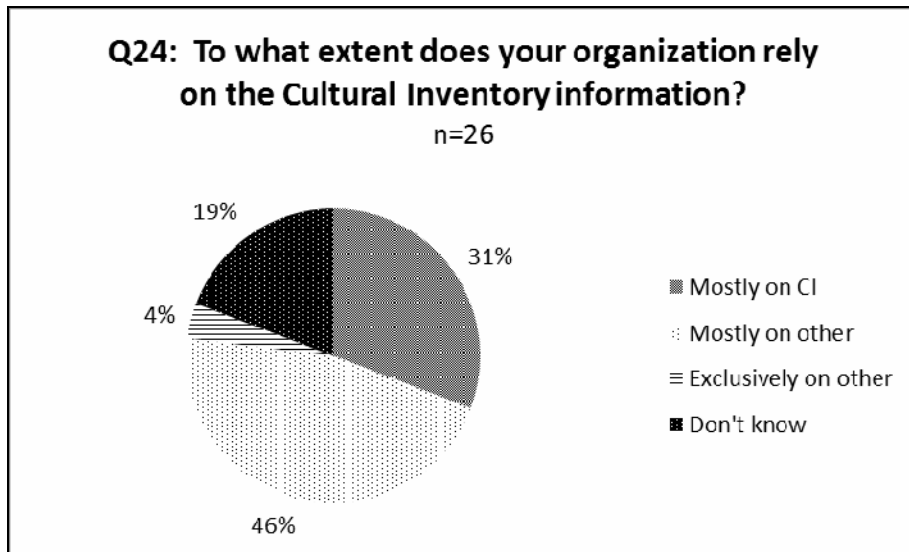
Similar to the NSTRI portion of the survey, respondents also were asked to report how frequently they thought the information in the CI should be updated. Figure 16 indicates that the overwhelming majority of respondents preferred that the information be collected less frequently.



**Figure 16: Preference for Frequency of Updating the CI**

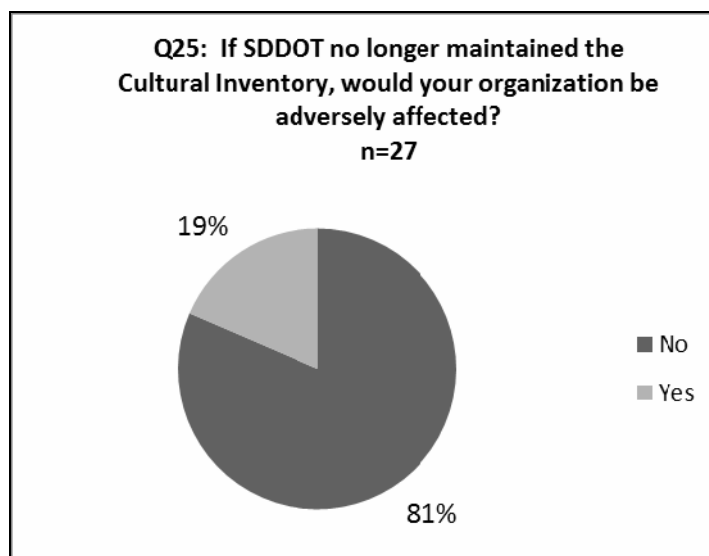
Next, respondents were asked about the extent to which their organization relied on the information contained in the CI. While the information in the CI may be useful to those surveyed it may not be the only available source of that information. Even if the information were useful, but were available

somewhere else, the added value of the CI may not be worth the maintenance costs. In fact, as Figure 17 suggests, the majority of respondents do *not* rely on the CI as their primary source of this type of information. No respondents reported that the CI was their only source of this information and only eight (8) respondents (31 percent) indicated that they or their organizations mostly rely on the CI for this information. Of these eight respondents, the majority were officials at the township or county level.



**Figure 17: Reliance on the CI**

Similarly respondents assessed whether or not their organization would be adversely affected should SDDOT decide not to maintain the CI. These responses are illustrated in Figure 18. Despite respondents indicating that certain components of the CI were extremely useful, only a relatively small minority—five (5) respondents (19 percent)—indicated that their organization would be adversely affected if the inventory were no longer maintained.<sup>57</sup>



**Figure 18: Adversely Affected by Elimination of the CI**

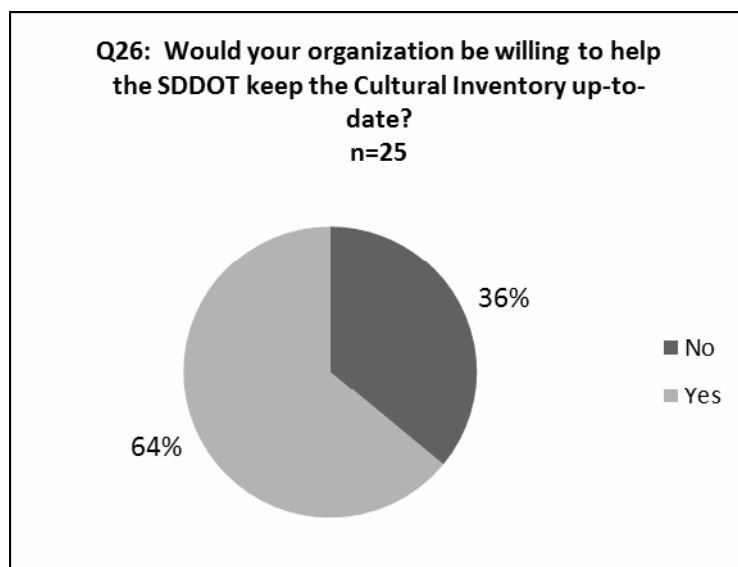
<sup>57</sup> Two of these respondents were City or County Street/Highway Superintendents, the other respondent categorized their position as “Other”.



Respondents who indicated that they were adversely affected also were asked to explain how they would be affected, but few chose to do so. One respondent said, “We would not be able to do maps of counties that do not have parcel information or the monetary resources to pay for data creation.” Two others indicated that the information was nice to have but not required or that they could get the information easily from another source.

Taken together, these items suggest that while a small number of organizations included in the sample find some of the information included in the CI useful, only a very small number consider the information essential. These results also suggest that SDDOT may need to consider if this small level of added value warrants the time and energy that is invested in maintaining the CI.<sup>58</sup>

Finally, respondents were asked whether or not their organization would be willing to help SDDOT keep the CI current by doing things such as notifying the Planning Districts and Councils of Government of new structures in their county, city, township, or other jurisdictions. Figure 19 indicates that even among those most familiar with the CI, a third indicated that they would not be willing to help SDDOT update the CI.



**Figure 19: Willingness to Help Maintain CI**

The survey respondents in large part support the conclusions that were drawn from the interviews. A relatively small proportion of the sample population is familiar with the data; those that were found limited pieces of information useful. Those same respondents were, however, able to find the same or similar information outside of the CI.

<sup>58</sup> Measuring the amount of additional time that it takes to collect the CI is difficult because collecting CI data happens in concert with Contractors driving roads in local jurisdiction and updating the NSTRI. Absent actual time data from the Contractors, estimating per hour costs for collecting CI data is impossible. The remaining cost to be quantified is the storage space on state servers and the costs of user interfaces so that CI users can access the data. A query of Erik Nelson at BIT indicated that these costs are negligible. The driving question related to costs, then, is whether or not the CI is worth the inconvenience to collect and whether or not any costs are justified given the limited value that the CI appears to have to users and the low level of awareness that exists among local road officials in the state.

### 5.4.3 Items in the Cultural Inventory and Alternatives for Collecting those Items

If SDDOT cuts the CI or no longer maintains particular elements, it is helpful to evaluate each of the items individually in terms of what it currently provides and how it could be replaced. Below is a list of and definitions for each of the items currently collected in the CI and a description of and link to alternative data sources.

Items currently collected and maintained in the CI:

- **Road Event.** This column indicates if there is a tunnel or other “road event” to be recorded in the CI. If “other” is selected then a further description such as cattle guard, spillway, floodgate, or trail is provided in the Description or Comments columns.
- **Structures.** This column lists if there is an actual building at a particular location. These buildings or structures include items such as an armory, business, church, city office, clinic, college, colony, community center, courthouse, elevator, farm, fire hall, garage, government office, hospital, law enforcement facility, library, museum, prison, rural residence, school, senior center, or town hall, among others. If “other” is selected a further description is provided in the comments section such as American Legion, large storage, school bus garage, etc.
- **Status.** This column indicates whether the building being reported in the “structures” column is abandoned, occupied, or unoccupied and whether the dwelling is a seasonal or multi-resident unit.
- **City Code.** This column includes a coded designation for specific cities in South Dakota.
- **County Code.** This column includes a coded designation for specific counties in South Dakota.
- **Description.** This column provides a description of locations that are tracked but that are not physical structures or road events. Such locations include airstrips or ball parks. The column also provides a further description for structures or road events that are recorded as “Other.” For buildings this comment will often indicate who owns the building such as state, federal, DOT, etc.
- **Comments.** Allows for any additional description of other elements.
- **New.** A binary variable indicating recent updates or changes.
- **Shape.** Geo-coordinates for use with a shape file and/or GIS mapping software.

Many of the CI items noted above—except those that are internal use only, such as “New” or are unique descriptors such as “Description” or “Comments,” can be found by accessing Federal Government and private data providers. Most often, these data providers supply GIS Shape files that layer according to the data users specifications. Below is a list of the best resources available:

**TIGER Road Data.** This database is collected and maintained by the US Census Bureau. The database includes information distributed over a series of record types for the spatial objects of a county. The information includes address ranges and ZIP Codes, codes for legal and statistical entities, latitude/longitude coordinates of linear and point features, landmark point features, area landmarks, and area boundaries. These data can be layered using GIS software—including proprietary Census Bureau software distributed to local users and also available through the South Dakota Bureau of

Information Technology (SDBIT). The most recent TIGER Shape File iterations (for CY2009) are available at: <http://www.census.gov/geo/www/tiger/tgrshp2009/tgrshp2009.html>

Technical files and database descriptors are available at:

<http://www.census.gov/geo/www/tiger/tgrshp2009/documentation.html>

A fulsome FAQ page to inform users about potential value in the database (along with user questions) is available at: <http://www.census.gov/geo/www/tiger/faq.html>

**Tele Atlas Dynamap/2000** is a privately maintained and updated ESRI Shape File-based data system that collects information worldwide from both public and private sources. This nationwide geographic database contains highways, railroads, airports, point features (ex. churches, schools, public buildings, hospitals), and water features. It also contains Census and Postal ZIP layers, parks, county and state boundaries, cities, area landmarks, places and major retail locations. NRCS and FSA officials affiliated with the US Department of Agriculture have a negotiated database agreement with Tele Atlas to use the Dynamap database.

The most recent Dynamap information is available at:

<http://www.teleatlas.com/OurProducts/MapData/Multinet/index.htm>

**Other Federal Government Sources.** The US Department of Agriculture (USDA) and the US Geological Survey (USGS) also maintain a variety of databases that provide information on soil, hydrography, elevations, and climate.

A clearinghouse of data that is broadly applicable to the fields in the CI can be found at the USDA Geospatial Data Gateway at: <http://datagateway.nrcs.usda.gov/statusmaps.aspx>

Additional conversations with end users of the CI who were not included in the original stakeholder interviews or survey data (in particular, personnel at SDBIT) have revealed that some of these additional data sources do not provide accurate or reliable data for South Dakota, particularly in more rural areas. While the GRB fails to see enough use of the CI to warrant the cost of continuing to update and maintain it, the CI may be the best available source for some of this information given that the data is collected by individuals most familiar with the geography and road systems in South Dakota.

## 6 RECOMMENDATIONS

The GRB reviewed the findings from its legal review and interview and survey work to craft a series of recommendations for SDDOT. The following represent those recommendations in the specific areas of defining and establishing purposes for public roads in South Dakota and assessing the value of and process for updating the NSTRI and CI.

- 1. SDDOT should publish and distribute the educational brochure—included in this report as Appendix E—to clarify for public road stakeholders what the definition of a public road is in South Dakota, what the NSTRI process is and how local road stakeholders participate in that process, how roads are to be properly vacated in South Dakota, and how to add or delete roads from the county primary road system.**
- 2. SDDOT and LTAP should present outreach training based on the PowerPoint presentation—included in this report as Appendix F—that includes the information noted in (1) above.**

The survey and interview data from SD2009-02 show that those requested to provide road information for the NSTRI have a number of different definitions about what constitutes a public road in South Dakota. The brochure and PowerPoint presentation provide specific definitions of public roads and the purposes of those roads. Those materials and the associated briefings offered by SDLTAP should help limit, or eliminate altogether, the lack of clarity that local road officials have about public roads definitions and purposes.

The brochure and PowerPoint presentation clarify that maintenance responsibility for highways does not equate to responsibility for reporting to the NSTRI. Maintenance responsibilities for roads in South Dakota are established under SDCL §31-1-4 and spread throughout three different titles: Title 9, Title 11, and Title 31. All three titles must be read in their entirety to find out who has jurisdictional maintenance responsibilities for the road. Also, the legislature has not defined the level of maintenance required by the authority that has jurisdiction over the highway. Consequently, the party that has jurisdiction over a road may be different from the party reporting on a public road. SDDOT should clarify the NSTRI reporting process by educating local public road stakeholders about the importance of reporting the public roads under their jurisdiction, which roads they should and should not report, and the proper procedure for reporting additions, changes, and vacations within their jurisdiction.

To enhance the NSTRI reporting process, the brochure and PowerPoint presentation highlight the purpose for collecting local roads data, define what the NSTRI is and why sending changes to the Contractors is important, explain how the NSTRI can be accessed and used by local officials, and clarify what items are included in the NSTRI. SDLTAP training and outreach efforts should emphasize the value of the NSTRI process and “what is in it” for local road officials when they are asked to report changes to the roads under their jurisdiction.

The brochure and PowerPoint presentation also include specific sections that address proper vacating procedures for public roads in South Dakota. SDCL by itself specifies how to vacate public roads in South Dakota, but the interview and survey data collected during this project suggest that some confusion exists among public road stakeholders about how to properly vacate public roads in the state. This confusion can be mitigated by educating public road stakeholders through the brochure and PowerPoint presentation.

Finally, the brochure and PowerPoint presentation detail how local road officials can properly add or delete roads from the county primary road system. These details were added to the educational

materials at the request of the Technical Panel with the supposition the brochure—with information about defining and vacating public roads in the state—would be an appropriate venue to convey information about adding and deleting roads.

### **3. TIM should include road districts officials in the NSTRI data collection process.**

Public roads that are under the jurisdiction of a formally established road district are likely to go unreported because TIM in the past has not contacted road district officials. Township, municipality, and county officials may assume that because road district roads are not under their legal jurisdiction, those roads should not be reported. To mitigate these reporting problems, TIM should create a list of points of contact for all road districts within South Dakota and include these administrators in subsequent requests for updates and information. Such a step will ensure that road district public roads are properly identified and updated in the NSTRI.

### **4. TIM should modify the data elements of the NSTRI to follow past recommendations and the current “HPMS Reassessment 2010+” requirements. These modifications include deleting data items and combining or deleting data codes, as necessary.**

FHWA reporting requirements indicate that there is little flexibility to collecting required NSTRI items and doing so on an annual basis. The GRB integrated the recommendations from SD2000-03 authored by GIS/Trans, Ltd., the 2006 “HPMS Field Manual”—and related “HPMS Reassessment 2010+” revision—and the GRB’s own assessment about the value of each item in the NSTRI to conclude that TIM delete the “rideability”, “surface condition”, and “year last surfaced” data fields.

Because the “HPMS Reassessment 2010+” requires a series of changes to what is to be reported to the FHWA,<sup>59</sup> TIM should combine the “shoulder type” data codes “Blotter” (less than 1” thick asphalt mix) and “Asphalt” (more than 1” thick asphalt mix) into one code, “Bituminous”. The “surface type” field also should combine data codes “Bituminous Surface-treated” (1” or less) and “Mixed Bituminous” (more than 1” thick) into one code, “Bituminous”. Data codes for “Parking” should be changed to match new HPMS requirements, where 0=not attributed, used for all roads outside of Urban Areas, 1=Parking allowed on one side, 2=Parking allowed on both sides, and 3=No parking allowed or none available. Finally, TIM should delete the data code “Hilly” in the “terrain” data field. All segments coded as “Hilly” will be converted to “Rolling” except the Black Hills area will be converted to “Mountainous”.

### **5. TIM should archive, no longer update, and leave the CI data in a centralized repository.**

The interview and survey data indicate that little is known among South Dakota’s public road stakeholders about the CI. Further, the survey indicates that few public road stakeholders would be harmed by no longer having access to an updated CI. Knowing this, TIM—in concert with the South Dakota Bureau of Information and Telecommunications (SDBIT)—should archive the CI and make it easily accessible via a centralized online repository. The data included in the CI that is least likely to be available elsewhere is found in the most rural areas of the state, in which little significant change is expected. The database thus will remain static but still a valuable resource for those who need it. No further time or money should be spent by SDDOT, however, to regularly update the CI. TIM or SDBIT should include on the front page of the online CI archive a disclaimer that reports that the information included in the CI is no longer updated.

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<sup>59</sup> Please see Appendix A for a full list of required changes.

Should existing CI users<sup>60</sup> wish to have access to more updated CI-like information, TIM should direct those users to a private vendor such as TeleAtlas. Further, the Federal Government is a resource for a good deal of this data (in particular, the US Department of Agriculture, the US Census Bureau, and the US Geological Survey) and relationships between state and agencies in South Dakota can be leveraged to make use of US Department of Agriculture access to the TeleAtlas and Intermap private vendor resources. Between private vendors, Federal Government sources, and a static CI, existing CI users should have a rich set of resources upon which to continue their work.<sup>61</sup>

- 6. SDDOT should be prepared to author legislation to change SDCL to require public entities, in particular: 1) a county register of deeds to inform TIM within 30 days that a public road has been vacated, 2) a county auditor to inform TIM of transfers of roads among jurisdictions when an organized township is dissolved, or created, or 3) a county auditor or township clerk notify TIM when a township is dissolved, or created.**

TIM officials report that the process of validating vacated roads for the purpose of the NSTRI is complicated by a number of factors including getting vacated road documents from county officials or being notified of transfers of roads among jurisdictions (for example, when an organized township is dissolved and its roads are transferred to the county). This has become a challenge because some county officials willingly provide that information while others do not. When jurisdictions change without TIM being notified or vacated roads go unreported to TIM, TIM personnel must contact county officials to verify transfer of jurisdiction or that a road that has in fact been properly recorded as vacated with the county register of deeds. If the vacation documents are not recorded with the register of deeds, then the road remains in the inventory. One approach to ensuring that vacated roads or transfers of jurisdiction are received by TIM in a timely fashion is to add language to SDCL §31-3-11 and §9-45-12 that requires a county register of deeds to inform TIM that a public road has been vacated in a jurisdiction. The 30-day deadline will ensure timely reporting. Similarly, language could be added to SDCL §31-3-8 requiring County auditors to notify TIM of location, change and vacation of county and township highways, and language could be added to SDCL 9-45-37 requiring city auditors or clerks to notify TIM regarding any opening, altering, or vacating of any streets and alleys. Furthermore, SDCL 31-19-63 and 31-19-64 could be revised to require a public entity that is transferring rights of way to notify TIM of the transfer. Finally, SDCL 8-1-24 could be amended so that when a township is dissolved, the township clerk or the county auditor must notify TIM.

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<sup>60</sup> The number of survey respondents that were even aware of the CI was low (15 percent) and even fewer (5 of 178 respondents, or 2.8 percent) indicated that the CI was currently a primary source of information for them or their organization.

<sup>61</sup> According to Erik Nelson from SDBIT, SDBIT has limited access to the TeleAtlas product called Dynamap. Nelson contends that Dynamap's data for South Dakota is poor and that the CI is a more accurate representation of ground-truth. The GRB, in conversation with Nelson, determined that the CI is relatively static, however, so a lack of updates to the CI likely would have little overall effect on the database's accuracy and value. Source: Interview with Erik Nelson. 10 February 2010.

## Appendix A: Summary Table of HPMS Updates<sup>62</sup>

New / Change	Date item description	Description of change or new data	Level of effort
Change	Route ID	Route identification portion of LRS	-1
Change	Begin Point	LRS beginning point	-1
Change	End Point	LRS ending point	-1
Change	Urban Code	Adopt new Census Urban Codes	0
Change	Functional System Code	Eliminate rural / urban bifurcation	1
Change	National Highway System Code	FHWA to provide	-1
Change	Route Number	Slight change to coding	1
Change	Ownership	Make consistent with bridge	1
Change	Facility Type	Slight change to coding, added ramps as type of facility	2
Change	HOV Type	Slight change to coding	1
Change	AADT	Require for all Federal-aid eligible roads	2
Change	Future AADT	Add future AADT year as attribute	0
Change	Percent Peak Single Trucks	Carry to nearest 0.1%, not rounded and not zero	1
Change	AADT Single Trucks	Report actual volume, not percent	1
Change	Percent Peak Combination Trucks	Carry to nearest 0.1%, not rounded and not zero	1
Change	AADT Combination Trucks	Report actual volume, not percent	1
Change	Median Type	Slight change to coding	0
Change	Widening Potential	Slight change to coding	1
Change	IRI	Report annually for NHS and include bridges and RR crossings	3
Change	Surface Type	Change in code, can provide estimate if unknown	1
Change	Climate Zone	FHWA to provide	-1
New	Route Prefix	Where applicable, add route prefix	1
New	Route Suffix	Where applicable, add route suffix	1
New	Alternative Route Name	Optional field	0
New	Is Structure	Location of bridges, currently included in Facility Type	1
New	Special Toll Lanes	Where applicable, identify if toll in both directions or only one	1
New	Counter Peak Lanes	Identify number of lanes in counter peak direction	1
New	HOV Lanes	Where applicable, identify number of toll lanes	1
New	Widening Obstacle	Identify obstacle to widening	1
New	Rutting	Measured pavement rutting	2
New	Faulting	Measured pavement faulting	2
New	Cracking Fatigue	Measured pavement fatigue cracking	2
New	Cracking Transverse	Measured pavement transverse cracking	2
New	Year Last Construction	Year of last construction, leave blank if unknown	1
New	Last Overlay Thickness	Thickness of last overlay, can provide estimate if unknown	1
New	Thickness Rigid	Rigid pavement thickness, can provide estimate if unknown	1
New	Thickness Flexible	Flexible pavement thickness, can provide estimate if unknown	1
New	Base Type	Type of base material, can provide estimate if unknown	1
New	Base Thickness	Base thickness, can provide estimate if unknown	1
New	Soil Type	FHWA to provide	-1
New	Curves	Location and severity or class of curves	2
New	Grades	Location and severity or class of grades	2
<p>Level of Effort Scale</p> <p>-1 — Improvement, less effort than now.</p> <p>0 — Relatively no change in level of effort</p> <p>1 — Can be generally accommodated within the current or planned data collection structure within most state DOTs.</p> <p>2 — May result in some burden to some states (will require change to collection process and/or additional resources).</p> <p>3 — Will result in additional collection/coordination burden on most states i.e., pavement.</p>			

<sup>62</sup> Federal Highway Administration. 2008. "Reassessment HPMS 2010+", Table 5.2 Estimated Level of Impact for New and Changed Data Items, Available at <http://www.fhwa.dot.gov/policy/ohpi/hpms/2010/index.cfm>. Accessed 23 June 2010.

## Appendix B: Summary of Legal Review

### Public Highways in South Dakota

The United States Congress granted the right to construct highways over public lands in 1866.<sup>63</sup> Congress put forth the development of these highways without any reservation except as to lands devoted to the use of the public.<sup>64</sup> The Dakota Territorial Legislature of 1871 accepted this grant and subsequently provided that "... hereafter all section lines in this Territory shall be and are hereby declared public highways as far as practicable..."<sup>65</sup> SDCL 31-18-2 provides the width of these statutory section line highways as sixty-six feet, thirty-three feet on each side of the section line."<sup>66</sup> "As long as the section line has not been legally vacated the public has a right to travel on it."<sup>67</sup> The federal statute made the dedication, the territorial statute accepted it, and at the same time designated the location of highways.<sup>68</sup>

In 1929 the legislature enacted the Uniform Motor Vehicle Act, Chap. 251, Laws of 1929.<sup>69</sup> This act created the definition of highway and set forth the words 'Every way or place of whatever nature open to the use of the public, as a matter of right, for purposes of vehicular travel'.<sup>70</sup> There have been no changes to this definition.<sup>71</sup> Today, the term highway is generic in South Dakota law and includes any road as long as it is open to the public.<sup>72</sup>

A public highway may be created by prescriptive easement pursuant to SDCL 31-3-1. Whenever any road shall have been used, worked, and kept in repair as a public highway continuously for twenty years, the same shall be deemed to have been legally located or dedicated to the public, and shall be and remain a public highway until changed or vacated in some manner provided by law.<sup>73</sup>

Rural secondary highways come about in a variety of ways. SDCL 31-3-6 through -9 identify a method for developing a rural secondary highway. Some formal action by the county commissioners or township board or some course of conduct, evidencing that the county has accepted supervision, is necessary in order to establish a secondary highway. This is completed by receiving petitions bearing a request number of names that states the need to locate the highway within the township or county.<sup>74</sup> This formal action or course of conduct is also referred to as "opening" the road to the public for the purpose of vehicular travel.<sup>75</sup>

SDCL 31-18-1 provides there is along every section line in this state a public highway located by operation of law, except where some portion of the highway along such section line has been heretofore vacated or relocated by the lawful action of some authorized public officer, board, or

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<sup>63</sup> § 8, Ch 262, 14 Stat 253, 43 USCA § 932; *Great Northern Ry. Co v. Town of Viborg*, 17 SD 374, 97 N.W. 6 (1903).

<sup>64</sup> *Id.*

<sup>65</sup> *Costain v. Turner County*, 72 SD 427, 428, 36 NW2d 382, 383 (1949).

<sup>66</sup> *State v. Tracy*, 539 NW2d 327, 329 (SD 1995).

<sup>67</sup> *Id.* (citing *Barney v. Burlington Northern R.R. Co., Inc.*, 490 N.W.2d 726, 732 (SD 1992), (cert. denied by *Kaubisch v. South Dakota*, 507 US 914, 113 S.Ct 1265, 122 LEd2d 661 (1993)); *Gustafson & Co. v. State*, 84 SD 238, 242, 169 N.W.2d 722, 724 (1969); *Lawrence v. Ewert*, 21 SD 580, 583, 114 N.W. 709, 710 (1908)).

<sup>68</sup> *Id.*

<sup>69</sup> *Gustafson & Co. v. State*, 169 N.W.2d 722, 725 (S.D. 1969).

<sup>70</sup> *Id.*

<sup>71</sup> See SDCL 31-1-1 (current statute regulating definition of highway).

<sup>72</sup> *City of Rapid City v. Hitchcock*, 2008 SD 65, ¶ 4, 753 N.W.2d 895, 898.

<sup>73</sup> SDCL 31-3-1.

<sup>74</sup> SDCL 31-3-6.

<sup>75</sup> Rusch at 261.



tribunal. Every section line shall be sixty-six feet wide with thirty-three feet on each side of the section line.<sup>76</sup> It is not necessary for the county or township having authority over the section line to take any action to “open” or establish a public highway along such lines.<sup>77</sup> However, even if the responsible governmental body has not accepted responsibility and supervision over the section line public highway, the public body is obliged to see that the adjacent landowners do not create artificial obstructions that would block the public from using the section line highway.<sup>78</sup>

The guidelines for cities and townships to establish public highways (alleys and streets) are found by reading several statutes together.<sup>79</sup> SDCL 11-3-6 states that new streets and alleys should conform to the system of streets and alleys of the existing plat of such city or town. The governing body of a municipality shall, by resolution, approve any plat to an addition to the municipality before it can be permanently recorded. SDCL 11-3-12 then provides that once the plat is recorded, the land intended for alleys or streets can be used for no other purpose. SDCL 9-45-1 grants to municipalities the authority to layout, establish, open, and improve streets and alleys. Once dedicated, no alley shall be vacated by the governing body of a municipality except upon the petition and consent of adjoining property owners.<sup>80</sup>

Under SDCL 31-3-1, once a public highway is established, it remains a public highway until vacated in some manner provided by law. The appropriate governing board must act affirmatively to vacate or abandon a highway.<sup>81</sup> Evidence that the highway was never opened, improved, or traveled—without affirmative action—does not establish a proper vacation or abandonment under law.<sup>82</sup>

## Categories and Administration of Highways

The South Dakota Legislature has established four different categories of highways for the purpose of clarifying the duties and powers of the various governmental state agencies charged with the administration of the highways in South Dakota.<sup>83</sup> Under SDCL 31-1-4, “The highways of this state consist of streets and alleys within the limits of municipal corporations, the state trunk highway system, the county highway systems of the several counties, and all other highways denominated secondary highways.”<sup>84</sup> While SDCL 31-1-4 lists four categories of highways, only the state trunk highway system, the county highway systems, and the secondary highways are further discussed in Title 31. Information for streets and alleys can be found in SDCL 9-45-1 and SDCL 11-3-6.

SDCL 31-1-5 provides administrative direction for the state trunk highway system, the county highway systems, and two types of secondary highways. The first category is the state trunk system. The state trunk system is designated by statute to be controlled and supervised by the Department of Transportation.<sup>85</sup>

The second category of highway is the “county highway system”. Under the county highway system, the Counties are responsible for the highway system within the county borders and the county’s secondary

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<sup>76</sup> SDCL 31-18-2.

<sup>77</sup> *Douville v. Christensen*, 2002 SD 33, 641 N.W.2d 651.

<sup>78</sup> Rusch at 261.

<sup>79</sup> *Herrmann v. Board of Commissioners*, 285 N.W.2d 855 (S.D. 1980).

<sup>80</sup> SDCL 9-45-7

<sup>81</sup> *Id.*

<sup>82</sup> *Id.* (citing *Thormodsgard v. Wayne Township Bd. Of Supervisors*, 310 N.W.2d 157, 159 (S.D. 1981)).

<sup>83</sup> SDCL 31-1-5; SDCL 31-1-5.

<sup>84</sup> SDCL 31-1-4.

<sup>85</sup> SDCL 31-1-5(1).

highways.<sup>86</sup> “County system highways” are roads designated by the county commissioners and approved by the state department of transportation. The county is responsible for any judicially declared public highway when that road becomes part of the county highway system.<sup>87</sup>

The third category of highways is the “county secondary highway.” County secondary highways include the rural local highways in an organized county which are not approved to be part of the county highway system.<sup>88</sup> County secondary highways remain under the supervision of a board of county commissioners.<sup>89</sup>

The final category of highways is the “township highway”, which includes any secondary highways administered by organized townships.<sup>90</sup> Under South Dakota law, townships<sup>91</sup> are obligated to pay for “... the construct[ion], repair, and maint[enance] [of] all ... secondary roads within the township.”<sup>92</sup> In areas where a county has not established a township, commonly referred to as an unorganized township, the county government is responsible for the construction, repair and maintenance of the “secondary roads”.<sup>93</sup>

The SDCL 31-1-5 highway administrative scheme divides the burden and responsibility of South Dakota highways between the state, the counties, and the organized townships.<sup>94</sup> The responsibility for streets and alleys is given to the municipality in which the street or alley is located.

## Identified Problems with Terminology

Problems arise because South Dakota Supreme Court cases, attorneys general opinions, state agencies, county boards of commissioners, and general voters inadvertently use the terms “public road”, “public highways”, “secondary highways”, and “highways” as interchangeable. Many public officials and the state’s citizens are unaware that the term highway includes “every way or place of whatever nature” if it is open to the public and used for vehicle travel while the term public road does not exist in South Dakota’s statutory scheme.

The Honorable Arthur L. Rusch, presiding judge of the First Circuit, addressed these problems in his 2003 article “Doville v. Christensen: An Answer to the Issue of Township Responsibility for the Improvement of Section Line Rights of Way.”<sup>95</sup> The following passages are Judge Rusch’s compilation of South Dakota Supreme Court cases and attorneys general opinions that have treated such terms as “public highways” and “secondary highways” as interchangeable. The following is an extended, but necessary summation of Judge Rusch’s assessment:

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<sup>86</sup> SDCL 31-1-5(2).

<sup>87</sup> *Smith v. Albrecht*, 361 N.W.2d 626, 628 (S.D. 1985),

<sup>88</sup> SDCL 31-1-(4)

<sup>89</sup> Rusch at 251

<sup>90</sup> SDCL 31-1-5 (3).

<sup>91</sup> Rusch at 247, FN 1 (Townships are the smallest subdivision of local government. They are a division of and created by county government. SDCL § 8-1-2 (1993). They may be established with no more than five voters. SDCL § 8-1-3 (1993 & Supp. 2002). A “congressional” township consists of an area six miles by six miles. 43 U.S.C. § 751 (2000). However, as many as four “congressional” townships may be combined in order to create a “civil” township with the requisite number of voters. At annual township meetings the voters have broad powers to direct the actions and activities of the townships. SDCL § 8-3-2 (1993)).

<sup>92</sup> *Van Gerpen v. Gemmill*, 33 N.W.2d 278, 279 (SD 1948).

<sup>93</sup> SDCL 31-12-26; SDCL 31-12-27.

<sup>94</sup> *Van Gerpen* at 279.

<sup>95</sup> 48 S.D. L. Rev. 247, 251 -255 (.2002-2003)

In *Lawrence v. Ewert*<sup>96</sup> the South Dakota Supreme Court held that there is a public highway along every section line. The court held “the term ‘public highway’ means more than a right of way over which a highway may be established, and that it is a passage or road which ‘every citizen has a right to use’,” and that “no action of boards of county commissioners or supervisors of townships is required to establish or open such highways as are practicable on section lines.” However, this case involved an effort by Sully County to prevent landowners from blocking section lines by erecting fences across them and did not involve a county's obligation to construct, repair or maintain section line highways. Again in *Dave Gustafson & Co. v. State*, the court held that there is a public highway along every section line, by operation of law, which every citizen has a right to use and that no action by any official is necessary to establish or open such highway. This case involved collection of motor fuel taxes utilized on public highways and did not involve a county's obligation to construct, repair or maintain section line highways. In *Smith v. Albrecht*, the Supreme Court held that Meade County was an indispensable party to a lawsuit to determine whether a road (which was not on a section line) had been dedicated and accepted as a “public road.” The court held that if the trial court determined that this was a “public highway,” it would then be part of the county highway system and the county could be ordered to maintain it. Although the decision in *Smith v. Albrecht* is based upon SDCL § 31-12-19, (which refers to “secondary highways”) the court, in its opinion, treats the terms “public roads,” “public highways” and “secondary roads” interchangeably.

In 1989, Former Attorney General Roger Tellinghuisen issued an opinion that section line highways are secondary highways, which must be maintained by the county, if they are outside of a municipality or organized township, although indicating that the county had broad discretion in the amount of maintenance performed.

I would, however, differentiate section line highways from platted streets and roads. It is plain that the Legislature has designated section line highways as secondary highways. The maintenance, improvement, and construction on them does come under the county's responsibility under SDCL 31-12-26, if they are outside any municipality or organized township. They could be designated as minimum maintenance pursuant to SDCL 31-13-1.1 and - 1.2. In addition, there is considerable discretion in the county commissioners as to level of maintenance of highways, even where a duty to maintain arises. In this opinion the attorney general did not cite any statutes or case authority nor explain his rationale for concluding that section line highways (public highways) were automatically secondary highways. The following year, in *Bryant v. Butte County*, the Supreme Court held that counties did not have broad discretion in whether to maintain secondary highways. The court held that a county's duty to maintain bridges located on a section line highway was ministerial and properly enforced by a writ of mandamus. The court found that the “shall” in SDCL § 31-12-26 imposed a mandatory duty on counties to maintain their secondary roads. If this Supreme Court opinion is read in conjunction with the 1989 attorney general's opinion, it imposes a mandatory duty on the part of the county to maintain a road on every section line.

In 1995, in *Matters v. Custer County*, the Supreme Court addressed the issue of whether a writ of mandamus would lie to compel a county to maintain a road, which was not a section line, used as access to the plaintiff's home. Following its decision in *Bryant v. Butte County*, the court treated the terms, “public highway” and “secondary highway” as the same and appears to indicate that all section lines are secondary highways. Although the Supreme Court \*253 used the terms “public highway” and “secondary highway” interchangeably they did not explicitly state that they meant the

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<sup>96</sup> Original footnotes from Rusch's article have been removed.

same thing and did not discuss any rationale for treating them as meaning the same. Although it was dicta, because the road in question was not on a section line, the Supreme Court agreed with the trial court's conclusion that one of the ways that a road became a secondary highway was if it was a section line highway. Unfortunately, the court's interchangeable use of the terms "public highway" and "secondary highway" makes it appear that the county has a duty to maintain all public highways, including those that are public highways by virtue of being section lines. In 1998 this issue arose again in *Willoughby v. Grim*, which also involved a writ of mandamus seeking to compel maintenance of a secondary road. In this case the Supreme Court relied upon *Bryant v. Butte County* and *Matters v. Custer County* in finding that maintenance of secondary roads was mandatory and could be enforced by mandamus. However, apparently recognizing the large expense that would be involved in maintenance of this one road that was sparsely used, the Supreme Court held that mandamus would lie to compel maintenance but that the township had discretion in the extent to which it would maintain the road.

In other cases the South Dakota Supreme Court has indicated that there is no obligation to maintain section line highways. In *Pederson v. Canton Township*, the Supreme Court held that a township had a statutory duty to erect and maintain barriers on abandoned roads. However, the court held that where a township had never maintained a section line highway and it had never been used by the public, the township had no obligation to erect barriers because the section line was never a highway. In *Aasland v. County of Yankton*, the Supreme Court held that where the county had a deeded right of way, which was not on a section line, failure to maintain or use a road on the right of way did not constitute abandonment. In its decision, the court gave no indication that there was an obligation on the part of the county to maintain a road on this right of way. In *State v. Tracy*, the Supreme Court held that a section line was a public highway by operation of law unless it was vacated or relocated by lawful action and that the public has a right to travel along these section lines, but not to hunt on them unless the section lines have been improved for vehicular travel or commonly used by the public for vehicular travel. In *State v. Tracy*, the Supreme Court did not indicate that either the county or township had an obligation to maintain roads on these section lines.

A number of South Dakota Attorney General's opinions have also dealt with the obligation of counties or townships to construct and maintain roads on section lines. In 1949, former Attorney General Sigurd Anderson addressed the duty of a township to construct, repair, and maintain its secondary highways. Although the attorney general relied on SDC 28.0401 (the predecessor to SDCL § 31-13-3), as establishing a duty on the part of a township to construct, repair and maintain its secondary roads, he noted that the township supervisors had broad discretion as to what roads to construct and maintain. The Attorney General went on to note that he was unaware of any procedure by which the township could be compelled to construct, repair and maintain the road in question. In 1963, then Attorney General Frank L. Farrar cited SDC 28.0408 (the predecessor to SDCL § 31-12-26) as imposing a duty upon the county to construct, repair and maintain secondary roads in an unorganized township. However, he also expressed his opinion that this duty was discretionary, as was the county's duty to maintain the county highway system pursuant to SDC 28.0312 (the predecessor to SDCL § 31-12-19). In a 1983 opinion by then Attorney General Mark Meierhenry he repeated his 1981 opinion that it was the county's duty to construct, repair and maintain all roads within the county's "delegated area of responsibility" which included the county highway system, any secondary roads which the county agreed to maintain in consideration of receiving federal funds, all secondary roads which are not within any city, incorporated town or organized township, and any roads established under SDCL §§ 31-12-28

and 31-12-31. The attorney general further concluded that the fact that a county has accepted an easement does not impose a duty on the county to construct, repair or maintain a road on that easement. However, he did not address the issue of whether all section lines were secondary roads within that obligation. In 1993, Attorney General Mark Barnett addressed the issue of a county's duty to construct, repair and maintain roads along unimproved section lines. Based upon SDCL § 31-18-1, the attorney general expressed his opinion that all section lines are "public highways," unless properly vacated. The opinion noted the lack of any South Dakota Supreme Court decisions on whether the duty to construct secondary highways on section lines was mandatory. However, the attorney general noted *Hansen v. Stockholm Township*, in which Circuit Judge Thomas G. Ries held that a township did not have a mandatory duty to build a township road on a section line highway. Ultimately, Attorney General Barnett reached the conclusion that section line highways are public highways as a matter of law and that counties, townships and landowners must allow passage on them, but that it is a matter of discretion on the part of the county or township whether to improve the highway at all and the extent of the improvements to be made. In 1995, Attorney General Mark Barnett again addressed the issue of whether section line highways are secondary highways within the meaning of SDCL § 31-12-26. In doing so, he reached the opposite result from his 1993 decision and from the result reached by then Attorney General Roger Tellinghuisen in 1989. In this opinion, Attorney General Barnett concluded that section line highways were not automatically secondary roads subject to the county's duty to construct, repair and maintain. He based this opinion upon the fact that the statute does not define section line highways as secondary roads, the supreme court cases which indicate that there is a right of way and a right of access along section lines and SDCL § 31-1-5(4) which indicates that a county must assume supervision over a road before it becomes a secondary highway. Ultimately he concluded, "While a section line highway is required to be kept open to the public . . . it is not a county secondary road/highway unless a county has assumed supervision over it."

# Appendix C: Qualitative Interview Informed Consent and Protocol

## Telephone Consent Script

### Non-State Trunk Road Inventory & Cultural Inventory Project Telephone Consent Script

Hello, my name is \_\_\_\_\_. I am a research associate with the Government Research Bureau at the University of South Dakota. We are working on behalf of the SD Department of Transportation conducting research into how information about public roads in South Dakota is collected, stored, and utilized. You were identified by the SDDOT as a stakeholder in this process, and therefore we are interested speaking to you about the role that you play in collecting and using data for the Non-State Trunk Road Inventory and the Cultural Inventory. However, I would like to point out that your participation in this research is completely voluntary, which means that do not have to participate in this research unless you want to.

Do you have any questions?

You can also call Dr. William Anderson at 605-677-5708 with questions about the research study. All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 605/677-6184.

Do I have your permission to begin asking you questions?

## Stakeholder Interview Questionnaire

### Section One: WHAT IS A PUBLIC ROAD?

People identify public roads for a variety of different purposes in South Dakota. However, the manner in which a public road is defined may vary depending upon the purpose for which that road is used. For example, for the purpose of identifying and “documenting road mileage and changes” for the apportionment of federal highway safety funds, a public road is defined as “any road under the jurisdiction of and maintained by a public authority and open to public travel” (23USC§402c). State and local officials, on the other hand, may define public roads differently for other purposes such as determining public access to section line rights of way for hunters, identifying roads for use by public safety and emergency services, and determining township or county road maintenance responsibilities. In order to help reduce the confusion that the existence of these cross-purposes creates, this study seeks to identify all of the different purposes that use a definition of what is a public road, and to develop a formal definition for each purpose.

1. Are there any purposes for which you must define a public road?
  - a. If so, what are those purposes, and in regard to those purposes, how do you define a public road?
  - b. Please provide an example or two of what does and does not count as a public road.
  - c. Please describe when a section line is considered a public road.
2. Do you have responsibility for maintaining public roads, or do you otherwise have jurisdiction over a set of roads?
  - a. If so, how do you determine which roads are your responsibility?

### Section Two: NON-STATE TRUNK ROAD INVENTORY

The South Dakota Department of Transportation’s Office of Transportation Inventory Management (TIM) maintains an inventory of all public accessible roads in the state, as well as a separate inventory of cultural data. The Non-State Trunk Road Inventory (NSTRI) contains information concerning the identification, location, and physical attributes of those roads under the jurisdiction of federal, state, local, tribal, and other entities outside the jurisdiction of SDDOT. The NSTRI is the source database drawn from by the SDDOT to report to the Federal Highway Performance Monitoring System and to provide information about the state’s road mileage to the Federal Government. The NSTRI also is used in generating published maps for specific clientele groups in the state (for example, the Hunting Atlas published by SD Game Fish and Parks). The SDDOT relies on local entities that have jurisdiction of roads to identify needed changes to the NSTRI. This process is coordinated by SDDOT through the various South Dakota Planning Districts (South Eastern Council of Governments, Northeast Council of Governments, First District Association of Local Governments, and Planning and Development District III).

Once a year, the planning districts send a cover letter and map to local officials requesting that the official mark and return the map indicating any roadway alignment changes, surface changes, curb and gutter changes, or new roads constructed in the last year and any inaccuracies that become apparent during the review of the map.

1. Are you involved in the process to indicate any roadway changes to the planning districts (go to question 2)?
2. Tell me about the process you use for providing responses to the planning districts for the NSTRI?

- a. Who responds to the planning districts request identifying necessary updates to the NSTRI?
  - b. How long does it take for you to collect information and comply with data reporting requests?
  - c. How do you become aware of changes that need to be reported?
  - d. Which aspects of the data are the most difficult or most burdensome to obtain?
  - e. Are there any parts of the process or maps that are confusing or you would like further clarification on?
  - f. For your purpose would a different update cycle work better, such as, every two or three years? If a different cycle is preferred, why?
3. Are you a user of NSTRI data (if “yes” go to question 4; else go to Cultural Inventory)?
  4. From your perspective, what is the value of the data being collected for the NSTRI?
    - a. How do you use the information in this data set?
    - b. What specific pieces of information are most useful to you?
    - c. Is there any information that is not particularly useful or that you never use?
    - d. Is there anything that could be cut from NSTRI?

### **Part Three: CULTURAL INVENTORY**

The Cultural Inventory (CI) adds another layer of information to that which exists in the NSTRI by identifying farms, rural residences, airports, city offices, churches, cemeteries, and other structures visible from public roadways. These markers can help to identify, particularly in rural areas, where a person or structure is located.

1. Are you familiar with the Cultural Inventory that is maintained by the South Dakota Department of Transportation?
  - a. Do you use the Cultural Inventory? (If so, go to next question)
2. From your perspective, what is the value of the data being collected for the CI?
  - a. How do you use the information in this data set?
  - b. What specific pieces of information are most useful to you?
  - c. Is there any information that is not particularly useful or that you never use?
  - d. Is there anything that could be cut from the CI?
  - e. Do you know if all or some of this information is available elsewhere? If so, what are the data and where can they be found?
  - f. If these data were no longer available would it adversely affect your job or business? If so, in what way?



## Appendix D: Survey Instrument

# Public Roads in South Dakota Stakeholder Survey



 The University of South Dakota  
GOVERNMENT RESEARCH BUREAU

# Public Roads in South Dakota Stakeholder Survey

Since 1995, the South Dakota Department of Transportation (SDDOT), in cooperation with various South Dakota Planning Districts, has collected information on local roads. SDDOT's Non-State Trunk Road Inventory (NSTRI) contains information concerning the identification, location, and physical attributes of public roads under the jurisdiction of federal, state, local, tribal, and other entities. The NSTRI is used to report highway mileage to the Federal Highway Administration and local agencies and to create county and city maps. SDDOT seeks your assistance in improving the process for collecting and maintaining information in the NSTRI.

## PUBLIC ROADS

1. An important question is how local jurisdictions determine whether to consider a roadway to be a **public road** for purposes of reporting to the NSTRI. Please indicate whether or not each of the following criteria is **necessary** to qualify a roadway as a **public road**. An answer of "yes" indicates that you consider the item a public road; an answer of "no" would indicate that you do not consider the item a public road.

- |  |                              |                             |                                     |
|--|------------------------------|-----------------------------|-------------------------------------|
| a. roadway must be open to the general public                | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| b. roadway must be passable by a standard passenger car      | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| c. roadway must be passable by a 4-wheel drive vehicle       | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| d. roadway must be on public land                            | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| e. roadway must be paved                                     | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| f. roadway must be constructed at public expense             | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| g. roadway must be maintained at public expense              | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| h. roadway must be on a public right of way or section line  | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| i. roadway must be at least two lanes                        | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| j. roadway must have a 911 locate address associated with it | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| k. other (please specify):                                   | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |

2. Please indicate whether or not each of the following roadways would or would not constitute a **public road** based on your organization's understanding of the definition of a **public road**. An answer of "yes" indicates that you consider the item a public road; an answer of "no" would indicate that you do not consider the item a public road.

- |  |                              |                             |                                     |
|--|------------------------------|-----------------------------|-------------------------------------|
| a. an unblocked section line with no wheel tracks                                    | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| b. a section line that has been blocked by a private gate                            | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| c. a section line with well worn vehicle tracks passable by a standard passenger car | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| d. a roadway in a private subdivision maintained by the subdivision                  | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| e. a roadway in a private subdivision maintained by a public entity                  | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| f. a roadway passable only to 4-wheel drive vehicles due to condition                | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |
| g. a roadway developed and maintained by a public entity                             | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> don't know |

- h. a trail accessible to all passenger vehicles in a state or federal park  yes  no  don't know
- i. a roadway that has been designated minimum maintenance  yes  no  don't know
- j. a roadway that is only seasonally passable  yes  no  don't know
- k. a roadway that belongs to an organized road district  yes  no  don't know
- l. a roadway that has been closed or abandoned but not legally vacated  yes  no  don't know
- m. other (please specify):  yes  no  don't know

3. Are there any types of roadways that your organization would **not** consider a **public road** reportable to the NSTRI?  
 yes  no If yes, please explain: \_\_\_\_\_

4. Are there any situations in which your organization would **not** consider a section line to be a **public road** reportable to the NSTRI?  
 yes  no If yes, please explain: \_\_\_\_\_

5. The manner in which a public road is defined may vary depending upon the purpose for which that road is used. Does your organization define public roads in a different manner for purposes other than NSTRI reporting, such as:
- a. determining township or county road maintenance responsibilities  yes  no  don't know
  - b. monitoring the condition of your organization's roadway network  yes  no  don't know
  - c. planning and tracking work on your organization's roadway network  yes  no  don't know
  - d. identifying roads for use by public safety and emergency services  yes  no  don't know
  - e. establishing 911 addressing  yes  no  don't know
  - f. determining public access to section line right of way for hunters  yes  no  don't know
  - g. other (please specify):  yes  no  don't know

6. Please indicate whether or not your organization follows each of these steps when legally vacating a road:
- a. issue public notice  yes  no  don't know
  - b. file with register of deeds  yes  no  don't know
  - c. mark the vacated road on a map maintained by your organization  yes  no  don't know
  - d. notify SDDOT  yes  no  don't know
  - e. notify planning district  yes  no  don't know
  - f. other (please specify):  yes  no  don't know

## CHANGES TO THE NSTRI

The SDDOT relies on local entities that have jurisdiction of roads to identify needed changes to the Non-State Trunk Road Inventory (NSTRI). This process is coordinated by SDDOT through various South Dakota Planning Districts (South Eastern Council of Governments, Northeast Council of Governments, First District Association of Local Governments, and Planning and Development District III). Once each year, the planning districts send a letter and map to local officials requesting that they mark and return the map identifying any roadway changes, such as changes in alignment, surface type, curb and gutter or shoulders, roads newly constructed or vacated within the past year, and any inaccuracies in previously reported information that become apparent during review of the map.

7. Are you aware that SDDOT maintains local road inventory data or are you otherwise familiar with the NSTRI?  
(If "no" please skip to Question 19.)
- yes    no
8. Are you aware of the process to identify roadway changes to the planning districts? (If "no" please skip to Question 19.)
- yes    no
9. Who within your organization responds to the planning districts' request to identify roadway changes to the NSTRI?
- County or City Highway/Street Superintendent
- County Commissioner
- Township official
- City Council/Board of Trustees
- 911 Coordinator
- Planning and Zoning Coordinator
- Secretarial or Clerical Staff
- Finance Officer
- Administrator
- Engineer or Surveyor
- Other (please specify): \_\_\_\_\_
10. On average, how much time does your organization spend reviewing the map and compiling road change information to be submitted to the Planning District?
- less than 1 hour
- between 1 and 2 hours
- between 2 and 4 hours
- between 4 and 8 hours
- more than 8 hours
11. Based upon your experience, how difficult is it to respond to the planning district's request to identify roadway changes?
- not difficult at all    somewhat difficult    extremely difficult    don't know

12. Please rate the severity of barriers to responding to the planning district's request to identify roadway changes:

- a. the request is unclear  no barrier at all  minor barrier  major barrier  don't know
- b. records of changes are difficult to maintain or retrieve  no barrier at all  minor barrier  major barrier  don't know
- c. time and manpower constraints  no barrier at all  minor barrier  major barrier  don't know
- d. other:  no barrier at all  minor barrier  major barrier  don't know
- 

13. Please indicate how difficult it is to identify the following types of roadway changes:

- a. alignment changes  not difficult at all  somewhat difficult  extremely difficult  don't know
- b. surface type changes  not difficult at all  somewhat difficult  extremely difficult  don't know
- c. curb & gutter or shoulder changes  not difficult at all  somewhat difficult  extremely difficult  don't know
- d. vacated roads  not difficult at all  somewhat difficult  extremely difficult  don't know
- e. newly constructed roads  not difficult at all  somewhat difficult  extremely difficult  don't know
- f. corrections to prior data errors  not difficult at all  somewhat difficult  extremely difficult  don't know
- g. other:  not difficult at all  somewhat difficult  extremely difficult  don't know
- 

13a. How often are the roadway changes your organization identifies incorporated into the NSTRI?

- a. alignment changes  rarely or never incorporated  usually incorporated  always incorporated  don't know
- b. surface type changes  rarely or never incorporated  usually incorporated  always incorporated  don't know
- c. curb & gutter or shoulder changes  rarely or never incorporated  usually incorporated  always incorporated  don't know
- d. vacated roads  rarely or never incorporated  usually incorporated  always incorporated  don't know
- e. newly constructed roads  rarely or never incorporated  usually incorporated  always incorporated  don't know
- f. corrections to prior data errors  rarely or never incorporated  usually incorporated  always incorporated  don't know
- g. other:  rarely or never incorporated  usually incorporated  always incorporated  don't know
- 

14. Approximately how often does your organization use information derived from the NSTRI database, such as surface type mileage reports and functional class, federal aid, and county system maps?

- daily  weekly  monthly  quarterly  annually  never  don't know

15. How useful overall is the information in the NSTRI to your organization?

- not useful at all  somewhat useful  extremely useful  don't know

16. Please rate the usefulness to your organization of the following information contained in the NSTRI:

- |  |  |  |   |                                     |
|--|--|--|---|-------------------------------------|
| a. road or street name   | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| b. roadway geometry (width, shoulder width, alignment, number of lanes, curb and gutter, etc.) | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| c. surface type  | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| d. surface condition and rideability   | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| e. terrain type  | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| f. jurisdiction type (county, city, township, federal, state, other)                           | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| g. federal aid eligibility (yes/no)  | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| h. functional class  | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| i. rural or urban designation  | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |
| j. speed limit   | <input type="checkbox"/> not useful at all | <input type="checkbox"/> somewhat useful | <input type="checkbox"/> extremely useful | <input type="checkbox"/> don't know |

17. How frequently should information in the NSTRI be updated?

- annually    every 2 years    every 3 to 4 years    every 5 years or more    don't know

18. Please provide any other comments, suggestions, or ideas that you or your organization has about the Non-State Trunk Road Inventory:

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## CULTURAL INVENTORY

The Cultural Inventory (CI) is also maintained by the Office of Transportation Inventory Management. The CI identifies the type and location of structures such as farms, rural residences, airports, city offices, churches, and cemeteries visible from public roads. This information is often depicted on county highway maps.

19. Are you familiar with the Cultural Inventory that is maintained by the South Dakota Department of Transportation? (If "no" please skip to Question 28.)

- yes    no

20. Approximately how often does your organization use information derived from the Cultural Inventory database, such as maps depicting the information?

- daily    weekly    monthly    quarterly    annually    never    don't know

21. How useful overall is the information in the Cultural Inventory to your organization?

- not useful at all    somewhat useful    extremely useful    don't know

22. Please rate the usefulness to your organization of the following information contained in the Cultural Inventory:

a. utilities (substations, power plants, water towers, waste water treatment facilities, etc.)	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
b. emergency services (hospital, clinic, police, fire station, etc.)	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
c. government buildings	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
d. recreational facilities (pools, golf courses, fair grounds, etc.)	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
e. schools	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
f. churches	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
g. airports	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
h. rural residences	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
i. rural businesses	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
j. farms	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know
k. other:	<input type="checkbox"/> not useful at all	<input type="checkbox"/> somewhat useful	<input type="checkbox"/> extremely useful	<input type="checkbox"/> don't know

23. How frequently should information in the Cultural Inventory be updated?

annually    every two years    every three to four years    every five years or more    don't know

24. To what extent does your organization rely on the Cultural Inventory as a source of this type of information?

My organization relies exclusively on the Cultural Inventory for this type of information  
 My organization relies mostly on the Cultural Inventory for this type of information  
 My organization relies mostly on other sources for this type of information  
 My organization relies exclusively on other sources for this type of information  
 don't know

25. If SDDOT no longer maintained the Cultural Inventory, would your organization be adversely affected?

yes    no   If yes, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

26. Would your organization be willing to help SDDOT keep the Cultural Inventory current by notifying the Planning Districts of new structures in your county, city, township, or other jurisdiction?

yes    no

27. Please provide any other comments, suggestions, or ideas that you or your organization has about the Cultural Inventory:

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28. Please identify your personal job responsibility:

- County or City Highway/Street Superintendent
- County Commissioner
- Township official
- City Council/Board of Trustees
- 911 Coordinator
- Planning and Zoning Coordinator
- Secretarial or Clerical Staff
- Finance Officer
- Administrator
- Engineer or Surveyor
- Other (please specify): \_\_\_\_\_

29. Please identify the type of agency you work for:

- Federal Government
- State Government
- Tribal Government
- County Government
- Municipal Government
- Township Government
- Other (please specify): \_\_\_\_\_





**The University of South Dakota**

**GOVERNMENT RESEARCH BUREAU**

Government Research Bureau  
W.O. Farber Center for Civic Leadership  
The University of South Dakota  
414 East Clark Street  
Vermillion, South Dakota 57069  
Web: [www.usd.edu/grb](http://www.usd.edu/grb)  
E-mail: [grb@usd.edu](mailto:grb@usd.edu)

# Appendix E: Educational Brochure

## Why should I report the public roads in my jurisdiction?

The South Dakota Department of Transportation (SDDOT) asks all entities that have jurisdiction of roads to report new, reconstructed, or vacated roads. This information is used to maintain highway maps, develop road mileage reports, and generate reports for the Federal Highway Administration (FHWA).



SDDOT reports certified public road mileage to FHWA and submits public road information to the Highway Performance Monitoring System (HPMS). Congress uses biennial Condition and Performance Reports developed from HPMS to establish authorizing and appropriating legislation, which ultimately determines the scope and size of the Federal-aid Highway Program and sets the level of Federal highway taxation.

Reporting your local road information also helps ensure that future reviews of functional classification, federal-aid eligibility, and county funding formulas are based on an accurate representation of your public road mileage.

## What is the Non State Trunk Road Inventory (NSTRI)?

The NSTRI is a statewide database of more than 74,000 miles of roads under the jurisdiction of city, federal, tribal, county, township, state, and other local entities. The NSTRI includes road identification, location, administration, and physical attributes.

## What public road information should I report?

SDDOT asks that you report:

- any newly constructed or properly vacated roads
- changes in alignment, surface type, curb and gutter
- any inaccuracies that become apparent during the reporting process

This information is required by FHWA's Highway Performance Monitoring System collection guidelines.

Reporting routine maintenance such as adding gravel to roads or patching potholes is not required.

## Who is involved in updating SDDOT's Non-State Trunk Road Inventory (NSTRI)?

- **Local Authorities (Public Entities)**—Anyone with jurisdiction over public roads in South Dakota—cities, townships, counties, tribes, road districts, federal agencies, and state agencies.
- **Contractors**—Since the mid 1990's, SDDOT has contracted with First District Association of Local Governments, Northeast Council of Governments, Planning and Development District III, and South Eastern Council of Governments to update the Non-State Trunk Road Inventory.
- **SDDOT**—The Office of Transportation Inventory Management (TIM) maintains the Non-State Trunk Road Inventory. It relies on Local Authorities and Contractors to compile and submit the information.
- **FHWA**—The Federal Highway Administration monitors the HPMS process and apportions funds to South Dakota based in part on the certified public road mileage.

## What is the process for updating the SDDOT's Non-State Trunk Road Inventory (NSTRI)?

1. Every year, a Contractor sends a letter and map to the Local Authority asking that new roads, vacated roads, construction changes to roads, and any changes to city boundaries be identified.
2. The Local Authority marks changes on the map and sends it back to the Contractor along with copies of the documents filed with the county Register of Deeds Office verifying that a road has been officially vacated.
3. Contractor drives newly constructed and realigned roads and collects roadway information, including surface type and curb and gutter changes.

4. Contractor forwards roadway information, along with city boundary maps and documents for vacated roads, to SDDOT.
5. SDDOT adjusts city boundaries based upon reported changes. Roads reported as vacated are deleted from the inventory if proper documents are provided.
6. SDDOT creates mileage reports, places them on the Internet, and notifies County Auditors.
7. SDDOT submits the annual certification of public road mileage to FHWA for apportionment of federal funds.

## What roads should I report?

To meet the intent of federal law (23USC101(a)(2); 23 CFR 460), report all roads that are:

- accessible to the general public except during scheduled periods, extreme weather, or emergency conditions, and
- open to the general public for use without secured gates, prohibitive signs, or regulation other than size, weight, or registration class restrictions, and
- passable by 4-wheel standard passenger cars



Examples of what should be reported include:

- section lines with wheel tracks, passable by a standard passenger car
- roadways which have been dedicated for public use through an approved plat, including roadways in subdivisions, regardless of who maintains them
- roadways developed and maintained by a public entity that are intended for public travel
- roadways that have been designated minimum maintenance
- roadways that belong to an organized road district
- publicly accessible roads within parks, wildlife or refuge areas, public hunting areas, or any designated public lands
- publicly accessible roads on Indian reservations

## What roads should I not report?

Some roads are not reportable, such as:

- roadways with secured gates or restricted access
- roadways only accessible to 4-wheel drive vehicles year-round due to condition
- roadways that are private and not intended for public travel such as residential driveways



If you have questions about which roads should or should not be reported, please contact SDDOT's Office of Transportation Inventory Management.

## Should I report roads that I do not maintain?

Reporting roads is not an indication that you have maintenance responsibilities for those roads. Even if roads are maintained by private entities, you should report them, so long as they are dedicated for public use without locked gates, prohibitive signs, or restrictive regulations other than size, weight, or registration class. You should also report the type of jurisdiction (road district, private entity, etc.).

## Should a road be reported if the jurisdiction has transferred?

When the jurisdiction of a road is transferred, the entity transferring the jurisdiction should report that it has been transferred. The entity accepting the jurisdiction should report it as an addition to its jurisdiction and should continue to report information about the road thereafter. An example of this type of change is when a township dissolves or re-organizes and the jurisdiction is transferred between the township and county.

## How can I get a copy of my data?

Non-State Trunk Road Inventory data is available in Geographic Information System format from:

<http://arcgis.sd.gov/Server/DOI/DOIViewer/>

SDDOT values local governments as vital business partners and believes that sharing data fosters strong relationships and helps build a better transportation system in our state.

## How does my jurisdiction vacate a public road so the change is reflected in SDDOT's records?

To ensure that vacated roads are removed from SDDOT's inventory and maps, your jurisdiction must follow the vacating procedures outlined in South Dakota Codified Laws (SDCL) Title 9 (for municipalities) & Title 31 (for townships and counties, which include:

1. The governing board or commission receives a valid petition to vacate a road. (SDCL §31-3-6; §9-45-7; §9-45-10)
2. The governing body must publish notice of a public hearing on the petition once each week for at least two consecutive weeks. (SDCL §31-3-7; §9-45-8; §9-45-11)
3. The governing body or a properly appointed committee must hold a public hearing to receive evidence about the action proposed by the petition. (SDCL §31-3-7; §9-45-9)
4. To vacate a road, the governing body must pass a resolution approving the vacation. In the case of a municipal government, a two-thirds vote of all of the members of the governing body is required. (SDCL §31-3-7; §9-45-9)
5. The resolution of vacation must be printed in the minutes of the governing body. (SDCL §31-3-9; §9-19-8)
6. The resolution of vacation must be published in newspapers as required by law. (SDCL §31-3-9; §9-45-12; §9-19-8)
7. A certified copy of the resolution of vacation must be recorded with the register of deeds in the county or counties where the road is located. (SDCL §31-3-11; §9-45-12)

8. Vacation of a road within the extraterritorial area of a municipality must be approved by the governing bodies of both the municipality and the county or township. (SDCL §31-3-44; §9-45-13.1)
9. If the road to be vacated is on a township boundary line, the governing bodies of each adjoining township must pass a like resolution and order to vacate the road. (SDCL §31-3-13)
10. If the road to be vacated is a section line highway, a township or county may not vacate it if it: (1) is part of the state trunk highway system; (2) was constructed by state or federal aid; (3) is within the limits of a municipal corporation; or (4) provides access to public lands other than school and public lands. In addition, a township may not vacate a section line highway that is part of the county highway system. (SDCL §31-18-3)

During the NSTRI reporting process, local authorities should indicate that the road has been vacated by marking it on the map and sending the Contractor a copy of the certified resolution recorded with the register of deeds.

South Dakota Department of Transportation  
Office of Transportation Inventory Management  
700 E Broadway Avenue  
Pierre, SD 57501-2586  
<http://www.sddot.com/pe/dsata>  
Phone: 605.773.6645  
Fax: 605.773.4870

The South Dakota Department of Transportation provides services without regard to race, color, gender, religion, national origin, age or disability, according to the provisions contained in SDCL §20-13, Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990 and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994.

Any person who has questions concerning this policy or who believes he or she has been discriminated against should contact the Department's Civil Rights Office at 605.773.3540. 2500 copies of this document were printed at a cost of \$0.08 each by the SD Department of Transportation.

## How do counties add or delete roads from their County Primary Highway System?

To add or delete a road from a county's primary highway system, the procedures outlined in SDCL §31-12-2 and SDDOT Policy must be followed:

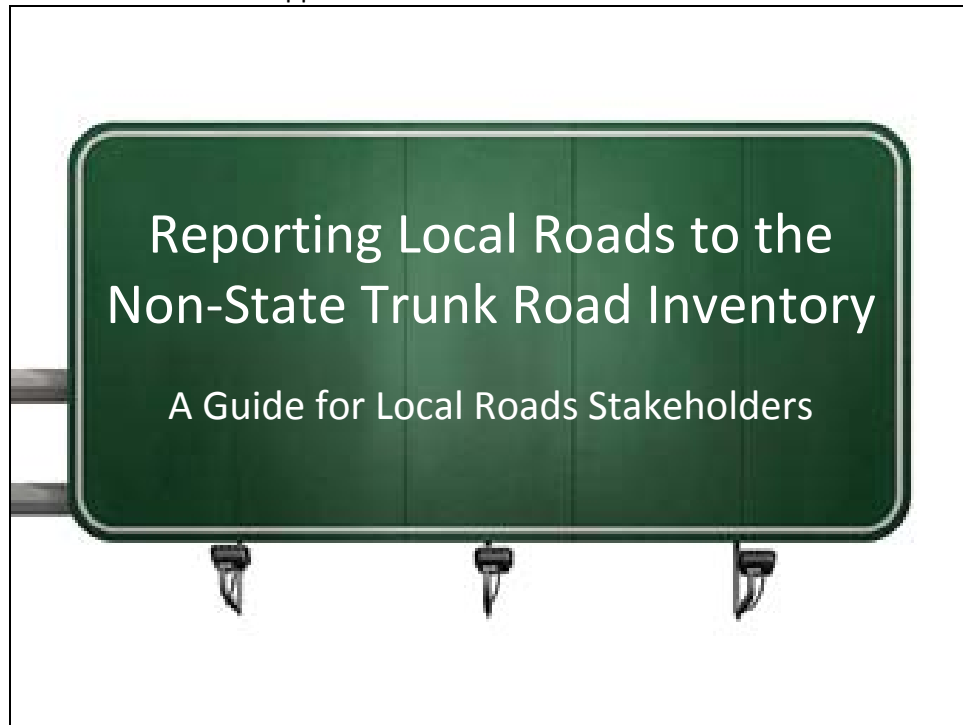
1. The county commission must pass a resolution describing the desired additions or deletions. Relocations are considered a deletion and an addition to the system.
2. The commission's resolution must state the reasons for the requested change. For example, changes in county development patterns or traffic increases on township roads could be cited.
3. The county must forward a copy of the commission's resolution to the Secretary of the SDDOT and must include a county map showing the existing road system with proposed additions or deletions marked in contrasting colors.
4. If the resolution requests deletions from the county highway system, the county should provide proof to SDDOT that notice of the proposed change has been published in an official county newspaper at least 10 days in advance of the commission meeting at which the proposed action will be considered. The notice must describe the sections being abandoned and the time and place for action to be taken by the county commission.
5. Published notice is not required for resolutions adding road segments to the county highway system.
6. Send all resolutions and questions to: SDDOT Office of Project Development 700 E Broadway Ave, Pierre, SD 57501-2586 Phone 605.773.3157

## SDDOT responsibilities:

The Secretary of Transportation must wait at least 30 days after receipt of a resolution requesting deletion from the county highway system to formally act on the request. The Secretary is not required to wait 30 days to act on a resolution for an addition to the system.

**A Guide for Reporting  
Local Road Information  
to South Dakota's  
Non-State Trunk  
Road Inventory  
February 2011**





### What is the Non-State Trunk Road Inventory (NSTRI)?

- A statewide database of more than 74,000 miles of roads.
- Under jurisdiction of federal, state, city, county, township, tribal, and other local entities.
- Includes road identification, location, administration, and physical attributes.

2

## Why report local road information?

Reporting local road information helps create an accurate inventory of public roads. This inventory is used for the following :

- Creating and maintaining highway maps.
- Developing road mileage reports.
- Providing reports to FHWA annually.
- Future reviews of functional classification, federal-aid eligibility, and county funding formulas.



## Reporting Local Roads: Roles and Challenges



- Local roads stakeholders and planning districts are critical.
- Defining a public road can be challenging.
- Documenting and reporting local roads may be confusing.
- Having clear guidance about “how-to” is essential.

4

## Who is involved in updating the Non-State Trunk Road Inventory?

- **LOCAL AUTHORITIES (Public Entities)** - cities, townships, counties, tribes, road districts, federal agencies, and state agencies.
- **CONTRACTORS** - First District Association of Local Governments, Northeast Council of Governments, Planning and Development District III, and South Eastern Council of Governments
- **SDDOT**
- **FHWA**



5

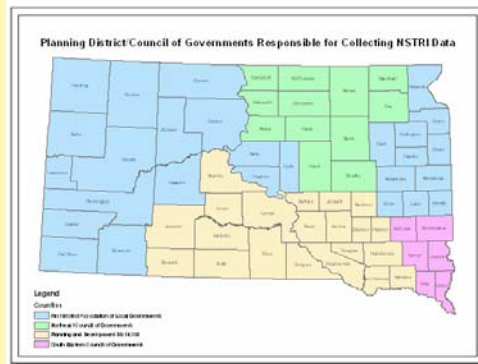
## What is the process for updating the Non-State Trunk Road Inventory?



1. Letter and map go to Local Authorities.
2. Local Authority marks changes and sends to the Contractor.
3. Contractor drives roads and collects updated roadway information.
4. Contractor forwards roadway information to SDDOT.
5. SDDOT adjusts city boundaries based upon reported changes.
6. SDDOT creates mileage reports, posts them online and notifies County Auditors.
7. SDDOT submits the annual certification of public road mileage to FHWA.

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## Contractors and Correspondence



Date

Official Name

Address

Dear Local Official:

Since 1995, the South Dakota Department of Transportation (SDDOT) in cooperation with the South Dakota Planning and Development Districts has been collecting city, county, township, road district, trail, state and local road information using Global Positioning System (GPS) technology. This information is utilized by the SDDOT for several purposes including reporting releases to the Federal Highway Administration and your county auditor, as well as creating county and city maps. Annually, on behalf of the SDDOT, we contact individuals with jurisdiction over roads and ask for assistance in updating any changes in an effort to keep this roadway information current. Your assistance is critical to the accuracy and overall success of the South Dakota Department of Transportation's public road inventory.

To make this process as accurate and expedient as possible, we are asking for your cooperation in identifying public roads that have had changes within the last year. These changes can include alignment or surface changes or the addition of new curbs and gutters. Routine maintenance such as adding gravel to roads or pothole holes is not required. If new public roads have been constructed in your area, please attach in the location of these roads on the enclosed map regardless of who maintains them. Near the location of the new road, please write the name of the entity responsible for the road and the month and year of construction. If you can help us identify road district roads please circle them on the map and write the name of the road district beside them. Also, please review the map for roads that were missed during the initial data collection and if there are any roads on the map that you can be collected with GPS technology, if a road has been vacated, please include documentation showing that the legal requirements for vacation of the roadway have been satisfied. See South Dakota Codified Law chapters 13-3, 13-15, 13-25, and 13-65. Once proper documentation has been received or SDDOT verifies with the county Register of Deeds office that the documents have been recorded in that office, the road will be omitted from the road inventory.

Enclosed you will find two maps of your area. One map is for you to use. On the other map, please circle the roadway sections that have had alignment, surface, or curb and gutter changes and note the type of changes made. In addition, if you notice other irregularities, please indicate those as well. **Even if there are no changes, please return this letter and the map to (Planning Organization Name) by (Date).** For your convenience we have included an envelope with this letter and a return address.

We greatly appreciate your prompt assistance in identifying the changes to your local roads. We believe that we will all benefit through this multi-agency cooperation. Please feel free to contact (Planning Organization Contact and phone number), with any questions concerning this letter or the maps.

Sincerely,

(Planning Organization Director's signature)

(Title)

Enclosures

.....

Yes, there have been alignment changes, surface changes, curb and gutter changes or new roads constructed within the last year. Changes have been marked on the enclosed map.

No, there have not been any alignment changes, surface changes, curb and gutter changes or new roads constructed within the last year.

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## What public road information should be reported every year to the Planning District?



### SDDOT asks that you report:

- Any newly constructed or properly vacated roads
- Changes in alignment, surface type, curb and gutter
- Any inaccuracies that become apparent during the reporting process.

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## In plain language...

You should include any roads that are dedicated to public travel.



## How does Federal Code define a public road?

To meet the intent of Section 101 of Title 23, USC 23CFR460, report all roads that are:

- Accessible to the general public except during scheduled periods, extreme weather, or emergency conditions, and
- Without secured gates, prohibitive signs, or regulation other than size, weight, or registration class restrictions, and
- Passable by 4-wheel standard passenger cars.

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## Examples of what roads should be reported:

- section lines with wheel tracks passable by a standard passenger car
- roadways which have been dedicated for public use through an approved plat, including roadways in subdivisions, regardless of who maintains them
- roadways developed and maintained by a public entity that are intended for public travel
- roadways that have been designated minimum maintenance
- roadways that belong to an organized road district
- publicly accessible roads within parks, wildlife or refuge areas, public hunting areas, or any designated public lands
- publicly accessible roads on Indian reservations



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## What roads should not be reported?

### Some roads are not reportable, such as:

- Roadways with secured gates or restricted access
- Roadways only accessible to 4-wheel drive vehicles year round due to condition
- Roadways that are private and not intended for public travel such as residential driveways

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## What if I have questions about what roads to report?

Please contact SDDOT's  
Office of Transportation Inventory Management.



## Should a road be reported if the jurisdiction has transferred?

- The entity transferring the jurisdiction should report that it has been transferred.
- The entity accepting the jurisdiction should report it as a new part of its jurisdiction.
- Example – when a township dissolves or re-organizes it results in a transfer between the township and county.

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## How can I get a copy of my data?



Non-State Trunk Road Inventory data is available in Geographic Information System format from:

<http://arcgis.sd.gov/Server/DOT/DOTViewer/>

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## How are public roads properly vacated?

Appropriate vacating procedures are outlined in South Dakota Codified Law (SDCL) Title 9 (for municipalities) & Title 31 (for townships and counties).



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## The Steps for Vacating a Public Road in South Dakota

### Your jurisdiction needs to follow the vacating procedures outlined in South Dakota Codified Law Titles 9 & 31:

1. The governing board or commission receives a valid petition to vacate a road. (SDCL §31-3-6; §9-45-7; §9-45-10)
2. The governing body must publish notice of a public hearing on the petition once each week for at least two consecutive weeks. (SDCL §31-3-7; §9-45-8; §9-45-11)
3. The governing body or a properly appointed committee must hold a public hearing to receive evidence about the action proposed by the petition. (SDCL §31-3-7; §9-45-9)
4. To vacate a road, the governing body must pass a resolution approving the vacation. In the case of a municipal government, a two-thirds vote of all of the members of the governing body is required. (SDCL §31-3-7; §9-45-9)
5. The resolution of vacation must be printed in the minutes of the governing body. (SDCL §31-3-9; §9-19-8)

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## The Steps for Vacating a Public Road (cont.)

6. The resolution of vacation must be published in newspapers as required by law. (SDCL §31-3-9; §9-45-12; §9-19-8)
7. A certified copy of the resolution of vacation must be recorded with the register of deeds in the county or counties where the road is located. (SDCL §31-3-11; §9-45-12)
8. Vacation of a road within the extraterritorial area of a municipality must be approved by the governing bodies of both the municipality and the county or township. (SDCL §31-3-44; §9-45-13.1)
9. If the road to be vacated is on a township boundary line, the governing bodies of each adjoining township must pass a like resolution and order to vacate the road. (SDCL §31-3-13)
10. If the road to be vacated is a section line highway, a township or county may not vacate it if it: (1) is part of the state trunk highway system; (2) was constructed by state or federal aid; (3) is within the limits of a municipal corporation; or (4) provides access to public lands other than school and public lands. In addition, a township may not vacate a section line highway that is part of the county highway system. (SDCL §31-18-3)



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# Adding or Deleting Roads from the County Primary Road System

Procedures outlined in SDCL §31-12-2 and SDDOT Policy must be followed:

**County Commission responsibilities include:**

1. Passing a resolution describing the desired additions or deletions.
2. Stating the reasons for the requested change in the resolution.
3. Forwarding a copy of the resolution to the Secretary of the SDDOT and map showing the existing road system with proposed additions or deletions.
4. Filing notice in local newspapers, is required for deletion requests. Published notice is not required for additions.
5. Sending all resolutions and questions to SDDOT, Office of Project Development.



**SDDOT responsibilities:**

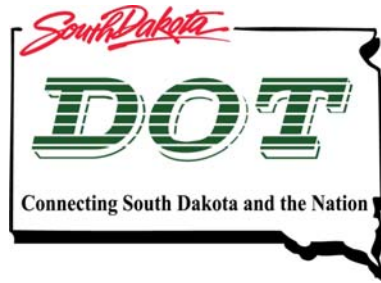
The Secretary of Transportation must wait at least 30 days after receipt of a resolution requesting deletion to formally act on the request. The Secretary is not required to wait 30 days to act on a resolution for an addition to the system.



## Need more information?

If you need additional information, please contact the South Dakota Department of Transportation's Office of Transportation Inventory Management at (605) 773-6645.

Photo by South Dakota Tourism



**South Dakota Department of Transportation (SDDOT)  
Office of Transportation Inventory Management (TIM)**

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**Fax: (605) 773-4870**

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**SD Local Transportation  
Assistance Program**



**U.S. Department  
of Transportation  
Federal Highway  
Administration**



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