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Appendix

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Appendix A

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Recommended Corridor Pavement Management Strategies

The following tables show possible work types for various pavements based on existing pavement type, age of pavement and commercial ADT (CADT) volumes. Work Type Codes (WTC) are given at the end of this appendix.

Multiple Course HMA Overlay on Flexible Pavement (Any CADT)

Year	WTC	Possible WTC	Description
0		140, 141, 143, 146, 147, 159, 170	Initial Construction
3	456	405	Crack Seal
7	407	400, 401, 410, 411, 414, 440	Multiple Course Surface Seal
14	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
20	407	400, 401, 410, 411, 414, 440	Multiple Course Surface Seal
30			Rehabilitate/Reconstruct

New or Reconstructed Flexible Pavement (< 1100 CADT)

Year	WTC	Possible WTC	Description
0	164	148, 160, 161, 162, 171, 172, 173, 174, 210, 212, 213, 310, 320	Initial Construction
8	456	405	Crack Seal
16	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
23	456	405	Crack Seal
28	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
33	456	405	Crack Seal
40			Rehabilitate/Reconstruct

New or Reconstructed Flexible Pavement (≥ 1100 CADT)

Year	WTC	Possible WTC	Description
0	164	148, 160, 161, 162, 171, 172, 173, 174, 210, 212, 213, 310, 320	Initial Construction
7	456	405	Crack Seal
12	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
17	456	405	Crack Seal
22	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
25	456	405	Crack Seal
28	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
30	456	405	Crack Seal
40			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Rubbilized Concrete (< 1100 CADT)

Year	WTC	Possible WTC	Description
0	155, 169	140, 141, 143, 146, 147, 159, 170	Initial Construction
6	456	405	Crack Seal
13	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
16	456	405	Crack Seal
22	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
25	456	405	Crack Seal
30			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Rubbilized Concrete (≥ 1100 CADT)

Year	WTC	Possible WTC	Description
0	155, 169	140, 141, 143, 146, 147, 159, 170	Initial Construction
5	456	405	Crack Seal
11	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
14	456	405	Crack Seal
20	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
23	456	405	Crack Seal
30			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Crush & Shape (< 1100 CADT)

Year	WTC	Possible WTC	Description
0	142, 167, 168	140, 141, 143, 146, 147, 159, 170	Initial Construction
4	456	405	Crack Seal
9	407	400, 401, 410, 411, 414, 440	Multiple Course Surface Seal
16	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
19	456	405	Crack Seal
25			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Crush & Shape (≥ 1100 CADT)

Year	WTC	Possible WTC	Description
0	142, 167, 168	140, 141, 143, 146, 147, 159, 170	Initial Construction
4	456	405	Crack Seal
10	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
12	456	405	Crack Seal
18	408	443, 140, 141, 143, 146, 147, 149, 159	Mill 1 ½" and resurface with HMA @ 165#/syd
20	456	405	Crack Seal
25			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Repaired Concrete (< 1100 CADT)

Year	WTC	Possible WTC	Description
0		140, 141, 143, 146, 147, 159, 170	Initial Construction
2	456	405	Crack Seal
10	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
12	456	405	Crack Seal
18	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
20	456	405	Crack Seal
25			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Repaired Concrete (≥ 1100 CADT)

Year	WTC	Possible WTC	Description
0		140, 141, 143, 146, 147, 159, 170	Initial Construction
2	456	405	Crack Seal
8	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
10	456	405	Crack Seal
14	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
16	456	405	Crack Seal
19	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
25			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Composite Pavement (< 1100 CADT)

Year	WTC	Possible WTC	Description
0		140, 141, 143, 146, 147, 159, 170	Initial Construction
2	456	405	Crack Seal
9	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
11	456	405	Crack Seal
16	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
18	456	405	Crack Seal
25			Rehabilitate/Reconstruct

Multiple Course HMA Overlay on Composite Pavement (≥ 1100 CADT)

Year	WTC	Possible WTC	Description
0		140, 141, 143, 146, 147, 159, 170	Initial Construction
2	456	405	Crack Seal
7	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
9	456	405	Crack Seal
13	408	443, 140, 141, 143, 146, 147, 149, 159, 404, 412, 157, 158, 450	Mill 1 ½" and resurface with HMA @ 165#/syd Joint Repair
15	456	405	Crack Seal
20			Rehabilitate/Reconstruct

New or Reconstructed Jointed Concrete Pavement (< 3600 CADT)

Year	WTC	Possible WTC	Description
0	165, 163	148, 160, 161, 162, 171, 172, 173, 174, 210, 212, 213, 310, 320	Initial Construction
8	457	406	Joint Seal
16	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
26	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
34	457	406	Joint Seal
40			Rehabilitate/Reconstruct

New or Reconstructed Jointed Concrete Pavement (≥3600 CADT)

Year	WTC	Possible WTC	Description
0	165, 163	148, 160, 161, 162, 171, 172, 173, 174, 210, 212, 213, 310, 320	Initial Construction
8	457	406	Joint Seal
12	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
18	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
26	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
34	457	406	Joint Seal
40			Rehabilitate/Reconstruct

Unbonded Concrete Overlay (< 3600 CADT)

Year	WTC	Possible WTC	Description
0	156	170	Initial Construction
12	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
20	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
25	457	406	Joint Seal
30			Rehabilitate/Reconstruct

Unbonded Concrete Overlay (≥ 3600 CADT)

Year	WTC	Possible WTC	Description
0	156	170	Initial Construction
10	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
18	415	157, 158, 159, 166, 403, 404, 406, 412, 413, 450, 453, 457	Concrete Pavement Restoration
24	457	406	Joint Seal
30			Rehabilitate/Reconstruct

Work Type Codes: 8/30/11

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Work Type Codes: 8/30/11

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Work Type Codes: 8/30/11

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*** Inactive Work Type Codes**

2018 Call for Projects Rehabilitation and Reconstruction Fix Life Guidelines

Fix Type	Commercial ADT (two way) ≤ 3000			Commercial ADT (two way) > 3000 & < 6000			Commercial ADT (two way) ≥ 6000		
Rehab & Reconstruction Fix	Flexible*	Composite*	Rigid**	Flexible*	Composite*	Rigid**	Flexible*	Composite*	Rigid**
Repair Existing & a Multiple Course HMA Overlay	12 to 15	10 to 12	10 to 12	10 to 12	8 to 10	8 to 10	8 to 10	6 to 8	6 to 8
Mill Existing & a Multiple Course HMA Overlay	12 to 15	10 to 12	N/A	10 to 12	8 to 10	N/A	8 to 10	6 to 8	N/A
Concrete Pavement Patching	N/A	N/A	8 to 10	N/A	N/A	6 to 8	N/A	N/A	5 to 7
Concrete Pavement Restoration (Patching, Diamond Grinding & Joint Resealing)	N/A	N/A	10 to 12	N/A	N/A	8 to 10	N/A	N/A	6 to 8

Fix Type	Average Fix Life		
Rehab & Reconstruction Fix	Flexible*	Composite*	Rigid**
Crush & Shape w/ Multiple Course HMA Overlay	16	N/A	
Rubblize & Multiple Course HMA Overlay	N/A	14	
Unbonded Concrete Overlay	N/A	21	
6”+ Aggregate Lift w/ Multiple Course HMA Overlay	14		
Hot Mix Asphalt Reconstruction			
Concrete Reconstruction	26		

N/A Not Applicable

* The Life extension values for crack treatments on HMA surfaces should not be added to the values in the R&R fix life chart when determining fix lives for entry into RQFS and MPINS.

** The life extension values for concrete joint resealing and concrete crack sealing should not be added to the R&R fix life values in RQFS or MPINS.

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2013 Call For Projects CPM Fix Life Extensions*

Fix Type	Life extension (in years)	Life extension (in years)	Life extension (in years)
	Flexible	Composite	Rigid
HMA Crack Treatment***	1-3	1-3	N/A
Overband Crack Filling***	1-2	1-2	N/A
One Course HMA Overlay	5-10	4-9	N/A
Mill and One Course HMA Overlay	5-10	4-9	N/A
Single Course Chip Seal	3-6	N/A	N/A
Double Chip Seal	4-7	3-6	N/A
Single Course Micro-Surface	3-5	**	N/A
Multiple Course Micro-Surface	4-6	**	N/A
Ultra-Thin HMA Overlay	3-6	3-6	N/A
Paver Placed Surface Seal	4-6	**	N/A
Full Depth Concrete Repair	N/A	N/A	3-10
Concrete Joint Resealing****	N/A	N/A	1-3
Concrete Spall Repair	N/A	N/A	1-3
Concrete Crack Sealing****	N/A	N/A	1-3
Diamond Grinding	N/A	N/A	3-5
Dowel Bar Retrofit	N/A	N/A	2-3
Concrete Pavement Restoration	N/A	N/A	5-10

* The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

** A life extension will be provided; however, data are not available to quantify the life extension.

*** The life extension values for crack treatments on HMA surfaces should not be added to the values in the R&R fix life guidelines when determining fix lives for entry into RQFS and MPINs. The life extension values for actual crack sealing jobs should still be programmed in MPINs, but should not be included in RQFS.

**** The life extension values for concrete joint resealing and concrete crack sealing should not be added to the values in the R&R fix life guidelines when determining fix lives for entry into RQFS and MPINs. If the fix is applied in reaction to a poor performing pavement and the intent of the job is to get the original life expected out of the pavement, the fix should not be included in RQFS and the life extension value in MPINs should be limited to avoid overestimating the life of the pavement. Otherwise, the life extension value should be programmed in MPINs and included in RQFS.

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CPM Treatment Options & Condition Criteria

FLEXIBLE & COMPOSITE PAVEMENT SURFACE TREATMENT (NON-STRUCTURAL HOT MIX ASPHALT (HMA) OVERLAY)

Description: A dense graded HMA mixture limited to a 165 lbs/syd application rate.

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**3**	**<40**	**<70**	**<163**	**<0.50 in**
Composite	**3**	**<25**	**<70**	**<163**	**<0.50 in**

Life Extension

Pavement	Years
Flexible	5 to 10
Composite	4 to 9

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE & COMPOSITE PAVEMENT SURFACE TREATMENT (SURFACE MILLING WITH NON-STRUCTURAL HOT MIX ASPHALT (HMA) OVERLAY)

Description: The removal of an existing HMA surface by the cold milling method and the placement of a dense graded HMA mixture limited to a 165 lbs/syd application rate.

Pavement	Minimum RSL (years)	DI	RQI*	IRI*	Rut
Flexible	**3**	**<40**	**<80**	**<212**	**<1.0 in**
Composite	**3**	**<30**	**<80**	**<212**	**<1.0 in**

**Higher RQI and/or IRI values may be accepted in urban locations if the cause for the poor ride can be corrected.*

Life Extension

Pavement	Years
Flexible	5 to 10
Composite	4 to 9

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE AND COMPOSITE PAVEMENT SURFACE TREATMENT (CHIP SEAL)

Description: A chip seal is the application of a polymer modified asphalt emulsion with a cover aggregate. A single or a double chip seal can be used in the Capital Preventive Maintenance Program.

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**5 (double) 6 (single)**	**<30 (double) <25 (single)**	**<54**	**<107**	**<0.125 in**
Composite	**5 (double)**	**<15 (double)**	**<54**	**<107**	**<0.125 in**

Life Extension

Pavement	Years
Flexible: Single Seal Double Seal	 3 to 6 4 to 7
Composite: Double Seal	 3 to 6

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE & COMPOSITE PAVEMENT SURFACE TREATMENT (MICRO-SURFACING)

Description: Micro-Surfacing is a mixture of polymer modified asphalt emulsion, mineral aggregate, mineral filler, water, and other additives, properly proportioned, mixed, and placed on a paved surface.

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**5 (multiple or heavy single) 10 (regular single)**	**<30 (multiple or heavy single) <15 (regular single)**	**<54**	**<107**	**<1.0 in**
Composite	**5 (double)**	**<15**	**<54**	**<107**	**<1.0 in**

Life Extension

Pavement	Years
Flexible: Single Course Multiple Course	 3 to 5 4 to 6
Composite: We acknowledge that micro surfacing will provide a life extension to a composite pavement, however data is not available to quantify the life extension.	

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE AND COMPOSITE PAVEMENT TREATMENT (CRACK TREATMENT)

Description: Crack treatment consists of both crack sealing and crack filling. Crack sealing is attained by the Cut and Seal Method. Crack filling is attained by the Overband Crack Fill Method. The Cut and Seal Method consists of cutting the desired reservoir shape at the working crack in the existing HMA surface, cleaning the cut surfaces and placing the specified materials into the cavity to prevent the intrusion of water and incompressible into the crack. The Overband Crack Fill Method consists of cleaning the non-working crack in the HMA pavement surface and placing the specified materials into and above the crack to substantially reduce infiltration of water and to reinforce the adjacent pavement.

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**10**	**<15**	**<54**	**<107**	**<0.125 in**
Composite	**10**	**<5**	**<54**	**<107**	**<0.125 in**

Life Extension

Pavement	Years
Flexible	Up to 3
Composite	Up to 3

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE AND COMPOSITE PAVEMENT TREATMENT (OVERBAND CRACK FILLING)

Description: The Overband Crack Filling consists of cleaning the crack in the HMA pavement surface and placing the specified materials into and above the crack to substantially reduce infiltration of water and to reinforce the adjacent pavement.

FOR STAND ALONE APPLICATION

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**7**	**<20**	**<54**	**<107**	**<0.125 in**
Composite	**7**	**<10**	**<54**	**<107**	**<0.125 in**

Life Extension

Pavement	Years
Flexible	Up to 2
Composite	Up to 2

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE AND COMPOSITE PAVEMENT TREATMENT (PAVER PLACED SURFACE SEAL)

Description: A special paver places a polymer modified asphalt emulsion followed immediately by a gap-graded ultra-thin HMA surface.

Purpose: A paver placed surface seal is a non-structural HMA overlay in combination with a bonding/sealing polymer modified asphalt emulsion. It will help seal the existing pavement surface to reduce the intrusion of water into the pavement structure, improve friction, slow the rate of pavement deterioration, correct minor pavement surface deficiencies and improve the ride, noise and skid qualities of the pavement.

Existing pavement condition: The existing pavement condition should exhibit good base condition and a uniform cross section. The visible surface distress may include severe raveling, moderate severity longitudinal and transverse cracks, moderate block cracking, moderate patching, or moderate bleeding. Reflection cracking at joints should not exceed the moderate severity level.

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**5**	**<30**	**<62**	**<132**	**<0.25 in**
Composite	**5**	**<15**	**<62**	**<132**	**<0.25 in**

Existing pavement surface preparation: This preparation work should be limited to minor repairs. Ruts or other depressions greater than ¼ inch depth should be filled with suitable material prior to placement of the paver placed surface seal. Cracks greater than ¼ inch wide should be sealed using an approved crack sealing method. The maximum sealant "film" thickness allowed will be ¼ inch.

Performance: This treatment corrects minor rutting and low friction. The process may be used in lieu of extensive stand alone overband crack fill when the cracking meets the criteria described above. Paver placed surface seal performs well on high volume roadways to correct the pavement surface conditions described above.

Life Extension

Pavement	Years
Flexible	4 to 6**
Composite	3 to 5**
***We acknowledge that an ultra-thin HMA overlay will provide a life extension to a pavement, however data are not available to quantify the life extension.*	

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

Performance Limitations: Paver placed surface seal should not be placed on the following existing pavement conditions: severely distressed composite pavement, severe rutted flexible pavement, pavement with a weak base, a flexible surface that is debonding or severe bleeding flexible surface. Paver placed surface seal will not stop reflective cracking. The construction season may start in early May, but should be discontinued by no later than mid October.

FLEXIBLE AND COMPOSITE PAVEMENT TREATMENT (ULTRA-THIN HOT MIX ASPHALT (HMA) OVERLAY)

Description: A dense graded HMA mixture limited to an 83 lbs/syd application rate.

Pavement	Minimum RSL (years)	DI	RQI	IRI	Rut
Flexible	**7**	**<30**	**<54**	**<107**	**<0.125 in**
Composite	**7**	**<20**	**<54**	**<107**	**<0.125 in**

Life Extension

Pavement	Years
Flexible	3 to 6**
Composite	3 to 6**
***We acknowledge that an ultra-thin HMA overlay will provide a life extension to a pavement, however data are not available to quantify the life extension.*	

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

FLEXIBLE, COMPOSITE OR RIGID PAVEMENT TREATMENT (HOT MIX ASPHALT (HMA) SHOULDER RIBBONS)

Description: This work includes the construction of a new HMA shoulder ribbon where gravel shoulders exist or the removal and replacement of a deteriorated HMA shoulder ribbon.

REQUIREMENT

The design life of the shoulder ribbons should be equal to or less than the Remaining Service Life (RSL) of the main line pavement.

RIGID PAVEMENT TREATMENT (FULL DEPTH CONCRETE PAVEMENT REPAIR)

Description: The work consists of complete removal and replacement of the concrete pavement at the deteriorated joint or open crack. The new concrete repair should include load transfer (dowel bars), pavement reinforcement (if JRCP), contraction and/or expansion joints with joint seals.

Pavement	Minimum RSL (years)*	DI*	RQI	IRI**
Rigid	**7**	**<20**	**<54**	**<107**

*The full depth concrete pavement repair is limited to 30 per lane mile.
**Higher RQI / IRI numbers should consider Concrete Pavement Restoration.

Life Extension

Pavement	Years
Rigid	3 to 10

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (CONCRETE JOINT RESEALING)

Description: This work includes the removal of the existing joint seals, and resealing the transverse and longitudinal joint with either preformed neoprene, silicones, or low-modulus hot-poured rubber.

Pavement	Minimum RSL (years)	DI	RQI	IRI
Rigid	**10**	**<15**	**<54**	**<107**

Performance: A properly placed concrete pavement seal should benefit the service life by slowing the deterioration rate of the concrete pavement.

Life Extension

Pavement	Years
Rigid	3 to 5

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (CONCRETE SPALL REPAIR)

Description: The work is to repair spalled concrete by removing all unsound concrete, cleaning the area, and placing a filler material consisting of a fast-set mortar or a rapid setting polymer concrete. Spalling may occur along transverse or longitudinal joints, cracks, or be located somewhere on the pavement surface. Filler materials are typically pre-packaged and are placed according to recommendations from the supplier. Use of a filler material should be verified from the Department's Qualified Products List.

Pavement	Minimum RSL (years)	DI	IRI
Rigid	**10**	**<15**	**<107**

Life Extension

Pavement	Years
Rigid	Up to 5

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (CONCRETE CRACK SEALING)

Description: Crack sealing involves the sawing or routing, cleaning and sealing of cracks in the concrete pavement that are greater than 12 inches in length and greater than 0.125 inches in width. If the crack is greater than 0.375 inches in width a backer rod must be used.

Pavement	Minimum RSL (years)	DI	RQI	IRI
Rigid	**10**	**<15**	**<54**	**<107**

Life Extension

Pavement	Years
Rigid	Up to 3

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (DIAMOND GRINDING)

Description: This work consists of diamond grinding the entire lane width as specified on the plans. Diamond grinding should be considered when average IRI is greater than 95, average friction number is 30 or less, or there are more than 18 full depth repairs per mile.

Pavement	Minimum RSL (years)	DI	RQI	IRI
Rigid	**12**	**<10**	**<54**	**<107**

Life Extension

Pavement	Years
Rigid	3 to 5

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (DOWEL BAR RETROFIT)

Description: Dowel bar retrofit is an operation in which slots are cut into the concrete pavement across faulted joints and cracks, and dowel bars are placed in the slots to restore the load transfer. The work consists of five operations: cutting the slots, preparing the slots, placing the dowel bars, backfilling the slots and opening the pavement to traffic.

Pavement	Minimum RSL (years)	DI	RQI	IRI
Rigid	**10**	**<15**	**<54**	**<107**

Life Extension

Pavement	Years
Rigid	2 to 3

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (CONCRETE PAVEMENT RESTORATION)

Description: This work shall include full depth concrete pavement repairs and diamond grinding. A combination of additional treatments, including spall repair, dowel bar retrofit, crack sealing and joint resealing, can provide substantial benefit to the pavement.

Pavement	Minimum RSL (years)	DI	RQI	IRI
Rigid	**3**	**<40**	**<80**	**<212**

Life Extension

Pavement	Years
Rigid	7 to 15

The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

RIGID PAVEMENT TREATMENT (OPEN-GRADED UNDERDRAIN OUTLET CLEANING AND REPAIR)

Description: This work includes the clean out and repair of the rigid PVC, corrugated plastic or steel open-graded underdrain outlets from outlet ending to the connection with the mainline open-graded underdrain.

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BRIDGE DECK PRESERVATION MATRIX – DECKS WITH EPOXY COATED REBAR (ECR)

DECK CONDITION STATE				REPAIR OPTIONS	POTENTIAL RESULT TO DECK BSIR		ANTICIPATED FIX LIFE
Top Surface		Bottom Surface			Top Surface BSIR #58a	Bottom Surface BSIR #58b	
BSIR #58a	Deficiencies % (a)	BSIR #58b	Deficiencies % (b)				
≥ 5	N/A	N/A	N/A	Hold (c) Seal Cracks/Healer Sealer (d)	No Change	No Change	1 to 4 years
	≤ 5%	> 5	≤ 2%	Epoxy Overlay	8, 9	No Change	10 to 15 years
	≤ 10%	≥ 4(k)	≤ 25%(k)	Deck Patch (e)	Up by 1 pt.	No Change	3 to 10 years
4(k) or 5	10% to 25%(k)	4(k)	10% to 25%(k)	Shallow Concrete Overlay (h, i)	8, 9	No Change	20 to 25 years
				HMA Overlay with water-proofing membrane (f, h, i)	8, 9	No Change	8 to 10 years
		2 or 3(k)	> 25%(k)	HMA Cap (g, h, i)	8, 9	No Change	2 to 4 years
≤ 3(k)	>25%(k)	4(k) or 5	2% to 25%(k)	Shallow Concrete Overlay (h, i)	8, 9	No Change	10 years
				HMA Overlay with water-proofing membrane (f, h, i)	8, 9	No Change	5 to 7 years
		2 or 3(k)	>25%(k)	HMA Cap (g, h, i)	8, 9	No Change	1 to 3 years
				Replacement with Epoxy Coated Rebar (ECR) Deck	9	9	60+ years

(a) Percent of deck surface area that is spalled, delaminated, or patched with temporary patch material.
(b) Percent of deck underside area that is spalled, delaminated or map cracked.
(c) The "Hold" option implies that there is on-going maintenance of filling potholes with cold patch and scaling of incipient spalls.
(d) Seal cracks when cracks are easily visible and minimal map cracking. Apply healer sealer when crack density is too great to seal individually by hand. Sustains the current condition longer.
(e) Crack sealing can also be used to seal the perimeter of deck patches.
(f) Hot Mix Asphalt overlay with waterproofing membrane. Deck patching required prior to placement of waterproofing membrane.
(g) Hot Mix Asphalt cap without waterproofing membrane for ride quality improvement. Deck should be scheduled for replacement in the 5 year plan.
(h) If bridge crosses over traveled lanes and the deck contains slag aggregate, do deck replacement.
(i) When deck bottom surface is rated poor (or worse) and may have loose or delaminated concrete over traveled lanes, an in-depth inspection should be scheduled. Any loose or delaminated concrete should be scaled off and false decking should be placed over traveled lanes where there is potential for additional concrete to become loose.
(k) Contact C&T's Bridge Operations section if a deck with epoxy coated rebar in poor condition is identified.

BRIDGE DECK PRESERVATION MATRIX
DECKS WITH EPOXY COATED REBAR (ECR)
USER GUIDELINES

This matrix is a tool for Bridge Engineers to use in the selection of deck repair options when the concrete bridge deck has epoxy coated rebar (ECR). All ECR decks built since approximately 1980 have epoxy coated steel reinforcement (rebar) placed in the top and bottom rows. As of the date of release of this preservation matrix, there have been few, if any, bridges decks that have reached a poor condition state. For this reason, many of the possible repair options in the matrix are shown in grey. If during a bridge inspection or detailed scope, a bridge deck with epoxy coated rebar is identified as having a deck surface or bottom surface in poor condition, please contact Linda Reed of MDOT's Bridge Operations Section at reedl@michigan.gov.

Deep concrete overlays have been removed from the matrix because the hydro-demolition will destroy the rebar's epoxy coating.

The condition of the deck is usually the driving force, or the key indicator, leading to a structure being considered for preventive maintenance, rehabilitation, or replacement. However, there are times when other issues affecting the bridge may elicit the need for a rehabilitation project and this matrix does not address those situations. Some of these situations are super-structure deterioration, sub-structure deterioration, and functional issues such as under-clearance and/or bridge width. Sometimes it is desirable for an entire corridor to be brought up to a specific condition level as part of an overall strategy. So the user is cautioned to interpret the information from the matrix in the context of each specific case and use engineering judgment.

The matrix can be used from left to right or from right to left. If you have scoping inspection data with a deck delamination survey, select the row in the left column that matches the percent of surface defects. Then select the row in the second column that matches the percent of underside defects. To the right of this you will find a repair option and the associated changes to the NBI and the expected service life of that repair, or "fix life."

If you are looking for a fix that will last for a given period of time, select a row from the right column that matches the length of service desired and scan to the left to find the repair option. Be advised that the condition of the bridge at the time of the rehabilitation affects the expected service life of the selected repair option. So if the structure is in worse condition than shown on the left side of the matrix, the repair will not last as long. Conversely, if the deck is in better condition than shown on the left, a longer service life could be expected.

This matrix has been constructed based on element deterioration data and the best knowledge of individuals from Construction & Technology, Maintenance, and Design Support Areas, and FHWA with many years of experience working with bridges. When used in conjunction with the Bridge Safety Inspection Report (BSIR), Pontis Element Data, and Detailed Bridge Project Scoping Report, the matrix can be an accurate guide in the majority of situations and will lead to a repair option that is economical and consistent with the Departments goals.

BRIDGE DECK PRESERVATION MATRIX – Decks with Uncoated "Black" Rebar

DECK CONDITION STATE				REPAIR OPTIONS	POTENTIAL RESULT TO DECK BSIR		ANTICIPATED FIX LIFE
Top Surface		Bottom Surface			Top Surface BSIR #58a	Bottom Surface BSIR #58b	
BSIR #58a	Deficiencies % (a)	BSIR #58b	Deficiencies % (b)				
≥ 5	N/A	N/A	N/A	Hold (c) Seal Cracks/Healer Sealer (d)	No Change	No Change	1 to 4 years
	≤ 5%	> 5	≤ 2%	Epoxy Overlay	8, 9	No Change	10 to 15 years
	≤ 10%	≥ 4	≤ 25%	Deck Patch (e)	Up by 1 pt.	No Change	3 to 10 years
4 or 5	10% to 25%	5 or 6	≤ 10%	Deep Concrete Overlay (h)	8, 9	No Change	25 to 30 years
		4	10% to 25%	Shallow Concrete Overlay (h, i)	8, 9	No Change	20 to 25 years
				HMA Overlay with water-proofing membrane (f, h, i)	8, 9	No Change	8 to 10 years
		2 or 3	> 25%	HMA Cap (g, h, i)	8, 9	No Change	2 to 4 years
≤ 3	>25%	> 5	< 2%	Deep Concrete Overlay (h)	8, 9	No Change	20 to 25 years
		4 or 5	2% to 25%	Shallow Concrete Overlay (h, i)	8, 9	No Change	10 years
				HMA Overlay with water-proofing membrane (f, h, i)	8, 9	No Change	5 to 7 years
		2 or 3	>25%	HMA Cap (g, h, i)	8, 9	No Change	1 to 3 years
				Replacement with Epoxy Coated Rebar (ECR) Deck	9	9	60+ years

(a) Percent of deck surface area that is spalled, delaminated, or patched with temporary patch material.
(b) Percent of deck underside area that is spalled, delaminated or map cracked.
(c) The "Hold" option implies that there is on-going maintenance of filling potholes with cold patch and scaling of incipient spalls.
(d) Seal cracks when cracks are easily visible and minimal map cracking. Apply healer sealer when crack density is too great to seal individually by hand. Sustains the current condition longer.
(e) Crack sealing can also be used to seal the perimeter of deck patches.
(f) Hot Mix Asphalt overlay with waterproofing membrane. Deck patching required prior to placement of waterproofing membrane.
(g) Hot Mix Asphalt cap without waterproofing membrane for ride quality improvement. Deck should be scheduled for replacement in the 5 year plan.
(h) If bridge crosses over traveled lanes and the deck contains slag aggregate, do deck replacement.
(i) When deck bottom surface is rated poor (or worse) and may have loose or delaminated concrete over traveled lanes, an in-depth inspection should be scheduled. Any loose or delaminated concrete should be scaled off and false decking should be placed over traveled lanes where there is potential for additional concrete to become loose.

BRIDGE DECK PRESERVATION MATRIX
DECKS WITH UNCOATED "BLACK" REBAR
USER GUIDELINES

This matrix is a tool for Bridge Engineers to use in the selection of deck repair options when the concrete bridge deck has uncoated "black" rebar. The condition of the deck is usually the driving force, or the key indicator, leading to a structure being considered for preventive maintenance, rehabilitation or replacement. However, there are times when other issues affecting the bridge may elicit the need for a project and this matrix does not address those situations. Some of these situations are super-structure deterioration, sub-structure deterioration, and functional issues such as under-clearance and/or bridge width. Sometimes it is desirable for an entire corridor to be brought up to a specific condition level as part of an overall strategy. So the user is cautioned to interpret the information from the matrix in the context of each specific case and use engineering judgment.

The matrix can be used from left to right or from right to left. If you have scoping inspection data with a deck delamination survey, select the row in the left column that matches the percent of surface defects. Then select the row in the second column that matches the percent of underside defects. To the right of this you will find a repair option and the associated changes to the NBI and the expected service life of that repair, or "Fix Life".

If you are looking for a fix that will last for a given period of time, select a row from the right column that matches the length of service desired and scan to the left to find the repair option. Be advised that the condition of the bridge at the time of the rehabilitation affects the expected service life of the selected repair option. So if the structure is in worse condition than shown on the left side of the matrix, the repair will not last as long. Conversely, if the deck is in better condition than shown on the left, a longer service life could be expected.

This matrix has been constructed based on element deterioration data and the best knowledge of individuals from Construction & Technology, Maintenance, region bridge engineers, bridge design engineers, and FHWA with many years of experience working with bridges. When used in conjunction with the Bridge Safety Inspection Report (BSIR), Pontis element data, and detailed bridge project scoping report, the matrix can be an accurate guide in the majority of situations and will lead to a repair option that is economical and consistent with the Department's goals.

Appendix B

Topic	Appendix #
Checklists	**B**
Statewide Scoping Package Master Checklist – Road (Form#0595)	
Road Scoping Report & Details Worksheet (Form#0595)	
Statewide Scoping Package Master Checklist – Road CPM (Form#0596)	
Road CPM Scoping Report & Details Worksheet (Form#0596)	
Statewide Scoping Package Master Checklist – Bridge (Form#0593)	
Bridge Scoping Report & Details Worksheet (Form#0593)	
Statewide Scoping Package Master Checklist – Bridge CPM/CSM (Form#0594)	
Bridge CPM/CSM Scoping Report & Details Worksheet (Form#0594)	
Culvert Scope Inspection (Form#0592)	
Constructability Checklist (Form#1961)	

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Appendix C

Topic	Appendix #
Bridge Inspection Forms	**C**
Bridge Safety Inspection Form (Form#2502)	
Bridge Analysis Report (Form#0231)	
Detail Beam Survey Report (Form#0267)	
Bridge Underclearance Measurements (Form#1190)	
Diver Inspection Report	C-5

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MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE DIVING INSPECTION REPORT [SIA #92-B]

MDOT Bridge ID	Structure Number	Control Section

Facility	Federal Struc ID	Inspector Name	Agency Name	Inspection Date

Feature	Location	Latitude	Longitude	Insp Freq	Insp Key

Length	Width	Year Built	Yr Recon	Br	Type	Scour Eval	# of Pins

BRIDGE INFORMATION

NUMBER OF SUBSTRUCTURE ELEMENTS IN WATERWAY

SCOUR COUNTER MEASURES

INSPECTION COMMENTS

SCOUR CRITICAL ACTION PLAN AVAILABLE?

SCOUR CRITICAL ACTION PLAN LOCATION

NAVIGATION PROTECTION SYSTEMS

PROTECTION SYSTEMS

INSPECTION COMMENTS

INSPECTION STAFF & EQUIPMENT

ENGINEER

DIVER

TENDER

DIVE EQUIPMENT(S)

NEAREST BOAT LAUNCH SITE

SAFETY CONCERNS

WATERWAY & WEATHER CONDITIONS

CURRENT SPEED TURBIDITY WATER TEMPERATURE

STREAM BED MATERIAL MAXIMUM DEPTH AIR TEMPERATURE

MARINE GROWTH ON STRUCTURE

WEATHER CONDITIONS ON DAY OF DIVE

INSPECTION DETAILS

WATERWAY AND BANK OBSERVATIONS

MICHIGAN DEPARTMENT OF TRANSPORTATION

BRIDGE DIVING INSPECTION REPORT [SIA #92-B]

MDOT Bridge ID	Structure Number	Control Section

Facility	Federal Struc ID	Inspector Name	Agency Name	Inspection Date

Feature	Location	Latitude	Longitude	Insp Freq	Insp Key

Length	Width	Year Built	Yr Recon	Br	Type	Scour Eval	# of Pins

SUBSTRUCTURE OBSERVATIONS (Above the waterline)

SUBSTRUCTURE OBSERVATIONS (Below the waterline)

DEBRIS IN WATERWAY

RECOMMENDATIONS

UNDERWATER VIDEO AVAILABLE?

UNDERWATER VIDEO DESCRIPTION

UNDERWATER VIDEO LOCATION

STREAM BED PROFILE COMPLETED?

SITE PLAN COMPLETED?

PHOTOGRAPHS?

GENERAL NOTES

Appendix D

Topic	Appendix #
Project Forms	**D**
Traffic Analysis Guidelines	D-1
Traffic Analysis Request (TAR) (Form#1730)	
Scope Project Record Form (Form#0591)	
Scoping Level Crash Analysis	D-4
Preliminary Planning Scoping Letter (Form#2483)	
Contract Request (Form#5105)	

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Traffic Analysis Request (TAR) Guidelines

Definitions

Annual Average Daily Traffic (AADT)

The estimate of typical daily traffic on a road segment for all days of the week, Sunday through Saturday, over the period of one year. This number gives a good overall feel for the traffic on the roadway but is not used for design purposes. The raw traffic count is adjusted to take into account any seasonal or weekly traits of the corridor.

Design Hourly Volume (DHV)

The hourly traffic volume used in the design of highways, usually represented by the 30th highest hourly volume.

Directional Design Hourly Volume (DDHV)

The directional hourly traffic volume represented by the 30th highest hourly volume in each direction. This percentage may be substantially higher than DHV. For example, you might have a north/south corridor with a DHV of 13% on Friday 6PM. The DDHV could be 16% going northbound on Friday night 5 PM and 17% going southbound on a 3 PM Sunday night.

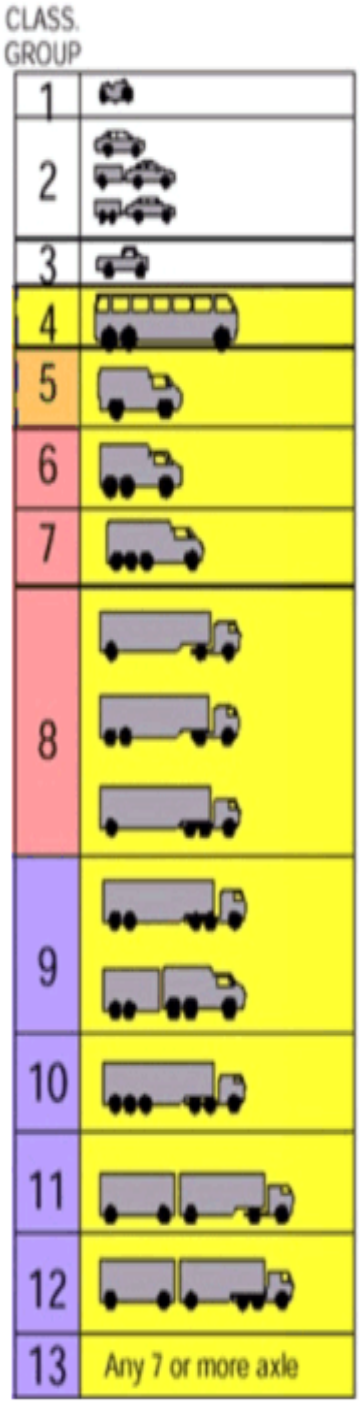
Commercial Annual Average Daily Traffic (CAADT)

The estimate of typical daily commercial traffic on a road segment for all days of the week, Sunday through Saturday, over the period of one year. Commercial traffic does not necessarily follow the same growth pattern than ADT. The economy and gasoline prices affect commercial differently than ADT. Agricultural seasons could have a greater effect on commercial.

Vehicle Classification

Vehicle Mix is used for a variety of purposes; to determine ESALs used in pavement design, noise impact studies; geometric considerations; capacity analysis; imposing weight limitations.

The following is the Federal Highway Administration (FHWA) vehicle classification breakdown:



1. Motor Cycles: All two or three-wheeled motorcycles and motor scooters with engines of approximately five horse power or more.

2. Passenger Cars: Passenger carrying automobiles, including any pulling a recreational or other light trailer.

3. Other two-axles, Four tire Single Unit Vehicles: Two axles, four-tire vehicles other than passenger cars (including pickups, panles, vans and other vehicles such as campers, motor homes, ambulances, hearses)

4. Buses: Traditional, passenger-carrying buses, both city and intercity, having two-axles and six tires or three or more axles (only traditional buses functioning as passenger-carrying vehicles fit this classification)

5. Two Axles, Six tire, Single Unit Trucks: Single frame trucks, including camping and recreational vehicles, motor homes, etc.

6. Three Axles, Single Unit Trucks: Three axles, single frame vehicles, including camping and recreational vehicles, motor homes, etc.

7. Four or more Axles, Single Unit Trucks: Any four or more axles, single unit truck.

8. Three or Four Axles, Single Trailer Trucks: Any three or four axles, truck and trailer combination.

9. Five Axles, Single Trailer Trucks: Any five axles truck and trailer combination.

10. Six or more Axles, Single Trailer Trucks: Any Six or more Axles truck and trailer combination.

11. Five or less Axles, Multi Trailer Trucks: Any combination of three or more units, one of which is a tractor or truck power unit having five or less axles.

12. Six Axles, Multi Trailer Trucks: Any combination of three or more units, one of which is a tractor or truck power unit having six axles.

13. Seven or more Axles, Multi Trailer Trucks: Any combination of three or more units, one of which is tractor

Note: Medium trucks are considered Class 4-8 while heavy trucks are considered Class 9-13.

AM Peak Period Volume and Time

The time period and volume in the morning when the greatest demand for transportation occurs. Please note *this is not a composite peak* where every movement or project section is at its highest volume. It is the morning peak period for your project area so project scope is important. Used in signal timing optimizations; capacity analysis and problem identification.

PM Peak Period Volume and Time

The time period and volume in the evening when the greatest demand for transportation occurs. Please note *this is not a composite peak* where every movement or project section is at its highest volume. It is the evening peak period for your project area so project scope is important. Used in signal timing optimizations; capacity analysis and problem identification.

Interchange/Intersection Turning movements (TMs)

Used to measure level of congestion and delay on arterial streets, intersections and interchanges. Traditionally, the counts are provided manually during the hours of 7-9AM, 11-1PM, 2-6PM. In addition, 24 hour hose counts are provided for each 'anchor' street.

Items to consider

Do you just need a ramp count or do you need the turning movements at the ramp termini? Be sure to be specific on your needs.

If you don't specify, you will get 20 design years for ESALs.

Remember the limitations and manpower issues of the Data Collection unit. Safety of the work crew is of prime consideration. This does not mean you shouldn't use them. For example, if you ask for a commercial count on a road where they can't lay hoses, you probably will not get 24 hour coverage. It is impossible to manually count all 13 classifications. Most likely, you will get the 2 bucket count (Single versus multiple trailer). Also remember you cannot get hose counts on curves (loop ramps) or on ramps where speed is variable.

Please let planner know of any unique characteristic of the corridor project. Is there a shopping area, unique factory hours, school area?

Are there any special events or affairs out of the ordinary that would skew traffic? Do you want counts more reflective of a typical period or do you want these special times counted?

Intersection Turning Movements- Traditionally, the counts are provided manually during the hours of 7-9AM, 11-1PM, 2-6PM. Are these hours reflective of the 8 highest hours? A shopping area might need more noontime (or even weekend) hours. Again, keep in mind data collection manpower concerns but if you need a weekend count, by all means, order it.

Typically, you will get AM and PM peak hours for Turning Movements. IF you have specific movements that are high in the 'off peak' hours you might want the DHV Turning Movements in addition to AM and PM peak.

On life cycle costing, do you need daily traffic distribution? Request as needed.

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MDOT
Michigan Department of Transportation

OFFICE MEMORANDUM

DATE: December 8, 2008

TO: Art Green, Development Manager

FROM: Paul Arends, Traffic & Safety Engineer

SUBJECT: **Scoping Level Crash Analysis**
M-11 (The Grand River to Church Avenue)
City of Grandville, Kent County
JN 79447A, Control Section 41061

A preliminary crash analysis and safety review has been conducted for a five-year period (August 1, 2003 to July 31, 2008) for the subject location. The proposed project would involve complete reconstruction of M-11, including curbs and sidewalk. This roadway is as follows:

Control Section	Beg. M.P. End. M.P.	Type of Roadway	ADT
41061	6.681 6.907	4 lane-2 way	31,000

This 0.23 mile roadway segment is located along M-11 from the bridge over the Grand River (B01 of 41061) to Church Avenue in the city of Grandville. The segment also includes the adjacent I-196 entrance and exit ramps up to the gore with I-196. No segment of this roadway is included in the Grand Region High Crash List.

Initial review of the one-line listings from MDOT's TMS system for this roadway segment revealed a total of 223 crashes; 5 of which involved alcohol (2 rear-end straight,1 angle straight, 1 fixed object, 1 side swipe same). The remaining 218 crashes consisted of 98 (45%) rear-end straight, 37 (17%) angle drive, 26 (12%) side swipe same, 19 (8%) head on left, 14 (6%) angle straight, 10 (5%) fixed object, 10 (5%) angle turn, 2 (1%) side swipe opposite, 1 (0.5%) head on and 1 (0.5%) overturn.

A total of 150 (67%) crashes occurred during adverse (icy, snowy, wet) roadway conditions and 61 (27%) occurred during dark periods. These crashes resulted in a total of 72 injuries – consisting of 61 C's, 8 B's, 3 A's, and 0 Fatalities.

JN 101124A includes the traffic signal retiming for the entire M-11 corridor including this segment. This project is scheduled to be completed early 2009. The implementation of new signal timing, splits and offsets should help reduce crashes in this area – particularly the rear-end crashes. The project may also modify the flash schedule, which may help reduce the head-on left turn crashes.

In order to help reduce the large number of angle drive, angle straight and side-swipe crashes, this project should investigate utilizing access management techniques, such as closing, combining, or relocating the closely spaced drives onto M-11 (particularly the Shell & BP drives). Ideally, BP and Nyenhuis Collision Center would combine all drives and centrally locate a shared drive directly across from Church Street. Shell would close all access points onto M-11 and use Church Street as their only access point. If operations at the business require access onto M-11, a right-in / right-out drive may be considered.

Based on the above analysis and based on the current proposed project scope, no further safety additions will be needed. A detailed review of the individual crashes will be performed once the project is selected, programmed, and full design begins. It is possible that the existing crash patterns may change, or new patterns may develop within the time frame between scoping and design. Further analysis may reveal the need for additional mitigation measures.

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Appendix E

Topic	Appendix #
Estimating Tools	**E**
Cost Summary Tool (Form#0597)	
Call For Projects Bridge Cost Estimate Spreadsheet (Sample)	E-2
Bridge Capital Scheduled Maintenance Cost Estimate Spreadsheet (Sample)	E-3

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REV. 12/07/11

2012

XXXX CALL FOR PROJECTS

BRIDGE REPAIR COST ESTIMATE

ENGINEER: DATE: DECK AREA: SFT STRUCTURE ID:
LOCATION: DECK DIM:
PRIMARY REPAIR STRATEGY: STR. TYPE:

WORK ITEM	QUANTITY	UNIT	UNIT COST		TOTAL
NEW BRIDGE					
Multiple Spans, Concrete (add demo. & road approach & traffic control)		SFT	$150.00	/SFT	
Multiple Spans, Steel (as above)		SFT	$180.00	/SFT	
Single Span or Over Water, Concrete (as above)		SFT	$190.00	/SFT	
Single Span or Over Water, Steel (as above)		SFT	$210.00	/SFT	
Pedestrian Bridge (includes removal, add traffic control)		SFT	$285.00	/SFT	
Other					
NEW SUPERSTRUCTURE					
Concrete (includes rem of old super, new railing, add t.c. & approach)		SFT	$110.00	/SFT	
Steel (as above)		SFT	$160.00	/SFT	
Over Water (add to new superstructure cost)		SFT	$28.00	/SFT	
Other					
WIDENING					
Added portion only. _____ ft of width (add road approach widening)		SFT	$190.00	/SFT	
Other					
NEW DECK					
Includes removal of old deck & new railing (add t.c. & approach)		SFT	$65.00	/SFT	
Other					
DEMOLITION					
Entire bridge, grade separation		SFT	$27.00	/SFT	
Entire bridge, over water		SFT	$36.00	/SFT	
Other					
SUPERSTRUCTURE REPAIR					
Concrete Deck Patch (includes hand chipping)		SFT	$33.00	/SFT	
Full Depth Patch		SFT	$70.00	/SFT	
HMA Cap (no membrane - add bridge rail if req'd)		SFT	$1.20	/SFT	
HMA Overlay with WP membrane (add bridge rail if req'd)		SFT	$4.50	/SFT	
Removal of Concrete Wearing Course (latex)		SFT	$2.00	/SFT	
Removal of HMA Overlay or Epoxy Overlay		SFT	$1.00	/SFT	
Epoxy Overlay		SYD	$34.00	/SYD	
Shallow Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT	$23.00	/SFT	
Deep Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT	$24.00	/SFT	
PCI Beam End Repair ($2000-$4000 per beam end)		EA	$3,000.00	EA	
Repair Structural Steel ($2000 bolted, $6000 welded)		EA	$5,000.00	EA	
High Load Hit Repair (PCI Beam)		SFT	$200.00	/SFT	
Paint Structural Steel		SFT	$9.00	/SFT	
Partial Painting		SFT	$18.00	/SFT	
Pin & Hanger replacement (includes temporary supports)		EA	$6,000.00	EA	
Other					
SUBSTRUCTURE REPAIR					
Pier repair (measured x 2) Replace unit if spalled area > 30%		CFT	$180.00	/CFT	
Pier repair over water (measured x 2)		CFT	$200.00	/CFT	
Pier replacement		CFT	$70.00	/CFT	
Abutment repair (measured x 2)		CFT	$180.00	/CFT	
Temporary Supports for Substructure Repair		EA	$1,500.00	EA	
Slope Protection repairs		SYD	$80.00	/SYD	
Other					
MISCELLANEOUS					
Expansion or Construction Joints (includes removal)		FT	$450.00	/FT	
Bridge Railing, remove and replace (type 4 $210, aesthetic parapet $260)		FT	$235.00	/FT	
Thrie Beam Railing retrofit		FT	$34.00	/FT	
Deck Drain Extensions		EA	$500.00	EA	
Scour Countermeasures		LSUM		LSUM	
Other					
ROAD WORK					
Approach Pavement, 12" RC (add C & G, GR, Slope, Shldr.) 40' ea. end		SFT	$11.50	/SFT	

BRIDGE REPAIR COST ESTIMATE WORKSHEET
- KEY -

Unit Cost Assumptions
(Revised **01/29/09**)

NEW BRIDGE

Multiple spans, Concrete - add road approach, demolition, & traffic control.
Multiple spans, Steel - add road approach, demolition, & traffic control.
Single span (or multi span over water), Concrete - add road approach, demolition, & traffic control.
Single span (or multi span over water), Steel - add road approach, demolition, & traffic control.
Pedestrian Bridge - includes demolition & approach ramps, add traffic control.
Other

NEW SUPERSTRUCTURE - includes removal of old superstructure, joints, new railing.
Add road approach and traffic control.
NOTE: Assume replace-in-kind unless specific recommendation from Design.
Concrete
Steel
Over Water - additional cost to the steel or concrete superstructure replacement if over water.
Other

WIDENING - Per square area of widened portion of deck.
Includes cost of widening substructure units, ***must add additional cost of widening road approach***.
Other

NEW DECK - includes removal of old deck, joints, new railing. Add road approach & traffic control.
Other

DEMOLITION

Entire bridge, grade separation
Entire bridge, over water
Other

SUPERSTRUCTURE REPAIR

Concrete Deck Patch - includes hand chipping.
HMA Cap (no membrane) - add bridge railing if required.
HMA Overlay with WP membrane - add bridge railing if required.
Removal of Concrete Wearing Course (latex) or Epoxy Overlay - add this to overlay costs to remove existing latex or epoxy wearing course.
Removal of HMA Overlay – add this to overlay costs to remove existing HMA overlay.
Epoxy Overlay - does not include joint replacement.
Shallow Overlay* - includes joint replacement & hydrodemolition; add bridge railing if req'd.
Deep Overlay* - includes joint replacement & hydrodemolition; add bridge railing if req'd.
*[Add "Removal of Concrete Wearing Course" to remove existing latex ovly.]
PCI Beam End Repair - per beam end, $3,000 is "average".
$2,000 for simple repairs (includes cathodic protection and concrete patching),
$4,000 for extensive repairs (includes new bearing assembly and temporary supports).
Repair Structural Steel – per repair, includes temporary supports, add painting.
$2,400 bolted, $6,200 welded. Use $5,000 if unknown.
High Load Hit Repair (PCI beam) – does not include temporary support, if needed.
Paint Structural Steel - includes clean and coat.
Partial Painting - includes clean and coat.
Pin & Hanger replacement - includes temporary supports, does not include painting.
Other

SUBSTRUCTURE REPAIR

Pier repair* - (measured x 2) - includes hand chipping, add temporary supports.
Pier repair over water* - (measured x 2) - includes hand chipping, add temporary supports.
Pier replacement - includes removal, piles, excavation, backfill, & cofferdam or sheet piling.
Abutment repair* - (measured x 2) - includes hand chipping, add temporary supports.
*assumes depth of repair is 5"-6".
Temporary Supports for Substructure Repair
Slope Protection repairs - includes demolition / removal.
Other

MISCELLANEOUS

Expansion Joints and Construction Joints - includes joint removal.
(combined per Design - construction joint usually replaced with exp. joint of some kind).
Bridge Railing, remove and replace – average.
If Type 4, reduce by $30. If aesthetic parapet railing, increase by $40.
Thrie Beam Railing retrofit
Deck Drain Extensions – only two in WIRS. Cost may vary.
Scour Countermeasures
Other

ROAD WORK

Approach Pavement, 9½" RC, 40' ea. end - min. approach work to tie in to new bridge deck, includes removal of existing pavement.
Approach Curb & Gutter - includes C&G removal.
Guardrail Anchorage to Bridge (<40') - includes GR removal.
Guardrail, Type B or T - includes GR removal.
for guardrail beyond GR Anchorage or to replace existing type B or T. Not more than $200'.
Guardrail Ending - needed unless new GR is tied into existing GR.
Roadway Approach work - when needed beyond 40', eg. transition to adjust crown or super, or add'l width needed when widening bridge or add'l length needed when raising grade.
Utilities
Other

TRAFFIC CONTROL - Unit costs to be determined by Region or TSC Traffic and Safety.
Note: If bridge is within a road project, traffic control will in most cases be covered by the road project. If this is the case, please make note of it on the estimate form.

Part Width Construction
Crossovers – very rough estimate.
Temporary Traffic Signals - price listed is bumped up from that provided by Lansing T&S in 2004.
RR Flagging
Detour
Other

CONTINGENCY - (10% - 20%) use higher contingency for small projects.

MOBILIZATION – Estimate at 5% but put "10% max." in pay item description, per Design Update 2009-1.

INFLATION - use 5% per year, starting with year 2009, per Planning (5% 2009, 10% 2010, 15% 2011, etc.).

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CAPITAL SCHEDULED MAINTENANCE
BRIDGE PROJECT COST ESTIMATE

2012

_____**REGION** **FY**_____

ENGINEER: DATE: DECK AREA: STRUCTURE NO:
LOCATION: DECK DIM: **XXX-XXXXX**
PRIMARY WORK ACTIVITY: STR. TYPE:

WORK ACTIVITIES		QUANTITY	DIMENSION	UNIT COST	TOTAL
DECK					
Patching Concrete, C-L	(deck or barrier rail patching)		CYD	$700.00 /CYD	
Penetrating Healer/Sealer, Bridge Deck			SYD	$16.00 /SYD	
Crack Sealer			FT	$4.50 /FT	
Water Repellant Treatment, Penetrating	(deck surface)		SYD	$15.00 /SYD	
Concrete Surface Coating	(concrete barrier rail, deck slab fascia)		*SYD	$12.00 /SYD	
Resealing Bridge Construction Joints	(hot poured rubber)		FT	$15.00 /FT	
End Header Replacement			FT	$75.00 /FT	
Concrete, Grade D			CYD	$750.00 /CYD	
Reinforcement, Steel, Epoxy Coated			LBS	$1.40 /LB	
Adhesive Anchoring of Horiz. Bars __"			EA	$25.00 /EA	
Drain Casting, Type 1			EA	$800.00 /EA	
Drain Casting, Type 2			EA	$600.00 /EA	
Drain Casting Assembly, Type 1			EA	$900.00 /EA	
Drain Casting Assembly, Type 2			EA	$700.00 /EA	
Deck Drain , Extension			EA	$500.00 /EA	
Downspout Replacement			EA	$2,000.00 /EA	
Embedded Galvanic Anode			EA	$20.00 /EA	
Other					
SUPERSTRUCTURE					
Spot Painting	(80% clean, 20% coat)		*SFT	$20.00 /SFT	
Patching Concrete, C-L	(concrete beam patching)		CYD	$700.00 /CYD	
Water Repellent Treatment, Penetrating	(concrete fascia beams)		SYD	$15.00 /SYD	
Concrete Surface Coating	(concrete fascia beams)		*SYD	$12.00 /SYD	
Other					
SUBSTRUCTURE					
Patching Concrete, C-L	(substructure patching)		CYD	$700.00 /CYD	
Patch Forming	(vertical & overhead surfaces)		SFT	$32.00 /SFT	
Concrete Surface Coating	(vertical surfaces)		*SYD	$12.00 /SYD	
Substructure Horizontal Surface Sealer	(horizontal surfaces)		*SYD	$18.00 /SYD	
Water Repellent Treatment, Penetrating			SYD	$15.00 /SYD	
Other					
DEMOLITION					
Hand Chipping, Shallow	(~3" deep)		SYD	$110.00 /SYD	
Hand Chipping, Deep	(~6" deep min)		SYD	$160.00 /SYD	
Hand Chipping, Other Than Deck	(vertical & overhead surfaces)		CFT	$60.00 /CFT	
Structures, Rehabilitation, Rem Portions	(slope protection removal)		*CYD	$225.00 /CYD	
Structures, Rehabilitation, Rem Portions	(drain casting removal)		*EA	$500.00 /EA	
False Decking			SFT	$1.00 /SFT	
Other					
MISCELLANEOUS					
Joint, Expansion, Erg	(pavement joint)		FT	$11.50 /FT	
Joint, Pressure Relief, 4 inch			FT	$50.00 /FT	
Embankment, Structure, CIP			CYD	$24.00 /CYD	
Backfill, Structure, CIP			CYD	$20.00 /CYD	
Slope Paving, Header			FT	$60.00 /FT	
Slope Paving, Concrete			SYD	$60.00 /SYD	
Slope Paving, Precast Concrete			SYD	$60.00 /SYD	
Other					
TRAFFIC CONTROL					
Maintaining Traffic	(from TSC or Region T&S)		LS	LS	
Other					
MOBILIZATION		10 %		$0.00	$0

(DOES NOT INCLUDE PE & CE) **CONSTRUCTION TOTAL** **$0**

* Estimated as unit shown, Paid for as LUMP SUM

Rev. 12/6/11

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Appendix F

Topic	Appendix #
Trsn□port Information	**F**
Breakdown ID Numbers	F-1
Non-Standard Pay Item Numbers	F-2

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Breakdown ID Numbers for Use in Trns□port

Breakdown IDs Associated with the Sub-Categories in the MPINS Concept – Road Cost Tab

(100) MAINLINE PAVEMENT

101	Aggregate BSE/Surf
102	Chip Seal
103	Cncrt Pvmt Rpr (Jt Log)
104	Cold Mill
105	Concrete Mainline
106	Crack and Seal
107	Crown Modification
108	Curb and Gutter
109	Detail 7s
110	Detail 8s
111	Diamond Grinding
112	Earth Work
113	HMA Mainline
114	HMA/Conc. Quality Initiative
115	Hand Patching
116	Longitudinal Jt Rpr
117	Micro Surfacing
118	Milled Joint Repair
119	Other
120	Other Concrete
121	Other HMA
122	Quality Control Testing
123	Remove Pavement
124	Ride Quality HMA/Conc.
125	Rubblizing/Pulver /Crush
126	Saw and Seal
127	Subbase
128	Trenching/Station Grading
129	Undercutting

(200) GEOMETRIC IMPROVEMENT

201	Commercial Driveways
202	Detail II & III Approac
203	Gore Flattening
204	Int'sctn Imp - Realign
205	Int'sctn Imp - Turn Lane
206	Int'sctn Imp-Pass Flare
207	Int'sctn Sight Distance
208	Lane Drop Taper Rev
209	Other
210	Pass Sight Distance Imp

(200) GEOMETRIC IMPROVEMENT continued

211	Ramp Extensions
212	Ramp Widening
213	Residential Driveways
214	Roadside Curbed Islands
215	Safety Related Grading
216	Stop Sight Distance Imp
217	Superelevation Mod
218	Vertical & Horizontal Alignment

(300) ENVIRONMENTAL

301	Act 307
302	Archeological Sites
303	Endangered Species
304	Hazardous Matls Testing
305	Hazmat Mitigation
306	Historical Sites
307	Non Hazardous Contaminated Materials
308	Other
309	Wetland Mitigation

(400) ROW

401	Access Rights/Agreement
402	Air Rights
403	Drainage Easements
404	Drive Relocation
405	Fee ROW
406	Grdg Permits
407	Other
408	Permit to Close Drive
409	Permit to Grade Drive
410	Fee Row - Number of Par
411	Fee Row - Num of Relocs

(500) PERMANENT TRAFFIC

501	Cantilever Signs
502	Cold/Hot Appl'd Marking
503	Delineators
504	Other
505	Paint
506	Perm Signing
507	Perm Traffic Signals
508	Raised Pavement Markers
509	Truss Signs
510	Number of Traffic Signals

(600) SAFETY

601	Advertising Signs
602	Clear Vision (Grdg/Clrg)
603	Culvert Ext/Hdwall Rmv
604	Curb and Gutter
605	Drainage Ditches
606	Filler Walls
607	Fixed Object Removal
608	Guardrail
609	Impact Attenuators
610	Mailboxes
611	Median Protection
612	Other
613	RR Xings
614	Sidewalk Ramps
615	Structures
616	Tree Removal/Trimming
617	Utility Poles

Breakdown IDs Associated with the Sub-Categories in the MPINS Concept – Road Cost Tab - Continued

(700) DRAINAGE

701	Culvert Replacement
702	Curb and Gutter
703	Ditching
704	Other
705	Paved Ditches
706	Pumpstations
707	Retention/Detention
708	Retrofitting Pavt Drain
709	Storm Sewer Adjust/Cons
710	Underdrains
711	Video Taping Sewers

(800) NON-MOTORIZED

801	Independent
802	Other
803	Shoulder
804	Sidewalk
805	Surfacing NM Path

(900) CONT/MOBIL/INFL

901	Road - Contingency
902	Road - Mobilization
903	Road - Inflation

(1000) MAINTAINING TRAFFIC

1001	Barricades
1002	Changeable Message Sign
1003	Detour Imp - Marking
1004	Detour Imp - Signals
1005	Detour Imp - Signing
1006	Detour Imp - Surfacing
1007	Flag Control
1008	Incentive/Disincentive
1009	Lighted Arrows
1010	Minor Traffic Devices
1011	Night Work

(1100) MISC.

1101	Berm (Shldr Edge) Rmv
1102	Carpool Lot
1103	Contractor Staking
1104	Erosion Control
1105	Fencing
1106	Intelligent Transportation Systems
1107	Landscaping (General)
1108	Lighting
1109	Blank
1110	Other
1111	Public Utilities
1112	Restoration: Seed/Sod/e
1113	Retaining Walls
1114	Roadside Park/Rest Area
1115	Sound Walls
1116	Tree Replacement

(1200) EPE/PE/CE

1201	Study (EPE)
1202	Road - PE
1203	Road - CE

Non-Standard Pay Item Numbers

With Trns□port, pay item code numbers for non-standard, miscellaneous pay items (project specific pay items not found in the Code Book) do not have a unique pay item code number. The item description is the primary key, not the code number.

Miscellaneous item code numbers depend on the unit of measure. Unique code numbers are assigned for each sub-section of the Standard Specification Book, for each unit of measure that is likely used in that subsection. The following format is used to designate miscellaneous pay items:

XXX7YYY

- XXX Designates the subsection of the Standard Specifications that the item is associated with
- 7 Designates that the item is a miscellaneous item
- YYY Designates the number that is associated with the unit of measure

The following numbers are used:

YYY	Unit of Measure	YYY	Unit of Measure
001	Foot	030	Pound
002	Station	031	Ton
003	Mile	040	Hour
004	Lane Mile	041	Calendar Day
005	Roadbed Mile	042	Work Day
007	Inch	043	Month
008	Square Inch	044	Week
010	Square Foot	050	Each
011	Square Yard	051	Lump Sum
012	Acre	052	Unit
020	Cubic Foot	054	Intersection
021	Cubic Yard	055	Set
022	Gallon	060	Dollar
023	Thousand Board Foot		

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Appendix G

Topic	Appendix #
General Information	**G**
MDOT Region Offices and Service Centers	G-1
Metropolitan Planning Organizations	G-2
Rural Task Forces	G-3
Funding Codes	G-4

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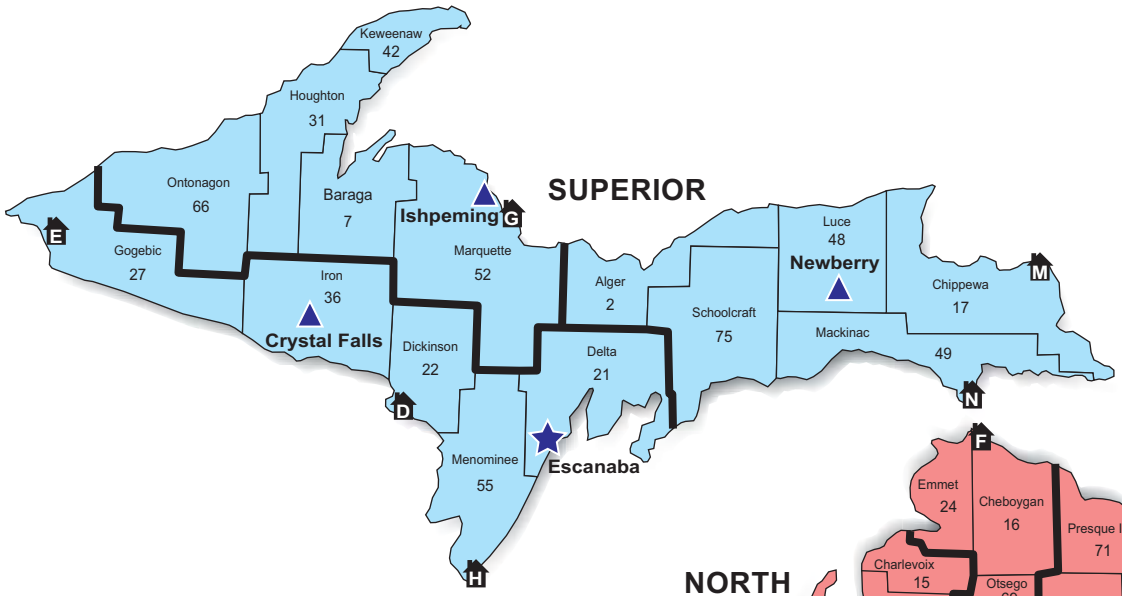
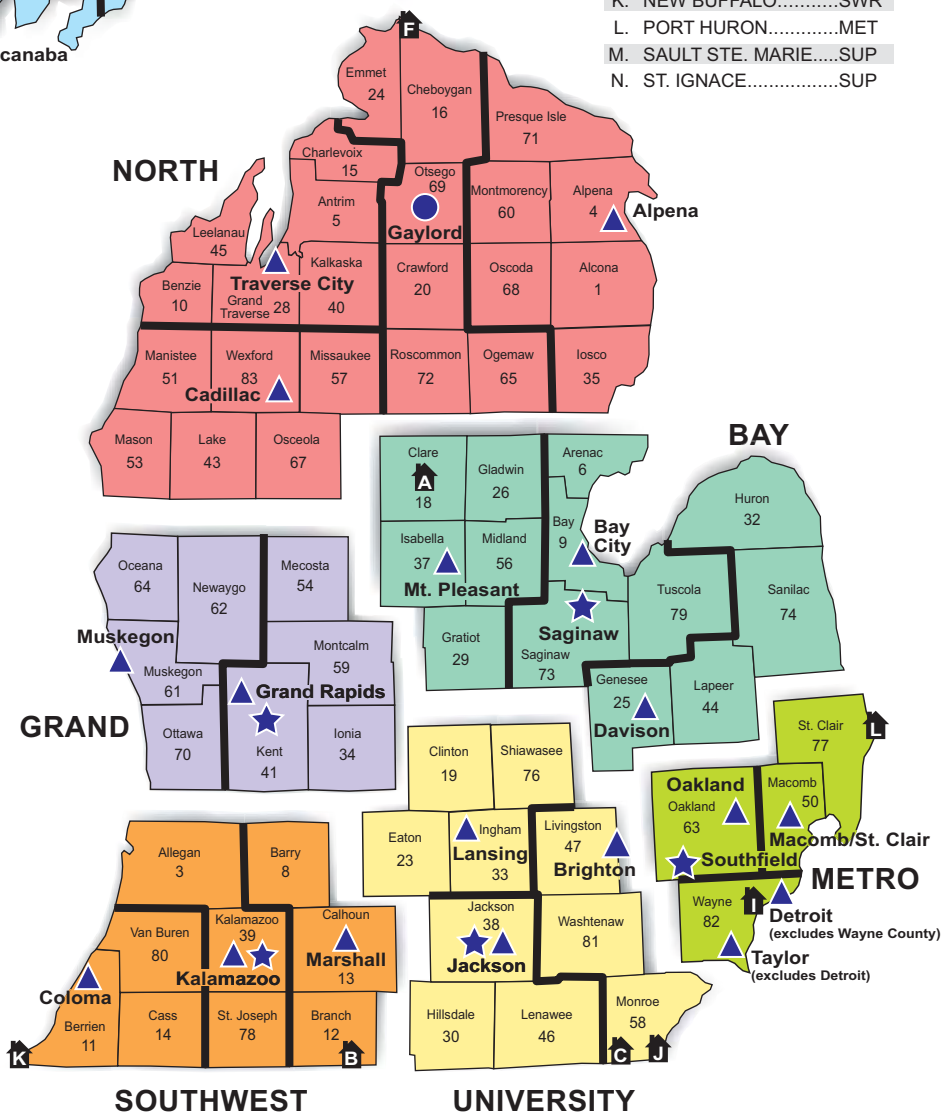
MDOT
Michigan Department of Transportation

Region Offices and Transportation Service Centers



WELCOME CENTERS

A. CLARE.....BAY
B. COLDWATER.....SWR
C. DUNDEE.....UNV
D. IRON MOUNTAIN.....SUP
E. IRONWOOD.....SUP
F. MACKINAW CITY.....NOR
G. MARQUETTE.....SUP
H. MENOMINEE.....SUP
I. MEXICANTOWN.....MET
J. MONROE.....UNV
K. NEW BUFFALO.....SWR
L. PORT HURON.....MET
M. SAULT STE. MARIE.....SUP
N. ST. IGNACE.....SUP



COUNTIES & REGIONS

1. ALCONA.....NOR
2. ALGER.....SUP
3. ALLEGAN.....SWR
4. ALPENA.....NOR
5. ANTRIM.....NOR
6. ARENAC.....BAY
7. BARAGA.....SUP
8. BARRY.....SWR
9. BAY.....BAY
10. BENZIE.....NOR
11. BERRIEN.....SWR
12. BRANCH.....SWR
13. CALHOUN.....SWR
14. CASS.....SWR
15. CHARLEVOIX.....NOR
16. CHEBOYGAN.....NOR
17. CHIPPEWA.....SUP
18. CLARE.....BAY
19. CLINTON.....UNV
20. CRAWFORD.....NOR
21. DELTA.....SUP
22. DICKINSON.....SUP
23. EATON.....UNV
24. EMMET.....NOR
25. GENESEE.....BAY
26. GLADWIN.....BAY
27. GOGEBIC.....SUP
28. GD. TRAVERSE.....NOR
29. GRATIOT.....BAY
30. HILLSDALE.....UNV
31. HOUGHTON.....SUP
32. HURON.....BAY
33. INGHAM.....UNV
34. IONIA.....GRD
35. IOSCO.....NOR
36. IRON.....SUP
37. ISABELLA.....BAY
38. JACKSON.....UNV
39. KALAMAZOO.....SWR
40. KALKASKA.....NOR
41. KENT.....GRD
42. KEWEENAW.....SUP
43. LAKE.....NOR
44. LAPEER.....BAY
45. LEELANAU.....NOR
46. LENAWEE.....UNV
47. LIVINGSTON.....UNV
48. LUCE.....SUP
49. MACKINAC.....SUP
50. MACOMB.....MET
51. MANISTEE.....NOR
52. MARQUETTE.....SUP
53. MASON.....NOR
54. MECOSTA.....GRD
55. MENOMINEE.....SUP
56. MIDLAND.....BAY
57. MISSAUKEE.....NOR
58. MONROE.....UNV
59. MONTCALM.....GRD
60. MONTMORENCY.....NOR
61. MUSKEGON.....GRD
62. NEWAYGO.....GRD
63. OAKLAND.....MET
64. OCEANA.....GRD
65. OGEMAW.....NOR
66. ONTONAGON.....SUP
67. OSCEOLA.....NOR
68. OSCODA.....NOR
69. OTSEGO.....NOR
70. OTTAWA.....GRD
71. PRESQUE ISLE.....NOR
72. ROSCOMMON.....NOR
73. SAGINAW.....BAY
74. SANILAC.....BAY
75. SCHOOLCRAFT.....SUP
76. SHIAWASEE.....UNV
77. ST. CLAIR.....MET
78. ST. JOSEPH.....SWR
79. TUSCOLA.....BAY
80. VAN BUREN.....SWR
81. WASHTENAW.....UNV
82. WAYNE.....MET
83. WEXFORD.....NOR

SUPERIOR	UNIVERSITY	TSC OFFICE ▲
NORTH	BAY	REGION/TSC OFFICE ●
GRAND	METRO	TSC BOUNDARY —
SOUTHWEST	REGION OFFICE ★	WELCOME CENTER ⌂

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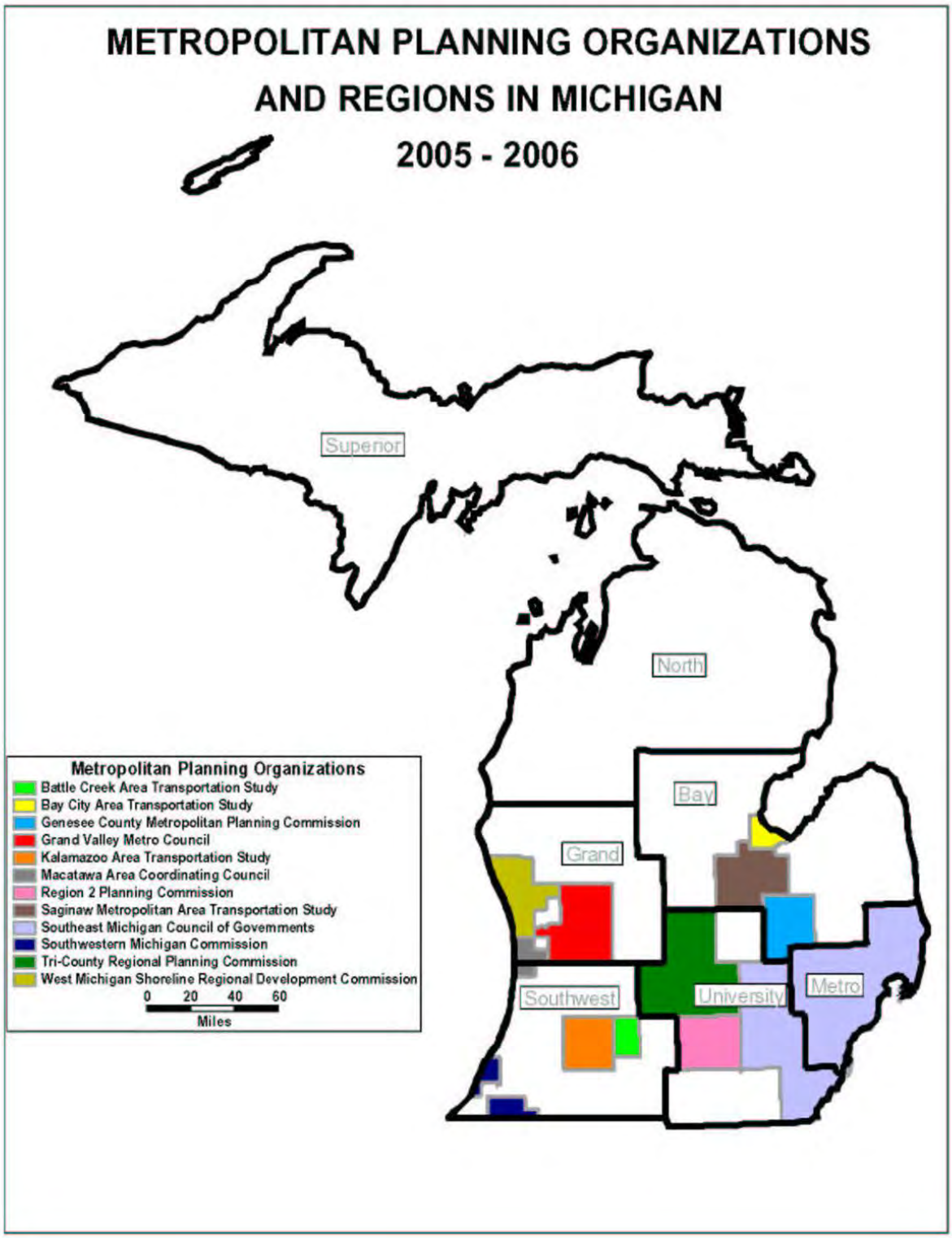
Metropolitan Planning Organizations (MPOs)

Metropolitan Planning Organization (MPO) consists of local government and transportation authorities, and makes transportation policy. In the United States, an MPO is required for any urbanized area with a population greater than 50,000; because it was felt that large urban areas required continuing, cooperative, and comprehensive transportation planning.

Under federal law, each MPO must establish an agreement among its members that explains how transportation will be organized and operated. Coordination with the local MPO may be one of the first steps when scoping a possible project, to find out local issues and concerns.


METROPOLITAN PLANNING ORGANIZATIONS
AND REGIONS IN MICHIGAN
2005 - 2006
Superior
North
Bay
Grand
Southwest
University
Metro
Metropolitan Planning Organizations
Battle Creek Area Transportation Study
Bay City Area Transportation Study
Genesee County Metropolitan Planning Commission
Grand Valley Metro Council
Kalamazoo Area Transportation Study
Macatawa Area Coordinating Council
Region 2 Planning Commission
Saginaw Metropolitan Area Transportation Study
Southeast Michigan Council of Governments
Southwestern Michigan Commission
Tri-County Regional Planning Commission
West Michigan Shoreline Regional Development Commission
0 20 40 60
Miles

Rural Task Forces (RTFs)

Rural task forces were mandated in December 1991 when the Intermodal Surface Transportation Efficient Act (ISTEA) was signed into law. The objective was to include transit operators and representatives of cities under 5000 people in all federally-funded transportation decisions. This mandate for stakeholder engagement was strengthened by Executive Order 2003-25 in December 2003, calling for MDOT to use context sensitive design.

As shown on the map below, one rural task force includes several counties.

REVISED 3/12 CJ

Created by Michigan Department of Transportation Graphics and Mapping Unit - BUREAUS\TRANSPORTATION PLANNING\PROJECT PLANNING DIVISION\Map Overlays

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Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
5303	CTF METRO TRANSPORTATION PLANNING	Active *
5304	CTF STATEWIDE TRANSPORTATION PLANNING	Active *
5307	CTF URBANIZED FORMULA	Active *
5308	CTF CLEAN FULES PPROGRAM	Active
5309	CTF CAPITAL PROGRAM	Active *
5310	CTF ELDERLY AND DISABLED	Active *
5311	CTF NON URBAN FORMULA	Active *
5316	CTF JOB ACCESS REVERSE COMMUTE	Active *
5317	CTF NEW FREEDOM	Active *
5320	CFT ALTRENATIVE TRNSPR. PARKS & PUBLIC LAND	Active
5339	CTF ALTERNATIVE ANALYSIS	Active
A307	AMERICAN RECOVERY - CTF URBANIZED FORMULA	Active
A311	AMERICAN RECOVERY - CTF NON URBAN FORMULA	Active
AA	AERONAUTICS METRO STANDARD RATE	Active
AAS	AERONAUTICS AVIATION SERVICES	Active *
AB	AERONAUTICS FEDERAL BLOCK GRANTS	Active *
ABH	ADV CON BRIDGE REHAB FED SYSTEM PRIOR 1991	Inactive
ABHI	ADV CON BRIDGE REHAB INTERSTATE	Inactive
ABHN	ADV CON BRIDGE REHAB NATL HIGHWAY SYSTEM	Inactive
ABHT	ADV CON BRIDGE REHAB SURFACE TRANSPORTATION	Inactive
ABR	ADV CON BRIDGE REPLACEMENT FED SYS PRIOR 1991	Inactive
ABRI	ADV CON BRIDGE REPLACEMENT INTERSTATE	Inactive
ABRN	ADV CON BRIDGE REPLACEMENT NHS	Inactive
ABRT	ADV CON BRIDGE REPLACEMENT SURFACE TRANS	Inactive
ACFR	ADV CON CONSOLIDATED PRIMARY RURAL	Inactive
ACFU	ADV CON CONSOLIDATED PRIMARY URBAN	Inactive
ACI	ADV CON INTERSTATE	Inactive
ACIR	ADV CON INTERSTATE RECONSTRUCT	Inactive
ACM	ADV CON CONGESTION MITIGATION	Inactive
ADBE	AMERICAN RECOVERY - DBE OJT	Active
ADPO	ADV CON ISTEA DEMO 80% FEDERAL NOT CLASSIFIED	Inactive
AFBD	AMERICAN RECOVERY - FERRY BOATS	Active
AFFH	AMERICAN RECOVERY - FOREST HIGHWAYS	Active
AFLH	AMERICAN RECOVERY - NATIONAL PARK ROADS	Active
AFM	AERONAUTICS FEDERAL	Inactive
AFR	ADV CON CONSOLIDATED PRIMARY RURAL	Inactive
AFRI	ADV CON RECONSTRUCT ON FRI	Inactive
AFRR	ADV RECON CONSOLIDATED PRIMARY RURAL 4R	Inactive
AFU	ADV CON CONSOLIDATED PRIMARY URBAN	Inactive
AFUG	ADV RECON CONSOLIDATED PRI URBAN HWY 100% FED	Inactive
AFUR	ADV RECON CONSOLIDATED PRIMARY URBAN 4R	Inactive
AG	AERONAUTICS NOICE PROGRAM	Active
AH	AERONAUTICS 90% STATE 10% LOCAL	Active *
AIM	ADV CON RECONSTRUCT IM NO ADDED LANES	Inactive
AIMG	ADV CON RECONSTRUCT ON IMG	Inactive
AIR	ADV CON RECONSTRUCT ON IR	Inactive
AIRR	AMERICAN RECOVERY - INDIAN RESERVATION ROADS	Active

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
AK	AERONAUTICS STANDARD AIP AIP 2004 & AFTER	Active
AL	AERONAUTICS STANDARD AIP PRE 2004	Active
AM	AERONAUTICS 50% STATE & 50% LOCAL	Active *
ANH	ADV CON RECONSTRUCT ON NH	Inactive
ANHG	ADV CON RECONSTRUCT NHF SAFETY 100% FEDERAL	Inactive
ANHI	ADV CON RECONSTRUCT ON NHI	Inactive
ANHS	ADV CON RECONSTRCT NHS MDOT SAFETY	Inactive
AR	AMERICAN RECOVERY - ANY AREA	Active
AR1	AMERICAN RECOVERY - 120 DAY OBLIGATION	Active
ARA	AMERICAN RECOVERY - AERONAUTICS	Active
ARE	AMERICAN RECOVERY - ENHANCEMENT	Active
ARE1	AMERICAN RECOVERY - ENHANCEMENT 120 DAY OBL	Active
ARL	AMERICAN RECOVERY - RURAL	Active
ARTG	ARRA TIGER GRANT	Active
ARU	AMERICAN RECOVERY - TMA	Active
ARUL	AMERICAN RECOVERY - SMALL MPO, SMALL URBAN	Active
AS	AERONAUTICS 100% STATE PROGRAM	Active *
AST	ADV CON RECONSTRUCT SFC TRANS ANY AREA	Inactive
ASTG	ADV CON RECONSTRUCT SFC TRANS SAFETY	Inactive
ASTH	ADV CON SURFACE TRANS SAFETY HAZARD ELIMIN	Inactive
ASTL	ADV CON SURFACE TRANSPORTATION LOCAL RURAL	Inactive
ASTT	ADV CON RECONSTRUCT SFC TRANSPORTATION	Inactive
ASTU	ADV CON SURFACE TRANS URBAN AREA > 200K POP	Inactive
AT	AERONAUTICS 95% STATE & 5% LOCAL	Active *
AW	AERONAUTICS 9/11 SECURITY REIMBURSEMENTS 2002	Active
BE01	BOND EDF LOCAL ROADS FOR FIRST ISSUE	Active *
BE02	BOND EDF LOCAL ROADS FOR SECOND ISSUE	Active *
BE03	BOND EDF LOCAL ROADS FOR THIRD ISSUE	Active *
BFU	BOND FUNDS CNSL PRI URBAN	Inactive
BG	BOND GARVEE	Active *
BGP	BICYCLE GRANT PROGRAM	Inactive *
BHES	BOND HAZARD ELIMINATION	Inactive
BHF	BRIDGE REHAB PRIOR 1991 BILL	Inactive
BHI	BRIDGE REHAB PRIOR 1991 BILL INTERSTATE	Active
BHM	BRIDGE REHAB PRIOR 1991 BILL URBAN SYSTEM	Inactive
BHN	BRIDGE REHAB NHS	Active
BHO	BRIDGE REHAB NOT CLASSIFIED OFF SYSTEM	Active
BHS	BRIDGE REHAB PRIOR 1991 BILL SECONDARY	Inactive
BHT	BRIDGE REHAB SURFACE TRANSPORTATION	Active
BI	BOND FUNDS INTRASTATE	Inactive
BI04	BOND ISSUE 2004	Active *
BI06	BOND ISSUE 2006	Active *
BI08	BOND ISSUE 2008	Active *
BI11	BOND ISSUE 2011	Active *
BI12	BOND ISSUE 2012	Active *
BI8M	BOND ISSUE 2008 MATCH	Active *

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
BIA	BUREAU OF INDIAN AFFAIRS	Active
BIR	BOND INTERSTATE RECONSTRUCT 4R	Inactive
BIS	BOND INTERSTATE SAFETY	Inactive
BIU	BOND INTERSTATE URBAN	Inactive
BM	BOND STATE FUNDS MI BETTERMENT	Inactive *
BMU	BOND METRO URBAN FEDERAL	Inactive
BOWD	BUSINESS OPP & WORK FORCE DEVELOP CENTER	Active
BRF	BRIDGE REPLACEMENT FEDERAL SYS PRE 91 PR	Inactive
BRI	BRIDGE REPLACEMENT PL PRE 91 INTERSTATE	Active
BRM	BRIDGE REPLACEMENT METRO URBAN SYSTEM	Inactive
BRN	BRIDGE REPLACEMENT NATIONAL HIGHWAY SYSTEM	Active
BRO	BRIDGE REPLACEMENT NOT CLASSIFIED OFF SYSTEM	Active
BRS	BRIDGE REPLACEMENT SECONDARY	Inactive
BRT	BRIDGE REPLACEMENT SURFACE TRANSPORTATION	Active
BT01	BOND TRUNKLINE ROADS FIRST ISSUE	Active *
BT02	BOND TRUNKLINE ROADS SECOND ISSUE	Active *
BT03	BOND TRUNKLINE ROADS THIRD ISSUE	Active *
BWM	BIKEWAY/NON-MOTORIZED PATH	Inactive *
C	COUNTY	Inactive *
CAF	CNTRL ADVERTISING PRIMARY	Inactive
CAI	CNTRL ADVERTISING INTERSTATE	Inactive
CBCD	CORRIDOR & BORDER CROSSING DISCRETIONARY	Active
CBIP	CORRIDOR & BORDER INFRASTRUCTE SAFETEA-LU	Active
CJF	CNTRL JUNK YARD PRIMARY	Inactive
CJI	CNTRL JUNK YARD INTERSTATE	Inactive
CM	CONGESTION MITIGATION	Active
CMG	CONGESTION MITIGATION 100% FEDERAL	Active
CMX	CONGESTION MITIGATION 100% LOCAL	Active *
CS	COUNTY SECONDARY	Inactive
CSG	COUNTY SECONDARY 100% FEDERAL	Inactive
CSR	COUNTY SECONDARY 4R	Inactive
CSX	COUNTY SECONDARY 100% LOCAL	Inactive *
CTF	COMPREHENSIVE TRANSPORTATION FUND	Active *
DE	SPL 87 APPR 50% DEMO 30% DISCRETIONARY	Inactive
DFG	GENERAL FUND APPR 100% FEDERAL ANY	Inactive
DFUR	APPRP FROM GENERAL FUND PRIMARY FUNDS	Inactive
DIG	ISTEA DEMONSTRATION 100% FEDERAL INTERSTATE	Active
DIV	ISTEA DEMONSTRATION AUTH ACT FED INTLGNT VEHI	Inactive
DNG	ISTEA DEMONSTRATION 100% FEDERAL NHS	Active
DOG	ISTEA DEMONSTRATION 100% FEDERAL NOT CLSFD	Active
DP	DEMONSTRATION FEDERAL AID SYSTEM	Active
DPF	DEMONSTRATION FEDERAL AID SYS PRIMARY	Inactive
DPI	DEMONSTRATION FEDERAL AID SYS INTERSTATE	Active
DPM	DEMONSTRATION FEDERAL AID SYS URBAN SYSTEM	Inactive
DPN	ISTEA DEMONSTRATION 80% FEDERAL NHS	Active
DPO	ISTEA DEMONSTRATION 80% FEDERAL NOT CLSFD	Active
DPS	ISTEA DEMONSTRATION 80% FEDERAL STP	Active

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
DPSA	DEMONSTRATION SECTION 112 DIVISION A	Active
DPU	DEMONSTRATION FEDERAL AID SYSTEM URBAN	Inactive
DPX	DEMONSTRATION 100% LOCAL	Active *
DST	DONOR BONUS SURFACE TRANSPORTATION	Inactive
DSTP	DEMONSTRATION SURFACE TRANSPORTATION PRIORITIE	Active
DSTS	DONOR BONUS SURFACE TRANS MDOT SAFETY	Inactive
DSTT	DONOR BONUS SURFACE TRANS RURAL TRUNKLINE	Inactive
DSTU	DONOR BONUS SURFACE TRANS URBAN OVER 200	Inactive
EBA	ECON DEVELOP CATEGORY A WITH BOND	Inactive *
EBAF	ECON DEVELOP CATEGORY A WITH BOND & FED	Inactive
EBAX	ECON DEVELOP CATEGORY A WITH BOND 100% LOCAL	Inactive *
EBB	ECON DEVELOP CATEGORY B WITH BOND	Inactive *
EBBF	ECON DEVELOP CATEGORY B WITH BOND & FED	Inactive
EBSL	EQUITY BONUS SAFETEA-LU	Active
EBX	ECON DEVELOPMENT 100% LOCAL	Inactive *
ECS	EMERGENCY COUNTY SECONDARY FEDERAL ER	Inactive
EDA	ECON DEVELOPMENT CATEGORY A	Active *
EDAF	ECON DEVELOPMENT CATEGORY A WITH FEDERAL	Active
EDAX	ECON DEVELOPMENT CATEGORY A 100% LOCAL	Active *
EDB	ECON DEVELOPMENT CATEGORY B	Inactive *
EDBF	ECON DEVELOPMENT CATEGORY B WITH FEDERAL	Inactive *
EDC	ECON DEVELOPMENT CATEGORY C	Active *
EDCF	ECON DEVELOPMENT CATEGORY C WITH FEDERAL	Active
EDD	ECON DEVELOPMENT CATEGORY D	Active *
EDDF	ECON DEVELOPMENT CATEGORY D WITH FEDERAL	Active
EDF	ECON DEVELOPMENT CATEGORY F	Active *
EDFF	ECON DEVELOPMENT CATEGORY F WITH FEDERAL	Active
EDX	ECON DEVELOPMENT 100% LOCAL	Active *
EMU	DELAYED FEDERAL AID FEDERAL ROADWAY USU	Inactive
ER	EMERGENCY RELIEF	Active
EXP	UNKNOWN	Inactive *
F	PRIMARY FUNDS	Inactive
FBD	FERRY BOAT & TERMINAL DISCRETIONARY	Active
FF	PRIORITY PRIMARY	Inactive
FFH	FEDERAL FOREST HIGHWAY	Active
FFHX	FEDERAL FOREST HIGHWAY 100% LOCAL	Inactive *
FFN	PRIORITY PRIMARYNON-MOTORIZED	Inactive
FG	RAIL ROAD GRADE CROSSINGS PRIMARY	Inactive
FI	PRIMARY ON INTERSTATE	Inactive
FIR	CONSOLIDATED PRIMARY	Inactive
FLH	FEDERAL LANDS HIGHWAYS PUBLIC LANDS	Active
FM	PRIMARY ROUTE M FUNDS	Inactive *
FNG	PRIMARY ROUTE NON-MOTORIZED 100% FEDERAL	Inactive
FNM	PRIMARY NON-MOTORIZED	Inactive
FR	CONSOLIDATED PRIMARY RURAL	Inactive
FRG	CONSOLIDATED PRIMARY RURAL RAIL HWY 100% FED	Inactive

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
FRI	CONSOLIDATED PRIMARY RURAL ON INTERSTATE	Inactive
FRN	CONSOLIDATED PRIMARY RURAL NON-MOTORIZED	Inactive
FRR	CONSOLIDATED PRIMARY RURAL 4R	Inactive
FRRI	CONSOLIDATED PRIMARY RURAL 4R ON INTERSTATE	Inactive
FRRS	CONSOLIDATED PRIMARY RURAL 4R SAFETY	Inactive
FRS	CONSOLIDATED PRIMARY RURAL SAFETY	Inactive
FTA	FEDERAL TRANSIT ADMINISTRATION	Inactive
FU	CONSOLIDATED PRIMARY URBAN	Inactive
FUG	CONSOLIDATED PRIMARY URBAN RAIL HWY 100% FED	Inactive
FUI	CONSOLIDATED PRIMARY URBAN ON INTERSTATE	Inactive
FUN	CONSOLIDATED PRIMARY URBAN NON-MOTORIZED	Inactive
FUR	CONSOLIDATED PRIMARY URBAN 4R	Inactive
FURI	CONSOLIDATED PRIMARY URBAN 4R ON INTERSTATE	Inactive
GTF	GENERAL TRANSPORTATION FUND	Inactive *
HBOA	HIGHWAY BRIDGE OBLIGATION AUTHORITY	Active
HES	HAZARD ELIMINATION 90% FEDERAL	Inactive
HEX	HAZARD ELIMINATION 100% LOCAL	Inactive *
HFL	HIGHWAYS FOR LIFE	Active
HHS	HIGH HAZARD LOCATIONS 90% FEDERAL	Inactive
HIP	HIGHWAY INFRASTRUCTURE PROGRAM	Active
HPP	HIGH PRIORITY PROJECTS DEMONSTRATION	Active
HPR	HIGHWAY PLANNING RESEARCH	Inactive
HPRG	HIGHWAY PLANNING RESEARCH 100% FEDERAL	Inactive
HPSL	HIGH PRIORITY PROJECTS SAFETEA-LU	Active
HRRR	HIGH RISK RURAL ROADS HSIP SAFETEA-LU	Active
HSG	HIGH SPEED RAIL ROAD CROSSING 100%	Active
HSIP	HIGHWAY SAFETY IMPROVEMENT SAFETEA-LU	Active
I	INTERSTATE	Inactive
ID	INTERSTATE DISCRETIONARY	Inactive
IDR	INTERSTATE DISCRETIONARY PRIOR TO 1999 ISTEA	Inactive
IFU	INTERSTATE CONSOLIDATED PRIMARY URBAN	Inactive
IG	INTERSTATE 100% FEDERAL	Inactive
IM	INTERSTATE MAINTENANCE NO ADDED LANES	Active
IMD	INTERSTATE MAINTENANCE DISCRETIONARY	Active
IMG	INTERSTATE MAINTENANCE SAFETY 100% FEDERAL	Active
IMNH	INTERSTATE MAINTENANCE AND NATIONAL HIGHWAY	Inactive
IMS	INTERSTATE MAINTENANCE MDOT SAFETY	Inactive
INM	INTERSTATE NON MOTORIZED	Inactive
IR	INTERSTATE RECONSTRUCTION 4R	Inactive
IRG	INTERSTATE RECONSTRUCTION 100% FEDERAL	Inactive
IS	INTERSTATE SAFETY	Inactive
ITS	INTELLIGENT TRANSPORTATION SYSTEM	Active
IU	INTERSTATE URBAN	Inactive
IVH	INTELLIGENT VEHICLE HIGHWAY	Inactive
JCS	85% MINIMUM FLOOR COUNTY SECONDARY	Inactive
JCSR	85% MINIMUM FLOOR COUNTY SECONDARY 4R	Inactive
JFR	85% MINIMUM FLOOR CONSOLIDATED PRIMARY RURAL	Inactive
JFRI	85% MIN FLOOR CONSOLIDATED PRIMARY RURAL INT	Inactive
JFRR	85% MIN FLOOR CONSOLIDATED PRIMARY RURAL 4R	Inactive

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
JFU	85% MINIMUM FLOOR CONSOLIDATED PRIMARY URBAN	Inactive
JFUG	85% MIN FLOOR CONSOLIDATED PRIMARY URBAN 100%	Inactive
JFUR	85% MIN FLOOR CONSOLIDATED PRIMARY URBAN 4R	Inactive
JHES	85% MINIMUM FLOOR HAZARD ELIMINATION	Inactive
JIR	85% MINIMUM FLOOR INTERSTATE 4R	Inactive
JMU	85% FEDERAL AID URBAN SYSTEM	Inactive
JMUG	85% FEDERAL AID URBAN SYSTEM 100% FEDERAL	Inactive
JMUR	85% FEDERAL AID URBAN SYSTEM 4R	Inactive
JRS	85% MINIMUM FLOOR RURAL SECONDARY	Inactive
JST	85% MINIMUM FLOOR SURFACE TRANSPORTATION	Inactive
JSTI	85% MINIMUM FLOOR SURFACE TRANS INTERSTATE	Inactive
JSTL	85% MINIMUM FLOOR SURFACE TRANS RURAL LOCAL	Inactive
JSTS	85% MINIMUM FLOOR SURFACE TRANS SAFETY	Inactive
JSTT	85% MINIMUM FLOOR SURFACE TRANS RURAL TRNKLN	Inactive
JSTU	85% MIN FLOOR SURFACE TRANS URBAN > 200K POP	Inactive
JSUT	85% MIN FLR SURF TRANS URBAN < 200K POP TRNKLN	Inactive
JT07	JOBS TODAY BOND ISSUE 2007 GARVEE	Active
JTM	JOBS TODAY BOND ISSUE 2007 GARVEE MATCH	Active *
LFA	LOCAL FEDERAL AID MATCH	Inactive
LFMP	LOCAL FUND MATCH PROGRAM	Active
LJTL	LOCAL JOBS TODAY LOAN	Inactive
LSF	LANDSCAPE ON PRIMARY	Inactive
LTA	LOCAL TECHNICAL ASSISTANCE	Active
M	MICHIGAN FUNDS MICHIGAN BETTERMENT	Active *
MB	MICHIGAN BITUMINOUS RESURFACING	Inactive *
MBD	MICHIGAN BRIDGE DECK	Inactive *
MBP	MICHIGAN BRIDGE PAINTING	Inactive *
MBR	MICHIGAN BITUMINOUS RECONSTRUCTION	Inactive *
MBS	MICHIGAN BUDGET STABILIZATION	Active *
MBWB	MICHIGAN BLUE WATER BRIDGE	Active
MC	MOTOR CARRIER	Inactive *
MCB	MICHIGAN CRITICAL BRIDGE	Inactive
MCP	MINOR CONSTRUCTION PROGRAM	Inactive *
MCS	MICHIGAN CRITICAL STRUCTURES	Active *
MDA	MICHIGAN DRAINAGE ASSESSMENT	Active *
MEC	MICHIGAN ENVIRONMENT CLEANUP	Inactive *
MER	MICHIGAN EMERGENCY	Active *
MFA	MICHIGAN FEDERAL AID MATCH	Inactive *
MG	MINIMUM GUARANTEE	Active
MIR	MICHIGAN INSTITUTIONAL ROADS	Active *
MJC	MICHIGAN JOBS COMMISSION	Inactive *
MJT	MICHIGAN JOINT REPAIR	Inactive *
MMR	MICHIGAN MINOR ROAD SIDE	Active *
MNM	MICHIGAN NON-MOTORIZED	Inactive *
MPB	MICHIGAN PEDESTRIAN OVERPASS	Inactive *

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
MR	MICHIGAN ROAD PRESERVATION	Inactive *
MRG	METRO URBAN FUNDS 4R 100% FEDERAL	Inactive *
MRP	MICHIGAN ROADSIDE PARK PROGRAM	Inactive *
MRR	MICHIGAN RAILROAD	Active *
MRRF	MICHIGAN ADV ROW ACQUISION REVOLV REAL ESTATE	Active *
MS	MICHIGAN SAFETY PROGRAM	Active *
MSH	MICHIGAN SHOULDERS	Inactive *
MSS	MICHIGAN SAFETY FOR SIGNALS	Inactive *
MTB	MICHIGAN TURNBACK PROGRAM	Active *
MU	METRO URBAN FEDERAL URBAN SYSTEM	Inactive
MUG	METRO URBAN FEDERAL URBAN SYSTEM 100% FED	Inactive
MUI	METRO URBAN SYSTEM INTERSTATE	Inactive
MUN	METRO URBAN NON-MOTORIZED	Inactive
MUR	METRO URBAN 4R	Inactive
MURS	METRO URBAN 4R SAFETY	Inactive
MUX	METRO URBAN 100% LOCAL	Inactive
MX	NON STATE FUNDED 100% LOCAL	Active *
NCII	NATIONAL CORR INFRASTRUCTURE IMPR SAFETEA-LU	Active
NH	NATIONAL HIGHWAY SYSTEM	Active
NHG	NATIONAL HIGHWAY SAFETY100% FEDERAL	Active
NHI	NATIONAL HIGHWAY ON I (DOES NOT QUALIFY IM)	Inactive
NHIM	NATIONAL HIGHWAY ON I (QUALIFIES FOR IM)	Inactive
NHPG	NATIONAL COOP HIGH PLANNING 100% FEDERAL	Inactive
NHS	NATIONAL HIGHWAY SYSTEM MDOT SAFETY	Inactive
NHX	NATIONAL HIGHWAY SYSTEM 100% LOCAL	Active *
NRD	NATIONAL RIDESHARE DISCRETIONARY	Inactive
NRT	NATIONAL RECREATIONAL TRAILS	Active
OS	OFF SYSTEM	Inactive
PL	METRO PLANNING	Active
PMS	PAVEMENT MRKNG DEMO SEC.205-L973 ACT 90% FED	Inactive
PNRS	PROJECTS OF NATIONAL AND REGIONAL SIGNIFICANCE	Active
QF	ADVANCE ROW ACQUISITION ON PRIMARY	Inactive
QNH	ADVANCE ROW ACQUISITION ON NH	Inactive
RAD	RADAR ACCESS DEFENSE	Inactive
RF	RURAL PRIMARY	Inactive
ROS	ELIMINATION OF ROADSIDE OBSTACLES 90% FEDERAL	Inactive
RP	RESEARCH PROJECT	Active
RRO	RAIL HIGHWAY OFF SYSTEM 90% FEDERAL	Inactive
RRP	RAIL HWY XING SEC.203,L973 ACT PRTCV DEV 90% FED	Inactive
RRS	RAIL HIGHWAY CROSSING 90% FEDERAL	Inactive
RS	RURAL SECONDARY	Inactive
RSG	RURAL SECONDARY 100% FEDERAL	Inactive
RSR	RURAL SECONDARY 4R	Inactive
RTA	RURAL TECHNICAL ASSISTANCE	Inactive
SBD	SCENIC BYWAYS DISCRETIONARY	Active
SHG	SURFACE TRANS SAFETY 100% FED FOR STH-ITEMS	Inactive
SIB	STATE INFRASTRUCTURE BANK	Active

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
SIBG	STATE INFRASTRUCTURE BANK 100%	Active
SLG	SURFACE TRANS SAFETY 100% FED FOR STL-ITEMS	Active
SOS	SAFER OFF SYSTEM ROUTES	Inactive
SPR	STATEWIDE PLANNING & RESEARCH	Active
SPRG	STATEWIDE PLANNING & RESEARCH 100% FEDERAL	Active
SRS	FEDERAL AID SAFER ROADS DEMO 90% FEDERAL	Inactive
SRSE	SAFE ROUTES TO SCHOOL EITHER SAFETEA-LU	Active
SRSI	SAFE ROUTES TO SCHOOL INFRASTRUCT SAFETEA-LU	Active
SRSN	SAFE ROUTES TO SCHOOL NON INFRAST SAFETEA-LU	Active
SS	SECONDARY FUNDS	Inactive
SST	SUPPORTIVE SERVICES TRAINING	Active
ST	SURFACE TRANSPORTATION ANY AREA	Active
STE	SURFACE TRANSPORTATION ENHANCEMENT	Active
STEI	SURFACE TRANS ENHANCEMENT ON INTERSTATE	Inactive
STG	SURFACE TRANS SAFETY 100% FED FOR ST-ITEMS	Active
STGI	SURFACE TRANS SAFETY 100% FED ON INTERSTATE	Inactive
STH	SURFACE TRANS SAFETY HAZARD ELIMINATION	Active
STI	SURFACE TRANS ON INTERSTATE 90%	Active
STL	SURFACE TRANS WAS COUNTY SECONDARY LOCAL	Active
STR	SURFACE TRANS SAFETY HWY XXING PROTECTION	Active
STRG	STP RAIL HWY SAFETY & INCENTIVE PAYMENT 100%	Active
STS	SURFACE TRANS ANY AREA MDOT SAFETY	Inactive
STSI	SURFACE TRANS ANY AREA MDOT SAFETY ON I	Inactive
STT	SURFACE TRANS WAS RURAL SECONDARY TRUNKLINE	Active
STTG	SURFACE TRANS SAFETY 100% FED FOR STT-ITEMS	Active
STTS	SURFACE TRANS SAFETY WAS RURAL SEC TRUNKLINE	Active
STU	SURFACE TRANS URBAN AREAS > 200K POP	Active
STUG	SURFACE TRANS URBAN AREAS < 200K POP 100% FED	Inactive
STUL	SURFACE TRANS URBAN AREAS < 200K POP LOCAL	Active
STUT	SURFACE TRANS URBAN AREAS < 200K POP TRUNKLN	Active
STUX	SURFACE TRANS URBAN AREAS > 200K POP 100% LOC	Active *
STX	SURFACE TRANS ANY AREA 100% LOCAL	Active *
SUG	SURFACE TRANS SAFETY 100% FED FOR STU-ITEMS	Active
T	TOPICS	Inactive
TBR	TIMBER BRIDGE	Inactive
TCD	TRAFFIC CONTROL DEMONSTRATION	Inactive
TCP	TAX COMPLIANCE PROGRAM	Inactive
TCSP	TRANS COMMUNITY AND SYSTEM PRESERVATION	Active
TG	TRANSPORTATION GRANT 100% FEDERAL	Inactive
TGR2	TIGER II DISCRETIONARY GRANTS	Active
TIP	TRANS IMPROVEMENT PROJECTS SAFETEA-LU	Active
TMI	UNKNOWN	Inactive
TMU	TOPICS FUNDS ON FEDERAL AID URBAN SYSTEM	Inactive
TNH	TRUE ADV CON SPECIAL CONVERSION PROCESS	Inactive
TPFD	TRUCK PARKING FACILITIES DISCRETIONARY	Active
TQF	TRANSITIONAL QUARTER ON PRIMARY	Inactive
TQM	TRANSITIONAL QUARTER ON URBAN SYSTEM	Inactive
TQMM	TRANSITIONAL QUARTER AND URBAN SYSTEM	Inactive
TQS	TRANSITIONAL QURATER ON SECONDARY	Inactive

Financial Systems:
As of April, 2012

CODE	DESCRIPTION	STATUS * 0% Federal
TSM	TRANSPORTATION SYSTEM MANAGEMENT	Inactive
U	URBAN FUNDS	Inactive *
UM	URBAN AREA (POPULATION URBANIZED AREA) 'M'	Inactive
UMT	URBAN MASS TRANSIT	Inactive
UNM	URBAN FUNDS NON-MOTORIZED	Inactive
US	URBAN TECHNICAL ASSISTANT	Inactive
UTA	URBAN TECHNICAL ASSISTANCE PROGRAM	Inactive

NOTE: Yellow highlight indicates inactive Funding Codes

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