# National Road Research Alliance Executive Committee Meeting Notes (online meeting) March 22, 2018

### 12:00 - 1:30pm CST

Online Meeting Link - https://meet.lync.com/mn365/ben.worel/T2GFJM69

- 1. Welcome/Introductions (Glenn Engstrom)
- 2. MnROAD Legislative Efforts (Glenn Engstrom)
  - a. Added facilities and resources for training and innovation

#### 3. Pooled Fund Status (Ben Worel)

- a. Membership (6 states and ~45 associate members)
- b. Budget (Details attached)
  - i. MnDOT has determined that ~373K are still available for NRRA efforts
  - ii. More details at the May workshop EC meeting
    - 1. Note Rigid Team request ~150K for RCC pavements in Missouri
- c. Associate Engagement Efforts
  - i. MnDOT is developing a Liaison List of MnDOT staff to be assigned to each associate member to ensure they have a voice and active member to work with. The list will be shared in May
- d. Long and Short Term Contract are all underway
  - i. Short Term Priorities / status
    - Flex Tack Coats / Flex Longitudinal Joint (final drafts)
    - PM Diamond Grinding / GeoTech Subbase Materials (starting)
    - 4 Topics for Future each needs more information (start in 1-2 months)
      - a. GeoTech Subgrade Design for New and Reconstructed
      - b. Rigid Design and Performance of Concrete Unbonded Overlays
      - c. Rigid Repair of Joint Associated Distress Pavements
      - d. PM Pavement preservation approaches lightly surfaced roadways

RA Short Term Technology Transfer Topics		NRRA Long T	NRRA Long Term Research					
F Consultir	ng under contract	NRRA Team	Title	Contractor				
Team	Title		HMA Overlay of PCC & Methods in					
Flex	Tack Coats		Enhancing	University of New Hampshire				
Flex	Longitudinal Joint Construction	Flex	Compaction					
. iex	Performance		Cold Central Plant	American Engineering and Testing				
Rigid	Design and Performance of Concrete		Recycling	American Engineering and Testing				
	Unbonded Overlays		Fiber Reinforced	University of Minnesota Duluth				
Rigid	Repair of Joint Associated Distress		<b>Concrete Pavements</b>	University of Minnesota Duluth				
	Pavements	Distist	Early Opening					
Geo	Larger Subbase Materials	Rigid	Strength to Traffic	University of Pittsburgh				
Geo	Subgrade Design for New and		Optimizing the PCC	Laura Stata				
0.00	Reconstructed		Mix Components	Iowa State				
PM	Surface Characteristics of Diamond		Recycled Aggregates					
1 101	Ground PCC Surfaces	Geo	and Larger Subbase	Iowa State				
PM	Pavement preservation approaches		Materials					
1 141	for lightly surfaced roadways		Maintaining Poor					
		PM	Pavements	SRF Consulting				
			Partial Depth Repair	Braun Intertec				

- 4. Team Efforts (Ben Worel + Team Members)
  - a. Flexible Team
  - b. Rigid Team
    - i. Proposed compacted concrete research (~150K) effort related to the Missouri construction that is taking place in 2018

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- ii. EC asked for a more detailed proposal to react to including costs for instrumentation, research, monitoring
- iii. EC will do an online vote on this topic or wait till the May meeting
- c. Pavement Maintenance
- d. Geotechnical Team
- e. Technology Transfer Team
  - i. New Chair Needed Curt Turgeon MnDOT will be the new team leader after discussion with the EC members.
  - ii. State Training Requests / PEER Exchanges
  - iii. Sharing of technical Reports as developed in Newsletter
- f. New Team Proposed Emerging Technologies
  - i. EC was ok with this idea and did not support or reject the idea. MnDOT will pursue this with the associate members who are pushing for this new team. More details later expect an email to announce this new team.

#### 5. May Workshop (May 23-24) (Bob Filipczak)

- a. Agenda was reviewed
- b. State Paid Trips (4 / state = 20 trips)
- c. First 50 students get free registrations
- d. Teams to develop their Day 1 (1 hour) and Day 2 (2 hour) agendas

#### 6. Future Innovation – Call for Ideas (Ben Worel)

- a. Automated / Connected Vehicles Research
- b. Automated / Connected Vehicles Pavements
- c. Maintenance Plans
- d. Rejuvenators

#### 7. Round Robin

- a. Announcements
- b. Needs / Concerns

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### Budget Attachment

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65%     Research     1//     1/		Purchase Purchase Purchase Labor Labor Contract	T1.3.6 T1.3.7 T1.3.8 T1.3.9 T1.3.10 T1.3.10 T1.3.11 T1.4 R1.2 R1.3 R1.4 R1.4 R1.4 R1.4 R1.5 R2.5	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15340 TPF15340 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sample Buckets       Inspection (NNDOT) - MnDOT approved operating funds for any additonal costs       over the initial budget - MnDOT fund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Pedromance Monitoring       MnDOT fund from Dec 12 budget report       Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 12 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000	Jan 17 Mar 17 May 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17	cion on these inti develop the 159,130 50,400 279,318 120,000 20,000 55,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
Research (N)     Contract     Research Research (N)     Contract     Research Research (N)     Contract     Research Research (N)     Research (N)     Contract     Research Research (N)     Contract     Research (N)     Contract (N)     Contract (N)     Contract     Research (N)     Contract (N)     Contract (N		Purchase Purchase Purchase Labor Labor Contract Contract	T1.3.6 T1.3.7 T1.3.8 T1.3.9 T1.3.10 T1.3.11 R1.2 R1.3 R1.4 R1.4 R2.4 R1.5 R2.5 R1.6	Paid by T1.2 T1.31 T1.32 Partnership TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additional costs       NoDOT approved operating funds for any additional costs       Approved extra funding for monitoring       MnDOT approved operating funds for any additional costs - 120K approved by EC-MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low Initial estimate)       HMA Performance Testing (75K original Estimate)	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17	cion on these inti develop the 159,130 279,318 120,000 20,000 55,000 40,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
Research (R)     Image: Contract (R)     Image: Contra     Image: Contra     Image:	(1)	Purchase Purchase Purchase Labor Labor Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.4       R1.5       R2.5       R1.6       R1.7	Paid by T1.2 T1.31 T1.32 Partnership TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement Preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additonal costs       NmROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved staff - Inding Approved (low initial estimate)       HMA Performance Testing (73K original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Toung Approved	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 July 17	cion on these inti develop the 159,130 279,318 120,000 20,000 55,000 40,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
Lontrat     Contract     Will not do - charged to 50	(1)	Purchase Purchase Purchase Labor Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.4       R1.5       R2.5       R1.6       R1.7	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15340 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additional costs       NoDOT approved operating funds for any additional costs       MNDOT approved operating funds for any additional costs       Service Version of partial provide operating funds for any additional costs       Cost rule operating funds for any additional costs - 120K approved by EC       MNDOT approved operating funds for any additional costs - 120K approved by EC       Sensor Purchase       Additional Funding for monitoring       PACC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (75K coriginal Estimate)       Parial Depth Repairs Construction (not in construction construction) - \$50K original       Additional Funding Approved     Compacted Concrete Pavement Construction (not in construction) - \$50K original	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD Diamond Surfacing	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 July 17 May 17 May 17	cion on these inti develop the 159,130 279,318 120,000 20,000 55,000 40,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
Normal Name NormationRel No	(T) 65% Research	Purchase Purchase Purchase Labor Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.3.11       T1.3.11       T1.3.11       T1.3.11       T1.3.11       T1.3.11       R1.4       R1.4       R2.4       R1.5       R1.6       R1.7       R2.7       R1.8	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15340 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       Inspection (MNDOT) - MnDOT tund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 17 budget report       Additional Funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Partial Depth Repairs Construction (asteruction construction contract)       Additional Funding Approved       Quartial Depth Repairs Construction (not in construction (not in construction) - \$50K original	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD Diamond Surfacing	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 July 17 May 17 July 17 May 17 Dec 17?	cion on these inti develop the 159,130 279,318 120,000 20,000 55,000 40,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
Note of the section of the sectin of the section of the section of the section of the se	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.3.11       T1.3.11       T1.3.11       T1.3.11       T1.3.11       T1.3.11       R1.4       R1.4       R2.4       R1.5       R1.6       R1.7       R2.7       R1.8	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additional costs       NinDOT approved operating funds for any additional costs       Approved Attract Mindle funds for any additional costs       Approved the Industry funds for any additional costs       Approved operating funds for any additional costs       Partial Depth Repairs Construction, Sensors and Performance Monitoring       MnDOT approved operating funds for any additional costs       Approved extra funding for monitoring       Period and Funding Approved (low initial estimate)       HMA Performance Testing (75K orignal Estimate)       Partial Depth Repairs Construction (not in construction ontract)       Additional Approved ext os SO       Damond Grinding Construction (not in construction ontract) - SSK original	State of Practice topics are listed in T1.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD Diamond Surfacing Not Done	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? Dec 17? May 17	cion on these inti develop the 159,130 279,318 120,000 20,000 55,000 40,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6 T1.3.7 T1.3.8 T1.3.9 T1.3.10 T1.3.11 T1.4 R1.4 R1.4 R1.4 R1.4 R1.5 R1.6 R1.7 R2.7 R1.8 R1.9	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       OwnROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 12 budget report       Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 12 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (7X original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction (not in construction) - 550K original       Will not to - changed to 50       Diamond Grinding Construction (not in construction - 550K	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD Diamond Surfacing Not Done	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17?	cion on these intil develop the 159,130 279,318 120,000 22,000 55,000 40,000 40,000 	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TPF15341     Maintaining Poor Pavements     SR     May 17     80,00     -<	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.10       T1.3.11       T1.3.11       T1.3.11       T1.3.11       R1.4       R1.4       R1.5       R1.5       R1.6       R1.7       R2.7       R1.8       R1.9       R1.10	Paid by T1.2 T1.3.1 T1.3.1 TPF15341 TPF15340 TPF15340 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additional costs       Inspection (MNDOT) - MnDOT approved operating funds for any additional costs       Aprica Dudget - MnDOT fund from Dec 12 budget report       MnDOT approved operating funds for any additional costs - 120K approved by EC - MnDOT fund from Dec 12 budget report       Approved extra funding for monoting       PCC Sampling/Testing       Additional Lenging Approved (low initial estimate)       HMA Performance Testing (JSK original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Approved Struet Sonstruction (not in construction contract)       Additional Fundamed to 50       Diamond Grinding Construction (not in construction contract) - \$50K       Additional Hundge Approved       Compacted Concrete and Methods of Enhancing Compaction	State of Practice topics are listed in 13.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 May 17 May 17 July 17 May 17 Dec 17? Dec 17? May 17	cion on these inti develop the 159,130 50,400 2279,318 120,000 20,000 55,000 20,000 	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TPF1534     Maintaining Poor Pavements     SR     May 17     80,00     - </td <td>(T) 65% Research</td> <td>Purchase Purchase Purchase Labor Labor Contract Contract Contract</td> <td>T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.3       R1.3       R1.4       R2.4       R1.5       R2.5       R1.6       R1.7       R1.8       R1.9       R1.10       R1.11</td> <td>Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341</td> <td>Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additonal costs       Inspection (MnDOT) - MnDOT tund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 17 budget report       Approved extra funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract) - S50K original       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract) - S50K       Mill not do - changed</td> <td>State of Practice topics are listed in 13.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant</td> <td>and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000</td> <td>after the complet Jan 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17</td> <td>cion on these inti develop the 159,130 279,318 120,000 2,0,000 35,000 40,000 40,000 - - - 150,000</td> <td>al topics. MnDC</td> <td>DT and the cor tices. Enter in 25,000</td> <td>ntractor f</td> <td>funding will be a ? - - - - 30,749</td> <td>-</td>	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.3       R1.3       R1.4       R2.4       R1.5       R2.5       R1.6       R1.7       R1.8       R1.9       R1.10       R1.11	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additonal costs       Inspection (MnDOT) - MnDOT tund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 17 budget report       Approved extra funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract) - S50K original       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract) - S50K       Mill not do - changed	State of Practice topics are listed in 13.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17	cion on these inti develop the 159,130 279,318 120,000 2,0,000 35,000 40,000 40,000 - - - 150,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TPF1534     Maintaining Poor Pavements     SR     May 17     80,00     - </td <td>(T) 65% Research</td> <td>Purchase Purchase Purchase Labor Labor Contract Contract Contract</td> <td>T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.3       R1.3       R1.4       R2.4       R1.5       R2.5       R1.6       R1.7       R1.8       R1.9       R1.10       R1.11</td> <td>Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341</td> <td>Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additional costs over the initial budget - MnDOT fund from Dec 17 budget report       MnDOT approved operating funds costs - 120K approved by EC-       Approved extra funding for monitoring       MnDOT approved (low initial estimate)       HMA Performance Testing (75K original Estimate)       Partial Depth Repairs construction (not in construction ontract)       Additional Funding Approved (low initial estimate)       HMA Performance Testing (75K original Estimate)       Partial Depth Repairs Construction (not in construction ontract)       Additional Funding Construction (not in construction) - 550K original       Diamond Grinding Construction in in construction contract) - 550K       Will not do - changed to 50       Diamond Behab of Concrete and Methods of Enhancing Compaction       Cold Central Plant Recycling       Fiber Reinforced Concrete Pavements       Long Term</td> <td>State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant UMD</td> <td>and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000</td> <td>after the complet Jan 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17 May 17 May 17 May 17 May 17</td> <td>cion on these inti develop the 159,130 279,318 120,000 2,0,000 35,000 40,000 40,000 - - - 150,000</td> <td>al topics. MnDC</td> <td>DT and the cor tices. Enter in 25,000</td> <td>ntractor f</td> <td>funding will be a ? - - - - 30,749</td> <td>-</td>	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.3       R1.3       R1.4       R2.4       R1.5       R2.5       R1.6       R1.7       R1.8       R1.9       R1.10       R1.11	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additional costs over the initial budget - MnDOT fund from Dec 17 budget report       MnDOT approved operating funds costs - 120K approved by EC-       Approved extra funding for monitoring       MnDOT approved (low initial estimate)       HMA Performance Testing (75K original Estimate)       Partial Depth Repairs construction (not in construction ontract)       Additional Funding Approved (low initial estimate)       HMA Performance Testing (75K original Estimate)       Partial Depth Repairs Construction (not in construction ontract)       Additional Funding Construction (not in construction) - 550K original       Diamond Grinding Construction in in construction contract) - 550K       Will not do - changed to 50       Diamond Behab of Concrete and Methods of Enhancing Compaction       Cold Central Plant Recycling       Fiber Reinforced Concrete Pavements       Long Term	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant UMD	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17 May 17 May 17 May 17 May 17	cion on these inti develop the 159,130 279,318 120,000 2,0,000 35,000 40,000 40,000 - - - 150,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TPF15341     Maintaining Poor Pavements     SR     May 17     80,00     -<	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.5       R1.6       R1.7       R2.7       R1.8       R1.9       R1.10       R1.11       R1.12       R1.13	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       NarROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 17 budget report       AmROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 12 budget report       Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 12 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved (low initial estimate)       UIII not 0 changed to 50       Diamond Grinding Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contra	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant UND UNH Set Consultant	and T1.3.2 25,000 155,130 4,000 81,149 440,258 75,000 75,000	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17 Dec 17? May 17 May 17 May 17 May 17 Dec 17?	ion on these inti develop the 159,130 279,318 120,000 20,000 55,000 40,000 40,000 40,000 100,000 150,000 150,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TP15334     Maintaining Poor Pavements     SRP     May 17     80,000     -	(1) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.3.11       R1.3       R1.3       R1.3       R1.3       R1.4       R2.4       R1.5       R2.6       R1.7       R2.7       R1.8       R1.9       R1.10       R1.11       R1.13       R1.14	Paid by T1.2 T1.3.1 T1.3.1 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement Preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       NnROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved Approved Query Longing Estimate)       PARIal Depth Repairs Construction (not in construction contract)       Additional Funding Approved (low initial estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Construction (not in construction contract)       Additional Repairs Construction (not in construction contract) - \$50K original       VIII not do - changed to 50       HMA Overlay and Rehab of Concrete and Methods of Enhancing Compaction       Cold Central Plant Recycling       Fiber Reinforced Concrete Pavements	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant AET Consultant Consultant UMD NOT Done	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 0 75,000 0 0 0 0 0 0 0 0 0 0 0 0	after the complet Jan 17 Mar 17 May 17 May 17 May 17 Dec 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17 May 17 May 17 May 17 May 17 May 17 May 17 May 17	cion on these inti develop the 159,130 20,000 20,000 20,000 35,000 40,000 40,000  150,000 100,000 - 150,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TP15334     Maintaining Poor Pavements     SRP     May 17     80,000     -	(1) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.5       R1.6       R1.7       R2.7       R1.8       R1.9       R1.10       R1.11       R1.12       R1.13	Paid by T1.2 T1.3.1 T1.3.1 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (NnOOT) - MnDOT approved operating funds for any additonal costs       Inspection (NnOOT) - MnDOT approved operating funds for any additonal costs       OwnROAD Staff - Construction, Sensors and PedFormance Monitoring       MnOAD Taff - Construction, Sensors and PedFormance Monitoring       MnOAT fund from Dec 12 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract) - \$50K original       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract) - \$50K       MWI not do - changed to 50       Diamond Grinding Construction contract - \$50K       Will not do - changed to 50	State of Practice topics are listed in 13.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant UND Not Done UNFIR UND	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 0 75,000 0 0 0 0 0 0 0 0 0 0 0 0	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Mar 17 Mar 17 Mar 17 Mar 17 Mar 17 May 17 May 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 Dec 17? May 17 May 17	cion on these inti develop the 159,130 20,000 20,000 20,000 35,000 40,000 40,000  150,000 100,000 - 150,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.8     TPF15341     Maintaining Poor Pavements     SR     May 17     80,00     -<	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.5       R1.6       R1.7       R2.7       R1.8       R1.9       R1.10       R1.11       R1.12       R1.13	Paid by T1.2 T1.3.1 T1.3.1 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sample Buckets       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additional costs over the initial budget - MnDOT fund from Dec 12 budget report       MnDOT approved operating funds for any additional costs - 120K approved by EC - MnDOT fund from Dec 12 budget report       Approved extra funding for monitoring       PATIal Depth Repairs Construction (not in construction contract)       Additional Funding Approved (low initial estimate)       HMM Performance Tosting (15% original Stimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract)       Additional Funding Construction (not in construction contract)       Diamond Grinding Construction (not in construction contract)       Mill not do - changed to 50       HMM Averlay and Mehaba Of Concrete and Methods of Enhancing Compaction       Contrate Faint Recycli	State of Practice topics are listed in 13.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant UND Not Done UNFIR UND	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 0 75,000 0 0 0 0 0 0 0 0 0 0 0 0	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17 May 17 May 17 May 17 May 17 May 17	cion on these inti develop the 159,130 20,000 20,000 20,000 35,000 40,000 40,000  150,000 100,000 - 150,000	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
R1.9     TP15341     Partalogeth Repair     Braum meters     May 17	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.4       R1.4       R1.4       R1.7       R2.5       R1.6       R1.7       R1.8       R1.9       R1.10       R1.11       R1.12       R1.10       R1.11       R1.12       R1.10	Paid by T1.2 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Paremet preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additional costs over the initial budget - MnDOT fund from Dec 17 budget report       MNROAD Staff - Construction, Sensors and Pedromance Monitoring       MNDOT fund from Dec 17 budget report       Approved operating funds for any additional costs - 120K approved by EC- MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing [73K original Estimate]       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract) - \$50K original       Mill not do - changed to \$0       Diamond Grinding Construction (not in construction contract) - \$50K       HMA Overlay and Rehab of Concrete and Methods of Enhancing Compaction Coli Central Plant Recycling       Fiber Reinforced Concortet	State of Practice topics are listed in 13.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O AET Consultant TBD Diamond Surfacing Not Done UNH AET Consultant UND Not Done UOPht iowa State Not Done	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 0 75,000 0 0 0 0 0 0 0 0 0 0 0 0	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 Dec 17 May 17 Dec 17 May 17 May 17 Dec 17 May 17 May 17 Dec 17 May 17 May 17 Dec 17 May 17 M	cion on these inti develop the 50,400 279,318 120,000 2,0,000 5,000 40,000 40,000 - - - - - - - - - - - - - - - - -	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
WAA Grant(0)     Contract     G.1.1     MnDD     Data - Website Interface FHWA originally planed at \$25K but did not take place - MnDOT then funded (M)     iEngineering     25,000     Nov 17     O     C     D     25,000     D <thd< th="">     D&lt;</thd<>	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.4       R1.4       R1.4       R1.7       R1.7       R1.7       R1.7       R1.7       R1.10       R1.12       R1.13       R1.14       R1.12       R1.14       R1.14       R1.16       R1.17	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       Inspection (MNDOT) - MnDOT up roved operating funds for any additonal costs       NRDAD Staff - Construction, Sensors and Pedromance Monitoring       MnDOT fund from Dec 17 budget report       Approved averating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved Averat funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (75K original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract) - S50K original       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract) - S50K       Vill not do - changed to 50	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT AET Consultant TBD Diamond Surfacing Not Done UHH AET Consultant UHD Not Done UUFPitt Iowa State Not Done	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 0 75,000 0 0 0 0 0 0 0 0 0 0 0 0	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17 May 17 May 17 May 17 May 17 May 17 May 17 Dec 17 May 17 May 17 May 17	ion on these inti develop the 50,400 279,318 120,000 20,000 75,000 75,000 40,000 - - - - - - - - - - - - - - - - -	al topics. MnDC	DT and the cor tices. Enter in 25,000	ntractor f	funding will be a ? - - - - 30,749	-
WWA Grand(s) INDOT Funds     Contract     G1.1     MMDDT     FMMA originally planned at \$25K but di not take place. MmDOT then funded     IEngineering     25,000     Nov 17     Contract     22,000     Nov 17     Contract     22,000     Nov 17     Contract     IEngineering     25,000     Nov 17     Contract     22,000     Nov 17     Contract     IEngineering     25,000     Nov 17     Contract     22,000     Mill Track     Contract     Mill Track     Contract     No     Mill Track     Contract     No     Minor (Mi)     Mill Track     Contract     No     Minor (Mi)     Mill Track     Contract     No     Minor (Mi)     Mill Track	(T) 65% Research	Purchase Purchase Purchase Labor Labor Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R1.4       R2.5       R1.6       R1.7       R1.8       R1.10       R1.11       R1.12       R1.13       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.14       R1.15       R1.16       R1.17       R1.18	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (NhODT) - MnDOT approved operating funds for any additonal costs       Inspection (NhODT) - MnDOT fund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Pedromance Monitoring       MnDOT fund from Dec 17 budget report       Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (J7K original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Ompacted Concrete Pavement Construction contract) - S50K original       Will not do - changed to S0       Diamond Grinding Construction (not in construction contract) - S50K       <	State of Practice topics are listed in topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT VI MnDOT VI MnDOT Not Done UNH ACT Consultant LIOV NOT DONE UNH NOT DONE UNH NOT DONE UNH NOT DONE UNH State	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 80,000 - - - - - - - - - - - - -	after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 May 17 Dec 17? May 17 Dec 17? May 17 Dec 17? May 17 Dec 17? May 17 Dec 17? May 17 Dec 17? May 17 Dec 17 May 17 Dec 17? May 17 Dec 17 May 17 Dec 17 May 17 Dec 17 May 17 May 17 Dec 17 May	cion on these inti develop the 159,130 279,318 279,318 120,000 20,000 35,000 40,000 40,000 40,000 150,000 150,000 150,000 150,000 25,000 80,000 80,000	al topics. MnDC	25,000 25,000 4,000 - - - - - - - - - - - - -	ntractor f	funding will be a ? - - - - 30,749	-
MADD T Funds (M)     May Items     M1.1     TOXAFT     MODT Funding of value to show this?     NA     Will Tack Timesheets     May     Mail     Construction     Mail     MDDT Funding of value to show this?     Mail     CS. McCrossan     May III     May     May     May     Mail     Mail <t< td=""><td>(T) 65% Research</td><td>Purchase Purchase Purchase Labor Labor Contract Contract Contract</td><td>T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R1.4       R2.5       R1.6       R1.7       R1.8       R1.10       R1.11       R1.12       R1.13       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.14       R1.15       R1.16       R1.17       R1.18</td><td>Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341</td><td>Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Supment Preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sample Buckets       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additonal costs over the initial budget - MnDOT fund from Dec 12 budget report       Approved extra funding for monotring       MnDOT fund from Dec 12 budget report       Approved extra funding for monotring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (15% original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Funding Construction (not in construction ontract)       Additional Funding Construction (not in construction Compaction       Compacted Concrete Pavements       UBI not do - changed to 50       HMA Overlay and Mehab of Concrete and Methods of Enhancing Compaction       Contrate Fair Open</td><td>State of Practice topics are listed in topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT VI MnDOT VI NOT DOne UNH ACT Consultant LIO VI NOT DOne UNFILL IOV State NOT DOne UNFILL IOV State Sta</td><td>and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 80,000 - - - - - - - - - - - - -</td><td>after the complet Jan 17 Mar 17 Mar 17 Mar 17 Mar 17 Dec 17 May 17 July 17 May 17 May 17 Dec 17? 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NA     Timesheets     Common Section     Section <t< td=""><td>(T) 65% Research (R)</td><td>Purchase Purchase Labor Contract Contract Contract Contract Contract</td><td>T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.5       R1.6       R1.7       R2.7       R1.8       R1.10       R1.10       R1.11       R1.12       R1.13       R1.10       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.17       R1.18       R1.19       R1.20</td><td>Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341</td><td>Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (NnDOT) - NnDOT approved operating funds for any additonal costs       Inspection (NnDOT) - MnDOT fund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Pedromance Monitoring       MnDOT fund from Dec 17 budget report       Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PEC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved (low initial estimate)       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract)       SGM Mill not do - changed to 50       Diamond Grinding Construction (not in construction contract)       MWI not do - changed to 50</td><td>State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UMH AET Consultant UMD Not Done UOFPitt Jowa State Not Done UorPitt Jowa State SRF Braun Inertec UVetk</td><td>and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 80,000 - - - - - 1,080,000 20,000</td><td>after the complete Jan 17 Mar 17 Mar 17 May 17 Mar 17 Dec 17 May 17 July 17 May 17 May 17 Dec 17? 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MnDC</td><td>25,000 25,000 4,000 - - - - - - - - - - - - -</td><td>ntractor f</td><td>unding will be r ? 30,749 40,940 </td><td></td></t<>	(T) 65% Research (R)	Purchase Purchase Labor Contract Contract Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R2.5       R1.6       R1.7       R2.7       R1.8       R1.10       R1.10       R1.11       R1.12       R1.13       R1.10       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.17       R1.18       R1.19       R1.20	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (NnDOT) - NnDOT approved operating funds for any additonal costs       Inspection (NnDOT) - MnDOT fund from Dec 17 budget report       MnROAD Staff - Construction, Sensors and Pedromance Monitoring       MnDOT fund from Dec 17 budget report       Approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PEC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (TSK original Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved (low initial estimate)       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract)       SGM Mill not do - changed to 50       Diamond Grinding Construction (not in construction contract)       MWI not do - changed to 50	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UMH AET Consultant UMD Not Done UOFPitt Jowa State Not Done UorPitt Jowa State SRF Braun Inertec UVetk	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 80,000 - - - - - 1,080,000 20,000	after the complete Jan 17 Mar 17 Mar 17 May 17 Mar 17 Dec 17 May 17 July 17 May 17 May 17 Dec 17? 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MnDOT (M) Contract M1.2 MinDUT Funding of "36- sub equivalent test cells C.S. McCrossan 3,132,681 May 1/ 3,132,681	(T) 65% Research (R) HWA Grant(G)	Purchase Purchase Purchase Contract Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R1.4       R1.7       R2.7       R1.8       R1.6       R1.7       R2.7       R1.8       R1.10       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.14       R1.15       R1.16       R1.17       R1.20       G1.1	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MnDOT) - MnDOT approved operating funds for any additonal costs       NiROAD Staff - Construction, Sensors and Performance Monitoring       MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (75K original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract)       Mill not do - charged to 50       Diamond Grinding Construction (not in construction contract)       Mill not do - charged to 50       Contracte Concrete Pavements       Long Term Effects of Diamond Grinding - 575k       Will not do - charged to 50	State of Practice topics are listed in 13.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UHH AET Consultant UMD Not Done UHH Lowa State SRF Braun Inertec Urretk IEngineering	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 80,000 - - - - - - - - - - - - -	after the complete Jan 17 Mar 17 Mar 17 May 17 Mar 17 Dec 17 May 17 July 17 May 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17	cion on these inti develop the 159,130 279,318 279,318 120,000 20,000 35,000 40,000 40,000 40,000 150,000 150,000 150,000 150,000 25,000 80,000 80,000	al topics. MnDC	25,000 25,000 4,000 - - - - - - - - - - - - -	ntractor f	unding will be r ? 30,749 40,940 	
	(T) 65% Research (R) WA Grant(G) AnDOT Funds (M)	Purchase Purchase Labor Labor Contract Contract Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4       R1.1       R1.2       R1.3       R1.4       R1.4       R1.7       R2.7       R1.8       R1.6       R1.7       R2.7       R1.8       R1.10       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.14       R1.15       R1.16       R1.17       R1.20       G1.1	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341 TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Parement Preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       Inspection (MNDOT) - MnDOT approved operating funds for any additonal costs       NinKOAD Staff - Construction, Sensors and Pedromance Monitoring       MnDOT approved operating funds for any additonal costs - 120K approved by EC - MnDOT fund from Dec 17 budget report       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low initial estimate)       HMA Performance Testing (73K original Estimate)       Partial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compated Concrete Pavement Construction contract) - 550K original       Will not do - changed to 50       Diamond Grinding Construction (not in construction contract) - 550K       Mill not do - changed to 50       Contrate Early Opening Strength to Traffic       Optimizing the Concrete Pavements fo	State of Practice topics are listed in 13.1 (consultant) and T1.3.2 (MnDOT) MnDOT PO MnDOT PO MnDOT PO MnDOT PO MnDOT O MnDOT AET Consultant TBD Diamond Surfacing Not Done UHH AET Consultant UMD Not Done UHH Lowa State SRF Braun Inertec Urretk IEngineering	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 0 0 0 0 1,080,000 1,080,000 0 20,000 22,000 Will Track	after the complete Jan 17 Mar 17 Mar 17 May 17 Mar 17 Dec 17 May 17 July 17 May 17 May 17 Dec 17? May 17 Dec 17? May 17 May 17	cion on these inti develop the 159,130 279,318 279,318 120,000 20,000 35,000 40,000 40,000 40,000 150,000 150,000 150,000 150,000 25,000 80,000 80,000	al topics. MnDC	25,000 25,000 4,000 - - - - - - - - - - - - -	ntractor f	unding will be r ? 30,749 40,940 	
	(T) 65% Research (R) WA Grant(G) AnDOT Funds (M)	Purchase Purchase Labor Labor Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract	T1.3.6       T1.3.7       T1.3.8       T1.3.9       T1.3.10       T1.3.11       T1.4.10       R1.4       R1.2       R1.3       R1.4       R2.5       R1.6       R1.7       R2.7       R1.8       R1.9       R1.10       R1.11       R1.12       R1.13       R1.14       R1.15       R1.16       R1.17       R1.18       R1.19       R1.20       G1.1       M1.1	Paid by T1.2 T1.3.1 T1.3.1 T1.3.2 Partnership TPF15341	Repair of Joint Associated Distress Pavements       Larger Subbase Materials       Subgrade Design for New and Reconstructed       Surface Characteristics of Diamond Ground PCC Surfaces       Pavement preservation approaches for lightly surfaced roadways       Partial Depth Repairs of Concrete       Equipment       Sensor Purchase       Sample Buckets       Inspection (MNOOT) - MnDOT approved operating funds for any additonal costs       Inspection (MNOOT) - MnDOT approved operating funds for any additonal costs       OwnROAD Staff - Construction, Sensors and Pedromance Monitoring       MNDOT fund from Dec 12 budget report       AMROAD Staff - Construction, Sensors and Pedromance Monitoring       PCC Sampling/Testing       Approved extra funding for monitoring       PCC Sampling/Testing       Additional Funding Approved (low Initial estimate)       HMA Pedromance Testing (TSK orignal Estimate)       Parial Depth Repairs Construction (not in construction contract)       Additional Funding Approved       Compacted Concrete Pavement Construction contract) - \$50K original       Will not do - changed to \$0       Diamond Grinding Construction (not in construction contract) - \$50K       MUI not do - changed to \$0       Diamond Grinding Strength to Traffic	State of Practice topics are listed in 11.3.1 (consultant) and T1.3.2 (MNDOT) MNDOT PO MNDOT SU MNDOT	and T1.3.2 25,000 159,130 4,000 81,149 440,258 75,000 75,000 80,000 	after the complete Jan 17 Mar 17 May 17 Mar 17 Dec 17 May 17 July 17 May 17 July 17 May 17 Dec 17 May 17 Dec 172 May 17 May 17 Dec 172 May 17 May 17 Dec 172 May 17 May 17 Nov 17 Nov 17	cion on these inti develop the 159,130 279,318 279,318 120,000 20,000 35,000 40,000 40,000 40,000 150,000 150,000 150,000 150,000 25,000 80,000 80,000	al topics. MnDC	25,000 25,000 4,000 - - - - - - - - - - - - -	ntractor f	25,000	