Iowa Automated Permitting System Report to Legislature

Final Report
December 2021

ctre
Center for Transportation Research and Education

IOWA STATE UNIVERSITY
Institute for Transportation

Sponsored by
Iowa Department of Transportation
(InTrans Project 20-746)

About the Center for Transportation Research and Education

The mission of the Center for Transportation Research and Education (CTRE) at Iowa State University is to conduct basic and applied transportation research to help our partners improve safety, facilitate traffic operations, and enhance the management of infrastructure assets.

About the Institute for Transportation

The mission of the Institute for Transportation (InTrans) at Iowa State University is to save lives and improve economic vitality through discovery, research innovation, outreach, and the implementation of bold ideas.

Iowa State University Nondiscrimination Statement

Iowa State University does not discriminate on the basis of race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a US veteran. Inquiries regarding nondiscrimination policies may be directed to the Office of Equal Opportunity, 3410 Beardshear Hall, 515 Morrill Road, Ames, Iowa 50011, telephone: 515-294-7612, hotline: 515-294-1222, email: eooffice@iastate.edu.

Disclaimer Notice

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the sponsors.

The sponsors assume no liability for the contents or use of the information contained in this document. This report does not constitute a standard, specification, or regulation.

The sponsors do not endorse products or manufacturers. Trademarks or manufacturers' names appear in this report only because they are considered essential to the objective of the document.

Iowa DOT Statements

Federal and state laws prohibit employment and/or public accommodation discrimination on the basis of age, color, creed, disability, gender identity, national origin, pregnancy, race, religion, sex, sexual orientation or veteran's status. If you believe you have been discriminated against, please contact the Iowa Civil Rights Commission at 800-457-4416 or the Iowa Department of Transportation affirmative action officer. If you need accommodations because of a disability to access the Iowa Department of Transportation's services, contact the agency's affirmative action officer at 800-262-0003.

The preparation of this report was financed in part through funds provided by the Iowa Department of Transportation through its "Second Revised Agreement for the Management of Research Conducted by Iowa State University for the Iowa Department of Transportation" and its amendments.

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Iowa Department of Transportation.

Front Image Credit

Bridge Engineering Center at Iowa State University

Technical Report Documentation Page

1. Report No. InTrans Project 20-746	**2. Government Accession No.**	**3. Recipient's Catalog No.**	
4. Title and Subtitle Iowa Automated Permitting System Report to Legislature		**5. Report Date** December 2021 **6. Performing Organization Code**	
7. Author(s) Jing Dong-O'Brien (orcid.org/0000-0002-7304-8430), Johanna Amaya (orcid.org/0000-0002-0698-4069), Theresa Litteral (orcid.org/0000-0003-4978-6430), and Sayedomidreza Davami (orcid.org/0000-0003-0014-5376)		**8. Performing Organization Report No.** InTrans Project 20-746	
9. Performing Organization Name and Address Center for Transportation Research and Education Iowa State University 2711 South Loop Drive, Suite 4700 Ames, IA 50010-8664		**10. Work Unit No. (TRAIS)** **11. Contract or Grant No.**	
12. Sponsoring Organization Name and Address Iowa Department of Transportation 800 Lincoln Way Ames, IA 50010		**13. Type of Report and Period Covered** Final Report **14. Sponsoring Agency Code**	
15. Supplementary Notes Visit https://intrans.iastate.edu for color pdfs of this and other research reports.			

16. Abstract

The Iowa Automated Permitting System (IAPS) is an online oversize/overweight (OS/OW) permitting system for the motor carrier industry based on Bentley System's SUPERLOAD. The IAPS began production operations in December 2013. As of 2017, among the 100,000 permits issued by the Iowa Department of Transportation (DOT) annually, about half of them were issued automatically. In May 2019, Governor Reynolds signed Senate File 629, a bill for an act relating to permits for vehicles of excessive size and weight and providing for fees. The Iowa Legislature requested that the Iowa DOT report on the IAPS to allow electronic processing of OS/OW permits for non-primary roads. This processing includes the application, review, routing, approval, and payment(s) to the appropriate jurisdiction(s).

The goal of this work was to report to the legislature on the implementation options in performing OS/OW permitting for local public authorities (LPAs) using the IAPS. The objectives of this project included the following:

- Review the current IAPS system capabilities
- Develop implementation options for consideration by the Iowa DOT
- Identify the barriers, possible solutions, and required resources to implement the options proposed

17. Key Words Iowa automated permitting system—industry survey—local public agency survey—oversize/overweight truck permits		**18. Distribution Statement** No restrictions.	
19. Security Classification (of this report) Unclassified.	**20. Security Classification (of this page)** Unclassified.	**21. No. of Pages** 96	**22. Price** NA

Form DOT F 1700.7 (8-72) **Reproduction of completed page authorized**

IOWA AUTOMATED PERMITTING SYSTEM REPORT TO LEGISLATURE

Final Report
December 2021

Principal Investigator
Jing Dong-O'Brien, Transportation Engineer
Center for Transportation Research and Education, Iowa State University

Co-Principal Investigator
Brent Phares, Bridge Research Engineer
Bridge Engineering Center, Iowa State University

Research Assistants
Theresa Litteral and Sayedomidreza Davami

Authors
Jing Dong, Johanna Amaya, Theresa Litteral, and Sayedomidreza Davami

Sponsored by
Iowa Department of Transportation

Preparation of this report was financed in part
through funds provided by the Iowa Department of Transportation
through its Research Management Agreement with the
Institute for Transportation
(InTrans Project 20-746)

A report from
Institute for Transportation
Iowa State University
2711 South Loop Drive, Suite 4700
Ames, IA 50010-8664
Phone: 515-294-8103 / Fax: 515-294-0467
https://intrans.iastate.edu

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGMENTS

The research team would like to acknowledge the Iowa Department of Transportation (DOT) for sponsoring this research. The technical advisory committee for this project included Melissa Gillett, Peggi Knight, Nicole Moore, Brenda Freshour-Johnston, Alex Jansen, Scott Neubauer, Danny Waid, Mark Nahra, Matt Myers, and Stu Anderson.

EXECUTIVE SUMMARY

Multiple roadway authorities within Iowa process oversize/overweight (OS/OW) permits for the movement of freight on state roadways, county roads, and municipal and township streets. With a growing economy, freight movement by trucks has continued to increase in recent years. These moves often require haulers to off-load from state roadways onto the county or municipal roadways for final delivery.

Goal of the Report

As the Iowa Department of Transportation (DOT), counties, cities, and townships all administer permits for their own roadways, haulers moving across roadway authorities need to submit separate applications to each roadway authority for their hauls. This requires several different permit applications and processes. The Iowa Legislature requested that the Iowa DOT report on the Iowa Automated Permitting System (IAPS) to allow electronic processing of OS/OW permits for non-primary roads.

The goal of this report is to examine the implementation options of performing OS/OW permitting for local public authorities (LPAs) using the IAPS. To achieve this goal, three objectives were completed. First, the current IAPS capabilities and permit issuance were reviewed, as well as some new features available in the upgraded edition of the IAPS. Second, interviews and surveys were conducted to collect information on other state's practices and gather input from the industry and Iowa LPAs regarding OS/OW permitting. Third, implementation options, challenges and implementation steps were discussed.

Interview and Survey Findings

Currently, there is no statewide implementation of one-stop-shop solutions for performing OS/OW permitting on both state and all local roads. Some state DOTs, county associations, and third-party service providers have initiated the effort to perform permitting on the state roads and some local roads, or on local roads across multiple local jurisdictions. The industry respondents were generally satisfied with the current OS/OW permitting service provided in Iowa and at the same time supported a single system to streamline the application process.

Faster processing time with 24×7 service and a user-friendly system for request, routing, and payment were preferred by the industry. On the other hand, less than half of the LPA respondents were in favor of a unified permitting system.

Large variations exist in the permitting process and data availability across agencies. The lack of a timely road closure notification system for the non-primary road network and the limited number of bridges with Iowa Load Analysis and Rating System (LARS) data pose roadway safety concerns for all drivers and infrastructure protection challenges in developing and deploying a unified system.

Implementation Options and Challenges

Three implementation options—single system, portal system, and hybrid system—are presented in this report. The single system uses one system for permitting on both the primary and non-primary road network. The portal system provides a one-stop-shop for users to request permits from multiple agencies by submitting one application, while the Iowa DOT, counties, and cities manage permits using their own systems. The hybrid system provides the same one-stop-shop service for requesting permits as the portal system. Likewise, it allows counties and cities with LARS data to automatically issue permits through the IAPS.

Some common implementation challenges include the following:

- Carriers could experience or perceive a longer wait time to obtain permits from the one-stop-shop system to travel on state and local roads, as the request will be reviewed and approved by multiple jurisdictions sequentially.
- The costs associated with data collection, system development, and maintenance are relatively high.
- Network data must be continuously maintained and updated.
- Automatic issuance of permits on local roads is likely to be limited due to the high cost to create and maintain LARS data and the large number of local bridges that cannot be rated using the LARS.
- Maintaining up-to-date contact information for LPAs is challenging due to frequent changes in city officials and administrators and lack of staff dedicated to OS/OW permitting tasks.

Implementation Steps

Based on the analyses in this report, the Iowa DOT will implement a corridor-based hybrid system. The next step is to work with one or more LPAs along a specific corridor and establish a process for LPAs to perform OS/OW permitting using the IAPS. In particular, the Iowa DOT will initiate agreements with certain local authorities to leverage the state's IAPS system for specific corridors or routes that include local roads and have a significant number of permitted loads.

To implement the ability to enter into agreements with local authorities and include certain local roads into the IAPS system, key programming and logistical considerations must first be resolved by the Iowa DOT, including consulting with the state's IAPS vendor for a cost estimate, configuring the Iowa DOT's fee collection system to accommodate local permit fees, and assessing the impact on staffing and resources.

The implementation of a corridor-based hybrid system balances the benefits of expanding the IAPS on a limited number of high-value corridors with the significant costs of implementing use of it across the entire local road system.

1. INTRODUCTION

An oversize/overweight (OS/OW) permit is needed when motor carriers haul loads that exceed the legal weight or size requirement. According to Iowa code Chapter 321E, a permit is typically required if vehicle dimensions or weight exceed the following:

- Width: 8 ft 6 in.
- Height: 13 ft 6 in.
- Length:
  - 45-ft single vehicle
  - 53-ft trailer, loaded or empty
  - 57-ft lowboy trailers used exclusively for the transportation of construction equipment
- Weight:
  - 80,000 lb gross
  - 20,000 lb single axle

Multiple roadway authorities within Iowa process OS/OW permits for the movement of freight on state roadways, county roads, and municipal and township streets. In particular, the Iowa Department of Transportation (DOT) issues permits for OS/OW vehicles along state owned routes, including Interstate, US, and IA routes. Local public agencies, including cities and counties, issue permits for traveling on local roads.

With a growing economy, freight movement by trucks has continued to increase in recent years. These moves often require haulers to off-load from state roadways onto the county or municipal roadways for final delivery. As the Iowa DOT, counties, cities, and townships all administer permits for their own roadways, haulers moving across roadway authorities need to submit separate applications to each roadway authority in which they will be traveling. This requires several different permit applications and processes.

Since December 2013, the Iowa DOT began to use an online OS/OW permitting system, based on Bentley System's SUPERLOAD software, called the Iowa Automated Permitting System (IAPS). The IAPS allows a business needing a permit to fill out a form online and have the permit issued electronically. Currently, motor carriers can use the IAPS to apply for permits from the Iowa DOT to travel only on state-owned roads.

In May 2019, Governor Reynolds signed Senate File (SF) 629, "a bill for an act relating to permits for vehicles of excessive size and weight, including vehicles transporting raw forest products, and providing for fees. (Formerly [Senate Study Bill] SSB 1045, SF 184.) Effective 7-1-19."

The Iowa Legislature requested that the Iowa DOT report on the IAPS to allow electronic processing of OS/OW permits for non-primary roads. This processing includes the application, review, routing, approval, and payment(s) to the appropriate jurisdiction(s).

Therefore, this report examines the implementation options of performing OS/OW permitting for local public authorities (LPAs) using the IAPS. The objectives of this project included the following:

- Review the current IAPS system capabilities
- Review other state's practice and gather input from the industry and LPAs regarding OS/OW permitting
- Develop implementation options and identify the barriers, possible solutions, and required resources to implement the options proposed

2. IOWA AUTOMATED PERMIT SYSTEM

The IAPS is a web-based application that allows the motor carrier industry to apply online for and receive a permit for oversize, overweight, and over dimension loads. This vendor-hosted application built on Bentley System's SUPERLOAD application became available for online permitting in Iowa in December 2013.

2.1 Functionalities of the IAPS

The Iowa DOT Bridges and Structures Bureau is responsible for the review of permit requests on the primary highway system for non-divisible loads over 80,000 pounds and any vehicle with axle weights over 20,000 pounds. These permit requests are reviewed using the IAPS/SUPERLOAD program.

The two main types of permits are trip permits and annual permits. Each single, round, or multi-trip permit must specify the exact route that the driver will be traveling. The program checks every bridge along the proposed route for adequate capacity to carry the permit requestor's specific vehicle. The analysis considers the load per axle and the axle spacing of the vehicle. This detailed check ensures the adequacy of the bridges along the proposed route. The IAPS also checks vertical and horizontal clearances along the route based on the height provided on the permit and accurate measurements of clearances stored in the Iowa DOT database.

Annual permit holders must check the route for construction restrictions and clearance problems using the vertical clearance maps, bridge embargo maps, pavement restriction maps, and road condition (https://www.511ia.org/) website prior to traveling under their permits.

The SUPERLOAD software suite includes four modules as follows:

- **Permit Administration** – The permitting module provides all the tools required to administer the permitting rules and processes. It allows for the entry and validation of all permit applications by various staff in the permit office along with staff in other offices such as bridge, pavement, construction, end-users (i.e., the applicants including carriers and service providers), enforcement, and other jurisdictional reviewers. This module validates all application data, coordinates with technical review modules as needed, and handles all payment processing and permit document creation and conveyance. It also provides full back-office reporting and accounting capabilities. The permitting module, when integrated with other technical review modules, provides a fully automated system issuance of permits.

- **Routing** – The routing module is a map-based process available to all types of users. It enables automated, partially automated, or manual route selection. Where all or part of the route is user-selected, the system determines if it is appropriate for the permit vehicle. Where automated, the user defines the extent of the trip, and the system finds a permittable route. The routing process checks the selected trip for overall continuity and travelability and all

horizontal and vertical clearance limits, and it can integrate with the bridge and temporary restriction analysis processes.

- **Bridge Analysis** – The bridge analysis component uses structural model data for most structures that the vehicle will cross along the permit trip to determine if the capacity of the structure is adequate to carry the specified vehicle. This module performs several different ratings, combining multi- and single-lane loading with full, low, and no impact, and it can be configured to approve the analysis of various conditions and automatically output movement restrictions if needed.

- **Restriction Manager** – The restriction manager module allows all users to query, view, and report on existing restrictions. It allows authorized users to enter and manage restrictions. All restrictions in the system affect the routing performed by the routing module.

The IAPS populates information from various Iowa DOT systems, including the following:

- **Roadway Asset Management System (RAMS)** – The Esri ArcGIS Roads and Highway commercial off-the-shelf (COTS) solution stores the roadway network, alignment, pavement restriction, and road and bridge business data.

- **Structures Inventory and Inspection Management System (SIIMS)** – The SIIMS is the single-source location for entering and reviewing condition information on all Iowa bridges, both local and state-owned.

- **Load Analysis and Rating System (LARS)** – The LARS stores bridge load rating and analytics data. These data are loaded manually into the IAPS as needed.

- **Condition Acquisition and Reporting System (CARS) 511**– This application is the Iowa DOT's traveler information system. It is a COTS managed by a third-party vendor. There is a direct link between the systems (the IAPS and CARS 511), and road-condition updates occur automatically on an hourly basis in the IAPS.

Built on Bentley's SUPERLOAD, the IAPS application offers a number of capabilities including the following:

- A web-based interface familiar to many motor carriers, given it is the same application framework utilized by many other states

- Online processing of permit application data from application submission through Iowa DOT administrative and technical application review

- Electronic routing of permits through integration with information from other Iowa DOT systems, including pavement management, bridge management, and the 511 system

- Payment processing, including acceptance of credit cards

- Issuance of the permit documents to the motor carrier, including the ability to provide permits electronically to motor carriers

- Notifications to motor carriers of temporary changes or restrictions that affect their permitted route of travel

Currently, the IAPS auto-issues single-trip permits on the primary system for loads up to 120,000 lb with maximum dimensions of 11 ft wide, 14 ft 6 in. high, and 120 ft long. The IAPS allows a business needing a single-trip permit to fill out a form online and have the permit issued electronically. If the permit can be system-issued, the carrier or permit service provider receives a message with the issued permit number on the final page. Thus, the issuance is instantaneous. About 50% of permits are auto-issued.

If the permit needs to be reviewed by a clerk, lead clerk, or the bridge department, the carrier or permit service provider receives a message with the application number on the final page. Different load dimensions and weights require different levels of review. The Iowa DOT's overall goals for issuing special permits are as follows:

- Four business hours for OS/OW (regular) applications, with the exception of ones returned to carrier/permit service for clarification

- Eight business hours for super-load applications that need bridge and/or lead clerk approvals

- Five business days for mega-load applications that need bridge, lead clerk, law enforcement escorts, and/or district approvals

In addition, the Iowa DOT does not issue trip permits more than five days prior to the start of the permit to help avoid changes to the roadway availability, such as the beginning of a construction project.

2.2 Permit Issuance

A variety of OS/OW permits can be issued through the IAPS, including single-, round-, and multi-trip, as well as annual permits. A list of permit types and the associated costs are provided in Appendix 2A.

The number of OS/OW permit requests has been increasing in the last two decades. In 2020, more than 124,000 OS/OW permits were issued through the IAPS. Among them, about half were system-issued. Table 2-1 lists the monthly issuance of permits in 2020 and the percentage of permits issued by the system.

Table 2-1. OS/OW permit issuance by month

Month	# of permits issued	% system-issued
January	9,728	51.7%
February	8,856	48.9%
March	10,689	48.7%
April	10,347	45.8%
May	9,683	48.0%
June	11,949	45.6%
July	11,534	45.8%
August	11,446	50.2%
September	11,930	46.9%
October	10,999	48.5%
November	8,278	50.2%
December	9,217	49.7%

Figure 2-1 shows the top five types of permits issued in 2020, which accounted for more than 90% of the total permit issuances and included Single- or Round-Trip, Single- or Round-Trip for Private Special Mobile Equipment (SME), Large Annual Oversize, Annual Route Approval, and Single- or Round-Trip for Self-Propelled (S/P) Cranes. Single- or Round-Trip permits accounted for two-thirds of the total permit issuances.

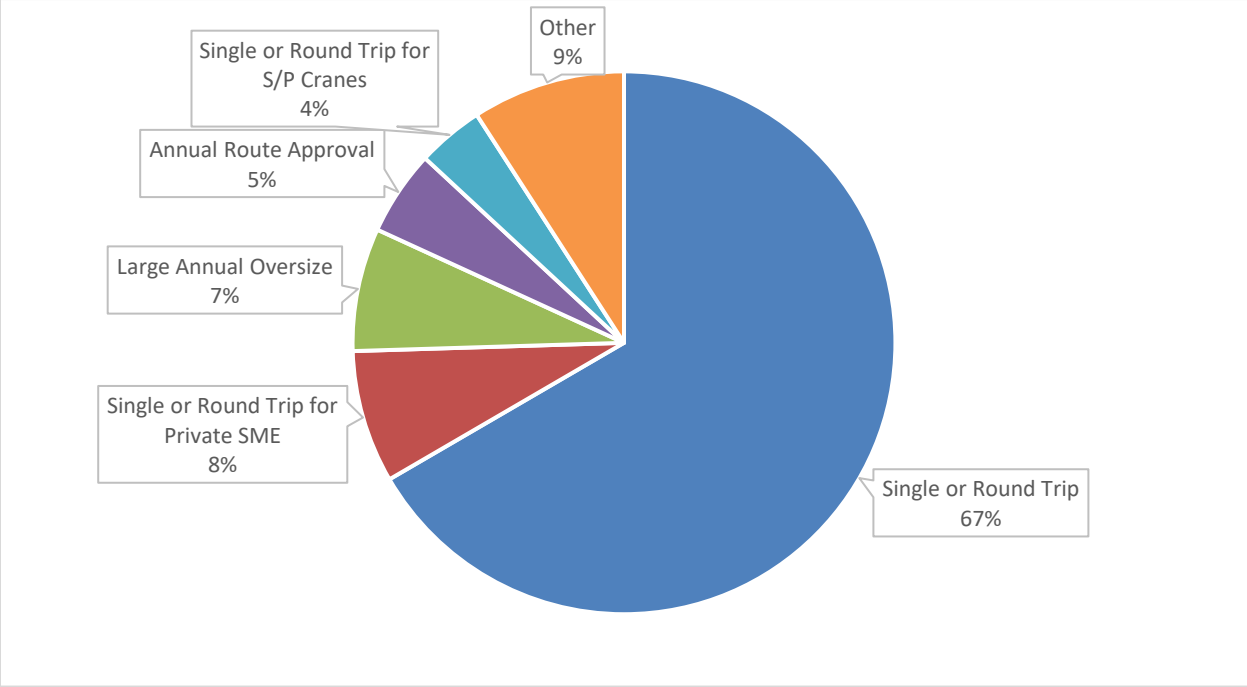


Figure 2-1. Top five types of OS/OW permits issued by the Iowa DOT in 2020

Permits issued by the Iowa DOT are for state and interstate highways only. Separate permits must be obtained from local city or county jurisdictions for travel on those roadways. In 2020, the Iowa DOT issued 124,656 permits, among which almost 90% used county roads. The distribution of these permits among counties in 2020 is shown in Figure 2-2.

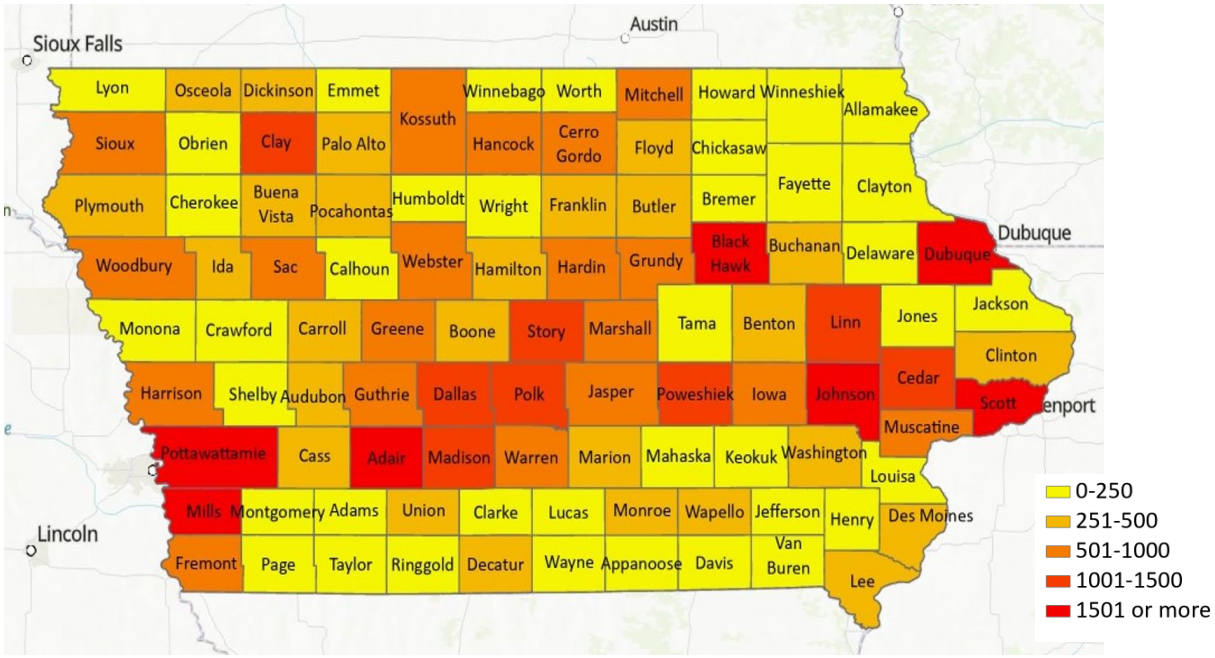


Figure 2-2. County roads used on OS/OW permits in 2020

2.3 Upgrade of the IAPS

The Iowa DOT is in the process of upgrading the IAPS based on Bentley's SUPERLOAD CONNECT Edition, which enables a multi-jurisdictional permitting process. The upgrade is scheduled to complete in the Fall of 2022. Some of the changes in the new edition include the following:

- **More role-based configurable functionality with automated and manual workflows**. SUPERLOAD provides fine-grained role-based access control to each hyperlink, site menu item, and action button on the web interface. In addition, SUPERLOAD can configure worklists/queues based on user type, so certain permit applications can be routed directly to a specific user-type queue based on load dimension or weight criteria.

- **Expanded workflows that allow serial approvals with additional action tracking**. The agency review of permit applications can be a multi-phased/multi-user process. A permit technician may request a specific type of engineer review, and some engineering reviews may require sign-off by an engineering supervisor. Some implementations also have complex notification processes to determine the permit vehicle route to develop lists of districts and enforcement staff that either need to approve the travel or be notified of the issuance of a permit. Different permit types or vehicle sizes may require different processes and

notifications. All of these workflows and the sequential approval processes are managed by the system.

- **Post permit-issuance notification**. To make sure a permit is appropriate during its entire duration and accounts for changes that may occur post-issuance, SUPERLOAD regularly checks all outstanding permits for valid travel and identifies any new data changes that could impact travel. If any problems are found, the permit office receives notice in a report, and the carrier is contacted with directions to get the permit revised if the planned travel has not already occurred. Then, the carrier needs to contact the Iowa DOT to revise the route.

In addition, Bentley's SUPERLOAD provides a comprehensive set of identification tools and several commands that allow for finding and identifying details on routes, bridges, key points, and other data. Any routes (interstate, US, state, county, and local) that are in the SUPERLOAD route network can be queried, and detailed information about a road segment can be provided, including attribution and jurisdiction. Although the current IAPS network includes local roadways, the completeness, connectivity, and accuracy are not guaranteed.

3. REVIEW OF OTHER STATE DOT PRACTICES

While most states include local roads on their state road maps, very few issue local permits. Most states provide local permit agency points of contact, but the carrier is responsible for contacting the local agency (Schaefer and Todd 2018).

Several states have tested or implemented approaches to streamline the application process for OS/OW permits on local roads. The approaches can be regarded as fitting into one of the following three categories:

- Joint permitting system that allows local road agencies to issue permits through the state system
- Unified permitting process that allows data exchange across multiple software systems used by different permitting agencies
- Unified local permitting system that allows local public agencies to issue permits through the same platform

3.1 Joint Permitting System

A joint permitting system allows multiple jurisdictions to manage their own road and bridge assets and accomplish review processes through a single application. To the researchers' knowledge, the only joint state and local OS/OW permitting and routing system that is in operation is the Maryland One (MD1) Hauling Permit System.

MD1 was implemented in May 2016. It automates and centralizes the process of issuing hauling permits for commercial vehicles on all state highways, toll facilities, and Baltimore city roads.

In Maryland, any vehicle with a gross maximum weight in excess of 73,000 lb may travel only on state and federal numbered highways, except while making a delivery or pick-up, and then only when traveling by the shortest available legal route to or from the state or federal highway for the purpose of picking up or delivering cargo. In Baltimore, the shortest available legal route shall be only on designated truck routes (MDSHA 2018).

The Motor Carrier Division of the Maryland State Highway Administration (MDSHA) issues hauling permits for vehicles and loads that are over the allowed size and weight limits. MDSHA issues up to 150,000 OS/OW permits per year for travel on more than 10,000 miles of roads. The routes pass over/under about 5,200 bridges. Prior to the implementation of MD1 carriers encountered significant delays as each jurisdiction had its own process for issuing specifically routed single trip and general 30- to 365-day multiple trip permits.

To expedite the process, MDSHA implemented a statewide OS/OW permitting and routing system. The project costed $2.3 million and required strong project management and leadership by MDSHA. The Bentley system is used by the state to issue local permits for the city of Baltimore as well as permits for the Port of Baltimore.

Bentley's Bridge Load-Rating Analysis and Modeling Software (LARS Bridge) created detailed models of structures within the system, which were loaded into Bentley's SUPERLOAD for use in real-time bridge analysis. AssetWise Inspect Tech maintains the bridge inventory and inspection information, ensuring that SUPERLOAD has accurate bridge locations and clearances.

With MD1, carriers can apply for OS/OW permits 24×7 and have them routed, analyzed, and automatically issued up to configurable thresholds. When manual approval is needed, the request is sent to all of the agencies that the load will travel on. If a route includes both state highways and Baltimore city roads, a joint permit is issued with both MDSHA and Baltimore city logos on it.

After the system was deployed in 2016, MD1 auto-issued about 70% of applications within the submission hours and nearly 100% were processed within 48 hours (99.2%). The reduced permit-issuance time resulted in more permit purchases as opposed to carriers running without permits and a competitive advantage moving oversized products for Maryland-based manufacturers, industry, and the Port. More carriers legally obtaining permits results in enhanced safety for the general motoring public, preservation of infrastructure, and increased revenue (Karpovich 2017).

3.2 Unified Permitting Process

A unified permitting process (UPP) aims to streamline how haulers apply for oversize/overweight permits from multiple roadway authorities—townships, cities, counties, and the state—for a given trip. With a UPP, a hauler will submit one permit application to haul a load across multiple roadway authority jurisdictions. To increase efficiency for haulers and roadway authorities, make enforcement easier, and better preserve their roads, the Minnesota DOT (MnDOT) and some local roadway authorities conducted a feasibility study and a pilot test of a UPP.

In Minnesota, MnDOT, counties, and cities administer permits for each of their own roadways. This may require several different permit applications from each roadway authority for an individual hauler. Currently, a hauler can apply for permits through the online MnDOT OS/OW permitting system to travel on state owned roadways. Minnesota state permits generally take one business day. However, three or more business days are needed for processing applications that require special handling, such as district review, route surveys, or most self-propelled vehicles.

Local roadway authorities use different systems for permit application and payments. For example, the St. Louis County Online Permitting System (at https://onegov.stlouiscountymn.gov/index/pw) and Polk County Online Permitting System (at https://permitting.co.polk.mn.us/) use the OneGov online permitting system by RTVision, and the Cass County Online Permitting System (at https://casscoroad.com/permits/) accepts permitting application and payment through their own online system. Many local agencies in Minnesota do not have an online system to process permits and accept permit applications by mail, email, or fax. For example, Itasca County accepts applications by email according to

https://www.co.itasca.mn.us/670/OversizeOverweight-Permit-Application; Hubbard and Beltrami counties accept permit application by mail or fax according to http://www.co.hubbard.mn.us/departments/public_works/highway_department/applications_permits.php and https://www.co.beltrami.mn.us/Document%20Center/Documents%20Forms/Hwy/Moving%20Permit.pdf, respectively; and Clearwater County accepts permit application by mail or email according to https://www.co.clearwater.mn.us/index.asp?SEC=3E32A524-9B63-44EB-8502-208DEA8D2328&Type=B_LIST&mobile=false#{D80A418E-1E7D-4AD7-B4DF-4B438A206C9F}.

To simplify the process for haulers to obtain the necessary permits from each road authority, MnDOT and local roadway authorities are developing an UPP through a multi-phase project. The first two phases of the project were as follows:

- Phase I (2016–2017) examined the feasibility of implementing a permitting reference platform. Discussions among different levels of government, law enforcement, and industry led to recommendations for next steps. Discussions covered permitting policies, workflow processes, and possible technology as input for a unified permitting reference platform.

- Phase II (2017–2018) was a proof-of -concept pilot for the cross-jurisdiction prototype platform. Prototype participants included St. Louis County, Polk County, the City of Duluth, and MnDOT Districts 1 and 2 (see Figure 3-1).

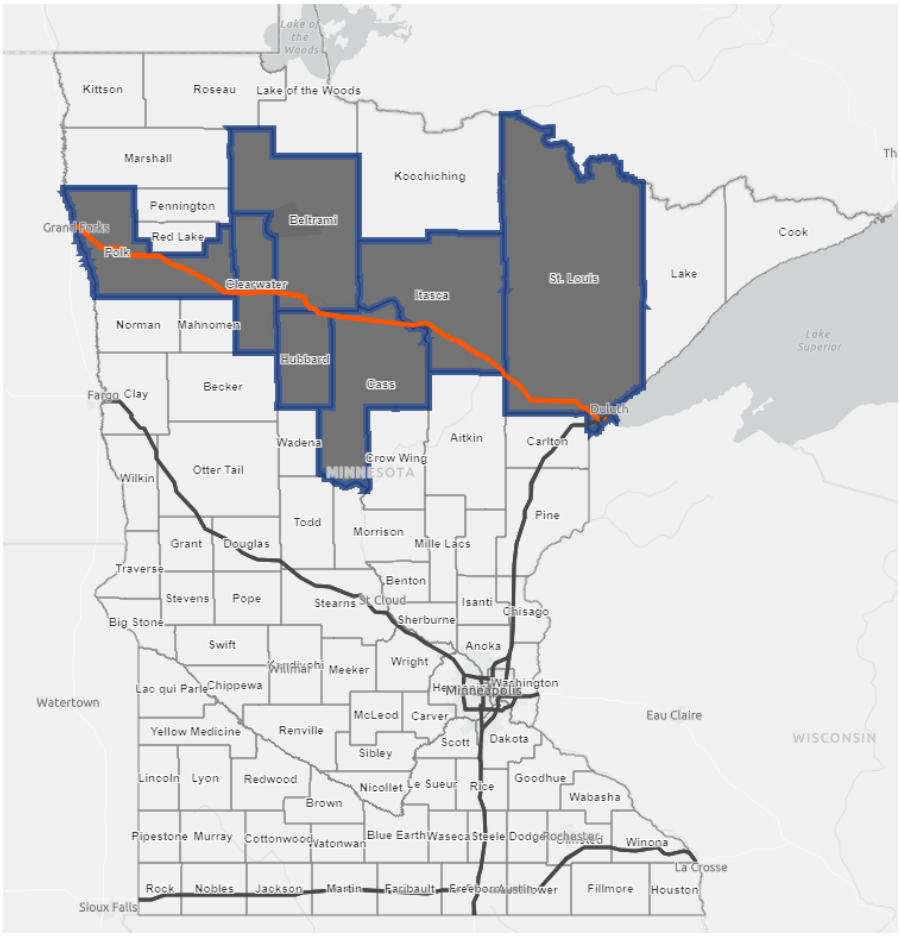


Figure 3-1. MnDOT unified permitting process project pilot study area

The prototype proved the ability to issue a permit with one permit request, exchanging information with software systems of different permitting authorities to request, issue, and track a permit. The prototype platform leveraged the existing statewide geospatial routing data and truck databases for the most efficient permit process possible. Policy and fee differences were also addressed.

Through the feasibility study and pilot test, MnDOT gained valuable knowledge regarding the design and implementation of an UPP platform. The project coordinator, Clark Moe, shared the following four principles that they learned were best to apply toward platform viability and sustainability.

- Filter out what is “liked” operationally versus what’s “necessary” enterprise-wide
- Focus on standardization of data flow, apps, processes, and so on
- Focus on authoritative data sourcing—who develops, owns, and maintains versus who likes and perceivably needs
- Focus on data connection and data collection as there will be many application and area touch-points to work through, including vendors, internal and functional areas, etc.

3.3 Unified Local Permit System

Instead of unifying the state and local permitting process, some states are working toward a unified permitting system for their local roads, while maintaining a separate permitting system for their state maintained roads. This section provides some examples of this approach.

3.3.1 Michigan

The Michigan DOT (MDOT) permits OS/OW vehicles on only state trunk lines and does not permit movement on county or city roads. OS/OW permits for traveling on any county jurisdiction route must be obtained from the county. Most Michigan county road agencies are using unified permits developed by the County Road Association of Michigan's Engineering Committee.

In early 2018, the association established a formal relationship with Oxcart Permit Systems to provide simple technology for on-line application, e-pay, e-signature, and 24-hour/365 day accessibility for transportation permits. For those applying for local permits, Oxcart provides an online interface for requesting local permits, paperless permits downloadable to mobile devices, and an online payment system. It also features an interactive geographic information system (GIS) mapping solution to assist in route and location selection. For local government agencies, Oxcart provides an online management interface to review, modify, and approve permits. It is free to government agencies, which receive full fees for each approved permit.

As of June 2021, 54 county road agencies and two cities in Michigan have moved to the Oxcart platform.

3.3.2 Illinois

The Illinois DOT (IDOT) allows customers to apply for OS/OW permits online through the Illinois Transportation Automated Permit (ITAP) system. Permit applications are reviewed for bridge tolerances, construction zones, height clearance, and several other safety concerns. Most permits are issued immediately.

Although the system contains both state and local road maps, ITAP only issue permits for travel on state jurisdiction roadways. If a carrier requests a route that includes local roads, the system will include these in the route, but the carrier is required to obtain local permits from the corresponding local jurisdictions, including municipality, township, county, skyway, and the Illinois Toll Authority. However, the state will issue a permit for routes that include local roads.

At the time when the state permit is issued, the state notifies local agencies that a permitted load passes through their jurisdiction. The email notification is sent out to the jurisdiction owners automatically by the ITAP system. The system also provides carriers with local agency contact information if a local permit is required. Furthermore, the state supports the local jurisdictions

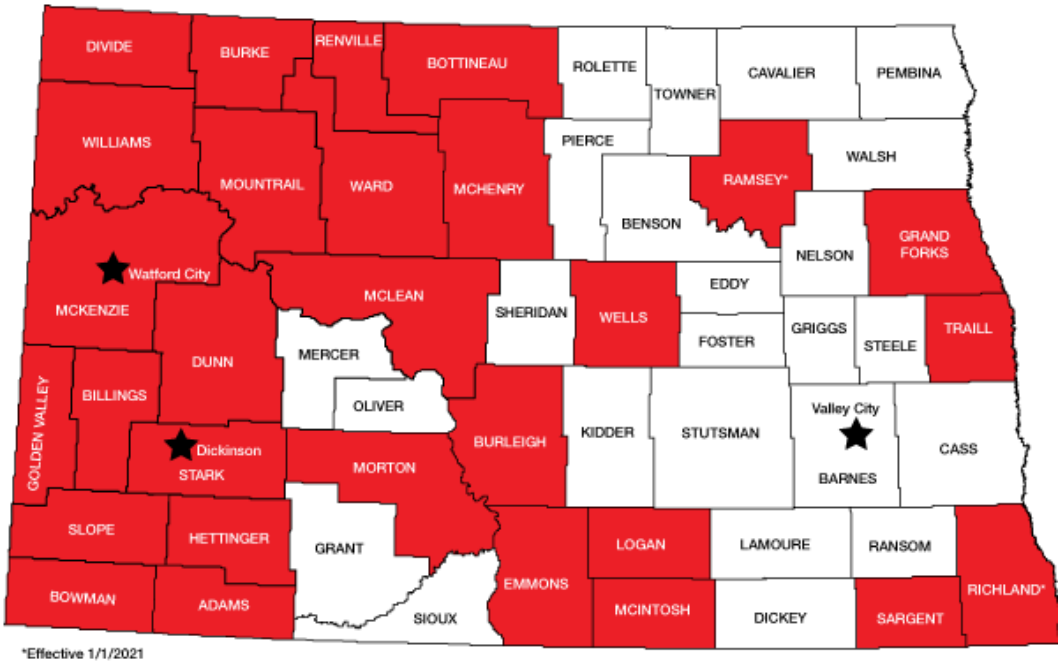
with enforcement. If a hauler does not comply with the permit regulations of local jurisdictions, the state can block the hauler from all permits until the issue is resolved.

In addition, some of the local jurisdictions use Oxcart Permit Systems to manage permitting of OS/OW loads. As of June 2021, 130 counties, cities, and townships in Illinois used Oxcart.

3.3.3 North Dakota

The North Dakota Highway Patrol (NDHP) Permits System allows the assessment of roadway restrictions in real-time and automatically calculates safe routes and fees. In particular, the North Dakota Enhanced Automated Routing (EAR) interface, powered by ProMiles, can be used by carriers to route and assist with OS/OW permit applications. Using the routing engine and the mapping engine, EAR generates and displays route for permits ordered through the E-Permits System. The state route map shows both state and local roads, but the state has statutory authority to permit only on state roads.

For the OS/OW loads traveling on local roads, carriers are required to apply for permits from the local jurisdictions. A uniform system for OS/OW permitting on community roadways, called the LoadPass Permit System, was founded in 1984 by the Western Dakota Energy Association (WDEA), formerly the North Dakota Association of Oil & Gas Producing Counties and Coal Conversion Counties, which is a group of counties in western North Dakota involved in the energy industry. As of June 2021, 29 counties and three cities participated in the LoadPass Permit program, as shown in Figure 3-2.



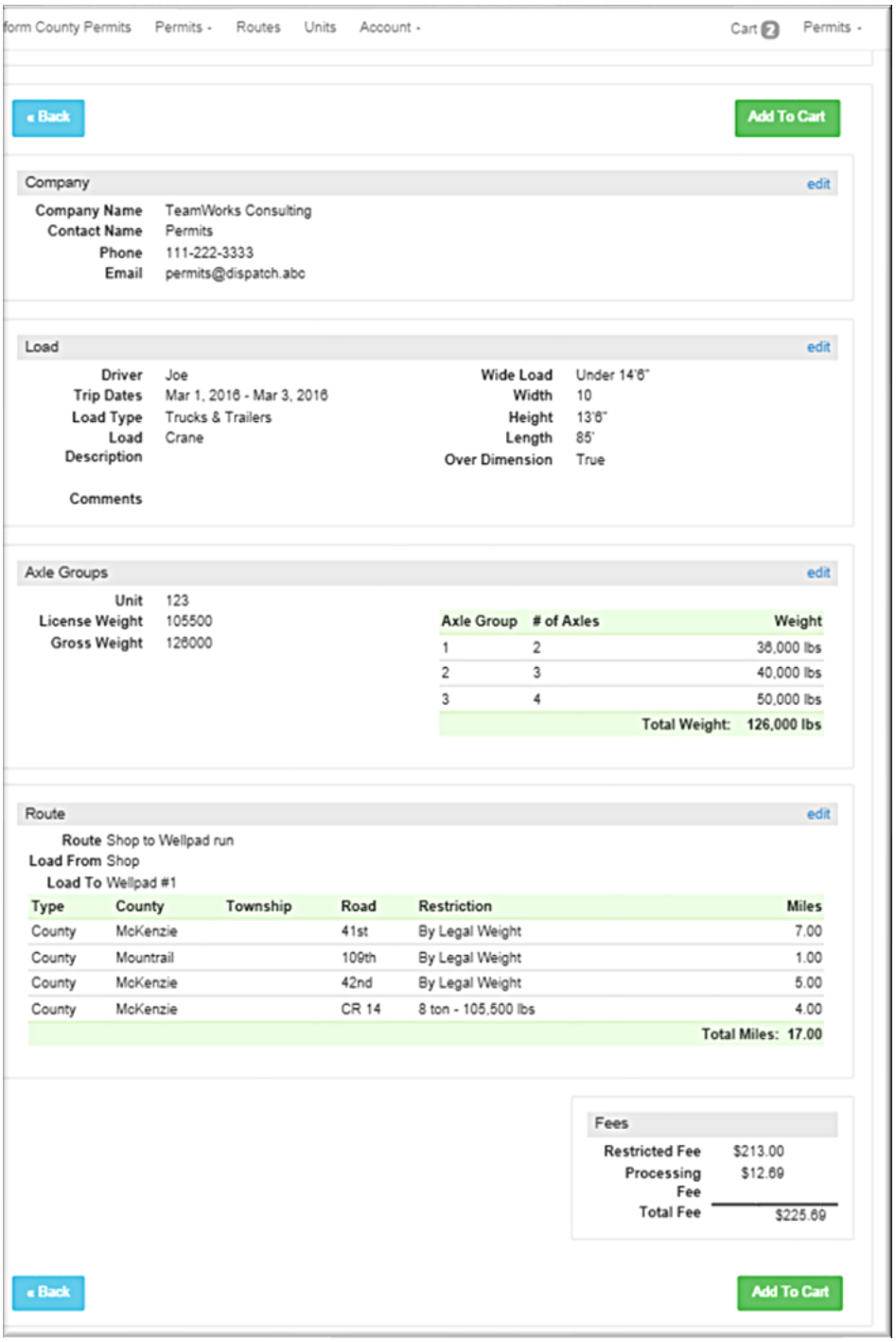
loadpasspermits.com/Permits

Figure 3-2. LoadPass Permit participating communities

The LoadPass Permit system uses the same legal width, height, and weight criteria as the NDHP. The cost to join the Uniform County Permit System is $1,500 initial set up and training fee, with annual dues between $500 and $2,000, depending on the number of permits sold. The administration of LoadPass Permits is funded by a $6 per permit fee paid by the system users. All of the OS/OW permit fees collected for each member county/city are distributed to the members each month.

In July 2017, the LoadPass Truck Permit Advisory Board recommended, and the WDEA Executive Board approved, the development of a routable map system to enhance the LoadPass Permit system and provide local governments with additional customizability for their local roads. Since this was an enhancement beyond the capacity of the WDEA to fund through the regular $6 per permit funding stream, the member counties and cities voted to withhold from 0% to 4% of their permit fees each month to be paid toward the routable map system development and ongoing maintenance.

Registered users can select a route and purchase permits from the participating counties and townships that the route goes through. Figure 3-3 shows an example of purchasing a permit for a route going through two counties—McKenzie and Mountrail.



Western Dakota Energy Association n.d.

Figure 3-3. Example of purchasing a LoadPass permit to travel through two counties in North Dakota

The LoadPass Permit System provides the restriction information, notifications, and a restriction map. It is noted on their GIS website that the information is kept as up to date as possible, and the notification system has a history of being quite reliable. However, the accuracy of the data

cannot be guaranteed. Drivers are encouraged to contact the participating county road superintendent's and sheriff's offices listed on the website before driving to clarify any questions about county roadways or routing. Given the potential issues in the data, it is unclear how much improvement the notification and restriction map has provided.

Depending on the weight of the load and the settings selected by the local government member, certain permits need to be approved by a local agency official. When the system determines that county or city review and approval is required on a permit, an email is sent to the pre-determined permit personnel. The permit may be reviewed and acted upon through the email or by logging into the member LoadPass dashboard. The permit may be approved, denied, or more information requested.

Most permits during business hours are responded to by the counties and cities within the hour. For extra heavy loads or permits that require more research by the county or city, it may take longer. All of the counties and cities participating in the LoadPass system are required to have someone who can review the permits and grant approval over the weekends as well. Most counties or cities review them two to three times per day on the weekend.

3.4 Summary

Based on the interviews and surveys of five states—Illinois, Maryland, Michigan, Minnesota, and North Dakota—no statewide implementation of one-stop-shop solutions exist for performing OS/OW permitting on both state and all local roads. Some state DOTs, county associations, and third-party service providers have initiated the effort to perform permitting on the state roads and some local roads, or on local roads across multiple local jurisdictions.

Permitting fees for three of these states—Maryland, Minnesota, and North Dakota—are included in Appendix 3.A.

4. IOWA INDUSTRY EXPERIENCES, BARRIERS, AND EXPECTATIONS

The research team contacted three trucking companies (carriers) in Iowa to gather their experiences with the current permit system for OS/OW loads. The researchers also conducted an industry survey in the state via email using a list of more than 20,000 potential respondents from the Iowa DOT.

This chapter includes a summary of industry perceptions from phone interviews followed by a summary of the results from the industry survey.

4.1 Iowa Trucking Industry Perceptions

The following is a summary of responses from carriers in Iowa via research team phone interviews with the respondents:

- One of the carriers normally gets $50 annual oversize permits for their dedicated specialized fleet that mostly pulls removable gooseneck (RGN) trailers hauling farm equipment. This allows the carrier to haul loads that are legal in weight and up to 16 ft wide, 15 ft 5 in. high, and 120 ft long.

- When the carrier gets a load wider or taller than the regular dimensions, they get a route approval to verify that the desired route can be used. When they need to move an overweight load, they order a $35 single trip permit. Currently, they only have tractor/trailer combinations with five axles total, and they usually permit for a maximum weight of 92,000 lb.

- Once in a while, the carrier is required to get city and county permits for overweight loads in Iowa depending on the origin and destination and the roads they need to travel on to get to specific addresses, especially if they are delivering to a job site or something like that.

- The common practice for one carrier is to get annual permits for some of their trucks that are not part of their dedicated fleet because of the turnaround time to get the permits. For example, the company prefers to get a $50 annual permit instead of a $35 single trip permit for steel plate loads that originate in Iowa, because an annual permit will auto issue, and a trip permit can take several hours to be approved and issued. They use the annual permit with the hope that, at some other point in time during the year, the same truck will haul a load again for which the annual permit can be used.

- According to the carriers interviewed, the time to process permits varies by county. Some counties are quick to respond, and others take about a day to respond. Many times, carriers need to leave a message with the county engineer’s office. The reality is, that can take several hours on their loads to get the permit at some offices. Most of the time, they need to get the

state permit issued and then send a copy of that to the county or city office to show them that the permit was already issued. Then, the local office issues their permit for the local roads.

The conversations with the carriers suggest the following potential improvements:

- Every state is different in their ordering process. Many of them have been updating their systems over the past few years, so things are constantly changing. If the company needs a county or city permit, it would definitely be easier to get them all in one permit issued by the state (and "that would be a great improvement").

- Routing is sometimes difficult to choose on the maps when ordering permits, and auto routing does not always take the most direct route and adds a significant number of miles for their loads. The Iowa DOT's response on this was as follows: "The map functionally will be improved with a current system upgrade that will be completed in the fall of 2022. The auto route avoids restrictions such as vertical clearances and construction areas; hence, the most direct route cannot always accommodate the load weight and/or dimensions."

- On the permit itself, a good improvement could be to have a place for the truck number. Every unit in the fleet is assigned a number and there is no place to put it on the permit (which is "very aggravating for companies with large fleets").

- Some companies contacted hire a third party (permit service) to deal with permits, while the carrier only deals with the loads. However, one permit service contacted some of its carriers about their experience with Iowa roads and the permit system. So far, no issues have been raised. In comparing Iowa with other states, they consider Indiana a tough state to go through while Missouri is a good one. The Iowa DOT's response on this was as follows: "Missouri uses the same system that Iowa will have after the current upgrade is completed."

4.2 Iowa Industry Survey Results Summary

An industry survey was designed to gather the experiences of users in requesting permits from both the Iowa DOT and the local county and city agencies. The survey was disseminated via email with results collected from May 12, 2021 through May 30, 2021. A total of 1,067 individual responses were collected. After removing 178 incomplete responses, the analysis was conducted using 889 responses. All responses that had more than 50% of the survey questions answered were kept. The final version of the questionnaire is included in Appendix 4.A.

The respondent sample was composed of mainly carriers (59.55%), followed by shippers (34.43%) and permit service providers (6.02%). Most of the respondents haul machinery or construction materials (34.43% and 31.26%, respectively). After that, bulk, general cargo and agricultural products are the types of cargo moved when requesting OS/OW permits. Interestingly, most of the respondents (55.45%) have one to five vehicles in their fleet, followed by those having more than 20 vehicles (20.58%).

The responses to each question are summarized in Appendix 4.B. A summary of the key findings from the survey are presented in this section.

First, most of the respondents request permits from the Iowa DOT relatively infrequently and usually request annual permits and single- or round-trip permits. In particular, 81.59% of the respondents request permits from the Iowa DOT, and the majority of them (almost 58%) request those permits less than once a month. Moreover, the most requested types of permits are the annual permit and the single- or round-trip permit, with each being requested by about 47% of the respondents.

Although the number of respondents that requested annual permits was about the same as the ones that requested trip permits, the number of permits requested in each category might be significantly different. A carrier only needs to obtain one annual permit for each truck but might request several trip permits within a year. In calendar year (CY) 2020, the number of annual permits issued by the Iowa DOT was 15,141 compared to 98,109 single- or round-trip permits issued.

Second, processing time was identified as a critical issue by the respondents, even though most permits are issued within one business day. As shown in Figure 4-1, for trip permits for loads under 156,000 lb, the permits take either 0 to 4 business hours (51.87%) or 4 to 8 business hours (30.12%).

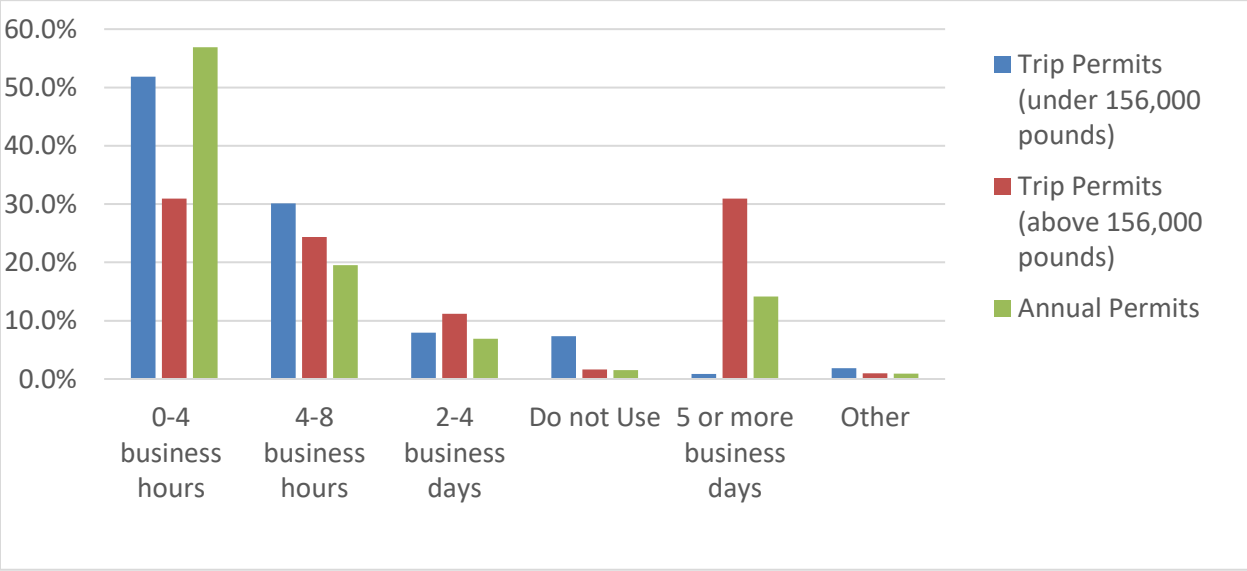


Figure 4-1. Processing time for state permit requests reported by respondents

The remainder of the respondents indicated a longer processing time. For trip permits for loads over 156,000 lb, processing time is in the same category, but 30.92% for 0 to 4 business hours and 24.34% for 4 to 8 business hours. Another 30.92% of the respondents indicated they do not request permits for this type of load. In the case of annual permits, the majority (56.92%)

indicate that, in no more than 4 business hours, they receive the permit, followed by 19.54% that said the time is between 4 and 8 business hours. This is consistent with the auto issuance rate by the IAPS, which was 48.1% for CY 2020.

Third, about one-third of the respondents request permits from local agencies and experience a processing time similar to that of permits issued through the Iowa DOT. When asking about permits provided by local agencies, only 37.63% of the respondents request them. The most used method to apply for these permits is via email (31.62%), followed by via web (28.41%), and 24.72% via phone. Some applicants go in person (9.63%), and 3.37% apply via fax.

These permits are mostly requested less frequently than once a month (63.91% of responses). As for processing time, respondents indicated that, for loads under 96,000 lb, these mostly take 0 to 4 business hours (46%), while 32.67% indicated it takes between 4 and 8 business hours, and 13.33% expressed it takes between 2 and 4 business days (see Figure 4-2).

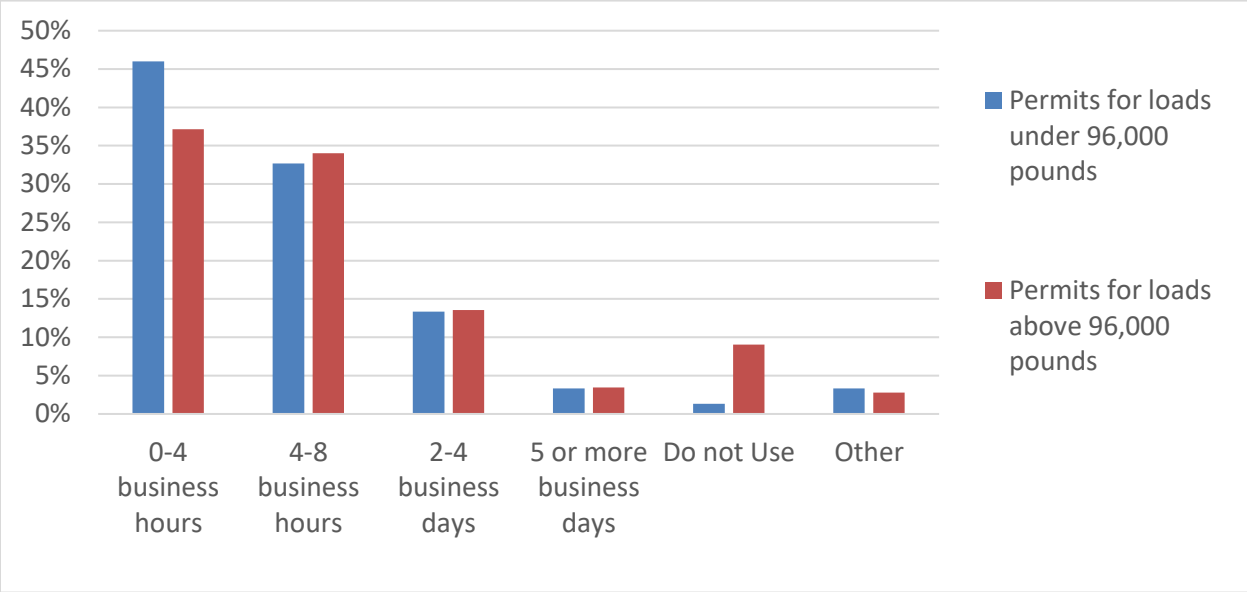


Figure 4-2. Processing time for local permit requests reported by respondents

For loads over 96,000 lb, 37% indicated 0 to 4 business hours, while 34.03% said 4 to 8 business hours. Again, 13.54% selected 2 to 4 business days. Several comments were received and expressed that these processing times vary by the local agency in charge of providing the permit, showing that not all have the same processing time.

Fourth, the industry generally supports a single and more efficient permitting system. An overwhelming majority (89.49%) of the respondents are in favor of having a single more efficient electronic system to request all permits within the state. However, only 52.64% of those in the sample are willing to pay an increased fee to have this new electronic system.

When asked what they expect as processing times for the permits once merged, the respondents showed their preference for faster times: 35.56% preferred between 0 and 4 hours, 22.64% would like the permit to be approved within one hour, while 20.42% consider 1 to 2 days to be a good option (see Figure 4-3).

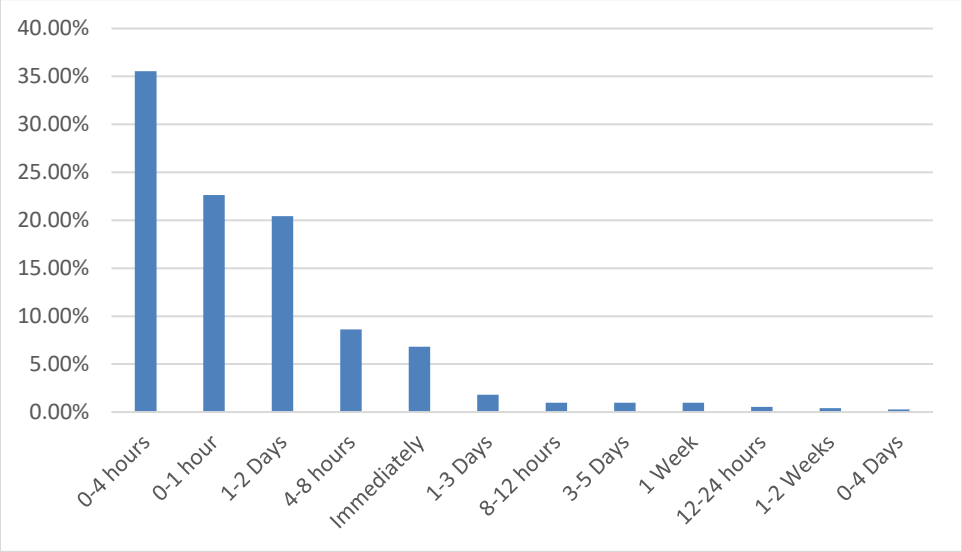


Figure 4-3. Expected processing time for the single permitting system reported by respondents

The respondents were also asked how far in advance they request permits, and the majority (40.33%) said within a day of the trip taking place. These responses highlight the industry expectation to have a faster processing time and preferably 24×7 service. On the other hand, neither the Iowa DOT or the local agencies currently have the resources to provide service outside business hours, except for emergency situations.

Fifth, additional services, such as online request and payment and better routing service are recommended for the new system. In particular, the respondents would like to see online request and payment of permits (37.51%), a functioning routing service (32.18%), followed by the creation of company accounts to manage multiple profiles and routes (23.19%). Other ideas include having service 24×7, having live operators to resolve questions and provide support, and offering longer trip permits, among other services. The respondents also recommended looking at the systems of states like South Dakota, Nebraska, Washington, Texas, New Mexico, Colorado, Virginia, and West Virginia, which they consider to be user friendly and to allow diverse types of permits.

Furthermore, following are some of the additional comments (direct quotes) that respondents added at the end of their survey responses:

- Iowa's system is a good system but lacks in certain areas in terms for auto issuance of permits that pass routing analysis. In my opinion, if the route clears with no restrictions, the permit should be able to be printed off immediately without having to be reviewed.

- The wait time for permits to be issued can sometimes be extremely long.

- It would be very helpful if permits that are under 156,000 gross vehicle weight (GVW) and don't have to go across bridges would be self-issued once an acceptable route has been found.

- If the map had mile markers and a satellite view, it would help. Also, if we could click and end the route in the middle of a road/certain mile marker instead of having to use the text routing.

- Illinois has the best system in my opinion. I really like that I can check a route and include height, construction, rest stops, and who owns the roads that we will be traveling, so I know which county/township permits I will need to get.

- Iowa ranks at the top for user friendly. Iowa ranks at the bottom for timely matters, only because of other states (Missouri, for example). I can instantly get a permit issued automatically up to 144,000 lb 24×7 (×365 days a year), but they cost more. Also, most other states offer emergency type annuals.

- Please keep it simple and user friendly. Make sure it operates on all operating systems and all platforms and cell phones or mobile devices. Please make it where no physical paper is required, and we can show it to law enforcement on our mobile devices. Dedicate a 24-hour tech support team for web errors (at least initially). Accept all forms of payment. Make it to where we can purchase permits at the point of entry (POE) or weigh station as a last resort.

- The only issue that I've come across with the system is the amount of time it takes to get permits back when they have to go to the permit office.

- Please add an option for individuals instead of only companies that can register to make it clearer to the common person with no hauling experience how to apply for a permit.

- On occasion, a last-minute vehicle or trailer switch is necessary. I would like to be able to amend issued permits, within a reasonable timeframe, rather than issuing an additional permit at full cost.

In summary, the interviewees and survey respondents were generally satisfied with the current OS/OW permitting service provided in Iowa and, at the same time, support a single system to streamline the application process. In addition, faster processing time with 24×7 service and a

user-friendly system for request, routing, and payment are preferred by the industry. A more detailed summary of the industry survey responses is provided in Appendix 4.B.

5. CURRENT LPA PERMITTING PROCESS AND THE BARRIERS FOR THE IAPS

The research team developed a survey to collect information from Iowa counties and cities regarding their current OS/OW permitting process, as well as their opinion on having a unified system to apply for state and local permits. The final version of the questionnaire is provided in Appendix 5.A.

The survey was sent to 325 bridge owners in Iowa, including all 99 counties and cities that own bridges. The email addresses of bridge owners are either work emails associated with a specific person or personal email accounts. Due to frequent personnel changes in LPAs, some email addresses were not up to date. Despite several email reminders and some phone calls, the research team was only able to collect feedback from the majority of the counties and a small fraction of the cities.

This chapter discusses the main findings from 104 survey responses received from 70 counties and 34 cities. The responses to each question are summarized in Appendix 5.B. This chapter provides a summary of key findings.

First, email, in-person, and fax applications are accepted by most LPAs. In addition, 14 LPAs provide an online request option, as shown in Table 1.

Table 5-1. LPAs that provide online application option for OS/OW permits

Agency	Weblink
City of Waukee	https://www.waukee.org/DocumentCenter/View/3994/Oversize-Overweight-Annual-Permit-PDF?bidId=
City of Roland	cityofroland.org
Osceola County	https://osceolacountyia.gov/departments/engineer/
Boone County	https://www.boonecounty.iowa.gov/government/engineer/permits-policy
Iowa City	https://egov.iowa-city.org/energovprod/SelfService#/home
Cass County	https://www.casscountyia.gov/download/6187/
Clay County	https://claycounty.iowa.gov/engineer/
City of Des Moines	https://requestmovingpermit.dsm.city/
City of Coralville	https://www.coralville.org/DocumentCenter/View/9359/OVERSIZE-LOAD-PERMIT-FILLABLE-20200423
Lee County	https://leecounty.org/pview.aspx?id=20874&catid=25
Polk County	https://www.polkcountyiowa.gov/public-works/engineering-roads/engineering-road-division-forms-policies/
Floyd County	https://www.floydco.iowa.gov/
Woodbury County	woodburycountyiowa.gov
Cedar County	http://www.cedarcounty.iowa.gov/

The applications submitted through these online systems are still subject to manual approval by the LPA staff. Automatic issuance is not provided by any LPA that responded to the survey.

Second, most LPAs issue the permit as soon as it is approved. This is different from the Iowa DOT practice. Currently, the Iowa DOT issues trip permits up to 5 days in advance of the intended travel day no matter how early the permit request is submitted.

Since the trip permit is valid for 5 days, issuing the trip permit 5 days in advance can route the load according to the up-to-date information on road closures and other restrictions associated with road construction. The construction activities are generally reported 10 days in advance to the IAPS. For counties and cities, LPAs are generally well-informed regarding construction activities in their local areas. Thus, the OS/OW permit is issued once it is approved.

Third, the number of permits issued by LPAs are sometimes less than the number of permits issued by the Iowa DOT for use of county roads. In the survey, the respondents were asked to report the number OS/OW permits issued in the past three years. In general, there is no significant change in terms of the number of permits issued over CY 2018, CY 2019, and CY 2020.

In particular, 59 counties reported the number of permits issued in CY 2020. These numbers were compared with the number of permits issued by the IAPS that had routes including the use of county roads. Given the Iowa DOT permit does not cover the use of county roads, the carriers were told to apply for permits from the local agencies along their routes. As shown in Figure 5-1, some counties, such as Palo Alto, issued more permits than the IAPS reported in 2020.

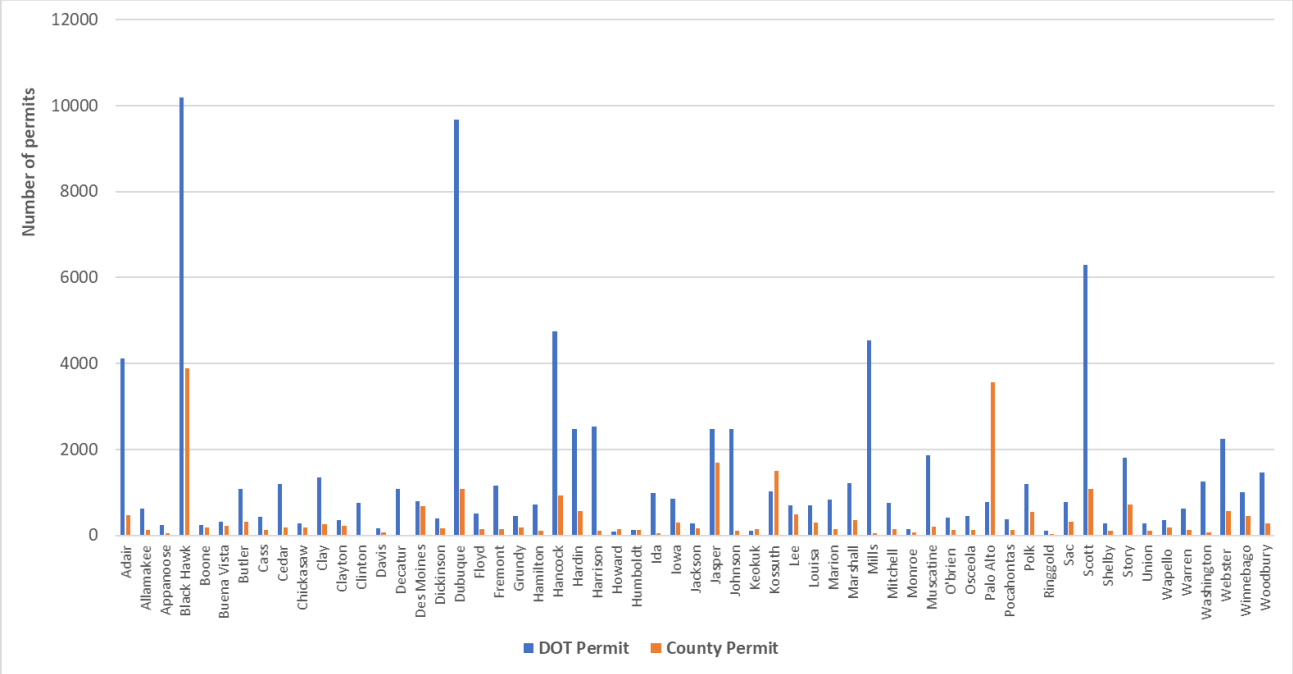


Figure 5-1. Number of permits issued by county vs. number of state permits using county roads for CY 2020

This result is expected, as some loads only travel on the local roads and do not need to apply for a state permit. Also, the number of local permits issued in CY 2020 includes both annual permits and trip permits. However, other counties, such as Black Hawk and Dubuque, issued fewer permits than the IAPS reported in 2020. This inconsistency could be due to carriers failing to apply for permits from the counties along their route, inaccurate numbers reported by the counties, or inaccurate number extracted from the IAPS.

Fourth, LPA communications with enforcement and other jurisdictions is limited. For most LPAs, motor vehicle enforcement (MVE) is responsible for OS/OW enforcement. However, more than 60% of the respondents said they do not communicate with the enforcement agencies. Fewer than 40% of the respondents communicated with the local commercial motor vehicle (CMV) district supervisor or local sheriff a few times a year regarding illegal loads, embargo violations, special oversized loads, or loads that may cause traffic delays or safety concerns. Furthermore, the communication with other cities and counties is very limited. Most LPAs (more than 60% among the respondents) will inform the hauler that necessary local and/or state permits must be obtained separately. Very few LPAs (three of 93 respondents) will inform other jurisdictions along the truck route.

Fifth, Most LPAs issue permits within one business day if bridge analysis is not needed. If bridge analysis is needed, it might take two days or longer. About 85% of the respondents use consultants for bridge analysis. Very few (two of 104 respondents) use bridge load rating software. In addition, all but one respondent issues permits only during business hours.

Sixth, only a small portion of bridges on the non-primary road network have been evaluated with LARS. Although the intention of the question—How many bridges in your city/county have been evaluated with Load Analysis Rating Software (LARS) data?—is to ask LPAs about managing their bridge evaluation data using LARS, some responses from LPAs might refer to bridge evaluation in general as opposed to those evaluated with LARS. In particular, there were 59 responses to this question. As shown in Table 5-2, six counties and three cities reported that all of their bridges have been evaluated with LARS.

Table 5-2. LPAs with all bridges evaluated with LARS

Agency Type	Name
County	Adams
	Cass
	Cedar
	Dickinson
	Fremont
	Jackson
	Louisa
	O’Brien
City	Des Moines
	Osceola
	Marshalltown

In addition, 10 counties and seven cities have some of their bridges evaluated with LARS. The number of bridges with LARS data are listed in Table 5-3.

Table 5-3. LPAs with some bridges evaluated with LARS

Agency Type	Name	Number of bridges evaluated with LARS
County	Clay	30
	Cerro Gordo	26
	Emmet	66
	Grundy	~80–90
	Hancock	126
	Howard	210
	Kossuth	15
	Muscatine	12
	Shelby	10
	Union	140
	Winnebago	9
	Webster	5
	Woodbury	7
City	Albia	1
	Ankeny	7
	Durant	2
	Humboldt	72
	Iowa City	20
	Roland	1
	Webster City	11

Eighteen LPAs reported that no bridge in their jurisdiction had been evaluated with LARS, and the rest were unsure about the bridge data. Given the more than 4,000 bridges on the non-primary paved road network in Iowa, it is estimated that only a small portion of the local bridges have been evaluated with LARS.

Seventh, most of the respondents do not report road closure information to the state or the Iowa County Engineers Association Service Bureau (ICEASB) 511 system. Only about 30% of the respondents report planned construction or maintenance activities to the state 511 system. When they report, it is usually five or fewer days in advance. In addition, less than half of the respondents report road closures to the ICEASB 511 system in emergency/unplanned situations.

Overall, about 42% of the respondents are in favor of having a unified system for OS/OW permitting within the state, and 14% are against it. The remaining 44% are undecided. The LPA survey reveals the large variations in the permitting process and data availability across agencies. The inconsistency in the number of local permits issued and the number of state permits using

local roads, along with the lack of communication with enforcement, might present some potential benefit of a unified system to facilitate carriers obtaining all the necessary permits with one application. However, the lack of a timely road closure notification system for the non-primary road network and the limited number of bridges with LARS data pose roadway safety concerns for all drivers (commercial and private) and infrastructure protection challenges in developing and deploying a unified system.

6. IMPLEMENTATION OPTIONS AND NEXT STEPS

Based on the review of other state's practices, the industry and LPA survey results, and lessons learned from a pilot study (discussed in section 6.1), this chapter presents three implementation options—single system, portal system, and hybrid system—discusses the implementation challenges, and describes the system that the Iowa DOT will implement along with next steps.

6.1 Woodbury County Pilot Route Testing

To explore the option of performing OS/OW permitting for LPAs in the IAPS, a pilot route test was conducted on Woodbury County Road (CR) D-12 between US 75/SD 376 and IA 140 in 2016. The route also included a half-mile road segment inside the city limits of Sioux City, along Taft Street. All of the bridges along this route were load rated. The bridges were currently approved for permit loads up to 136,000 lb at 5 mph and haulers must traverse along the centerline while crossing bridges. Six bridges needed LARS data, and Stanley Consulting was hired to provide the LARS files, at a cost of $54,000.

The pilot route was programmed into the IAPS, which involved a contract modification with Bentley Systems, the Iowa DOT's software provider. For purposes of this pilot route testing, it was agreed upon by Woodbury County and the city of Sioux City to allow these overweight loads on the pavement without doing further pavement testing.

During the pilot testing, the LPAs reported to Iowa DOT staff any closures for activities that would close or restrict the road for four or more hours, including roadway closures under an emergency, along with the planned construction or maintenance activities. The permits were sent to all entities that the IAPS permitted (i.e., Sioux City, Woodbury County, and the Iowa DOT) via email.

The payment processing was not modified to expedite the pilot route testing, and all revenue went to the Primary Road Fund. For real-world implementation, the payment processing needs to separate the fees for the LPAs and issue payments to them.

Some lessons learned from the pilot study included the following:

- The bridges needed a field inspection to document the actual conditions.
- Most of the bridges had substructure issues that had to be evaluated before the LARS analysis could be used as the governing analysis.
- The cost for the bridge analysis was high. If the cost of bridge analysis is $9,000 per bridge, it will cost $36 million to analyze all 4,000 bridges on paved roads, or $180 million to analyze all 20,000 bridges on both paved and unpaved roads.

- Not many permits were issued due to the short route size being used and the time of year. In 2020, more than 110,000 Iowa DOT permits were issued that used local roads. As shown in the previous Figure 5-1, there were discrepancies between the number of Iowa DOT permits using local roads and the number of local permits issued. Since not all LPAs reported their permit issuance, the total number of local permits issued is unknown. The return on the investment for the one-stop-shop permitting system depends on the additional local permits issued.

6.2 Implementation Option: Single System

The single system option is to use one system for permitting on both the primary and non-primary road network, i.e., all agencies manage permits on all roadways in one system. This implementation option requires all LPAs and bridge owners in Iowa to participate. Significant effort and costs are expected to create electronic bridge data, add data to the non-primary road network to meet the routing requirement, and coordinate with counties and cities.

First, creating and maintaining bridge data is costly. The IAPS bridges need electronic data created in the LARS. In Iowa, most bridges on public roadways are owned by the state, a county, or a city, depending on the jurisdiction of the roadway where the bridge is located. Currently, all of the state-owned bridges are included in the IAPS, but local bridges are not. As shown in Table 6-1, nearly 20,000 bridges are owned by local jurisdictions.

Table 6-1. Number of bridges by ownership

Owner	Number of bridges
State	4,178
Counties	18,613
Cities	1,210
Total	**24,001**

Source: Iowa DOT *2020 Annual Bridge Report*

Given the high cost associated with bridge analysis (i.e., $9,000 per bridge), programing all local bridges in the IAPS might not be economically feasible. In addition, data must be continuously maintained and updated. New bridges will need a LARS file before they are placed on the network. New bridges will need to be added to the network manually in between network updates. Changes in structures need to have data reviewed. Costs could be substantially higher if a large effort is needed to locate plans or measure actual bridge member sizes in the field. Without dedicated funding, perhaps through a legislative appropriation, this is a significant constraint to further consideration of this option.

Note that because of the duplicative and manual effort requirement, the IAPS has difficulty keeping the bridge and network data up to date for the primary road network. Thus, maintaining and updating data on the non-primary network is expected to be challenging.

Second, some bridges cannot be analyzed using the LARS and need to be reviewed manually for any permit request. Creating LARS data for local bridges is not just costly but sometimes not feasible. For example, among the more than 4,000 local bridges that are on paved roads, almost 800 of those bridges are structurally deficient. More than 12% of these bridges have suspect substructures, which cannot be rated using the LARS.

Bridges that do not have LARS data will need to be reviewed manually for any permit request. The local agency would need to be contacted by Motor Carrier services to request this analysis.

Third, some local agencies might not participate in the single system. A single permitting system requires that all participating agencies agree to one set of permit policies, such as requiring traveling the centerline of the bridges, speed restrictions, axle weights, and permit types. It also requires all agencies to report planned maintenance and construction activities, as well as emergency road closures to the system, in a timely fashion.

The local agencies are liable for maintaining and updating the data after it is included in the IAPS. Thus, a memorandum of understanding should be in place before the implementation of the single system.

Small cities do not typically have an engineer on staff for bridge review and sometimes rely on the counties for assistance. Thus, the data might not be properly updated and maintained. In addition, data documenting deterioration of individual members are not sufficient in the local inspection reports for use in the load rating program. Actual section loss measurements will need to be taken on a significant number of bridges before a data file can be created.

6.3 Implementation Option: Portal System

A portal system provides a one-stop-shop for users to request permits from multiple agencies by submitting one application, while the Iowa DOT, counties, and cities manage permits using their own systems. The Iowa DOT and all LPAs need to agree on a uniform application form for OS/OW permits. When a route goes through the local road network, the IAPS needs to notify the corresponding local agencies of a permit request. Local agencies can approve or deny permits through the IAPS. Bridge analysis, if needed, is the responsibility of each local agency.

First, the payment system of the IAPS needs to include permit fees charged by LPAs and allow distribution of funds to LPAs. Similar to the LoadPass permit system as previously shown in Figure 3-3, the user makes one payment that includes permit fees for multiple agencies.

Iowa Code has a structured fee system, but the Iowa DOT or an LPA is allowed to charge for engineering fees for bridge analysis. The Iowa DOT could bill those costs to the hauler after analysis is completed. In addition, there may be staff time trimming trees or removing signs. The IAPS should be programmed to allow charging these fees to cover extra costs that an LPA may incur.

Second, an up-to-date list of email addresses for bridge owners is needed. As most LPAs manually review and approve permits, the contact information of LPAs must be up to date so that permit requests can be reviewed in a timely manner. One approach is to set up a generic email account that is monitored by multiple persons to minimize the disruption caused by vacations, staff changes, and so on.

Third, the local route network needs to be updated to reflect prevailing road restrictions. LPAs need to populate the local route network with posted bridge restrictions to prevent routing on these bridges. Also, a road closure notification tool is necessary for road closures in both emergency situations as well as for planned construction or maintenance activities. LPAs need to report road closures in the IAPS in a timely fashion.

6.4 Implementation Option: Hybrid System

The hybrid system provides the same one-stop-shop service for requesting permits as the portal system described above. Likewise, it allows counties and cities with LARS data to automatically issue permits through the IAPS. Note that, however, to auto-issue a permit along a route, all bridges need to have up-to-date LARS data available.

The hybrid system can be viewed as the tangible product that can transition to a single system managing OS/OW permits for all jurisdictions in the future. If all bridges along a given route do not have LARS data, the permitting process will not be efficient. The number of routes that could have all bridges analyzed using the LARS is unknown and is likely to be a small number.

First, a cost-benefit analysis is recommended for each LPA to determine whether to include a corridor in the IAPS or not. Given that creating and maintaining LARS data require significant cost and efforts, it might only be cost effective for bridges along some specific corridors to be programmed in the IAPS. Generally, routes with a high volume of permit issuances and LPAs with the staff and resources to properly maintain the bridge data are candidates for automated issuance.

Second, the liability of issuing permits on the non-primary road network should be clear. If the IAPS automatically issues a permit for a route traveling on both Iowa DOT and LPAs roads, through either a joint permit or multiple permits, it should be clear that each jurisdiction is liable for the roads and bridges within their jurisdiction.

6.5 Discussion and Implementation

The three implementation options discussed above share some common challenges, as follows:

- Carriers could experience or perceive a longer wait time to obtain permits from the one-stop-shop system. For a permit request to travel on state and local roads, the request will be reviewed and approved by multiple jurisdictions sequentially, and, thus, the total processing time could be longer than the current processing time for a permit from one jurisdiction.

- The costs associated with data collection (both bridge data and routable road network data), system development, and maintenance are relatively high, which would require dedicated funding, perhaps through a legislative appropriation.

- Network data must be continuously maintained and updated, and, even under the current system, it is a continuing challenge to keep all of the reporting systems updated. In addition, it takes the IAPS vendor time to build a routable network after the Iowa DOT enters primary projects into the RAMS. During the processing time, the network continues to change, which results in the need to continually conduct manual adjustments for routing. Significant expansion of the system to include the local road network will make that even more challenging.

- Automatic issuance of permits on local roads is likely to be limited. To auto-issue a permit for all bridges along a route requires them to be analyzed using the LARS. Due to the high cost to create and maintain LARS data and the large number of local bridges that cannot be rated using the LARS, routes that use the local road network are likely to include one or more bridges without LARS data and thus need manual approval from the corresponding jurisdiction.

- Maintaining up-to-date contact information for LPAs is challenging due to frequent changes in city officials and administrators. In addition, most LPAs do not have staff dedicated to OS/OW permitting tasks.

After review of the three different options, the Iowa DOT will implement a corridor-based hybrid system. A corridor-based hybrid system will provide the benefits of a simplified permitting system on corridors with a demonstrated high number of existing/anticipated permitted loads without the large cost of expanding the system statewide. The next step is to work with one or more LPAs along a specific corridor and establish a process for LPAs to perform OS/OW permitting in the IAPS.

Following are the steps the Iowa DOT will take to implement the corridor-based hybrid system.

6.5.1 Agreements with Local Authorities

The Iowa DOT will take steps toward initiating agreements with certain local authorities to leverage the state's IAPS system for specific corridors or routes that include local roads and have a significant number of permitted loads. This would involve Iowa DOT entering into an agreement with the local government(s) to establish the local roads to integrate and document the processing and transmittal of permit fees. This process would also include determining how to conduct the necessary evaluation of impacted structures.

Identifying Suitable Corridors or Routes with Local Authorities

Iowa Code Chapter 321E.3(2) already provides the authority for the Iowa DOT to enter into agreements with local authorities. An agreement between the Iowa DOT and a local authority would allow the Iowa DOT to leverage its existing IAPS to incorporate specified local roads to perform the permitting function for the specified roads on behalf of the local authority. It would make sense to target the most frequently accessed roads and areas of the state.

To do this, the Iowa DOT will need to perform data analysis to determine the most heavily traveled areas by permitted loads. Other input, such as input directly from industry and local authorities, could also be used to help determine the roads where permitted loads frequently travel and, therefore, where an agreement between the state and the local authority(s) would make sense.

Contents of State-Local Agreement

An agreement would need to specify the following information:

- Specific local roads and structures to be included in the IAPS and routed/permitted by the Iowa DOT
- Maximum weight and dimensions allowed on each road, bridge, or other structure
- The process by which the impacted structures will be evaluated and how the evaluations are recorded
- Permit fees and the process for routing the fees collected by the Iowa DOT back to each local authority
- Requirements for timely reporting of construction updates, which are essential to ensure safety
- Length of time the Iowa DOT will perform the permitting function through the IAPS system
- Roles and responsibilities for both the Iowa DOT and the local authority
- Reporting and permit tracking requirements for each, and how data will be shared between the state and local authority
- Requirement to maintain updated contact information for both Iowa DOT and local authority personnel

Benefit to the Local Authority

As mentioned previously in this report, the number of permits issued by counties compared to the number of state permits issued sometimes shows a lower number of permits being issued by the local authority (see Figure 1).

While deeper analysis is needed to determine the exact reason that this is happening, it is plausible that carriers may not always be following the process to obtain a permit for the local roads on their routes, which results in a loss of revenue to the county. Leveraging the state's

IAPS system for certain routes ensures that carriers will obtain the required permits for the entire route, including from local authorities, and that local authorities will receive the permit fees from the Iowa DOT. Additionally, the local authorities would not need to perform the task of routing or issuing the permit for any local road included in the IAPS system in accordance with the agreement.

6.5.2 Programming and Logistical Requirements

To implement the ability to enter into agreements with local authorities and include certain local roads into the IAPS system, key programming and logistical considerations must first be resolved by the Iowa DOT, as follows.

Consult with the State's IAPS Vendor

The state's vendor for the IAPS system will need to provide a cost estimate based on the number of local roads that may be included in the system. The current system is being upgraded with a scheduled completion in Fall 2022. This upgrade is a prerequisite to any expansion of the IAPS system to include local road corridors.

Configure the Iowa DOT's Fee Collection System to Accommodate Local Permit Fees

The Iowa DOT will do an internal assessment regarding the requirements, level of effort, and ability to configure its existing system used for the collection, management, and routing of all fees. The system will need to accommodate both the ability to collect the local fees accurately and to subsequently route those monies back to each local authority. Other local fees for other Motor Vehicle Division products and services have been configured in this system, but the local permit fees are a new function that the system will need to accommodate.

Assess Impact on Staffing and Resources

The Iowa DOT will need to determine the impact that management of local agreements will have on staffing within the department and participating local jurisdictions. Managing a few agreements with certain local authorities may be absorbed within existing staff; however, it is a new concept and function, and expansion of the agreements to more local authorities may require additional staffing or a reorganization of existing staff.

Additionally, the Traffic Management Center within the department's Operations Division will be required to review additional construction updates from local authorities with IAPS agreements. Construction updates must be provided by local jurisdictions in a timely manner and manually reviewed and updated by Iowa DOT in the department's 511 system to ensure proper and safe routing of OS/OW loads. An assessment will need to take place to determine the additional load this may place on Traffic Management Center staff.

6.5.3 Conclusion

The implementation of a corridor-based hybrid system balances the benefits of expanding the IAPS on a limited number of high-value corridors with the significant costs of implementing the system across the entire local road system.

REFERENCES

Schaefer, R. and S. Todd. 2018. *Best Practices in Permitting Oversize and Overweight Vehicles*. FHWA-HOP-17-061. Federal Highway Administration, Washington, DC.

Iowa DOT. *2020 Annual Bridge Report*. Iowa Department of Transportation, Ames, IA.

Karpovich, T. 2017. Maryland One System: Automated Hauling Permits Further Boost Port Efficiency. *Port of Baltimore Directory Online*. https://pobdirectory.com/maryland-one-system-automated-hauling-permits-further-boost-port-efficiency/

MDSHA. 2018. *Maryland Motor Carrier Handbook*. Maryland Department of Transportation, State Highway Administration, Baltimore, MD.

Western Dakota Energy Association. n,d. *LoadPass Permits Electronic Permit System User Guide*.

APPENDIX 2.A: TYPES OF PERMITS ISSUED THROUGH THE IAPS

The following types of permits can be issued through the IAPS:

- All Systems Permit ($160): Valid for 12 months; unlimited trips on all state and some city/county roads (see the All Systems Permit map); 80,000 lb gross maximum, 20,000 lb maximum per axle

- Annual OS/OW Permit ($400): Valid for 12 months; unlimited trips; 156,000 lb gross maximum, 20,000 lb per axle maximum; not valid for interstate travel (state roads only)

- Bridge Exempt Permit ($25): Valid for 12 months; unlimited trips; must be 41 ft or less in length and exceed maximum gross weight table for non-primary highways (see Table 1 in the Iowa Truck Information Guide); 80,000 lb gross maximum, 20,000 lb maximum per axle

- Compacted Rubbish Permit ($100): Valid for 12 months; unlimited trips; each county of operation requires a separate rubbish permit; allows for compacted rubbish vehicles to operate up to 36,000 lb on the rear tandem-axle for non-interstate roads; interstate limits are 20,000 lb single axle and 34,000 lb rear tandem-axle

- Large Annual Oversize Permit ($50): Valid for 12 months; unlimited trips; 80,000 lb gross maximum, 20,000 lb per axle maximum; maximum dimensions 120 ft long × 16 ft wide × 15 ft 5 in. high; valid on all state and interstate highways; route approvals required when exceeding certain dimensions listed on permit

- Multi-Trip Permit ($200): Valid for 60 days; valid for unlimited round trips between the same origin and destination; only one route is allowed for each multi-trip permit; 156,000 lb gross maximum

- Raw Milk Transporter Permit ($25): Valid for 12 months; unlimited trips; 20,000 lb per axle maximum, 80,000 lb total gross weight

- Raw Forest Product Permit ($175): Valid for 12 months; unlimited trips; 156,000 lb gross maximum, 20,000 lb per axle maximum; not valid for interstate travel (state roads only)

- Route Approval Permit ($0): Valid for 5 days; valid for 1 trip only; used for travel under an annual permit

- Round-Trip Permit ($70): Valid for 5 days; valid for a complete round-trip along the same route

- Single-Trip Permit ($35): Valid for 5 days; valid for 1 (one-way) trip only

- Single- or Round-Trip Permit for Self-Propelled (S/P) Cranes ($35 Single or $70 Round Trip): Used for S/P cranes only; 24,000 lb maximum-allowed axle weight; requires approval by Iowa DOT bridge and pavement engineers prior to issuance; valid for 5 days and 1 (one-way) trip for single or 2 (route and return along same route) trips for round-trip option

- Single- or Round-Trip Permit for Private Special Mobile Equipment (SME) ($35 Single or $70 Round Trip): Used for a private carrier hauling their own equipment not for hire; gives an exemption to the requirement to be registered for the weight of the permitted load for private haulers moving their equipment from place to place; valid for 5 days and 1 (one-way) trip for single or 2 (route and return along same route) trips for round-trip option

- Single- or Round-Trip Permit for Fire Trucks ($0): Used for a fire truck dealer or government entity that needs to move a fire truck within Iowa; route must be approved by Iowa DOT bridge and pavement engineers; valid for 5 days and 1 (one-way) trip for single or 2 (route and return along same route) trips for round-trip option

- Single- or Round-Trip Permit for S/P Construction Equipment ($35 Single or $70 Round Trip): Allows for S/P construction equipment to exceed the axle weight limits based on tire size up to a maximum of 36,000 lb; valid for 5 days and 1 (one-way) trip for single or 2 (route and return along same route) trips for round-trip option

- Single-Trip with Weight Increase Permit ($35 plus mileage fee): Valid for five days; valid for one trip only; includes a temporary weight increase for one trip; valid for house moves only

- Small Annual Oversize Permit ($50): Valid for 12 months; unlimited trips; 80,000 lb maximum weight, 20,000 lb maximum axle weight; maximum dimensions 120 ft long × 12 ft 5 in. wide × 13 ft 10 in. high; valid on all state and interstate highways with no route approvals needed

- Special Alternative Energy Multi-Trip Permit ($600): Valid for 60 days; unlimited trips to and from an alternative energy construction site or staging area for alternative energy transportation; travel must be between 2 fixed points of origin along a single specified route; 256,000 lb maximum gross weight, 20,000 lb maximum axle weight; 16 ft maximum width, 16 ft maximum height

APPENDIX 3.A: PERMITING FEES BY OTHER STATES

Maryland

To the researchers' knowledge, the only joint state and local OS/OW permitting and routing system that is in operation is the Maryland One (MD1) Hauling Permit System. Maryland's permitting fees are covered in this section.

The permit fees for Maryland depend on the types of permits, weight, and special handling of excessive loads. In particular, there is a $30.00 fee for the hauling permit when moving an over dimensional and/or combined load when the weight is less than 90,000 pounds. For loads that weigh in excess of 90,000 pounds, there is an additional $5.00 charged for each additional ton.

The blanket permit costs $50 and is valid for 30 days. The annual permit costs $500.

For excessive loads with gross weight exceeding 60 tons, the charge is composed of engineering fees (number of structures crossed multiplied by $8.00/structure) and administrative costs; $20.00 per structure if over 200,000 gross vehicle weight (GVW) plus administrative costs. For multiple moves identical in travel and load, engineering fees will be assessed generally once for a six-month period; permit and administrative charges will be assessed each time a permit is activated.

The structural survey that is done as a part of the engineering fee is good for six months. The district engineer may decide that administration personnel must monitor the move, which is at rate of $200 per day. If required, a state police officer escort is $250 per move.

Minnesota

To increase efficiency for haulers and roadway authorities, make enforcement easier, and better preserve their roads, MnDOT and some of their local roadway authorities conducted a feasibility study and a pilot test of a unified permit process (UPP). Minnesota's permitting fees are covered in this section.

The permit fees for Minnesota depend on the size, weight, and type of load, as outlined in Table 3.A-1

Table 3.A-1. MnDOT OS/OW permit fees

Type of permit	Fee
Single Trip, oversize only	$15
Single Trip Permit during Spring Road Restrictions for width over 14'6" up to 16'	$135
Refuse, Annual for self-Contained Compactor truck	$85
Bales of hay, straw, or corn stalks up to 12' wide, 14"6" high, 75' long -Annual	$60

Type of permit	Fee
Job Permit (fee increase for overweight)	$36
10% Overweight & Oversize, Annual (limited commodities)	$200 - $900
10% Winter Weight Increase, Seasonal	$60
10' Wide Snow Plow, Seasonal	$60
Sugar Beet, Potato, and Carrot Harvest, Overweight, Seasonal	$60
Studded Tires (only for postal workers on route with maximum 25% paved roads), Seasonal	$0
Raw or Unprocessed Ag Products -6 axle	$300
Raw or Unprocessed Ag Products -7 axle	$500
Commercial Boat Hauler, Annual	$120
Non-Commercial Boat Hauler, Annual	$60
Forest Product Overweight, Annual	$300
Livestock Overweight, Annual	$200
Tow Truck, Annual	$300

North Dakota

The North Dakota Highway Patrol (NDHP) Permits System allows the assessment of roadway restrictions in real-time and automatically calculates safe routes and fees. The permit fees for North Dakota are summarized in Table 3.A.2.

Table 3.A-2. North Dakota permit fees

Type of permit	Fee
Single Trip	$20.00 plus $ 15.00 service/routing fee
Non-Divisible Overweight, Annual	$100.00
Divisible Load Single Trip	$10.00 or $ 20.00 plus $ 15.00 service/routing fee
Divisible Load Annual Interstate Permit	$300.00
Special Mobile Equipment Single Trip	$25.00 plus $ 15.00 service/routing fee
Workover Service Rig Single Trip	$100.00 plus $ 15.00 service/routing fee
Seasonal, Annual	$50.00

APPENDIX 4.A: IOWA INDUSTRY OVERSIZE/OVERWEIGHT TRUCK PERMIT PROCESS SURVEY

The Institute for Transportation (InTrans) at Iowa State University is studying implementation options of performing oversize/overweight permitting for local public agencies (LPAs) in the Iowa Automated Permitting System (IAPS). We would like to ask a few questions regarding your experience with the permit application process and your opinion on having a single more efficient electronic system to apply for both state and local permits.

1. Identify your role when using the Iowa Automated Permitting System:
    a. Carrier (go to Question 2)
    b. Shipper (i.e. transport your own loads) (go to Question 2)
    c. Permit Service provider (i.e. process permits for carriers) (go to Question 5)

2. What type of cargo do you haul?

    _____

3. To which industry sector do you belong? (Select all that apply)
    a. Agriculture and Forestry
    b. Construction
    c. Mining
    d. Manufacturing
    e. Wind Energy
    f. Utilities
    g. Other (Please specify): _____

4. What is the fleet size that best represents your company:
    a. 1-5 vehicles
    b. 6-10 vehicles
    c. 10-20 vehicles
    d. More than 20 vehicles

5. Do you or your company request oversize/overweight permits from Iowa Department of Transportation (DOT)?
    a. Yes
    b. No (Go to Question 12)

6. How often do you request permits from Iowa Department of Transportation for travel on primary highways and/or the interstate?
    a. Less than once a month
    b. Once a month
    c. 2-3 times a month
    d. Every week
    e. 2-3 times a week

f. Daily

7. Based on your experience, how many oversize/overweight permits do you or your company request from the Iowa Department of Transportation (DOT) per year?

_____

8. What kind of permits do you request? Select all that apply.
    a. Annual permit
    b. Single or Round Trip permit
    c. Multi-Trip permit
    d. Other (Please specify): _____

9. Trip Permits (under 156,000 pounds): How much time generally passes from the time a request is submitted until the permit is granted?
    a. 0-4 business hours
    b. 4-8 business hours
    c. 2-4 business days
    d. 5 or more business days
    e. Other (Please specify): _____

10. Trip Permits (above 156,000 pounds): How much time generally passes from the time a request is submitted until the permit is granted?
    a. 0-4 business hours
    b. 4-8 business hours
    c. 2-4 business days
    d. 5 or more business days
    e. Other (Please specify): _____

11. Annual Permits: How much time generally passes from the time a request is submitted until the permit is granted?
    a. 0-4 business hours
    b. 4-8 business hours
    c. 2-4 business days
    d. 5 or more business days
    e. Other (Please specify): _____

12. Do you or your company request oversize/overweight permits from Local Public Agencies for travel on counties and cities roads in Iowa?
    a. Yes
    b. No (go to Question 18)

13. How do you apply for oversize/overweight permits from the county or city offices? Select all that apply.
    a. In person

b. Phone
c. Email
d. Online
e. Other (Please specify): _____

14. How often do you request permits from Local Public Agencies?
    a. Less than once a month
    b. Once a month
    c. 2-3 times a month
    d. Every week
    e. 2-3 times a week
    f. Daily

15. Based on your experience, how many oversize/overweight permits do you or your company request from Local Public Agencies for travel on city and/or county roads per year?

_____

16. Permits for loads under 96,000 pounds: How much time passes from the time a request is submitted to a county or city office until the permit is granted?
    a. 0-4 business hours
    b. 4-8 business hours
    c. 2-4 business days
    d. 5 or more business days
    e. Other (Please specify): _____

17. Permits for loads above 96,000 pounds: How much time passes from the time a request is submitted to a county or city office until the permit is granted?
    a. 0-4 business hours
    b. 4-8 business hours
    c. 2-4 business days
    d. 5 or more business days
    e. Other (Please specify): _____

18. Would you be in favor of having a single more efficient electronic system to request all permits for oversize/overweight loads within the State of Iowa?
    a. Yes
    b. No

19. Would you be willing to pay an increased fee to have all permits processed in a single more efficient electronic system?
    a. Yes
    b. No

20. If State and LPA permits were to be processed within a single more efficient electronic system, what would be a reasonable expectation of the time it would take to issue your permit? (Please indicate the time unit)

    _____

21. Based on your business needs, how far in advance do you normally request the oversize/overweight permits to the corresponding entity (i.e. DOT or LPAs)?

    _____

22. Based on your experience, once the permit is issued, how often does the permit change mid-trip? i.e. driver needs to use a different road and needs the permit before using it

    _____

23. If the permits were processed in a single more efficient electronic system, what kind of additional services would you like to be offered? (Select all that apply)
    a. Routing
    b. Creation of company account to manage profile and routes
    c. Online request and payment
    d. Other (Please specify): _____

24. Would you like to provide any additional comments on your experience with the Iowa Automated Permitting System for oversize/overweight permit process? Please add them here:
    _____
    _____
    _____

End of Survey

APPENDIX 4.B: IOWA INDUSTRY SURVEY RESPONSES

The responses to each individual industry survey question are summarized in this appendix.

Q1. Identify your role when using the Iowa Automated Permitting System:

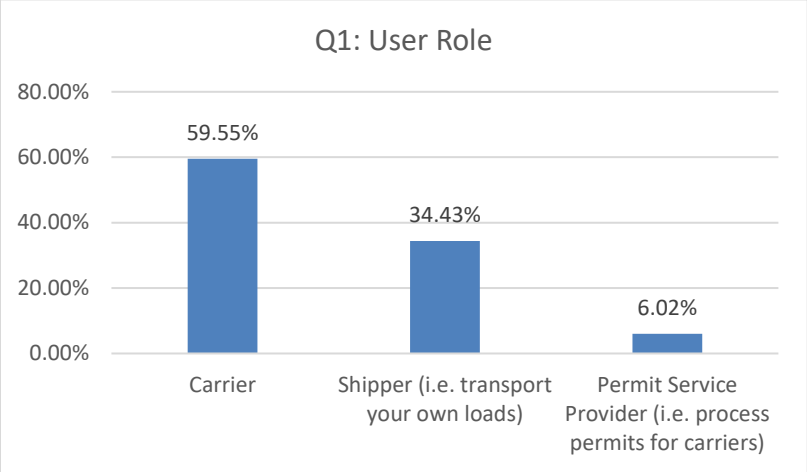


Figure 4.B-1. Role when using the IAPS

Q2. What type of cargo do you haul?

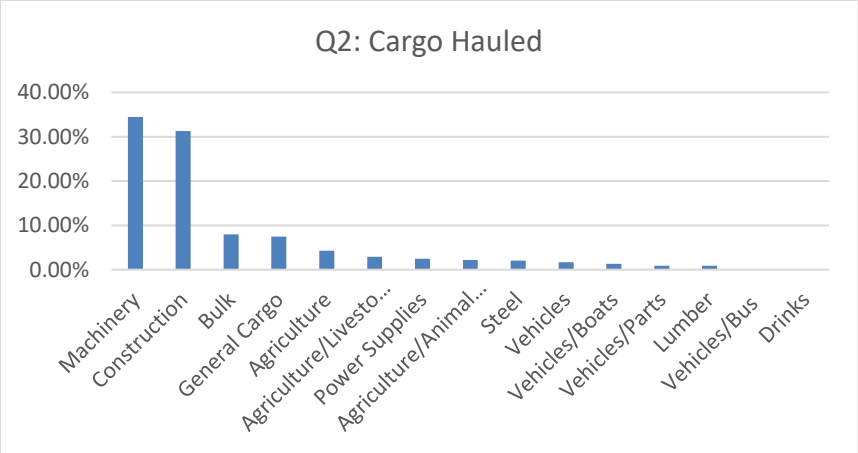


Figure 4.B-2. Type of cargo hauled

Q3. To which industry sector do you belong?

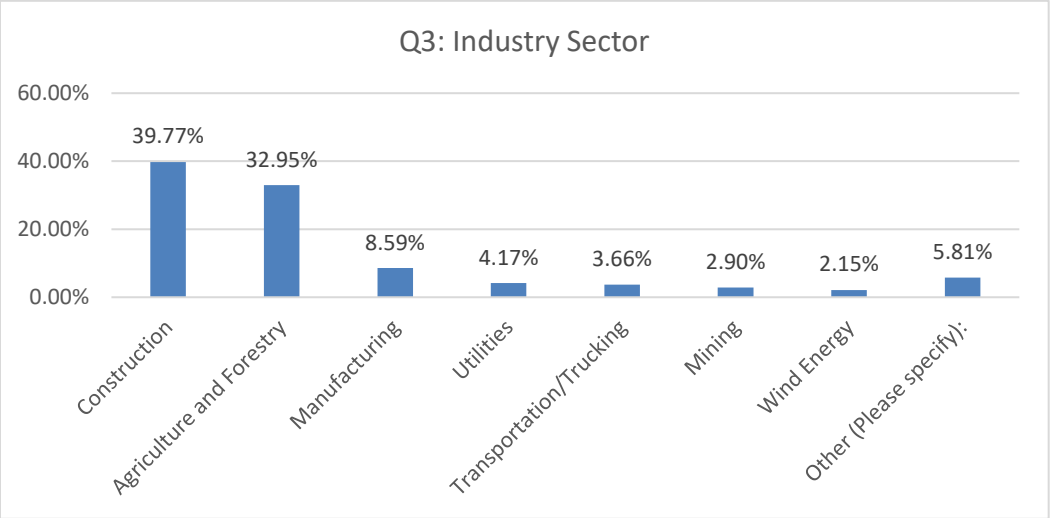


Figure 4.B-3. Industry sector

Q4. What is the fleet size that best represents your company?

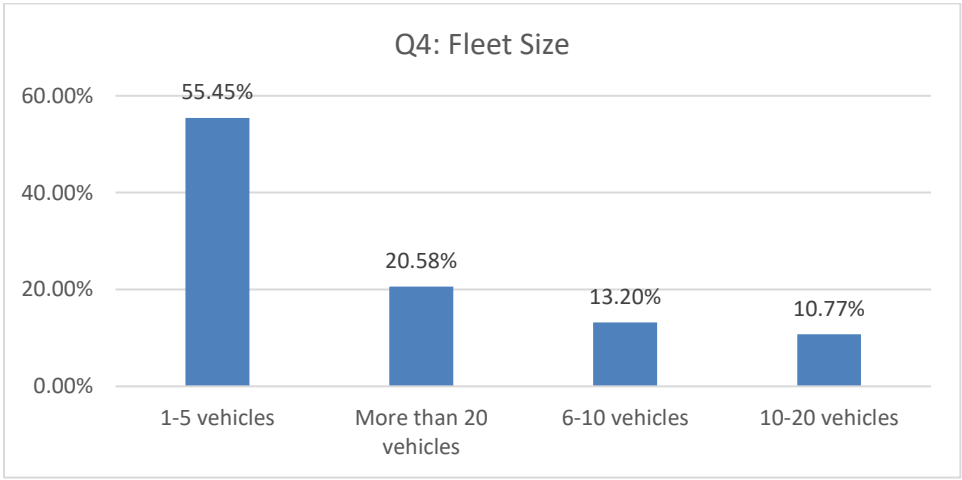


Figure 4.B-4. Company fleet size

Q5. Do you or your company request oversize/overweight permits from Iowa Department of Transportation (DOT)?

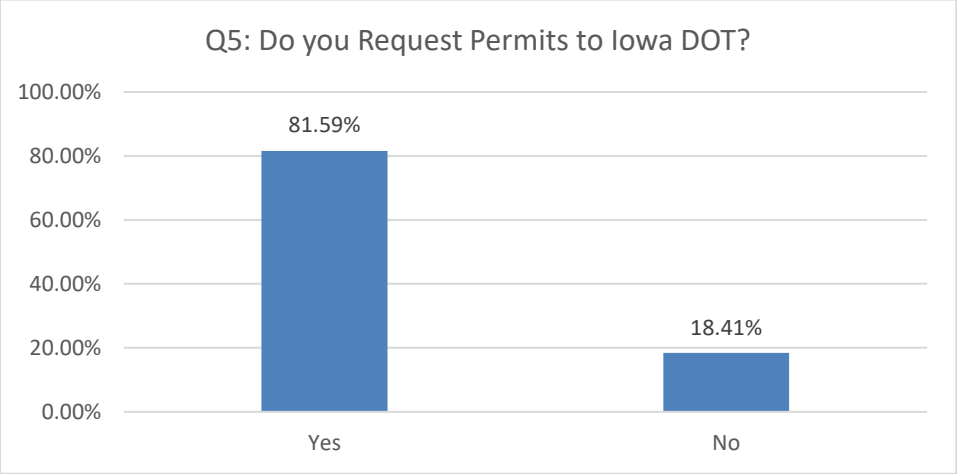


Figure 4.B-5. Oversize/overweight permits

Q6. How often do you request permits from Iowa Department of Transportation for travel on primary highways and/or the interstate?

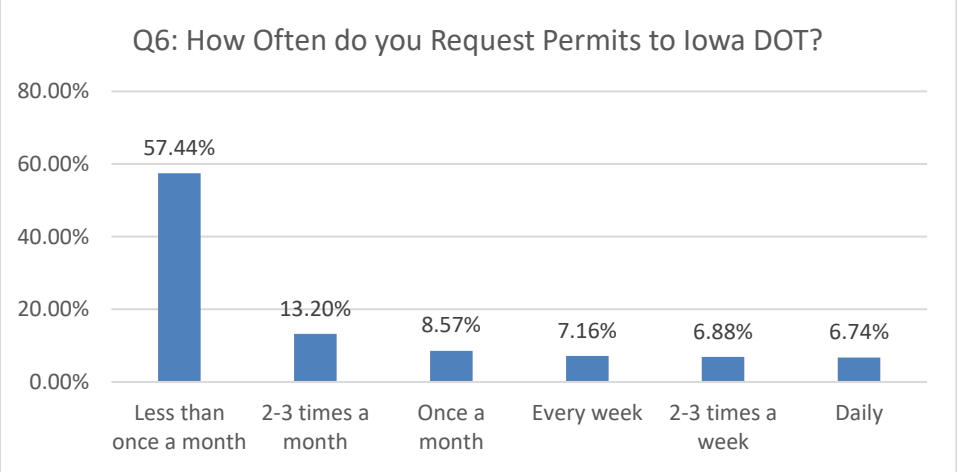


Figure 4.B-6. Frequency of oversize/overweight permits

Q7. Based on your experience, how many oversize/overweight permits do you or your company request from the Iowa DOT per year?

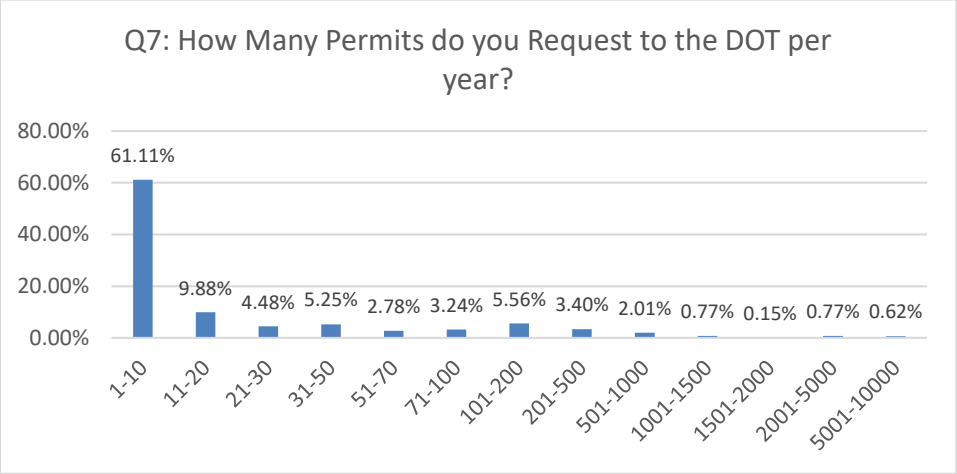


Figure 4.B-7. Annual number of oversize/overweight permits

Q8. What kind of permits do you request?

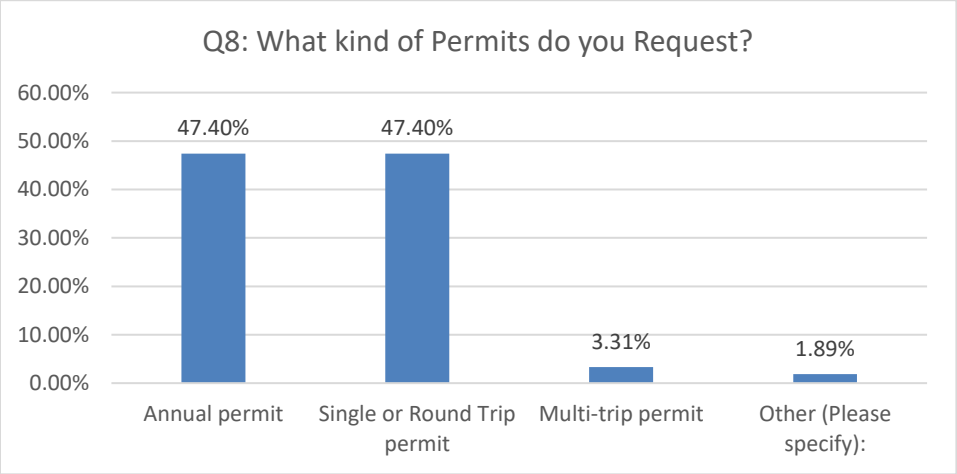


Figure 4.B-8. Types of oversize/overweight permits

Q9. Trip Permits (under 156,000 pounds): How much time generally passes from the time a request is submitted until the permit is granted?

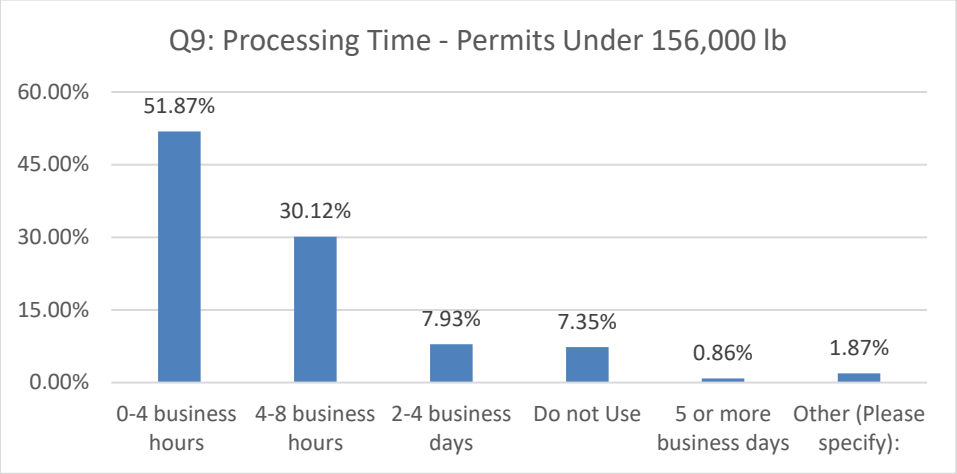


Figure 4.B-9. Processing time for oversize/overweight trip permits under 156,000 lb

Q10: Trip Permits (above 156,000 pounds): How much time generally passes from the time a request is submitted until the permit is granted?

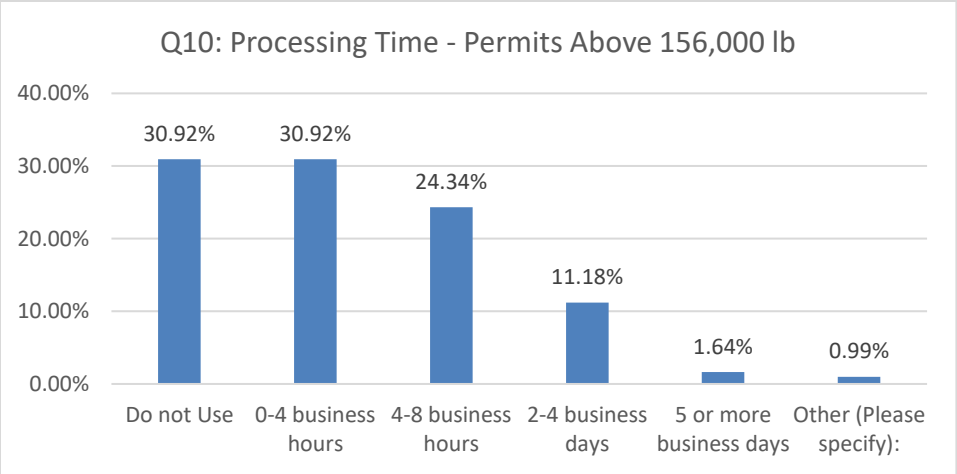


Figure 4.B-10. Processing time for oversize/overweight trip permits over 156,000 lb

Q11. Annual Permits: How much time generally passes from the time a request is submitted until the permit is granted?

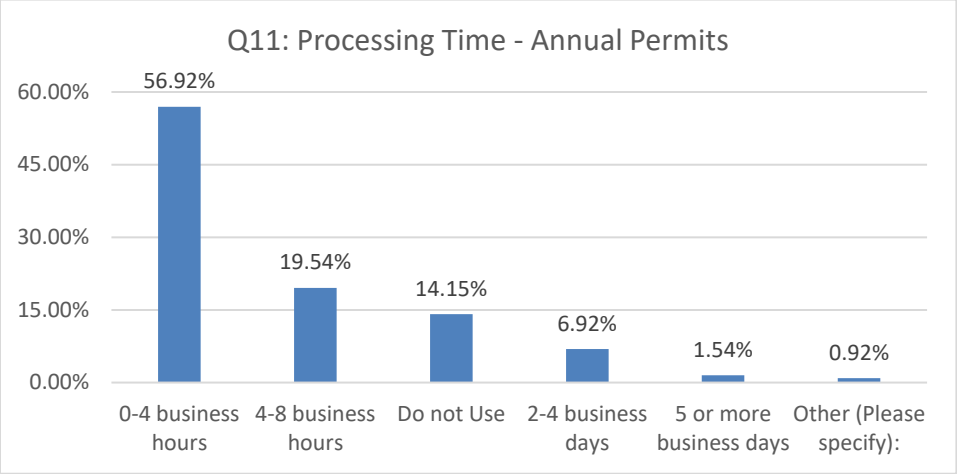


Figure 4.B-11. Processing time for annual oversize/overweight trip permits

Q12: Do you or your company request oversize/overweight permits from local public agencies for travel on county and city roads in Iowa?

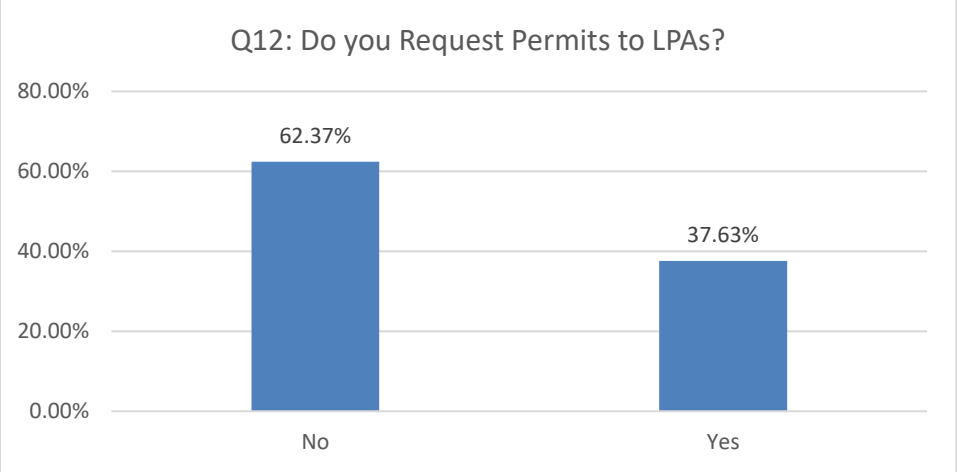


Figure 4.B-12. County or city oversize/overweight trip permits

Q13. How do you apply for oversize/overweight permits from the county or city offices?

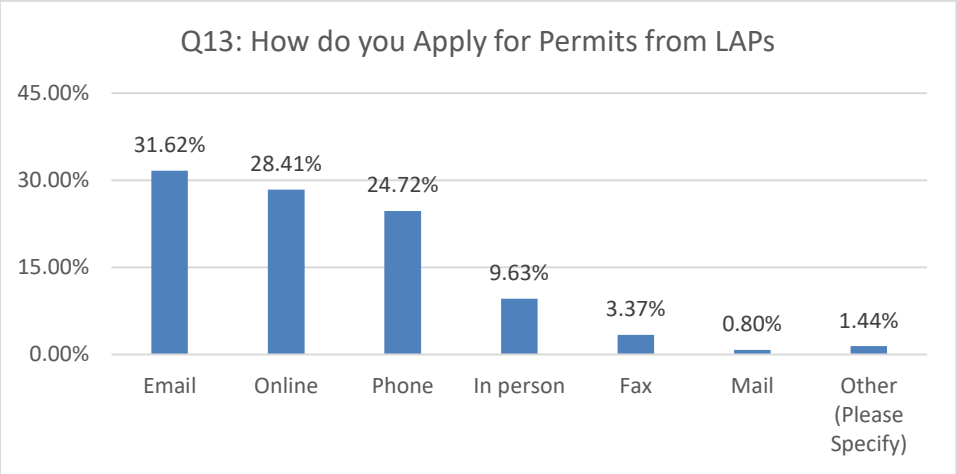


Figure 4.B-13. County and city oversize/overweight trip permit request methods

Q14. How often do you request permits from local public agencies?

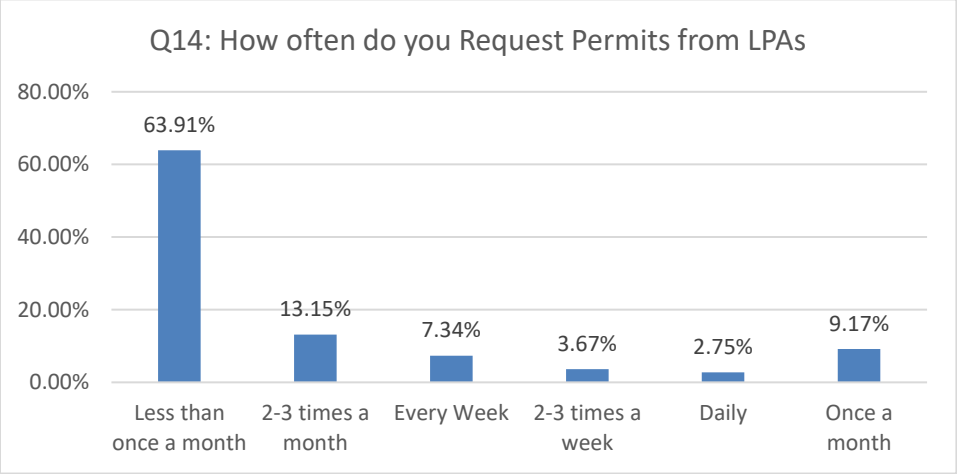


Figure 4.B-14. Frequency of county and city oversize/overweight trip permit requests

Q15. Based on your experience, how many oversize/overweight permits do you or your company request from local public agencies for travel on city and/or county roads per year?

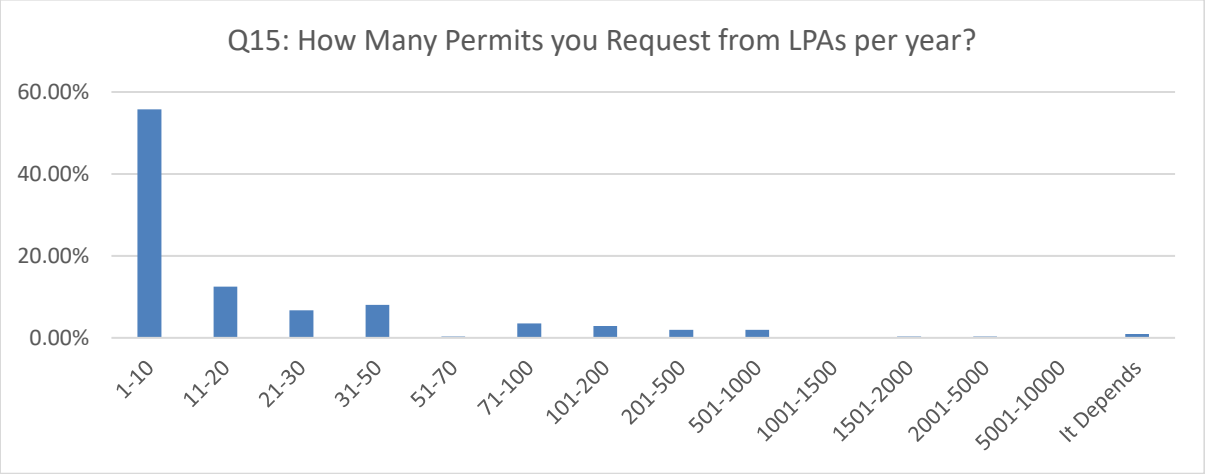


Figure 4.B-15. Annual number of county and city oversize/overweight trip permit requests

Q16. Permits for loads under 96,000 pounds: How much time passes from the time a request is submitted to a county or city office until the permit is granted?

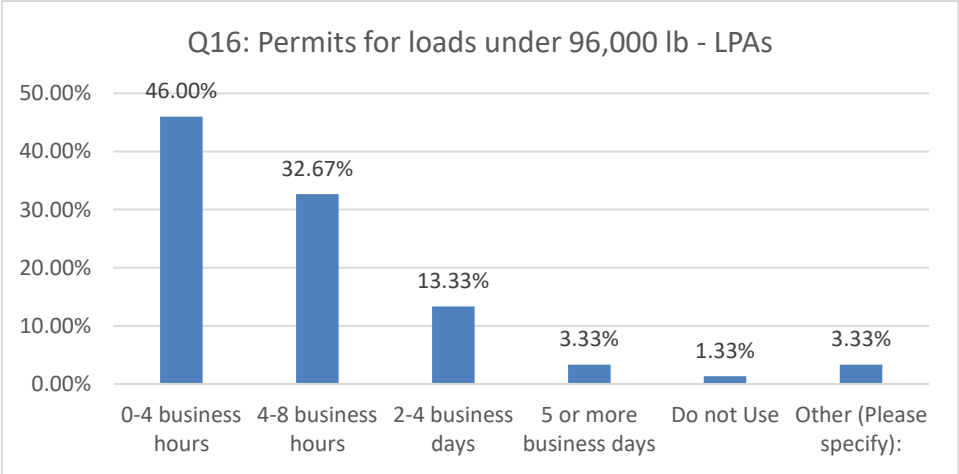


Figure 4.B-16. Processing time for county and city oversize/overweight trip permit requests under 96,000 lb

Q17. Permits for loads above 96,000 pounds: How much time passes from the time a request is submitted to a county or city office until the permit is granted?

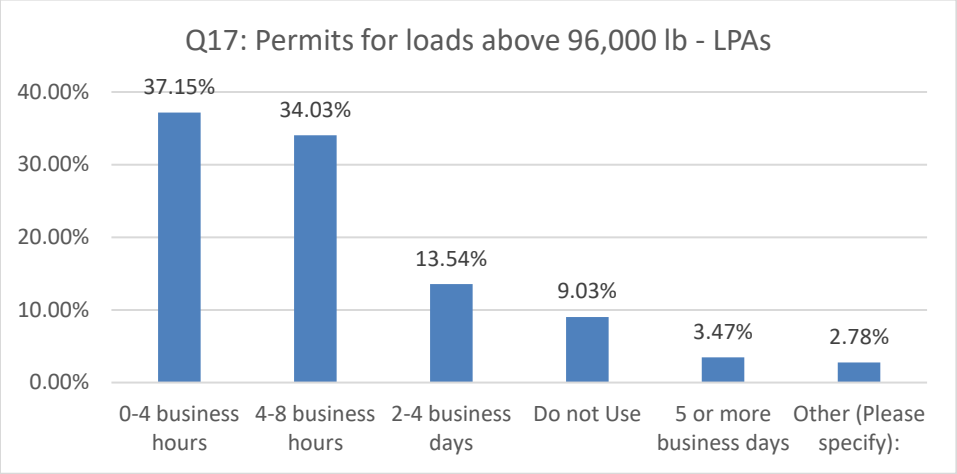


Figure 4.B-17. Processing time for county and city oversize/overweight trip permit requests over 96,000 lb

Q18. Would you be in favor of having a single more efficient electronic system to request all permits for oversize/overweight loads within the state?

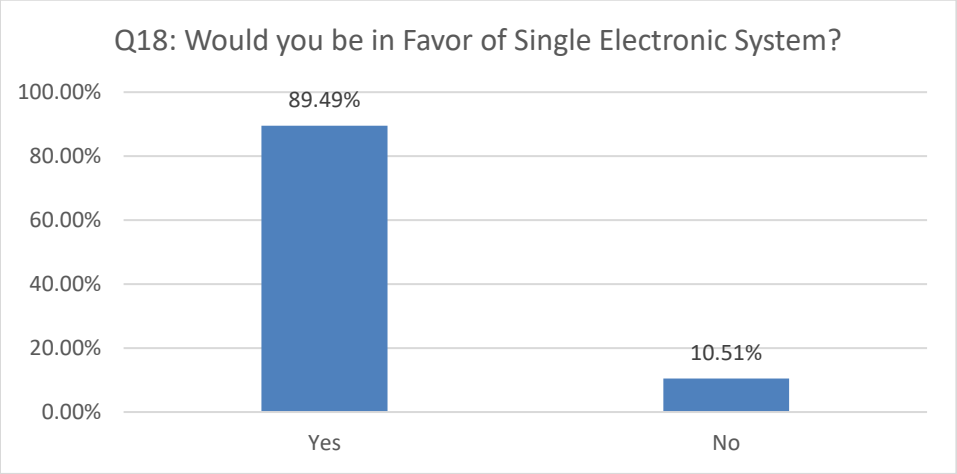


Figure 4.B-18. Opinion on single oversize/overweight trip permit request system for the state

Q19. Would you be willing to pay an increased fee to have all permits processed in a single more efficient electronic system?

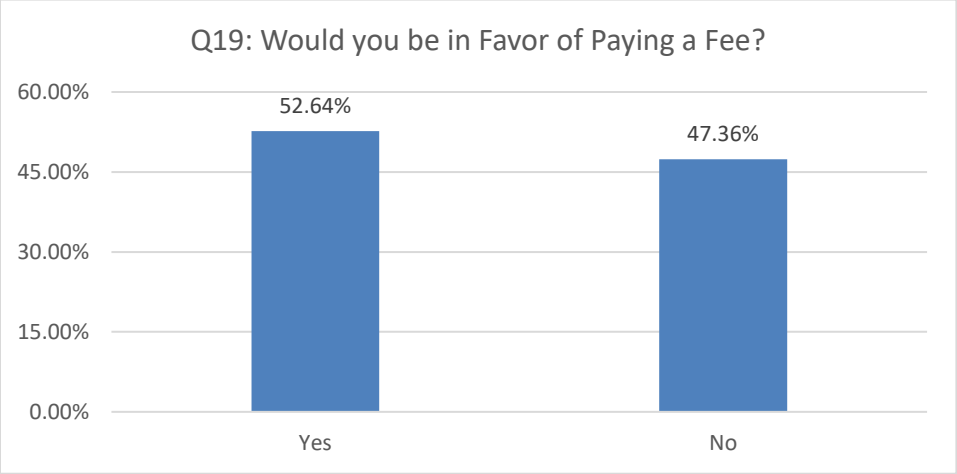


Figure 4.B-19. Opinion on fee charged using single oversize/overweight trip permit request system for the state

Q20. If state and local public agency permits were to be processed within a single more efficient electronic system, what would be a reasonable expectation of the time it would take to issue your permit?

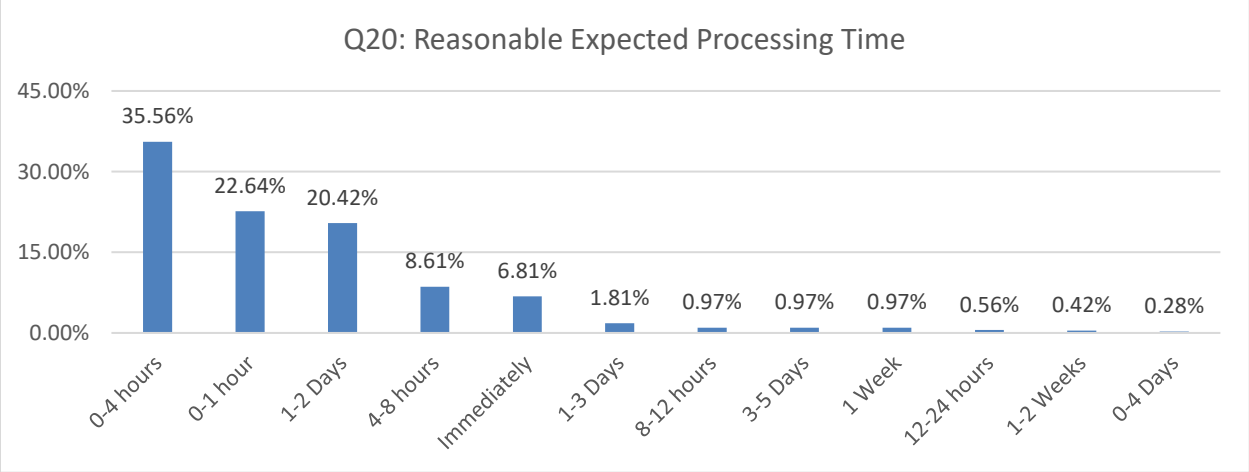


Figure 4.B-20. Option on reasonable processing time using single oversize/overweight trip permit request system for the state

Q21. Based on your business needs, how far in advance do you normally request the oversize/overweight permits to the corresponding entity (i.e., DOT or local public agencies)?

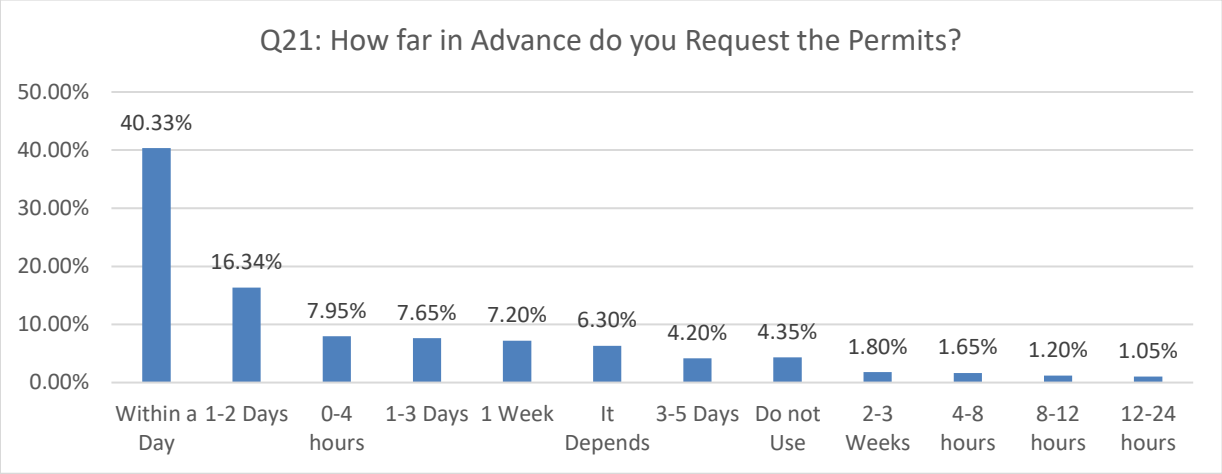


Figure 4.B-21. Advance time for oversize/overweight trip permit requests based on business needs

Q22. Based on your experience, once the permit is issued, how often does the permit change mid-trip? i.e., driver needs to use a different road and needs the permit before using it

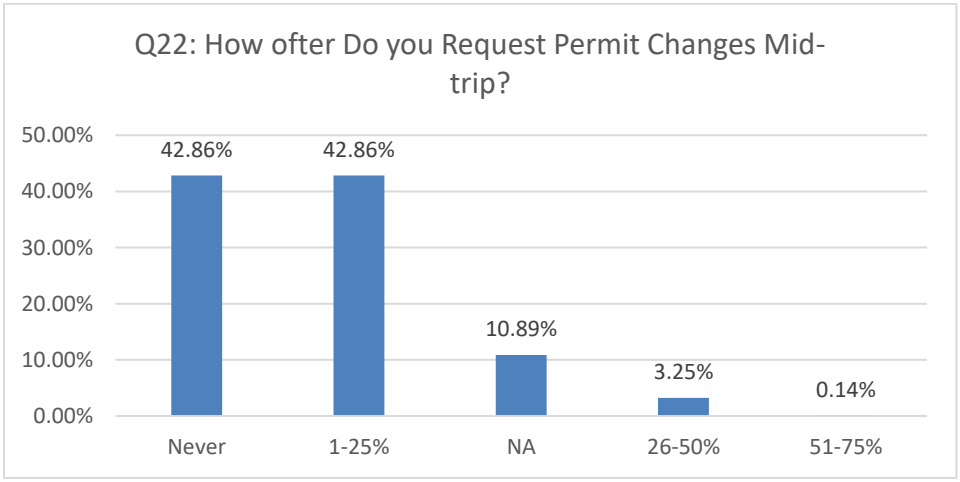


Figure 4.B-22. Frequency of oversize/overweight trip permit request changes mid-trip

Q23. If the permits were processed in a single more efficient electronic system, what kind of additional services would you like to be offered?

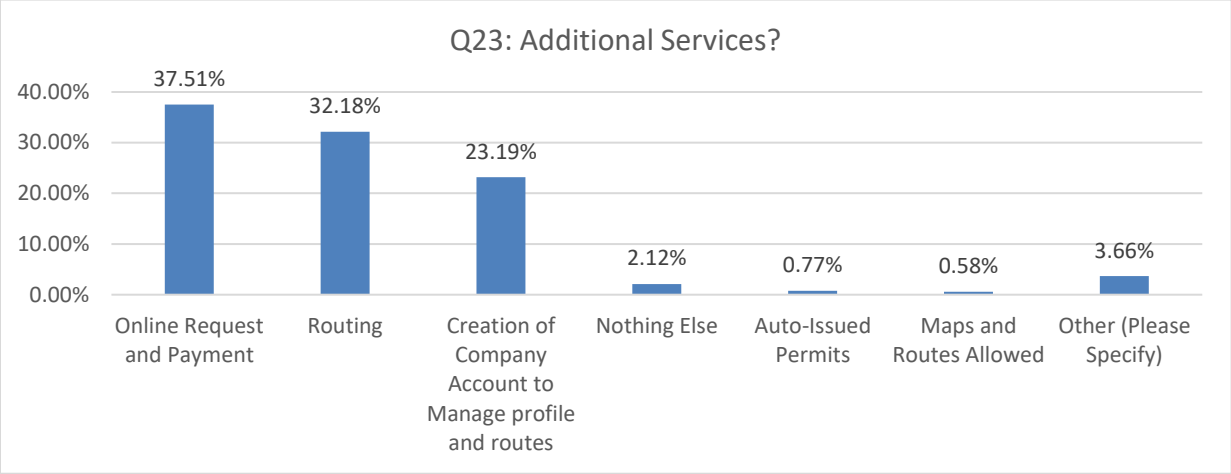


Figure 4.B-23. Additional services desired if using single oversize/overweight trip permit request system for the state

APPENDIX 5.A: IOWA LPA OVERSIZE/OVERWEIGHT TRUCK PERMIT PROCESS SURVEY

In May 2019, Governor Reynolds signed Senate File 629, an Act relating to permits for vehicles of excessive size and weight. The Iowa Legislature requested that the Iowa Department of Transportation (DOT) report on the Iowa Automated Permitting System (IAPS) to allow electronic processing of oversize/overweight (OS/OW) permits for non-primary roads. This includes the application, review, routing, approval, and payment(s) to the appropriate jurisdiction(s). Therefore, the Institute for Transportation (InTrans) at Iowa State University, in conjunction with the Iowa DOT, is studying implementation options of performing OS/OW permitting for local public agencies in the IAPS. We would like to ask a few questions regarding your agency's current practice in OS/OW permitting and your opinion on having a unified system to apply for state and local permits.

1. Which county/city do you represent?_____
2. What types of permits does your agency issue? Select all that apply.
    a. Annual permit
    b. Single or Round Trip permit
    c. Multi-Trip permit
    d. Other (Please specify): _____
3. What form(s) of application do you accept? Select all that apply.
    a. In person
    b. Email
    c. Phone
    d. Fax
    e. Online (Please provide the web link): _____
    f. Other (Please specify): _____
4. What information do you require from the carrier for your permit? Select all that apply.
    a. License plate, make, and VIN
    b. Vehicle dimension and weight
    c. Axle configuration
    d. Route (for trip permits)
    e. Other (Please specify): _____
5. Do you require haulers to obtain a state permit before applying for permits from your office?
    a. Yes
    b. No
6. What form(s) of payment do you accept? Select all that apply.
    a. Check
    b. Credit card
    c. ACH transfer
    d. PayPal
    e. Other (Please specify): _____
7. Who issues/approves permit in your county/city?
    a. County engineer
    b. Local law enforcement
    c. City public works

    d. City engineer
    e. Other (Please specify): _____
8. How many days in advance do you require a hauler to apply for a permit?
    a. Less than 1 day
    b. 1-2 days
    c. 2-5 days
    d. Other (Please specify):
9. How many days in advance do you issue a permit?
    a. 1 day before the requested travel day
    b. 2-5 days before the requested travel day
    c. As soon as the application is reviewed and approved
    d. Other (Please specify): _____
10. Do you charge any fees in addition to the permit fee? Select all that apply.
    a. Bridge analysis
    b. Escort
    c. Administrative fee
    d. None
    e. Other (Please specify): _____
11. If a bridge analysis is needed, who conducts it? Select all that apply.
    a. In-house engineer
    b. Consultant
    c. Bridge load rating software
    d. Other (Please specify): _____
12. How many annual permits did you issue per year?
    a. CY2020: _____
    b. CY2019: _____
    c. CY2018: _____
13. How many trip permits did you issue per year?
    a. CY2020: _____
    b. CY2019: _____
    c. CY2018: _____
14. How many permits did you issue per year for loads over 80,000 lb?
    a. CY2020: _____
    b. CY2019: _____
    c. CY2018: _____

15. Permits for loads under 96,000 pounds: How long does it usually take to grant a permit?
    a. 0-4 business hours
    b. 4-8 business hours
    c. 2-4 business days
    d. 5 or more business days
    e. Other (Please specify): _____

16. Permits for loads above 96,000 pounds: How long does it usually take to grant a permit?

a. 0-4 business hours
b. 4-8 business hours
c. 2-4 business days
d. 5 or more business days
e. Other (Please specify): _____

17. Do you only issue permits during business hours?
    a. Yes
    b. No

18. Who is primarily responsible for OS/OW enforcement?
    a. State patrol
    b. Local officers
    c. Motor vehicle enforcement
    d. Other (Please specify): _____
19. Do you (permit issuer) communicate with enforcement agencies?
    a. Yes (Please specify how often you communicate and what information you share): _____
    b. No
20. How does your agency communicate with other jurisdictions for an OS/OW truck route?
    a. Inform the hauler that necessary County and/or State permits must be obtained separately
    b. Inform state DOT
    c. Inform other City or County along the truck route
    d. None
21. How many bridges in your city/county have been evaluated with Load Analysis Rating Software (LARS) data?

_____

22. What types of bridge and roadway data exist in a geospatial database for your organization? Select all that apply.
    a. Speed limit
    b. Functional road classification
    c. Width restrictions
    d. Overhead restrictions
23. How often is the above data updated?
    a. Daily
    b. Monthly
    c. Yearly
    d. Other (Please specify): _____
24. How much in advance do you report planned construction or maintenance activities to the state 511 system?
    a. Less than a day
    b. 1-5 days

c. 5-10 days
d. 10 days or more
e. Not reported

25. How quickly do you report road closures to the Iowa County Engineers Association Service Bureau (ICEASB) 511 system in emergency/unplanned situations?
    a. 0-4 hours
    b. 4-8 hours
    c. More than 8 hours
    d. Not reported
26. Do you have an automated approval system for OS/OW permits?
    a. Yes (please describe the system and the auto insurance criteria):_____
    b. No
27. Would you be in favor of having a unified system for oversize/overweight permitting within the State of Iowa? Assume the revenue from permits will continue flowing to your city/county and no additional staff time is required.
    a. Yes (please describe your preferred system):_____
    b. No (please describe your concerns):_____
    c. Undecided (please describe your concerns):_____
28. We might have follow up questions. Please provide your name and contact information.

_____

APPENDIX 5.B: IOWA LPA SURVEY RESPONSES

The responses to each individual Iowa LPA survey question are summarized in this appendix.

Q1. Which county/city do you represent?

Table 5.B-1. Iowa LPA/ county and city response summary

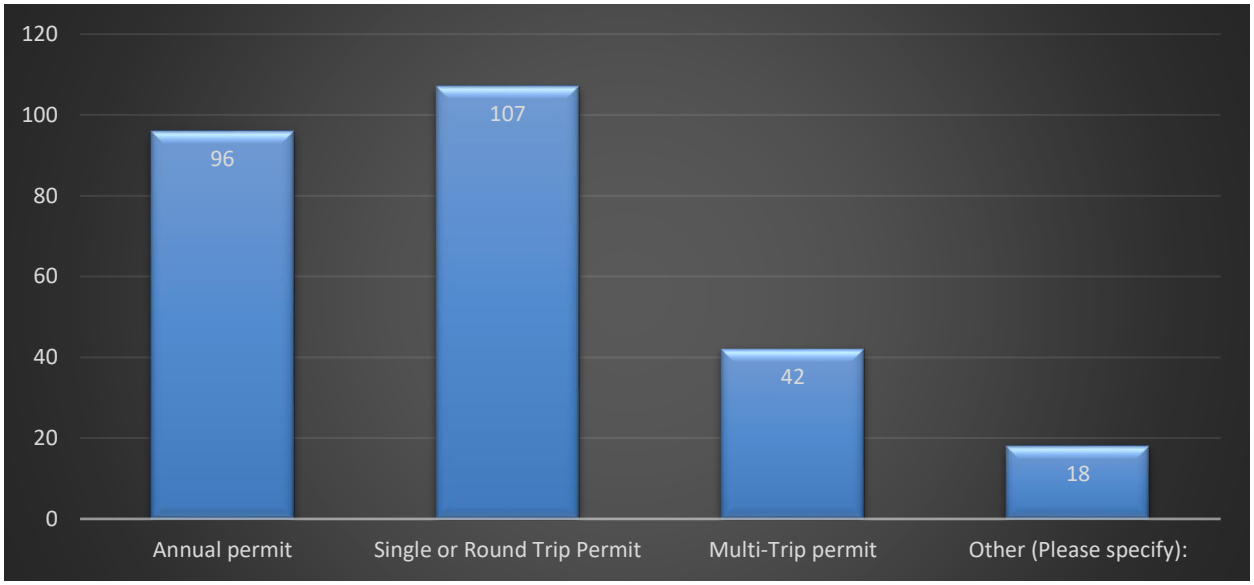
Agency Type	Agency	Contact Information	Complete?
County	Adair	Sawyer Hansen, assteng@adaircountyiowa.org	
	Adams	Travis Malone, engineer@adamscountyia.com	
	Allamakee	Mikki Stegen, mstegen@co.allamakee.ia.us	
	Appanoose	Brad Skinner, bskinner@appanoosecounty.net	
	Audubon	Chris Hemmingsen, chemmingsen@audubooncountyia.gov	
	Benton	dcummings@bentoncounty.ia.us	
	Black Hawk	Ryan Brennan, rbrennan@blackhawkcounty.iowa.gov 319-269-7232	
	Boone	Scott Kruse, scottk@boonecounty.iowa.gov	
	Bremer	Lori, lwalther@co.bremer.ia.us	
	Buena Vista	Bret Wilkinson, 712-749-2540, bwilkinson@bvcountyiowa.com	
	Butler	Susie Jacobs, 319-267-2630	
	Calhoun		
	Cass	Trent Wolken, twolken@casscoia.us	
	Cedar	Rob Fangmann, 563-886-6102 or engineer@cedarcounty.org	
	Cerro Gordo		
	Chickasaw	Dusten Rolando, d.rolando@chickasawcounty.iowa.gov, 641-394-2321	
	Clark	911 mapping and sheriff is notified if road is permanently closed; reports locally if temp closure or maintenance	
	Clay	William Rabenberg, Clay County Engineer, 712-262-2825	
	Clayton	Rafe Koopman, rkoopman@claytoncountyia.gov	
	Crawford		Incomplete
	Davis	Ryan, schockr@daviscountyiowa.org	
	Decatur	Dillon Davenport, Decatur County Engineer, deceng@grm.net, 641-446-7131	

Agency Type	Agency	Contact Information	Complete?
	Dickinson	Dan Eckert	
	Dubuque	Mary Ann Knapp, Administrative Assistant, MaryAnn.Knapp@DubuqueCounty.us	
	Emmet		
	Fayette	Joel Fantz, jfantz@co.fayette.ia.us	
	Floyd	Dusten Rolando, drolando@floydcoia.org, 641-257-6151	
	Fremont	Daniel R. Davis, ddavis@co.fremont.ia.us, 712-374-2613	
	Green		
	Grundy		Incomplete
	Hamilton	Ryan Weidemann, rweidemann@hamiltoncounty.org	
	Hancock		
	Hardin		
	Harrison	Kathy Lundergard, 712-644-3140	
	Henry		Incomplete
	Howard		Incomplete
	Ida	Jeff Williams, Ida County Engineer, 712-364-2920	
	Jackson	Stacy Agnitsch, jceng@jacksoncounty.iowa.gov	
	Jasper		
	Jefferson		Incomplete
	Keokuk		
	Kossuth	Doug Miller, Kossuth County Engineer	
	Lee	Ben Hull, bhull@leecounty.org, 319 372-2541	
	Linn		Incomplete
	Louisa		
	Marion	Tyler Christian, tchristian@marioncountyiowa.gov	
	Marshall	Mark Hentgesm, hentges@marshallcountyia.gov, or Andy Rhodes, arhodes@marshallcountyia.gov	
	Mills	Jacob Ferro jferro@millscountyiowa.gov	
	Mitchell		Incomplete
	Monroe		
	Muscatine	Dennis Michael, dmichael@co.muscatine.ia.us	
	O'Brien		Incomplete
	Osceola	Sara Howard	
	Pocahontas	jmoellering@pocahontascounty.iowa.gov	

Agency Type	Agency	Contact Information	Complete?
	Polk	Erin Tyrrell, erin.tyrrell@polkcountyiowa.gov, 515-875-5510	
	Pottawattamie		
	Poweshiek	Lyle Brehm	
	Ringgold	Jared Johnson, 641-464-3232, jjohnson@ringgoldcounty.us	
	Sac	Preston Jacobs, prestonj@saccounty.org	
	Scott	Angie Kersten, County Engineer, 563-326-8640, Angela.Kersten@scottcountyiowa.gov	
	Shelby	Brandon Burmeister, bburmeister@shco.org	
	Story		
	Union	Keith Wieland, 641-782-7417	
	Wapello		Incomplete
	Warren		
	Washington	Jacob Thorius, engineer@co.washington.ia.us	
	Webster		
	Winnebago	Scott Meinders, scott.meinders@winnebagocountyiowa.gov, 641-585-2905	
	Woodbury	Mark Nahra, mnahra@woodburycountyiowa.gov	
	Worth		Incomplete
City	Altoona		Incomplete
	Ankeny	Amanda Hayden, ahayden@ankenyiowa.gov, 515-963-3538	
	Cedar Rapids		Incomplete
	Chelsea		Incomplete
	Albia	Linda Heller, albiacity@iowatelecom.net	
	Altoona		Incomplete
	Des Moines	John Davis, jadavis@dmgov.org, 515-283-4973	
	DeWitt	Matt Proctor, Director of Public Works, City of DeWitt, 563-659-381, cdpwdie@gmtel.net	
	Durant	Deana Cavin, City Operations, Officer/Clerk, dcavin@cityofdurantiowa.com, 563-785- 4451	
	Independence		Incomplete
	Inwood	Carol Vander Kolk, 712-753-4833	Incomplete
	Johnston	Scott Chiri, 515-278-0822	
	Norwalk		Incomplete
	Coralville	Scott Larson, slarson@coralville.org	

Agency Type	Agency	Contact Information	Complete?
	Des Moines	Becky, Purchase office@dmcroads.org	
	Elkader	Jennifer, 563-245-2098	
	Estherville	Penny Clayton, p.clayton@cityofestherville.org	
	Humboldt		
	Iowa City	Kim Sandberg, ksandberg@iowa-city.org; Melissa Clow, 319-356-5413	
	Johnson		Incomplete
	Linn		Incomplete
	Marion		
	Marshalltown	Brad Bateman, bbateman@marshalltown-ia.gov, 641-754-5734	
	Mason City		Incomplete
	McGregor		Incomplete
	Mt Pleasant	Rick Mullin, 319-385-1480, rmullin@citymtpia.com	
	Palo Alto		Incomplete
	Pocahontas		Incomplete
	Rock Valley		Incomplete
	Roland		
	Sioux		Incomplete
	Waterloo	Jamie Knutson, jamie.knutson@waterloo-ia.org, 319-291-4312	
	Waukee	Rudy Koester, Public Works Director, rkoester@waukee.org	
	Webster City	Ken Wetzler, Public Works Director	

Q2. What types of permits does your agency issue? Select all that apply. (Total Responses 115)



Other answers: House Moving, Hay/Stover Permit, Raw Milk, Timber Products Route Approvals, Alternative Energy Multi-Trip, Milk, and Hay

Figure 5.B-1. LPA permit types issued

Q3. What form(s) of application do you accept? Select all that apply. (Total Responses 113)

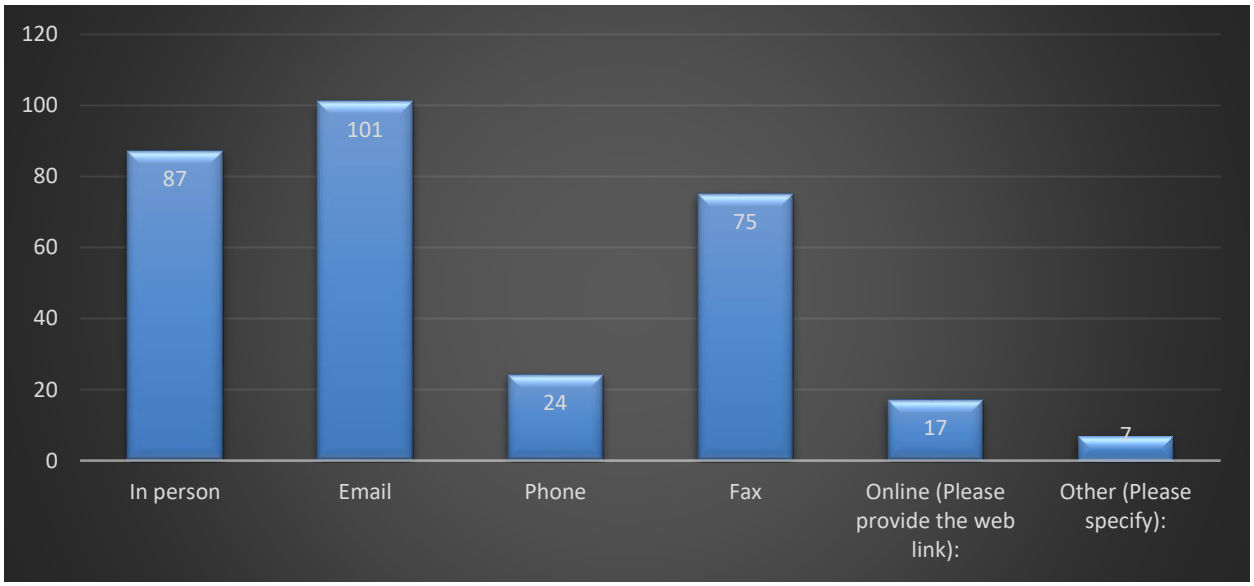
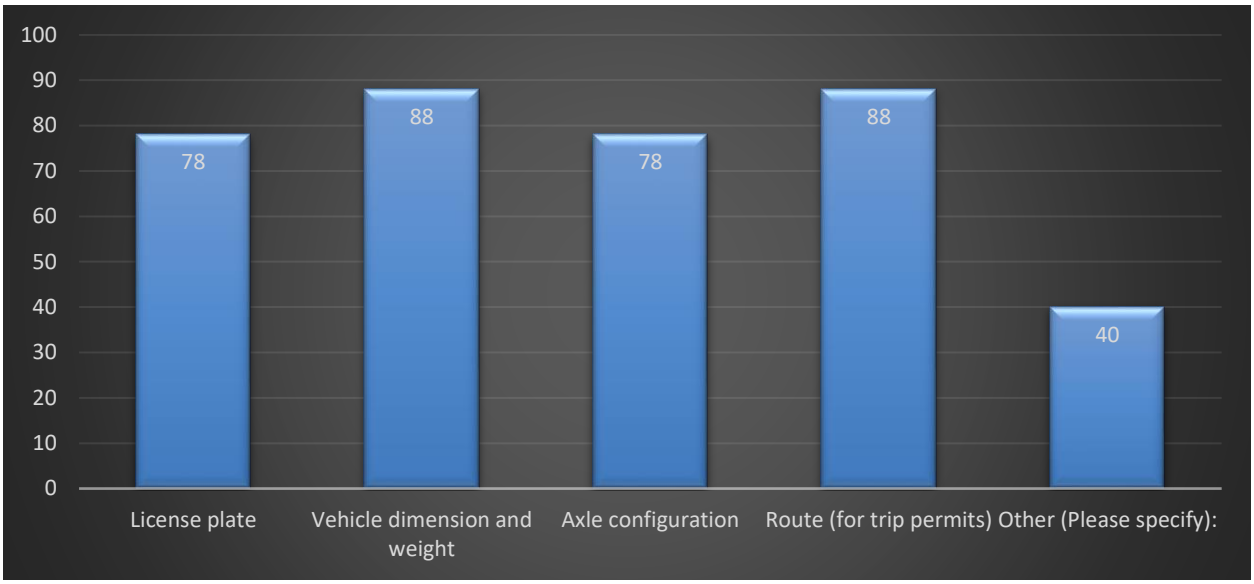


Figure 5.B-2. LPA application form types accepted

Q4. What information do you require from the carrier for your permit? Select all that apply. - Selected Choice (Total Responses: 109)



Other answers include contact information, load type, date of trip, axle configuration only if overweight, proof of financial responsibility and bridge approval, load description, DOT permit number if applicable, insurance, and confirmed traffic control if necessary

Figure 5.B-3. LPA carrier permit information requirements

Q5. Do you require haulers to obtain a state permit before applying for permits from your office? (Total Responses 109)

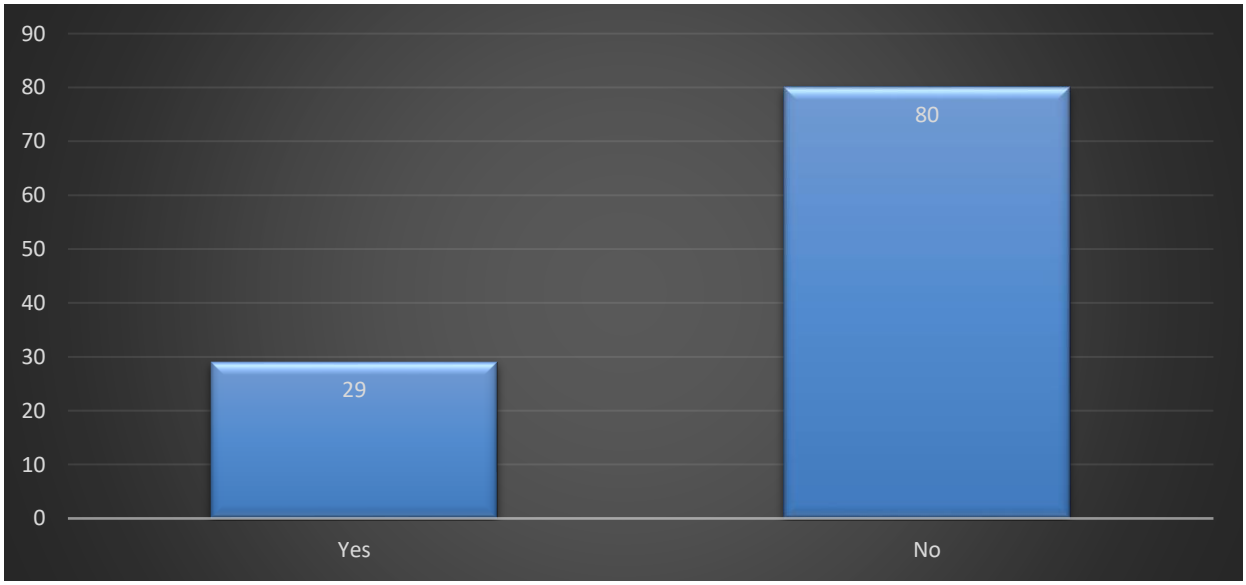
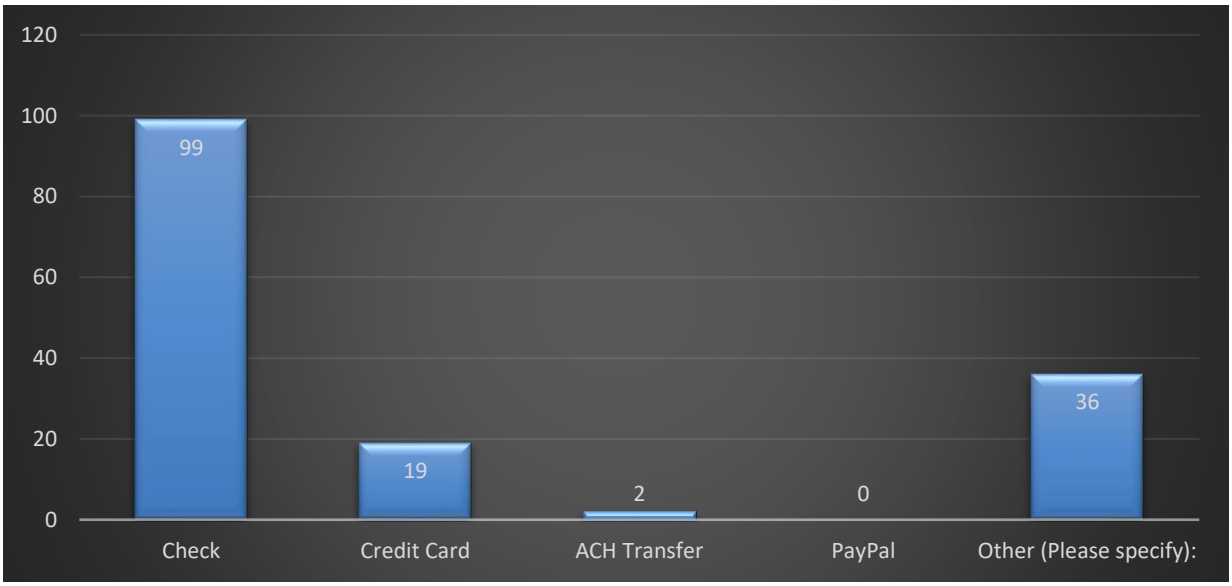


Figure 5.B-4. LPA state permit requirements

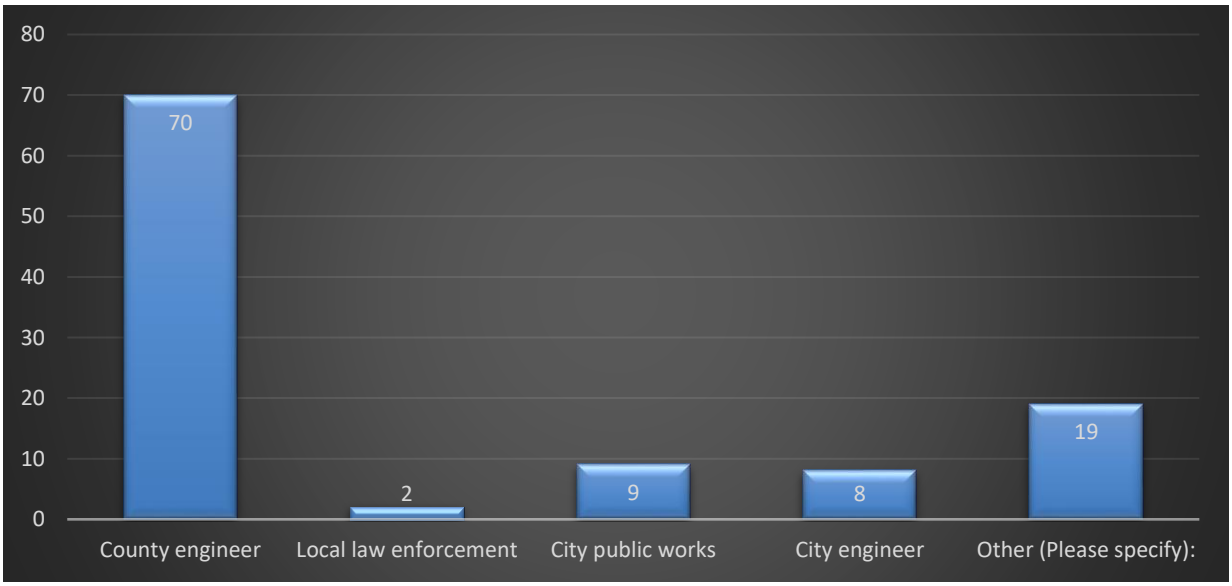
Q6. What form(s) of payment do you accept? Select all that apply. - Selected Choice (Total Responses 109)



Other answers include cash, prepaid account, and no charge for permit so no payment is needed

Figure 5.B-5. LPA permit payment types accepted

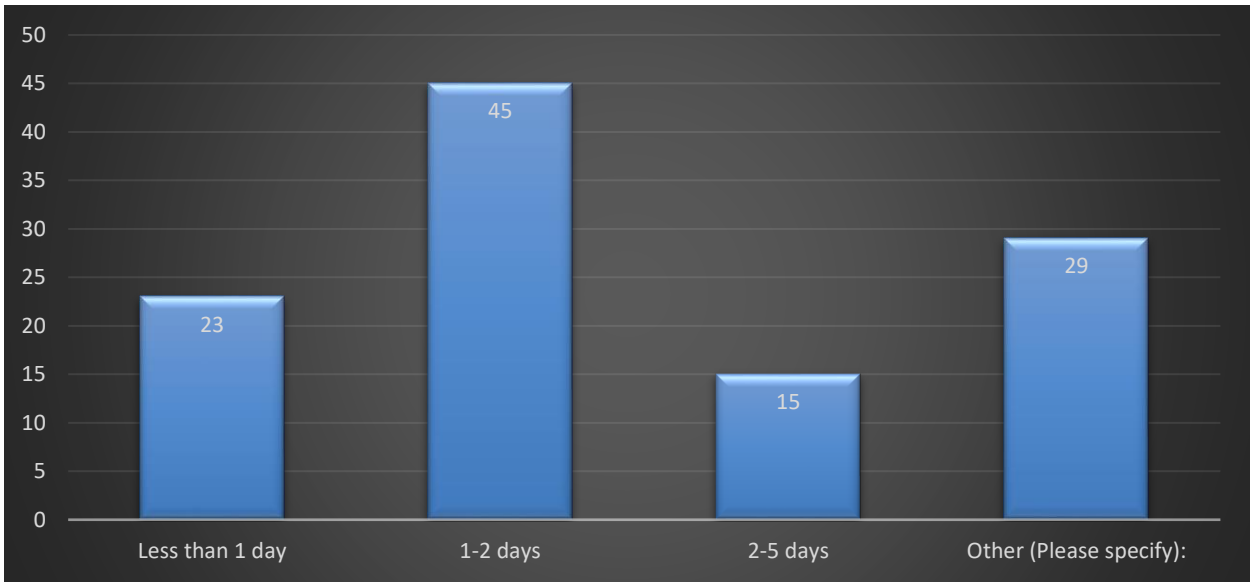
Q7. Who issues/approves permit in your county/city? - Selected Choice (Total Responses 108)



Other answers include office manager/office assistant, engineer and other trained staff, assistant county engineer, and city clerk

Figure 5.B-6. LPA permit issuers/approvers

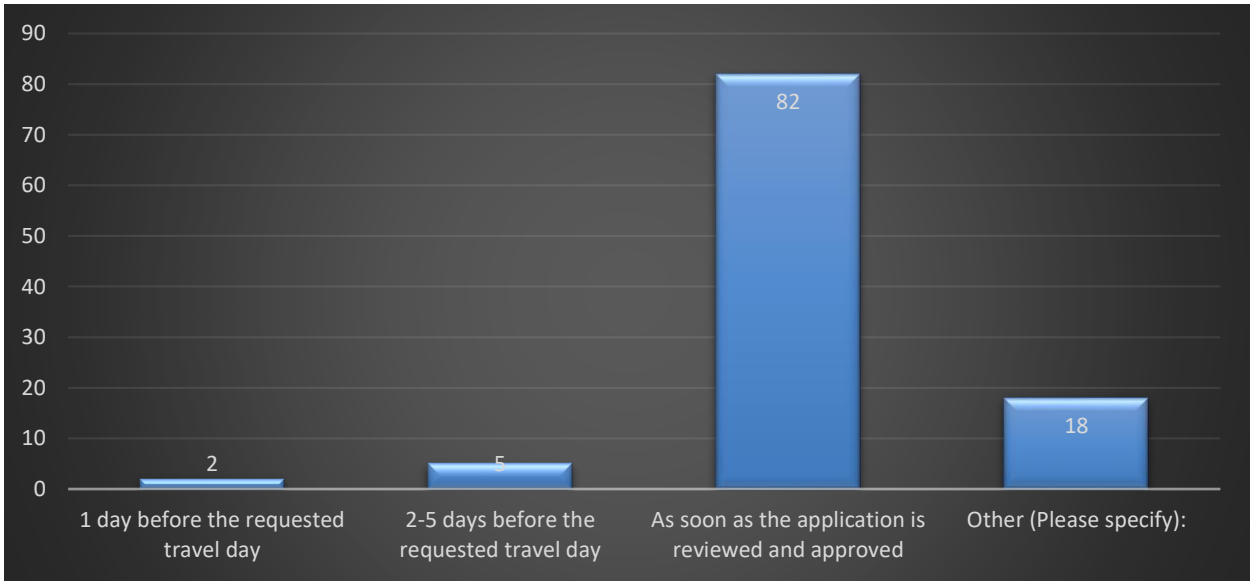
Q8. How many days in advance do you require a hauler to apply for a permit? - Selected Choice (Total Responses 109)



Other answers include turnaround time depends on staffing level, before council meeting, depends on our workload, prefer at least 3 days, depends on requirements of permit. If bridges need rating for loads it will take longer. Standard permit will generally be turned around in 1 day; for same day permit approval, the carrier must submit the permit application prior to 2:00 p.m. This could be a week if we have to hire a bridge rating engineer.

Figure 5.B-7. LPA permit application advance times

Q9. How many days in advance do you issue a permit? (Total Responses 110)



Other answer: Depends on route request and type of permit

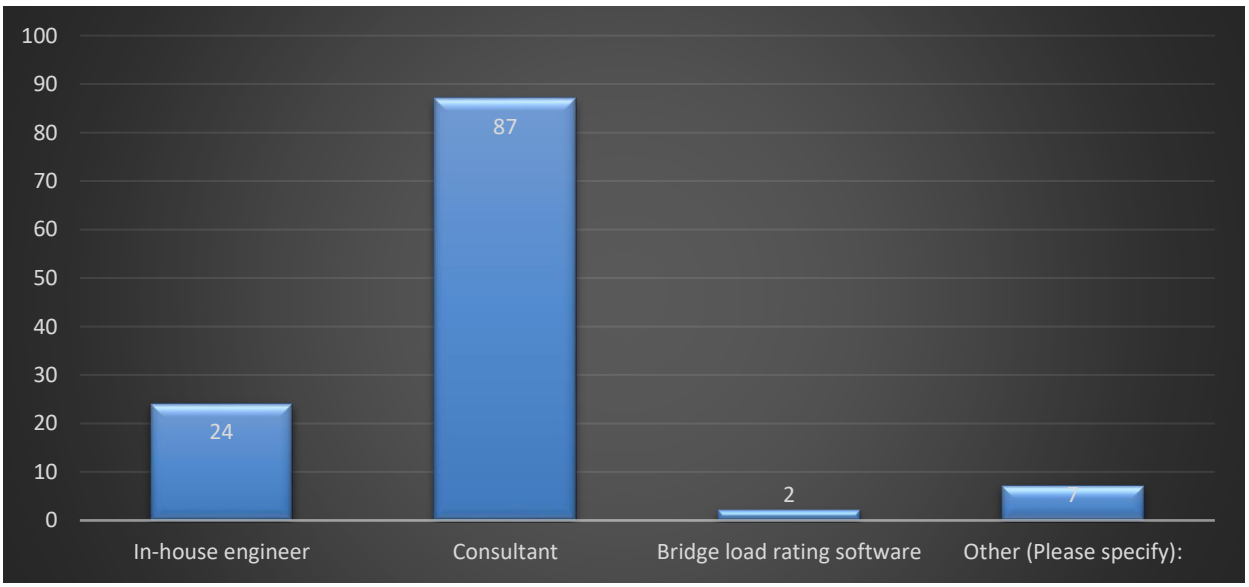
Figure 5.B-8. LPA permit issuance advance times

Q10. Do you charge any fees in addition to the permit fee? Select all that apply. (Total Responses 110)

Other answers: If signs need to be removed and replaced, or other items that requires county forces to conduct, we bill the carrier for the cost. Bridge analysis if required. Fee to cover the credit card charges. Special Occasions/Situations.

Figure 5.B-9. LPA fees in addition to permit fee

Q11. If a bridge analysis is needed, who conducts it? Select all that apply. - Selected Choice (Total Responses 104)



Other answers: Street Supervisor

Figure 5.B-10. LPA bridge analysis responsibilities when needed

Q12. How many annual permits did you issue per year? (Total Responses 78)

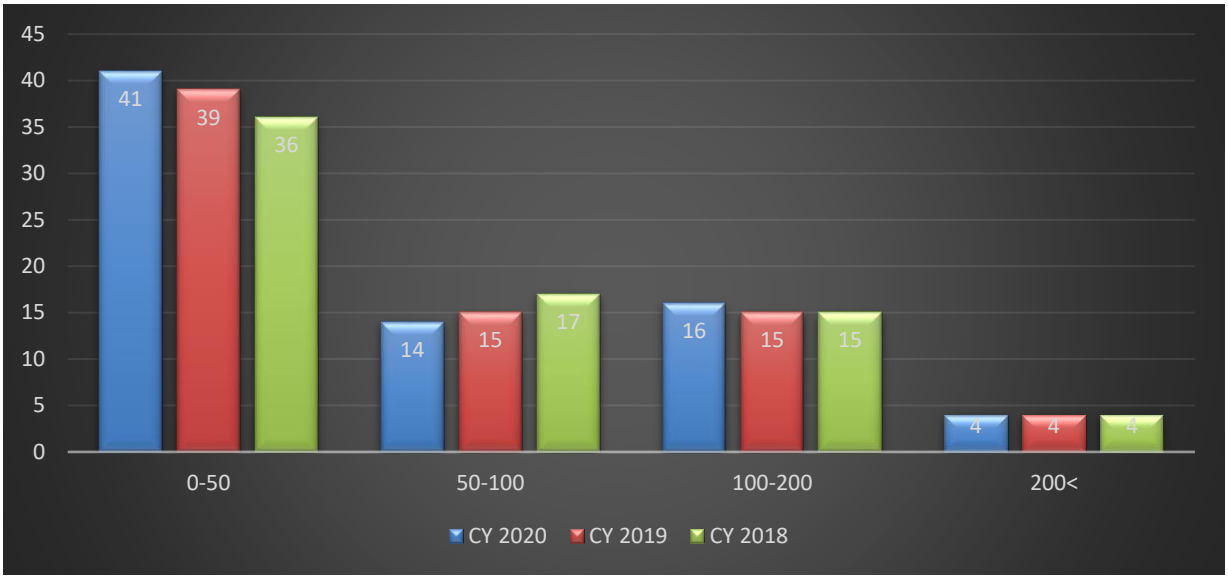


Figure 5.B-11. LPA number of annual permits issued per year

Q13. How many trip permits did you issue per year? (Total Responses 72)

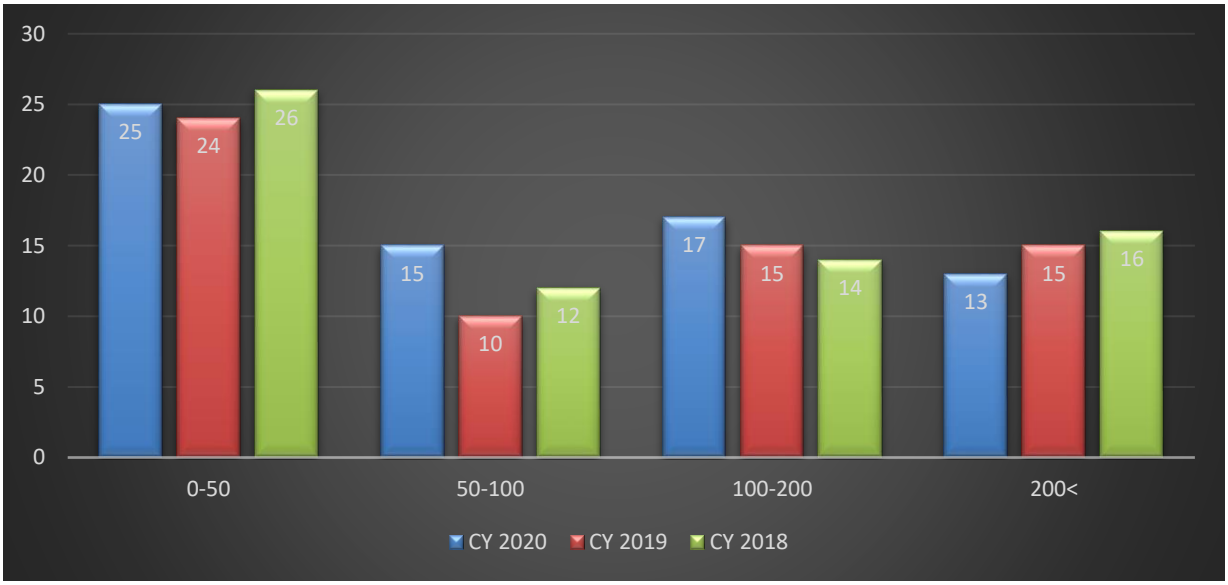


Figure 5.B-12. LPA number of trip permits issued per year

Q14. How many permits did you issue per year for loads over 80,000 lb? (Total Responses 59)

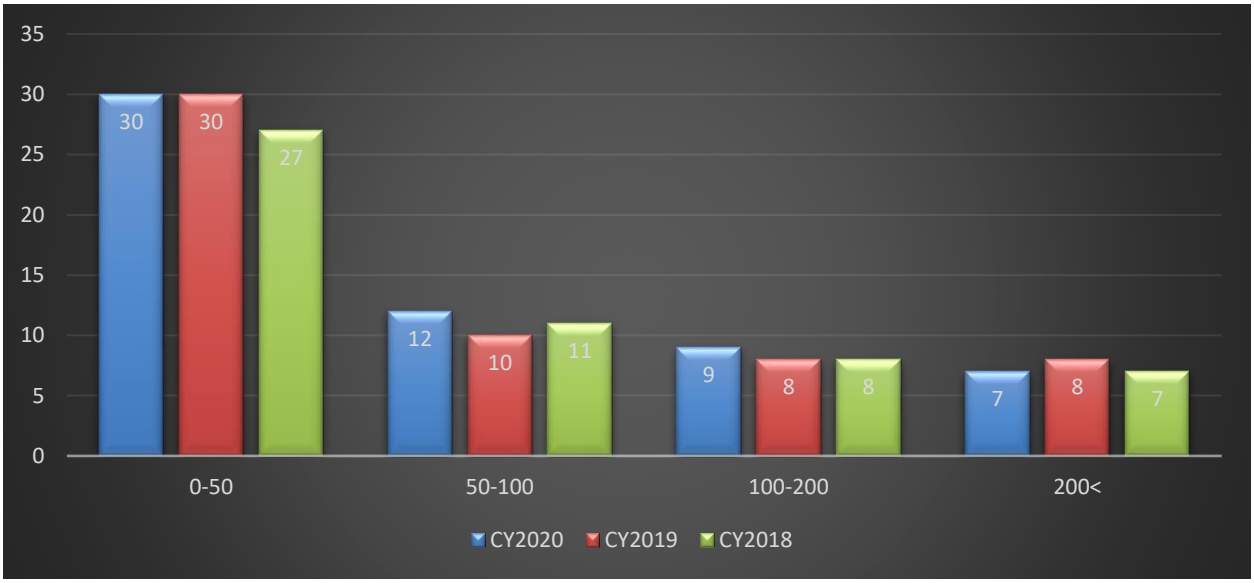


Figure 5.B-13. LPA number of permits issued per year for loads over 80,000 lb

Table 5.B-2. LPA total number of permits issued for 2018 through 2020 (three calendar years) based on Questions 12, 13, and 14 by county

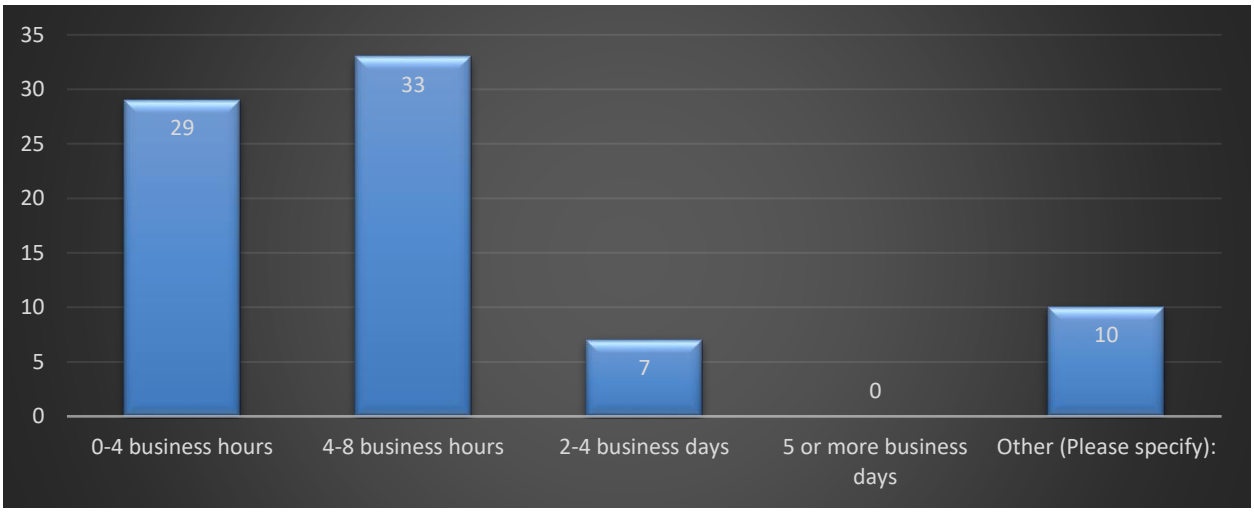
County	Q12: Annual Permits	Q13: Trip Permits	Q14: Trips Over 80,000 lb
Adair	72	393	A lot
Allamakee	25+	50+	50+
Appanoose		39 singles, 4 annual	40
Black Hawk	271	2,621	988
Boone	18	85	75
Buena Vista	50	100	75
Butler	53	138	127
Cass	25	36	61
Cedar	176		
Chickasaw	101	56	28
Clay	131	131	
Clayton	150	50	25
Clinton	0	0	0
Davis	20	20	18
Decatur	3	4	3
Des Moines	335		335
Dickinson		118	41

County	Q12: Annual Permits	Q13: Trip Permits	Q14: Trips Over 80,000 lb
Dubuque	345	726	
Floyd	148		
Fremont	10	93	32
Grundy	60	60	60
Hamilton	24	44	43
Hancock	17	460	446
Hardin		559	
Harrison	10	50	50
Howard	150	NA	NA
Humboldt	10	110	
Ida			46
Iowa	101	101	98
Jackson	100	40	30
Jasper	100	1,600	NA
Johnson	30	48	37
Keokuk	~50	~50	~50
Kossuth	48	711	734
Lee	21	397	70
Louisa	100	100	100
Marion	79	26	33
Marshall	26	169	168
Mills			50
Mitchell	11	138	NA
Monroe	50–100	NA	NA
Muscatine	42	78	83
O'Brien	120	NA	NA
Osceola	20	104	
Palo Alto	1797	1,692	72
Pocahontas	49	73	
Polk	140	128	268
Poweshiek	$40,306.50		
Ringgold	5	12	10
Sac	67	116	140
Scott	86	600	400
Shelby	35	28	40
Story	68	652	NA
Union	33	33	33
Wapello	1	95	95
Warren	100–150	NA	NA

County	Q12: Annual Permits	Q13: Trip Permits	Q14: Trips Over 80,000 lb
Washington	14	20	33
Webster	76	242	242
Winnebago	30	200	225
Woodbury	76	83	121

NA=not available

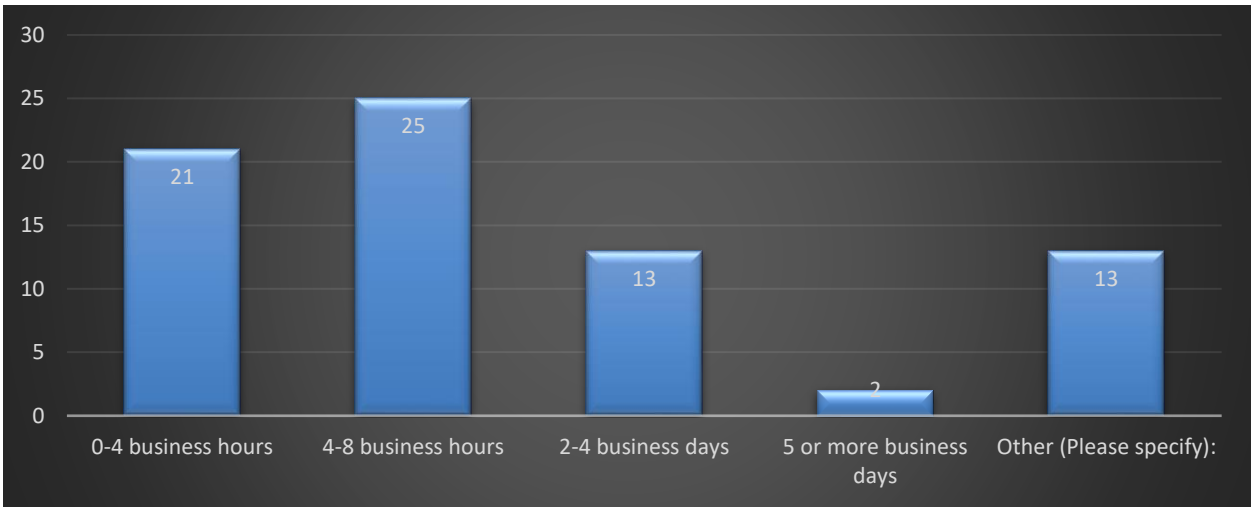
Q15. Permits for loads under 96,000 pounds: How long does it usually take to grant a permit? (Total Response 79)



Other answers: Look at state approval, less than 48 hours, depends on the requested route

Figure 5.B-14. LPA permit issuance time for loads under 96,000 lb

Q16. Permits for loads above 96,000 pounds: How long does it usually take to grant a permit? (Total Count 74)



Other answers: Look at state approval, depends on route, depends on what bridges are traversed with the load, depends on the requested route review process, depends on whether the route has been analyzed for heavy loads. Can be 0–4 hours, may take 2 days if analysis is required.

Figure 5.B-15. LPA permit issuance time for loads over 96,000 lb

Q17. Do you only issue permits during business hours? (Total Responses 94)

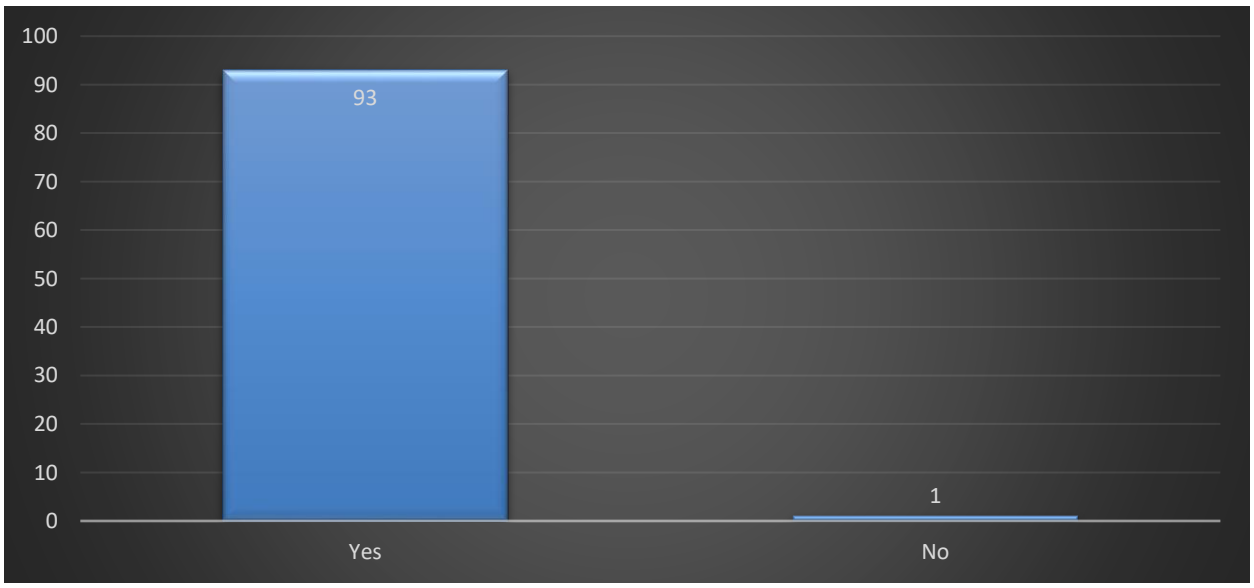


Figure 5.B-16. LPA permit issuance during only business hours?

Q18. Who is primarily responsible for OS/OW enforcement? (Total Responses 86)

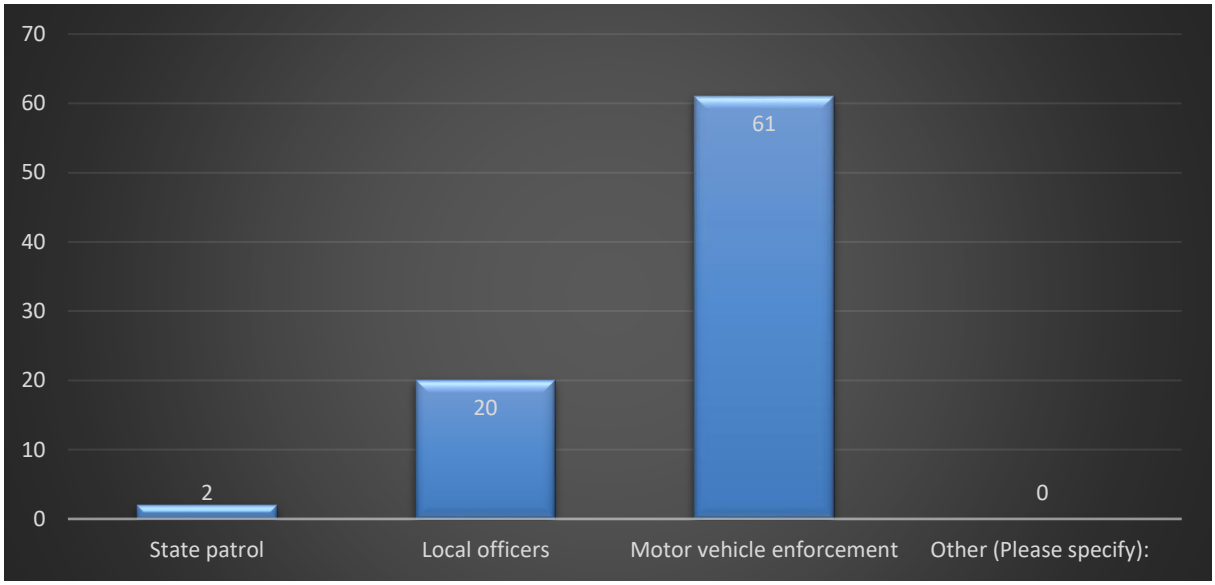
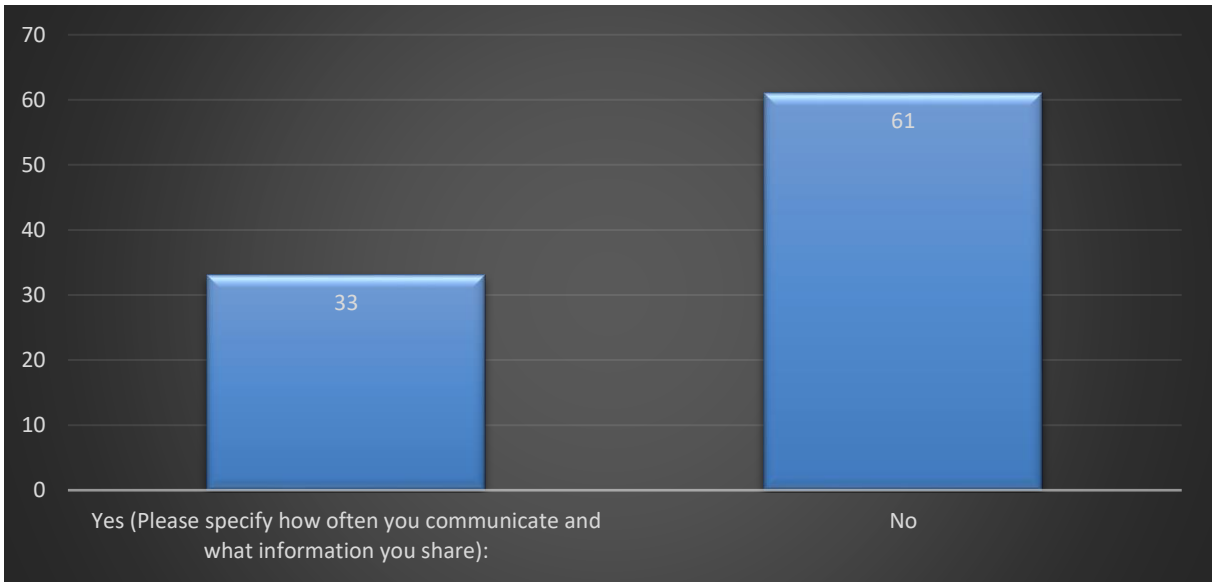


Figure 5.B-17. LPA primary responsibility for OS/OW permit enforcement

Q19. Do you (permit issuer) communicate with enforcement agencies? (Total Responses 94)



Explanations for yes: Load size, route, any issues with the load affecting traffic movements, per permit. We will contact our local CMV district supervisor if we have questions. 2–3 times per year when we see illegal loads. If we witness a violation, we call for enforcement, or, if we get a complaint of someone violating an embargo, we also call for enforcement. Inform local sheriff of load. Oversize, mobile home, and house moves. If a load requires escort because of over width. Notify the sheriff's office. 6x per year about loads that may result in traffic delays or safety concerns. When contacted by MVE.

Figure 5.B-18. LPA permit communications with enforcement agencies?

Q20. How does your agency communicate with other jurisdictions for an OS/OW truck route? (Total Responses 93)

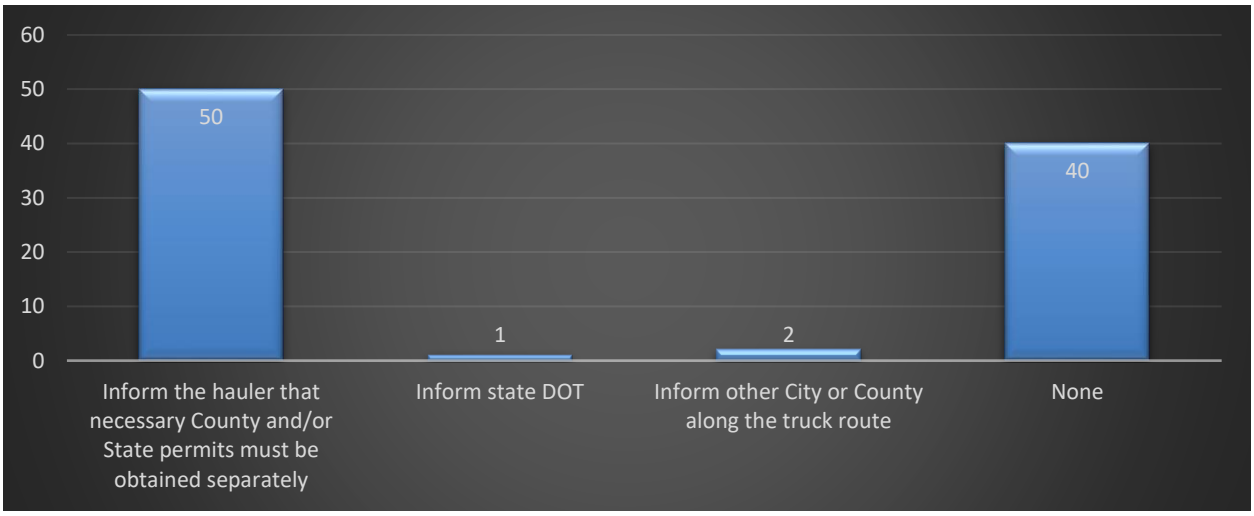


Figure 5.B-19. LPA OS/OW truck route permit communications with others

Q21. How many bridges in your city/county have been evaluated with Load Analysis Rating Software (LARS) data? (Total Responses 67)

Table 5.B-3. Number of bridges evaluated using LARS data

Agency Type	Name	Number of bridges evaluated with LARS*
County	Adams	All 180 inspected – outside engineering firm does this
	Cass	All
	Clay	30
	Cedar	All – every other year
	Cerro Gordo	26
	Dickinson	All
	Emmet	66
	Grundy	~80–90
	Hancock	126
	Howard	210
	Jackson	All
	Kossuth	15
	Louisa	All 200
	Monroe	Bridges and box culverts: 320
	Muscatine	12
	O'Brien	All: ~200
	Shelby	10

Agency Type	Name	Number of bridges evaluated with LARS*
	Union	140
	Winnebago	9
	Webster	5
	Woodbury	7
City	Albia	1
	Ankeny	7
	Des Moines	All
	Durant	2
	Fremont	All
	Humboldt	72
	Iowa City	20
	Marshalltown	All
	Osceola	All
	Roland	1
	Webster City	11

*16 answered unsure; 18 answered 0

Q22. What types of bridge and roadway data exist in a geospatial database for your organization? Select all that apply. (Total Responses 41)

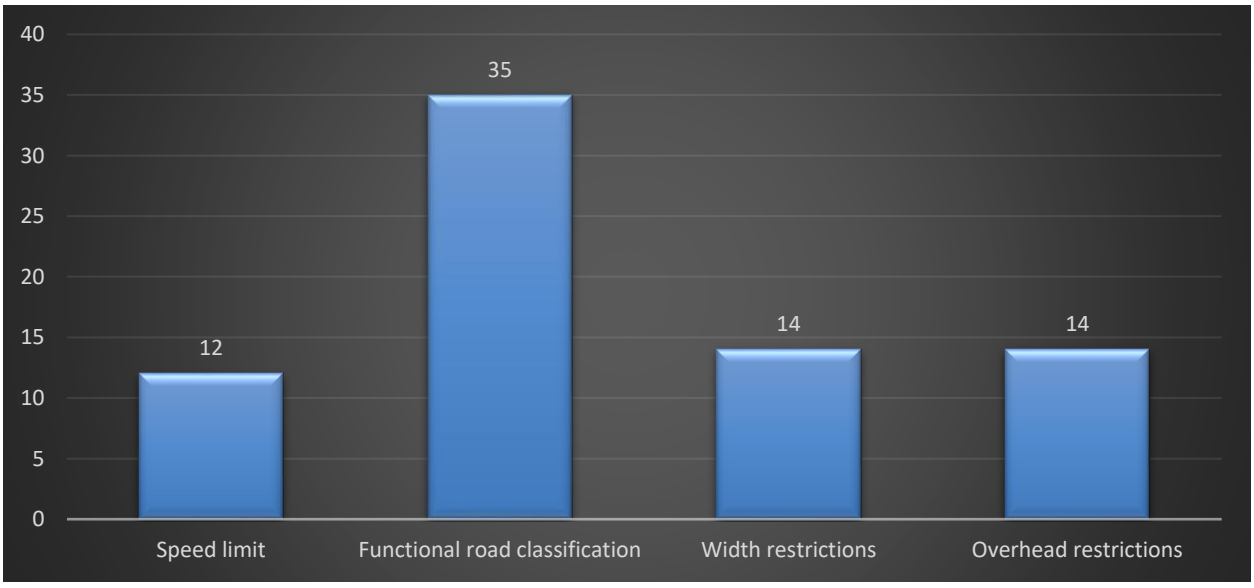
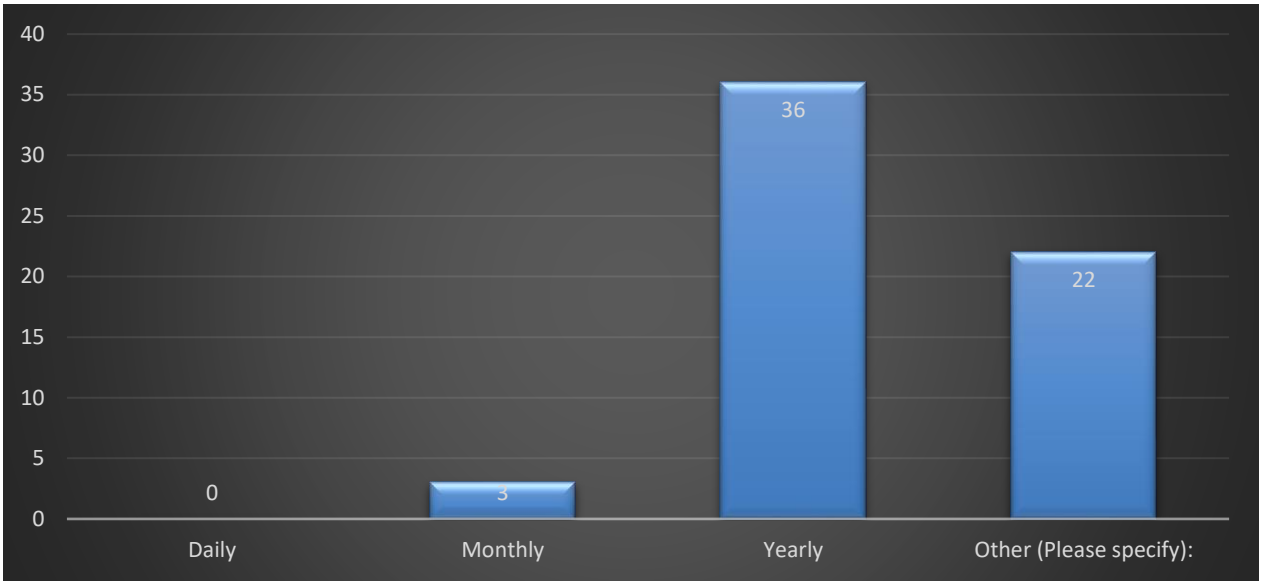


Figure 5.B-20. LPA types of bridge and roadway data in a geospatial database

Q23. How often is the above data updated? (Total Responses 61)



Other answers: As attributes are changed, not sure, as needed, every two years

Figure 5.B-21. LPA update frequency for bridge and roadway data in a geospatial database

Q24. How much in advance do you report planned construction or maintenance activities to the state 511 system? (Total Responses 85)

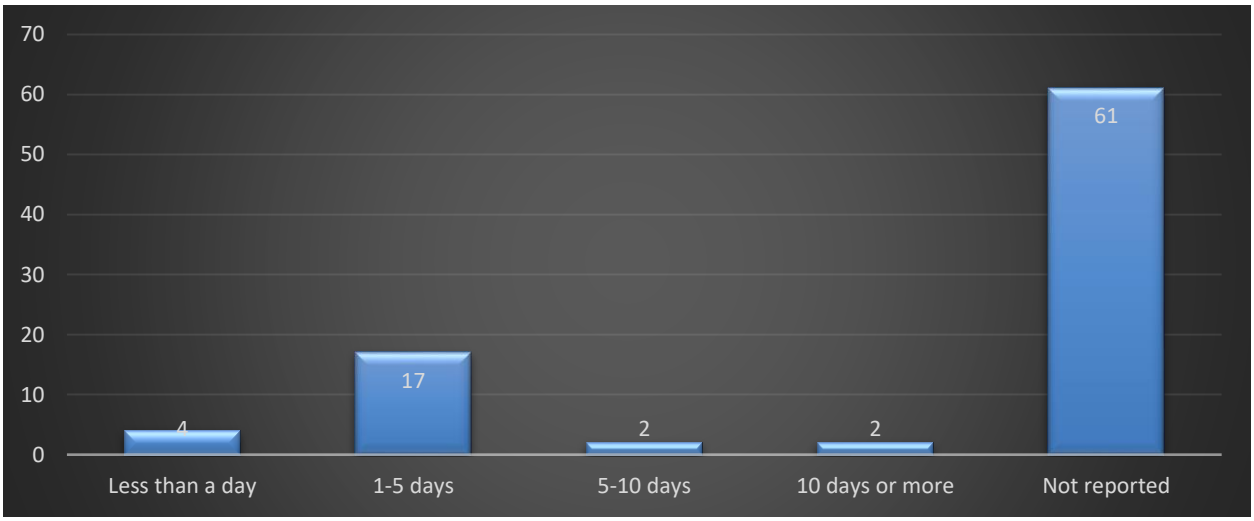


Figure 5.B-22. LPA update frequency for planned construction or maintenance activities to the Iowa 511 system

Q25. How quickly do you report road closures to the Iowa County Engineers Association Service Bureau (ICEASB) 511 system in emergency/unplanned situations? (Total Responses 87)

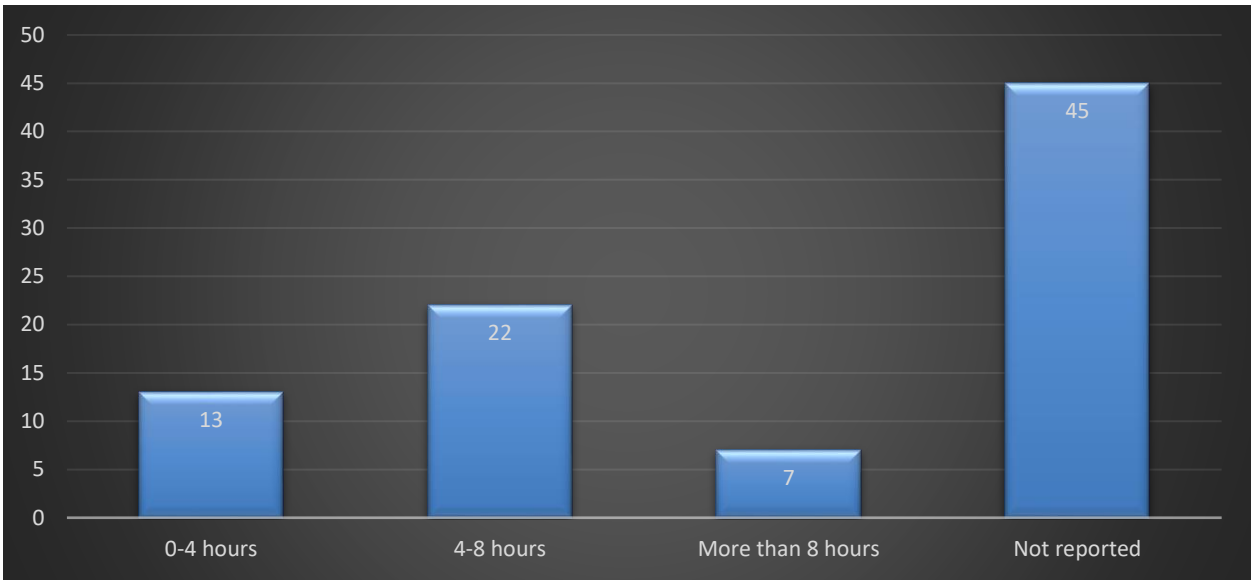


Figure 5.B-23. LPA reporting timeframe to ICEASB 511 system for road closures in emergency or unplanned situations

Q26. Do you have an automated approval system for OS/OW permits? (Total Responses 92)

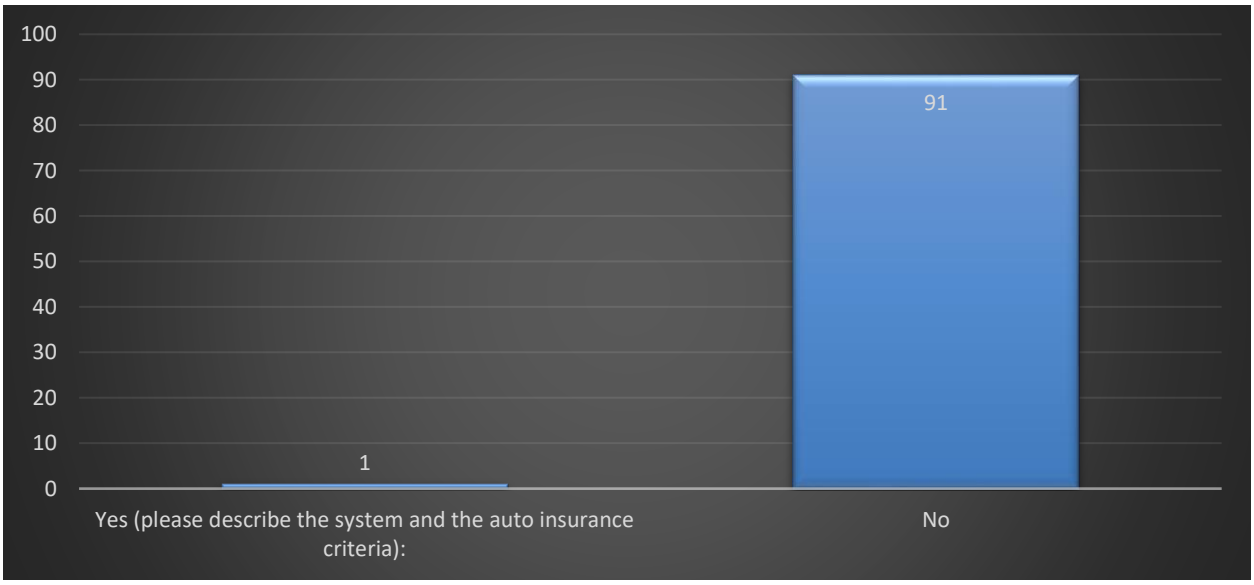
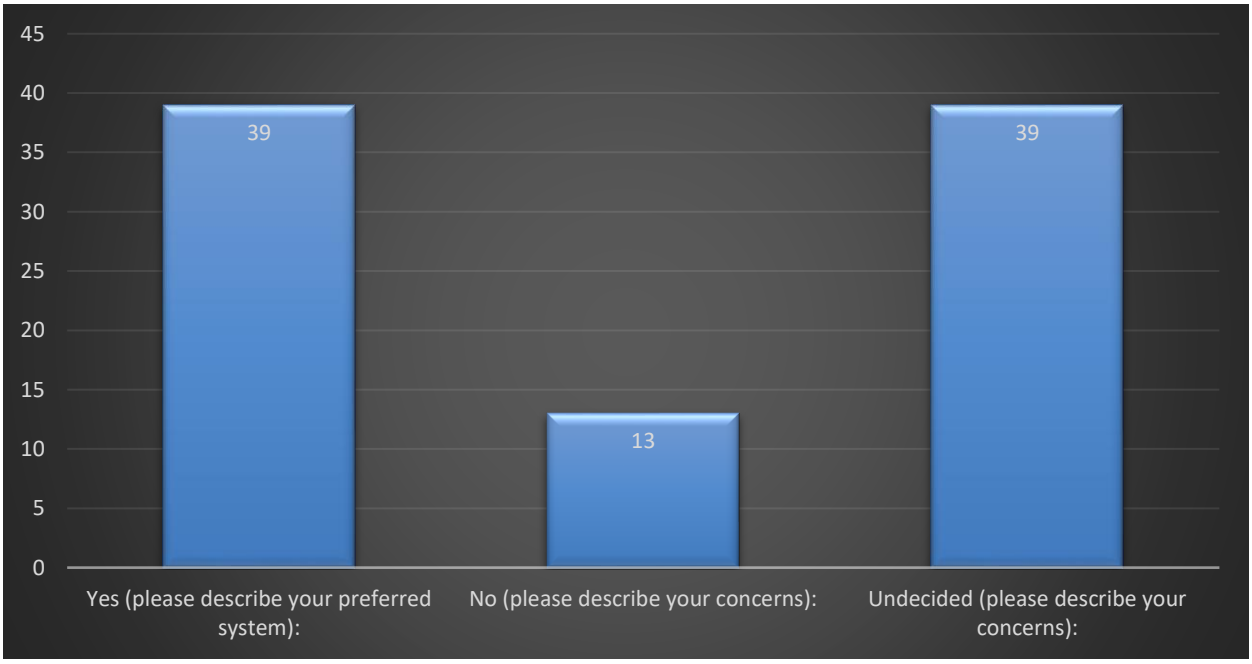


Figure 5.B-24. LPA automated approval system for OS/OW permits?

Q27. Would you be in favor of having a unified system for oversize/overweight permitting within the State of Iowa? Assume the revenue from permits will continue flowing to your city/county and no additional staff time is required. (Total Responses 91)



Descriptive answers: A system that allows local jurisdictions to provide input and approval in the permit approval process. Automated Bridge Evaluation.
As long as we continue to receive the revenue from the permits and there is no added cost or revenue lost to develop permit and fund the system, no preference is had.
Online automated, same application and information collected throughout state.
As long as there is a local review.
Online application and approval. The permittee submits application online describing proposed route, vehicle, load, and axle configurations. The application then goes to the appropriate jurisdictions for review and approval. Upon review from all required jurisdictions a single permit is issued to the applicant.
An automated system that analyzes and issues permits while collecting fees to be reimbursed would be ideal.
System would analyze bridges for load submitted.

Figure 5.B-25. LPA in favor of a unified system for OS/OW permitting within the state?

THE INSTITUTE FOR TRANSPORTATION IS THE FOCAL POINT FOR TRANSPORTATION AT IOWA STATE UNIVERSITY.

InTrans centers and programs perform transportation research and provide technology transfer services for government agencies and private companies;

InTrans contributes to Iowa State University and the College of Engineering's educational programs for transportation students and provides K–12 outreach; and

InTrans conducts local, regional, and national transportation services and continuing education programs.

IOWA STATE UNIVERSITY

Visit **InTrans.iastate.edu** for color pdfs of this and other research reports.