



Ground Tire Rubber In Asphalt Pavement



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Current Options Available (Asphalt Modification) Illinois Tollway

- Ground Tire Rubber
Terminally Blended (Wet)
- Ground Tire Rubber
Plant added (Dry)
- Ground Tire Rubber/Polymer Blend
Terminally Blended
- SBS Polymer Asphalt
Terminally Blended

Why the Need for Asphalt Modification?



GTR vs SBS Polymer Asphalt

- The Illinois Tollway considers GTR Modified and Polymer Modified to be Equivalent.

What does this mean?

**PG 70-28 SBS (polymer) = PG 58-28 + 10 Terminal Blend GTR
or
PG 58-28 +10 HMA Plant Added GTR**

IL Tollway DOES NOT Specify Technology!

Contractor decision on what works best and is more cost effective for them.

Not just
Green...

Rubber type
modifiers have
**positive impact on
mixture and binder
performance** in
addition to utilizing
recycled waste
material.



Performance Testing



Achieve WMA Performance Specifications

Hamburg Wheel

Stiffness criteria



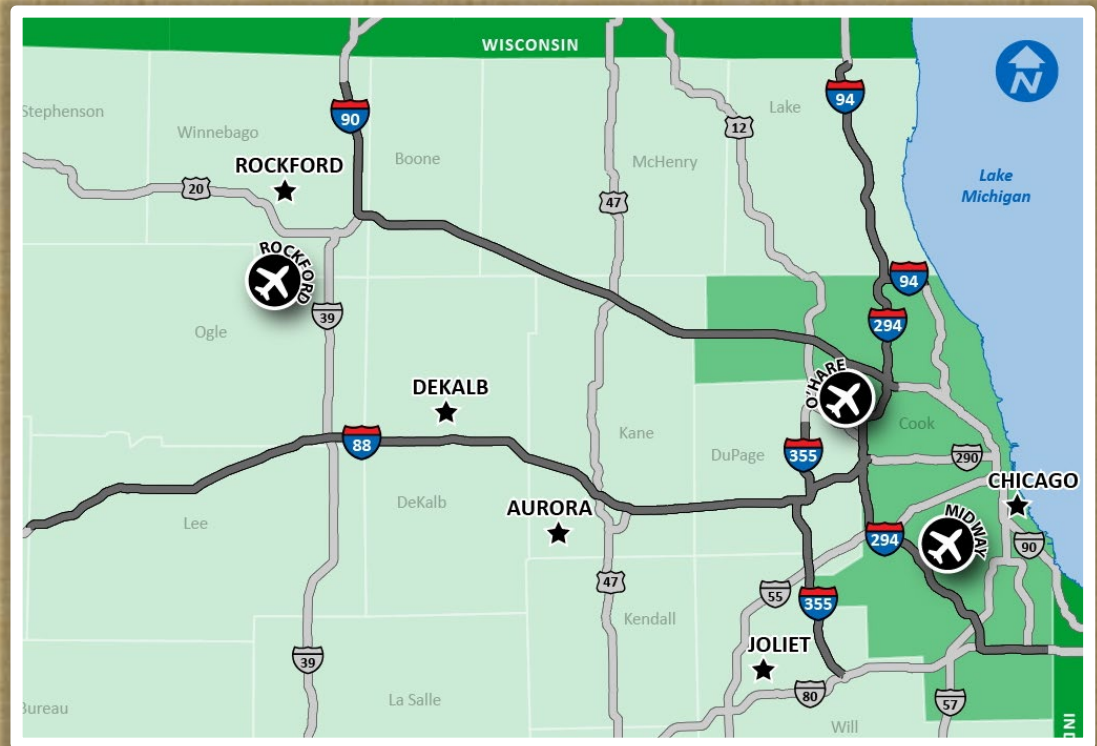
Disc Shaped Compact Tension Test
(DCT)

Flexibility criteria



Illinois Tollway – Key Statistics

- 286-mile system comprised of four main tollways
- Opened in 1958 as a bypass around Chicago to connect Indiana and Wisconsin
- Carries more than 1.4 million vehicles per day
- User-fee system
 - No state or federal gas tax dollars used for maintenance and operations

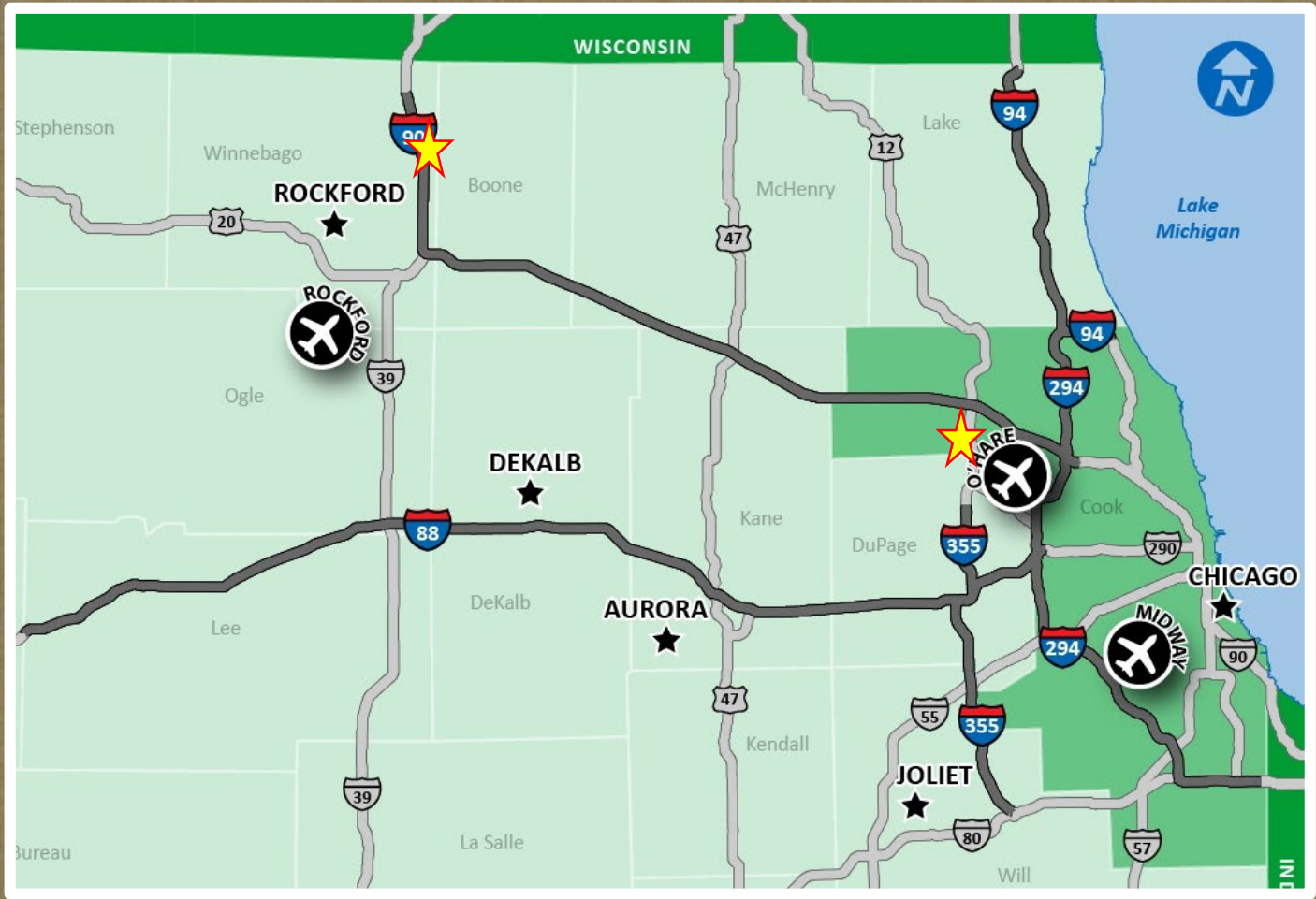


GTR Placement History

2008

I-90
92,000 Tons
- Wet

I-355
23,000 Tons
- Wet

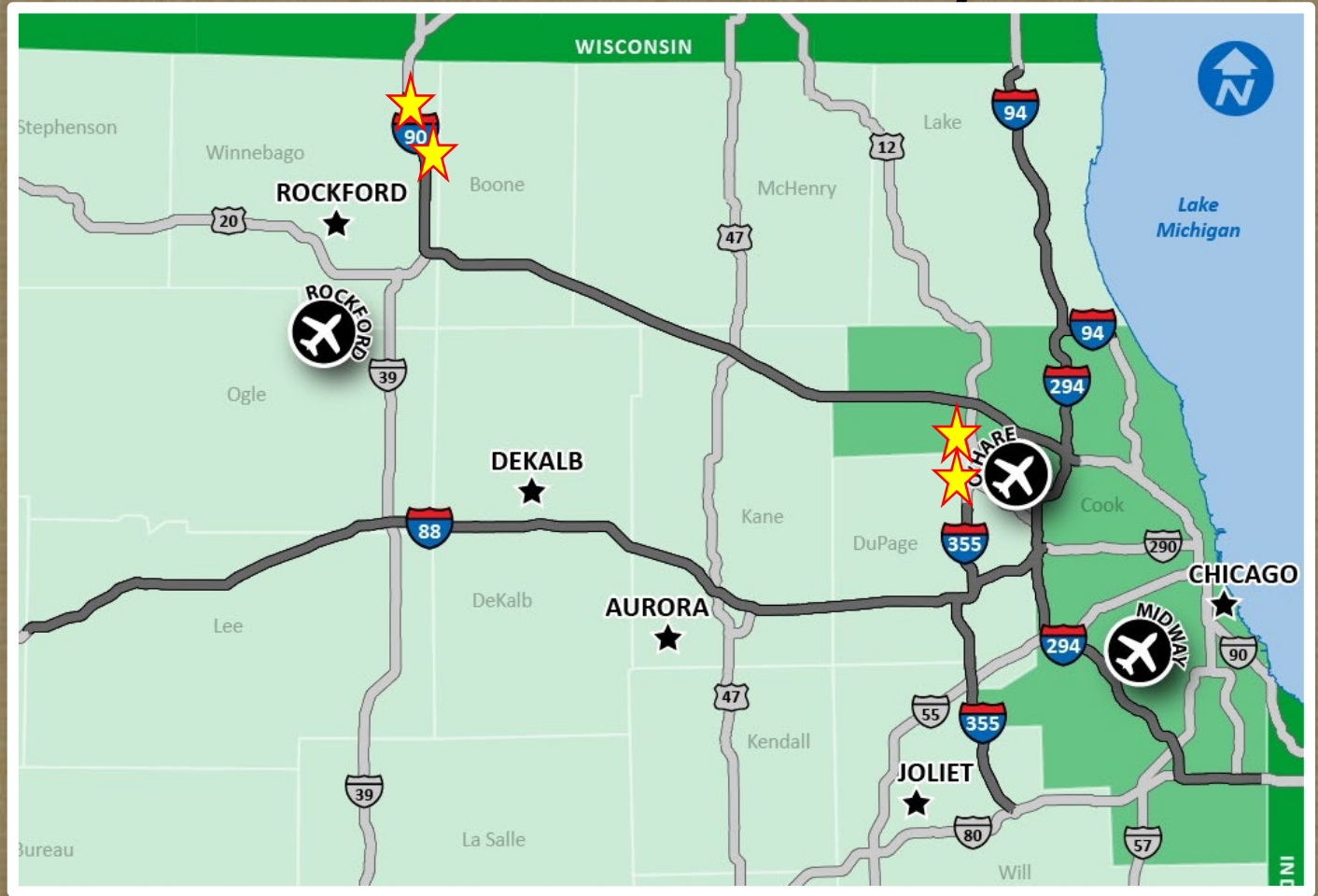


GTR Placement History

2009

I-90
92,000 Tons
- Wet

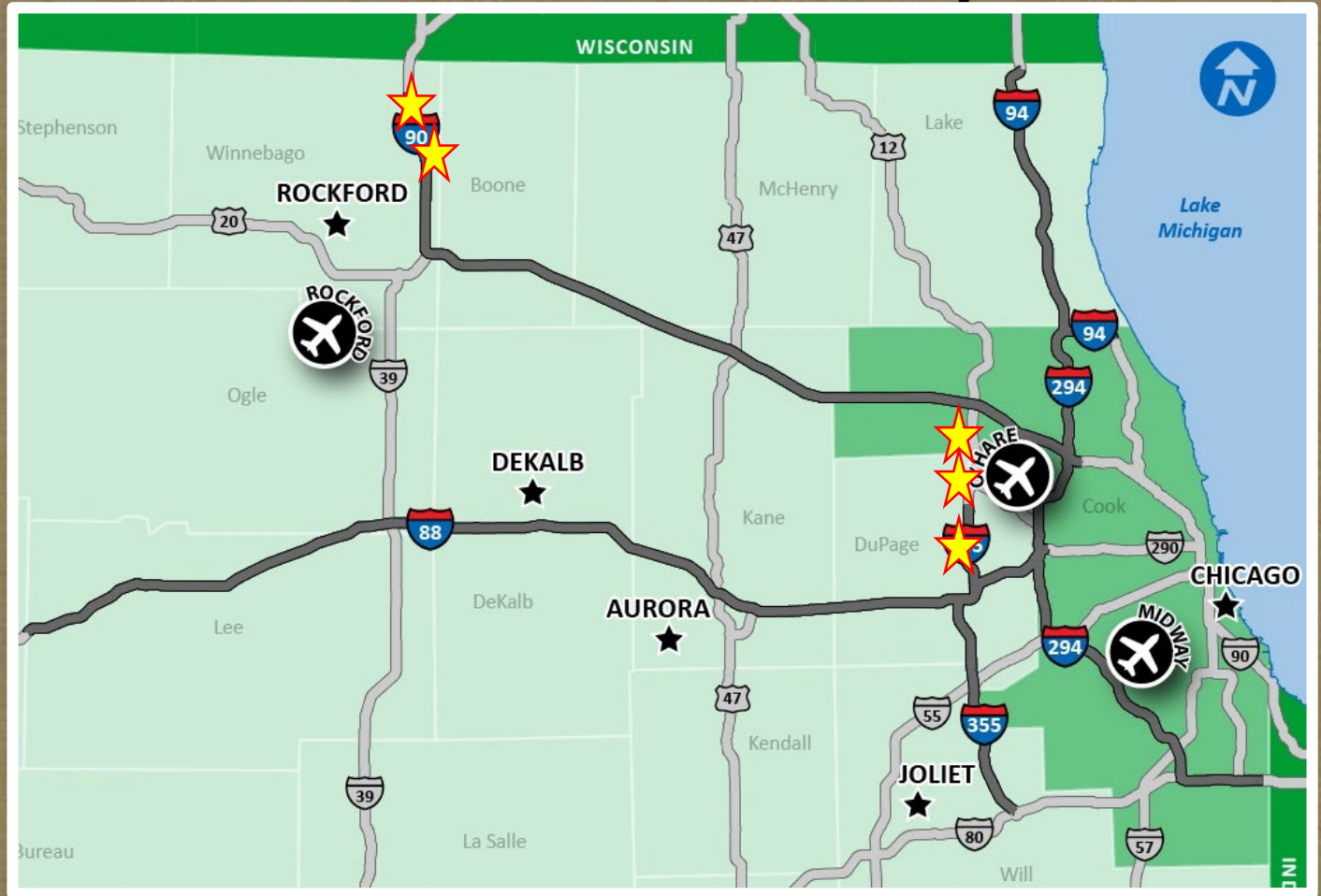
I-355
26,700 Tons
- Wet



2010

GTR Placement History

I-355
76,300 Tons
- Wet



GTR Placement History

2015

I-88

16,000 Tons

- Wet

1000 Tons

Trial**

- Dry Plant added

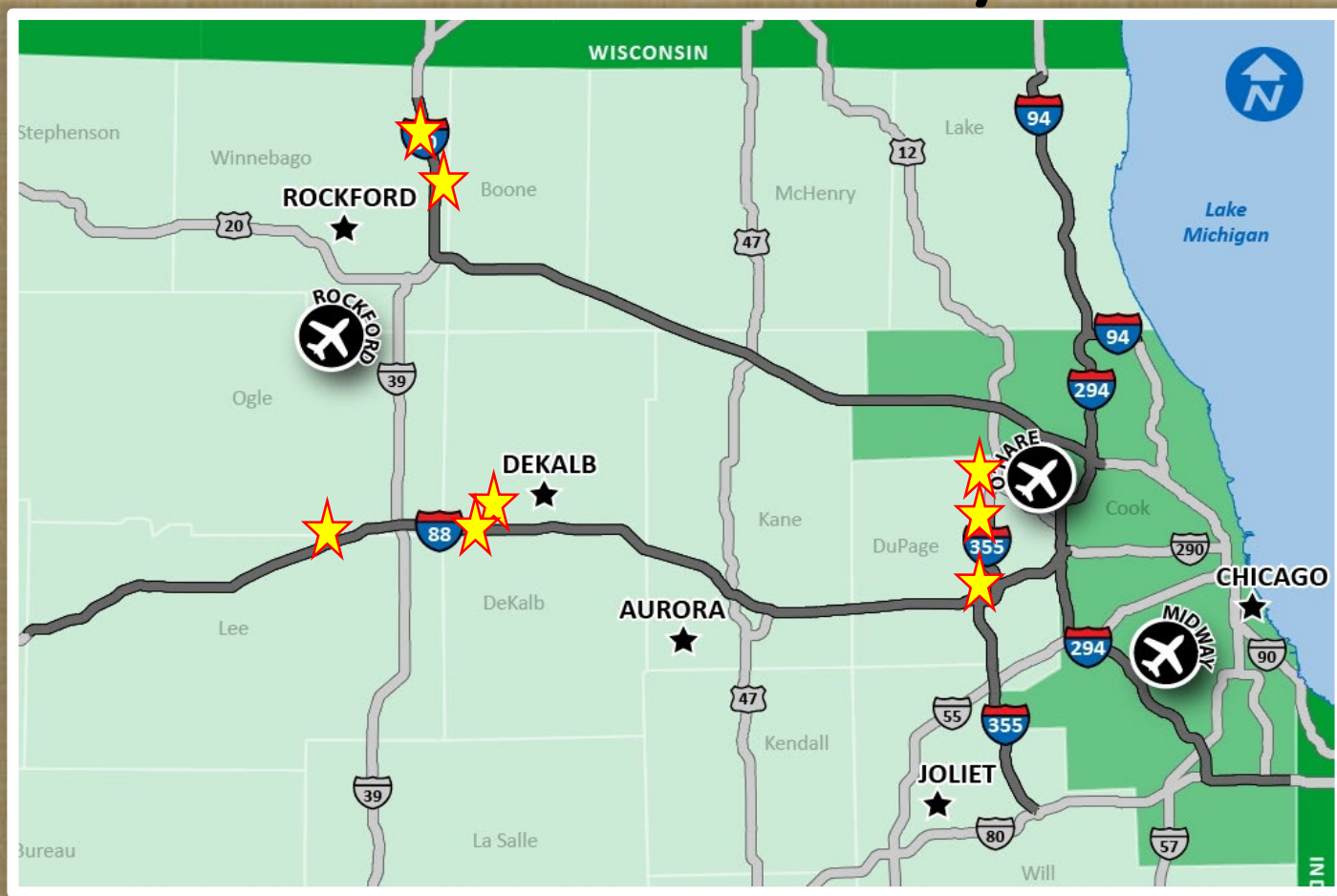
2016

I-88

2,700 Tons

Trial**

3 Technologies



GTR Placement History

2018

I-88

66,500 Tons

- Dry

66,500 Tons

- Wet

I-355

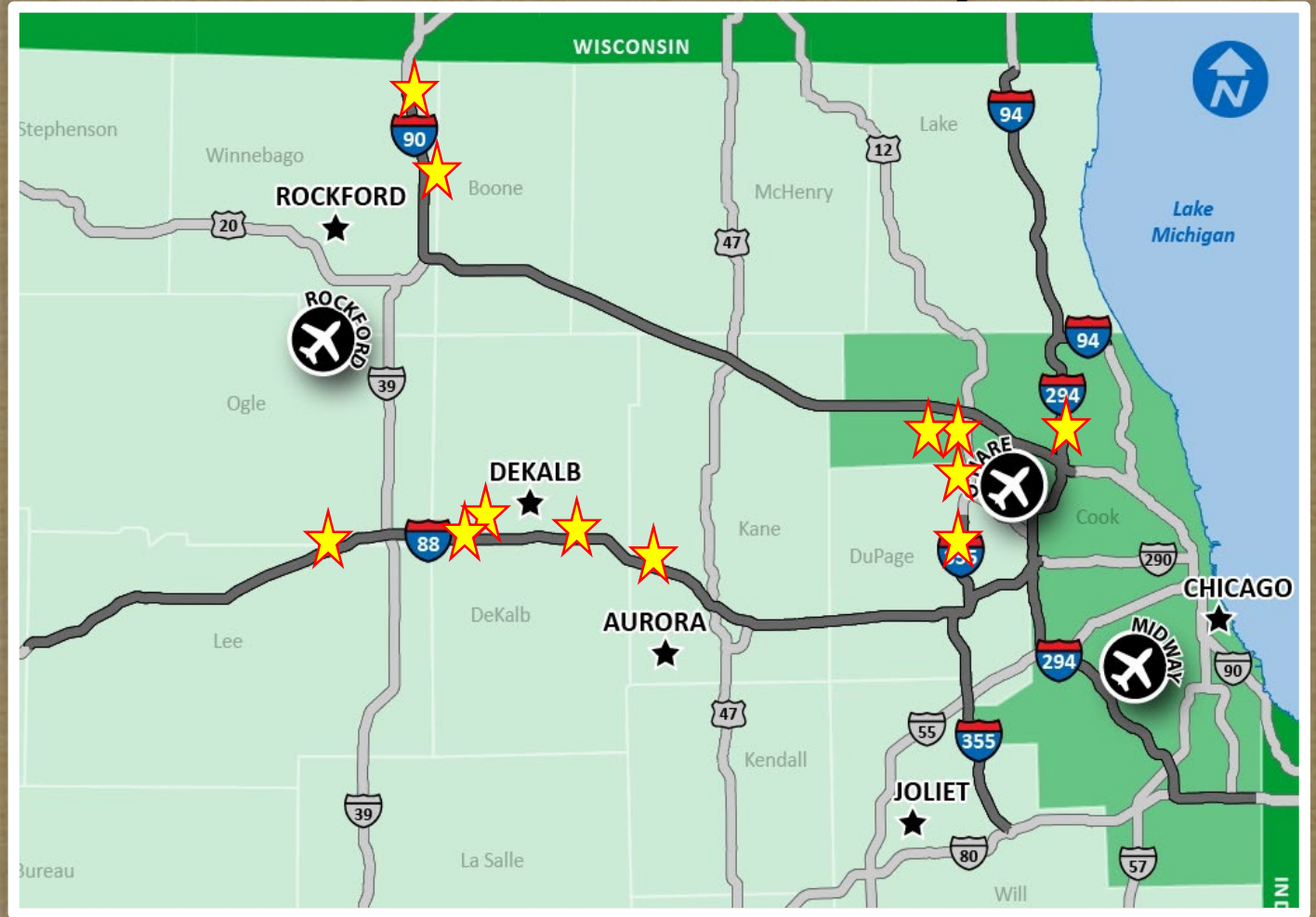
98,500 Tons

- Dry

I-294

17,000 Tons

- Dry



GTR Placement History

2019

I-94

66,000 Mix Tons

- Dry

I-94 Edens Spur

15,000 Mix Tons

- Dry

I-294

41,000 Mix Tons

- Dry

I-90

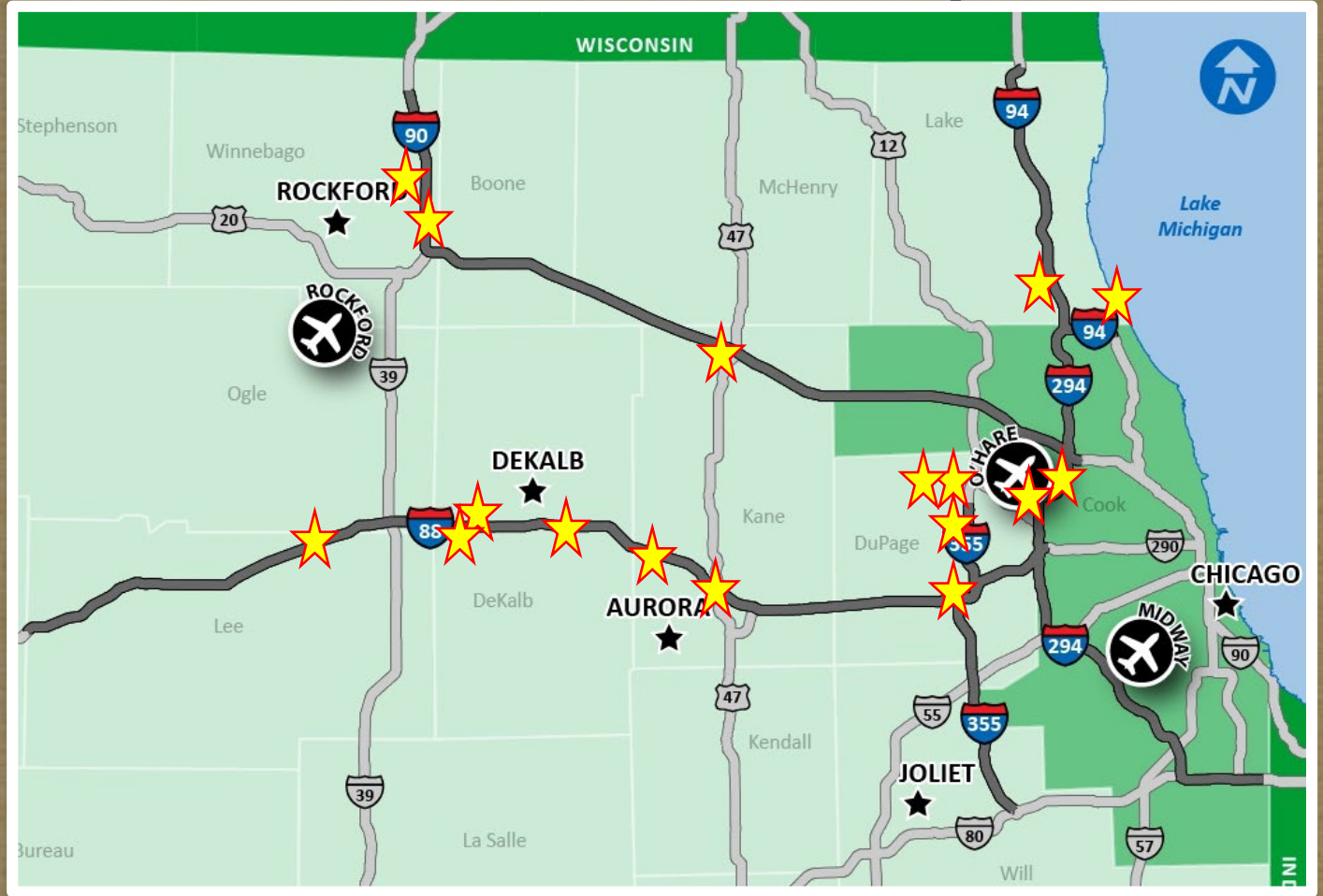
1500 Mix Tons

- Dry

I-88/IL 47

4000 Mix Tons

- Dry



GTR Tonnage 2008 - 2019

Year	Route	GTR Type	GTR Quantity (Mix Tons)	
2008	I-90	Terminal Blend	92,200	
	I-355	Terminal Blend	23,000	
2009	I-90	Terminal Blend	92,200	
	I-355	Terminal Blend	26,700	
2010	I-355	Terminal Blend	76,300	
2015	I-88	Terminal Blend	16,000	
	I-88	Dry Plant Added	1,000	Trial
2016	I-88	Dry Plant Added & Terminal Blend	2,700	Trial
2018	I-88	Terminal Blend	66,500	
	I-88	Dry Plant Added	66,500	
	I-355	Dry Plant Added	98,000	
	I-294	Dry Plant Added	17,000	
2019	I-94	Dry Plant Added	66,000	
	I-94 Spur	Dry Plant Added	15,000	
	I-294	Dry Plant Added	41,000	
	I-90	Dry Plant Added	1,500	
	Rt 47/I-88	Dry Plant Added	4,000	

705,600 Tons of GTR Modified Asphalt Mixture

350,000 to 500,000 Tires!

2020-2026

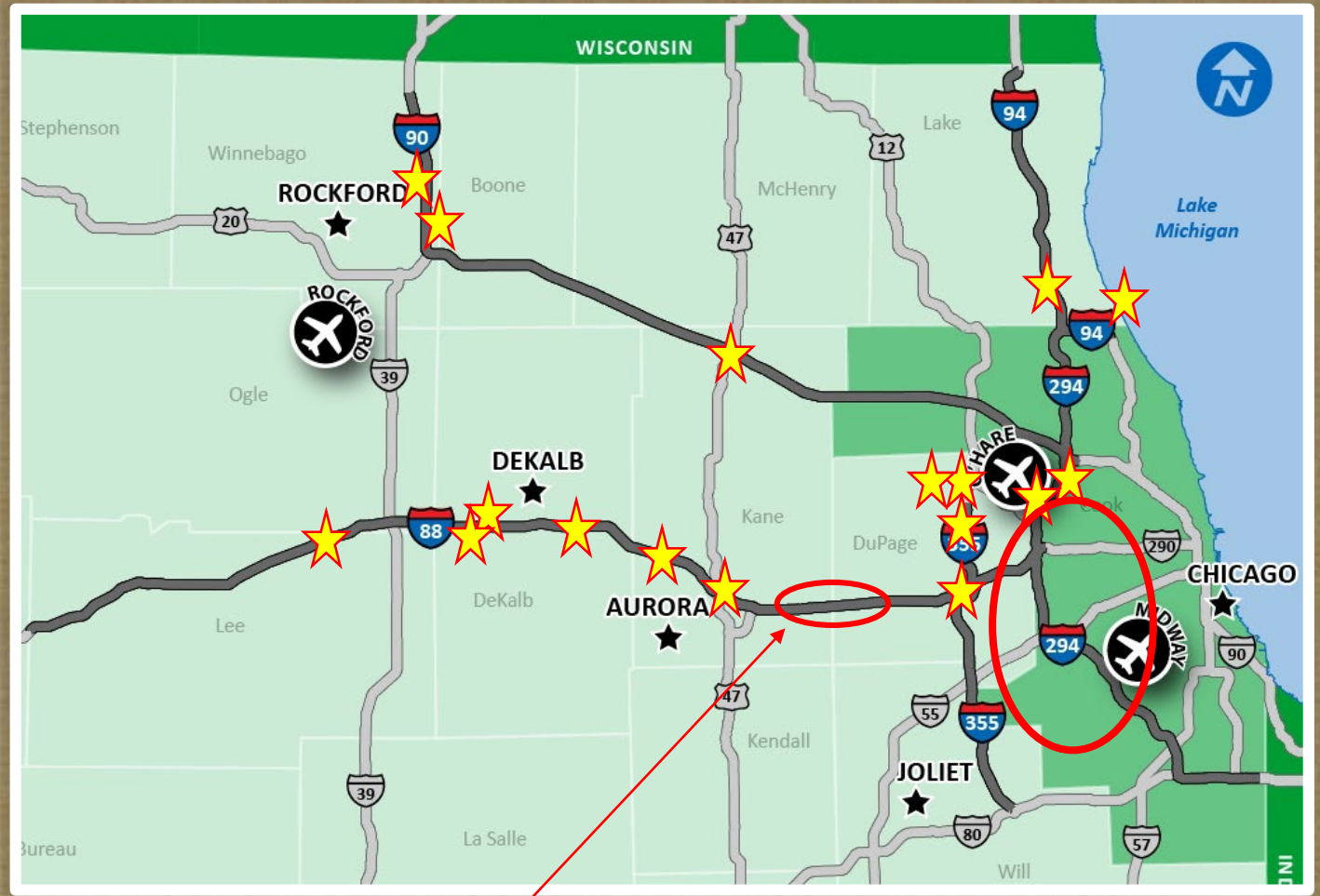
I-294

Reconstruct

Composite
Pavement

970,000
WMA TONS

Approximately
400,000 Tons
Will need AC
Modification



2020 I-88 50,000 Tons SMA

Illinois Tollway Current Approved GTR Suppliers

Approved Supplier	Approved Product
Seneca Petroleum	Seneca GTR
Ingevity	Evoflex RMA
Asphalt Plus LLC	Elastico 100 Engineered crumb rubber (ECR)

Thank You!

ENGINEER

**SOLVING PROBLEMS YOU DIDN'T
KNOW YOU HAD IN WAYS YOU DON'T
UNDERSTAND**

