



# TRANSPORTATION RESEARCH SYNTHESIS

Minnesota Department of Transportation  
Office of Policy Analysis, Research & Innovation  
Research Services Section  
(651) 366-3780  
www.research.dot.state.mn.us

TRS 1409  
Published June 2014

## Pavement Preservation Resource Centers

### Introduction

Although MnDOT was involved with the initial development (and provides a link to [Pavement Interactive](#)), the Local Road Research Board (LRRB) conducted this study to understand the needs of a pavement preservation resource center by Minnesota local agencies. The two main goals were to:

- Understand if there is a need for a pavement preservation resource center in Minnesota and if so, what type (online resource, staffed center, virtual center, etc.)
- Investigate what pavement preservation resource centers are available across the nation along with detailed information on how they were established, funded and how they currently operate.

This synthesis includes the following:

- Data gathering
- Summary of local and national surveys
- Summary of interviews with local transportation centers (CTS, MN LTAP, TERRA)
- Matrix of existing pavement preservation resource centers
- Appendices (detailed survey results)

### Data Gathering

Two online surveys were conducted to understand the need for a pavement preservation resource center in Minnesota and how pavement preservation resource centers have been established (and how they operate) in other parts of the U.S. The first survey was sent to all 87 counties and 147 Municipal State Aid cities within Minnesota as well as a select group of 10 MnDOT staff members (with a pavement background/interest) to determine their specific needs for a pavement

preservation resource center in Minnesota, including its features and the methods for data input and output.

The second survey was sent to 16 existing pavement preservation resource centers across the nation to determine how these centers were developed, maintained and any lessons learned.

### **Survey Findings**

The following is a brief summary of the findings of both surveys conducted. The detailed survey results are provided in Appendix A and B of this report.

#### **Survey #1 – MN Local Agencies – (87 responses: 54 counties, 48 cities):**

- The top three identified needs from a pavement preservation resource center are:
  1. Cost/Benefit of selecting appropriate pavement preservation treatment
  2. Pros/cons of selecting appropriate pavement preservation treatment
  3. Assistance in deciding “when to do what”
- Responders ranked how they would like to access pavement preservation information:
  1. Dynamic website - user reads and also inputs data
  2. Static website – user reads data only
  3. Call-in/Live chat room or email to a specific person
- When asked if they were willing to help keep the pavement preservation resource center dynamic (up-to-date) by inputting their specific experience/data, respondents indicated:
  - 45%: Yes – I believe it is valuable to share info
  - 50%: Maybe – If I feel I have significant information to offer
  - 5%: No – I only have time/interest in obtaining information/data
- Respondents indicated that they are most likely to contribute to the resource center through:
  - 49%: Online survey/questionnaire
  - 28%: Address to e-mail information/attachments
  - 14%: Provide contact information and have someone follow up with you
  - 9%: Other – see full list of responses in Appendix A

#### **Survey #2 – Experience from Established Pavement Preservation Resource Centers**

The second survey was sent to 16 agencies/centers. After a few “follow-up” inquiries:

- 7 centers fully completed the survey,
- 3 agencies didn’t focus on pavement preservation
- 6 agencies/centers were non responsive

The results of the completed surveys are provided in two formats. The first is in Table 1, which lists each individual agencies response to each question. The second is a summary of all

responses, which is included in Appendix B and contains a full list of lessons learned and advice to anyone considering developing a pavement preservation resource center. The following is a brief summary of the survey results:

- The following agencies took the survey:
  1. Florida Pavement Preservation Council (FPPC)
  2. National Center for Asphalt Technology (NCAT)
  3. National Center for Pavement Preservation (NCPPI)
  4. National Concrete Pavement Technology Center
  5. Texas Pavement Preservation Center (TPPC)
  6. Texas Transportation Institute (TTI) - Pavement and Materials
  7. Connecticut LTAP
  
- Each agency operates their center differently, most using a combination of:
  - 27%: Staffed Employees
  - 32%: Website
  - 18%: Technical Advice via phone/email
  - 23%: Other - see full list of responses in Appendix B
  
- Respondents indicated that their main target audience is technical and maintenance staff, followed by local agencies, managers and elected officials.
  
- Most of the resource centers continually “update” their information via technical staff employed by the pavement preservation resource center.
  
- Most of the resource centers are funded by a combination of grants from federal/state governments and contributions from partnering agencies.
  
- For resource centers that provide training, webinars, workshops, etc., the coordination is completed by technical staff employed by the resource center.

### **Interviews with local transportation centers**

As part of the data gathering process, interviews were conducted with the following Minnesota agencies, to understand how and if the development of a pavement preservation resource center would fit within their current and/or long range plans. The following is a brief summary of their responses:

- **University of Minnesota Center for Transportation Studies (CTS)**  
Although they did submit a proposal a few years ago when the National Pavement Preservation Center was being established; they currently do not have any additional plans to add or include this within their core services.
  
- **Minnesota Local Technical Assistance Program (LTAP)**  
It is not in their plan nor core service; however a lot of the work they do/offer could work in tandem with a center.

- **Transportation Engineering and Road Research Alliance (TERRA)**  
A MN pavement preservation center is not in TERRA's mission or vision, although the National Center for Pavement Preservation is a member of TERRA.

## Summary

Based on the findings from this TRS study, the technical advisory panel made the following observations:

- There is a need for some type of clearinghouse or resource for pavement preservation information, guidance and shared experiences; both at the local government and state level.
- During this project, MnDOT State Aid hired a new pavement engineer to serve as a technical resource to local agencies:
  - Joel Uring (651-366-3831) [joel.ulring@state.mn.us](mailto:joel.ulring@state.mn.us)
- Additionally, MnDOT personnel work with agencies to answer or address pavement inquiries; the receptionist at the MnDOT Maplewood Materials Lab has a “help list” to use to forward to the right personnel when questions come in. Specifically for preservation needs, contact:
  - Tom Wood (651-366-5573) [thomas.wood@state.mn.us](mailto:thomas.wood@state.mn.us)
  - Melissa Cole (651-366-5432) [melissa.cole@state.mn.us](mailto:melissa.cole@state.mn.us)
  - Jerry Geib (651-366-5496) [jerry.geib@state.mn.us](mailto:jerry.geib@state.mn.us)
  - MnDOT Lab (651-366-5592)
- There are several available resources that are either new, underutilized and/or unknown:
  - [Minnesota Research Tracking website](#)  
Website mission: Provide a site where you can keep track of a new product, design, or construction practice so that the lessons learned will be remembered within your organization and can be shared with others. Enter the basics (what you tried and where you tried it) and optionally, add more information using links and file attachments.
  - [Pavement Interactive](#) – MnDOT is a contributor to this resource and also links to it from its website
  - Minnesota is a member of the [Midwest Pavement Preservation Partnership](#) which is administered by the National Center for Pavement Preservation; they offer a call in help desk: 517-432-8220

Therefore, the recommendation from the Technical Advisory Panel is as follows:

- Develop a resource that efficiently leverages existing information; this resource should be further developed to address unmet/future needs and deliver to users in an engaging way.
- Since most of the pavement preservation information that is currently available is web based, this new resource should be a single website which would host and/or link to all of the previously developed information.
- Since this information would be used by both local governments and the DOT, it should be co-funded and managed by MnDOT and State Aid for Local Transportations (SALT).

Table 1 - National Survey Results: Experience from Established Pavement Preservation Resource Centers

Name of Resource	Florida Pavement Preservation Council (FPPC)	National Center for Asphalt Technology (NCAT)	National Center for Pavement Preservation (NCPPI)	National Concrete Pavement Technology Center	Texas Pavement Preservation Center (TPPC)	Texas Transportation Institute (TTI) - Pavement and Materials	Connecticut LTAP
<b>Organization</b>	NCPPI (extension)	Auburn University	Michigan St University, Foundation for Pavement Preservation	Iowa State University	University of Texas (Joint collaboration between Center for Transportation Research (CTR) at the University of Texas and the Texas Transportation Institute (TTI) at Texas A&M University)	Texas A&M University	Technology Transfer Center at the University of Connecticut
<b>Pavement Only Focus or Part of Larger Resource</b>	Pavement Only	Pavement Only	Pavement Only	Pavement only	Pavement Only	Pavement Only within larger source	
<b>Size and Makeup of Staff</b>	Multiple of public/private agencies	10 individuals (Professors, engineers, research specialists)	Advisory Board, Technical Resource Group, Director, and seven project specialists (Professors, engineers)	6 individuals (Professors, engineers)	15 individuals, & 7 agencies (Professors, engineers)	~ 70 individuals (Professors, engineers, researchers)	9 Individuals (Engineers, technicians, assistants)
<b>Mission Statement</b>	"The Council will provide ongoing regional education workshops through the National Center for Pavement Preservation for promoting the sound principles and genuine benefits of pavement preservation practices."	"To be a world leader and authority in hot mix asphalt research, development, technology, and education in the areas of: Structural Design, Construction Methods; Materials and Testing; Performance Measurement and Prediction; Pavement Preservation, Rehabilitation, Recycling, and Maintenance; Environment and Highway Safety"	"Continue to lead a collaborative national effort among government, industry and academia stakeholders to advance and improve pavement preservation practices through education, outreach and research."	Help street and road agencies find answers to their concrete pavement-related questions. Identify critical concrete pavement research needs and discover sustainable solutions. Help agencies, industry, and businesses incorporate advanced, sustainable solutions and new technologies into their day-to-day practices.	"Promote the use of pavement preservation strategies to provide the highest level of service to the traveling public at the lowest cost."	"Our mission is to solve transportation problems through research, to transfer technology, and to develop diverse human resources to meet the transportation challenges of tomorrow."	" Our Center provides education and technical assistance to members of Connecticut's Transportation and Public Safety Community, on transportation related issues. "
<b>Main Focus of Resource</b>	Promote the implementation and benefits of pavement preservation principles through training and education throughout communities in Florida. Provide recommended regional specifications and guidelines for pavement preservation techniques in Florida. Foster beneficial technology transfers between academia, industry, and agencies.	Improve pavement standards through research, & by providing training and educational opportunities to the industry	"Promote the use of pavement preservation techniques and strategies to achieve sustainable network condition levels that satisfy user needs cost effectively."	"Set and implement a national research agenda that seeks to benefit the concrete paving community."	"Promote awareness of pavement preservation as a feasible and practical maintenance strategy by providing training courses in preservation methods, to operate as an information clearinghouse for the latest preservation techniques and procedures, and to provide TxDOT with a strategic research plan for supporting long-term pavement performance."	"The Materials and Pavements (M&P) Division conducts a coordinated and extensive program of research to design, develop, and evaluate new pavement materials, techniques, equipment, and test procedures. Research focuses on improving the durability, safety, and efficiency of pavement materials and structures within both economic and environmental constraints."	

Table 1 - National Survey Results: Experience from Established Pavement Preservation Resource Centers

Name of Resource	Florida Pavement Preservation Council (FPPC)	National Center for Asphalt Technology (NCAT)	National Center for Pavement Preservation (NCPPI)	National Concrete Pavement Technology Center	Texas Pavement Preservation Center (TPPC)	Texas Transportation Institute (TTI) - Pavement and Materials	Connecticut LTAP
<b>Website</b>	<a href="http://www.pavementpreservation.org/councils/florida-pavement-preservation-council/">http://www.pavementpreservation.org/councils/florida-pavement-preservation-council/</a>	<a href="http://www.eng.auburn.edu/research/centers/ncat/">http://www.eng.auburn.edu/research/centers/ncat/</a>	<a href="http://www.pavementpreservation.org/">http://www.pavementpreservation.org/</a>	<a href="http://www.cptechcenter.org/">http://www.cptechcenter.org/</a>	<a href="http://www.utexas.edu/research/tppc/index.html">http://www.utexas.edu/research/tppc/index.html</a>	<a href="http://tti.tamu.edu/group/pavements/">http://tti.tamu.edu/group/pavements/</a>	<a href="http://www.t2center.uconn.edu/">http://www.t2center.uconn.edu/</a>
<b>Contact</b>	Chuck Williams, PE., FPPC	Christine Riggs	Larry Gailhouse, Michigan State University	Sharon Prochnow, Program Coordinator	Dr. Yetkin Yildirim, Director	Andrew Wimsatt	Donna Shea CT LTAP
<b>Email</b>	<a href="mailto:floridappc@gmail.com">floridappc@gmail.com</a>	<a href="mailto:ciriggs@auburn.edu">ciriggs@auburn.edu</a>	<a href="mailto:galehou3@egr.msu.edu">galehou3@egr.msu.edu</a>	<a href="mailto:prochnow@iastate.edu">prochnow@iastate.edu</a>	<a href="mailto:yetkin@mail.utexas.edu">yetkin@mail.utexas.edu</a>	<a href="mailto:A-Wimsatt@ttimail.tamu.edu">A-Wimsatt@ttimail.tamu.edu</a>	<a href="mailto:shea@engr.uconn.edu">shea@engr.uconn.edu</a>
<b>Q2: Do you or your affiliate currently have a pavement or pavement preservation center?</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Q3: When was your pavement resource center developed</b>	Mid 2003 (National Center for Pavement Preservation) 2013 (Florida DOT - FPPC Specs)	1986		Started in 2001		TTI has been involved with the materials and pavements area since the Institute's inception in 1950. It has evolved into the Materials and Pavements Division at TTI	In 1974, as a part of the Connecticut Transportation Institute - CT Advanced Pavement Laboratory
<b>Q4: What was the main reason for developing your pavement resource center (what need were you trying to fulfill)?</b>	To provide education and guidance to local governments in Florida on pavement preservation treatments.	NCAT serves as a clearinghouse for information on research collected internationally and provides methods to bridge the gap between theory and practice. We produce a variety of publications to provide professionals with the latest information on asphalt technologies, and maintain a library of books and journals dating from 1905 to the present.	There was a great need to lead a collaborative effort among government, industry, and academia for the advancement of pavement preservation. Our purpose is to advance and improve pavement preservation practices through education, research and outreach.	Provide resources to interested sponsors.	Train TxDOT and industry professionals	Mainly to provide a research service to the Texas Highway Department (now TxDOT)	In an effort to assist the Connecticut LTAP center deliver technical assistance on pavement related issues, a partnership was developed with the CT Advanced Pavement Laboratory. The Lab employees also teach pavement related classes for local agencies and CT DOT maintenance employees and a series of technician certification programs for the (NETTCP)
<b>Q5: How is your center operated? [Select all that apply]</b>	Website, Other: NCPPI and FDOT	Staffed Employees, Website	Staffed Employees, Website, Technical advice via phone/email, Other: We manage a large outreach component	Staffed Employees, Website, Technical advice via phone/email, On-site technical support	Staffed Employees, Website, Technical Advice via Phone/Email, Other: Advice via phone/email	Staffed Employees, Website	Staffed Employees, Technical Advice via Phone/Email, Other: Technical training programs for local agencies and CT DOT staff

Table 1 - National Survey Results: Experience from Established Pavement Preservation Resource Centers

Name of Resource	Florida Pavement Preservation Council (FPPC)	National Center for Asphalt Technology (NCAT)	National Center for Pavement Preservation (NCPPI)	National Concrete Pavement Technology Center	Texas Pavement Preservation Center (TPPC)	Texas Transportation Institute (TTI) - Pavement and Materials	Connecticut LTAP
<b>Q6: Who is the target audience for your pavement resource center? [Select all that apply]</b>	Local Agencies, Technical Staff, Managers, Maintenance Staff, General Public, Elected Officials, Academia	Dept of Transportation Staff, Local Agencies, Technical Staff, Managers, Maintenance Staff, Elected Officials, Academia	Department of Transportation Staff, Local Agencies, Technical Staff, Managers, Maintenance Staff, General Public, Elected Officials, Academia, Other: Often we provide input to the FHWA headquarters on policy and practices that effect pavement preservation.	Department of Transportation Staff	Dept of Transportation Staff, Local Agencies, Technical Staff, Managers, Maintenance Staff, General Public, Elected Officials, Academia	Department of Transportation Staff, Technical Staff, Maintenance Staff	Dept of Transportation Staff, Local Agencies, Technical Staff, Managers, Maintenance Staff, Elected Officials
<b>Q7: Who were key people that were instrumental in developing your pavement resource center? Please provide their name and contact information.</b>	Larry Galehouse, NCPPI John Fowler, FDOT	NAPA	Larry Galehouse, Director (517) 432-8220	Tom Cackler tcackler@iastate.edu	Joe S. Graff, P.E. Ret. Dep. Dir. Maint. TxDOT 512-769-3289	Professor Galloway, Dr. Jon Epps, and Dr. Robert Lytton were the initial leaders of the Division. Dr. Epps and Dr. Lytton are still involved.	James Mahoney - Executive Director of the Connecticut Transportation Institute - james.Mahoney@UConn.edu
<b>Q8: With respect to the content of the pavement resource center, how is the information kept current? (select all that apply)</b>	Inputs from gov't agencies, industry, and consultants associated with FPPC	Technical staff employed by the pavement resource center	Technical staff employed by the pavement resource center, Users of pavement resource center, NCPPI Advisory Board and the AASHTO TSP2 Oversight Panel	Technical staff employed by the pavement resource center	Technical staff employed by the pavement resource center, Users of pavement resource center, journals and conferences	Through researchers employed by the Division	Technical staff employed by the pavement resource center
<b>Q9: How many staff members does your center employ?</b>	0	Resource Center does not employ any direct staff.	Total of 14 staff plus several students	5	8 including student workers	We have 35 staff members	3 employees and students as needed
<b>Q10: If you are willing to share, what are the general costs associated with operating your pavement resource center? (Ballpark estimate)</b>	Start Up: Industry funded, Website: NCPPI/FDOT handle this cost	n/a	Total beginning cost \$200,000	Start up: ?; Website: 20,000; Personnel: 50,000	Start Up: 150K, Website: 100K, Personnel: 200K, Other/Misc: 30K	N/A	Start Up/Website: N/A, Personnel: Not Available
<b>Q11: How is your resource center funded? (select all that apply)</b>	Member fees, Contributions from partnered agencies, Grants from federal/state government, Private, Universities	Contributions from partnered agencies, Grants from federal/state government, Universities, Internally	Totally self supporting through various contracts, training, etc.	Grants from federal/state government, Private	Member fees, Contributions from partnered agencies, Grants from federal/state government, Private, Universities	We mainly compete with other research agencies on Requests for Proposals. However, we do have some interagency contracts with TxDOT.	Grants from federal/state government

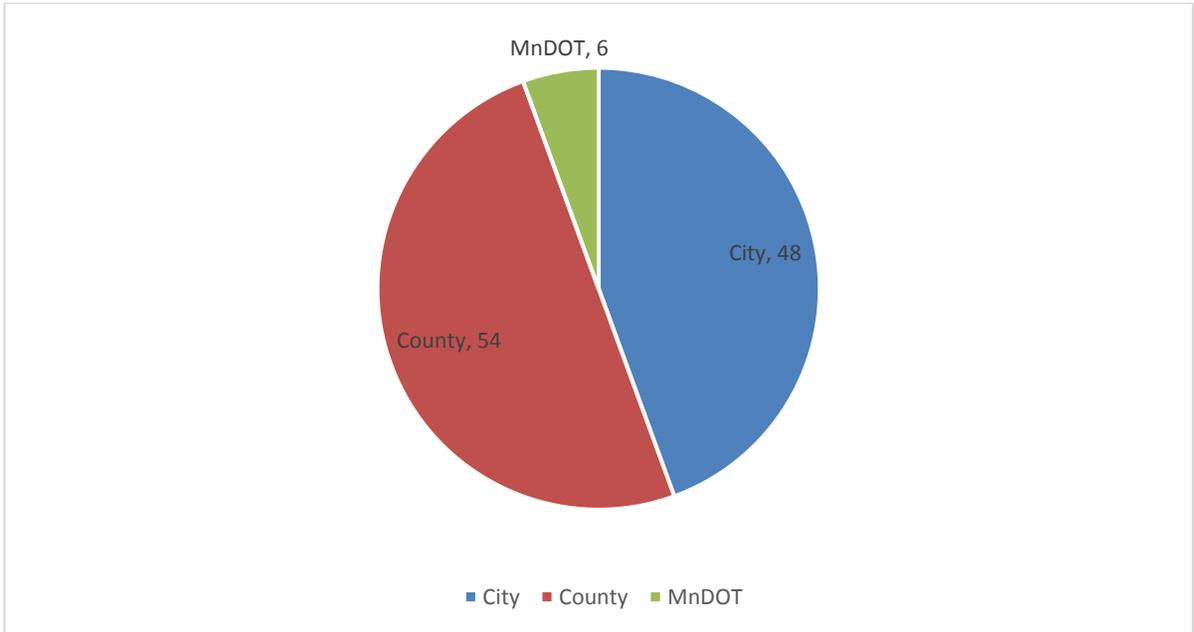
Table 1 - National Survey Results: Experience from Established Pavement Preservation Resource Centers

Name of Resource	Florida Pavement Preservation Council (FPPC)	National Center for Asphalt Technology (NCAT)	National Center for Pavement Preservation (NCPPI)	National Concrete Pavement Technology Center	Texas Pavement Preservation Center (TPPC)	Texas Transportation Institute (TTI) - Pavement and Materials	Connecticut LTAP
<b>Q12: If your pavement resource center provides training, webinars, workshops, etc., who coordinates this?</b>	Florida Pavement Preservation Council Coordinator (non funded)	NCAT Office Staff	Technical staff employed by the pavement resource center	Technical staff employed by the pavement resource center	Technical staff employed by the pavement resource center,	Technical staff employed by the pavement resource center	Technical staff employed by the pavement resource center, Other: Partnerships with the CT LTAP Staff
<b>Q13: What lessons did you learn or what would you do differently if you were to develop a new resource center?</b>	Nothing	n/a	It is a difficult task to start a resource center and most will fail in a short time. Centers are not money makers and require a dedicated hard working staff. People must support the 'long-term' mission or don't consider starting Center. It will take much more effort and commitment than you initially envision.	Difficult to keep current. Need to have subject matter experts involved.	Use better softwares	N/A	N/A
<b>Q14: Do you have any additional input on the needs of the pavement resource center or the development of the resource center?</b>	No	The NCAT library, located at our research laboratory in the Auburn Technology Park, contains books and journals dating from 1905 to the present. We also publish a biannual newsletter, Asphalt Technology News, covering timely topics, questions/answers from industry personnel on topics they select, and ready-to-use information.	Match the center staffing to the customer needs. If plans are to serve a specific segment or field, then the Center director and key staff must have worked in that segment or field and have considerable experience. For example, do not appoint a person from academia to serve a public agency unless they have been employed long-term by a public agency and have the practical experience.	There is a great need for implementation materials.	Experienced personnel is the key	N/A	N/A
<b>Q15: If you are willing to be contacted with follow-up questions, please provide your contact information.</b>	Charles Williams, P.E. Florida Pavement Preservation Council		Larry Galehouse, Director National Center for Pavement Preservation	Tom Cackler National Concrete Pavement Technology Center	Yetkin Yildirim TPPC UT Austin	Andrew Wimsatt TTI	Donna Shea CT LTAP

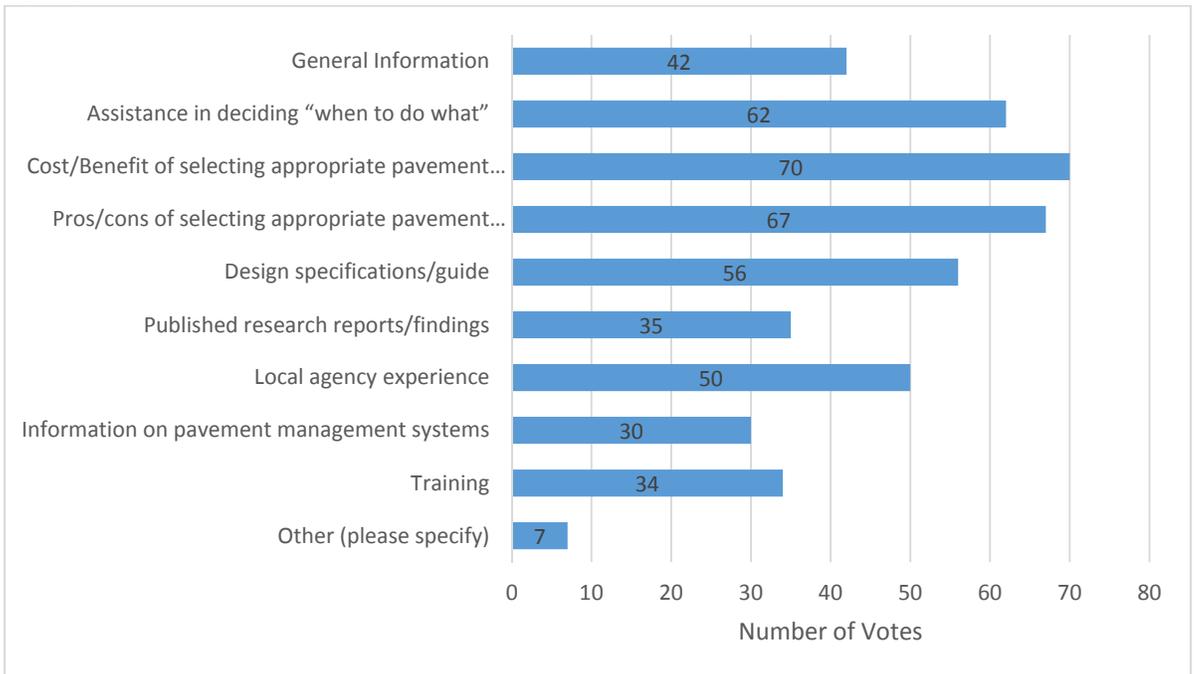
# **Appendix A:**

## Minnesota Local Agency - Survey Results

1) What agency do you represent?



2) What are your needs regarding pavement preservation? (select all that apply)

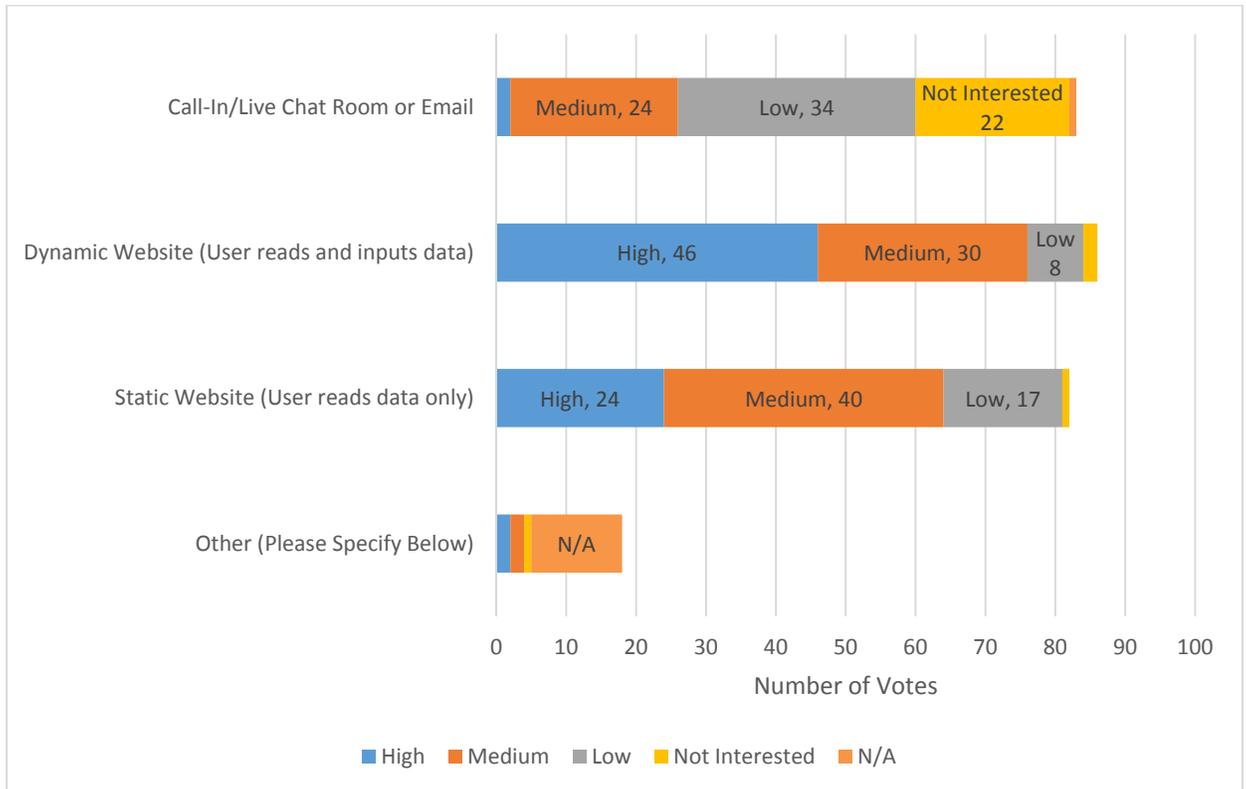


Other:

- I think we should consider how long the repair needs to last.

- Help on determining what happened on premature failures and how to prevent this in the future.
- Presentation material to show board why preservation saves money in the long run.
- A general place for everyone to share data such as costs, life cycle curves, and any other kind of data would be a benefit.
- Examples of pavement preservation practices that are implemented and found to be ineffective.
- What has worked and what hasn't worked, along with realistic life expectancy of pavement treatments.
- Clone Tom Wood

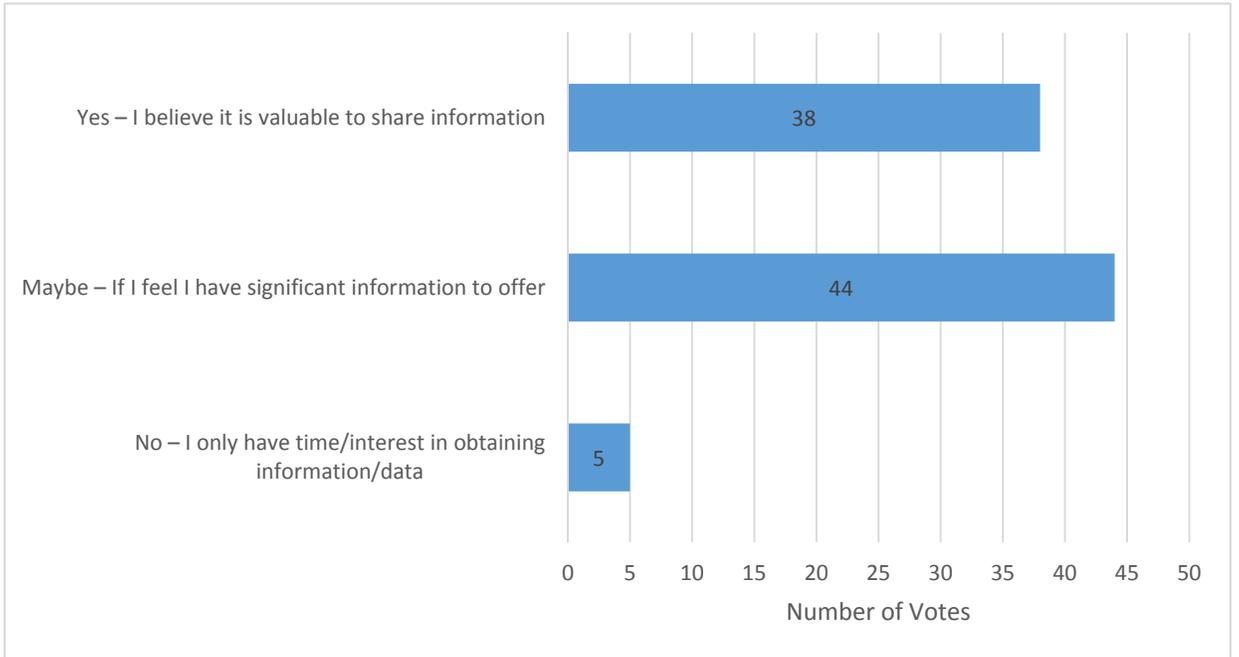
3) How do you prefer to access this information? (Rank your interest High/Medium/Low or Not Interested)



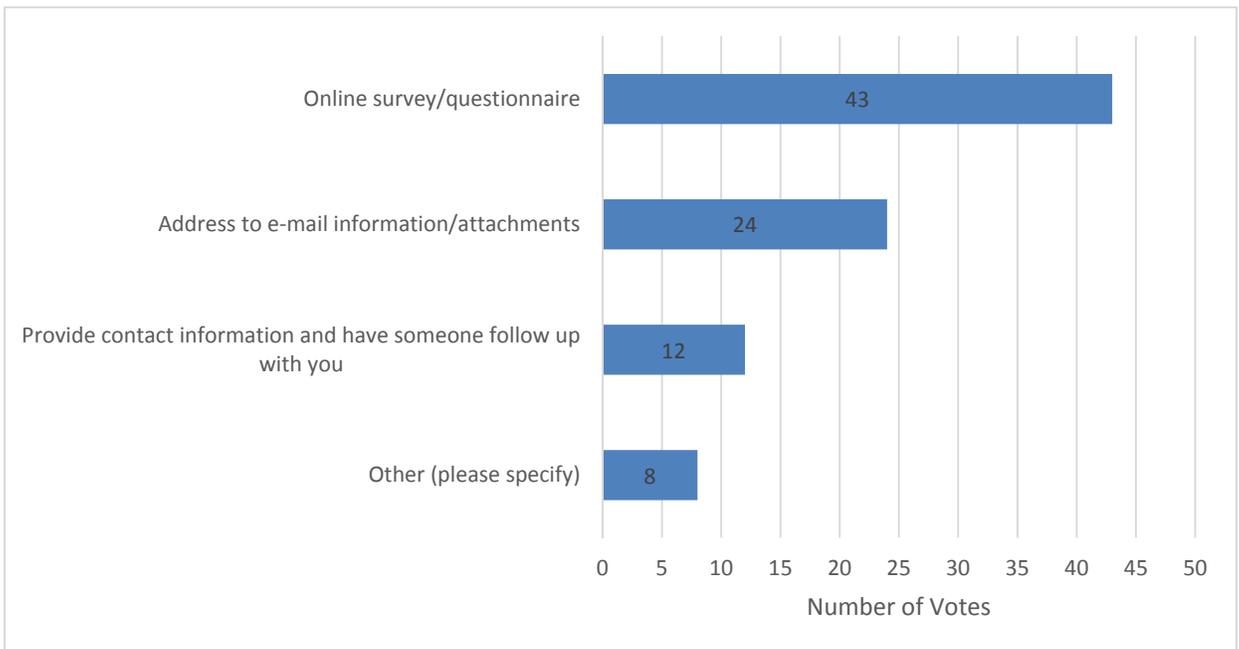
Other:

- I prefer to use a search engine that provides a list that I can select from.
- State Aid Pavement Engineer
- Blog from industry expert with area allowed for comments by users. Something similar to [www.mikeontraffic.com](http://www.mikeontraffic.com).
- Seasonal round table discussions at the PPRC

4) Are you willing to assist in keeping the pavement preservation resource center dynamic by inputting your own data/experiences/expertise?



5) How can this Resource Center be designed to encourage users to contribute data? How would you most likely "interact" with a resource center?



Other:

- I have reservations about the validity of data that would be user provided. People often times have different experiences and will come up with the conclusion they hope to see with the method they are writing about. Those viewing the information would need to understand the level of distress prior to repair to make sure they are comparing like situations.
- I do not believe this is necessary. Also, at the beginning of the questionnaire you stated, "MnDOT staff and local engineers do not have the time and resources to do the necessary research to determine how to best preserve their pavements." Which local engineers have stated that they are wasting money?
- Information and results could be contributed with an electronic final reporting form that could be part of a SAP/ SP contract process. The form could be used voluntarily on locally funded projects.
- A form of all these would probably be OK. Starting with online survey, then email, then contact info.
- Begin with an online survey and have an e-mail address where agencies can submit results/data as they become available. I think agencies will be willing to listen and learn about techniques that have/not worked for others.
- See answer to #3 other. A live blog or forum.
- GIS data on projects completed and the year, type of improvement, also costs from RT Vision.
- Both online survey/questionnaire and contact information to have someone follow up.

6) Have you used any other pavement resource centers? If so, which ones?

- 2001-2005 Asphalt Pavement Maintenance Field Handbook
- Pavement Interactive
- No, I have not. I just spent some time browsing [www.Pavementinteractive.org](http://www.Pavementinteractive.org) and found it to quite a good pavement resource.
- I have visited the National Center for Pavement Preservation website. I've also visited some other websites by using The Google.
- I've briefly looked at pavement interactive
- Just the two listed in the email - pavement interactive and national center for pavement preservation
- We have contacted Tom Wood several times for his input on maintenance projects
- Tom Woods with MnDOT
- MnDOT's Pavement Management System
- MnDOT
- Joel Ulring and MnDOT's C.O. and District Materials staff

- Pavement Design Calculators available via MnDOT/SALT web site.
- No, I have not. Rely on MNDOT research and specifications.
- MnDOT Pavement and Materials. I always felt that MnDOT offices provides enough information. I question if an additional website or group beyond what MnDOT provides with its Pavement and Materials groups is necessary. If nothing else just assist MnDOT in providing a little more information that may be more pertinent to local roads on their website. I do not see a need for a separate website.
- I use various info from MnDOT's website, and then a lot of other info is nationwide so not always applicable to MN.
- Just review LTAP or MNDOT info provided.
- NCPP, LTAP
- Have used St. Louis County and MNDOT D1 as a source of information.
- Conversations with staff at St Louis County (mostly) and other surrounding counties.
- APWA
- APWA
- No - but do use LRRB site
- MAPA
- Many studies, university centers
- NAPA, CPAM, etc...
- City uses ICON pavement ratings
- ARRA member
- Several, google on the internet
- I read lots of magazines, Roads and Bridges, International, research on the web.
- I have viewed other centers websites....

## **Appendix B:**

### National Resource Centers - Survey Results

1) What agency do you represent?

- Texas Pavement Preservation Center
- Connecticut LTAP
- Connecticut Department of Transportation
- MnDOT
- TTI
- NCAT
- Florida Pavement Preservation Council
- National Concrete Pavement Technology Center
- Asphalt Emulsion Manufacturers Association Asphalt Recycling & Reclaiming Association International Slurry Surfacing Association Pavement Preservation & Recycling Alliance
- National Center for Pavement Preservation

2) Do you or your affiliate currently have a pavement or pavement preservation resource center?

- Yes - 8
- No - 2

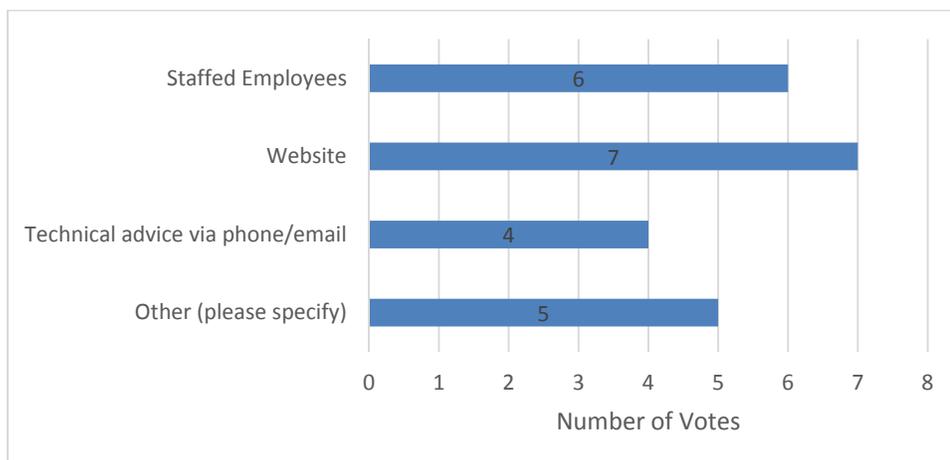
3) When was your pavement resource center developed?

- 2005
- In 1974, as a part of the Connecticut Transportation Institute - CT Advanced Pavement Laboratory
- Began as a pavement tools "CD" then became a wiki, now a website. Began in 2004, because pavementinteractive in 2008
- TTI has been involved with the materials and pavements area since the Institute's inception in 1950. It has evolved into the Materials and Pavements Division at TTI
- 1986
- Mid 2003 (National Center for Pavement Preservation) 2013 (Florida DOT - FPPC Specs)
- Started in 2001
- 07/01/2003

4) What was the main reason for developing your pavement resource center (what need were you trying to fulfill)?

- Train TxDOT and industry professionals
- In an effort to assist the Connecticut LTAP center deliver technical assistance on pavement related issues, a partnership was developed with the CT Advanced Pavement Laboratory. The Lab employees also teach pavement related classes for local agencies and CT DOT maintenance employees and a series of technician certification programs for the (NETTCP)
- Enhancement of pavement-related training and construction operations. Do it in a way that could be shared among a group of states
- Mainly to provide a research service to the Texas Highway Department (now TxDOT)
- NCAT serves as a clearinghouse for information on research collected internationally and provides methods to bridge the gap between theory and practice. We produce a variety of publications to provide professionals with the latest information on asphalt technologies, and maintain a library of books and journals dating from 1905 to the present.
- To provide education and guidance to local governments in Florida on pavement preservation treatments.
- Provide resources to interested sponsors.
- There was a great need to lead a collaborative effort among government, industry, and academia for the advancement of pavement preservation. Our purpose is to advance and improve pavement preservation practices through education, research and outreach.

5) How is your center operated? [Select all that apply]

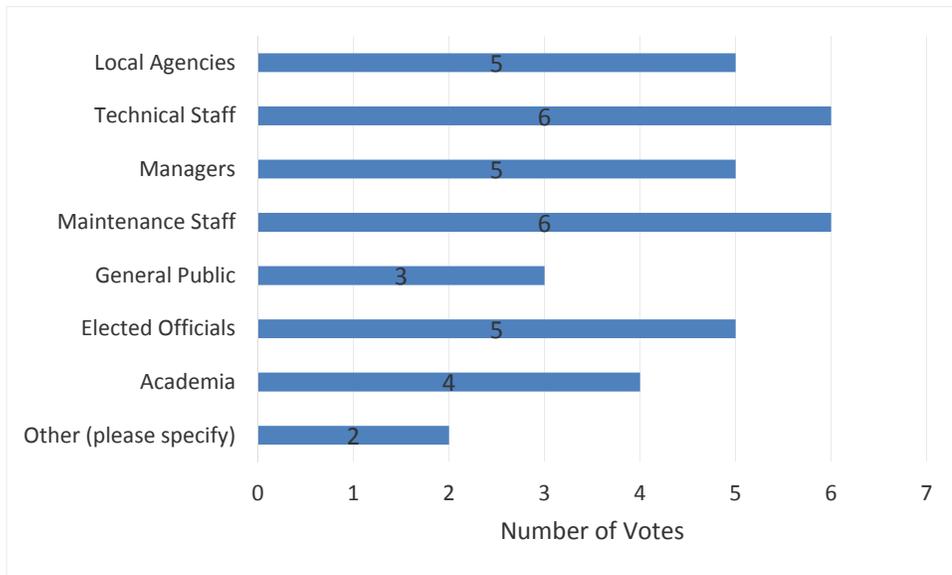


Other:

- NCPP and FDOT
- We manage a large outreach component

- Advice via phone/email
- Technical training programs for local agencies and CT DOT staff

6) Who is the target audience for your pavement resource center? [Select all that apply]



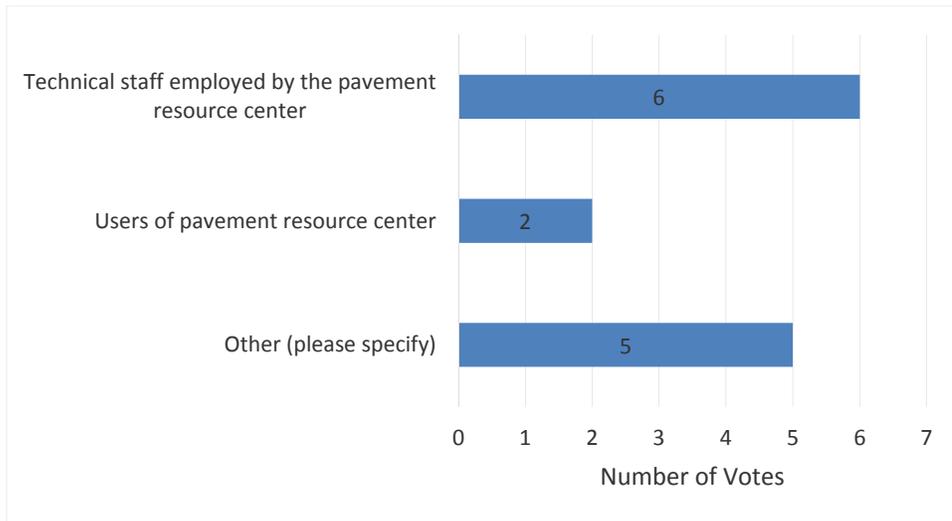
Other:

- Often we provide input to the FHWA headquarters on policy and practices that effect pavement preservation.

7) Who were key people that were instrumental in developing your pavement resource center? Please provide their name and contact information.

- Joe S. Graff, P.E. Ret. Dep. Dir. Maint. TxDOT 512-769-3289
- James Mahoney - Executive Director of the Connecticut Transportation Institute - james.Mahoney@UConn.edu
- George White, Pavia george@paviasystems.com
- Professor Galloway, Dr. Jon Epps, and Dr. Robert Lytton were the initial leaders of the Division. Dr. Epps and Dr. Lytton are still involved.
- NAPA
- Larry Galehouse, NCPP John Fowler, FDOT
- Tom Cackler tcackler@iastate.edu
- Larry Galehouse, Director (517) 432-8220

8) With respect to the content of the pavement resource center, how is the information kept current? (select all that apply)



Other:

- Inputs from gov't agencies, industry, and consultants associated with FPPC
- Through researchers employed by the Division

9) How many staff members does your center employ?

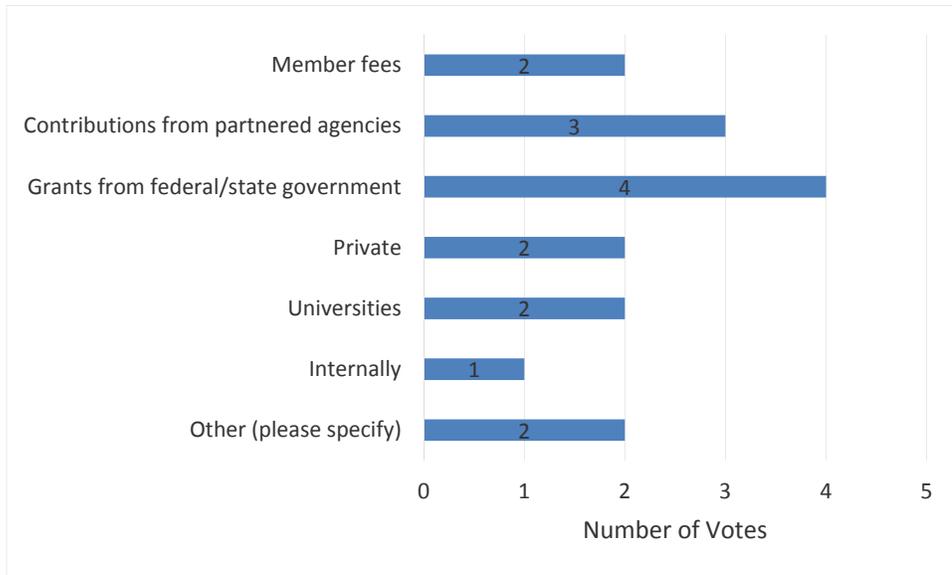
- 8 including student workers
- 3 employees and students as needed
- 2
- We have 35 staff members
- Resource Center does not employ any direct staff.
- 0
- 5
- Total of 14 staff plus several students
- 1

10) If you are willing to share, what are the general costs associated with operating your pavement resource center? (Ballpark estimate)

*Summary from 3 responders:*

- Start up: 150K
- Website: 100K; 20K
- Personnel: 200K; 50K
- Other: 30K
- Total startup cost: \$200K

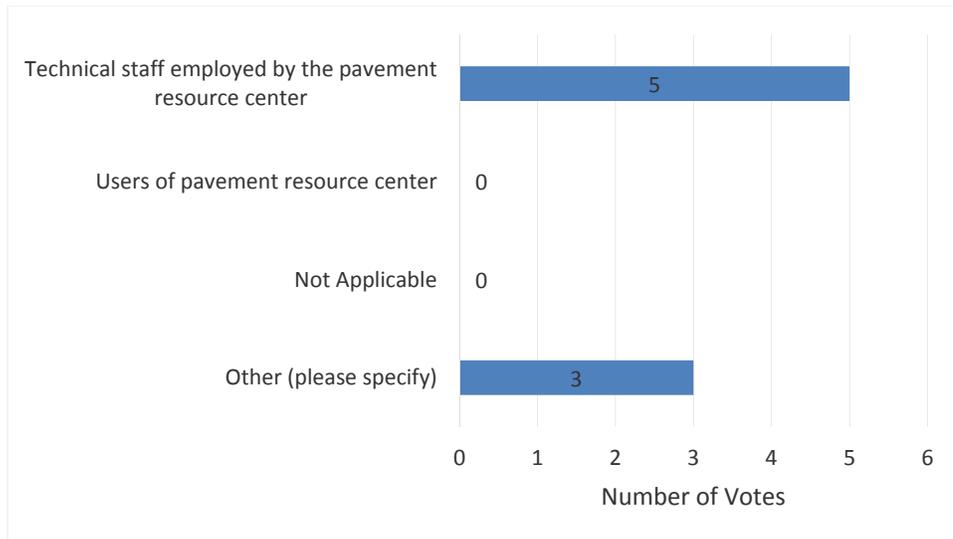
11) How is your resource center funded? (select all that apply)



Other:

- Totally self-supporting through various contracts, training, etc.
- We mainly compete with other research agencies on Requests for Proposals. However, we do have some interagency contracts with TxDOT.

12) If your pavement resource center provides training, webinars, workshops, etc., who coordinates this?



Other:

- Partnerships with the CT LTAP Staff
- NCAT Office Staff
- Florida Pavement Preservation Council Coordinator (non-funded)

13) What lessons did you learn or what would you do differently if you were to develop a new resource center?

- Difficult to keep current. Need to have subject matter experts involved.
- It is a difficult task to start a resource center and most will fail in a short time. Centers are not money makers and require a dedicated hard working staff. People must support the 'long-term' mission or don't consider starting Center. It will take much more effort and commitment than you initially envision.

14) Can you share any background data you collected in preparation of developing your pavement resource center?

- The NCAT library, located at our research laboratory in the Auburn Technology Park, contains books and journals dating from 1905 to the present. We also publish a biannual newsletter, Asphalt Technology News, covering timely topics,

questions/answers from industry personnel on topics they select, and ready-to-use information.

- There is a great need for implementation materials.
- Match the center staffing to the customer needs. If plans are to serve a specific segment or field, then the Center director and key staff must have worked in that segment or field and have considerable experience. For example, do not appoint a person from academia to serve a public agency unless they have been employed long-term by a public agency and have the practical experience.

15) Do you have any additional input on the needs of the pavement resource center or the development of the resource center?

- Experienced personnel is the key
- The NCAT library, located at our research laboratory in the Auburn Technology Park, contains books and journals dating from 1905 to the present. We also publish a biannual newsletter, Asphalt Technology News, covering timely topics, questions/answers from industry personnel on topics they select, and ready-to-use information.
- There is a great need for implementation materials.
- Match the center staffing to the customer needs. If plans are to serve a specific segment or field, then the Center director and key staff must have worked in that segment or field and have considerable experience. For example, do not appoint a person from academia to serve a public agency unless they have been employed long-term by a public agency and have the practical experience.