

**CHARTER TOWNSHIP OF GARFIELD  
TOWN BOARD MEETING**

Tuesday, June 12, 2018 at 6:00pm  
Garfield Township Hall  
3848 Veterans Drive  
Traverse City, MI 49684  
Ph: (231) 941-1620

**A G E N D A**

**ORDER OF BUSINESS**

**Call meeting to order  
Pledge of Allegiance  
Roll call of Board Members**

**1. Public Comment**

**Public Comment Guidelines:**

Any person shall be permitted to address a meeting of The Township Board, which is required to be open to the public under the provision of the Michigan Open Meetings Act, as amended. (MCLA 15.261, et.seq.) Public Comment shall be carried out in accordance with the following Board Rules and Procedures: a.) any person wishing to address the Board is requested to state his or her name and address. b.) No person shall be allowed to speak more than once on the same matter, excluding time needed to answer Township Board Member's questions. Where constrained by available time the Chairperson may limit the amount of time each person will be allowed to speak to (3) minutes. 1.) The Chairperson may at his or her own discretion, extend the amount of time any person is allowed to speak. 2.) Whenever a Group wishes to address a Committee, the Chairperson may require that the Group designate a spokesperson; the Chairperson shall control the amount of time the spokesperson shall be allowed to speak when constrained by available time.

**2. Review and approval of the Agenda - Conflict of Interest**

**3. Consent Calendar**

The purpose of the Consent calendar is to expedite business by grouping non-controversial items together to be dealt with in one Board motion without discussion. Any member of the Board, staff or the public may ask that any item on the Consent Calendar be removed there from and placed elsewhere on the Agenda for full discussion. Such requests will be automatically respected. If any item is not removed from the Consent Calendar, the action noted in parentheses on the Agenda is approved by a single Board action adopting the Consent Calendar.

- a. Minutes – May 22, 2018 Regular Meeting (Recommend Approval)  
May 30, 2018 Study Session Meeting (Recommend Approval)
- b. Bills -
  - General Fund \$ 65,078.34  
(Recommend Approval)
- c. MTT Update (Receive and File)
- d. PD 2018-61 – An Amendment to Sec. 322 – C-P Planned Shopping Center –  
Introduce and schedule for a public hearing on July 10, 2018 (Recommend Approval)

**4. Items Removed from the Consent Calendar**

**5. Correspondence**

- a. Grand Traverse Conservation District Report – Activity for May 2018
- b. Thank you note from the City of Escanaba regarding the “Dark Store” issue

**6. Reports**

- a. Sheriff’s Report
- b. Treasurer’s Report
- c. Supervisor’s Report
- d. County Commissioner’s Report

**7. Unfinished Business**

- a. PD 2018-57 - Consideration of reappointment of Michael Groleau to the City of Traverse City and Charter Township of Garfield Recreational Authority for a 3 year term expiring on June 30, 2021
- b. Consideration of approval for TrafficCloud subscription for the All Traffic Solutions Shield12 traffic sign and the for the purchase of two additional Shield 15 batteries
- c. Consideration of the Boardman Lake Loop Trail Long Term Maintenance Agreement

**8. New Business**

- a. Consideration of Resolution 2018-15-T, a resolution to adopt the Natural Hazard Mitigation Plan of Grand Traverse County Michigan
- b. Presentation by TCAPS Board President Erick Falconer and Board Secretary Doris Ellery
- c. PD 2018-62 – Draft 2018 Master Plan Review, Comment and Distribution
- d. Consideration of Resolution 2018-16-T(a), a resolution creating a Special Assessment District (SAD) for Road Improvements for Eaglehurst Drive and scheduling the first public hearing on June 26, 2018

**9. Public Comment**

**10. Other Business**

**11. Adjournment**

---

Lanie McManus, Clerk

The Garfield Township Board will provide necessary reasonable auxiliary aids and services, such as signers for hearing impaired and audio tapes of printed materials being considered at the meeting to individuals with disabilities upon the provision of reasonable advance notice to the Garfield Township Board. Individuals with disabilities requiring auxiliary aids or services should contact the Garfield Township Board by writing or calling Lanie McManus, Clerk, Ph: (231) 941-1620, or TDD #922-4412.

**CHARTER TOWNSHIP OF GARFIELD  
TOWN BOARD MEETING  
May 22, 2018**

Chuck Korn called the Town Board Meeting to order on May 22, 2018 at 6:00 p.m. at the Garfield Township Hall, 3848 Veterans Drive, Traverse City, Michigan.

**Pledge of Allegiance**

**Roll Call of Board Members**

Present: Molly Agostinelli, Denise Schmuckal, Lanie McManus, Jeane Blood Law, Dan Walters, Steve Duell and Chuck Korn

Staff members Present: Eric Perdonick

**1. Public Comment (6:00)**

Bob Cooney announced his candidacy for 86<sup>th</sup> District Court Judge.  
Paul Jarboe announced his candidacy for 86<sup>th</sup> District Court Judge.

**2. Review and Approval of the Agenda - Conflict of Interest (6:05)**

McManus stated that she might have a conflict with Unfinished Business Item 7.b. The chair determined she had no conflict.

Blood Law asked to remove New Business Item 8.c because there was no need for a resolution this year.

*Duell moved and Schmuckal seconded to approve the agenda as amended.*

*Yeas: Duell, Schmuckal, Agostinelli, Blood Law, Walters, McManus, Korn*

*Nays: None*

**3. Consent Calendar (6:07)**

**a. Minutes**

May 8, 2018 Regular Meeting (Recommend Approval)

**b. Bills**

<b>General Fund</b>	<b>\$295,317.22</b>
<b>(Recommend Approval)</b>	

*Agostinelli moved and Schmuckal seconded to approve the Consent Calendar as presented.*

*Yeas: Agostinelli, Schmuckal, Duell, Walters, McManus, Blood Law, Korn*

*Nays: None*

**4. Items removed from the Consent Calendar (6:08)**

None

**5. Correspondence (6:09)**

**a. Email from Wojes and Childs regarding Silver Lake Park**

The Board agreed to give the Silver Lake perimeter landscaping matter over to the Parks Commission.

An idea to transplant trees from the Logan's Landing area was discussed.

Walters spoke about what was cut in the Silver Lakes Area and how long of a process it will be to remove stumps and replant other trees and shrubs.

**6. Reports**

**a. GT Metro Fire Report (6:14)**

A report was submitted in writing. Korn said a vote was taken on the Station 9 dorms at the last meeting and that vote failed. A study session may be needed to determine how to proceed.

**b. Northflight EMS Report County (6:15)**

No report

**c. County Commissioner's Report (6:15)**

No report

**d. Supervisor's Report (6:15)**

Korn said that the TTCI met and talked about the process of the East/West corridor study. At the GT Metro Board meeting, the concept of each township taking care of their own buildings was brought up. Board members discussed the aging fire equipment as well. Board members agreed to hold a study session before next Metro Board meeting on Tuesday June 29<sup>th</sup> at 6 p.m.

**7. Unfinished Business**

**a. Consideration of Resolution 2018-14-T a resolution approving Amendment No. 12 to Ordinance No. 68 rezoning properties 05-015-042-00 and 05-015-44-00 from R-1 One Family Residential to R-3 Multi Family Residential (6:29)**

Perdonik said that this formalizes the Board decision from the last meeting.

*Schmuckal moved and Walters seconded to adopt Resolution 2018-14-T, a resolution approving Amendment No. 12 to Ordinance No. 68 rezoning properties 05-015-042-00 and 05-015-44-00 from R-1 One Family Residential to R-3 Multi Family Residential.*

*Yeas: Schmuckal, Walters, McManus, Agostinelli, Duell, Blood Law, Korn*

*Nays: None*

**b. PD 2018-52 Reconsideration of the reappointment of Joe McManus to the Joint Planning Commission for a 3 year term expiring on May 14, 2021 (6:31)**

*Duell moved to approve the reappointment of Joe McManus to the Joint Planning Commission for a 3 year term expiring on May 14, 2021. Schmuckal seconded.*

*Yeas: Duell, Schmuckal, McManus, Agostinelli, Walters, Blood Law, Korn  
Nays: None*

Board members asked that the policy be changed to reflect that any appointment require an application, not just those beginning on January 1<sup>st</sup>. The amended policy will be brought forth for the next meeting.

## **8. New Business**

### **a. Consideration of the Proposed Comprehensive Annual Budget (6:36)**

Matt Cowall discussed the proposed Recreation Authority 2018-2019 budget. Board members asked questions regarding the proposed budget,

*Duell moved and Schmuckal seconded to approve the comprehensive annual budget for the Fiscal Year July 1, 2018 to June 30, 2019 for the City of Traverse City and the Charter Township of Garfield Recreational Authority as presented.*

*Yeas: Duell, Schmuckal, Walters, Blood Law, Agostinelli, McManus, Korn  
Nays: None*

### **b. Consideration of a request from Tim Hinkley, President, Traverse City Boom Boom Club for a contribution of \$3,500 for the 2018 July 4<sup>th</sup> Fireworks. (6:48)**

*Schmuckal moved and Agostinelli seconded that Garfield Township contribute \$3,500 to the Traverse City Boom Boom Club for the 2018 July 4<sup>th</sup> fireworks to be taken from the Public Awareness funds.*

*Yeas: Schmuckal, Agostinelli, Duell, Walters, McManus, Blood Law, Korn  
Nays: None*

### **c. Consideration of Resolution 2018-15-T, a resolution of Approval of Computerized Tax Roll**

Item was removed from agenda.

### **d. PD 2018-57 Consideration of Reappointment of Michael Groleau to the City of Traverse City and Charter Township of Garfield Recreational Authority for a 3 year term expiring on June 30, 2021 (6:49)**

*Schmuckal moved and Agostinelli seconded to postpone action on the item until an application was included.*

*Yeas: Schmuckal, Agostinelli, Duell, Walters, Blood Law, McManus, Korn  
Nays: None*

9. **Public Comment: (6:51)**

None

10. **Other Business (6:52)**

None

11. **Adjournment (6:52)**

*Korn adjourned the meeting at 6:52pm*

---

Chuck Korn, Supervisor  
Charter Township of Garfield  
3848 Veterans Drive  
Traverse City, MI 49686

---

Lanie McManus, Clerk  
Charter Township of Garfield  
3848 Veterans Drive  
Traverse City, MI 49686

**CHARTER TOWNSHIP OF GARFIELD  
TOWN BOARD STUDY SESSION MINUTES  
May 30, 2018 Minutes**

**ORDER OF BUSINESS**

**Call meeting to order**

Supervisor Korn called the Town Board Study Session to order on Wednesday, May 30, 2018, at 6:00 p.m. at the Garfield Township Hall, 3848 Veterans Drive, Traverse City, Michigan.

**Roll call of Board Members**

Present: Chuck Korn, Lanie McManus, Denise Schmuckal, Molly Agostinelli, Steve Duell, Jeane Blood Law, Dan Walters

Absent: None

**1. Public Comment**

Marty Coburn spoke about the Boardman Lake Loop Trail Funding Plan

**2. Business to come before the Board**

**a. Discussion regarding Grand Traverse Metro**

The Board discussed the direction they would like to see for Grand Traverse Metro. Pat Parker and Steve Apostle answered questions from the Board.

**3. Public Comment**

There was no public comment.

**4. Adjournment**

Korn adjourned the meeting at 7:30 p.m.

---

Chuck Korn, Supervisor  
3848 Veterans Drive  
Traverse City, MI 49684

---

Lanie McManus, Clerk  
3848 Veterans Drive  
Traverse City, MI 49684

Check Date	Bank	Check #	Payee	Description	GL #	Amount
05/17/2018	GEN	36894	AFLAC	AFLAC	101-000-227.001	637.34
05/17/2018	GEN	36895	BLUE CROSS BLUE SHIELD OF MICHIGAN	EMPLOYEE HEALTH	101-851-873.030	15,239.52
05/17/2018	GEN	36896	CITY OF ESCANABA	DARK STORE - MENARD'S TAX TRIBUNAL	101-747-880.007	1,000.00
05/17/2018	GEN	36897	GRAND TRAVERSE CONSERVATION DI	SEEDLING DEPOSIT, MAINT.	308-000-935.000	1,211.55
05/17/2018	GEN	36898	PRINTING SYSTEM	SUPPLIES	101-191-726.000	370.51
05/29/2018	GEN	36899	BRENDA BURROWS	FRONT DEST	101-101-805.000	225.00
05/29/2018	GEN	36900	MAPLE RIVER DIRECT MAIL	AV APP MAILING 2437@.458	101-191-726.001	1,116.15
05/29/2018	GEN	36901	TEAMSTERS LOCAL 214	UNION DUES	101-000-239.000	47.00
05/30/2018	GEN	36902	ALL TRAFFIC SOLUTIONS	SHIELD 15	101-747-880.007	4,805.00
05/30/2018	GEN	36903	BAY SUPPLY & MARKETING	HALYARDS	101-265-726.003	47.50
05/30/2018	GEN	36904	CHERRYLAND ELECTRIC COOP.	ELECTRIC	101-000-084.861	303.40
		36904		ELECTRIC	101-265-920.603	1,573.60
		36904		ELECTRIC	101-448-920.005	867.66
						<u>2,744.66</u>
05/30/2018	GEN	36905	CHERRYLAND ELECTRIC COOP.	ELECTRIC	308-000-880.001	188.29
05/30/2018	GEN	36906	FIFTH THIRD BANK	5473785478000162	101-253-960.000	405.56
05/30/2018	GEN	36907	FIFTH THIRD BANK	5473785477000478	101-101-726.000	158.94
		36907		5473785477000478	101-101-805.000	10.00
		36907		5473785477000478	101-215-960.000	1,117.85
						<u>1,286.79</u>
05/30/2018	GEN	36908	FIFTH THIRD BANK	5473785477000478P	308-000-880.001	235.98
05/30/2018	GEN	36909	GBS INC	AV APPS	101-191-726.000	770.18
05/30/2018	GEN	36910	GOURDIE-FRASER & ASSOC. INC	MDEQ WATER USE REPORTING FEE	308-000-880.001	234.60
		36910		CONSTRUCTION ADMIN/STAKING/OVRSIGHT	308-000-880.006	1,240.00
						<u>1,474.60</u>
05/30/2018	GEN	36911	HOME DEPOT CREDIT SERVICES	ROOFING FALLSFTKIT / SUPPLIES	101-265-726.003	112.85
05/30/2018	GEN	36912	HOME DEPOT CREDIT SERVICES	FENCE REPAIR	308-000-935.000	50.69
05/30/2018	GEN	36913	ICC	BOOK	101-371-965.000	15.00
05/30/2018	GEN	36914	KOORSEN FIRE AND SECURITY	FIRE EXTINGUISHER INSPECTION	101-265-935.608	131.20
05/30/2018	GEN	36915	LAUTNER IRRIGATION INC	SPRINKLER REPAIR SUPPLIES	101-265-726.003	28.53

**3. b.**



Banks:

Check Date	Bank	Check #	Payee	Description	GL #	Amount
05/30/2018	GEN	36916	MICHIGAN TOWNSHIP ASSOCIATION	DUES	101-101-965.102	5,961.64
05/30/2018	GEN	36917	NORTH WOODS PRINTERS LLC	PRINTER PROBLEMS	101-101-805.000	45.00
05/30/2018	GEN	36918	OHEARN PEST CONTROL LLC	BAIT REFILL	101-265-935.608	50.00
05/30/2018	GEN	36919	PITNEY BOWES INC.	INK	101-101-726.000	237.98
		36919		SVC AGREEMENT 6/1-11/30.2018	101-101-726.001	15.48
						<u>253.46</u>
05/30/2018	GEN	36920	PREIN & NEWHOF	WEST BOARDMAN LAKE TRAIL LOOP	101-000-575.000	6,139.50
05/30/2018	GEN	36921	SUPERFLEET	GAS	101-806-862.000	194.54
05/30/2018	GEN	36922	TEMPERATURE CONTROL	SEMI-ANNUAL MAINTENANCE	101-265-935.608	847.50
05/30/2018	GEN	36923	THE GUARDIAN	EMPLOYEE LIFE/DENTAL	101-851-873.030	1,168.47
		36923		EMPLOYEE LIFE/DENTAL	101-851-873.040	707.77
						<u>1,876.24</u>
05/30/2018	GEN	36924	UNITED WAY	UNITED WAY	101-000-238.000	90.00
05/30/2018	GEN	36925	VOYA INSTITUTIONAL TRUST COMPANY	DEFERRED COMP VF3202	101-000-227.000	2,265.00
05/31/2018	GEN	36926	DLH ELECTRIC	PARK CAMERAS	101-101-805.000	445.75
05/31/2018	GEN	36927	EAST BAY TOWNSHIP	MCI TICKET BOOK	101-412-726.000	20.00
05/31/2018	GEN	36928	GARFIELD CHARTER TOWNSHIP	HSA	101-000-237.000	342.70
05/31/2018	GEN	36929	LANIE MCMANUS	MILEAGE	101-215-860.300	268.14
06/06/2018	GEN	36930	AMERICAN WASTE	3394830	308-000-935.000	266.98
06/06/2018	GEN	36931	AMERICAN WASTE	3394790	101-265-935.604	79.00
06/06/2018	GEN	36932	ANNE WENDLING	CONTRACTED SVCS	101-101-805.000	174.00
		36932		CONTRACTED SVCS	101-400-805.000	154.50
		36932		CONTRACTED SVCS	101-410-805.000	74.00
						<u>402.50</u>
06/06/2018	GEN	36933	BRENDA BURROWS	FRONT DESK	101-101-805.000	75.00
06/06/2018	GEN	36934	CITY OF TRAVERSE CITY	170975-120456	101-448-920.005	30.00
06/06/2018	GEN	36935	CONSUMERS ENERGY	100018131597	101-448-920.005	24.66
06/06/2018	GEN	36936	DTE ENERGY	910020833133	101-265-920.601	720.34
06/06/2018	GEN	36937	FIFTH THIRD BANK	5473785400027192	101-171-960.000	16.55

Check Date	Bank	Check #	Payee	Description	GL #	Amount
06/06/2018	GEN	36938	GARFIELD CHARTER TOWNSHIP	HSA	101-000-237.000	417.70
06/06/2018	GEN	36939	GRAND TRAVERSE COUNTY DPW	5590511	308-000-935.000	12.00
06/06/2018	GEN	36940	GRAND TRAVERSE COUNTY DPW	5105021	101-265-920.602	146.91
06/06/2018	GEN	36941	INTEGRITY BUSINESS SOLUTIONS	ZONING STAMP	101-412-726.000	36.59
06/06/2018	GEN	36942	M.A.E.D.	MAED CONFERENCE	101-171-960.000	350.00
06/06/2018	GEN	36943	OLSON, BZDOK, & HOWARD	GENERAL MATTERS / BUFF RDGE SPLIT	101-101-801.002	597.50
		36943		GENERAL MATTERS / BUFF RDGE SPLIT	101-400-801.000	116.00
						<u>713.50</u>
06/06/2018	GEN	36944	RUBY CLEANING SERVICE	CONTRACTED SVCS	101-265-935.603	1,150.00
06/06/2018	GEN	36945	RUBY CLEANING SERVICE	CONTRACTED SVCS	308-000-935.000	250.00
06/06/2018	GEN	36946	SPECTRUM BUSINESS	INTERNET	101-258-935.016	75.00
06/06/2018	GEN	36947	STAPLES	SUPPLIES	101-101-726.000	80.62
06/06/2018	GEN	36948	STATE OF MICHIGAN (P)	SUB MONTHLY/QUARTERLY 5-2018	101-000-228.000	2,359.35
06/06/2018	GEN	36949	TEMPERATURE CONTROL	MENS RR FAUCET & URINAL FLUSH	308-000-935.000	585.00
06/06/2018	GEN	36950	THE BOOM BOOM CLUB	FIREWORKS	101-747-880.007	3,500.00
06/06/2018	GEN	36951	UNITED WAY	UNITED WAY	101-000-238.000	90.00
06/06/2018	GEN	36952	VOYA INSTITUTIONAL TRUST COMPANY	DEFERRED COMP VF3202	101-000-227.000	2,265.00
06/06/2018	GEN	36953	DTE ENERGY	910020833257	101-265-920.601	32.27
06/06/2018	GEN	36954	I.T. RIGHT	SS; CERTOFOCATE	101-258-935.015	450.00

TOTAL - ALL FUNDS TOTAL OF 61 CHECKS 65,078.34


--- GL TOTALS ---

101-000-084.861	DUE FROM #861 STREET LIGHTS	303.40
101-000-227.000	DEFERRED COMP	4,530.00
101-000-227.001	AELAC	637.34
101-000-228.000	STATE TAXES PAYABLE	2,359.35
101-000-237.000	HSA (FORMERLY FLEX)	760.40
101-000-238.000	UNITED WAY	180.00
101-000-239.000	UNION DUES	47.00
101-000-575.000	Road Right of Way	6,139.50
101-101-726.000	SUPPLIES	477.54
101-101-726.001	POSTAGE	15.48
101-101-801.002	LEGAL SERVICES - TOWNBOARD	597.50
101-101-805.000	CONTRACTED AND OTHER SERVICES	974.75
101-101-965.102	DUES - MICHIGAN TOWNSHIP ASSO	5,961.64
101-171-966.000	EDUCATION & TRAINING	366.55
101-191-726.000	SUPPLIES	1,140.69
101-191-726.001	POSTAGE	1,116.15

Check Date	Bank	Check #	Payee	Description	GL #	Amount
101-215-860.300			MILEAGE - CLERK		268.14	
101-215-960.000			EDUCATION & TRAINING		1,117.85	
101-253-960.000			EDUCATION & TRAINING		405.56	
101-258-935.015			COMPUTER SUPPORT SYSTEMS		450.00	
101-258-935.016			COMPUTER NETWORK		75.00	
101-265-726.003			SUPPLIES-MAINTANCE		188.88	
101-265-920.601			HEATING / GAS		752.61	
101-265-920.602			WATER / SEWER		146.91	
101-265-920.603			LIGHTS BUILDING		1,573.60	
101-265-935.603			CLEANING SERVICE		1,150.00	
101-265-935.604			RUBBISH REMOVAL		79.00	
101-265-935.608			MAINTENANCE-OTHER		1,028.70	
101-371-965.000			DUES & PUBLICATIONS		15.00	
101-400-801.000			LEGAL SERVICES		116.00	
101-400-805.000			CONTRACTED AND OTHER SERVICES		154.50	
101-410-805.000			CONTRACTED AND OTHER SERVICES		74.00	
101-412-726.000			SUPPLIES		56.59	
101-448-920.005			STREET LIGHTS TOWNSHIP		928.32	
101-747-880.007			COM. PROM. - COMMUNITY AWAREN		9,305.00	
101-806-862.000			GAS & CAR WASHES		194.54	
101-851-873.030			INSURANCE - EMPLOYEE HEALTH		16,407.99	
101-851-873.040			INSURANCE - EMPLOYEE LIFE		707.77	
308-000-880.001			COM. PROM. - SILVER LAKE PARK		658.87	
308-000-880.006			COM. PROM. - BVNP (YMCA)		1,240.00	
308-000-935.000			MAINTENANCE - MISC, EQUIP		2,376.22	
			<b>TOTAL</b>		<b>65,078.34</b>	

MTT  
Prepared for Ga. .wp Board

Docket #	Parcel No(s)	Owner	Property Address	Year(s) in Contention	Assessor's Values		Petitioner's Values		Value Differences		Status Notes
					Assessed	Taxable	Assessed	Taxable	Assessed	Taxable	
1 16-002436	021-015-00 & Grand Traverse Mall LLC 021-015-70		3200 W South Airport Rd	2016	\$ 21,593,800	\$ 21,483,557	\$ 12,462,460	\$ 12,462,460	\$ (9,131,340)	\$ (9,021,097)	4/25/18 Treasury agreed to settlement values: 5/30/18 rec'd new docket # for 2018 appeal, but also signed scripts for all three years. They have been sent to Treasury for their signatures, then we will be waiting for the judgment. 3/8/18 Made offer to settle: 2016 \$33.7m; 2017 \$32m; 2018 \$30m (both parties agree to the parcels - I believe we will settle at these figures.
					\$ 89,500	\$ 64,709	\$ 37,540	\$ 37,540	\$ (51,960)	\$ (27,169)	
					\$ 21,683,300	\$ 21,548,266	\$ 12,500,000	\$ 12,500,000	\$ (9,048,266)	\$ (9,048,266)	
18-001230	021-015-00 & Grand Traverse Mall LLC 021-015-70	Valuation Disclosure Due: 10/3/17 Judge: Steven Lasher 3200 W South Airport Rd	2017	\$ 21,683,200	\$ 21,659,091	\$ 16,850,000	\$ 16,850,000	\$ (4,833,300)	\$ (4,698,266)	-42% -42% 3/26/18 Treasury asked for a breakdown of values between the parcels - I believe we will settle at these figures.	
				\$ 89,400	\$ 65,291	\$ 37,540	\$ 37,540	\$ (51,860)	\$ (27,751)		
				\$ 21,593,800	\$ 21,593,800	\$ 12,500,000	\$ 12,462,460	\$ (9,131,340)	\$ (9,131,340)		
2 17-002286	021-015-10 Airport 31, LLC Valuation Disclosure Due: 7/8/18 MC Sports, et al	3450 W South Airport Rd Judge: Preeti Gadola	2017 2018	\$ 2,049,700	\$ 1,828,226	\$ 1,000,000	\$ 1,000,000	\$ (1,049,700)	\$ (828,226)	5/7/18 Rec'd judgment. Agreement is based on continued vacancy of MC space, and current state of retail markets - including risks involved.	
				\$ 1,819,100	\$ 1,819,100	\$ 1,250,000	\$ 1,250,000	\$ (799,700)	\$ (578,226)		
				\$ 2,005,200	\$ 2,005,200	\$ 1,250,000	\$ 1,250,000	\$ (569,100)	\$ (569,100)		
3 17-002044	021-015-20 Macy's Valuation Disclosure Due: 3/5/18	3160 W South Airport Rd Judge: David Marmon	2017	\$ 21,683,300	\$ 21,548,266	\$ 12,500,000	\$ 12,500,000	\$ (9,183,300)	\$ (9,048,266)	4/18/18 Rec'd judgment. Settlement based on retail market & sales of anchors across MI.	
				\$ 25,738,100	\$ 25,492,517	\$ 15,023,685	\$ 15,023,685	\$ (10,714,415)	\$ (10,468,832)		
				\$ 21,683,200	\$ 21,659,091	\$ 12,500,000	\$ 12,500,000	\$ (9,183,200)	\$ (9,159,091)		
					SETTLED VALUES:		2016				
							2017		2016		
							2018		2017		
									2018		
									Garfield Potential Tax Loss		
									2016		
									2017		
									2018		
									ACTUAL TWP TAX LOSS		
									2016		
									2017		
									2018		

 <b>Charter Township of Garfield</b> <b>Planning Department Report No. 2018-61</b>			
Prepared:	June 5, 2018	Pages:	Page 1 of 2
Meeting:	June 12, 2018-Township Board	Attachments:	<input checked="" type="checkbox"/>
Subject:	Proposed Amendment to Sec. 322 – C-P Planned Shopping Center-Introduction		

**STAFF COMMENT:**

The purpose of this report is to introduce an amended version of Section 322 of the Zoning Ordinance (C-P Planned Shopping Center). In light of a changing retail market and a recent application for a text amendment to allow warehousing (a U-Haul facility) in the Township’s Planned Shopping Centers, it became clear that Section 322 is overdue for an update. The Township’s three existing Centers are the Meijer property, Grand Traverse Mall, and Cherryland Center.

Over the course of its past few Work Sessions, the Planning Commission has discussed revised versions of Section 322 – C-P Planned Shopping Center. At their May 23, 2018 Work Session, the Commission unanimously passed the following motion:

THAT Article 3, Section 322, Regulations and Conditions, BE RECOMMENDED to BE AMENDED to read in its entirety as attached to Planning Department Report 2018-55, as amended by the Planning Commission.

The Planning Commission amended the above motion to direct Staff to make two changes prior to introduction of the Board: First, to add some text to (8) to be clear that the items listed are prohibited rather than relying on the title alone to state that they are prohibited. “The following are prohibited:” was the only text added and none was removed. In addition, to make the setbacks for lots at the perimeter of Planned Shopping Centers a greater distance (30 ft) than those for internal lots (10 ft). This was done in response to Commissioners’ concern that taller buildings might be located very close to major roadways. Staff has made both of the requested revisions mentioned above in the draft attached to this report. The original Section 322 as currently enacted is also attached for comparison purposes.

As for a few of the key highlights:

*-Uses:* All uses are now permitted by right, thereby streamlining the approval process with the intent of incentivizing infill development in the malls. Further, drive-thru restaurants would now be permitted in the Centers, which is something Staff has seen interest in as of late.

*-Lot Size:* Minimum lot size is now reduced to encourage developing the parking areas in the Centers.

*-Maximum Building Height:* The maximum building height is now 50 feet and 4 stories, which should allow for increased flexibility in design.

*-Setbacks:* Setbacks are now listed in detail for each yard and are short enough to facilitate outlot developments. Larger setbacks are now required where the proposed lot is on the perimeter of the Shopping Center.

*-Outdoor Storage Prohibited:* All outdoor storage is now prohibited in the Centers.

Overall, the intent behind this amendment is to give the Township's malls the flexibility that they need to be successful in a changing retail atmosphere. The development of outlots in particular is one way by which malls are adapting and this amendment should make the development of them more likely. It is not uncommon at all to see numerous outlots in successful malls elsewhere in the state. Under the ordinance as it reads now, these more modern approaches to shopping centers are very difficult and often impossible for a developer to accomplish.

**ACTION REQUESTED:**

If the Board feels that the attached draft of Section 322 is ready to be discussed at a public hearing, the following motion is offered for your consideration:

MOTION THAT a public hearing BE SCHEDULED for July 10, 2018 to consider an amendment to Section 322 of the Charter Township of Garfield Zoning Ordinance to read as attached to Planning Department Report 2018-61 .

Any additional information that the Board determines to be necessary should be added to this motion. If the Board is not satisfied with the level of information provided to date, the above motion would be premature.

**Attachments:**

1. EXISTING Section 322 of the Garfield Township Zoning Ordinance
2. PROPOSED Draft of Amended Section 322 Recommended by the Planning Commission

SECTION 322 C-P (PLANNED SHOPPING CENTER)

\*CHANGES RECOMMENDED BY PLANNING COMMISSION SHOWN IN RED

**PURPOSE** It is the intent of the C-P (Planned Shopping Center) Districts to recognize the various areas of our community that have been developed in a grouped retail setting with department store anchors and expansive parking areas. These planned centers are typically located on a single, unified site, and are designed and constructed as an integrated unit for shopping and other business activity. This section recognizes the transition from antiquated development patterns and encourages multi-use, multi-story, infill development of the parking areas to create a more pedestrian-friendly, mixed-use area. Multi-story structures are encouraged.

**A. USES PERMITTED BY RIGHT:**

- (1) Auditorium, Assembly, and Indoor Entertainment Center
- (2) Bakery, Coffee Shop
- (3) Bar, Tavern, Night Club
- (4) Clinics
- (5) Commercial District Housing Developments - subject to § 725
- (6) Department Stores
- (7) Financial Institutions
- (8) Grocery Stores
- (9) Hardware Stores
- (10) Hotels subject to the conditions specified in § 320.B (5)
- (11) Live Work Units
- (12) Offices
- (13) Personal and Business Services
- (14) Pet Shops provided they are completely enclosed and insulated from noise
- (15) Professional Studios
- (16) Recreation Facility
- (17) Restaurants and Outdoor Seating provided the area is delineated by a curb or similar barrier
- (18) Retail Establishment not including second hand stores

**B. DIMENSIONAL STANDARDS:**

<b>Minimum Lot Area:</b>	15,000 sf
<b>Minimum Lot Width:</b>	60 ft
<b>Maximum Building Height (A):</b>	
• In Stories:	4
• In Feet:	50 ft
<b>Maximum Yard Setbacks (B)(C)(D):</b>	
• <b>Front:</b>	10 ft (30 ft)
<b>Minimum Yard Setback (C)(D):</b>	
<b>Each Side:</b>	10 ft (30 ft)
<b>Rear:</b>	30 ft

**Notes to Dimensional Standards:**

- (A) Any structure proposed over 25 feet in height shall file a 7460-1 form with the FAA. If at any time the FAA restricts a structure to a lesser height than the district maximum, the FAA restriction shall prevail and made a condition of any approval.
- (B) Setbacks shall be measured from the furthest protruding point of structure.
- (C) A fifty (50) foot wide vegetative strip of land shall be provided on any side of a C-P District which abuts a residential or agricultural zone.
- (D) For lots at the periphery of the Shopping Center that do not abut a residential or agricultural zone, refer to setback distances in parentheses.

SECTION 322 C-P (PLANNED SHOPPING CENTER)

**C. SITE DEVELOPMENT REQUIREMENTS**

**(1) General**

Applications for development, redevelopment, or infill development within the C-P District shall be reviewed by the Planning Commission for compliance with Article 4, § 424 - Site Plans and Article 5 – Development Standards. A comprehensive development plan may be required for the entire center to establish an approved development pattern within the District.

**(2) External Access**

All site plan proposals submitted under the requirements of the C-P Planned Shopping District shall provide for the proper handling of traffic and pedestrians throughout the site. The site plan shall limit ingress and egress along major thoroughfares and access properties by way of internal service drives and pedestrian walkways.

**(3) Internal Pedestrian Circulation**

- a. Sidewalks shall be constructed within the interior of the development to link buildings with other destinations, such as, but not limited to, other buildings, parking, adjoining streets, and adjoining sidewalks.
- b. All internal sidewalks shall be constructed of raised concrete, measuring no less than five (5) feet in width and six (6) inches in height to provide safe walkways by separating motorized from non-motorized transportation.
- c. Clearly marked pedestrian crossing areas shall be demarcated at all pedestrian crossings.

**(4) Non-Motorized Pathways**

Public pathways shall be constructed for all new developments, redevelopments, and amendments to previously approved site development plans, including substantial additions or improvements to existing buildings with a construction cost of twenty-thousand dollars (\$20,000.00) or more within a twelve (12) month period.

- a. Non-motorized pathways may be constructed within the public street right-of-way or upon private property subject to an appropriate public access easement being recorded.
- b. All reasonable effort shall be made to avoid cutting trees when placing the pathway.

**(5) Building Placement**

Buildings shall be placed in a manner that encourages pedestrian circulation and connectivity among the various outlots and internal uses.

- a. All buildings shall be located adjacent to a curbed internal roadway with the prominent building wall facing the roadway or access drive.
- b. Buildings fronting an internal roadway or access drive shall be accessible by pedestrian walkways.



**DRAFT**

**SECTION 322 C-P (PLANNED SHOPPING CENTER)**

**(6) Vegetative Transition Strip**

- a. A fifty (50) foot wide vegetative strip of land shall be provided on any side of a C-P District which abuts a residential or agricultural zone. This strip shall serve as a pervious transition between the subject use and the adjacent uses, both existing and future. The transition strip shall be occupied by plant materials with a combination of structural fences or walls appropriately located to minimize noise and maximize aesthetics for neighboring properties.
- b. The plans and specifications for site development shall include the proposed arrangement for such plantings and structures as required by Sections 530 and 531.

**(7) Service Drives**

- a. In order to achieve a well-planned center, the Planning Commission may require access to the business facilities from an interior service drive which shall be established in order to provide the major means of access to the planned commercial area.
- b. The site plan layout shall be such that access to commercial center parking lots shall be from the interior drive and not from the major thoroughfare.

**(8) Prohibited Outdoor Storage**

**The following are prohibited:**

- a. The storage of inventory in areas designated for uses such as walking, parking, vehicular travel, green space, landscape buffer, or stormwater retention and snow storage area.
- b. The parking of vehicles, trailers, inventory, or car ramps for the purpose of advertising or business identification in parking areas or adjacent to any roadway.

# CURRENT SEC. 322

## SECTION 322 C-P (PLANNED SHOPPING CENTER)

**PURPOSE** It is the intent of this district to provide for and encourage the development of grouped retail sales and service establishments at logical and sound locations within Garfield Township. Typically, such planned centers are located on a single, unified site and are designed and constructed as an integrated unit for shopping and other business activity. The group of store units which make up such a center may range in size and type from the relatively small neighborhood shopping center furnishing a wide range of consumer goods and services to the whole Township.

### A. Uses Permitted.

The following uses of land and structures shall be permitted:

- (1) Department Stores, variety stores, and other establishments retailing the type of goods generally found in department stores.
- (2) Financial Institutions - with or without drive-through lanes
- (3) Auditorium, assembly and indoor entertainment center.
- (4) Mechanical Amusement Arcades
- (5) Child Care Center pursuant to § 720. Educational and school facilities, which do not include children beyond elementary age, shall be permitted only as an accessory to the child care organization.
- (6) Drive-Through Businesses.
- (7) Sexually Oriented Business - See § 640
- (8) Limited Residential - See § 615
- (9) Restaurants - not including drive-in or drive-through

### B. Uses Permitted by Special Use Permit.

- (1) Commercial District Housing Developments - See §725

### C. Site Development Requirements.

#### (1) General.

Applications for development within the C-P district shall include a comprehensive development plan for all contiguous C-P zoned lands and be reviewed by the Planning Commission for compliance with Article 4, § 424 - Site Plans and Article 5 – Development Standards. A public hearing shall be required.

#### (2) External Access.

Access to the shopping center shall be provided by at least one (1) direct access from a major thoroughfare, as classified on the Master Plan. Further, the owners or developers of the center shall show, to the complete satisfaction of the Township Planning Commission, that all access points to an external street or streets shall be fully capable of absorbing the maximum hourly traffic anticipated to be generated by the center without undue interference to other traffic on the street or streets.

#### (3) Setbacks

No structure, with the exception of permitted signs, fences, walls and light standards, shall be located closer to any property line than a distance equal to twice its height.

#### (4) Transition Strips.

All planned shopping center districts when located in or adjacent to an agricultural district, residential district, or when adjacent to a school, hospital, or other public institution shall include as an integral part of the site development a strip of land two hundred (200) feet or more in width on all sides of the site except on the side adjacent to a major thoroughfare. No part of such land may be used for any shopping center functions, except that up to one hundred (100) feet of the strip width on the interior side may be used as part of the parking area. Except for the part that may be occupied by parking space, the strip shall be occupied by plant materials or structural fences and walls, used separately or in combination. The plans and specifications for shopping center development shall include the proposed arrangement of such plantings and structures, and such proposals shall be subject to the approval of the Planning Commission.

**(5) Signs.**

All signs within the center shall conform to the provisions of § 630. In addition, signs within the C-P District shall be designed as an integral part of the planned shopping center development and shall be approved as part of the procedures of § 424. Signs advertising or identifying the owner or occupant of a given building or portion thereof shall be placed on the structure or business itself. Other signs along roadways, etc., shall be directional and identify the center only and not the individual occupants.

**(6) Outdoor Uses.**

All permitted activities shall be conducted entirely within a wholly enclosed permanent building, except as noted in the following:

- (1) The parking of customers' and employees' automobiles.
- (2) The loading and unloading of commercial vehicles, which must take place directly into or out of a building.
- (3) Temporary exhibitions and special quasi-civic events, PROVIDED they are conducted in spaces designated for such possible purposes on the final plans submitted with the application for a building permit, and PROVIDED FURTHER, that they may not be operated for a profit.
- (4) Recreational facilities, incidental to the center's principal operations, of a nature normally conducted out-of-doors, PROVIDED, there may be no admission charge.
- (5) Gasoline service stations, PROVIDED, that they conform to the site development requirements of Section 748.
- (6) Outdoor eating or other supplemental sales areas, PROVIDED, they are approved by the Planning Commission.

**D. Additional Data Required.**

- (1) A market analysis by a recognized, reputable market analyst setting forth conclusively economic justifications and needs for the establishment of a center of the type and size proposed by the Applicant. This analysis shall be based upon, but not limited to such factors as the trade area of the community and travel time from various parts thereof to the proposed center site; general development trends and anticipated population changes; economic and disposable income characteristics; expected sales volumes of the center as indicated by the demand for certain types of retail merchandise; existing or anticipated competing commercial facilities; and other data and analyses which relate to the need for feasible success and stability of the proposed center. The purpose of this requirement is to protect the Township from the over development of retail sales and service establishments which could prove highly injurious to community welfare.

- (2) A list of proposed uses to be included in the proposed center, with the area of each to be devoted to retail space.
- (3) A statement of financial responsibility to assure construction of the planned shopping center in accordance with the site plan and the requirements of this Section.

All required information for an original application or subsequent amendment shall not be more than five (5) years old.

**E. Bond for Compliance.**

In approving any site development proposed for this Section, including time schedules for construction, the Planning Commission may require that a performance bond of ample sum be furnished by the owner or owners to insure compliance with the requirements, final plans for a shopping center.

**Grand Traverse Conservation District**  
**May 2018 Report**

**CONSERVATION TEAM**

**OWNER/PARKLAND: Garfield Township – Various**

**Administration**

- Met with Township supervisor and planning staff re: Miller Creek parcel off Cass Road.
- Attended Garfield Parks and Recreation Commission meeting at Silver Lake Park.
- Hired Andrew Carman as a seasonal Parkland Assistant.
- Continued stewardship efforts with TC West Middle School students to provide informational signage at Kid's Creek Park in which the Grand Traverse Stewardship Initiative has awarded \$1,600 towards; installation planned for June 5.
- Contacted Tim Mikovitz for access to Kid's Creek Park from Great Wolf Lodge property and to inquire further on the demolition of the old Franke mill.
- Coordinated stocking of Oleson Pond with bluegill at Kids Creek Park.
- Acquired necessary permits for planned reroute at Miller Creek Nature Reserve to avoid current seasonal flooding behind Cass Road industrial buildings.
- Contracted Youth Work to assist with parkland improvements for habitat and recreation needs at Miller Creek Nature Reserve.
- Coordinated a stewardship event with Greenspire Montessori students to assist with planting of native bare-root seedlings to deter nearby hillside erosion at the Commons on Thursday, May 3.

**Routine Monitoring and Maintenance**

- Monitored trails and trailheads at all Garfield parklands and replaced dog waste bags as needed.
- Removed down trees and cleared trails as necessary at all Garfield parks.
- Pruned trees and shrubs along trails as necessary.
- Mowed and weed whipped trailheads as needed.
- Switched garbage totes at Silver Lake dog park on a regular basis to accommodate disposal needs.
- Monitored and pulled invasive garlic mustard at the Commons and Kid's Creek Park.
- Removed damaged fencing at the Commons Long Lake Trailhead.
- Installed erosion control measures on trail near creek up from Greenspire Trailhead.

**Other**

- Met with Spicer Group engineer Al Garibay re: Miller Creek railroad crossing.
- Planted native seedlings at Miller Creek and Kid's Creek Park for habitat improvements.
- Implemented planned reroute in the NE portion of Miller Creek Nature Reserve
- Sponsored a West Middle School Greenagers event at Kid's Creek Park to plant seedlings and pull garlic mustard.
- Coordinated stewardship effort with Greenspire students to plant native seedlings at the Commons along tributaries and eroded hill sides.

- Cut and removed invasive black locust at Silver Lake Recreation adjacent to Silver Lake Rd and the fire department with Dan Walters and Youth Work.
  - Removed invasive black locust trees with Dan Walters at Silver Lake Recreation Area in vicinity of Silver Lake Road and the firehouse.
- 

## **OWNER/PARKLAND: Recreational Authority – Hickory Meadows**

### **Administration**

- Attended and prepared the agenda for the monthly Hickory Meadows Advisory Committee (HMAC) meetings.
- Attended and provided updates at the monthly Rec Authority Board meeting.
- Hired Andrew Carman as a seasonal Parkland Assistant.
- Discussed plans for Hickory Hills infrastructure construction with contractors, Spence Brothers, and sub-contractors, Molons.
- Connected with Mark Watson, TCL&P representative, in regards to scheduled spraying of the utility corridor for regrowth of larger tree species.
- Provided recommended native seeding specs for anticipated areas of disturbance due to Hickory Hills infrastructure developments.
- Contacted Popp Excavating to coordinate grading of the M-72 parking area and entry.
- Contracted Youth Work to assist with parkland recreation improvements.
- Contracted Wildlife and Wetland Solutions to assist with native plantings at Hickory Meadows.
- Coordinated a stewardship event with the Children’s House Montessori on Friday, May 4.
- Coordinated a volunteer work event to plant native seedlings and pull garlic mustard for Mother’s Day Weekend.

### **Routine Monitoring and Maintenance**

- Monitored all trails and trailheads, picked-up trash, and replaced dog waste bags as needed.
- Removed household waste bags left at the M-72 Trailhead.
- Provided trail improvements to formalize trail connectivity on western side of Hickory Meadows.
- Monitored and pulled invasive garlic mustard.
- Downloaded trail counters for review and analysis.
- Continued to supply, collect, and record user surveys at main trailheads.

### **Grants**

- Awarded \$2,500 from the NW MI Invasive Species Network to purchase native tree and shrubs for further enhancement to a planned buffer along the Hills and Meadows property boundary.
- Researched a DTE Energy tree planting grant through the DNR, due June 8, to fund additional plantings for the buffer at Hickory Meadows.

### **Other**

- Planted native seedlings along ephemeral creek and in vicinity of pond area.
  - Installed three benches at selected locations at Hickory Meadows.
-

## **BOARDMAN RIVER STEWARDSHIP**

- Attended monthly Boardman River Dams Project Implementation Team meeting.
- Let volunteers in the packing of over \$7,000 native trees and shrubs for the Seedling Sale. Many of the trees and shrubs will be planted within the Boardman River Watershed.
- Planted 400 native trees and shrubs along Kids Creek restoration sites.
- Prepared a presented a PowerPoint presentation regarding the Boardman River Project for the 2018 Leadership Grand Traverse class for their Natural Resources Day.
- Assisted with preparation for the 14<sup>th</sup> Annual Boardman River Clean Sweep...was on vacation for the actual event but Dr. Norm Fred said it went well.
- Attended a FishPass meeting for area fishing groups.

---

## **ENVIRONMENTAL EDUCATION**

**Nature Center Visitation this Month: 610**  
**Program Participants this month: 519**  
**Drop ins this month: 92**  
**Nature Center Visitation this year: 2,179**  
**81,002**

**Nature Center Visitation May 2017: 859**  
**Program Participants May 2017: 720**  
**Drop in May 2017: 139**  
**Nature Center Visitation since 2008:**

### **Program Participation & Program Planning:**

- Over 400 preschoolers and their families were served with our Nature Based Preschool programming happening on Tuesdays and Thursdays during the 2017-2018 sessions.
- Total amount of revenue for summer 2018 is \$73,000. The total amount of registration fees collected for 2018 is \$45,963.
- Hired a summer seasonal staff of four. We will be adding two more staff person bringing the total to six educational seasonal staff.
- The Exploration Education boxes were checked out to four teachers serving over 75 students.
- Continued work on Interpretive signage for the Sabin and Fox Den trail loop.
- Final plan for hands-on children's garden was completed for outside the Nature Center. The gardens will include four raised beds for children to tend to along with curriculum for summer camp and preschool programming.
- Opened registration for 2018-2019 Knee-high preschool program. We are 30% full in the first two weeks.
- 500 students were served during the month of May through our NEST field trip program.
- Submitted two grants to local foundations for funding to support the Environmental Education programs at the Boardman River Nature Center.

## MICHIGAN AGRICULTURE ENVIRONMENTAL ASSURANCE PROGRAM (MAEAP)

**Farm Visits: 10 (Antrim/Grand Traverse), 6 (Benzie/Leelanau)**

**Risk Assessments Completed: 4 (Antrim/Grand Traverse), 5 (Benzie/Leelanau)**

**Farms Verified: 2**

### **Updates:**

- 5/1: Grand Traverse Fruit Growers Council Meeting
- 5/1: Leelanau Conservation District Board Meeting
- 5/1: Leelanau County Reverification
- 5/8: Leelanau and Grand Traverse IPM Meetings
- 5/8: Fruit Tree Propagation Event (Grow Benzie)
- 5/9: Antrim and Benzie IPM Meetings
- 5/10: Cover Crop Walk
- 5/11: Antrim County Reverifications; Antrim County Verifications
- 5/14-5/15: Produce Safety Meeting: Biological Soil Amendments- Phase 1 Presentations
- 5/15: Leelanau and Grand Traverse IPM Meetings
- 5/16: Antrim and Benzie IPM Meetings
- 5/18: Leelanau County Verification
- 5/18: Freshwater Roundtable Meeting
- 5/19: Native Plant Sale
- 5/22: MI Envirothon State Competition in Lake Ann Set Up
- 5/24: Antrim and Grand Traverse Verification
- 5/24: Taste the Local Difference Magazine Release Party
- 5/28: Northwest Michigan Farm Bureau Board Meeting
- 5/29: Grand Traverse and Leelanau IPM Meetings (Phase 1s)
- 5/30: Antrim and Benzie IPM Meetings (Phase 1s)
- 5/31: Household Hazardous Waste/Clean Sweep Grant Meeting

### **Current Projects:**

- Working with:
  - 14 farms in Benzie
  - 14 farms in Leelanau
  - 13 farms in Grand Traverse
  - 15 farms in Antrim
- Risk Assessments Completed in May: 9
- Working with Jason Kimbrough with NRCS to help growers pursuing MAEAP get EQIP funding
- Promoting 2018 cost-share opportunities with growers.
- Planning June 22 Farmer Field Day in collaboration with USDA-NRCS, GTRLC, and NWMC Farm Bureau.
- Working with Grand Traverse Resource Recovery Manager on improving Clean Sweep program.
- Promoting the Agriculture Container Recycling Program collection dates for the upcoming growing season.



**Upcoming Events:**

- 6/4-6/5: MACD Summer Conference
- 6/6: Antrim IPM Meeting
- 6/8: Antrim Reverification
- 6/12: Grand Traverse and Leelanau IPM Meetings
- 6/13: Antrim and Benzie IPM Meetings
- 6/15: Grand Traverse Fruit Growers Council Picnic
- 6/18: Quarterly Meeting with Conservation Programs Coordinator
- 6/18: Antrim County Conservation District Board Meeting
- 6/19: Agrichemical Container Recycling Collection
- 6/22: Farmer Field Day
- 6/25: Northwest Michigan County Farm Bureau Board Meeting
- 6/26: Grand Traverse and Leelanau IPM Meetings
- 6/27: Antrim and Benzie IPM Meetings
- 6/29: Siting Short Course for MAEAP

---

**NORTHWEST MICHIGAN INVASIVE SPECIES NETWORK (ISN)**

**Public Inquiry Responses: 62**

**Active Contacts: 811**

**Passive Contacts: 103,837**

**Volunteer Hours: 79**

**Volunteers: 33**

**Acres Surveyed: 101.5**

**Sites Surveyed: 34**

**Acres Treated: 69.25**

**Sites Treated: 26**

**Meetings/Presentations:**

- 5/5 - Held booth & presented at Pine Hill Nursery "Flower Festival"; 26 active, 45 passive
- 5/14 - Presented to Leadership Grand Traverse (16 attendees)
- 5/14 - Presented "Backyard Birds and Native Plants" to GT County Senior Network; 31 present
- 5/30 - Participated in Michigan Invasive Species Coalition prep call
- 5/31 - Participated in Play Clean Go conference call

**Treatments, Restoration, and Surveys:**

- 5/7 - Crew started!
- 5/8 - GT site visit: 14th St storm drain w/ TWC *et al.* (5 contacts)
- 5/12 - Hosted GT County GM workbee
- 5/16 - Presented *Habitat Matters* to First Presbyterian Church (TC); 5 attendees
- 5/24 - Site visit at TC beach w/ Rec Authority; 2 contacts, 1 acre surveyed
- 5/31 - Hosted Crew & CAKE CISMA pesticide training; 9 trained (5 non-ISN)
- 6/1 - Conducted GT Site visit, Slabtown Beach; 2 acres surveyed
- Private property site visits in GT County: 4 sites, 14 acres
- Treated 0.25 acres knotweed in GT County
- Crew: pulled 25 sites and 69.25 acres of GM
- Crew: pulled 2 sites and 2 acres of other invasive species
- Restoration: 15 acres in GT County

**Other Accomplishments:**

- [GM article in TC Record Eagle](#); 20,000 reach
- Mailed 140 knotweed letters
- Sent pre-treatment eNews (101 contacts)
- Prepping for knotweed treatments (calls *etc.*); 90 calls to/from landowners
- 5/23 - Completed pesticide cert exams
- Facebook reach: 5,246
- Website reach: 13,933

**Upcoming Events:**

- Baby's breath workbees May-August
  - Knotweed community trainings June 9 (Manistee), 13 (Leelanau)
  - Japanese barberry Trade-Up days June 15 (Manistee), 16 (Grand Traverse)
-

<b>Acronyms and Abbreviations</b>
-----------------------------------

AECOM	Boardman River Dams Project Engineers
BBAC	Brown Bridge Advisory Committee
BRNC	Boardman River Nature Center
CRA	Conservation Resource Alliance
DDA	Downtown Development Authority
DNR	Department of Natural Resources
ECR	East Creek Reserve
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentive Program
GBB	Go Beyond Beauty
GIS	Geographic Information System
GLRI	Great Lakes Restoration Initiative
GM	Garlic mustard
GTCD	Grand Traverse Conservation District
HMAC	Hickory Meadows Advisory Committee
ISN	Invasive Species Network
JB	Japanese barberry
MACD	Michigan Association of Conservation Districts
MAEAP	Michigan Agriculture Environmental Assurance Program
MDARD	Michigan Department of Agriculture & Rural Development
MISC	Michigan Invasive Species Coalition
MNLA	Michigan Nursery & Landscape Association
NER	Natural Education Reserve
NMC	Northwestern Michigan College
NRCS	Natural Resources Conservation Service
NWMFFN	Northwest Michigan Food and Farming Network
NWISN	Northwest Michigan Invasive Species Network
OB	Oriental Bittersweet
USFWS	United State Fish & Wildlife Service
SEEDS	501(c)3 nonprofit organization
SFP	Safe Food Program
Tx	Treatment

Thank You for your generous  
support with the  
"Dark Store" issue.

Together we can prevail!

Escanaba City Council  
and City Manager

*THANK YOU!  
Rosa*

*Patricia Jordan, Mark S. Hill, Jeff Sott*  
*Scott Blair, Peggy O'Connell Schumann*



Grand Traverse Sheriff Department Calls for Service Statistics

Month Year  
May 2018

Day of Week	Mon	Tues	Weds	Thurs	Fri	Sat	Sun	TOTAL			
	0	1	2	3	4	5	6	7			
Hour of Day	456	641	711	571	466	463	359	3,667			
	89	43	54	25	34	43	78	105			
	183	181	211	264	249	219	180	152			
Location	Citations		Traffic Crashes		Arrests		*Other	Criminal	Non-Criminal	Traffic	Totals
	Fatal	PIA	PDA	OWI	Criminal					Crashes	
01 Acme	20	0	0	8	1	5	151	35	43	8	237
02 Blair	34	0	3	22	1	28	217	95	108	25	445
03 East Bay	23	0	5	33	2	14	223	77	122	38	460
04 Fife Lake	7	0	0	2	0	1	79	10	15	2	106
05 Garfield	56	0	6	62	8	83	636	358	375	68	1,437
06 Grant	2	0	0	3	0	0	17	9	9	3	38
07 Green Lake	16	0	3	7	3	14	157	40	56	10	263
08 Long Lake	10	0	1	8	0	3	69	27	45	9	150
09 Mayfield	11	0	0	5	0	1	55	9	8	5	77
10 Peninsula	5	0	0	3	0	0	61	10	37	3	111
11 Paradise	4	0	0	6	1	1	62	18	28	6	114
12 Union	1	0	0	1	0	0	20	4	5	1	30
13 Whitewater	8	0	0	6	0	2	63	7	12	6	88
29 Fife Lake Vlg	1	0	0	1	0	0	14	3	7	1	25
30 Kingsley Vlg	5	0	0	2	1	3	48	18	20	2	88
66 Traverse City	4	0	0	0	2	58	0	0	0	0	0
84 Out of County	0	0	0	0	0	14	0	0	0	0	0
<b>Totals</b>	207	0	18	169	19	227	1,872	720	890	187	3,669

\*Other Calls for Service Include: 911 Hangups; BOL; Follow-up to Complaints; Motorist Assistants; Public Relations; Serving Legal papers; Traffic Stops; Warrant Attempts  
As of 1/01/18, MIP alcohol citations are civil infractions, therefore no arrest is applicable.  
Ticket stats are based on what District Court has entered as of 6/01/18.  
Arrest stats are as of 6/03/18.

# 2018 State Shared Revenue

## State of Michigan Revenue Sharing - Constitutional & (EVIP)

Period For	2015	2015 Total	2016	2016 Total	2017	2017 Total	2018	2018 Total	(%) of Change from 2017	Difference From 2017 to 2018
Nov - Dec PD Mar	\$ 211,681.00	\$ 218,851.00	\$ 205,411.00	\$ 212,581.00	\$ 217,905.00	\$ 225,075.00	\$ 220,248.00	\$ 229,618.00	1.96%	\$ 4,543.00
Jan - Feb PD May	\$ 186,832.00	\$ 194,002.00	\$ 195,372.00	\$ 202,542.00	\$ 225,890.00	\$ 233,060.00	\$ 209,998.00	\$ 219,368.00	-6.24%	\$ (13,692.00)
Mar - April PD July	\$ 191,761.00	\$ 198,931.00	\$ 195,055.00	\$ 202,225.00	\$ 203,234.00	\$ 210,404.00		\$ -		
May - June PD Sept	\$ 204,632.00	\$ 211,755.00	\$ 214,896.00	\$ 222,069.00	\$ 225,598.00	\$ 232,771.00		\$ -		
July - Aug PD Oct	\$ 215,919.00	\$ 223,089.00	\$ 218,959.00	\$ 226,129.00	\$ 238,999.00	\$ 248,369.00		\$ -		
Sept - Oct PD Dec	\$ 216,923.00	\$ 224,093.00	\$ 217,140.00	\$ 224,310.00	\$ 230,686.00	\$ 240,056.00		\$ -		
<b>TOTAL</b>	<b>\$ 1,227,748.00</b>	<b>\$ 42,973.00</b>	<b>\$ 1,270,721.00</b>	<b>\$ 1,246,833.00</b>	<b>\$ 1,342,312.00</b>	<b>\$ 1,389,745.00</b>	<b>\$ 430,246.00</b>	<b>\$ 448,986.00</b>	<b>-2.04%</b>	<b>\$ (9,149.00)</b>
Personal Property Community Stabilization Share Revenue										
Annual Rec-3/6/18	\$ 58,720.92	Received separate from State								

Township Budgeted for 2018	\$ 1,200,000.00
YTD Received From State	\$ 448,986.00
DIFFERENCE	\$ (751,014.00)

State Projected for 2018 (Constitutional \$ 1,276,285 and EVIP \$ 43,023.00 Total \$ 1,319,308.)

## Chloe Macomber, Deputy Treasurer Recent Achievements

### Michigan Certified Professional Treasurer (MiCPT) Michigan Municipal Treasurers Association

This certification requires over 100 hours of education over three years

Is a program through Central Michigan University that focuses specially on treasurers and treasury management for local governments

Topics of the courses include tax collection and distribution, governmental accounting, investing, financial reporting, budgeting, leadership, communication, and more

After completing the three years of Basic Institute, the participant is awarded the MiCPT certification, which Chloe completed and received mid April of this year



### Township Governance Academy Graduate Michigan Township Association

A curriculum made up of eleven courses and several hours of elective credits

Is a program through MTA that is specifically designed for township officials and employees to learn about local government best practices, leadership, management, and vision

The courses focus on a broad range of topics such as township finances, strategic planning, meeting the needs of the township's residents, planning, zoning, managing township employees, and more

Chloe graduated from TGA at MTA's 2018 Conference and Expo at the Grand Traverse Resort at the end of April

## TGA Class of 2018 honored



The Township Governance Academy (TGA) graduating class of 2018 crossed the stage at the General Session of MTA's 65th Annual Educational Conference at the Grand Traverse Resort on April 25. Twelve individuals were recognized for completing the Academy, joining more than 100 of their colleagues who have graduated from the program since it was created in 2004.

The 14th graduating class received their TGA certificates and lapel pins and were honored on stage as 2017 MTA President **Diane Randall** and MTA Executive Director Larry Merrill congratulated the graduates on their accomplishments.

The graduates are (*pictured above right, from left*): **Todd Anderson**, clerk, **Conway Township** (Livingston Co.); **Laura Dawson**, clerk, **Lee Township** (Midland Co.); **Lynn Ferris**, trustee, **Buchanan Township** (Berrien Co.); **Kathy Funk**, clerk, **Flint Charter Township** (Genesee Co.); **Steve Hicks**, supervisor, **Bertrand Township** (Berrien Co.); **Kayleigh Hutchings**, deputy treasurer, **Paw Paw Township** (Van Buren Co.); **Chloe Macomber**, deputy treasurer, **Garfield Charter Township** (Grand Traverse Co.); **Dave Morgan**, supervisor, **Pennfield Charter Township** (Calhoun Co.); **Rebecca Payne**, deputy clerk, **Paw Paw Township** (Van Buren Co.); **Cindy Shields**, clerk, **Davison**



**Township** (Genesee Co.); **Lynda Sower**, clerk, **Otisco Township** (Ionia Co.); and **Elizabeth Whitt**, deputy clerk, **Conway Township** (Livingston Co.).

YOU too can learn how to be a more effective board member and leader in your community. Regardless of your position on the township board or your level of experience, the Academy is designed to move you to a higher level of performance and make your service on the board more rewarding.

Visit MTA's Township Governance Academy webpage on the members-only section of [www.michigantownships.org](http://www.michigantownships.org). After logging in, click on "Township Governance Academy" under the "Training" tab. You can also email [tga@michigantownships.org](mailto:tga@michigantownships.org) or call (517) 321-6467 for additional information.

\* *In Michigan Township Focus*





# Township Governance Academy Update

brought to you by the Michigan Townships Association

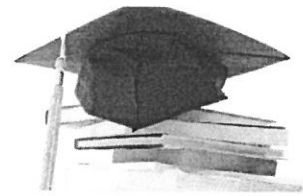
## Congrats to our 2018 TGA Graduates!

Congrats to the 14th graduating class of the Township Governance Academy! Graduates received their TGA certificates onstage during the General Session of MTA's Annual Educational Conference, on April 25 at the Grand Traverse Resort in Acme Township. The following individuals were recognized:




Dave Morgan, Supervisor, Pennfield Charter Township (Calhoun Co.); Steve Hicks, Supervisor, Bertrand Township (Berrien Co.); Lynn Ferris, Trustee, Buchanan Township (Berrien Co.); Todd Anderson, Clerk, Conway Township (Livingston Co.); **Chloe Macomber, Deputy Treasurer, Garfield Charter Township (Grand Traverse Co.)**; Elizabeth Whitt, Deputy Clerk, Conway Township (Livingston Co.); Rebecca Payne, Deputy Clerk, Paw Paw Township (Van Buren Co.); Laura Dawson, Clerk, Lee Township (Midland Co.); Kayleigh Hutchings, Deputy Treasurer, Paw Paw Township (Van Buren Co.); Cindy Shields, Clerk, Davison Township (Genesee Co.); Lynda Sower, Clerk, Otisco Township (Ionia Co.); and Kathy Funk, Clerk, Flint Charter Township (Genesee Co.)

MTA commends the commitment of these individuals to pursue this challenging professional development opportunity and enhance the effectiveness of their township boards. Congratulations!



*Think you might be close to graduating? Contact Sue at (517) 321-6467 or [Sue@michigantownships.org](mailto:Sue@michigantownships.org) to check on your credits, or find out more about the final project and other graduation requirements.*

*\* Chloe is one of more than 100 that have graduated from the program since it was created in 2004.*

		<b>Charter Township of Garfield</b>	
		Planning Department Report No. 2018-57	
Prepared:	May 16, 2018	Pages:	Page 1 of 1
Meeting:	May 22, 2018 Township Board	Attachments:	<input checked="" type="checkbox"/>
Subject:	Reappointment of Michael Groleau to Recreational Authority Board		

**PURPOSE:**

This report is intended to advise the Township Board of current appointment status to the Recreational Authority Board of Directors and request appointments in accordance with the terms of the agreement between the City of Traverse City and Garfield Township.

**BACKGROUND:**

Michael Groleau's appointment to the Recreational Authority Board expires on June 30, 2018. Mr. Groleau has served as an active board member and serves as the board's secretary. He is seeking reappointment for a three year term.

Township Board action to reappoint Mr. Grouleau to the Recreational Authority Board is therefore requested.

**ACTION REQUESTED:**

THAT Michael Groleau be reappointed to the City of Traverse City and Garfield Township Recreational Authority Board for a 3 year term expiring on June 30, 2021.

## Judith Battle

---

**From:** Matthew Cowall [mcowall@liaa.org]  
**Date:** Friday, May 04, 2018 3:48 PM  
**To:** Chuck Korn  
**Cc:** Judith Battle  
**Subject:** Rec Authority - expiring appointment

Hi Chuck,

As you know, the Township Board of Trustees appoints three seats on the Recreational Authority Board of Directors. The current appointment of Michael Groleau as a Garfield Township representative on the Recreational Authority Board expires on June 30. Mr. Groleau is an excellent and active board member and serves as the board's secretary. I am glad to report that he is seeking reappointment, which I know the board would also welcome. I am writing to request consideration of Mr. Groleau's reappointment to a new three-year term (ending June 30, 2021) at one of the Township Board meetings before June 30.

Let me know if you have any questions or needs, and thanks as always,

Matt

---

Matt Cowall  
Executive Director  
City of Traverse City and Charter Township of Garfield Recreational Authority  
Munson Avenue  
Traverse City, MI 49686  
231-929-3696  
[www.liaa.org](http://www.liaa.org)

# Board Appointment Policy

Approved March 28, 2017

All applicants will be notified in writing within seven (7) business days of the board's decision. Applicants not selected and/or applications received after October 30th will be kept on file and considered when other vacancies arise.

In the event of a resignation from a board or commission, those applications held on file shall be considered in the same manner described above beginning with the selection committee.

## CHARTER TOWNSHIP OF GARFIELD Application for Appointment

Thank you for your interest in serving on a board, commission or committee. The purpose of this form is to provide the Township with some information about residents considered for appointment. If you are not selected at this time, your application will be kept on file for one year and considered if additional openings occur.

I, MICHAEL GROLEAN, hereby make application for appointment to:  
(Name)

Building Committee       Board of Review       Fire Board  
 Park Board       Planning Commission       Recreation Board  
 Zoning Board of Appeals       Personnel Committee       Other Committee

for a term of 3 years, from JULY 1, 2018 to JUNE 30, 2021  
(number)      (Appointment date)      (Term Expiration Date)  
CITY OF TRAVERSE CITY + CHARTER TOWNSHIP OF GARFIELD RECREATIONAL AUTHORITY

TO THE CHARTER TOWNSHIP OF GARFIELD,  
COUNTY OF GRAND TRAVERSE, STATE OF MICHIGAN, BOARD OF TRUSTEES

1. I reside at: 493 N. EAST SILVER LAKE RD, TRAVERSE CITY, MI 49685  
(street address, city and zip code)

since 2012 Phone number(s): 231-463-8201  
(year)

Email address: Mike.grolean@rjginc.com

2. I am at least 18 years of age:  Yes  No

3. Citizen of: U.S.

4. Employer: RJG INC Phone: 231-947-3111

a. Indicate nature of your work: MANAGEMENT / ENGINEERING

b. Title: BOARD SECRETARY, PRINCIPAL OWNER

5. Educational level and degrees received or other work experience that may be beneficial for this position:

B.S. ENGINEERING, MIT; MS ENGINEERING UNIV. OF MICH.  
COMPLETED 1ST YEAR OF MBA AT RABSON COLLEGE

6. I presently hold the following appointment and elected positions (include title and appointment or election date):

CITY OF TRAVERSE CITY + CHARTER TOWNSHIP OF GARFIELD RECREATIONAL AUTHORITY,  
BOARD SECRETARY SINCE 2004

7. Previously held appointments and/or elected positions (include title and dates of service):

GRAND TRAVERSE COMMONS REDEVELOPMENT CORPORATION,  
BOARD SECRETARY 2001-2004

# Board Appointment Policy

Approved March 28, 2017

8. Participation in any Township related activities. Include any civic, fraternal, charitable, professional organizations, etc. (Attach additional pages, if necessary).

N/A

9. Do you foresee any potential Conflicts of Interest while executing the Duties of this Position? If so explain.

N/A

10.) Please explain why you would like to be on this Board, Commission or Committee?

HAVING BEEN INVOLVED WITH THE BARNES SINCE 2001 AND THE RECREATIONAL AUTHORITY SINCE ITS INCEPTION, I WOULD LIKE TO CONTINUE TO SEE THIS THROUGH TO ITS NEXT STAGE - ENSURING CITY OF TRAVERSE CITY + CHARTER ITS CONTINUITY TO TOWNSHIP OF CARLETON REC. AUTHORITY BEYOND 2024

I hereby apply for appointment to

(Name of Board or Commission)

And I acknowledge that:

1. If appointed, I will comply with all Statutory and other requirements and obligations of my appointment;
2. If I cease to comply with such requirements, I automatically forfeit said appointed position;
3. I hold no position or appointment which is a conflict of interest with the appointed position applied for. Should a conflict of interest arise, I will promptly inform the board or commission.
  - a. I shall inform the department head/ staff prior to any meeting at which I have a possible conflict of interest that may restrict my participation in said meeting;
  - b. I will always avoid the appearance of conflict between public duties and personal interests and activities in all township public forums, pursuant to state law and township policies; and
  - c. I will not allow my personal relationships or views to affect my responsibilities to the residents I represent;
4. As a public officer (servant), I shall not engage in a business transaction with or contractual relationship to any board or commission that I am on, in which [as a public officer] I may profit from, according to MCL 15.322 Public Act 317 of 1968, Contracts of Public Servants with Public Entities;
5. To the best of my knowledge and belief, I possess the requisite qualifications for the office I am seeking; and
6. If appointed, I am committed to attend all duly noticed board or commission meetings. In the event I am not able to attend a scheduled meeting I will notify the chair man of my absence to allow them enough time to notify an alternate member to attend.

I agree and understand the responsibilities of accepting this position.

Board Appointment: \_\_\_\_\_



(Signature)

JUNE 3, 2018

(Date)



**GRAND TRAVERSE COUNTY SHERIFF'S OFFICE**  
**Thomas J. Bensley, Sheriff • Nathan Alger, Undersheriff**

7.b.

*Administration*

851 Woodmere Avenue, Traverse City, MI 49686-3349 • (231) 995-5000 • F AX (231) 995-5010

*Corrections*

320 Washington Street, Traverse City, MI 49684-2583 • (231) 922-4530 • F AX (231) 922-4415

June 7, 2018

Garfield Township Board  
3848 Veterans Drive  
Traverse City, MI 49684

**RE: All Traffic Solutions Traffic Signs**

Dear Township Board Members:

I would like to thank all members for approving the purchase of a new ATS Shield 15 digital traffic sign. Last month the board approved the purchase for \$5125.00. I am happy to report that ATS provided us with a discount; therefore the purchase cost was reduced to \$4805.00 (\$320.00 savings). The purchase has brought the townships digital traffic sign inventory to two signs, which are being used regularly in GTSO's traffic enforcement efforts.

In 2015, the board approved the purchase of an (ATS) All Traffic Solutions Shield 12 traffic sign, which has been used for several years. The sign has technology that allows for remote access through cell tower connectivity. The original purchase included a 12 month TrafficCloud subscription that was not renewed after it expired in 2016. I did not request for the subscription to be reactivated at that time because I wanted to get a good understanding of how utilizing the sign differed with and without TrafficCloud.

TrafficCloud subscriptions include remote connectivity to signs, web based access to detailed statistical charts/graphs and warranty coverage that covers repairs and/or replacements at 100% including round trip shipping if something on the sign (like LED's or radar) breaks or malfunctions from normal use. If the sign is dropped, vandalized, or damaged they cover the repairs at 50% off. Batteries and accessories, such as chargers, carrying cases, and mounting hardware are 50% off.

TrafficCloud subscriptions typically cost \$1500.00 for a twelve month term. Due to the fact I have facilitated ATS sign purchases for four other townships within Grand Traverse County, the company is providing a special 50% discount on the 12 month subscription for each sign. The recent Shield 15 purchase of ours included a TrafficCloud subscription, which will expire in one year if not renewed. I would respectfully request the board's approval for the previously purchased Shield 12 signs TrafficCloud subscription to be reactivated. The cost would be \$750.00 for a twelve month term. I would also like to request approval for each signs (Shield 12 and Shield 15) TrafficCloud subscriptions be renewed annually, which would be at a total cost of \$1500.00 for both.

Anything highly used or containing delicate technology components runs the risk of costly repairs. With TraffiCloud subscriptions, the future costs for operating and maintaining the signs are predictable. Online remote access to the signs not only offers the ability to obtain real-time data, but provides subscribers with detailed reports that are not available without the subscription. The subscriptions also provide capability for notifications to be sent to account users to include low battery warnings, vandalism event warnings, high speed warnings and several others programmed by the user. I believe TraffiCloud subscriptions provide for greater efficiency, effectiveness and is money well spent.

Our Shield 12 sign is in need of repair as the sign is only drawing power from one of its two batteries sources. The estimate for repair is \$150 - \$450.00. All Traffic Solutions is offering Garfield Township a 50% discount on the repair with reactivation of the TraffiCloud subscription. This information is being provided for your consideration of my request.

In addition to my request related TraffiCloud subscriptions, I am requesting consideration and approval for the purchase of two additional Shield 15 (our recently purchased sign) batteries. This will allow the Shield 15 to be moved around the township with minimal down time. One set of batteries can be charged (approx. 3-4hrs charge time each) while the sign is deployed on a roadway. With one set of batteries, the sign has on average a 24hr down time. The cost for a set of Shield 15 batteries is \$401.00 including shipping charges.

Included with this letter are the following:

- TraffiCloud data sheet
- Shield 12 TraffiCloud Subscription Reactivation Quote
- Shield 15 Battery Set Quote
- Exhibit #1 – Traffic data report using TraffiCloud
- Exhibit #2 - Traffic data report without TraffiCloud

For more information related to All Traffic Solutions, you can visit [www.alltrafficsolutions.com](http://www.alltrafficsolutions.com). I will gladly answer any questions that you have regarding this letter and included attachments, email - [cbarsheff@gtsheriff.org](mailto:cbarsheff@gtsheriff.org), phone – 231-342-6016. As always, I truly appreciate the board's support of GTSO and our efforts to make our community safe. Thank you!

Sincerely,



Lt. Chris Barsheff





**Renewal Number:**  
Q-35985

**Issue Date:**  
6/4/2018 2:53:33 PM

**Due Date:**

Account ID: 247064

Traffic Solutions Inc.  
 50 Worldgate Drive, Ste 310 Herndon, VA 20170  
 Phone: 814-237-9005 • Fax: 814-237-9006  
 Tax ID: 25-1887906 • GSA # GS-07F-6092R  
**Purchase Order Address:** 3100 Research Dr.  
 State College, PA 16801

**For Questions please contact:**  
 Carrie Fedders  
 (571) 321-5446  
 cfedders@alltrafficsolutions.com

**Bill To:**

Garfield Township  
 Attn: Chris Barsheff  
 3848 Veterans Drive  
 Traverse City, MI 49684

**Equipment Administered By:**

Garfield Township  
 Primary Web Admin:  
 3848 Veterans Drive  
 Traverse City, MI 49684

**Billing Email, Phone:** , (231) 995-5044  
**Payment Method:** : Check  
**Billing Interval:** :

**Current/Prior Expiration Date:** 6/30/2018 12:00:00 AM  
**Renewal Term:** : 12 Month  
**Expiration after Renewal:** : 6/30/2019 12:00:00 AM

Item No	Description	For Qty Devices	Annual unit Price	Total Per Billing Interval
4000647	App, Traffic Suite (12mo); Equip Mgmt, Reporting, Image Mgmt, Alerts, Mapping and PremierCare	1.00	1500.00	1500.00
4001191	App, Discount - Renewal	1.00	-750.00	-750.00

Please provide a tax exempt certificate or sales tax will be applied if applicable.

**Total:** \$750.00

**Special Notes:**

**Renewal Options:**

- **Pay From This Invoice:** Pay directly from this invoice and the services will be extended by the duration(s) indicated upon receipt.
- **Sign and Return invoice:** Sign below indicating you have initiated payment process and authorize the continuation of services. Payment must be received within 30 days from expiration for continuity of service.
- **Issue Purchase Order:** Issue a Purchase Order for the renewal. We will re-submit a new invoice referencing that PO.

Renewal Authorization: By Signing below I indicate that I am authorized to commit my organization to the above services and have submitted this invoice for payment.

Print Name, Title

Signature





All Traffic Solutions Inc.  
 12950 Worldgate Dr.,  
 Ste 310  
 Herndon, VA 20170  
 Phone: 814-237-9005  
 Fax: 814-237-9006

*A sign of the future.™*

Tax ID: 25-1887906

**QUOTE Q-36069**

DATE/TIME: 6/7/2018  
 11:23:42 AM

PAGE  
 NO: 1

**Questions contact:**  
**MANUFACTURER:**  
**All Traffic Solutions**  
 Julie Styskin  
 (866) 366-6602  
 Ext. 250  
 jstyskin@alltrafficsolutions.com

Independent Sales Re

**Mail Purchase**

**Orders to:**

3100 Research Dr.  
 State College, PA  
 16801

**BILL TO:**

Garfield Township  
 3848 Veterans Drive  
 Traverse City, MI 49684

**SHIP TO:**

Garfield Township  
 3848 Veterans Drive  
 Traverse City, MI 49684

Attn: Chris Barsheff

**PAYMENT TERMS:** Net 30  
**CUSTOMER:** 247064  
**CONTACT:** (231) 995-5044

ITEM NO:	DESCRIPTION:	QTY:	EACH:	EXT. PRICE:
4000685	LFP Battery, 16Ah LFP 12.8VDC (requires LFP Power Kit 4000613 or 4000684)	2.00	\$193.00	\$386.00
4000641	Shipping Common Carrier	1.00	\$15.00	\$15.00

Special Notes:

**SALES AMOUNT:** \$401.00  
**SHIPPING:**  
**TOTAL:** \$401.00

Duration: This quote is good for 60 days from date of issue.  
 Shipping Notes: Unless shipping charges are specifically indicated, prices are FOB Destination. Shipping charges may apply  
 Taxes: Taxes are not included in quote. Please provide a tax exempt certificate or sales tax will be applied.

Warranty: Unless otherwise indicated, all products have a one year warranty from date of sale. Warranty extensions are a component of some applications that are available at time of purchase. A Finance Charge of 1.5% per month will be applied to overdue balances. GSA GS-07F-6092R

Authorization: By Signing below I indicate that I am authorized to commit my organization to the above.

Print Name, Title

Signature

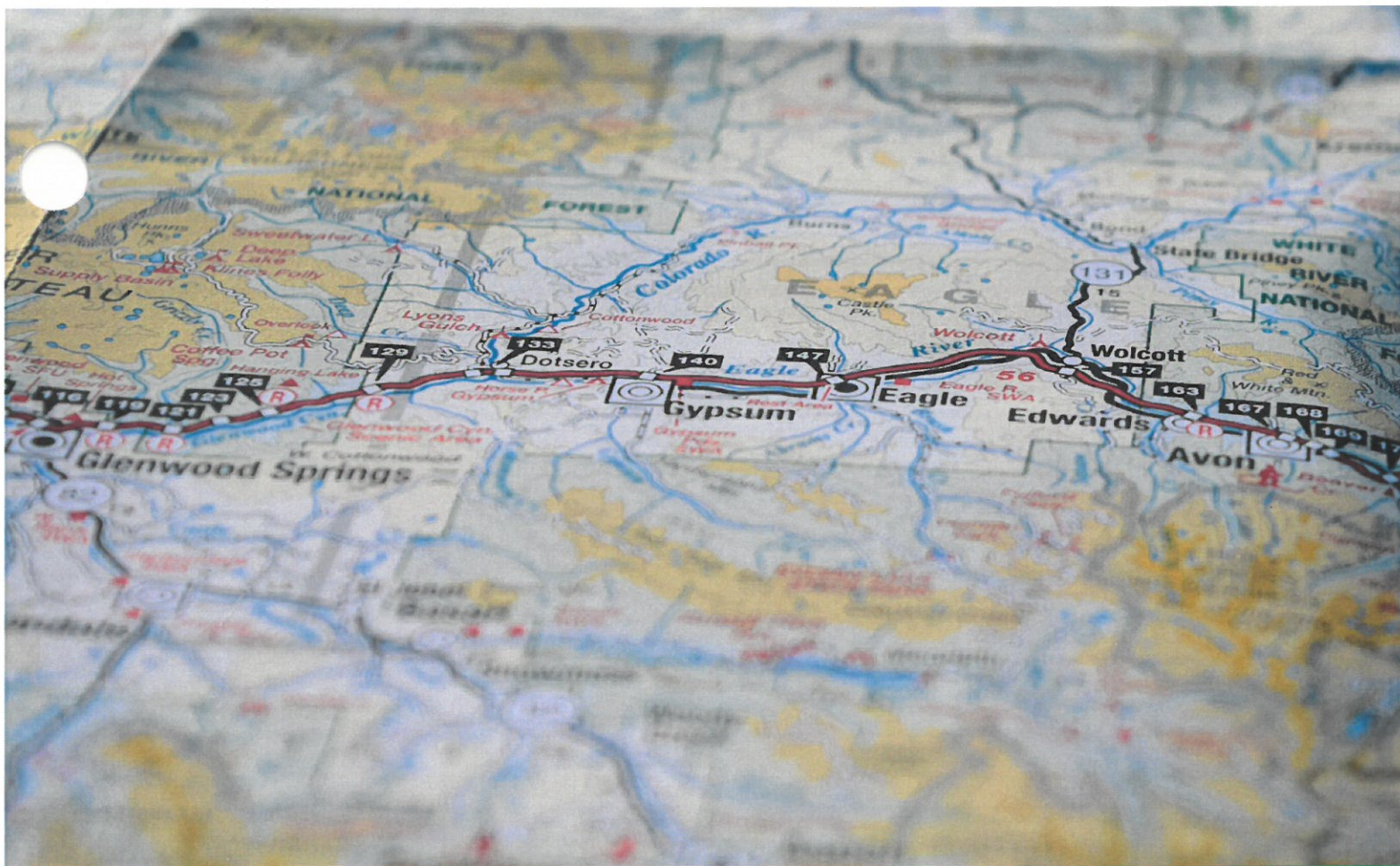
Date

**ALL TRAFFIC  
SOLUTIONS**



Connected Solutions for  
Better Traffic Safety Outcomes

# TRAFFICLOUD: TOTAL TRAFFIC SAFETY MANAGEMENT



[AllTrafficSolutions.com](http://AllTrafficSolutions.com)

# All your devices and data in one place. Manage every component of your traffic safety program with TraffiCloud.™

TraffiCloud is the secure, web-based ecosystem that makes it easy to manage all your traffic data and safety devices from anywhere with an Internet-connected device.

## TRAFFICLOUD LETS YOU

1

Make more insightful decisions based on data analytics from all your program components

2

View dashboards and reports of all collected data, or just one traffic device

3

Improve workflows, optimize resources and cut down on man hours

4

Remotely access, monitor and manage all connected devices and dynamic messages from one central location

## Monitor. Manage. Report.

All ATS traffic devices and signs are TraffiCloud-ready:



### VARIABLE MESSAGE SIGNS

The only folding portable message sign – compact and versatile



### RADAR MESSAGE SIGNS

The most flexible system available. Display speed-dependent messages, collect data regardless of display mode



### COUNT & CLASSIFY

Portable, easy to install counter classifiers that collect bi-directional traffic in up to four lanes at once

### HANDHELD LIDAR

Superior target acquisition and range performance in a compact, lightweight package

### RADAR SPEED DISPLAYS

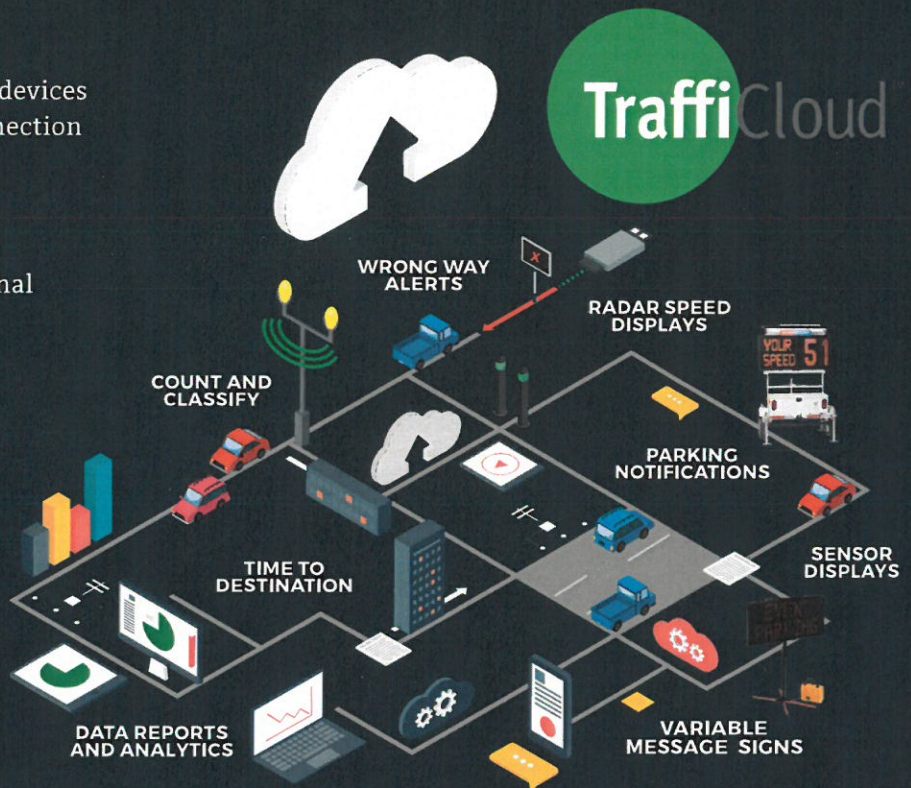
Flexible, portable signs in three sizes; mounts on pole, trailer or vehicle hitch

# Manage all your safety data and equipment from any Internet-ready device.

Leveraging a single interface across all your traffic management equipment, regardless of manufacturer, TraffiCloud streamlines your workflows and delivers new levels of awareness and flexibility while reducing the amount of time needed to manage your equipment and information.

## NOW YOU CAN

- Collect equipment data from all your devices automatically from any Internet connection 24/7 for anytime, anywhere access
- Utilize a fully hosted web-based management system that requires no IT involvement or support, no additional hardware or network appliances, no software or middleware to install and no database setup or customer maintenance
- Leverage data to dynamically manage your devices and maximize their effectiveness and value
- Create a holistic view of your entire traffic management ecosystem
- Achieve new levels of insight for more informed, proactive decision making



## All Traffic Solutions

All Traffic Solutions delivers cloud-based traffic management solutions, including radar speed and variable message displays, counter classifiers, imaging products and intelligent transportation systems for law enforcement, transportation and communities.

Our innovative TraffiCloud traffic management platform is changing the way smarter cities solve their most complex traffic, transportation and parking challenges by allowing them to manage all their traffic equipment remotely, as well as leverage data to increase traffic safety, streamline their operations and achieve lasting results.

- Time to Destination
- Data Collection
- Variable Messaging Systems
- Wrong Way Detection
- Parking Notification
- Speed-dependent Messaging
- Sensor-driven Count and Classify
- Smart Work Zones

All managed online with TraffiCloud

# All Your Traffic Safety Program Data In One Place

TraffiCloud is our secure, web-based ecosystem for managing all your traffic safety data and equipment.

View dashboards and reports of all collected data. Make more insightful decisions based on data analytics from all your program components. Save time by managing the status of connected devices and dynamic messaging all from one central location. TraffiCloud functionality includes:



## PREMIERCARE

Get a perpetual warranty and remote diagnostics for the duration of your subscription.

- 50% discount on accidental damage
- Real-time remote diagnostic monitoring



## IMAGE MANAGEMENT

Achieve greater awareness with alarms or by requesting generated images.

- Capture images based on speeds, tampering, time intervals or upon request\*
- Review, edit, print and act on useful images



## REPORTING

Save time collecting, organizing, compiling and distributing information.

- Automated, daily uploads of new data into a centralized, SAS70-certified environment
- Identify trends to allocate resources and be proactive
- Schedule reports for regular delivery to your inbox



## ENFORCEMENT

Automate the collection of Lidar captures.

- Ensure data accuracy
- Minimize data collection time



## MAPPING

Manage your entire program through an intuitive visual interface.

- Interactive map provides a window to all system information



## EQUIPMENT MANAGEMENT

Stop wasting time driving to equipment to update and monitor it.

- Check status and change settings from any Internet-connected device
- Send single message to multiple signs at once
- Respond immediately to changing situations



## ALERTS

Specify when and whom to notify upon occurrence of certain conditions.

- Receive email or text as events happen
- Be aware of low batteries, high speeds, tampering, congestion and more



\*Images can be used to identify vehicle make and color but are not ALPR quality.

Take a demo of TraffiCloud, our secure, web-based traffic management and reporting solution that manages all your traffic safety devices and data remotely! Call **866.366.6602** or email [sales@alltrafficsolutions.com](mailto:sales@alltrafficsolutions.com)

All Traffic Solutions 12950 Worldgate Drive, Suite 310, Herndon, VA 20170

©All Traffic Solutions

TraffiCloud leverages our patented technology (US Patents 8,417,442; 8,755,990; 9,070,287; 9,411,893) to deliver unique cloud-based management, features and functionality.



**ALL TRAFFIC**  
SOLUTIONS

# Exhibit #1

# Traffic Data Reports with TraffiCloud

Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:3:2 AM



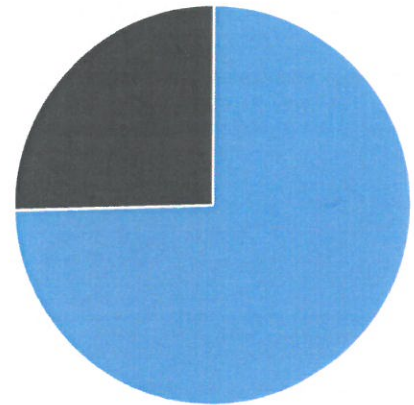
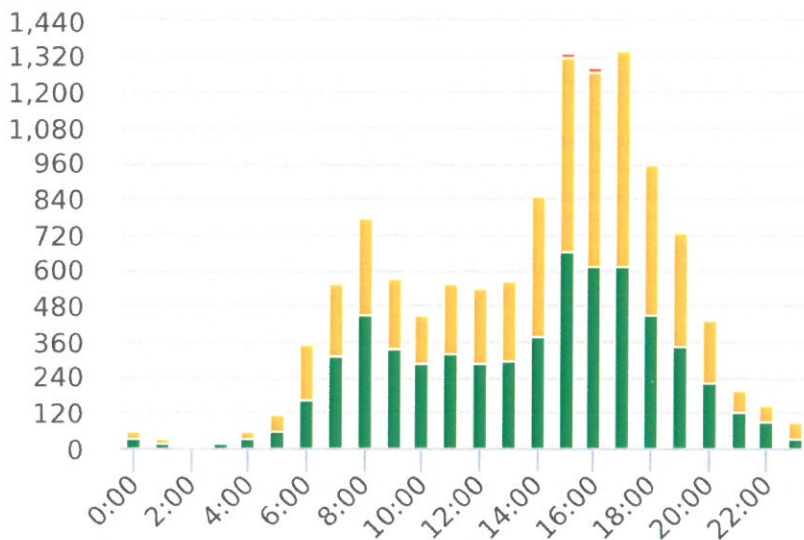
Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Site: West Silver Lake Road, 200 Block, SB

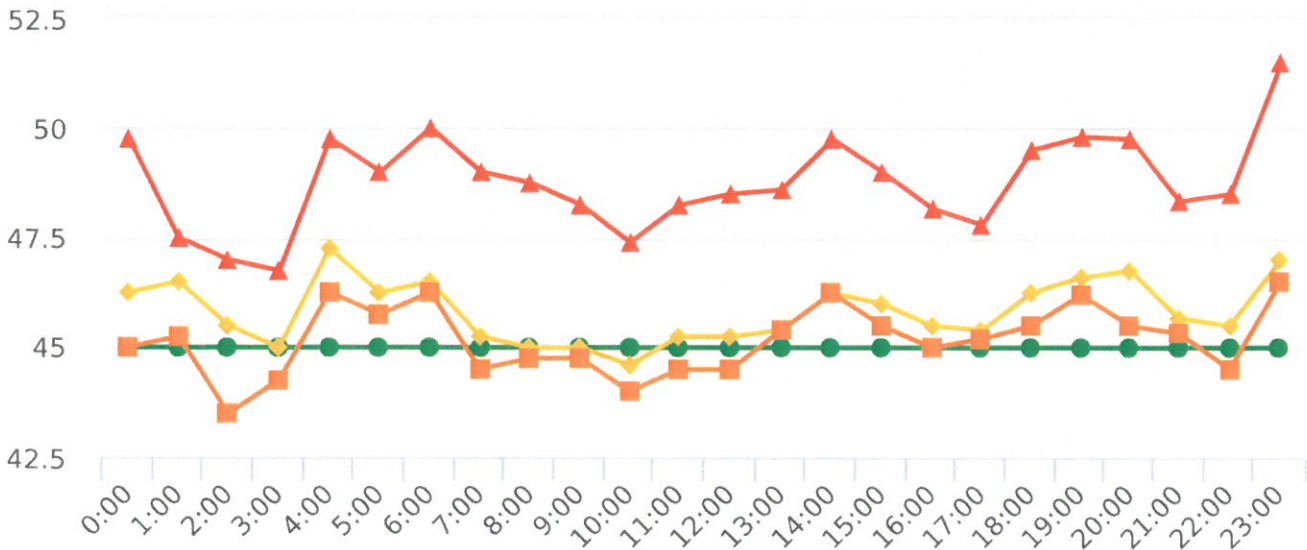
## Overall Summary

Total Days of Data: 6  
 Speed Limit: 45  
 Average Speed: 45.83  
 50th Percentile Speed: 45.17  
 85th Percentile Speed: 48.78  
 Pace Speed Range: 41.0-51.0

Minimum Speed: 40.0  
 Maximum Speed: 102.0  
 Display Status: Speed Display  
 Average Volume per Day: 2025.7  
 Total Volume: 12154.0



■ Violators   
 ■ Inside Threshold   
 ■ Compliant   
 ■ Vehicles Slowed   
 ■ Other



● Speed Limit   
 ● Average Speed   
 ● 50% Speed   
 ● 85% Speed



Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Site: West Silver Lake Road, 200 Block, SB

Hours	Sign Mode	Speed Limit	Total # Vehicles	Total # Violator	% Violator	Avg # Vehicles	Avg # Violator	Min Speed	Max Speed	Avg Speed	50% Speed	85% Speed	Sign Effectiveness
0:00	Speed Display	45	61.0	3.0	4.9 %	15.3	0.8	40.0	63.0	46.3	45.0	49.8	85.5 %
1:00	Speed Display	45	35.0	3.0	8.6 %	8.8	0.8	40.0	63.0	46.5	45.3	47.5	86.0 %
2:00	Speed Display	45	20.0	1.0	5.0 %	5.0	0.3	40.0	60.0	45.5	43.5	47.0	77.0 %
3:00	Speed Display	45	28.0	1.0	3.6 %	7.0	0.3	40.0	56.0	45.0	44.3	46.8	91.8 %
4:00	Speed Display	45	61.0	4.0	6.6 %	15.3	1.0	40.0	72.0	47.3	46.3	49.8	84.8 %
5:00	Speed Display	45	119.0	7.0	5.9 %	29.8	1.8	40.0	61.0	46.3	45.8	49.0	80.5 %
6:00	Speed Display	45	360.0	9.0	2.5 %	90.0	2.3	40.0	58.0	46.5	46.3	50.0	80.5 %
7:00	Speed Display	45	558.0	3.0	0.5 %	139.5	0.8	40.0	59.0	45.3	44.5	49.0	63.0 %
8:00	Speed Display	45	777.0	3.0	0.4 %	194.3	0.8	40.0	61.0	45.0	44.8	48.8	66.3 %
9:00	Speed Display	45	576.0	3.0	0.5 %	144.0	0.8	40.0	102.0	45.0	44.8	48.3	70.8 %
10:00	Speed Display	45	456.0	4.0	0.9 %	114.0	1.0	40.0	57.0	44.6	44.0	47.4	56.6 %
11:00	Speed Display	45	560.0	5.0	0.9 %	140.0	1.3	40.0	63.0	45.3	44.5	48.3	69.3 %
12:00	Speed Display	45	551.0	7.0	1.3 %	137.8	1.8	40.0	64.0	45.3	44.5	48.5	70.8 %
13:00	Speed Display	45	568.0	5.0	0.9 %	142.0	1.3	40.0	63.0	45.4	45.4	48.6	67.2 %
14:00	Speed Display	45	861.0	14.0	1.6 %	215.3	3.5	40.0	63.0	46.3	46.3	49.8	73.5 %
15:00	Speed Display	45	1332.0	13.0	1.0 %	333.0	3.3	40.0	65.0	46.0	45.5	49.0	68.3 %
16:00	Speed Display	45	1285.0	15.0	1.2 %	257.0	3.0	40.0	59.0	45.5	45.0	48.2	75.7 %
17:00	Speed Display	45	1352.0	12.0	0.9 %	270.4	2.4	40.0	70.0	45.4	45.2	47.8	76.6 %
18:00	Speed Display	45	968.0	12.0	1.2 %	242.0	3.0	40.0	61.0	46.3	45.5	49.5	71.8 %
19:00	Speed Display	45	738.0	6.0	0.8 %	184.5	1.5	40.0	59.0	46.6	46.2	49.8	71.0 %
20:00	Speed Display	45	439.0	8.0	1.8 %	109.8	2.0	40.0	71.0	46.8	45.5	49.8	78.0 %
21:00	Speed Display	45	203.0	4.0	2.0 %	101.5	2.0	40.0	61.0	45.7	45.3	48.3	72.7 %
22:00	Speed Display	45	155.0	5.0	3.2 %	77.5	2.5	40.0	62.0	45.5	44.5	48.5	75.0 %
23:00	Speed Display	45	91.0	4.0	4.4 %	45.5	2.0	40.0	58.0	47.0	46.5	51.5	78.0 %
<b>Total Volumes/Avg Speeds</b>	Speed Display	45	12154.0	151.0	2.5 %	3018.9	39.7	40.0	102.0	45.8	45.2	48.8	74.6 %
<b>Total/Avg w/o Feedback</b>			0.0	0.0	0.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 %
<b>Total/Avg w/ Feedback</b>			12154.0	151.0	2.5 %	3018.9	39.7	40.0	102.0	45.8	45.2	48.8	74.6 %



Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:3:41 AM



Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Time View: By Day of Week (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

Day of Week	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	
Sun	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	null	
Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	4
Tue	14	7	4	9	11	31	101	166	187	143	20	78	54	38	184	306	321	330	224	178	136	104	66	36	2748	
Wed	17	12	6	5	15	30	58	41	157	134	118	140	148	158	205	334	302	322	221	172	140	99	89	55	2978	
Thu	7	6	4	9	12	25	105	168	215	148	176	167	151	180	216	304	331	344	257	176	154	0	0	0	3155	
Fri	23	10	6	5	23	33	96	183	218	151	142	175	198	192	256	388	330	353	266	212	9	0	0	0	3269	
Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Avg #	10	6	3	5	10	20	60	93	130	96	76	93	92	95	144	222	214	225	161	123	73	34	26	15	2026	

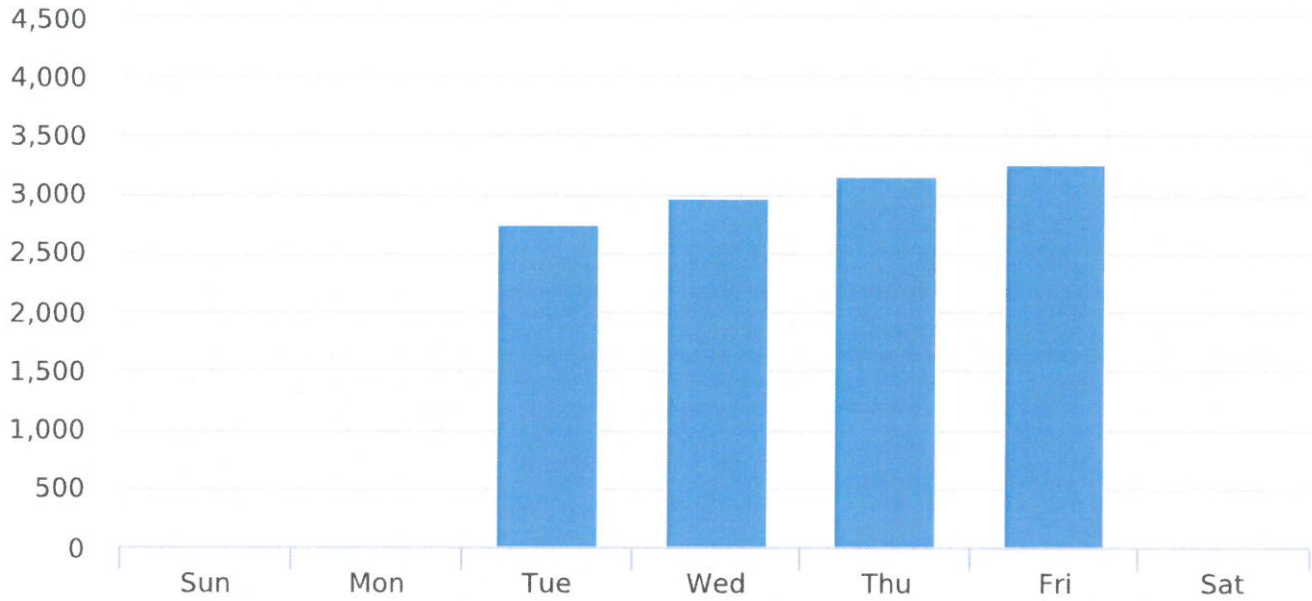
Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:3:41 AM



Time of Day: 0:00 to 23:59  
Dates: 5/29/2018 to 6/4/2018

Time View: By Day of Week (Avg Volumes)  
Speed Bins: Size 5, Range 1 to 100  
Site: West Silver Lake Road, 200 Block, SB

## Volume by Day



Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:3:26 AM



Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Time View: By Hour (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

Hour	Spd Lim	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	31 to 35	36 to 40	41 to 45	46 to 50	51 to 55	56 to 60	61 to 65	66 to 70	71 to 75	76 to 80	81 to 85	86 to 90	91 to 95	96 to 100	Avg Spd	Avg #
0:00	45	0	0	0	0	0	0	0	1	7	6	1	0	1	0	0	0	0	0	0	0	46.3	15
1:00	45	0	0	0	0	0	0	0	0	5	3	1	1	0	0	0	0	0	0	0	0	46.5	9
2:00	45	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	45.5	5
3:00	45	0	0	0	0	0	0	0	1	5	2	0	0	0	0	0	0	0	0	0	0	45.0	7
4:00	45	0	0	0	0	0	0	0	0	8	4	2	1	0	0	0	0	0	0	0	0	47.3	15
5:00	45	0	0	0	0	0	0	0	2	12	13	2	2	0	0	0	0	0	0	0	0	46.3	30
6:00	45	0	0	0	0	0	0	0	3	37	38	10	2	0	0	0	0	0	0	0	0	46.5	90
7:00	45	0	0	0	0	0	0	0	6	73	47	13	1	0	0	0	0	0	0	0	0	45.3	140
8:00	45	0	0	0	0	0	0	0	11	102	68	14	1	0	0	0	0	0	0	0	0	45.0	194
9:00	45	0	0	0	0	0	0	0	8	75	51	9	1	0	0	0	0	0	0	0	0	45.0	144
10:00	45	0	0	0	0	0	0	0	6	67	33	8	1	0	0	0	0	0	0	0	0	44.6	114
11:00	45	0	0	0	0	0	0	0	8	73	49	10	1	0	0	0	0	0	0	0	0	45.3	140
12:00	45	0	0	0	0	0	0	0	7	65	52	12	1	1	0	0	0	0	0	0	0	45.3	138
13:00	45	0	0	0	0	0	0	0	6	69	56	10	1	1	0	0	0	0	0	0	0	45.4	142
14:00	45	0	0	0	0	0	0	0	5	89	95	23	3	1	0	0	0	0	0	0	0	46.3	215
15:00	45	0	0	0	0	0	0	0	8	157	140	25	3	0	0	0	0	0	0	0	0	46.0	333
16:00	45	0	0	0	0	0	0	0	5	117	107	25	3	0	0	0	0	0	0	0	0	45.5	257
17:00	45	0	0	0	0	0	0	0	5	117	121	25	2	0	0	0	0	0	0	0	0	45.4	270
18:00	45	0	0	0	0	0	0	0	6	107	104	22	3	0	0	0	0	0	0	0	0	46.3	242
19:00	45	0	0	0	0	0	0	0	4	82	78	19	2	0	0	0	0	0	0	0	0	46.6	185
20:00	45	0	0	0	0	0	0	0	2	53	45	9	2	0	0	0	0	0	0	0	0	46.8	110
21:00	45	0	0	0	0	0	0	0	6	55	36	4	2	1	0	0	0	0	0	0	0	45.7	102
22:00	45	0	0	0	0	0	0	0	5	40	26	5	2	1	0	0	0	0	0	0	0	45.5	78
23:00	45	0	0	0	0	0	0	0	1	17	20	6	2	0	0	0	0	0	0	0	0	47.0	46
Avg #		0	0	0	0	0	0	0	4	60	50	11	2	0	0	0	0	0	0	0	0	45.8	126

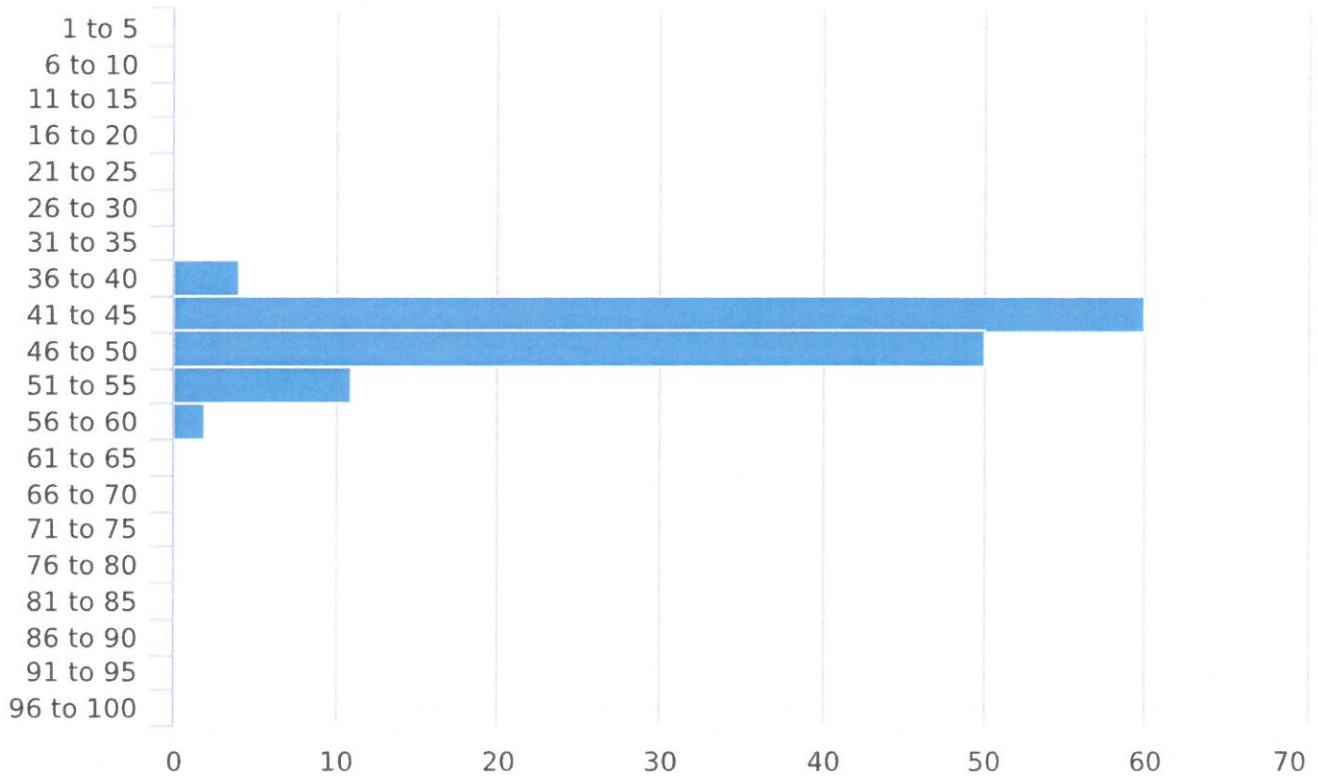
Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:3:26 AM



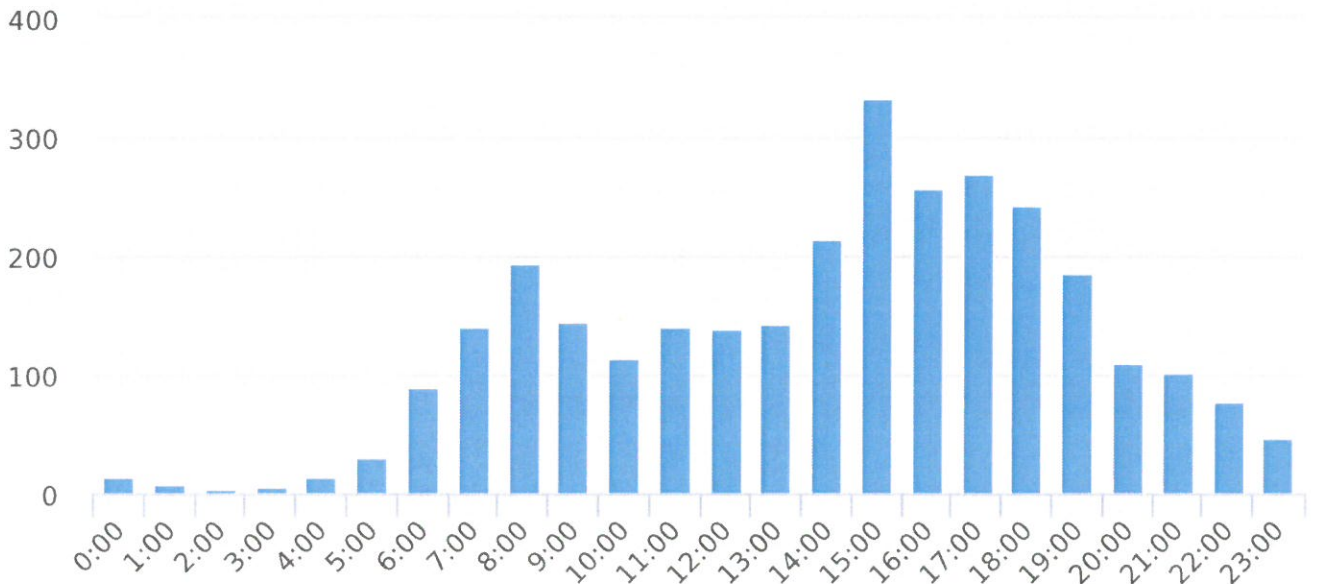
Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Time View: By Hour (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

Average Vehicles by Speed Bin



Average Volume by Hour



Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:2:42 AM



Medium Risk Threshold: Speed Limit + 10  
 High Risk Threshold: Speed Limit + 20  
 Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Time View: By Hour (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

Date/Time Range	Spd Lim	Sign Mode	Compliant Avg Final Speed	Compliant Change in Speed	Low Risk Avg Final Speed	Low Risk Change in Speed	Medium Risk Avg Final Speed	Medium Risk Change in Speed	High Risk Avg Final Speed	High Risk Change in Speed	% of Vehicles Slowed By
0:00	45	Speed Display	42.3	-2.8	48.7	-3.3	60.7	0.3	0.0	0.0	85.5 %
1:00	45	Speed Display	42.9	-2.2	48.8	-2.8	58.3	-2.3	0.0	0.0	86.0 %
2:00	45	Speed Display	43.1	-3.6	48.3	-1.1	60.0	-1.0	0.0	0.0	77.0 %
3:00	45	Speed Display	42.7	-2.8	48.9	-4.0	56.0	-2.0	0.0	0.0	91.8 %
4:00	45	Speed Display	43.5	-2.7	49.5	-1.9	59.7	-1.0	72.0	-5.0	84.8 %
5:00	45	Speed Display	43.1	-1.9	48.0	-3.0	57.1	-3.1	0.0	0.0	80.5 %
6:00	45	Speed Display	42.8	-1.7	48.9	-2.1	57.0	-1.0	0.0	0.0	80.5 %
7:00	45	Speed Display	43.0	-1.1	48.7	-1.6	58.0	2.0	0.0	0.0	63.0 %
8:00	45	Speed Display	42.7	-1.3	48.1	-1.2	60.0	-1.7	0.0	0.0	66.3 %
9:00	45	Speed Display	42.7	-1.7	48.4	-1.6	59.7	-2.7	0.0	0.0	70.8 %
10:00	45	Speed Display	43.3	-1.5	48.5	-1.0	57.0	-1.5	0.0	0.0	56.6 %
11:00	45	Speed Display	43.0	-1.5	48.5	-1.7	58.2	-1.0	0.0	0.0	69.3 %
12:00	45	Speed Display	42.7	-1.4	48.5	-1.9	58.6	-1.7	0.0	0.0	70.8 %
13:00	45	Speed Display	42.8	-1.5	48.1	-1.6	59.2	-1.6	0.0	0.0	67.2 %
14:00	45	Speed Display	43.3	-1.7	48.4	-1.6	58.4	-1.7	0.0	0.0	73.5 %
15:00	45	Speed Display	42.9	-1.8	48.6	-1.4	57.9	-0.7	0.0	0.0	68.3 %
16:00	45	Speed Display	43.6	-1.9	48.9	-1.5	57.1	-0.3	0.0	0.0	75.7 %
17:00	45	Speed Display	43.6	-1.8	48.3	-1.4	56.7	0.4	70.0	2.0	76.6 %
18:00	45	Speed Display	43.3	-1.7	48.5	-1.4	57.9	-1.7	0.0	0.0	71.8 %
19:00	45	Speed Display	43.2	-1.9	48.9	-1.7	57.0	-0.7	0.0	0.0	71.0 %
20:00	45	Speed Display	43.6	-2.0	48.6	-2.0	58.5	-3.0	70.0	-3.0	78.0 %
21:00	45	Speed Display	42.8	-2.0	48.5	-1.8	58.0	0.8	0.0	0.0	72.7 %
22:00	45	Speed Display	42.7	-2.4	47.8	-2.0	59.2	0.8	0.0	0.0	75.0 %
23:00	45	Speed Display	42.8	-2.9	48.6	-2.2	57.0	-1.0	0.0	0.0	78.0 %

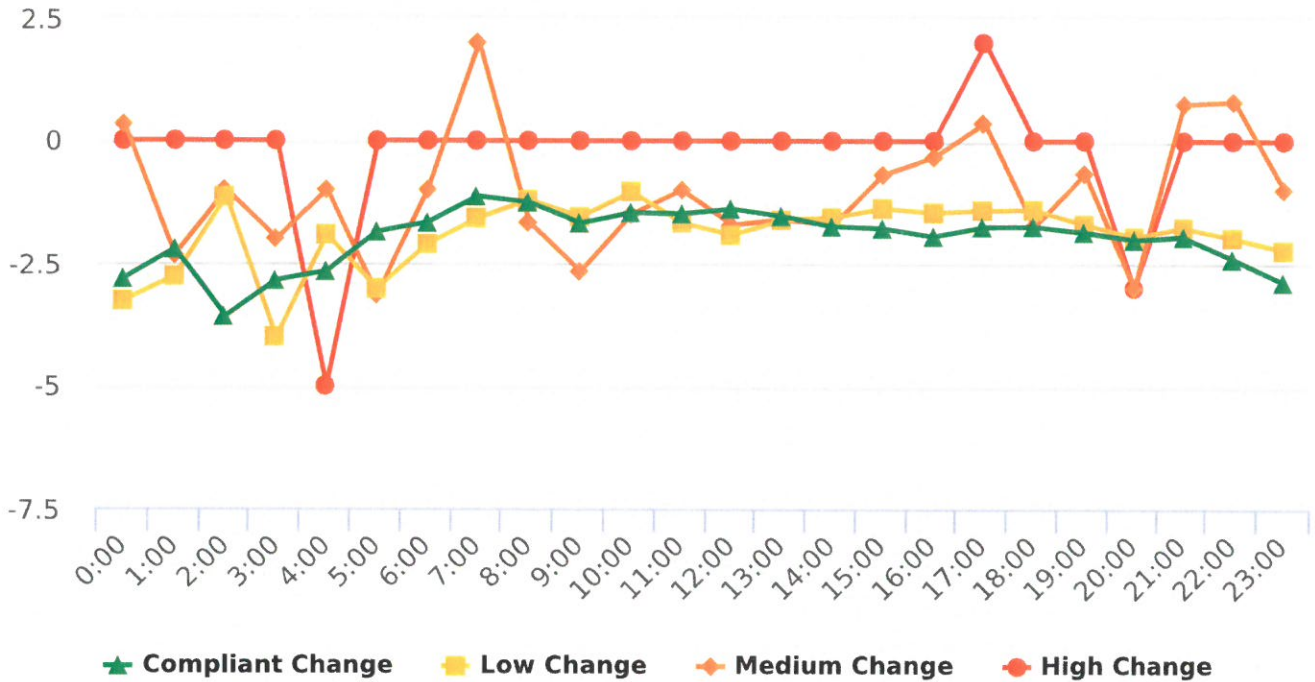
Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:2:42 AM



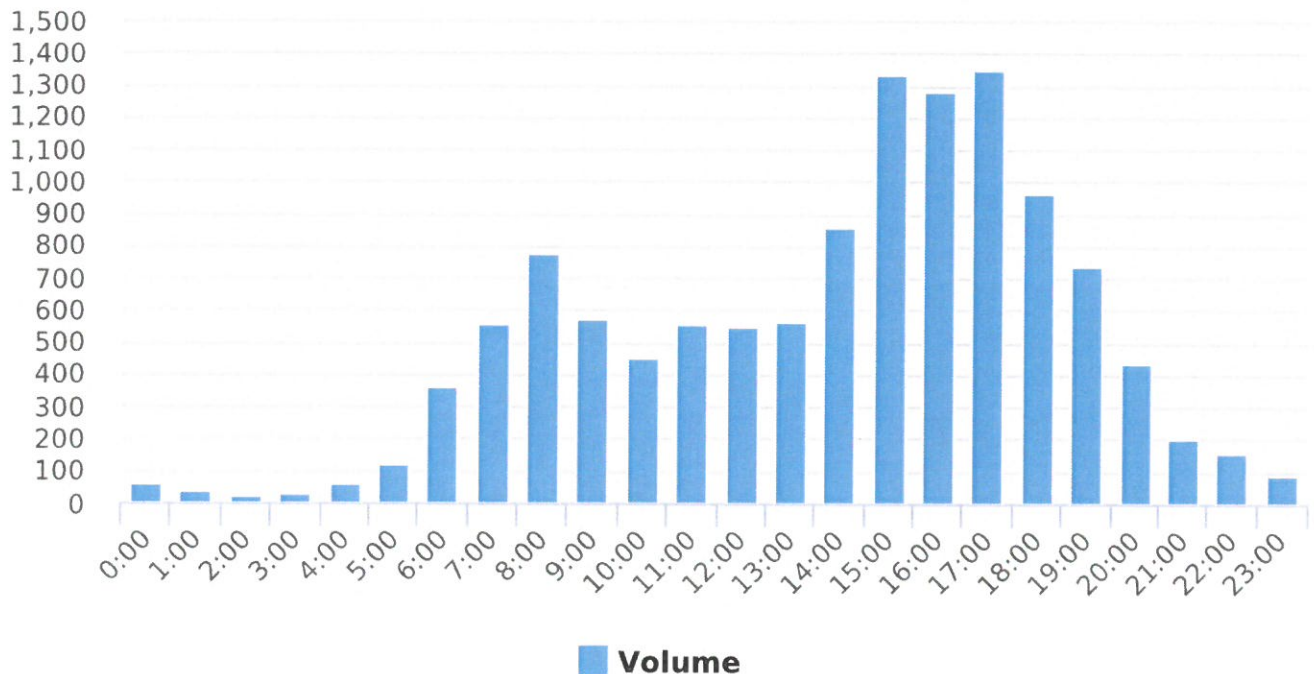
Medium Risk Threshold: Speed Limit + 10  
 High Risk Threshold: Speed Limit + 20  
 Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Time View: By Hour (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

Changes in Speed by Risk Threshold



Volume by Hour



Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:1:40 AM



Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018  
 Medium Risk Threshold: Speed Limit + 10  
 High Risk Threshold: Speed Limit + 20

Time View: By Hour (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

Date/Time Range	Speed Limit	Mode	Compliant	Low Risk	Medium Risk	High Risk	Total Num Vehicles
0:00	45	Speed Display	8	7	1	0	15
1:00	45	Speed Display	5	3	1	0	9
2:00	45	Speed Display	3	2	0	0	5
3:00	45	Speed Display	5	2	0	0	7
4:00	45	Speed Display	8	6	1	0	15
5:00	45	Speed Display	14	14	2	0	30
6:00	45	Speed Display	40	48	2	0	90
7:00	45	Speed Display	79	60	1	0	140
8:00	45	Speed Display	112	81	1	0	194
9:00	45	Speed Display	83	60	1	0	144
10:00	45	Speed Display	72	41	1	0	114
11:00	45	Speed Display	81	58	1	0	140
12:00	45	Speed Display	73	64	2	0	138
13:00	45	Speed Display	75	66	1	0	142
14:00	45	Speed Display	94	118	4	0	215
15:00	45	Speed Display	165	165	3	0	333
16:00	45	Speed Display	122	132	3	0	257
17:00	45	Speed Display	122	146	2	0	270
18:00	45	Speed Display	113	127	3	0	242
19:00	45	Speed Display	87	97	2	0	185
20:00	45	Speed Display	55	53	2	1	110
21:00	45	Speed Display	61	39	2	0	102
22:00	45	Speed Display	45	31	3	0	78
23:00	45	Speed Display	18	26	2	0	46
<b>Avg # Vehicles</b>			<b>64</b>	<b>60</b>	<b>2</b>	<b>0</b>	<b>126</b>

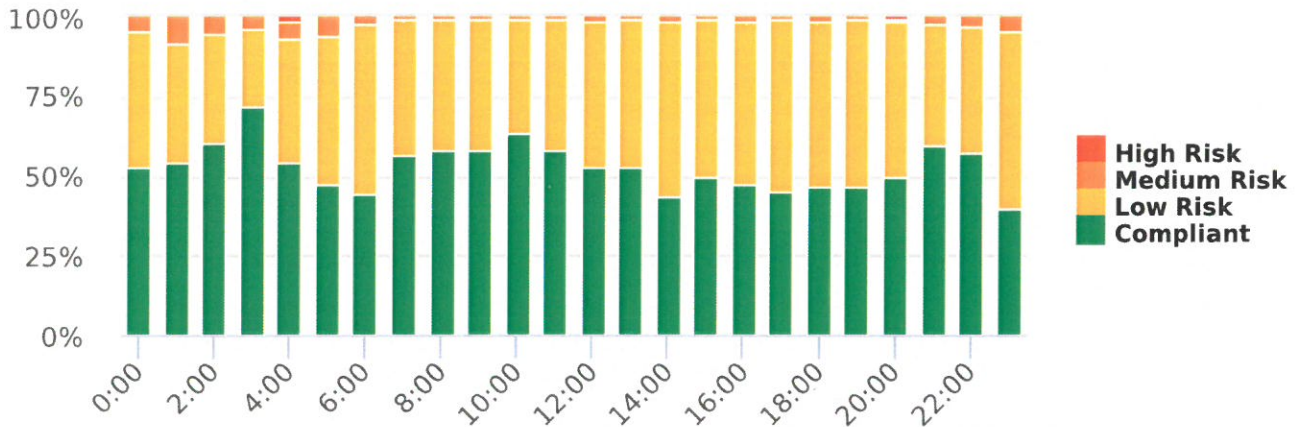
Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:1:40 AM



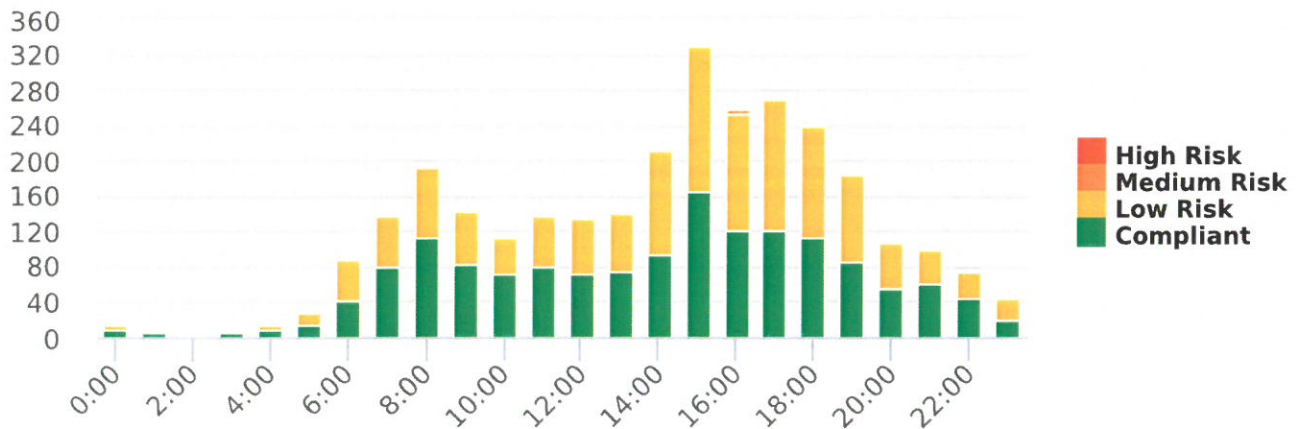
Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018  
 Medium Risk Threshold: Speed Limit + 10  
 High Risk Threshold: Speed Limit + 20

Time View: By Hour (Avg Volumes)  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

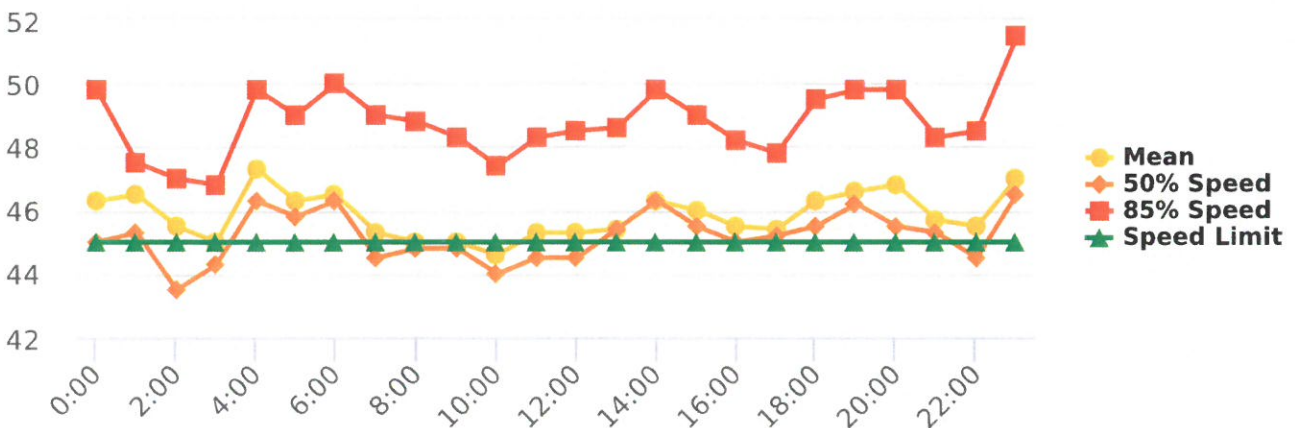
Compliance % by Hour



Compliance by Hour



Speeds







Generated by Chris Barsheff from Garfield Township on Jun 7, 2018 at 10:2:26 AM

Violation Threshold: Speed Limit + 10  
 Time of Day: 0:00 to 23:59  
 Dates: 5/29/2018 to 6/4/2018

Rank Results By: 85% Speed  
 Speed Bins: Size 5, Range 1 to 100  
 Site: West Silver Lake Road, 200 Block, SB

#	Site	Day of Week	Time	Speed Limit	Average Speed	Average Violator Speed	85% Speed	Average # Vehicles	Average # Violators
1	West Silver Lake Road, 200 Block, SB	Wednesday	23:00 - 24:00	45	47.0	57.0	52.0	55.0	2.0
2	West Silver Lake Road, 200 Block, SB	Tuesday	23:00 - 24:00	45	47.0	57.0	51.0	36.0	2.0
3	West Silver Lake Road, 200 Block, SB	Thursday	6:00 - 7:00	45	47.0	57.0	51.0	105.0	3.0
4	West Silver Lake Road, 200 Block, SB	Thursday	12:00 - 13:00	45	47.0	57.8	51.0	151.0	5.0
5	West Silver Lake Road, 200 Block, SB	Friday	6:00 - 7:00	45	47.0	57.0	51.0	96.0	4.0
6	West Silver Lake Road, 200 Block, SB	Friday	16:00 - 17:00	45	47.0	56.4	50.5	330.0	5.0
7	West Silver Lake Road, 200 Block, SB	Friday	19:00 - 20:00	45	47.0	58.0	50.5	212.0	3.0
8	West Silver Lake Road, 200 Block, SB	Tuesday	5:00 - 6:00	45	47.0	56.0	50.0	31.0	3.0
9	West Silver Lake Road, 200 Block, SB	Tuesday	14:00 - 15:00	45	46.0	58.5	50.0	184.0	2.0
10	West Silver Lake Road, 200 Block, SB	Tuesday	18:00 - 19:00	45	46.0	59.0	50.0	224.0	2.0
11	West Silver Lake Road, 200 Block, SB	Tuesday	20:00 - 21:00	45	46.0	58.0	50.0	136.0	3.0
12	West Silver Lake Road, 200 Block, SB	Wednesday	5:00 - 6:00	45	47.0	57.0	50.0	30.0	2.0
13	West Silver Lake Road, 200 Block, SB	Wednesday	14:00 - 15:00	45	46.0	58.0	50.0	205.0	3.0
14	West Silver Lake Road, 200 Block, SB	Wednesday	18:00 - 19:00	45	46.0	57.0	50.0	221.0	4.0
15	West Silver Lake Road, 200 Block, SB	Thursday	10:00 - 11:00	45	46.0	57.0	50.0	176.0	3.0
16	West Silver Lake Road, 200 Block, SB	Thursday	19:00 - 20:00	45	47.0	56.0	50.0	176.0	1.0
17	West Silver Lake Road, 200 Block, SB	Friday	0:00 - 1:00	45	45.0	61.0	50.0	23.0	1.0
18	West Silver Lake Road, 200 Block, SB	Friday	4:00 - 5:00	45	46.0	0.0	50.0	23.0	0.0
19	West Silver Lake Road, 200 Block, SB	Friday	7:00 - 8:00	45	46.0	58.0	50.0	183.0	3.0
20	West Silver Lake Road, 200 Block, SB	Friday	14:00 - 15:00	45	47.0	59.0	50.0	256.0	5.0
21	West Silver Lake Road, 200 Block, SB	Friday	15:00 - 16:00	45	47.0	58.6	50.0	388.0	5.0
22	West Silver Lake Road, 200 Block, SB	Friday	17:00 - 18:00	45	47.0	59.2	50.0	353.0	6.0
23	West Silver Lake Road, 200 Block, SB	Tuesday	6:00 - 7:00	45	46.0	0.0	49.0	101.0	0.0
24	West Silver Lake Road, 200 Block, SB	Tuesday	7:00 - 8:00	45	45.0	0.0	49.0	166.0	0.0
25	West Silver Lake Road, 200 Block, SB	Tuesday	13:00 - 14:00	45	45.0	0.0	49.0	38.0	0.0



**ALL TRAFFIC**  
SOLUTIONS

# Exhibit #2

Traffic Data  
Reports  
without  
TraffiCloud

All Traffic Solutions

5/30/2017 12:00:00 AM to 6/4/2017 11:59:00 PM

File: Barney Rd\_EB\_5-30-17 to 6-6-17.tdf

Speed Limit: 55

Display On/Off: On

### Summary Data

File	Barney Rd_EB_5-30-17 to 6-6-17.tdf
Date Range	5/30/2017 to 6/4/2017
Total Days of Data	6
Speed Limit	55
Time Range	12:00 AM to 11:59 PM
Average Speed	46.00
85% Speed	53
50% Speed	47
10 mph Pace Speed	48 to 57
High Speed	83
Low Speed	5
Display On/Off	On
Average Volume per Day	925

All Traffic Solutions  
 5/30/2017 12:00:00 AM to 6/4/2017 11:59:00 PM  
 File: Barney Rd\_EB\_5-30-17 to 6-6-17.tdf  
 Speed Limit: 55  
 Display On/Off: On

**Volume By Date Data**

Time Start	Time End	Total Vehicles	5/30/2017	5/31/2017	6/1/2017	6/2/2017	6/3/2017
12:00 AM	12:59 AM	2	0	0	1	0	1
1:00 AM	1:59 AM	2	0	0	1	0	1
2:00 AM	2:59 AM	5	0	0	1	2	2
3:00 AM	3:59 AM	5	0	1	3	1	0
4:00 AM	4:59 AM	23	0	6	6	8	3
5:00 AM	5:59 AM	75	0	21	27	18	9
6:00 AM	6:59 AM	332	0	95	103	102	32
7:00 AM	7:59 AM	546	0	175	169	155	47
8:00 AM	8:59 AM	458	0	129	136	132	61
9:00 AM	9:59 AM	363	0	115	93	87	68
10:00 AM	10:59 AM	351	0	99	93	86	73
11:00 AM	11:59 AM	319	0	72	91	80	76
12:00 PM	12:59 PM	285	0	75	69	78	63
1:00 PM	1:59 PM	285	0	74	76	75	60
2:00 PM	2:59 PM	285	0	79	73	75	58
3:00 PM	3:59 PM	336	53	73	83	72	55
4:00 PM	4:59 PM	376	93	73	79	78	53
5:00 PM	5:59 PM	389	89	86	89	77	48
6:00 PM	6:59 PM	307	67	71	64	57	48
7:00 PM	7:59 PM	147	25	35	35	36	16
8:00 PM	8:59 PM	133	17	22	24	44	26
9:00 PM	9:59 PM	91	12	15	18	24	22
10:00 PM	10:59 PM	303	13	16	8	16	250
11:00 PM	11:59 PM	131	0	2	4	9	116
		<b>Total: 5549</b>					



# Memorandum

City of Traverse City

Office of the City Manager



TO: MARTIN COLBURN, CITY MANAGER

COPY: LAUREN TRIBLE-LAUCHT, CITY ATTORNEY  
WILLIAM TWIETMEYER, CITY TREASURER  
BENJAMIN MARENTETTE, CITY CLERK  
NATE ALGER, INTERIM COUNTY ADMINISTRATOR  
CHUCK KORN, GARFIELD TOWNSHIP SUPERINTENDENT  
JULIE CLARK, EXECUTIVE DIRECTOR, TART

FROM: PENNY HILL, ASSISTANT CITY MANAGER

DATE: JUNE 07, 2018

SUBJECT: BOARDMAN LAKE LOOP TRAIL LONG TERM MAINTENANCE AGREEMENT

## **Background:**

Since 1990, it has been a goal of several City Commissions, and the general public, to develop a non-motorized trail system that includes a loop around Boardman Lake. Over the years, segments of the trail have been completed through collaborative efforts between several organizations; the City of Traverse City, Garfield Township, Grand Traverse County, and TART to name a few. Today, only one segment of the Boardman Lake Loop remains undeveloped; the segment between 14<sup>th</sup> Street in the City of Traverse City and Airport Road/Medalie Park in Garfield Township.

Five grant applications have been submitted in order to provide funding to construct the project and complete the loop. They are:

1. Michigan Natural Resources Trust Fund - \$300,000 **Awarded**. (Applicant – Grand Traverse County) Includes installation of two pedestrian bridges which will connect Logan's Landing to Medalie Park, and Medalie Park to the existing east side trail.
  2. Michigan Natural Resources Trust Fund - \$300,000 **Awarded**. (Applicant – Grand Traverse County) Includes completion of the Boardman Lake Loop Trail from 14<sup>th</sup> Street to Logan's Landing
  3. Land & Water Conservation Fund - \$300,000 **Pending**. (Applicant – Grand Traverse County) Focus on wildlife observation, fishing, and overlooks on the Cove section of the boardwalk.
  4. Coastal Zone Management - \$60,000 **Pending**. (Applicant – Grand Traverse County) Includes renovations to the Medalie Park Trailhead including a universally accessible kayak launch and fishing platform, bathroom renovations, energy efficient lighting, signage, landscaping and paving improvements.
  5. MDOT Transportation Alternatives Program - \$647,991 **Conditional Commitment**. (Applicant – City of Traverse City) Includes completion of the Boardman Lake Loop
- Office of the City Manager, 400 Boardman Avenue, Traverse City, MI 49684 (231) 922-4440

trail on the west side of Boardman Lake from 14<sup>th</sup> Street to South Airport Road including a non-motorized transportation connection along Dendrin Drive and Cass Road to South Airport Road.

All of these grants require that a plan for Long Term Maintenance of the trail be developed. Because the development of the Boardman Lake Loop trail has been a collaborative effort that crosses jurisdictional boundaries, the City of Traverse City, Garfield Township, Grand Traverse County, and TART have worked together to develop both a Long Term Maintenance Plan and a funding arrangement that would allow a steady revenue stream for the routine maintenance of the entire loop.

Act 35 of 1951 allows for Intergovernmental Contracts between Municipal Corporations, and reads, in part, that:

“Any municipal corporation shall have power to join with any other municipal corporation, or with any number or combination thereof by contract, or otherwise as may be permitted by law, for the ownership, operation, or performance, jointly, or by any 1 or more on behalf of all, of any property, facility or service which each would have the power to own, operate or perform separately.”

Act 38 of 2017 allows for a Municipality to transfer intangible (cash or cash equivalent) property to a Community Foundation, and reads, in part, that:

“Sec. 7. (1) Subject to subsections (2), (3), and (7), a municipality, school board, intermediate school board, or public library may do the following:

- (a) Transfer any gift of intangible personal property received pursuant to section 5 or the proceeds of any gift received pursuant to section 5 to a community foundation.
- (b) Transfer any intangible personal property to a community foundation.”

The Proposed Long Term Maintenance Agreement is attached here for your reference.

Highlights of the Agreement Include:

1. City to hold Easements acquired for this project except for the easement along Cass Road, which will be held by Garfield Township.
2. Garfield Township will contribute \$800,000 to a permanent endowment held by the Grand Traverse Regional Community Foundation, with the proceeds from the endowment earmarked specifically for maintenance of the Boardman Lake Loop trail.
3. Future costs for Capital Improvements will be split equally between the City, County and Township.
4. TART will develop a Maintenance Plan for the Loop, which will be reviewed annually and used as a basis for a scope of work, if the maintenance is contracted out, and used as a basis for use of the proceeds of the Endowment.
5. The City will perform maintenance activities for the entire Loop, until such time that the Joint Recreational Authority agrees to accept those responsibilities, or until March 31, 2021 (whichever comes first), at which time the City will contract these services out if the Joint Recreational Authority has not agreed to accept the maintenance responsibilities with respect to the Loop.
6. TART may also perform additional maintenance activities along the Loop at no cost to the parties.

***Recommendation:***

That the City Commission approve the terms of the Long Term Maintenance Agreement between the City of Traverse City, Garfield Township, Grand Traverse County, and TART, and that the Mayor and City Clerk be authorized to sign the agreement. Such agreement is subject to approval as to its substance with the City Manager, and approval as to its form by the City Attorney.

Please place this item on the June 18, 2018 agenda for consideration by the City Commission.

DRAFT



**Potential Funding Source**

Brownfield	\$3,600,000
Garfield Township	\$800,000
TART Trails	\$400,000
<b>TAP Grant</b>	<b>\$648,000</b>
<b>MNRTF</b>	<b>\$600,000</b>
Rec passport denied	
<b>2% Grant</b>	<b>\$15,000</b>
Coastal Zone Management	\$60,000
Land & Water Conservation Fund	\$300,000
<b>*Total</b>	<b>\$6,423,000</b>

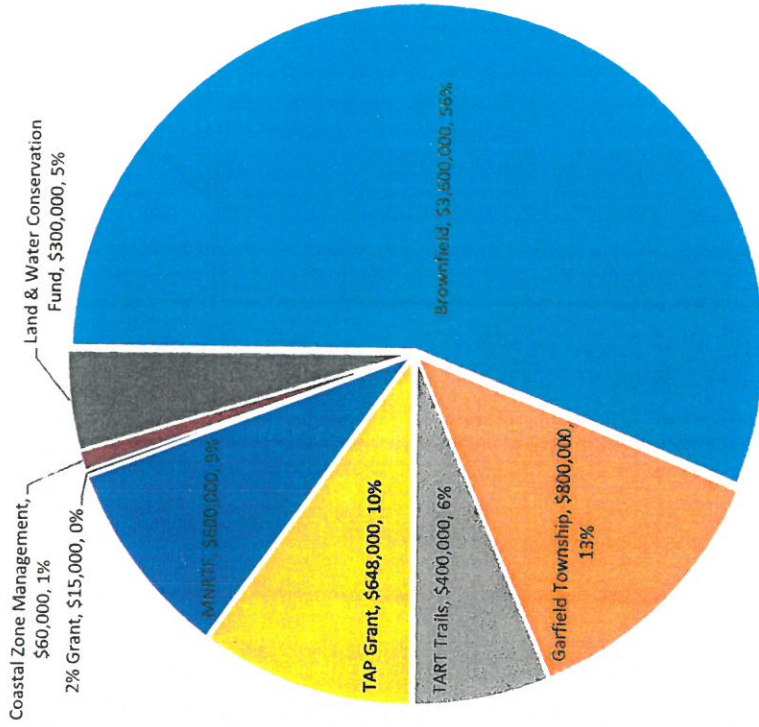
**Estimated Development & Maintenance Costs**

Engineering	\$5,520,924
Construction	\$430,924
Maintenance	\$4,290,000
	\$800,000

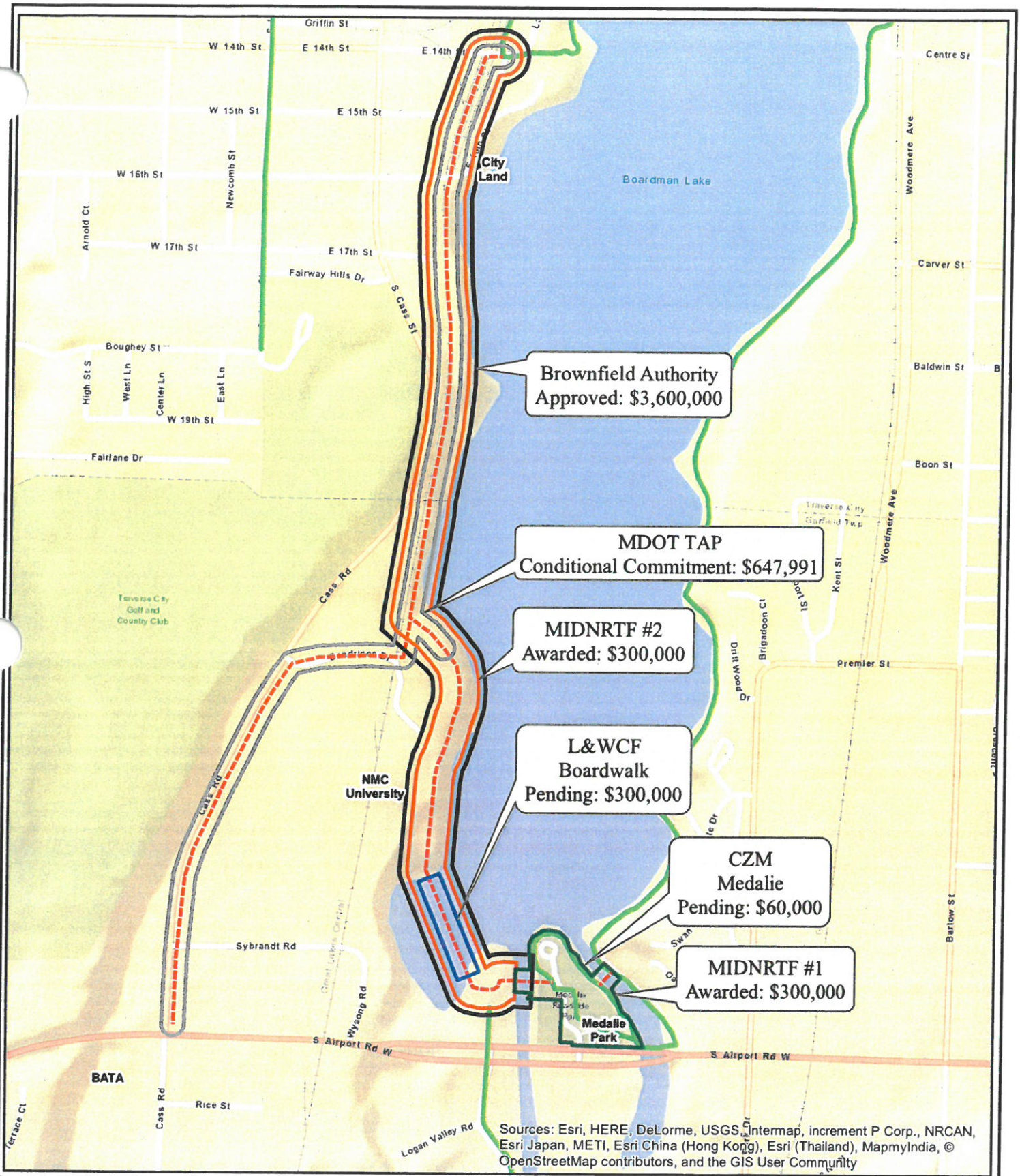
\* As of 4/5/2018

\*\* Highlighted means funding awarded/confirmed

**Boardman Lake Loop Trail Funding Plan**



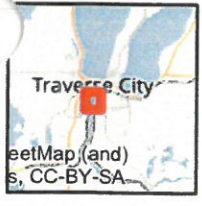
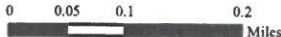
- Brownfield
- Garfield Township
- TAP Grant
- MNRTF
- 2% Grant
- TART Trails
- Rec passport denied
- Land & Water Conservation Fund



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

# West Boardman Lake Loop

Map Legend	
	MIDNRTF #1
	MIDNRTF #2
	L&WCF
	MDOT TAP
	Brownfield
	West Boardman Lake Loop
	Existing Trail & Cross Town Bicycle Route



Map (and) CC-BY-SA

**MAINTENANCE AGREEMENT BETWEEN  
GARFIELD TOWNSHIP, CITY OF TRAVERSE CITY, TART TRAILS, INC., AND  
GRAND TRAVERSE COUNTY  
FOR THE  
LONG TERM MAINTENANCE OF THE BOARDMAN LAKE LOOP TRAIL**

This Maintenance Agreement (the “Agreement”) is between the Charter Township of Garfield (“Township”), located at, 3848 Veterans Drive, Traverse City, MI 49684, The City of Traverse City (“City”), located at, 400 Boardman Avenue, Traverse City, MI 49684, TART Trails, Inc., (“TART”) located at 148 E. Front St, Ste. 201 Traverse City, MI 49684, and Grand Traverse County (“County”), located at, 400 Boardman Avenue, Traverse City, MI 49684 (referred collectively herein as the “Parties”). The Parties enter into this Agreement based on the following:

- A. The Parties worked collaboratively on the design, engineering, construction, and funding of the Boardman Lake Loop Trail (“Loop”) for recreation and transportation purposes with the goals of supporting and improving the community’s economy, health and fitness, and environment.
- B. The Parties acknowledge that the City, as the owner of the trail easements around Boardman Lake, has ultimate management and maintenance responsibility of the Loop. It is the goal of the Parties to seek a long-term, cross-jurisdictional approach for the long-term maintenance and eventual replacement of the Loop, and to facilitate quality public non-motorized transportation and recreation opportunities along the Loop.
- C. The purpose of this Agreement is to establish the respective obligations of the Parties in order to achieve the common goal of the permanent, equitable and responsible maintenance of the Loop.
- D. Looking to the future, it is the intent of the Parties to encourage the Joint Recreational Authority, formed in 2003 by the City of Traverse City and Garfield Township, to include the maintenance of the Boardman Lake Loop trail as part of its mission and responsibilities.

Therefore, the Parties mutually agree as follows:

1. DEFINITIONS

- a) “Capital Asset” means the land upon which the Boardman Lake Loop (trail) is sited, including any easements and/or physical improvements situated on such land.
- b) “Capital Improvements” means the addition of a permanent structural change to the Loop, or the restoration of a component of the Loop that will extend the useful life of the asset beyond the original estimated useful life, or increases the capability or capacity of an asset.
- c) “Endowment” means the fund held at the Grand Traverse Regional Community Foundation which supports the ongoing maintenance of the Boardman Lake Loop (trail) in perpetuity.
- d) “Maintenance Plan” means the Boardman Lake Loop Trail Maintenance Plan as adopted by the Parties and as may be amended in writing by the Parties from time to time (**Attachment A**, incorporated herein by reference).

- e) “Boardman Lake Loop Management Advisory Committee means a standing advisory committee comprised of one (1) representative each of the Parties, charged with oversight of the ongoing maintenance and management of the Loop.

2. OWNERSHIP OF CAPITAL ASSET

City of Traverse City will hold the easements obtained for the purpose of developing the Loop around Boardman Lake and Garfield Township will hold the easements obtained for developing the spur along Cass Road. The locations of the Loop and the Spur along Dendrin Drive and Cass Road are depicted on **Attachment B**, which is incorporated herein by reference.

3. INSURANCE

Insurance on the Loop infrastructure that is sited within each jurisdiction (City or Township) shall be carried by the respective jurisdiction that owns the capital asset.

Any entity that performs maintenance work on the Loop shall provide a certificate of insurance evidencing workers compensation insurance in the statutory limits for the State of Michigan and comprehensive general liability insurance in the amount of \$1 million per occurrence, along with an endorsement to the comprehensive general liability policy which names the City of Traverse City and the Charter Township of Garfield as additional insured. Contractor shall provide such evidence to the City Clerk and the Garfield Township Clerk.

4. MAINTENANCE FUNDING SOURCES

- a) A permanent endowment (“Endowment”), as authorized by PA 38 of 2017 (the “Michigan Community Foundation Act”) will be established by the Township and held by the Grand Traverse Regional Community Foundation (GTRCF) with an initial investment of \$800,000 by the Township to cover the operations and maintenance of the Loop as described in the Maintenance Plan (**Attachment A**). Upon execution of this Agreement, the Township will authorize payment(s) to the Endowment totaling \$800,000, which payment(s) shall be deposited upon completion of construction of the Loop, but no later than December 15, 2019. The annual proceeds derived from the Endowment shall be used for the purpose(s) described below and for no other purpose.
  - i. For the purpose of maintenance of the Loop according to the Maintenance Plan.
  - ii. In the event that the amount of the annual proceeds from the Endowment exceeds the cost of annual maintenance under the Maintenance Plan, the excess proceeds may be used or held for future capital repairs and/or replacement of the Loop infrastructure.
  - iii. In the event that the amount of the annual proceeds from the Endowment is insufficient to perform the annual maintenance under the Maintenance Plan, excess proceeds from prior years held for future capital repairs and/or replacement may be used to supplement the annual proceeds derived from the Endowment, up to the actual cost of annual maintenance in that year.
  - iv. In the event that the amount of the annual proceeds derived from the Endowment is insufficient to perform the annual maintenance under the Maintenance Plan, and there are no excess proceeds as described in Section

4(a)(iii), then the planned maintenance will either be prioritized by the Boardman Lake Loop Management Advisory Committee so as to stay within the annual amount available for maintenance, or the Parties may choose to perform the maintenance and split the additional costs equally between the City, Township, and County.

- v. Administration of the Maintenance Plan is an allowable expense for use of the proceeds derived from the Endowment. Furthermore, in the event that the Parties seek an independent outside entity to perform the operation and maintenance activities identified in the Maintenance Plan, then administrative expenses associated with seeking bids and contract administration will be considered an allowable expense for the use of proceeds derived from the Endowment.
  
- b) Future costs for capital improvements and non-routine repairs outside the scope of work included in the Maintenance Plan that exceed the available annual proceeds derived from the Endowment will be split equally between the City, County, and Township.

#### 5. MAINTENANCE PLAN

- a) TART, as part of their in-kind contribution for construction of the Loop, shall develop the Maintenance Plan using the Michigan Recreation & Parks Association Trail Maintenance Manual as a guide, and in close coordination with City, Township, and County staff. The Maintenance Plan shall identify annual maintenance needs for the Loop as well as long-term, preventative maintenance activities, and a schedule of expected life cycle and replacement costs for trail elements.
- b) The Maintenance Plan shall be adopted by all the Parties by concurrent resolutions in order to be used as a basis for maintenance of the Loop. The approved Maintenance Plan shall be reviewed annually by the Boardman Lake Loop Management Advisory Committee and updated at least every five years by the Parties. The Parties will have the right to participate in the development of future updates to the original Maintenance Plan. Any amendments to the Maintenance Plan shall be adopted by all the Parties by concurrent resolutions in order to be used as the basis for future maintenance of the Loop.
- c) The Maintenance Plan shall be finalized and approved before construction of the Loop begins.

#### 6. TRAIL MANAGEMENT

- a) Maintenance of the Loop shall be performed in accordance with the most current approved Maintenance Plan.
- b) Oversight of the performance of the tasks in the approved Maintenance Plan shall be by the Boardman Lake Loop Management Advisory Committee. Subject to the provisions of this Agreement, the City shall perform annual maintenance of the entire Loop until such time as an alternative long-term agreement for maintenance has been approved in writing by all Parties, but no longer than March 31, 2021.
- c) TART shall develop and submit an annual work plan to be used as the basis for the annual funding request to the Endowment and shall also submit an annual report of

work completed to the other Parties to this Agreement. The annual report may be shared with project donors, volunteers, grantors, or other interested parties.

- d) If the Joint Recreational Authority agrees to the responsibility for Management and Maintenance of the Loop, the Parties shall assign the Management and Maintenance responsibilities in this Agreement to the Joint Recreational Authority. No later than March 31, 2021, if the Joint Recreational Authority has not committed to assuming the responsibility for management and maintenance of the Loop, then the City will seek competitive bids for such annual Maintenance, with the contract for such work to be held by the City. Bids may be sought on a single year or multiple year basis, using the most current approved Maintenance Plan as the basis for the Scope of Work, with review of bids and approval of the selected bidder by the Boardman Lake Loop Management Advisory Committee before submitting a recommendation to the City Commission for final approval.
- e) TART may perform additional management and/or maintenance activities along the Loop that are consistent with the Maintenance Plan and existing agreements with the individual Parties at no cost to the Parties.

#### 7. EFFECTIVE DATE

The Effective Date of this Agreement will be upon completion of construction of the Boardman Lake Loop trail, such that it forms a single continuous Loop around Boardman Lake.

#### 8. TERM

It is the intent of the Parties that maintenance of the Loop be provided in perpetuity in accordance with the requirements of several grants that were awarded in order to construct the Loop. To that end, this Agreement will remain in full force and effect until terminated in writing by the Parties as provided herein. This section will survive any amendments to the Maintenance Plan.

#### 9. TERMINATION

- a) The Parties may terminate this Agreement by providing a written "Request to Terminate" to the other Parties a minimum of ninety days prior to the proposed termination date. The Parties shall take the "Request to Terminate" to their respective governing boards for consideration at a public meeting within 30 days of the date of the request. A "super-majority" vote of the governing boards, defined as one vote more than necessary for a majority vote, shall be required in order for a motion recommending the termination of this Agreement to pass. If a minimum of three of the four Parties to this Agreement vote in favor of termination, then this Agreement shall be deemed to be terminated, with an effective date to be sixty days following the date that the third vote in favor of termination occurred.
- b) In the event this Agreement is terminated, the County, City and Township will retain compliance responsibility for any respective state or federal grant(s) obtained by them for Trail development and support purposes.

#### 10. NON-DISCRIMINATION

The parties agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, or a matter directly or indirectly related to employment because of their actual or perceived race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability, family status, sexual

orientation, or gender identity. Breach of this covenant may be regarded as a material breach of this Agreement.

11. THIRD PARTY BENEFICIARIES.

This Agreement confers no rights or remedies on any third party, other than the parties to this Agreement and their respective successors and permitted assigns.

12. AMENDMENTS.

This Agreement may be modified from time to time, but such modifications shall be in writing and signed by all parties and must be approved by concurrent resolutions of the respective boards of the parties.

13. INTERPRETATION.

This Agreement shall be governed by the laws of the State of Michigan, both as to interpretation and performance. This Agreement was drafted at the joint direction of the parties. The pronouns and relative words used herein are written in the neuter and singular. However, if more than one person or entity joins in this Agreement on behalf of the parties, or if a person of masculine or feminine gender joins in this Agreement on behalf of the parties, such words shall be interpreted to be in the plural, masculine or feminine as the sense requires. In the event that any term, clause or provision of this Agreement conflicts with any term, clause, or provision contained in any attachments to this Agreement, this Agreement's terms shall prevail.

14. VENUE.

Any and all suits for any and every breach of this Agreement may be instituted and maintained in any court of competent jurisdiction in the County of Grand Traverse, State of Michigan.

15. DISPUTE RESOLUTION.

If any party has a dispute with another regarding the meaning, operation, or enforcement of any provision of this Agreement, the parties agree to meet and confer to negotiate a resolution of the dispute. They further agree if they are unable to resolve the dispute themselves and before formally instituting any other dispute mechanism, they shall utilize the services of a mutually acceptable neutral mediator, who meets the qualifications of MCR 2.411, to bring them together in at least one mediation session.

16. NO WAIVER.

No waiver by any party of any default by another party in the performance of any portion of this Agreement shall operate or be construed as a waiver of any future default, whether like or different in character.

17. ENTIRE AGREEMENT.

This Agreement, together with all items incorporated herein by reference, constitutes the entire agreement of the parties and there are no valid promises, conditions or understandings which are not contained herein.

18. AUTHORITY TO EXECUTE.

The parties agree that the signatories appearing below have the authority and are duly authorized to execute this Agreement on behalf of the party to this Agreement.

The Parties have executed this agreement on the date indicated below:

**For the City of Traverse City:**

\_\_\_\_\_  
James Carruthers, Mayor                      Date

\_\_\_\_\_  
Benjamin Marentette, City Clerk      Date

**For the Charter Township of Garfield:**

\_\_\_\_\_  
Chuck Korn, Supervisor                      Date

**For Traverse Area Recreation & Transportation Trails, Inc.**

\_\_\_\_\_  
Julie Clark, Executive Director      Date

**For Grand Traverse County:**

\_\_\_\_\_  
Nathan Algers, Administrator              Date



Consideration of adopting the Grand Traverse County Natural Hazard Mitigation Plan.

**From:** Gregg Bird [<mailto:gbird@grandtraverse.org>]  
**Sent:** Thursday, May 24, 2018 2:53 PM  
**To:** Chuck Korn  
**Subject:**

Chuck -

As requested, attached is the template for Garfield Twp to adopt the Grand Traverse Co. Natural Hazard Mitigation Plan. By adopting the plan, the township will be eligible to apply for hazard mitigation grant applications and any potential disaster relief grants as a result of natural disasters that may affect the township.

Here are some additional advantages to adopting the Grand Traverse Co. Natural Hazard Mitigation Plan:

- Increase education and awareness around threats, hazards, and vulnerabilities;
- Build partnerships for risk reduction involving government, organizations, businesses, and the public;
- Identify long-term strategies for risk reduction that are agreed upon by stakeholders and the public;
- Identify cost effective mitigation actions, focusing resources on the greatest risks and vulnerabilities;
- Align risk reduction with other state, tribal, or community objectives; and
- Communicate priorities to potential sources of funding.

Moreover, a FEMA-approved hazard mitigation plan is a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects.

Once the resolution is official through the township, I'll send that resolution to the Michigan State Hazard Mitigation Officer for approval and then to FEMA for approval. The township will receive back an official acknowledgement from FEMA that Garfield Twp is again covered by the plan.

I'll plan on attending your June 12th meeting in case there are any further questions.

Regards,  
**Gregg**

Gregg Bird PEM, NEMAA  
Emergency Management Coordinator  
Grand Traverse County  
2600 LaFranier Road, Suite A  
Traverse City, MI 49686

# Grand Traverse County Michigan

## Natural Hazards Mitigation Plan



**2015**

## TABLE OF CONTENTS

I.	Acknowledgements	Page 4
II.	FEMA Letter of Approval	Page 5
III.	Preface	Page 7
IV.	Executive Summary Table 1: Planning Goals Table 2: Priority Areas Table 3: Mitigation Strategies	Page 8 Page 8 Page 9 Page 10
V.	Purpose of the Plan Figure 1: Disaster Declarations for the State of Michigan	Page 11 Page 12
VI.	Community Profile Table 4: Geographic features Table 5: Land Use Table 6: Grand Traverse County Population by Municipality Table 7: Forecasted Population Table 8: Poverty Statistics Table 9: Economic Census	Page 13 Page 13 Page 13 Page 14 Page 14 Page 15 Page 16
VII.	The Development of the Plan Table 10: Critical Facilities and Infrastructure • Natural Flood Insurance Program (NFIP) Table 11: NFIP Participation • Natural Hazards Information Table 12: Flood Events Table 13: Hail Events Table 14: Extreme Winter Weather Events Table 15: Severe Thunderstorm Events Table 16: Tornado Events • Grand Traverse County Natural Hazards Task Force and Public Input • Natural Hazards Priority Areas • Emergency Warning System Coverage • Economic Impact Analysis Table 17: Damage Cost by Natural Hazard Table 18: Geographic Economic Value	Page 17 Page 17 Page 18 Page 18 Page 19 Page 19 Page 20 Page 21 Page 21 Page 23 Page 24 Page 25 Page 26 Page 26 Page 26 Page 26
VIII.	Natural Hazards Mitigation Goals and Objectives	Page 27
IX.	Identification and Selection of Mitigation Strategies	Page 29
X.	Participation in the Development of the Natural Hazards Mitigation Plan Table 17: Plan Participation	Page 31 Page 32
XI.	Implementation of the Natural Hazards Mitigation Plan • Natural Hazards Mitigation Plan Managers and Technical Assistance • Funding the Implementation of the Plan • Action Agenda Table 19: Action Strategies • Monitoring and Evaluation	Page 33 Page 33 Page 33 Page 34 Page 34 Page 36
XII.	Natural Hazards Mitigation Plan Adoption Resolution	Page 37
XIII.	Appendices A. Glossary B. Detailed Maps C. Population Density Map D. Risk Assessment Work Sheet E. Examples of Past Mitigation Projects F. Resources	Page 38 Page 38 Page 41 Page 45 Page 46 Page 47 Page 48

## **I. ACKNOWLEDGEMENTS**

The Plan is the culmination of the interdisciplinary and interagency planning effort that required the assistance and expertise of numerous agencies, organizations, and individuals. Without the technical assistance and contributions of time and ideas of these agencies, organizations, and individuals, this plan could not have been completed.

Each jurisdiction within Grand Traverse County is a continuing participant in the update of the Plan. The following is a list of key contributors who were instrumental in the update of the Grand Traverse County Natural Hazards Mitigation Plan:

### **Grand Traverse County Emergency Management**

Gregg Bird

### **Grand Traverse County Planning Commission**

### **Grand Traverse County Planning Department**

John Sych

### **Grand Traverse County Board of Commissioners**

Herb Lemcool

### **Grand Traverse County Health Department**

Wendy Trute

### **Traverse City Police Department**

Jeff O'Brien

### **Traverse City Fire Department**

Jim Tuller

### **Grand Traverse Band of Ottawa and Chippewa Indians**

Joe Hahn

### **Others**

Grand Traverse Central 911	Grand Traverse Pavilions
Grand Traverse Metro Emergency Services	National Cherry Festival
Grand Traverse Rural Fire	WTCM radio (EAS broadcast station)
Peninsula Twp Fire & EMS	Grand Traverse Band of Ottawa & Chippewa Indians
Blair Twp Fire & EMS	Traverse City Light and Power
Grand Traverse Road Commission	Consumers Energy
Michigan State Police	Tyson Foods
Traverse City Public Services	Cherry Capitol Airport
Grand Traverse County Public Works	Transportation Safety Administration
North Flight EMS	Area Commission on Aging
Munson Medical Center	USCG, Air Station Traverse City
FBI, Traverse City Office	American Red Cross

II. FEMA Letter of Approval

RECEIVED  
Michigan State Police  
JUL 20 2015  
Emergency Management and  
Homeland Security Division

U.S. Department of Homeland Security  
Region V  
536 S. Clark St., 6th Floor  
Chicago, IL 60605-1509



FEMA

JUL 15 2015

Mr. Matt Schnepf  
State Hazard Mitigation Officer  
Michigan State Police  
Emergency Management and Homeland Security Division  
4000 Collins Rd  
Lansing, MI 48910

Dear Mr. Schnepf:

Thank you for submitting the adoption documentation for the Grand Traverse County Hazard Mitigation Plan. The plan was reviewed based on the local plan criteria contained in 44 CFR Part 201, as authorized by the Disaster Mitigation Act of 2000. Grand Traverse County met the required criteria for a multi-jurisdiction hazard mitigation plan and the plan is now approved for the County. Please submit the adoption resolutions for any remaining jurisdictions who participated in the planning process.

The approval of this plan ensures continued availability of the full complement of Hazard Mitigation Assistance (HMA) Grants. All requests for funding, however, will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted.

We encourage Grand Traverse County to follow the plan's schedule for monitoring and updating the plan, and continue their efforts to implement the mitigation measures. The expiration date of the Grand Traverse County Plan is five years from the date of this letter. In order to continue project grant eligibility, the plan must be reviewed, revised as appropriate, resubmitted, and approved no later than the plan expiration date.

Please pass on our congratulations to Grand Traverse County for this significant action. If you or the communities have any questions, please contact Kirstin Kuenzi at (312) 408-4460 or [Kirstin.Kuenzi@fema.dhs.gov](mailto:Kirstin.Kuenzi@fema.dhs.gov).

Sincerely,

Christine Stack, Director  
Mitigation Division

THIS PAGE LEFT INTENTIONALLY BLANK

### III. PREFACE

Hazard mitigation is any action taken before, during, or after a disaster to permanently eliminate or reduce the long-term risk to human life and property from natural and technological hazards. This procedure is an essential element of emergency management, along with preparedness, response, and recovery. Emergency management includes four phases: a community prepares for a disaster; responds when it occurs; and then there is a transition into the recovery process, during which mitigation measures are evaluated and adopted. The evaluation improves the preparedness posture of the County for the next incident, and so on. When successful, mitigation will lessen the impacts of natural hazards to such a degree that succeeding incidents will remain incidents and not become disasters.

The mission of the Grand Traverse County Natural Hazard Mitigation Plan is to permanently eliminate or reduce long-term risks to people and property from natural hazards so that county assets such as transportation, infrastructure, commerce, and tourism can be sustained and strengthened. This can be accomplished through collaborative efforts/activities amongst agencies within Grand Traverse County.

Mitigation allows repairs and reconstruction to be completed after an incident occurs in such a way that does not just restore the damaged property as quickly as possible to pre-disaster conditions. This process is needed to ensure that such cycles are broken, that post-disaster repairs and reconstruction take place after damages are analyzed, and that sounder, less vulnerable conditions are produced. Through a combination of regulatory, administrative, and engineering approaches, losses can be limited by reducing susceptibility to damage.

Recognizing the importance of reducing community vulnerability to natural hazards, Grand Traverse County is actively addressing the issue through the development and implementation of this plan. The many benefits to be realized from this effort are:

Community Benefits of a Natural Hazard Mitigation Plan
Protection of the public health and safety
Preservation of essential services
Prevention of property damage
Preservation of the local economic base

This process will help ensure that Grand Traverse County remains a vibrant, safe, enjoyable place in which to live, raise a family, continue to conduct business, and maintain a tourist base.

#### IV. EXECUTIVE SUMMARY

In 2000, the Disaster Mitigation Act shifted the Federal Emergency Management Agency's (FEMA) scope of work to promoting and supporting prevention, or what is called hazard mitigation planning. FEMA now requires government entities to have natural hazards mitigation plans in place as a condition for receiving grant money, such as hazard mitigation grant program funds, in the future.

To meet this requirement, the Michigan State Police provided funding to encourage regional cooperation in the development of individual county Natural Hazards Mitigation Plans. The **Northwest Michigan Hazard Mitigation Planning Project update** was coordinated by the Northwest Michigan Council of Governments (NWMCOG) with Leelanau County being the Fiduciary. The update included Antrim, Kalkaska, Missaukee, Wexford, Grand Traverse, Leelanau, Benzie, and Manistee counties. NWMCOG worked with the Task Forces to update plans for these counties, which includes a general community profile, a comprehensive inventory of existing hazards, a hazard analysis, goals and objectives, and feasible mitigation strategies to address the prioritized hazards.

The Grand Traverse County Natural Hazards Mitigation Plan focuses on natural hazards such as drought, wildfires, flooding, shoreline erosion, thunderstorms and high winds, tornadoes, and extreme winter weather, and was created to protect the health, safety, and economic interests of the residents and businesses by reducing the impacts of natural hazards through planning, awareness, and implementation. Through this Plan, a broad perspective was taken in examining multiple natural hazards mitigation activities and opportunities in Grand Traverse County. Each natural hazard was analyzed from a historical perspective, evaluated for potential risk, and considered for possible mitigative action.

The Plan serves as the foundation for natural hazard mitigation activities and actions within Grand Traverse County, and will be a resource for building coordination and cooperation within the community for local control of future mitigation and community preparedness around the following:

Table 1: Planning Goals

Natural Hazards Mitigation Planning Goals for Grand Traverse County
<b>Goal 1:</b> Increase local participation in natural hazards mitigation
<b>Goal 2:</b> Integrate natural hazards mitigation considerations into the County's comprehensive planning process
<b>Goal 3:</b> Utilize available resources and apply for others for natural hazards mitigation projects
<b>Goal 4:</b> Develop and complete natural hazards mitigation projects in a timely manner



Table 2: Priority Areas for Grand Traverse County

<b>Natural Hazards Mitigation Priority Areas</b>	
<b>Priority Area 1:</b> Public infrastructure (culverts, dams, bridges, etc.) located throughout Boardman River communities (Garfield, Blair, Paradise, East Bay, and Union Townships; City of Traverse City)	
Mitigation Strategies:	<b><i>Flooding</i></b>
<b>Priority Area 2:</b> Countywide historical record of severe thunderstorms and high wind events that may produce lightning strikes, flash flooding, hail, strong winds, and tornadoes.	
Mitigation Strategies:	<b><i>Severe Thunderstorms/High Winds</i></b>
<b>Priority Area 3:</b> Countywide historical record of heavy snow, extreme temperatures, ice damage occurrences	
Mitigation Strategies:	<b><i>Extreme Winter Weather</i></b>
<b>Priority Area 4:</b> Countywide potential wildfire/urban interface	
Mitigation Strategies:	<b><i>Wildfire</i></b>
<b>Priority Area 5:</b> Countywide potential of (shoreline) erosion and ice damage	
Mitigation Strategies:	<b><i>Erosion</i></b>

Table 3: Mitigation Strategies for Grand Traverse County

Frequent Natural Hazard	Mitigation Strategies
Flooding	
	<ul style="list-style-type: none"> <li>• Drainage improvements in high flooding potential areas</li> <li>• Removal of unsafe dams on the Boardman River (2)</li> <li>• Continue enforcement of building codes and soil erosion regulations</li> </ul>
Severe Thunderstorms/ High Winds	
	<ul style="list-style-type: none"> <li>• Establish emergency shelters</li> <li>• Utilize a ham radio channel for local warnings if primary communications is interrupted</li> <li>• Promote the establishment of a robust, interoperable communication system</li> <li>• Enhance cooperation with utility companies (tree management, promotion of burying utility lines in new construction, and high outage areas)</li> <li>• Identify potential wind damage areas</li> <li>• Establish new generators where needed</li> <li>• Update the County's debris removal plan</li> </ul>
Extreme Winter Weather	
	<ul style="list-style-type: none"> <li>• Continue enforcement of building code regarding snow load limits through the permitting process</li> <li>• Utilize a ham radio channel for local warnings if primary communications is interrupted</li> <li>• Promote the establishment of a robust, interoperable communications system</li> </ul>
Wildfire	
	<ul style="list-style-type: none"> <li>• Public education and awareness activities such as programs and brochures regarding fuel management, proper vegetation, fire breaks</li> <li>• Continue enforcement of state fire codes regarding setback requirements</li> <li>• Public education utilizing the Michigan Department of Natural Resources flyers and the Federal Emergency Management Administration information at parks and campgrounds</li> <li>• Real estate and insurance agents to distribute information</li> <li>• Assess fire suppression access and make improvements</li> <li>• Research the Department of Natural Resources' State Forest wildfire/urban interface rules or plan</li> </ul>
Erosion	
	<ul style="list-style-type: none"> <li>• Drainage control projects</li> <li>• Enforcement of soil erosion statutes/permits</li> <li>• Enforcement of building and zoning codes for current and future development</li> <li>• Enforcement of the grading levels no more than 10%</li> <li>• Placement of vegetation and utilizing native vegetation</li> </ul>

## V. PURPOSE OF THE PLAN

In 2000, the Disaster Mitigation Act shifted the Federal Emergency Management Agency's (FEMA) scope of work to promoting and supporting prevention, or what is referred to as hazard mitigation planning. FEMA requires government entities to have natural hazards mitigation plans in place and updated on a 5-year cycle as a condition for receiving grant money related to natural hazard remediation.

The **purpose of the Grand Traverse County Natural Hazards Mitigation Plan** is to find solutions to existing problems, anticipate future problems, prevent wasteful public and private expenditures, protect property values, and allocate land resources. The implementation of the Plan is to prevent injury, loss of life, property damage, breakdown in vital services like transportation and infrastructure, economic slumps, diminished tourist activity, liability issues, and damage to a community's reputation. For Grand Traverse County in the northwest region of the lower peninsula of Michigan, the **planning process** utilized the following steps in the development of the Plan. Emphasis was placed on natural hazards that have had significant impact on the community in the past.

Steps in the Planning Process
Identification of natural hazards and risks
Preparation of draft plan
Identification of natural hazards mitigation goals and objectives for emergency management programs
Selection of evaluation criteria
Selection of mitigation strategies using locally chosen criteria
Public Comment
Completion of the final plan

### What is a Hazard?

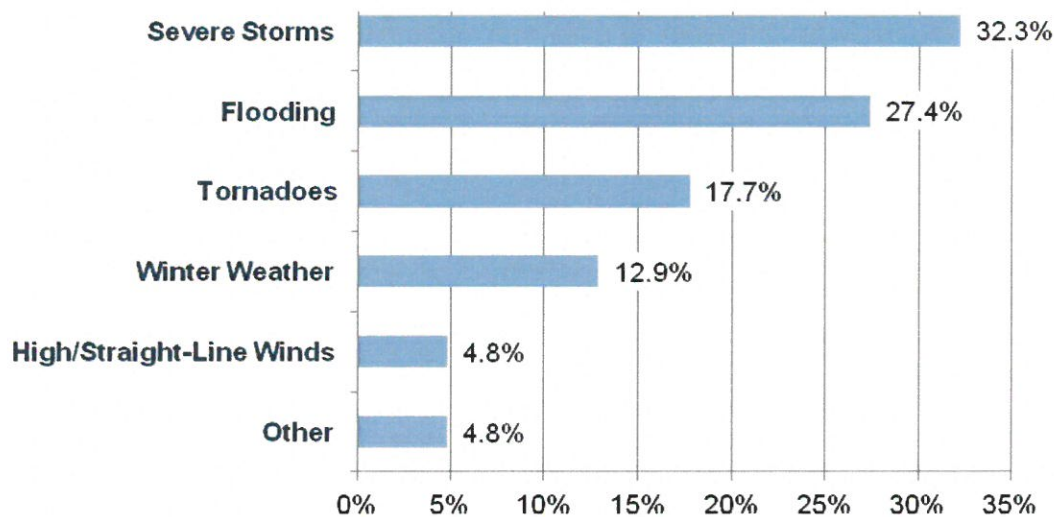
A **hazard** is an event or physical condition that has potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss. This plan focuses on principle natural hazards that occur in the northern lower region (see Page 12). This Plan is intended to be a resource for building coordination and cooperation within a community for local control of future mitigation and community preparedness.

Principle Natural Hazards in Northern Lower Michigan
Severe Storms (Thunderstorms, Winter storms)
High Winds
Tornadoes
Extreme Temperatures
Flooding
Shoreline Hazards
Dam Failures
Drought
Wildfires
Invasive Species
Subsidence

Source: FEMA

**Percent of natural hazard events for all formal disaster declarations in the State of Michigan (1953 – 2014)**

Figure 1: Disaster Declarations for the State of Michigan



Source: FEMA

**What is Mitigation?**

Mitigation is the sustained action taken to lessen the impact from natural hazards and to work to reduce the long-term risk to human life and property, and their effects. This long-term planning distinguishes mitigation from actions geared primarily to emergency preparedness and short-term recovery. This Plan can be used to lessen the impact, to support and be compatible with community goals, to lay out considerations in choosing and evaluating methods, and to look at the feasibility of mitigation strategies.

## VI. COMMUNITY PROFILE

Grand Traverse county is approximately 314,700 acres or 492 square miles in area. The predominant land use/land cover is, by far, forest which covers almost 43% of the land area. This is followed by a substantial amount of agricultural land at 14.9%, then wetlands and open land.

Agricultural land is concentrated on Old Mission Peninsula, in the northern halves of Acme and Whitewater Townships, on the fringe of the urban area of Traverse City, and throughout the southern portion of the county.

More intense land uses such as commercial, industrial, institutional and transportation are primarily found in the Traverse City area and to a lesser extent in village areas and in small parcels on major corridors throughout the county.

Commercial land is the largest intensive use category in the county with 3,440 acres. Residential uses are found predominantly in and around Traverse City including Garfield Township and East Bay Township, village areas of Kingsley, Interlochen and Fife Lake, and around the Long Lake and Spider Lake areas.

There has not been any major infrastructure development, nor major hazard mitigation efforts, in the county since the last adoption of the Plan in 2007.

Community data is provided for planning and implementing natural hazard mitigation strategies.

*Table 4: Geographic features*

Feature	Measure
Land Area	136 sq. miles
Area in Water	492 sq. miles
Grand Traverse Bay shoreline	66.72 miles
Operating Farms	504

Source: U.S. Census Bureau; Grand Traverse County GIS Department; USDA, National Agricultural Statistics Service

*Table 5: Land Use*

Classification	Acres	Percent
Residential	33,265	10.6%
Institutional	1,589	0.5%
Recreation	3,025	1%
Commercial	3,440	1.1%
Industrial	901	0.3%
Transportation/Utilities	1,347	0.4%
Agricultural	46,805	14.9%
Open Land	32,421	10.3%
Forest	133,966	42.6%
Wetlands	39,037	12.4%
Barren	1,568	0.5%
Water	17,336	5.5%
<b>TOTAL ACREAGE</b>	<b>314,700</b>	

Source: Grand Traverse County Planning & Development Department

Grand Traverse County is comprised of thirteen (13) townships, two (2) villages and one (1) city

Table 6: Population by Municipality

Unit of Government	2010 Count	2013 Estimate	Percent Change 2010 to 2013
Grand Traverse County	86,986	89,987	3.4%
Fife Lake Village	443	451	1.8%
Kingsley Village	1,480	1,517	2.5%
Traverse City (Grand Traverse County only)	14,482	14,827	2.4%
Acme Township	4,375	4,581	4.7%
Blair Township	8,209	8,459	3.0%
East Bay Charter Township	10,663	11,139	4.5%
Fife Lake Township	2,348	2,373	1.2%
Garfield Charter Township	16,256	16,668	2.5%
Grant Township	1,066	1,117	4.8%
Green Lake Township	5,784	6,029	4.2%
Long Lake Township	8,662	9,054	4.5%
Mayfield Township	1,550	1,607	3.7%
Paradise Township	4,713	4,785	1.5%
Peninsula Township	5,433	5,680	4.5%
Traverse City (including Leelanau County)	14,674	15,018	2.3%
Union Township	405	420	3.7%
Whitewater Township	2,597	2,712	4.4%

Source: Grand Traverse County

Table 7: Forecasted Population

Year	Forecasted Population	Percent Increase from 2010
2015	94,044	8.1%
2020	101,164	16.3%
2025	107,105	23.1%
2030	111,925	28.7%
2035	116,081	33.4%
2040	120,127	38.1%

Source: MDOT-Statewide & Urban Model Travel Analysis Section & U-M Institute for Research on Labor, Employment, and the Economy

In 2010, Grand Traverse County had a total population of 86,986, an increase of 12% from the 2000 population of 77,655 – making it the third fastest growing county in Michigan during this period. Garfield Township’s population increased 17% from 2000 to 2010 making it the most populated community in the county.

As of 2013, the estimated total population for Grand Traverse County is 89,987. The projected growth for 2020 is 101,164 and for 2030 is 111,925.

As a tourist destination and an area of many vacation homes, Grand Traverse County experiences an increased population due to its transient population. The annual average transient population is 11% higher than the permanent population counted by the U.S. Census. This translates into an addition of nearly 10,000 to the resident population. The month of July has the highest at 22% higher or almost 20,000.

At 41.3 years, the median age of Grand Traverse County is higher than the state and national median ages. Locally, the lowest median age, 32.6, was in the Village of Kingsley where 31% of the population is under 18 years. The highest median age, 53.4, was in Peninsula Township where 26% of the population is over 65 years. In 2010, 22% of the population was under 18 years and 15% was 65 years or older. In 2040, 36% of the households are projected to be 65 years or older.

There are 41,598 housing units in Grand Traverse County, of which 34,362 are occupied. The average household size is 2.45 persons per household. 38.8% of the households have 2 persons.

Additional population profile information:

- The number of residents 19 years and under is 21,383, or 24.6% of the population.
- The number of residents over 65 years with a disability is 4,042, or 4.6% of the population.
- The total number of residents with a disability is 10,236, or 12.0% of the population.
- The number of residents that have a language barrier or are linguistically isolated is 1,484, or 1.71% of the population. There is an increase of migrant workers in the summer and fall season that do not speak English.
- The number of families in poverty with children is 1,520 or 6.7% of all families.
- The number of households with income less than \$15,000 is 9.9%.
- Individuals in poverty is 9,573

*Table 8: Poverty Statistics*

Poverty	Statistics
Families in poverty	6.7%
Income less than \$15,000	9.9%
Population in poverty	9,573

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Table 9: Economic Census

Industry Description	Number of Establishments	Number of Employees
Manufacturing	178	4,522
Wholesale trade	156	1,347
Retail trade	565	7,035
Information	68	734
Real estate, rental, leasing	150	458
Professional, scientific, technical services	371	2,382
Administrative, support, waste management, remediation services	183	1,327
Educational Services	35	794
Health care, social assistance	396	8,802
Arts, entertainment, recreation	48	345
Accommodation and food services	250	5,501
Other services (except public administration)	274	1,723

Source: US Census Bureau: County Business Patterns 2008-2012



## VII. THE DEVELOPMENT OF THE PLAN

### Data Methodology and Map Development

Grand Traverse County staff identified the critical facilities and infrastructure on the base map and provided updated GIS shp files for mapping purposes.

Table 10: Critical Facilities and Infrastructure

2	<p>Airports</p> <ul style="list-style-type: none"> <li>• Traverse City Cherry Capital Airport – 378,241 passengers (2013)</li> <li>• Green Lake Township Airport</li> </ul> <p><a href="http://mdotcf.state.mi.us/public/airportstats/">http://mdotcf.state.mi.us/public/airportstats/</a></p>
1	<p>Bus Terminal</p> <ul style="list-style-type: none"> <li>• Indian Trails in Traverse City</li> </ul>
82	<p>Places of Worship (2010)</p> <p><a href="http://www.thearda.com/rcms2010/">http://www.thearda.com/rcms2010/</a></p>
1	Coast Guard Air Station
3	Dams – Union Street, Boardman, Sabin
1	Emergency Management Services Facility
14	Fire Stations
45	Government Buildings
1	Hospital – Munson Medical Center
4	Industrial Facilities
5	Law Enforcement
11	<p>Medical Facilities</p> <ul style="list-style-type: none"> <li>• Primary physicians per 100,000 population is 124.2 (2010)</li> </ul> <p><a href="http://www.healthindicators.gov/">http://www.healthindicators.gov/</a></p>
9	Mobile Home Parks
10	Post Offices
200	Resort/Recreation
44	Schools/Library
1	<p>Sewage Treatment Facilities</p> <ul style="list-style-type: none"> <li>• 40.1% public sewer</li> <li>• 58.9% individual septic/cesspool</li> <li>• 1.0% other</li> </ul>
10	Utility
9	<p>Water Tower</p> <ul style="list-style-type: none"> <li>• 39.8% of population on public system or private company (2005)</li> <li>• 60.9% of population on individual wells (2005)</li> </ul> <p><a href="http://censtats.census.gov/usa/usa.shtml">http://censtats.census.gov/usa/usa.shtml</a></p>

Source: Grand Traverse County Data

## Flood Data

Flood hazard information may be obtained from the Flood Rate Insurance Maps (FIRM) available for jurisdictions. In order to delineate potential flood plain areas (seasonal floodplains) for each county, NWMCOG overlaid wetland, soils, and elevation data to determine the most likely flood prone areas. Once overlaid; isolated polygons (areas) were deleted in order to show a more accurate representation of potential flood prone areas along lakes, rivers, and streams. Sources: Temporary/Seasonally Flooded Areas data are from the National Wetland Inventory of the US Fish and Wildlife Service; Hydric soils data are from the county digital soil surveys (were available); and Digital Elevation Model data are from the Center for Geographic Information, Michigan Department of Information Technology.

## NFIP Participation Status:

Grand Traverse County is currently participating in the update of new digital flood maps, which will not be final for 1 to 2 years. The county has only one property that has been identified by the National Flood Insurance Program as having suffered repetitive flood losses. The property is a single-family home located in Blair Township. It had been damaged by floods in 2012 and 2014, with similar amounts of damage occurring during each event. This property should be prioritized for flood mitigation activities, in order to prevent or reduce such losses in the future.

Table 11: NFIP Participation

Municipality	NFIP status	Flood Maps	Year Joined
Acme Township	P	N	1986
Blair Township	P	N	1988
East Bay Township	P	N	1986
Fife Lake Township	NP		
Garfield Township	P	N	1986
Green Lake Township	NP		
Grant Township	NP		
Long Lake Township	P	Y	1988
Mayfield Township	NP		
Paradise Township	P	Y	1986
Peninsula Township	P	N	1986
Union Township	P	Y	1988
Whitewater Township	P	Y	1988
Village of Fife Lake	NP		
City of Traverse City	P	Y	1982

P = Participates  
 NP = Non Participating  
 Y = Yes  
 N = No

Source: Department of Environmental Quality

## Fire Data

Modern forest fire data were obtained from the USDA forest service and the Departments of Natural Resources in Minnesota, Wisconsin, and Michigan. Fire regimes data (fire prone areas) were provided by the USDA Forest Service, North Central Research Station located in Wisconsin. Land type associations, and historical and modern fire rotations were used to identify the fire prone areas.

**Tornadoes** - National Weather Service

**Damaging Winds** - National Weather Service

**Large Hail** - National Weather Service

**Winter Weather** - National Weather Service

**Shoreline Erosion** - Shoreline erosion incident zones delineated by the US Geological Service. Digital Elevation Model data was obtained from the Center for Geographic Information, Michigan Department of Information Technology.

**Other hazards** such as earthquakes and subsidence were considered but are not substantial risks in Grand Traverse County.

**Natural Hazards Recorded Events**

Data for weather events was compiled from the National Oceanic and Atmospheric Administration’s (NOAA) website utilizing the following sections:

- Weather/Climate Events, Information, Assessments
- Climatology and Extreme Events
- NOAA Storm Event Database; 1950 to present, local storm reports, damage reports, events checked for Grand Traverse County included: Drought (Drought), Flood (Flash Flood, Flood, Lakeshore Flood), Hail (Hail), Extreme Winter Weather (Blizzard, Extreme Cold/Wind Chill, Freezing Fog, Frost/Freeze, Heavy Snow, Ice Storm, Lake-effect Snow, Sleet, Winter Storm, Winter Weather), Tornado (Tornado, Funnel Cloud), Thunderstorm and High Wind (Heavy Rain, High Wind, Lightning, Strong Wind, Thunderstorm Wind), Wildfire (Wildfire)

The following list includes the frequency, dates, and descriptions of the most severe natural hazard events that have occurred within Grand Traverse County, according to the NOAA Storm Event Database; January 1950 – August 2014. *Extreme Winter Weather* includes events with ice covering, property damage, and/or up to/over 12 in. of snow. *Severe Thunderstorm* include 50 knot winds + and property damage figures.

**Flood/Flash Flood: 7 events**

Table 12: Flood Events

Month	Year	Location	Effect	Damage
February	1986*	County/Statewide	Great Lakes flooding, wave action	NA
January	1993	County/Region	Heavy rainfall and snowmelt	\$5,000
March	1993	County/Region	Flooding	NA
April	1993	County/Region	Flood	\$5,000,000
July	1999	Traverse City	Secondary street flooding/ basement flooding	NA
July	2000	Traverse City	Street flooding	NA
September	2000	Countywide	Street flooding, power outages, 1 fatality from lightning	NA
April	2001	County (north central)	Flooding along Boardman River	NA
April	2012	Grawn	Boardman River flooded homes	\$75,000
October	2012	Grawn	Failure of temporary dam on Boardman River/homes and other property damaged or destroyed	\$1,800,000
November	2013	Traverse City	2 in. rain in 1 hour/ roads flooded and impassable	\$14,000

**Hail: 26 events**

Table 13: Hail Events

Month	Year	Location	Effect	Damage
September	1958	Countywide	0.75 in.	NA
May	1970	Countywide	1.75 in.	NA
May	1971	Countywide	0.75 in.	NA
April	1975	Countywide	1.50 in.	NA
July	1980	Countywide	2.00 in.	NA
July	1982	Countywide	1.00 in.	NA
April	1993	Traverse City	1.00 in.	NA
April	1993	Bates	1.00 in.	NA
April	1999	Traverse City	0.75 in.	NA
June	2000	Traverse City	1.00 in./flooding/60 mph gusts	NA
September	2000	Traverse City	1.00 in./flooding/60 mph gusts	NA
June	2003	Fife Lake	0.75 in.	NA
August	2003	Traverse City	0.88 in.	NA
September	2005	Interlochen	0.88 in.	NA
June	2006	Traverse City	0.88 in.	NA
June	2006	Kingsley	0.75 in.	NA
July	2006	Old Mission	0.88 in.	NA
October	2006	Traverse City	1.25 in.	NA
June	2008	Traverse City	1.25 in.	NA
June	2008	Williamsburg	1.00 in.	NA
July	2010	Traverse City	0.88 in.	NA
April	2011	Hannah	0.88 in.	NA
June	2011	Old Mission	1.25 in.	NA
June	2011	Old Mission	1.00 in.	NA
May	2012	Acme	1.00 in.	NA
May	2012	Williamsburg	1.25 in.	NA
May	2012	Fife Lake	1.00 in.	NA
July	2014	Countywide	0.88 in.	NA
July	2014	Countywide	0.75 in.	NA
July	2014	Countywide	0.75 in.	NA
July	2014	Countywide	1.00 in.	NA

## Extreme Winter Weather: 105 events

Table 14: Extreme Winter Weather Events

Month	Year	Location	Effect	Damage	Event
January	1993	County/Region	6 - 12 in. snow	\$50,000	
April	1993	County/Region	Heavy Snow	\$50,000	
December	1993	County/Region	10 - 15 in. snow/ 3 ft. drifts/accidents and injuries	NA	
January	1994	Statewide	.1 - .3 in. ice	\$5,000,000	Freezing Rain/ Heavy Snow
January	1997	Countywide	12 - 18 in. snow	NA	
March	1998	County/Region	8 - 12 in. snow/ 45 mph gusts	NA	Blizzard
December	1998	Countywide	6 - 12 in. snow	NA	
January	1999	Countywide	6 - 12 in. snow	NA	
December	2001	Traverse City	20.5 in. snow	NA	
December	2002	County/Region	1/4 in. ice	NA	Ice Storm
January	2003	County/Region	6 - 12 in. snow	NA	
January	2004	County/Region	20 in. snow	NA	
November	2005	County/Region	10 - 17 in. snow	NA	
January	2007	County/Region	11 -13 in. snow	NA	
February	2007	County/Region	-20 to -30 wind chills	NA	Extreme Temp
December	2009	County/Region	6 - 16 in. snow	NA	
December	2010	County/Region	6 -12 in. snow	NA	
March	2011	County/Region	6 - 15 in. snow	NA	
March	2012	County/Region	6 - 14 in. snow/widespread power outages	NA	
April	2012	Statewide	Killing freeze	\$15,000,000 (crop)	Extreme Temp
December	2012	County/Region	Trees and power lines down	\$12,000	
November	2013	County/Region	8 - 12 in. snow	NA	
January	2014	County/Region	12 - 16 in. snow	NA	
February	2014	County/Region	45 mph winds/ -15 to -25 wind chills	NA	

## Severe Thunderstorm/High Wind: 54 events

Table 15: Severe Thunderstorm Events

Month	Year	Location	Effect	Damage	Event
August	1955	Countywide	61 knot winds	NA	
July	1956	Countywide	60 knot winds	NA	
July	1966	Countywide	50 knot winds	NA	
July	1969	Countywide	52 knot winds	NA	
July	1972	Countywide	55 knot winds	NA	

**Severe Thunderstorm/High Wind (continued)**

Month	Year	Location	Effect	Damage	Event
July	1974	Countywide	65 knot winds	NA	
May	1975	Countywide	50 knot winds	NA	
July	1982	Countywide	52 knot winds	NA	
July	1987	Countywide	70 knot winds	NA	
October	1989	Countywide	50 knot winds	NA	
July	1995	Acme	52 knot winds/ trees down	NA	
April	1997	Traverse City	52 knot winds	NA	
May	1998	Traverse City	50 knot winds/ trees and power lines down	NA	
September	1998	Countywide	52 knot winds/ trees down	NA	
November	1998	County/Region	50 knot winds	NA	
February	1999	Traverse City	50 knot winds/ tree down	NA	
June	1999	Traverse City	52 knot winds/ trees and power lines down	NA	
June	1999	Interlochen	50 knot winds/ trees down	NA	
July	1999	Traverse City	60 knot winds/ trees and power lines down/ straight line wind damage/ structure damages	NA	
August	2000	Countywide	Lightning sparked explosion at oil company in Blair Twp.	\$20,000	Lightning
September	2000	Traverse City	50 knot winds	NA	
September	2000	Traverse City	Lightning sparked garage fire/ 1 fatality	\$20,000	Lightning
August	2001	Traverse City/ Williamsburg	50 knot winds/ trees and power lines down	NA	
April	2002	Traverse City/ Kingsley	50 - 60 knot winds/ trees and power lines down/ roof damage	\$15,000	
April	2002	Old Mission	Fire sparked by lightning destroyed home	\$125,000	
July	2002	Traverse City/ Fife Lake	50 - 65 knot winds/ trees and power lines down	NA	
August	2003	Acme	5 knot winds/ tree down	NA	
November	2003	County/Region	68 knot winds/ trees and power lines down/ power outages	\$30,000	
August	2004	Traverse City	56 knot winds/ trees down/ crops damaged	\$1,000 (crop)	
September	2005	Traverse City	52 knot winds/ structure damage	\$45,000	
November	2005	County/Region	40 knots sustained winds/ trees down	\$3,000	
November	2005	County/Region	55 knot winds/ trees down/ structure damage	\$45,000	
July	2006	Traverse City	51 knot winds/ trees down/ property damage	\$3,000	
July	2006	Long Lake	65 knot winds/ over 200 trees down/ property damage	\$35,000	
July	2006	Interlochen	50 knot winds/ trees down/ property destroyed	\$8,000	

### Severe Thunderstorm/High Wind (continued)

Month	Year	Location	Effect	Damage	Event
July	2006	Williamsburg	Structure damage/ crop damage	\$5,000	
June	2007	Kingsley	52 knot winds/ trees down	\$5,000	
October	2007	Traverse City	52 knot winds/ trees down	\$4,000	
June	2009	Interlochen	55 knot winds/ trees and power pole down/ property and structures damaged	\$30,000	
June	2009	Karlin	52 knot winds/ trees down	\$3,500	
April	2010	Hannah	52 knot winds/ trees down	\$4,000	
October	2010	County/Region	55 knot winds/ trees and power lines down/ power outages/ structure damage	\$24,000	
May	2011	Hannah	56 knot winds/ trees down	\$3,000	
June	2012	Mapleton	52 knot winds/ trees down	\$4,000	
June	2012	Monroe Center	64 knot winds/ trees down/ property and structures damaged	\$10,000	
July	2002	Traverse City	52 knot winds/ trees down	\$3,000	
July	2013	Fife Lake	55 knot winds/ trees down/ structure damage	\$15,000	
August	2013	Monroe Center	52 knot winds/ trees down/ structure damage	\$11,000	
August	2014	Traverse City	52 knot winds/ trees down	\$6,000	

### Tornado: 4 events

Table 16: Tornado Events

Month	Year	Location	Effect	Damage
April	1956	Countywide	F4/ 15 miles long, 400 yards wide, 2 deaths and 24 injuries	\$250,000
September	1961	Countywide	F2/ 14.4 miles long, 33 yards wide	\$25,000
May	1964	Countywide	F2/ 16.6 miles long, 440 yards wide/ structure damage	\$250,000
June	1969	Countywide	F3/ 6.4 miles long, 600 yards wide/ trees and power lines down/ homes and property destroyed	\$250,000

\* Governor and Presidential Hazard Declaration

### Wildfires:

56 wildfires occurred in Grand Traverse County from 1981 to 2010, affecting nearly 212 acres countywide.

### Other Potential Natural Hazards

#### Shoreline Erosion

The Great Lakes experienced record high lake levels in 1985-86, and again in 1997-98. Governor's Disaster Declarations for shoreline problems in the State was enacted in 1985-1986 and included Grand Traverse County.

### **Storm Surges (Seiches) and Rip Currents**

Weather-related events can also cause lake fluctuations that can last from several hours to several days. For example, windstorms combined with differences in barometric pressure can temporarily tilt the surface of a lake up at one end by as much as eight feet. This phenomenon is called a storm surge or seiche and can drive lake waters inland over large areas, cause weakening and erosion of shoreline areas, make water travel hazardous, and cause flood damages, deaths, and injuries to occur.

A rip current is a strong flow of water returning seaward from the shore. When wind and waves push water towards the shore, the previous backwash is often pushed sideways. This water streams along the shoreline until it finds an exit back to the sea. The resulting rip current is usually narrow and located between sandbars, under piers or along jetties. The current is strongest at the surface, and can dampen incoming waves, leading to the illusion of a particularly calm area. Rip current speeds are typically 1-2 feet per second. However, speeds as high as 8 feet per second have been measured. Rip currents cause approximately 100 deaths annually in the United States, more than all other natural hazards except excessive heat. In the Great Lakes alone, the average over the last six years is 10 drownings per year caused by rip currents. About 80% of rescues by surf beach lifeguards are due to rip currents. According to the National Climatic Data Center, Michigan has experienced at least 17 deaths and 9 injuries caused by rip currents in just the past 10 years.

### **Drought**

In Northern Michigan's forested regions, drought can adversely impact timber production and some tourism and recreational enterprises. This can also cause a drop in income, which impacts other economic sectors. The biggest problem drought presents, however, is the increased threat of wildfire. Many Northern Michigan counties are heavily forested and are therefore highly vulnerable to drought-related wildfire threats. The most extreme drought was in January 1931, when the Palmer index hit a record low of -8.07. Lengthy drought incidents took place in 1895-1896 (17 months), 1898-1899 (8 months), 1899-1901 (21 months), 1901-1902 (15 months), 1908-1911 (37 months), 1913-1914 (11 months), 1914-1915 (10 months), 1919-1920 (8 months), 1920-1922 (17 months), 1925-1926 (17 months), 1929-1931 (28 months), 1935-1936 (20 months), 1955-1956 (13 months), and 1976-1977 (13 months).

### **Pandemics or other Public Health Emergencies**

Naturally occurring pandemics may cause widespread precautions around the world. The Grand Traverse County Health Department created a pandemic plan that serves as a template for responding to a large-scale outbreak of influenza and other highly infectious respiratory diseases.

### **Probability of Natural Hazards:**

The probability that a natural hazard such as hail, thunderstorm and high wind, tornadoes, and snow and ice will affect this area of Michigan is an annual possibility. The magnitude and severity depends on the season, which determines temperature, moisture in the air, ice cover on the lakes, etc. Also, the severity of an event is connected with tourist activity during the year, the pace of developing second homes, and an increasing base population in northwest, lower Michigan which in turn leads to more development. The events recorded by NOAA show that natural hazard events may be happening more frequently, but the geographic impact of the natural hazards' impact has remained the same in Grand Traverse County.

The areas where natural hazards overlap in Grand Traverse County can include heavy snow that causes trees and power lines down, and then melting, rain and flooding.

### **Grand Traverse County Natural Hazards Task Force and Public Input**

The Natural Hazards Task Force comprised of the County's Local Planning Team (LPT) which is a collection of first responders and local, regional, and state public entities that ensure the readiness of County entities by recommending equipment purchases, training and exercises, and public education on preparedness issues. The Task Force meetings were scheduled monthly in 2014, held in various locations throughout the county, and open to the public. Participants analyzed and updated the hazard priority maps, goals & objectives, hazard



priority areas, mitigation measures, and the action agenda items. The general list of hazard priorities and locations of concern was also reviewed and updated by the Task Force:

- Thunderstorms
- High winds
- Heavy rain and effect on agriculture
- Mobile home parks
- National Cherry Festival Emergency Plan
- More communication and notification
- Ingress and egress at campgrounds
- Construction area
- Interlochen Arts Academy area
- Extreme winter weather
- Hail and frost affecting agriculture
- Power outages
- Flooding in the Boardman River area, dams, bridges
- Wildfires – specifically in Cedar Run, Blair Township, Kingsley areas
- Erosion along Grand Traverse Bay and Peninsula Township
- Ice damage

The Natural Hazards Priority Areas have not changed since the original plan. However, the task force altered the chronological order of the priority list and placed “Public infrastructure” as the top priority, due to proposed programming and immediate implementation of pre-disaster mitigation projects that will address flooding hazard issues, should funding become available.

### **Top Five Natural Hazards Priority Areas**

#### **1. Public infrastructure (culverts, dams, bridges, etc.) located throughout Boardman River communities (Garfield, Blair, Paradise, East Bay, and Union Townships; City of Traverse City)**

Inadequate drainage infrastructure under South Airport road near the commercial/retail development *Logan’s Landing* are causing frequent flooding of the road and nearby property, especially during heavy rain events and the spring snow melt season.

The Michigan Hazard Analysis of 2012 identifies the Three (3) Dams in the County as a “high hazard”, meaning there is development downstream in the dam’s hydraulic shadow; and Four (4) Dams as a “significant hazard,” meaning structural failure may cause an uncontrollable high volume of water downstream, damaging bridges and other key infrastructure.

Other flooding may involve low-lying areas that collect runoff waters; flaws or shortcomings in existing sewer infrastructure; undersized or poorly designed stormwater control practices; collective effects of land use and development trends; illegal diversion of water, or actions that interfere with system function.

#### **2. Potential of Severe Thunderstorms and High Winds - Countywide**

There is a historical record of high wind events and tornadoes in Grand Traverse County. Damage from straight line winds usually affects multiple counties through the loss of electricity from trees/tree limbs downing power lines; causing widespread property damage; and potentially exposing the public to severe injury or fatality due to flying debris.

Mobile home parks, campgrounds, construction areas, institutions (schools, places of worship, etc.), and numerous festivals that draw a large number of tourists such as the National Cherry Festival were identified as specific areas of concern.

### 3. Potential of Extreme Winter Weather - Countywide

Grand Traverse County experiences frequent heavy snow events due to its location in a “snow-belt” area. Heavy snow events have the potential of shutting down towns and businesses for a significant period of time. Blowing and drifting snow with blizzard conditions cause driving hazards. Ice damage may occur when high winds push lake water and ice past the shoreline, causing damage to public infrastructure and residential property.

### 4. Potential Wildfire/Urban interface - Countywide

Forest types (white/red pine, and white pine and hemlock) within Grand Traverse County are susceptible to wildfires. Additional factors that increase fire risk include dead or dying Ash trees as a result of disease/invasive species, lightning strikes, and human factors such as the number of persons residing, camping, or traveling through the County.

### 5. Potential of Erosion and Ice damage - Countywide

Shoreline or soil erosion hazards involve the loss of property or necessitate the relocation of homes as sand or soil is removed by flowing water (lake, river, etc.) and carried away over time. The foundation of a structure, or underground utility pipes in the area, may become fully exposed and vulnerable to weather, extreme temperatures, water damage, or other sources of risk. Shoreline banks that support roadways may erode and cause the road surface to crack, become unstable, or more prone to deposits of sand, snow, water, and ice.

This hazard is especially relevant to those municipalities that contain residential and commercial development along Grand Traverse Bay (Peninsula, East Bay and Acme Townships; Traverse City) that experience seasonal shifts in water levels and possible ice erosion hazards.

### Emergency Warning System Coverage

Mobile warning system: Grand Traverse County uses the CodeRed Emergency Communications Network, which is an electronic high-speed outbound notification service available to the general public.

Tornado/Severe Weather Systems: Manual sirens are located at Metro Station #9 (East Bay Twp), Rural Station #6 (Fife Lake), and the Blair Twp. fire department. Weather alert radios were purchased and distributed to all the schools, nursery schools, and senior homes.

Flood warning system: For dam failures/flooding downstream an active warning system is located at Logan’s Landing on South Airport Rd. An inactive system is located on River Road.

### Economic Impact Analysis

The total Damaging Events’ Costs recorded since 1950 with the National Oceanic and Atmospheric Administration for Grand Traverse County, the region, and the state are as follows:

Table 17: Damage Cost by Natural Hazard

Grand Traverse County	Property Damage Cost	Crop Damage Cost
Flood	\$6,894,000	NA
Hail or Wildfire	NA	NA
Extreme Winter Weather	\$5,112,000	\$15,000,000
Tornado	\$775,000	NA
Thunderstorm and High Wind	\$481,500	\$1,000

The Grand Traverse County Equalization Department calculated each Priority Area's economic value through the State Equalized Values (SEV) for real and personal property (residential and commercial). The following includes 2010 Census data and 2014 SEV dollar amount times two (estimated fair market values) for each priority area. According to the 2014 Northwest Michigan Season Population Analysis, assume a 19% increase to account for the annual average seasonal population within the county.

Table 18: Geographic Economic Value

Priority Area	Geography	Population	State Equalized Value
	Grand Traverse County	86,986	\$10,648,994,584
3	Boardman river Area	46,306	\$5,289,726,800
5	Grand Traverse Bay communities	35,145	\$5,463,458,000

## VIII. NATURAL HAZARDS MITIGATION GOALS AND OBJECTIVES

The mission of the Grand Traverse County Natural Hazards Mitigation Plan is to protect the health and safety of the public and property in the County which includes prevention of injury, loss of life, property damage, breakdown in vital services like transportation and infrastructure, economic slumps, maintain tourist base, and liability issues. This is done by taking action to permanently eliminate or reduce the long-term risks from natural hazards.

Specific goals and objectives have been established based upon the community's natural hazards analysis, as well as input from the Task Force participants and the public through meetings, request for comments on the draft plan, and the presentation of the plan to the Grand Traverse County Planning Commission.

### Goal 1: Increase local awareness and participation in natural hazards mitigation Strategies

- Encourage cooperation and communication between planning and emergency management officials
- Encourage additional local governmental agencies to participate in the natural hazards mitigation process
- Encourage public and private organizations to participate, including organizations who advocate for individuals with functional or access needs

### Goal 2: Integrate natural hazards mitigation considerations into the community's comprehensive planning process

- Enforce and/or incorporate natural hazards mitigation provisions in building code standards, ordinances, and procedures
- Create or update ordinances to reflect building codes, shoreline protection rules, etc.
- Incorporate natural hazards mitigation into basic land use regulation mechanisms
- Develop community education programs and public warning systems
- Strengthen the role of the Local Emergency Planning Committee in the land development process
- Integrate natural hazards mitigation into the capital improvement planning process so that public infrastructure does not lead to development in natural hazards areas
- Encourage county agencies to assess local roads, bridges, dams, and related transportation infrastructure for natural hazards vulnerability

**Goal 3: Utilize available resources and apply for additional funding for natural hazards mitigation**

- Provide a list of desired community mitigation measures to the State
- Encourage the application for project funding from diverse entities

**Goal 4: Develop and complete natural hazards mitigation projects in a timely manner**

- Encourage public and business involvement in natural hazards mitigation projects

## IX. IDENTIFICATION AND SELECTION OF MITIGATION STRATEGIES

### Selection of Feasible Mitigation Strategies

A set of evaluation criteria was developed to determine which mitigation strategies were best suited to address the identified problems in Grand Traverse County.

- The measure must be technically feasible.
- The measure must be financially feasible.
- The measure must be environmentally sound and not cause any permanent, significant environmental concerns.
- The measure must be acceptable to those participating in the strategy and/or primarily affected by the strategy.

By anticipating future problems, the County can reduce potential injury, structure losses, loss of power, such as electric and gas, and prevent wasteful public and private expenditures.

### Priority Area 1. Potential of flooding along the Boardman River affecting public infrastructure (culverts, dams, bridges, etc.)

#### Flood Mitigation Strategies

- Drainage improvements in high flooding potential areas, specifically near *Logan's Landing*
- Removal of unsafe dams on the Boardman River
- Continue enforcement of building codes and soil erosion regulations

### Priority Area 2. Potential of Severe Thunderstorms and High Winds throughout the County

#### Thunderstorm, High Winds, and Tornado Mitigation Strategies

- Establish emergency shelters
- Utilize a ham radio channel for local warnings if primary communications is interrupted
- Promote the establishment of a robust, interoperable communication system
- Enhance cooperation with Utility Companies (tree management, promotion of burying utility lines in new construction, and high outage areas)
- Identify potential wind damage areas
- Establish new generators where needed
- Update the County's debris removal plan

### Priority Area 3. Potential of Extreme Winter Weather throughout the County

#### Snow Load Mitigation Strategies

- Continue enforcement of building code regarding snow load limits through the permitting process
- Utilize a ham radio channel for local warnings if primary communications is interrupted
- Promote the establishment of a robust, interoperable communications system

## **Selection of Feasible Mitigation Strategies (continued)**

### **Priority Area 4. Potential Wildfire/Urban interface throughout the County**

#### **Wildfire Mitigation Strategies**

- Public education and awareness activities such as programs and brochures regarding fuel management, proper vegetation, fire breaks
- Continue enforcement of state fire codes regarding setback requirements
- Public education utilizing the Michigan Department of Natural Resources flyers and the Federal Emergency Management Administration information at parks and campgrounds
- Real estate and insurance agents to distribute information
- Assess fire suppression access and make improvements
- Research the Department of Natural Resources' State Forest wildfire/urban interface rules or plan

### **Priority Area 5. Potential of Erosion and Ice damage throughout the County**

#### **Shoreline Erosion Mitigation Strategies**

- Drainage control projects
- Enforcement of soil erosion statutes/permits
- Enforcement of building and zoning codes for current and future development
- Enforcement of the grading levels no more than 10%
- Placement of vegetation and utilizing native vegetation

#### **Other mitigation strategies**

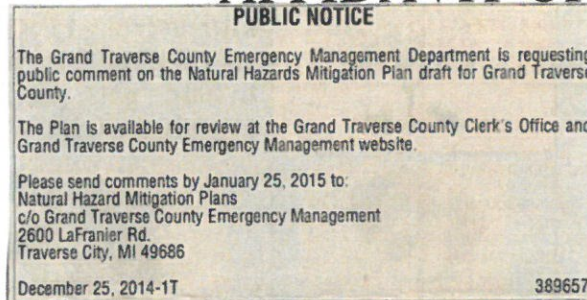
- Public education and awareness activities
- Work towards uniform mapping and zoning throughout the county for natural hazards mitigation
- Incorporate the Natural Hazards Mitigation Plan into the County's Master Plan and local zoning ordinances if in place.

## X. Participation in the Development of the Grand Traverse County Natural Hazards Mitigation Plan

The opportunities for review by other governmental entities and the public included the following:

- Public Notices were published in the Record Eagle

### Public Notice



- The Natural Hazards Mitigation Plan was presented to the Grand Traverse County Planning Commission where the meetings are posted in the newspaper and are open to the public. Commission members gave their input and there were no comments from the public.
- The Natural Hazards Mitigation Plan was presented to the Grand Traverse County Board of Commissioners where the meetings are posted in the newspaper and are open to the public. Commissioners gave their input and there were no comments from the public.
- During development of the plan, all townships and villages were provided the opportunity to formally comment on plan drafts and other related materials. They were given the opportunity via mailings of both meeting notices and draft copies of the plan for comment. Notification was also provided to them that the plans were posted on the NWMCOG website and could be reviewed there. While no jurisdictions (other than the county) provided formal written comments, they did provide county staff (particularly the county emergency manager) with feedback via other informal means. This feedback took the form of phone calls, emails and conversations that occurred at various non-mitigation related meetings throughout the county. This information was provided back to NWMCOG staff by the county staff and used in development of the plan, including the risk assessment and community profile sections.

In addition, the townships and villages (whether or not they have their own zoning) have indicated to NWMCOG and the county emergency manager that they will follow the county's lead in identifying mitigation projects and developing grant applications to fund those projects. Land use issues associated with those projects (where applicable) will be handled by each jurisdiction that controls zoning in the project area.

Community planning services are provided by the professional staff of the Grand Traverse County Planning & Development Department. The Department assists communities in developing plans and zoning ordinances, provides resource information and technical assistance, and convenes communities to address land use issues of common interest. The Grand Traverse County Planning Commission coordinates and reviews local zoning and master plans to ensure consistency across jurisdictional boundaries.

Building permits are issued by the Grand Traverse County Construction Code Department, except in Garfield and Fife Lake townships where they are handled locally.

The Townships/Villages in the priority areas include:

Acme Township – Zoning  
 Blair Township - Zoning  
 East Bay Township – Zoning  
 Fife Lake Township – Zoning  
 Garfield Township – Zoning  
 Grant Township – Zoning  
 Green Lake Township – Zoning  
 Long Lake Township – Zoning

Mayfield Township – Zoning  
 Paradise Township – Zoning  
 Peninsula Township – Zoning  
 Union Township – Zoning  
 Whitewater Township – Zoning  
 Village of Fife Lake – Zoning  
 Village of Kingsley – Zoning  
 City of Traverse City - Zoning

Table 17: Plan Participation

County/Township/Others	Zoning	Participation
Grand Traverse County	No	Task Force meetings, review/development of updated elements: Board of Commissioners Conservation District Emergency Management Coordinator Equalization Department Health Department Planning Commissioners Planning Department Road Commission
Acme Township	Yes	See last bullet point paragraph, above
Blair Township	Yes	See last bullet point paragraph, above
East Bay Township	Yes	See last bullet point paragraph, above
Fife Lake Township	Yes	See last bullet point paragraph, above
Garfield Township	Yes	See last bullet point paragraph, above
Grant Township	Yes	See last bullet point paragraph, above
Green Lake Township	Yes	See last bullet point paragraph, above
Long Lake Township	Yes	See last bullet point paragraph, above
Mayfield Township	Yes	See last bullet point paragraph, above
Paradise Township	Yes	See last bullet point paragraph, above
Peninsula Township	Yes	See last bullet point paragraph, above
Union Township	Yes	See last bullet point paragraph, above
Whitewater Township	Yes	See last bullet point paragraph, above
Village of Fife Lake	Yes	See last bullet point paragraph, above
Village of Kingsley	Yes	See last bullet point paragraph, above
City of Traverse City	Yes	See last bullet point paragraph, above
Grand Traverse Band of Ottawa and Chippewa	Yes	See last bullet point paragraph, above

*\*\*The Grand Traverse Band has their own planning authority over lands they own that have been put in trust with the Federal Government. The County Natural Hazards Mitigation Plan would not cover the Tribe/lands, but the Tribes may adopt the approved County plan as their own.*

*N/A = Not applicable; these are non-governmental authority entities*



## XI. IMPLEMENTATION OF THE GRAND TRAVERSE COUNTY NATURAL HAZARDS MITIGATION PLAN

### Natural Hazards Mitigation Plan Managers and Technical Assistance

The County Board will lead the implementation of the Natural Hazards Mitigation Plan with assistance from the Emergency Management Coordinator and the Administration/Planning Department. Inter-agency partnerships and collaboration are encouraged to accomplish the goals and objectives of the Plan.

- Grand Traverse County Government Staff
- Townships, cities, and villages
- Grand Traverse County Conservation District
- Grand Traverse County Drain Commissioner
- Grand Traverse County Road Commission
- Grand Traverse Band of Ottawa and Chippewa Indians
- Grand Traverse Regional Land Conservancy
- The Watershed Center Grand Traverse Bay
- New Designs for Growth
- Michigan State University Extension
- Michigan Department of Environmental Quality
- Michigan Department of Natural Resources
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture Natural Resources Conservation Service
- Insurance Companies
- Real Estate Companies

All natural hazards mitigation planning could be pursued using Michigan Public Act 226 of 2003, the Joint Municipal Planning Act. This Act provides for joint land use planning by cities, villages, and townships, and allows two or more municipalities' legislative bodies to create a single joint planning commission to address planning issues. This tool helps with planning for the "big picture" issues such as natural hazards that cross jurisdictional boundaries.

The intent of this legislation is for local governments to consider the following:

- Individual units of government modifying their ordinances simultaneously to include language that would incorporate aspects of protection
- Developing an overlay zoning district that would cross jurisdictional boundaries which would be incorporated into existing independent units of government's zoning ordinances
- Forming a new joint (multi-jurisdictional) planning commission or zoning board
- Sharing zoning administration and enforcement activities

### Funding the Implementation of the Plan

To assist with the funding of the proposed natural hazards mitigation strategies, the following is a list of potential financial assistance entities to help fund the implementation projects of the Plan.

- Federal Emergency Management Administration – Hazard Mitigation Grant Program
- U.S. Environmental Protection Agency
- U.S. Department of Agriculture Natural Resources Conservation Service
- U.S. Department of Agriculture Rural Development: Rural broadband opportunity – high speed telecommunication funding from the Public Telecommunications Facilities Planning and Construction grants
- U.S. Department of Housing and Urban Development
- Michigan Department of Environmental Quality
- Michigan Department of Natural Resources

## Funding the Implementation of the Plan (continued)

- National Oceanic and Atmospheric Administration
- Community, Regional Foundations
- Businesses

## Action Agenda

The following is a summary for accomplishing the **recommended natural hazards mitigation actions** for Grand Traverse County.

Table 19: Action Strategies

Priority and Action Strategies	Responsible Parties	Timeframe
<b>Priority Area 1: Flood Mitigation Strategies</b>		
a. Drainage improvements in high flooding potential areas, including upgrading the twin culverts on S. Airport Rd at <i>Logan's Landing</i>	Drain Commissioner Road Commission County Conservation District Emergency Management Department Townships, Villages, City	2-4 years from adoption of the plan
b. Removal of unsafe dams on the Boardman River	County Conservation District County Planning Department Emergency Management Department MI Department of Natural Resources Townships of Garfield, Blair, Paradise, East Bay, City of Traverse City	4-8 years from adoption of the plan
c. Continue enforcement of building codes and soil erosion regulations	County Building Inspector Building Construction Code Dept. County Conservation District	Ongoing
<b>Priority Area 2: Thunderstorms and High Winds Mitigation Strategies</b>		
a. Promote the establishment of the State of Michigan's Primary Radio Communication system for throughout the County	Emergency Management Department County Planning Department Townships, Villages, City	1-2 years from adoption of the plan
b. Have a debris removal plan for safety	Emergency Management Department County Planning Department County Building Inspector Townships, Villages, City	2-4 years from adoption of the plan
c. Utilize ham radio channel for local warnings	Emergency Management Department	1-2 years from adoption of the plan
d. Work with utility companies	Emergency Management Department County Planning Department County Building Inspector Utility Companies	1-3 years from adoption of the plan
e. Tree management	Utility Companies Emergency Management Department Townships, Villages, Private Landowners	1-3 years from adoption of the plan
f. Promotion of burying utility lines in new construction	County Building Inspector Utility Companies Emergency Management Department County Planning Department Townships, Villages, City	1-3 years from adoption of the plan

Priority and Action Strategies	Responsible Parties	Timeframe
<b>Priority Area 2: Thunderstorms and High Winds Mitigation Strategies (continued)</b>		
Burying power lines in high outage areas	County Building Inspector Utility Companies Emergency Management Department County Planning Department Townships, Villages, City	1-3 years from adoption of the plan
h. Identify potential wind damage areas	Emergency Management Department County Planning Department Townships, Villages, City	1-2 years from adoption of the plan
i. Establish new generators where needed	Emergency Management Department County Planning Department Townships, Villages, City	2-3 years from adoption of the plan
<b>Priority Area 3: Extreme Winter Weather (Snow Load and Ice Build Up) Mitigation Strategies</b>		
a. Continue enforcement of building code regarding snow load limits through the permitting process	County Building Inspector Townships, Villages, City County Planning Emergency Management Coordinator	Ongoing
b. Promote the establishment of the State of Michigan's Primary Radio Communication system for throughout the County	Emergency Management Department County Planning Department Townships, Villages, City	1-2 years from adoption of the plan
c. Utilize a ham radio channel for local warnings	Emergency Management Department	1-2 years from adoption of the plan
<b>Priority Area 4: Wildfire/Urban Interface Mitigation Strategies</b>		
a. Public education and awareness activities such as programs and brochures regarding fuel management, proper vegetation, fire breaks	County Planning Department Emergency Management Department Building Inspector County Soil Conservation District MI Department of Natural Resources Townships, Villages, City	1-3 years from adoption of the plan
b. Continue enforcement of state fire codes regarding setback requirements	Building Inspector Townships, Villages, City	Ongoing
c. Public education utilizing the MI Department of Natural Resources flyers and the FEMA information at parks and campgrounds	Emergency Management Department County Conservation District MI Department of Natural Resources Townships, Villages Parks and Campgrounds, public and private	1-3 years from adoption of the plan
d. Real estate and insurance agents to distribute information	Emergency Management Department County Planning Department Townships, Villages	1-3 years from adoption of the plan
e. Assess fire suppression access and make improvements	Emergency Management Department County and local fire departments	1-3 years from adoption of the plan
f. Research the MI Department of Natural Resources' State Forest wildfire/urban interface rules or plan	Emergency Management Department County and local fire departments County Planning Department	1-3 years from adoption of the plan

Priority and Action Strategies	Responsible Parties	Timeframe
<b>Priority Area 5: Shoreline Erosion Mitigation Strategies</b>		
a. Drainage control projects	Building Construction Code Dept. Drain Commissioner County Conservation District Emergency Management Department Townships, Villages, City	2-4 years from adoption of the plan
b. Enforcement of soil erosion statutes/permits	Building Construction Code Dept. Drain Commissioner County Conservation District County Planning Department Emergency Management Coordinator MI Department of Environmental Quality U.S. Army Corps of Engineers	Ongoing
c. Enforcement of the building codes	County Building Inspector	Ongoing
d. Enforcement of the grading levels no more than 10%	Building Construction Code Dept. Drain Commissioner County Conservation District County Planning Department	Ongoing
e. Placement of vegetation and utilizing native vegetation	County Building Inspector Building Construction Code Dept. Drain Commissioner County Conservation District County Planning Department Townships of Peninsula, East Bay, Acme, City of Traverse City	Ongoing

### Additional Mitigation Strategies

- General Public education and awareness activities
- Work towards uniform mapping and zoning throughout the county for natural hazards mitigation
- Incorporate the Natural Hazards Mitigation Plan into the County's Master Plan and local zoning ordinances if in place.

### Monitoring and Evaluation

The Grand Traverse County Natural Hazards Mitigation Plan will be monitored on a regular basis by the Emergency Management Staff and Planning Staff. Because Grand Traverse County is a dynamic, changing county with population growth, it is expected that the plan should be reviewed on an annual basis.

To assess the effectiveness of the Plan, some questions to ask in the review include: 1) How many and which mitigation strategies were developed? Implemented? 2) Did any new natural hazards events take place the past year to report? This review will be administered by the Emergency Management Coordinator with the Local Emergency Planning Committee, the County Planning Commission, and the public. If changes are needed, the plan will be presented to the Task Force participants for revisions.

Although review of the plan will occur annually, and a formal revision may not be needed each year, a new edition of the plan will be expected within every five year period. A continual process for updates will take place with annual reviews, monitoring, evaluation, and an accumulation of official feedback and public input through public notices. When it is appropriate to publish a revised version of the plan, the Task Force participants shall again be involved in the revision process. Each new edition of the plan will again be officially adopted by the Grand Traverse County Board of Commissioners.

XII. NATURAL HAZARDS MITIGATION PLAN ADOPTION RESOLUTION

**Grand Traverse County  
Natural Hazard Mitigation Plan Adoption Resolution**

RESOLUTION 92-2015

**Whereas;** Grand Traverse County, Michigan has experienced risks that may damage commercial, residential and public properties, displace citizens and businesses, close streets and impair infrastructure, and present general public health and safety concerns; and

**Whereas;** Grand Traverse County has developed the Grand Traverse County Natural Hazard Mitigation Plan that outlines the counties options to reduce damages and impacts from natural and technological hazards; and

**Whereas;** the Natural Hazard Mitigation Plan has been reviewed by residents, business owners, and federal, state and local agencies, and has been revised where appropriate to reflect their concerns;

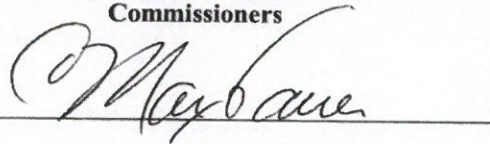
**Now, therefore, be it resolved that:**

The Natural Hazard Mitigation Plan is hereby adopted as an official plan of Grand Traverse County, Michigan.

**Passed this 1st day of July, 2015**

Chair, Grand Traverse County Board of  
Commissioners

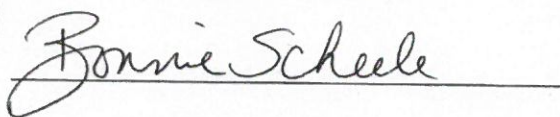
Date



7-2-15

Grand Traverse County Clerk

Date

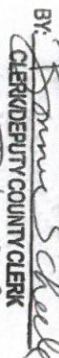


7-2-15

HEREBY CERTIFY THIS COPY TO BE A  
TRUE AND CORRECT COPY OF THE RECORD ON  
FILE WITH THE OFFICE OF COUNTY CLERK

BONNIE SCHEELE

GRAND TRAVERSE COUNTY CLERK

BY:   
CLERK/DEPUTY COUNTY CLERK

DATE: July 2, 2015

**NOTE: AN OFFICIAL SIGNED COPY OF A RESOLUTION OF ADOPTION MUST BE SUBMITTED TO THE MICHIGAN STATE POLICE EMERGENCY MANAGEMENT AND HOMELAND SECURITY DIVISION (to comply with the requirements of the Disaster Mitigation Act of 2000).**

## XIII. APPENDICES

### Appendix A

#### Glossary of Mitigation Planning Terms

**Alluvial fan:** A gently sloping fan-shaped landform created over time by the deposition of eroded sediment and debris.

**Base Flood:** A flood having a one percent chance of being equaled or exceeded in any given year.

**Coastal high hazard area:** An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms.

**Community:** Any state, area, or political jurisdiction or any Native American Tribe, authorized tribal organization, Alaska native village, or authorized native organization that has the authority to adopt and enforce floodplain management ordinances for the area under its jurisdiction. In most cases, a community is an incorporated city, town, village, township, or an unincorporated area of a county.

**Disaster:** A major detrimental impact of a hazard upon the population and economic, social, and built environment of an affected area.

**Exposure:** The number, types, qualities, and monetary values of various types of property or infrastructure and life that may be subject to an undesirable or injurious hazard event.

**Flood Insurance Rate Map:** As defined under the National Flood Insurance Program, an official map of the community on which the administrator of the Flood Insurance Administration has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

**Floodplain or flood prone area:** Any land area susceptible to being inundated by water from any source.

**Floodplain management:** The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

**Fuel:** Combustible plant material, both living and dead, that is capable of burning in a wildland situation; any other flammable material in the built environment that feeds a wildfire.

**Hazard:** An event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss.

**Hazard identification:** The process of defining and describing a hazard, including its physical characteristics, magnitude and severity, probability and frequency, causative factors, and locations or areas affected.

**Lifeline systems:** Public works and utilities such as electrical power, gas and liquid fuels, telecommunications, transportation, and water and sewer systems.

**Major disaster:** As defined in the Stafford Act, "any natural catastrophe or, regardless of cause, any fire, flood, or explosion in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby."

**Mitigation:** Sustained action taken to reduce or eliminate the long-term risk to human life and property from natural hazards and their effects. Note that this emphasis on long-term risk distinguishes mitigation from actions geared primarily to emergency preparedness and short-term recovery.

**Multiple-objective management:** A holistic approach to floodplain management (or the management of other hazards) that emphasizes the involvement of multiple distinct interest in solving land use problems related to the hazardous area.

**Natural hazard:** Hurricanes, tornadoes, storms, floods, tidal wave, tsunamis, high or wind-driven waters, volcanic eruptions, earthquakes, snowstorms, wildfires, droughts, landslides, and mudslides.

**One hundred year flood:** The flooding event that has a one percent chance of occurring in a particular location in any given year. While this is the most common reference point statistically because it is used for regulatory purposes in the National Flood Insurance Program, the same language applies in referring to other actual or hypothetical events in terms of their statistical probabilities.

**Risk:** The potential losses associated with a hazard, defined in terms of expected probability and frequency, exposure, and consequences.

**Risk assessment:** A process or method for evaluating risk associated with a specific hazard and defined in terms of probability and frequency of occurrence, magnitude and severity, exposure, and consequences.

**Special flood hazard area:** Land in the floodplain within a community subject to one percent or greater chance of flooding in any given year.

**Stafford Act:** The Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-288, as amended by P.L. 100-707), which provides the greatest single source of federal disaster assistance.

**Structure:** A walled and roofed building, including a storage tank for gas or liquid that is principally above ground, as well as a manufactured home.

**Tornado Classifications:**

F-Scale Number	Intensity Phrase	Wind Speed	Type of Damage Done
F0	Gale tornado	40-72 mph	Some damage to chimneys, breaks branches off trees, pushes over shallow-rooted trees, damages sign boards.
F1	Moderate tornado	73-112 mph	The lower limit is the beginning of hurricane wind speed, peels surface off roofs; mobile homes pushed off foundations or overturned, moving autos pushed off the roads, attached garages may be destroyed.
F2	Significant tornado	113-157 mph	Considerable damage. Roofs torn off frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted, light object missiles generated.
F3	Severe tornado	158-206 mph	Roof and some walls torn off well constructed houses, trains overturned, most trees in forest uprooted

F4	Devastating tornado	207-260 mph	Well-constructed houses leveled, structures with weak foundations blown off some distance, cars thrown and large missiles generated.
F5	Incredible tornado	261-318 mph	Strong frame houses lifted off foundations and carried considerable distances to disintegrate, automobile sized missiles fly through the air in excess of 100 meters, trees debarked, steel reinforced concrete structures badly damaged.
F6	Inconceivable tornado	319-379 mph	These winds are very unlikely. The small area of damage they might produce would probably not be recognizable along with the mess produced by F4 and F5 wind that would surround the F6 winds. Missiles, such as cars and refrigerators would do serious secondary damage that could not be directly identified as F6 damage. If this level is ever achieved, evidence for it might only be found in some manner of ground swirl pattern, for it may never be identifiable through engineering studies

**Urban Wildfire:** A fire moving from a wildland environment, consuming vegetation as fuel, to an environment where the fuel consists primarily of buildings and other structures.

**Urban/wildland interface:** A developed area, also known as the “I-zone,” occupying the boundary between an urban or settled area and a wildland characterized by vegetation that can serve as fuel for a forest fire.

**Vulnerability:** The level of exposure of human life and property to damage from natural hazards.

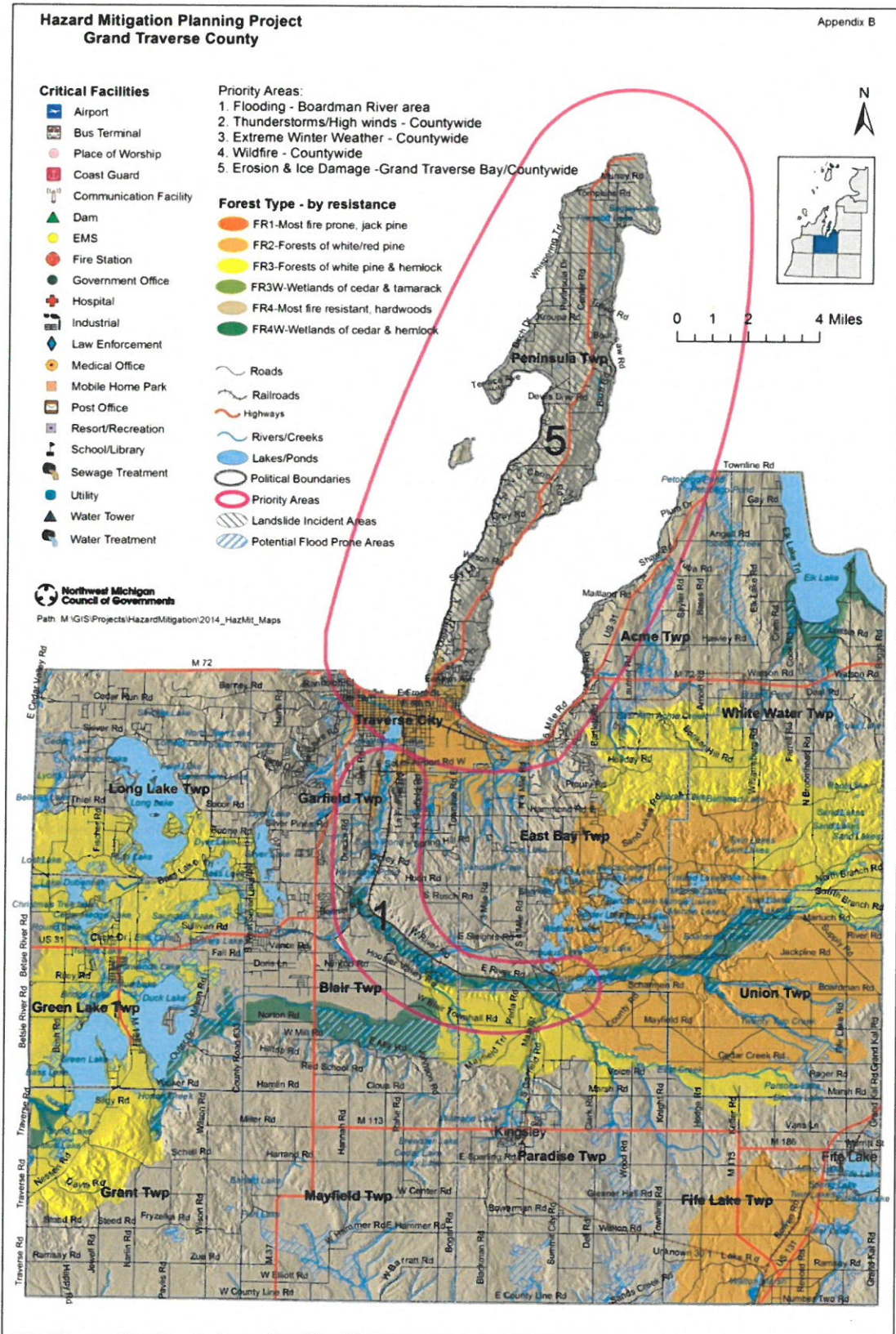
**Watershed management:** The implementation of a plan or plans for managing the quality of flow of water within a watershed, the naturally defined area within which water flows into a particular lake or river or its tributary. The aims of watershed management are holistic and concern the maintenance of water quality, the minimization of stormwater runoff, the preservation of natural flood controls such as wetlands and pervious surface, and the preservation of natural drainage patterns. Watershed management is, in many ways, an enlargement of most of the concerns that underlie floodplain management.

**Wildland:** An area in which development has not occurred with the exception of some minimal transportation infrastructure such as highways and railroads, and any structures that are widely spaced and serve largely recreational purposes.



# Appendix B

## Detailed Maps



**Hazard Mitigation Planning Project  
Grand Traverse County - Northeast**

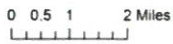
Appendix B

**Critical Facilities**

- Airport
- Bus Terminal
- Place of Worship
- Coast Guard
- Communication Facility
- Dam
- EMS
- Fire Station
- Government Office
- Hospital
- Industrial
- Law Enforcement
- Medical Office
- Mobile Home Park
- Post Office
- Resort/Recreation
- School/Library
- Sewage Treatment
- Utility
- Water Tower
- Water Treatment

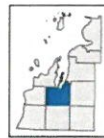
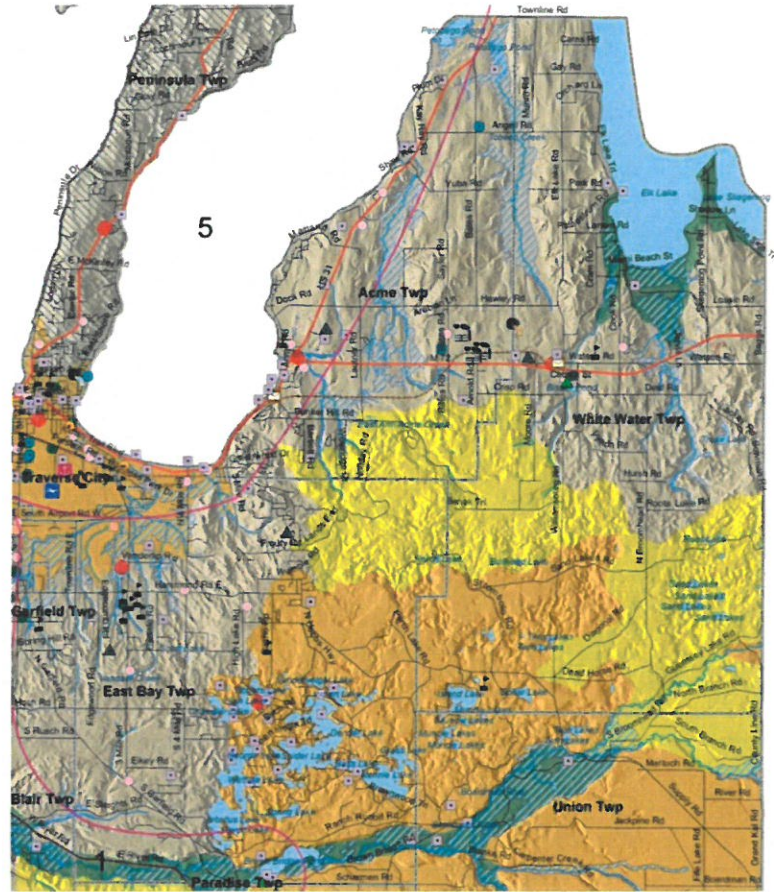
- Roads
- Railroads
- Highways
- Rivers/Creeks
- Lakes/Ponds
- Political Boundaries
- Priority Areas
- Landslide Incident Areas
- Potential Flood Prone Areas

- Forest Type - by resistance**
- FR1-Most fire prone, jack pine
  - FR2-Forests of white/red pine
  - FR3-Forests of white pine & hemlock
  - FR3W-Wetlands of cedar & tamarack
  - FR4-Most fire resistant, hardwoods
  - FR4W-Wetlands of cedar & hemlock



- Priority Areas:**
- 1 Flooding - Boardman River area
  - 2 Thunderstorms/High winds - Countywide
  - 3 Extreme Winter Weather - Countywide
  - 4 Wildfire - Countywide
  - 5 Erosion & Ice Damage -Grand Traverse Bay/Countywide

Northwest Michigan Council of Governments  
Path: M:\GIS\Projects\HazardMitigation\2014\_HazMit\_Maps



**Hazard Mitigation Planning Project  
Grand Traverse County - Northwest**

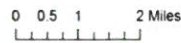
Appendix B

**Critical Facilities**

- Airport
- Bus Terminal
- Place of Worship
- Coast Guard
- Communication Facility
- Dam
- EMS
- Fire Station
- Government Office
- Hospital
- Industrial
- Law Enforcement
- Medical Office
- Mobile Home Park
- Post Office
- Resort/Recreation
- School/Library
- Sewage Treatment
- Utility
- Water Tower
- Water Treatment

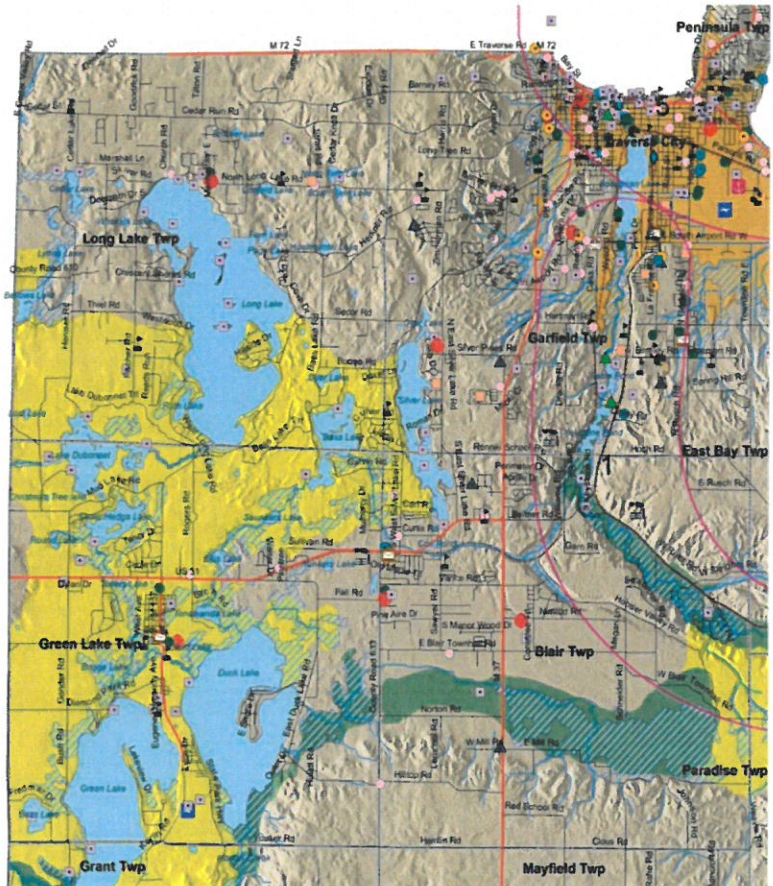
- Roads
- Railroads
- Highways
- Rivers/Creeks
- Lakes/Ponds
- Political Boundaries
- Priority Areas
- Landslide Incident Areas
- Potential Flood Prone Areas

- Forest Type - by resistance**
- FR1-Most fire prone, jack pine
  - FR2-Forests of white/red pine
  - FR3-Forests of white pine & hemlock
  - FR3W-Wetlands of cedar & tamarack
  - FR4-Most fire resistant, hardwoods
  - FR4W-Wetlands of cedar & hemlock



- Priority Areas:**
- 1 Flooding - Boardman River area
  - 2 Thunderstorms/High winds - Countywide
  - 3 Extreme Winter Weather - Countywide
  - 4 Wildfire - Countywide
  - 5 Erosion & Ice Damage -Grand Traverse Bay/Countywide

Northwest Michigan Council of Governments  
Path: M:\GIS\Projects\HazardMitigation\2014\_HazMI\_Maps



# Hazard Mitigation Planning Project Grand Traverse County - Old Mission Peninsula

Appendix B

### Critical Facilities

- Airport
- Bus Terminal
- Place of Worship
- Coast Guard
- Communication Facility
- Dam
- EMS
- Fire Station
- Government Office
- Hospital
- Industrial
- Law Enforcement
- Medical Office
- Mobile Home Park
- Post Office
- Resort/Recreation
- School/Library
- Sewage Treatment
- Utility
- Water Tower
- Water Treatment

### Priority Areas:

1. Flooding - Boardman River area
2. Thunderstorms/High winds - Countywide
3. Extreme Winter Weather - Countywide
4. Wildfire - Countywide
5. Erosion & Ice Damage - Grand Traverse Bay/Countywide

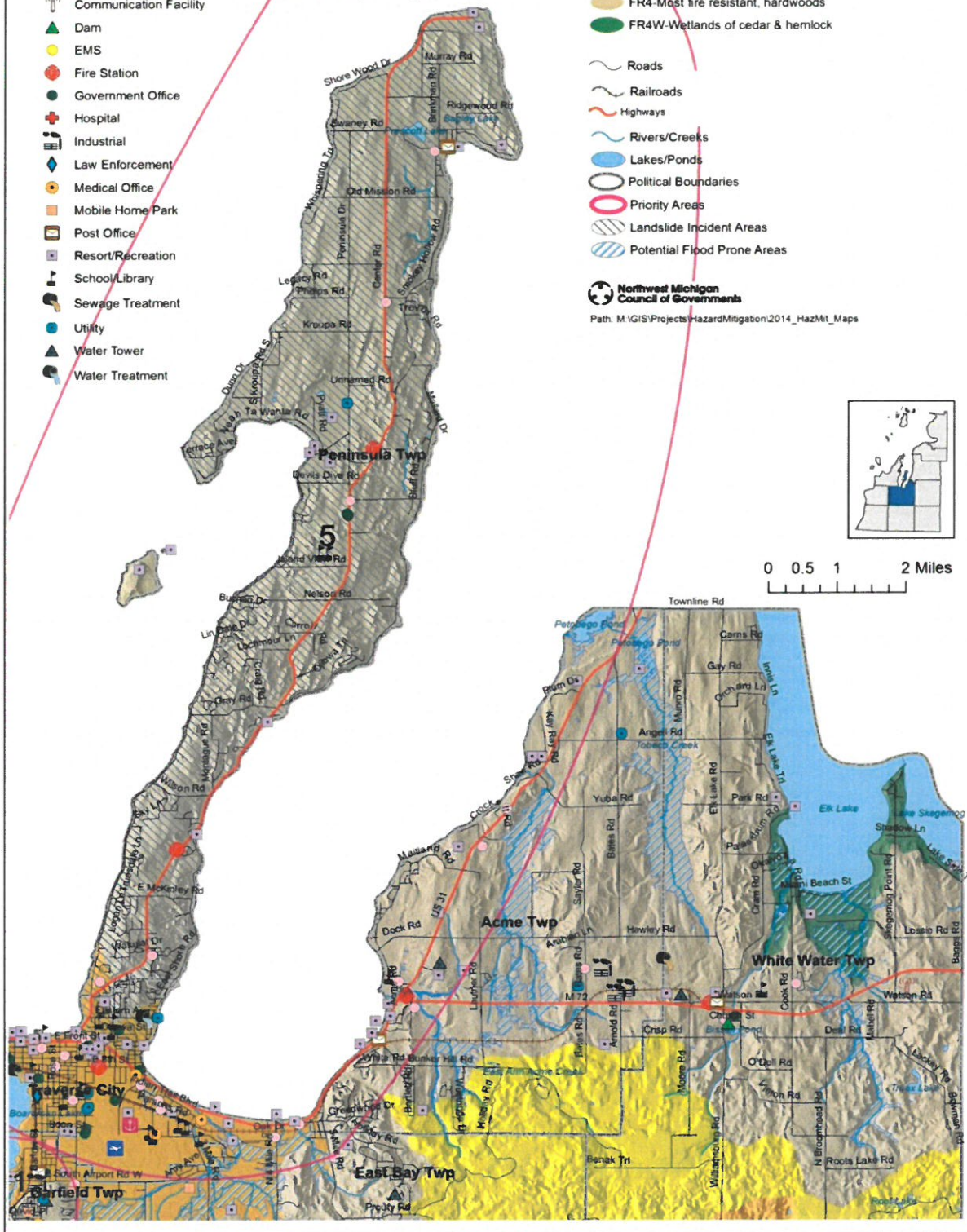
### Forest Type - by resistance

- FR1-Most fire prone, jack pine
- FR2-Forests of white/red pine
- FR3-Forests of white pine & hemlock
- FR3W-Wetlands of cedar & tamarack
- FR4-Most fire resistant, hardwoods
- FR4W-Wetlands of cedar & hemlock

- Roads
- Railroads
- Highways
- Rivers/Creeks
- Lakes/Ponds
- Political Boundaries
- Priority Areas
- Landslide Incident Areas
- Potential Flood Prone Areas

**Northwest Michigan Council of Governments**

Path: M:\GIS\Projects-HazardMitigation\2014\_HazMit\_Maps



### Hazard Mitigation Planning Project Grand Traverse County - South



#### Critical Facilities

- Airport
- Bus Terminal
- Place of Worship
- Coast Guard
- Communication Facility
- Dam
- EMS
- Fire Station
- Government Office
- Hospital
- Industrial
- Law Enforcement
- Medical Office
- Mobile Home Park
- Post Office
- Resort/Recreation
- School/Library
- Sewage Treatment
- Utility
- Water Tower
- Water Treatment

- Roads
- Railroads
- Highways
- Rivers/Creeks
- Lakes/Ponds
- Political Boundaries
- Priority Areas
- Landslide Incident Areas
- Potential Flood Prone Areas

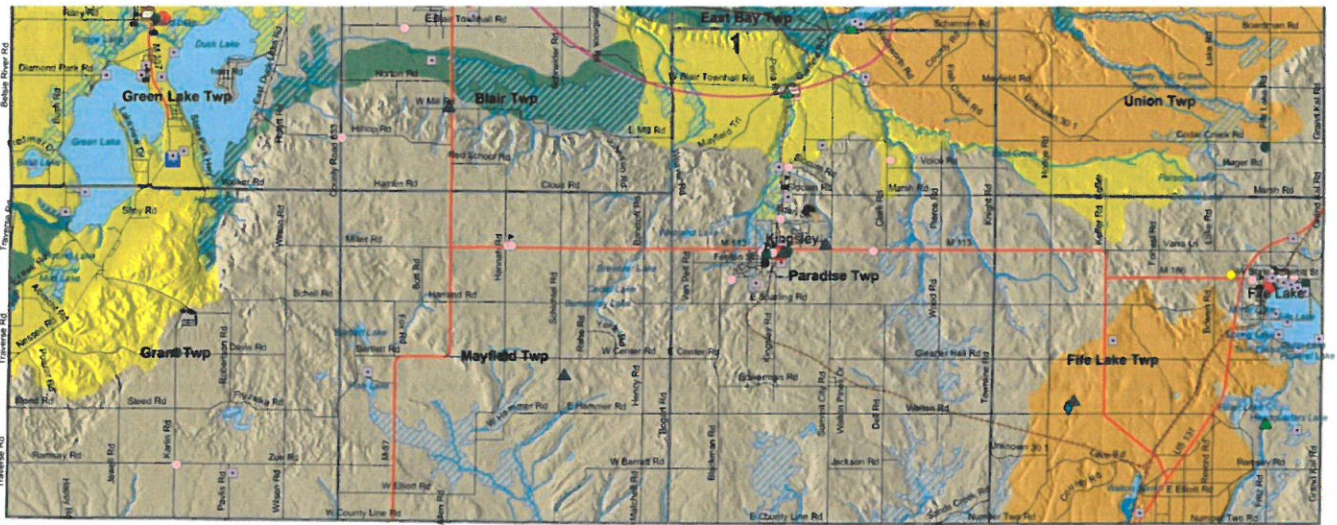
- #### Forest Type - by resistance
- FR1-Most fire prone, jack pine
  - FR2-Forests of white/red pine
  - FR3-Forests of white pine & hemlock
  - FR3W-Wetlands of cedar & tamarack
  - FR4-Most fire resistant, hardwoods
  - FR4W-Wetlands of cedar & hemlock

#### Priority Areas

- 1 Flooding - Boardman River area
- 2 Thunderstorms/High winds - Countywide
- 3 Extreme Winter Weather - Countywide
- 4 Wildfire - Countywide
- 5 Erosion & Ice Damage -Grand Traverse Bay/Countywide

Northwest Michigan Council of Governments  
Path: M:\GIS\Projects\HazardMitigation\2014\_HazMit\_Maps

0 0.5 1 2 Miles



Appendix B

### Hazard Mitigation Planning Project Grand Traverse County - Traverse City

Appendix B

#### Critical Facilities

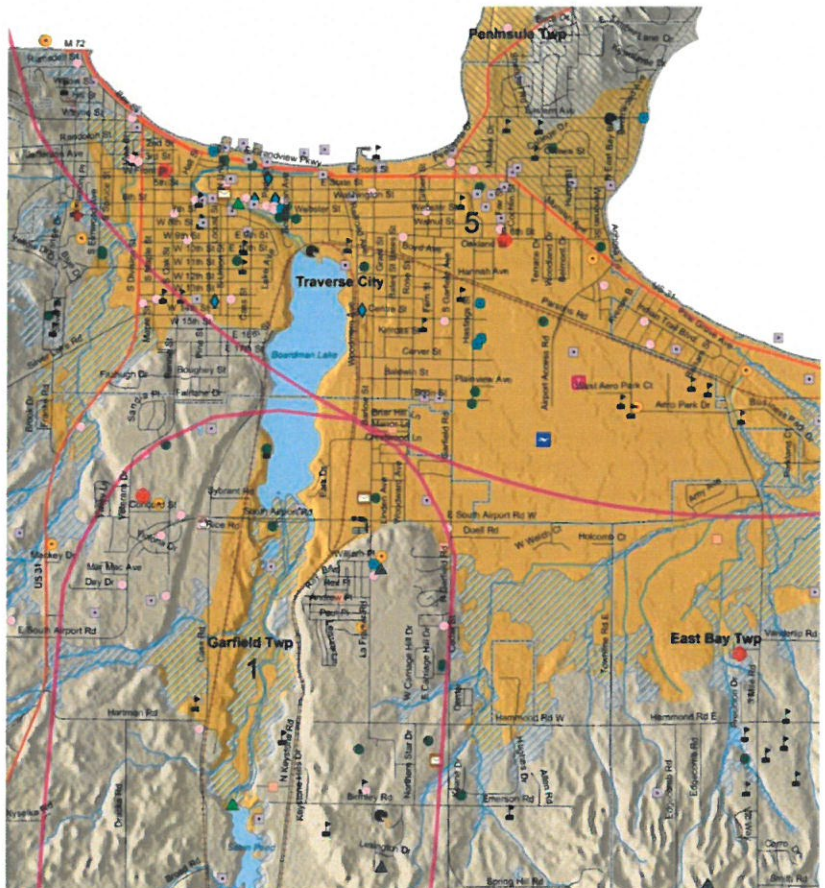
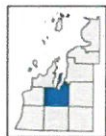
- Airport
- Bus Terminal
- Place of Worship
- Coast Guard
- Communication Facility
- Dam
- EMS
- Fire Station
- Government Office
- Hospital
- Industrial
- Law Enforcement
- Medical Office
- Mobile Home Park
- Post Office
- Resort/Recreation
- School/Library
- Sewage Treatment
- Utility
- Water Tower
- Water Treatment

- Roads
- Railroads
- Highways
- Rivers/Creeks
- Lakes/Ponds
- Political Boundaries
- Priority Areas
- Landslide Incident Areas
- Potential Flood Prone Areas

- #### Forest Type - by resistance
- FR1-Most fire prone, jack pine
  - FR2-Forests of white/red pine
  - FR3-Forests of white pine & hemlock
  - FR3W-Wetlands of cedar & tamarack
  - FR4-Most fire resistant, hardwoods
  - FR4W-Wetlands of cedar & hemlock

0 0.225 0.45 0.9 Miles

- #### Priority Areas:
- 1 Flooding - Boardman River area
  - 2 Thunderstorms/High winds - Countywide
  - 3 Extreme Winter Weather - Countywide
  - 4 Wildfire - Countywide
  - 5 Erosion & Ice Damage -Grand Traverse Bay/Countywide



Northwest Michigan Council of Governments  
Path: M:\GIS\Projects\HazardMitigation\2014\_HazMit\_Maps













# Appendix C

## Population Density Map

### Hazard Mitigation Planning Project

#### Grand Traverse County

#### Legend

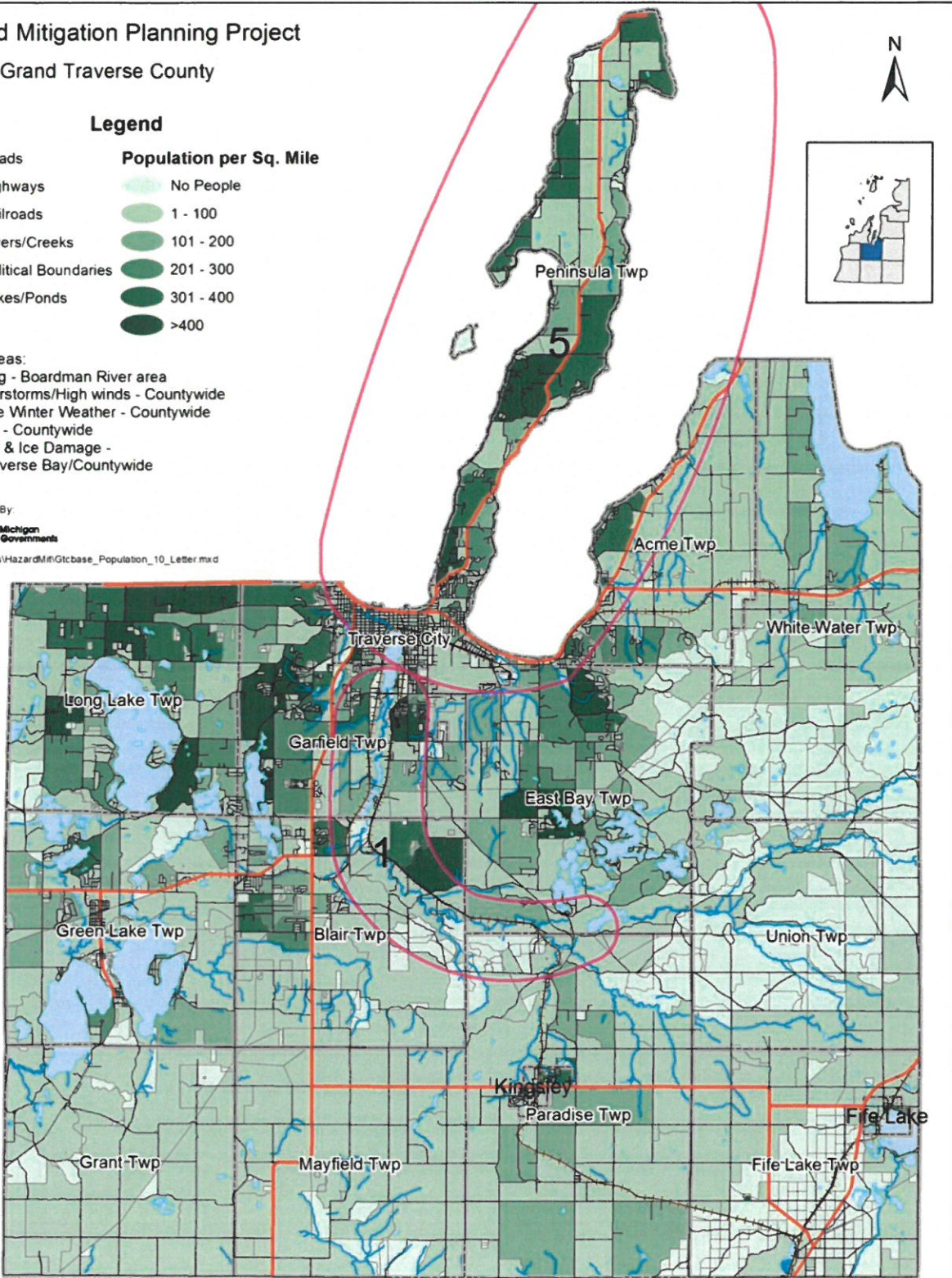
 Roads	<b>Population per Sq. Mile</b>
 Highways	 No People
 Railroads	 1 - 100
 Rivers/Creeks	 101 - 200
 Political Boundaries	 201 - 300
 Lakes/Ponds	 301 - 400
	 >400

- Priority Areas:
1. Flooding - Boardman River area
  2. Thunderstorms/High winds - Countywide
  3. Extreme Winter Weather - Countywide
  4. Wildfire - Countywide
  5. Erosion & Ice Damage - Grand Traverse Bay/Countywide

Map Produced By:



M:\GIS\Projects\HazardMit\Gtcbase\_Population\_10\_Letter.mxd



**Appendix D**

**Risk Assessment Summary Table: GRAND TRAVERSE COUNTY**

HAZARD (Years of Record)	Number of Events	Probability**	Geographic Size Affected	Population Impacted	Specific Priority Area	Estimated Damage Known Costs
<b>Flooding (1986 – 2013)</b>	7	Frequent	<b>County Wide</b> Boardman River Communities	86,986 46,306	<b>1</b>	\$6,894,000 property damage
<b>Hail (1958 – 2014)</b>	26	Frequent	<b>County Wide</b>	86,986		.75 inch to 2 inch magnitude
<b>Shoreline Erosion</b>	No recorded major events	Rare	Traverse City, Peninsula, East Bay, and Acme Townships	35,145	<b>5</b>	
<b>Extreme Winter Weather (1993 – 2014)</b>	105	Frequent	<b>County Wide</b>	86,986	<b>3</b>	\$5,112,000 property damage and power outages \$15,000,000 crop damage (statewide)
<b>Severe Thunderstorm/High Winds/Lightning (1955 – 2014)</b>	54	Frequent	<b>County Wide</b>	86,986	<b>2</b>	\$477,500 property damage
<b>Tornadoes</b>	4	Rare	<b>County Wide</b>	86,986	<b>2</b>	\$775,000 property damage
<b>Wildfires (1981 – 2010)</b>	386	Occasional	<b>County Wide</b>	86,986	<b>4</b>	1300 acres

\*\*Rare - Hazard event is likely to occur less than once every 30 years.  
 Occasional - Hazard event is likely to occur less than once every 5 years, but more often than once every 30 years.  
 Frequent - Hazard event is likely to occur more than once every 5 years.



## **Appendix F**

### *Resources*

*Benchmarks 2014*, Northwest Michigan Council of Governments

*Confronting Climate Change in the Great Lakes Region, Michigan* fact sheet, Union of Concerned Scientists and the Ecological Society of America, April 2003.

*Integrating Human-Caused Hazards Into Mitigation Planning, State and Local Mitigation Planning how-to guide*: Federal Emergency Management Agency, September 2002, FEMA 386-7 CD.

*Local Hazard Mitigation Planning Workbook*: EMD-PUB 207, February 2003, Emergency Management Division, Michigan Department of State Police.

*Michigan Hazard Analysis 2012*, EMD-PUB 103, July 2012, Emergency Management and Homeland, Security Division / Michigan Department of State Police

*National Oceanic and Atmospheric Administration: Weather/Climate Events, Information, Assessments; Climatology and Extreme Events; U.S. Storm Events Data Base; 1950-present, local storm reports, damage reports, etc. from various sources.* [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

*Northwest Michigan County Profiles 2010*, Northwest Michigan Council of Governments, November 2002.

Northwest Michigan Council of Governments Website Data, [nwm.org](http://nwm.org).

*Planning for a Disaster-Resistant Community: A One-Day Workshop for City and County Planners, Planning Officials, and Consultants*: American Planning Association Research Department, American Planning Association, 2002 in cooperation with the Federal Emergency Management Agency, Planning and Mitigation Branch (materials only).

*Platte River Watershed Management Plan*, Benzie County Conservation District, April 2002.

*State and Local Mitigation Planning how to guide: Understanding Your Risks, identifying hazards and estimating losses*: Federal Emergency Management Agency, August 2001, FEMA 386-2.



**CHARTER TOWNSHIP OF GARFIELD  
GRAND TRAVERSE COUNTY, MICHIGAN**

**RESOLUTION 2018-15-T**

**Natural Hazard Mitigation Plan Adoption Resolution**

**Whereas;** the Charter Township of Garfield, has experienced risks that may damage commercial, residential and public properties, displace citizens and businesses, close streets and impair infrastructure, and present general public health and safety concerns; and

**Whereas; Grand Traverse County** has developed the Grand Traverse County Natural Hazard Mitigation Plan that outlines the counties options to reduce damages and impacts from natural and technological hazards; and

**Whereas;** the Natural Hazard Mitigation Plan has been reviewed by residents, business owners, and federal, state and local agencies, and has been revised where appropriate to reflect their concerns;

**Now, therefore, be it resolved that:**

The Natural Hazard Mitigation Plan is hereby adopted as an official plan of Charter Township of Garfield.

**Passed this \_\_\_\_ day of \_\_\_\_\_, 2018**

\_\_\_\_\_  
**Chuck Korn, Supervisor, Charter Township of Garfield**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Lanie McManus, Clerk, Charter Township of Garfield**

\_\_\_\_\_  
**Date**

**CERTIFICATION**

I, Lanie McManus, Clerk of the Charter Township of Garfield, do hereby certify that the above is a true and correct copy of a Resolution which was adopted by the Township Board of the Charter Township of Garfield on the 12th day of June, 2018.

---

Lanie McManus, Clerk

**NOTE: AN OFFICIAL SIGNED COPY OF A RESOLUTION OF ADOPTION MUST BE SUBMITTED TO THE MICHIGAN STATE POLICE EMERGENCY MANAGEMENT AND HOMELAND SECURITY DIVISION (to comply with the requirements of the Disaster Mitigation Act of 2000).**

**From:** "Stacey Hozak" <[hozakst@tcaps.net](mailto:hozakst@tcaps.net)>  
**To:** "Lanie McManus" <[lmcmamus@garfield-twp.com](mailto:lmcmamus@garfield-twp.com)>  
**Subject:** TCAPS Presentation for June 12 Board Meeting

Lanie -

As we discussed last month, attached is the presentation TCAPS would like to present to the Garfield Township Board at your June 12 Board Meeting. The presenter will be TCAPS Board President Erik Falconer and Board Secretary Doris Ellery.

Please confirm that you have received this and it will be on the agenda. Let me know if you have any questions. Thank you.

## **Stacey Hozak**

Executive Assistant to Superintendent and  
Recording Secretary to Board of Education

[Traverse City Area Public Schools](#)

[412 Webster Street](#)

[Traverse City, MI 49684](#)

231-933-1725 (office)

231-944-4554 (mobile)

[hozakst@tcaps.net](mailto:hozakst@tcaps.net)

**TCAPS** : **2018 BOND**  
Traverse City Area Public Schools  
Great Community, Great Schools

**ON THE HORIZON**

**Highlights**  
.....

No increase - remains 3.1 mills

Same rate for last 20 years

10 year capital plan

**ELECTION AUGUST 7, 2018 • [www.tcaps.net/bond](http://www.tcaps.net/bond)**





## District Snapshot

- Total budget of over \$100 million
- 2<sup>nd</sup> largest employer in northern Michigan
- \$370 million in assets
- Nearly 10,000 students
- 300 square mile boundary area
- 17 schools, 6 support buildings
- 2,000,000 square feet of space

# Major Projects

## Safety and Security Improvements

Reconstruct the main entrance at Central High School, West Middle School, and several elementary buildings to improve security infrastructure and facilitate improvements to visitor check-in procedures.

## Elementary Reconstruction

Reconstruct one elementary school building. The TCAPS Montessori at Glenn Loomis building is currently the highest priority building in the district due to its condition, age, and lack of physical design to support Montessori instruction.

## High School STEM/Robotics Rooms

Create dedicated science, technology, engineering and math (STEM) and robotics laboratories at Central High School and West Senior High School. K-12 STEM instruction is a key educational initiative for TCAPS, which is designed to give students the tools and knowledge they need for the future.

## Facility Improvements at All Schools

Projects vary by building based on need and include projects to upgrade or replace roofs plumbing, heating and cooling systems, flooring, parking lot/walkways, restrooms, classrooms, physical education spaces, and playgrounds.

## Bus Replacement

Continue the district's bus replacement program, which allows the district to offer safe and reliable transportation for TCAPS students as well as area private and parochial school students. TCAPS continually receives 100% passing ratings on school bus inspections by the Michigan State Police.

## Technology

Continue technology program, which allows students and schools to access technology that supports learning and student achievement.

# TCAPS

Traverse City Area Public Schools  
**Great Community, Great Schools**



# Strategic Direction in Focus

- Listened to the Voice of the Community
- Heightened Financial Stewardship
  - Structurally balanced budget
  - Reduction in overhead costs
  - Disciplined asset mgmt
- Innovative and Entrepreneurial Programs → Revenue Generation, Stabilize Student Enrollment
  - Northern Michigan Partnership
  - International Program
- Investment in updated curriculum Math and English Language Arts



## TCAPS Bond History

- 15 bond or millage campaigns run since 1987
- All but 4 passed with overwhelming support
- 11 successful requests did not include increases
- 2012 and 2013 requested increases and were on the heels of the 2007 recession
  - Prior to voters' economic confidence being regained
- 2014 non-homestead renewal passed with 67% support





## **Bond Proceeds Can Be Used For**

- Construction of new school buildings & additions to existing buildings
- Remodeling of school buildings
- Energy conservation improvements
- Asbestos abatement
- Purchasing school buses
- Purchasing land
- Developing/improving sites
- Developing/improving athletic & physical facilities
- Purchasing loose furnishings & equipment
- Purchasing technology (with certain limitations)

## **Bond Proceeds Cannot Be Used For**

- Repairs, maintenance, or maintenance agreements
- Supplies, salaries, service contracts, lease payments, installment purchase contracts
- Automobiles, trucks, or vans
- Portable classrooms purchased for temporary use
- Uniforms
- Textbooks
- Upgrades to existing computer operating systems
- Computer training, consulting or maintenance contracts



# Capital Bond Plan

## Capital Planning and Projects (2018)

10 year plan

Category	Approx. Cost	Project(s)
CAPITAL INFRASTRUCTURE	\$5.6M annually	Types of projects to be completed at each building based on need include: roofs, plumbing, heating and cooling, electrical, windows, flooring, parking lots/walkways, doors/electronic access, security systems, restrooms, classrooms, and playgrounds.
TECHNOLOGY	\$2M annually	Prioritization based on needs assessment
ELEMENTARY BUILDING	\$16M	TCAPS Montessori at Glenn Loomis building
TRANSPORTATION	\$1M annually	Bus replacement, facility upgrades
ATHLETIC/PHYSICAL EDUCATION FACILITIES	\$200K annually	Prioritization based on needs assessment, with safety and security measures ranked first
VISUAL, PERFORMING, AND APPLIED ARTS	\$150K annually	Necessary equipment tools, instruments and technology for Music, Theater, Art, and STEM
OPERATIONAL EQUIPMENT	\$150K annually	Prioritization based on needs assessment (Ex: tools, tractors, mowers, floor scrubbers, and plows)

# Proposed Bond Projects

## Elementary

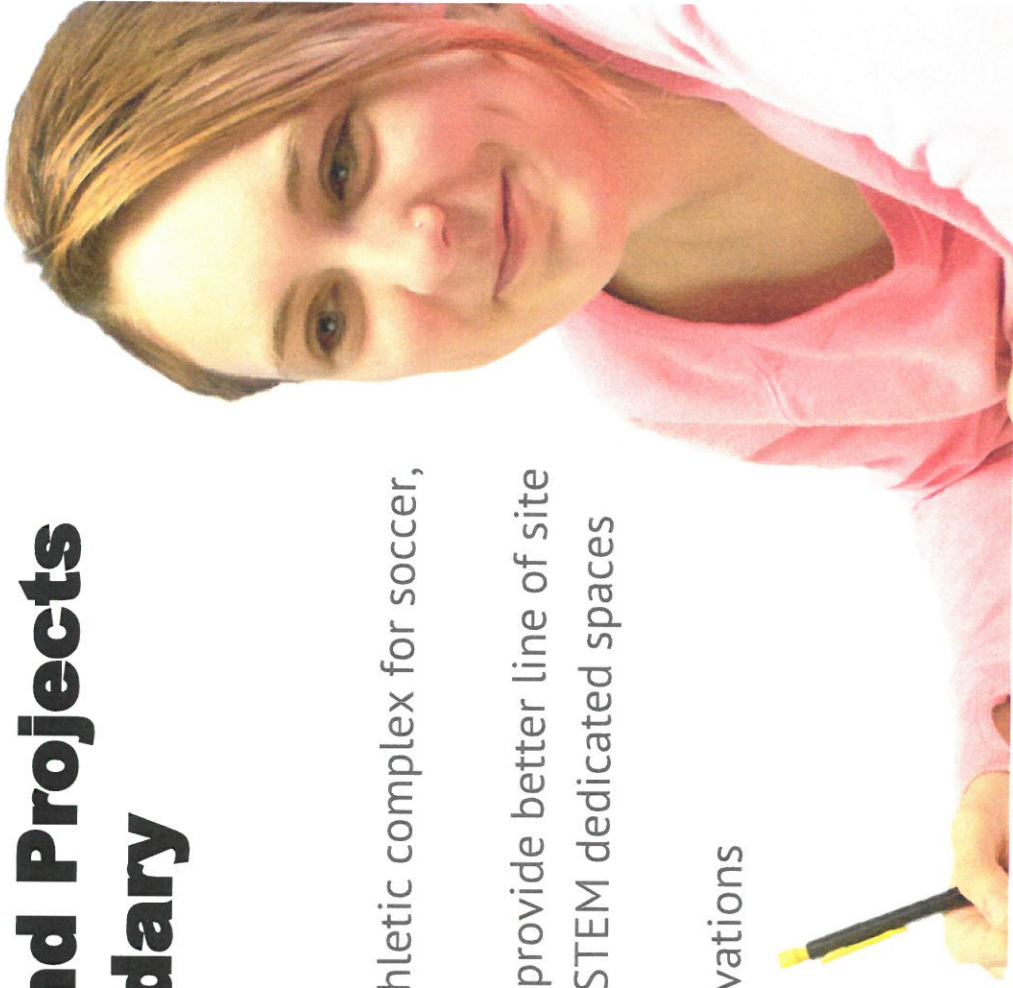
- Elementary Main office reconfiguration for improved safety and security
- Elementary flooring upgrades
- Furniture upgrades
- Locker replacements/additions
- Athletic/Physical Education equipment
- Visual, Performing, and Applied Arts equipment



# Proposed Bond Projects

## Secondary

- EMS - Resurface Track
- EMS - Digital clock upgrades
- Coast Guard Renovation - Trojan athletic complex for soccer, baseball, and softball
- CHS - Renovation to main office to provide better line of site
- CHS - Renovation for Robotics and STEM dedicated spaces
- CHS - New Roof
- CHS - Main gym upgrades and renovations





# Proposed Bond Projects Secondary

- WMS and WSH - New Roofs
- WMS - Upgrade/renovate main office to provide better line of site
- WMS - Renovate cafeterias to increase efficiency and improve supervision
- WMS - Resurface track
- WSH - Robotics/STEM addition and/or renovation
- WSH - Weight room upgrades/renovation
- WSH - Auditorium upgrades/renovation
- WSH - Athletic parking lot/fieldhouse
- WSH - Parking lot enhancements




# TCAPS Capital Bond 2018

Election August 7, 2018



[www.tcaps.net/bond](http://www.tcaps.net/bond)

 <b>Charter Township of Garfield</b> <b>Planning Department Report No. 2018-62</b>		
Prepared:	June 5, 2018	Pages: Page 1 of 2
Meeting:	June 12, 2018-Township Board	Attachments: <input checked="" type="checkbox"/>
Subject:	Draft 2018 Master Plan Review, Comment, and Distribution	

**BACKGROUND:**

For the past few years, the Planning Commission has been working on a new Master Plan to serve as a general guide for growth and development in the Township. The goals and objectives in the proposed Plan directly reflect the priorities of Garfield Township residents as identified in the results of an extensive community survey conducted by Planning Department Staff in 2015. Planning experts strongly recommend that municipalities update their master plan every five years so that they remain relevant and continue to reflect residents’ priorities; however, the Township’s current plan has not been updated since 2007.

Now that the Planning Commission has finished drafting the Draft 2018 Master Plan, they are asking this Board to review the Plan, provide any comments, and approve distribution of it, as required by Section 41(1) of the Michigan Planning Enabling Act (PA 33 of 2008). Sec. 41(1) states that

[a]fter preparing a proposed master plan, a planning commission shall submit the proposed master plan to the legislative body for review and comment. The process of adopting a master plan shall not proceed further unless the legislative body approves the distribution of the proposed master plan.

The Planning Commission unanimously passed the following motion at their May 23, 2018 Work Session:

MOTION THAT the Draft 2018 Charter Township of Garfield Master Plan BE SUBMITTED to the Charter Township of Garfield Board of Trustees for review, distribution, and comment in accordance with the Michigan Planning Enabling Act (2008 PA 33).

Once approved for distribution, a copy of the proposed Plan will be sent to each planning organization with jurisdiction in the Township, as well as to neighboring Townships. Each of these organizations will also have an opportunity to provide comments on the Plan. Once all comments are received, the Planning Commission will hold at least one public hearing on the Plan before considering approving it. The Planning Commission is the final approval authority for a master plan. The Planning Commission has expressed an interest in holding public hearings on the Plan during the summer months this year to ensure that seasonal residents have a chance to comment.

**ACTION REQUESTED:**

Review the attached Draft 2018 Master Plan and provide any comments before considering approving distribution of the Plan. Staff can facilitate the forwarding of any written comments to the Planning Commission. Once the Board has offered any comments, the following motion is suggested to approve distribution of the Plan:

MOTION THAT the Draft 2018 Charter Township of Garfield Master Plan BE APPROVED FOR DISTRIBUTION in accordance with Section 41 of the Michigan Planning Enabling Act (2008 PA 33).

Any additional information that the Planning Commission determines to be necessary should be added to this motion. If the Planning Commission is not satisfied with the level of information provided to date, the above motion would be premature.

**Attachments:**

1. Draft 2018 Charter Township of Garfield Master Plan



See separate  
Attachment for  
Master Plan.



# Charter Township of Garfield

## Grand Traverse County

8. d.

3848 VETERANS DRIVE  
TRAVERSE CITY, MICHIGAN 49684  
PH: (231) 941-1620 • FAX: (231) 941-1588

CHUCK KORN  
SUPERVISOR

LANIEMcMANUS  
CLERK

JEANE BLOOD  
TREASURER

MOLLY AGOSTINELLI, TRUSTEE  
DENISE SCHMUCKAL, TRUSTEE

STEVE DUELL, TRUSTEE  
DAN WALTERS, TRUSTEE

### MEMO

DATE: June 7, 2018

TO: Garfield Township Board

FROM: Amy L. DeHaan, Assessor *ald*

SUBJECT: Special Assessment District for Road Improvement -  
INTRODUCTION

---

The property owner of the remaining vacant parcels, Patricia Mosher, in the Eaglehurst Estates Subdivision has petitioned the Township to create a Special Assessment District to improve Eaglehurst Drive within the subdivision, at their own expense. And, they wish to pay for the improvements as a special assessment.

A petition has been signed by property owner (attached) - it contains the list of the 20 affected parcels in the proposed Special Assessment District. In accordance with MCL 41.723, Section 3 of the Public Improvements Act, P.A. 188 of 1954, as amended, (MCL 41.721, et seq.), properties consisting of at least 51% of the total road frontage, within the Special Assessment District, are required to sign to petition for the establishment of such a district. In this instance, 95% of the property's owners have signed the required petition.

The special assessment laws require a Public Hearing to be held to create the District. And, a second public hearing to be held once the amount of the special assessment to each property owner is calculated. Please schedule the first of these hearings at the Regular Meeting of the Township Board on June 26, 2018.

---

Amy L. DeHaan, MMAO(4)  
Assessor

**PETITION TO THE TOWNSHIP BOARD OF CHARTER  
TOWNSHIP OF GARFIELD, COUNTY OF GRAND TRAVERSE.**

**Circulator signature on back.**

We, the undersigned, being the record owners of lands in the Charter Township of Garfield, Grand Traverse County, Michigan, whose frontage constitutes at least 51 percent of the total road frontage of Eaglehurst subdivision proposed to be included in the special assessment district, hereby petition for the establishment of a special assessment district to finance the improvement of the road, Eaglehurst subdivision by repaving along the same etc., all in accordance with MCL 41.723, Section 3 of the Public Improvements Act, Public Act 188 of 1954, as amended, (MCL 41.721, et seq.).

**Instructions:**

1. Complete the heading of the petition before circulating it. 2. Each signer must sign and print his or her first and last name. 3. Each signer must date his or her signature. 4. Each signer must enter his or her full address. 5. All record owners of a parcel of property must sign for that parcel to be counted toward the percentage of (frontage or land area).

Parcel Number	Signature	Printed Name	Address	Date
1. <i>Typ. use only</i> 03-109-034-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5271 Eaglehurst Drive	5/10/18
2. 05-109-033-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5293 Eaglehurst Drive	5/10/18
3. 05-109-032-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5319 Eaglehurst Drive	5/10/18
4. 05-109-031-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5335 Eaglehurst Drive	5/10/18
5. 05-109-030-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5357 Eaglehurst Drive	5/10/18
6. 05-109-029-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5373 Eaglehurst Drive	5/10/18
7. 05-109-035-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5260 Eaglehurst Drive	5/10/18
8. 05-109-027-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5409 Eaglehurst Drive	5/10/18
9. 05-109-028-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5437 Eaglehurst Drive	5/10/18
10. 05-109-025-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5455 Eaglehurst Drive	5/10/18
11. 05-109-044-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5452 Eaglehurst Drive	5/10/18
12. 05-109-043-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5418 Eaglehurst Drive	5/10/18
13. 05-109-042-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5400 Eaglehurst Drive	5/10/18
14. 05-109-041-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5380 Eaglehurst Drive	5/10/18
15. 05-109-040-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5366 Eaglehurst Drive	5/10/18
16. 05-109-039-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5342 Eaglehurst Drive	5/10/18
17. 05-109-038-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5320 Eaglehurst Drive	5/10/18
18. 05-109-037-00	<i>Patricia R Mosher</i>	MOSHER PATRICIA TRUST	5308 Eaglehurst Drive	5/10/18
19. 03-109-036-00	<i>Patricia R Mosher P.M.</i>	MOSHER PATRICIA TRUST	5284 Eaglehurst Drive	5/10/18
20. 05-109-028-00		Brett Bonjernoor	5391 Eaglehurst Drive	5/10/18
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Circulator: MA  
Date: 5/10/18  
Printed Name of Circulator: Mark Hagan  
Complete Address of Circulator: 402 E. Front Street, Traverse City, MI 49885

**FOR TOWNSHIP OFFICE USE ONLY**

Petition received on: \_\_\_\_\_  
Person receiving petition: \_\_\_\_\_  
Number of valid signatures on petition: \_\_\_\_\_

CHARTER TOWNSHIP OF GARFIELD  
GRAND TRAVERSE COUNTY, MICHIGAN

RESOLUTION #2018-16-T

INTENT TO CREATE SPECIAL ASSESSMENT DISTRICT  
FOR ROAD IMPROVEMENTS  
FOR EAGLEHURST DRIVE

BE IT HEREBY RESOLVED that the Charter Township of Garfield does hereby declare its intent to improve Eaglehurst Drive within the following described area:

Lots 25-44, Eaglehurst Estates Subdivision.

By using an approved method of road improvement, together with the necessary structures and other work incidental thereto, all within the proposed district in accordance with the petitions of property owners therefore.

BE IT FURTHER RESOLVED that the Township Board does tentatively designate the special assessment district against which the costs of improvements is to be assessed as Eaglehurst Drive Improvement, which shall include the lands and premises more particularly described above.

BE IT FURTHER RESOLVED that a hearing on any objections to the improvement, the estimate of costs and to the special assessment district proposed to be established for the assessment of the cost of such improvement shall be held on June 26, 2018, at a regular meeting of the township board at Garfield Charter Township Hall in the upstairs, large meeting room, at 3848 Veterans Drive, Traverse City, Michigan, commencing at 6:00 p.m.

BE IT FURTHER RESOLVED that the Clerk is instructed to give the proper notice of such hearing by mailing and publication in accordance with law and statute provided.

BE IT FURTHER RESOLVED that all resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution be and the same are hereby rescinded.

Moved:

Supported:

Ayes:

Nays:

Absent and Excused:

RESOLUTION 2018-16-T DECLARED ADOPTED.

By: \_\_\_\_\_  
Lanie McManus, Clerk  
Charter Township of Garfield

**CERTIFICATE**

I, Lanie McManus, Clerk of the Charter Township of Garfield, do hereby certify that the above is a true and correct copy of a Resolution which was adopted by the Township Board of the Charter Township of Garfield on the 12th day of June, 2018.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Lanie McManus, Clerk