

**Clear Roads Budget Overview  
September 2021**

**Overall Budget for #TPF-5(353)**

Description	Amount
Total anticipated income through 2020 under MnDOT TPF-5(353)	\$4,509,914.00
Expenses under TFP-5(353)	<b>\$4,503,046.81</b>

**Remaining Available Funds      \$6,867.19**

**Breakdown of Designated Synthesis Funding (Subset of Expenses Above)**

Description	Amount
Amendments to CTC's contract in 2017, 2018, and 2020.	\$116,149.00
17-S1 Accuracy of Salt Application Equipment	<b>\$7,380.00</b>
17-S2 Use of Solid Materials for Anti-icing/Pre-treatment	<b>\$7,380.00</b>
17-S3 Effective S/I Personnel and Equipment for Storm Activation	<b>\$9,020.00</b>
17-S4 Subject-based Web Pages	<b>\$6,806.00</b>
Annual Survey of State Winter Maintenance Data (2016-2017)	<b>\$9,020.00</b>
17-S5 Winter Preparedness Microsite	<b>\$24,928.00</b>
17-S4 Subject-based Web Pages, Ph2	<b>\$6,806.00</b>
18-S1 Mechanic Training Synthesis	<b>\$12,393.84</b>
17-S4 Subject-based Web Pages, Ph3	<b>\$8,636.00</b>
19-S1 Inventory and Use of Salt Spreaders	<b>\$12,546.00</b>
19-S2 Benefits of Hiring a Meteorologist	<b>\$12,546.00</b>
<b>Available funds for new synthesis projects</b>	<b>\$5,493.16</b>

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**Income**

State	Years funds committed	Total amt. committed	Total expected to be paid thru 2021	Total paid as of today
*AK	2017, 2018, 2019, 2020, 2021	\$115,000	\$115,000	\$115,000
AZ	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
CA	2018, 2019, 2020, 2021	\$100,000	\$100,000	\$100,000
CO	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
**CT	2017, 2018, 2019, 2020, 2021	\$135,000	\$135,000	\$135,000
*** DE	(2016, 2017), 2018, 2019, 2020, 2021	\$150,000	\$150,000	\$150,000
IA	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
ID	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
IL	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
IN	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
KS	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
MA	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
MD	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
ME	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
MI	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
MN	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
MO	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
**** MT	2017, 2018, 2019, 2020, 2021	\$128,666	\$128,666	\$128,666
ND	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
NE	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
NH	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
NV	2018, 2019, 2020, 2021	\$100,000	\$100,000	\$100,000
NY	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
OH	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
OR	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
PA	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
RI	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
SD	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
TX	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
**** UT	2017, 2018, 2019, 2020, 2021	\$126,833	\$126,833	\$101,833
VA	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
VT	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
**** WA	2017, 2018, 2019, 2020	\$129,415	\$154,415	\$104,415
WI	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
WV	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$100,000
WY	2017, 2018, 2019, 2020, 2021	\$125,000	\$125,000	\$125,000
		<b>\$4,484,914</b>	<b>\$4,509,914</b>	<b>\$4,409,914</b>

Bold years indicate that Clear Roads has received the funds.

**\$4,484,914      \$4,509,914      \$4,409,914**

**Notes**

\* **Alaska** transferred \$60k to TPF-5(218) to cover 2015, 2016, and \$10K in 2017.

\*\* **Connecticut** transferred \$15K to TPF-5(218) in 2016 and transferred \$35K for 2017 to TPF-5(353).

\*\*\* **Deleware** transferred \$25k for 2016 into TPF-5(353).

\*\*\*\* **States** that moved remaining funds from the PNS QPL into Clear Roads.

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**Expenses**

Description	Amount
<b>Pre-Contract Projects (estimated cost)</b>	
21-01 Grip Sensor Technology and Salt Applications	\$150,000.00
21-02 Update to CR 13-04	\$100,000.00
21-03 The Efficacy and Environmental Impact of Non-CI Deicers	\$115,000.00
21-04 Training Module for CR 18-03	\$50,000.00
21-05 Synthesis: Evaluation of EVT for Winter Operations	\$75,000.00
21-06 Calculated Plow Cycle Times from AVL Data	\$125,000.00
21-07 Migration of CI-based Deicers through Different Soil Types	\$125,000.00
Project Dissemination Plans	\$65,000.00
<b>Projects in Progress (contract amount)</b>	
13-05 Developing Testbed Software (Maintenance extensions; fiscal years 20 & 21)	\$50,092.94
16-05 WERA Tool (Maintenance Contract; ncte to 4/30/22)	\$14,483.68
17-03 Aftermarket Cameras in Winter Maintenance Vehicles	\$92,977.42
18-02 High Performance Blade Evaluation	\$195,746.58
18-04 Review and Summary of Pre-wet Methods and Procedures	\$74,721.00
18-06 Standardized Test Procedures for Ice Melting Capacity of Deicers	\$74,087.00
19-01 Expanding Brine Application Rates	\$150,000.00
19-02 Recruitment and Retention of Highway Maintenance Workers	\$70,000.00
19-03 Measuring the Effectiveness of Tow/Wing Plows	\$138,986.00
19-04 Synthesis of Tech Req's for Automated Snowplow Route Optimization	\$73,516.00
20-01 Entry-Level Drivers Training	\$199,986.00
20-02 Understanding the NaCl Phase Diagram	\$100,000.00
20-04 Expanded Use of AVL/GPS Technology	\$73,124.00
20-05 Using GIS to Highlight Highway Segments Sensitive to Deicing Materials	\$98,558.00
20-06 Salt Shed Design Template	\$124,989.00
20-07 AWSSI Enhancements, Phase 2	\$39,809.00
QPL Testing (3/21 - 12/25)	\$60,000.00
<b>Completed Projects (actual project expenditures, unless stated otherwise)</b>	
18-05 Alternative Methods for De-icing	\$77,529.00
18-03 Evaluation of SSI and WSI Variables	\$74,926.83
18-01 Defensive Driving for Snowplow Operators	\$70,000.00
17-02 Standard Specs for Carbide Insert Blades	\$53,578.34
17-01 Integrating Advanced Technologies into Winter Operations Decisions	\$89,233.56
16-02 AWSSI Enhancements in Support of Winter Road Maintenance	\$39,915.00
13-05 Developing a Test Bed Software	\$108,160.67
2017 National Winter Maintenance Peer Exchange (CR portion of	\$58,516.54
<b>Meeting Expenses</b>	
2017 Clear Roads Fall Meeting (air travel and travel reimbursements - actual)	\$21,632.61
2018 Clear Roads Spring Meeting (hotel and travel - actual)	\$49,952.99
2018 Clear Roads Fall Meeting (hotel and travel - actual)	\$43,378.65
2019 Clear Roads Spring Meeting (hotel and travel - actual)	\$47,668.92
2019 Clear Roads Fall Meeting (hotel and travel - actual)	\$55,223.56
2021 Clear Roads Fall Meeting (hotel and travel - estimated)	\$45,000.00
<b>Administrative and Information Services Expenses</b>	
2017-2018 Admin. and Info. Services, web hosting contract	\$170,170.00
2018 amendment to admin contract for CR 17-S5 Winter Preparedness Website	\$24,928.00
Clear Roads Administration, Research Support and Information Services (2018-2020)	\$365,487.00
Clear Roads Administration, Research Support and Info Services (Amendment No. 1)	\$99,652.93
Clear Roads Administration, Research Support and Info Services (Amendment No. 2)	\$286,445.34
Clear Roads Administration, Research Support and Info Services (Amendment No 3)	\$285,570.25

**Total \$4,503,046.81**