

Trends in Asphalt Binders and End Applications

AMAP

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 @AsphaltØ6



Asphalt Institute Headquarters

Lexington, Kentucky



2018 Chairman
Harold "Chip" Ray
Western States Asphalt, LLC



2018 Vice Chair
Kat Crossover
Valero Energy

Changing refinery landscape...

2001:

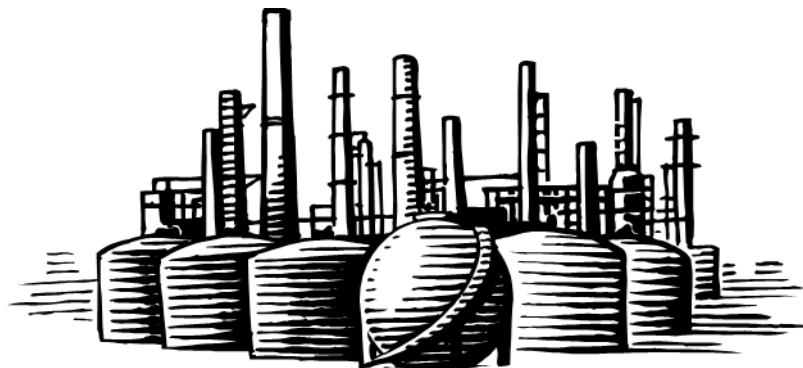
150 “operable” refineries in US

48 produced asphalt (approximately)

2016:

139 “operable” refineries in US

49 producing asphalt (approximately)



Source: Energy Information Agency data

Production factors...

Refinery economics

Demand from end users

Funding from Federal, state, commercial activity

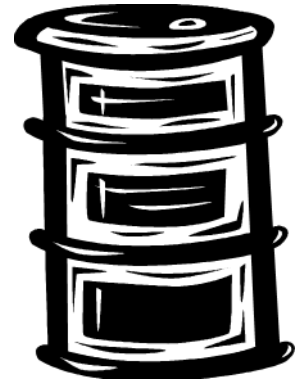
Specifications

Recycling of RAP/RAS

Use of modifiers such as REOB/VTAE

Public agencies still largest market

Lots of capacity in system; not a supply issue



Talking liquid asphalt – not HMA or emulsion

Production – supply; from the refinery

Consumption – demand; from the end users

Interest is in liquid for normal end use

- Exclude coker feed stocks

- Exclude feeds for fuel production

Asphalt data sources?

Commercial:

- Argus Asphalt report
- Oil & Gas Journal reports
- Poten and Partners

Government:

- Department of Energy/Energy Information Agency

Other:

- Asphalt Institute
- American Petroleum Institute
- Eurobitume/EAPA
- NAPA

2 parts

- Dues Reporting
- Prior year sales for AI's Asphalt Usage Report
- One year “lag” – we’re talking 2016 data today

PART I

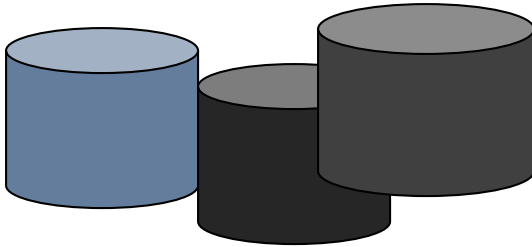
Since **1919** – for dues only

Confidential data

Basis of AI dues today for several member categories

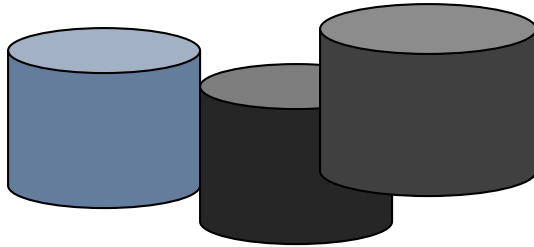
For dues purposes...

Manufacturer; AI member

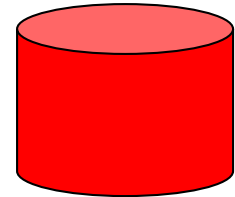


For dues purposes...

Manufacturer; AI member

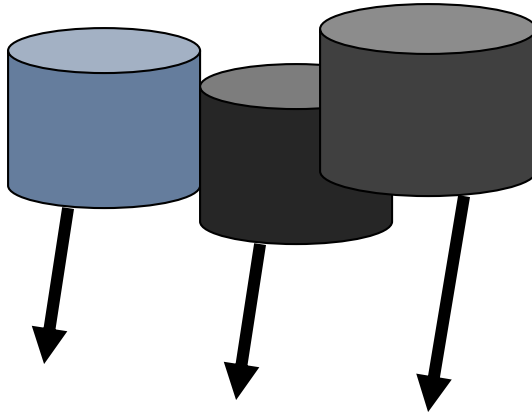


Manufacturer;
non-member



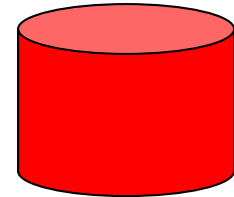
For dues purposes...

Manufacturer; AI member



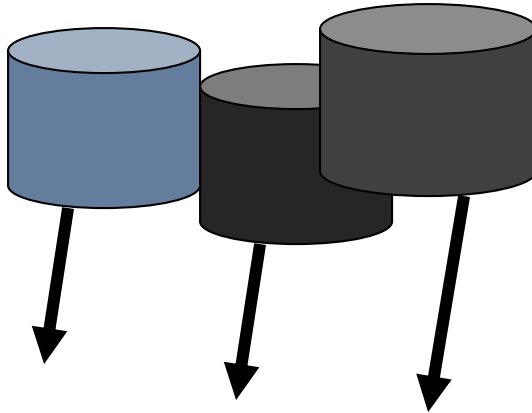
Reports all tons – for dues
calculations

Manufacturer;
non-member



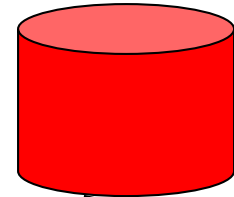
For dues purposes...

Manufacturer; AI member



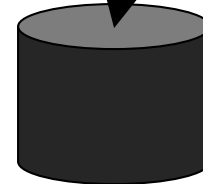
Reports all tons – for dues calculations

Manufacturer;
non-member



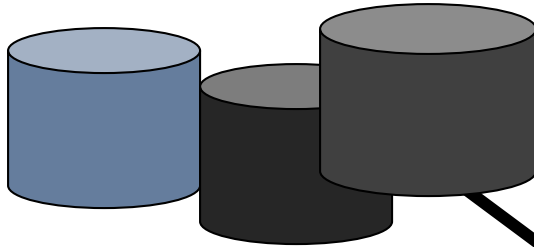
AI member

Reports non-member purchased tons
– for dues calculations

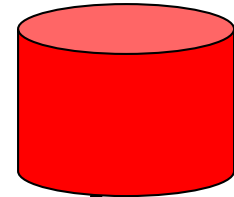


For dues purposes...

Manufacturer; AI member

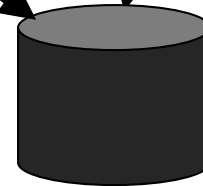


Manufacturer;
non-member



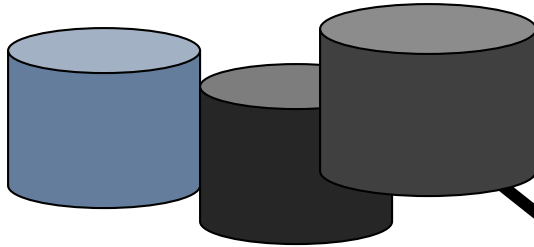
?

AI member

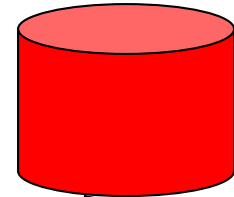


For dues purposes...

Manufacturer; AI member

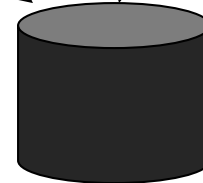


Manufacturer;
non-member



Reports non-member purchased tons
– for dues calculations

AI member



Normally EXCLUDES tons
purchased from members

PART II

Report since 1954

- U.S. Bureau of Mines through 1976
- U.S. DOE through 1979
- Asphalt Institute since 1981

Confidential input

AI Asphalt Usage Report

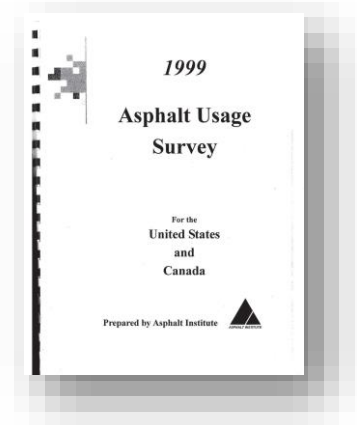
1981 – 2008

- Based on tons by state by first seller
- Inaccuracies, but “consistently wrong”

2001 – abandoned “smoothing”

- Equilibrium also reached
- Discussion on improvement

2008-2009 Task Force “new report”



Tonnage TF Members;

Bruce Armstrong, Canadian Asphalt

Bill Davis, Kraton Polymers

Bob Dohmen, BP Asphalt

Dan England, LCY Elastomers LP

Bill Haverland, Conoco Phillips

Bill Kirk, Associated Asphalt

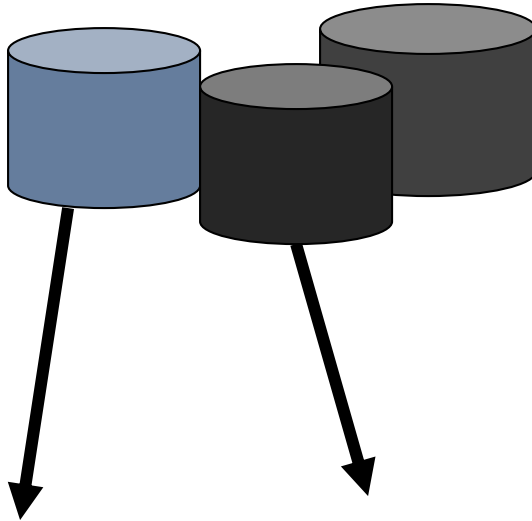
Mike Kolos, United Refining

Mike Muhr, Seneca

Tim Spott, Alon USA

For Usage Reporting...

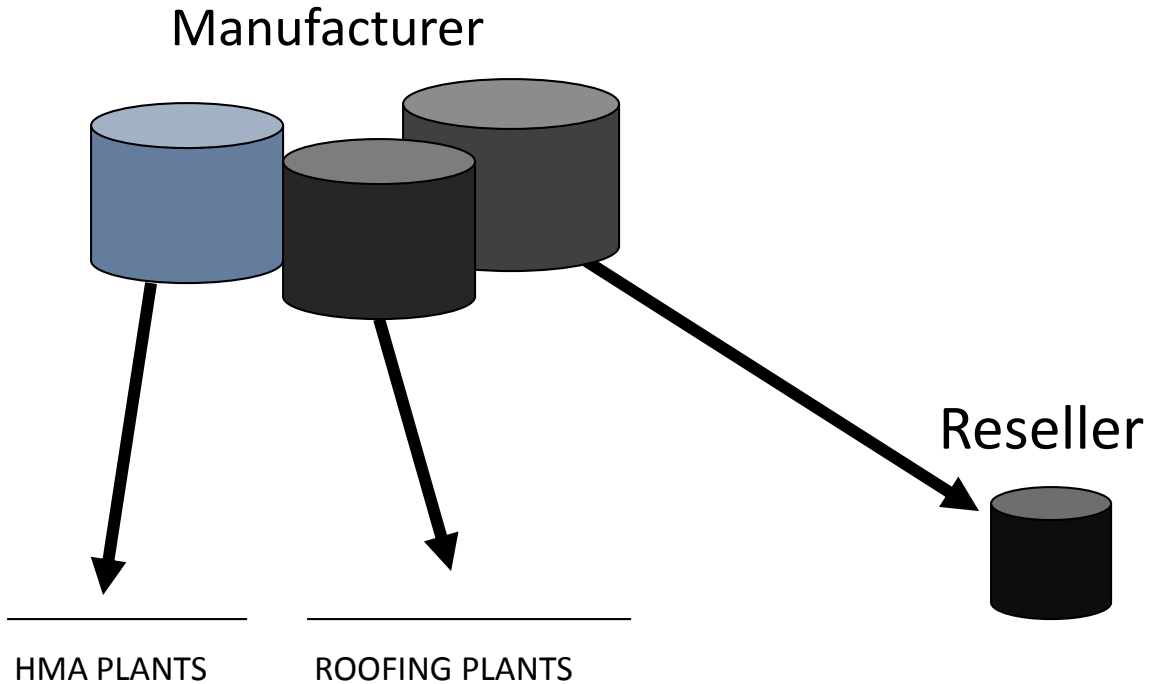
Manufacturer



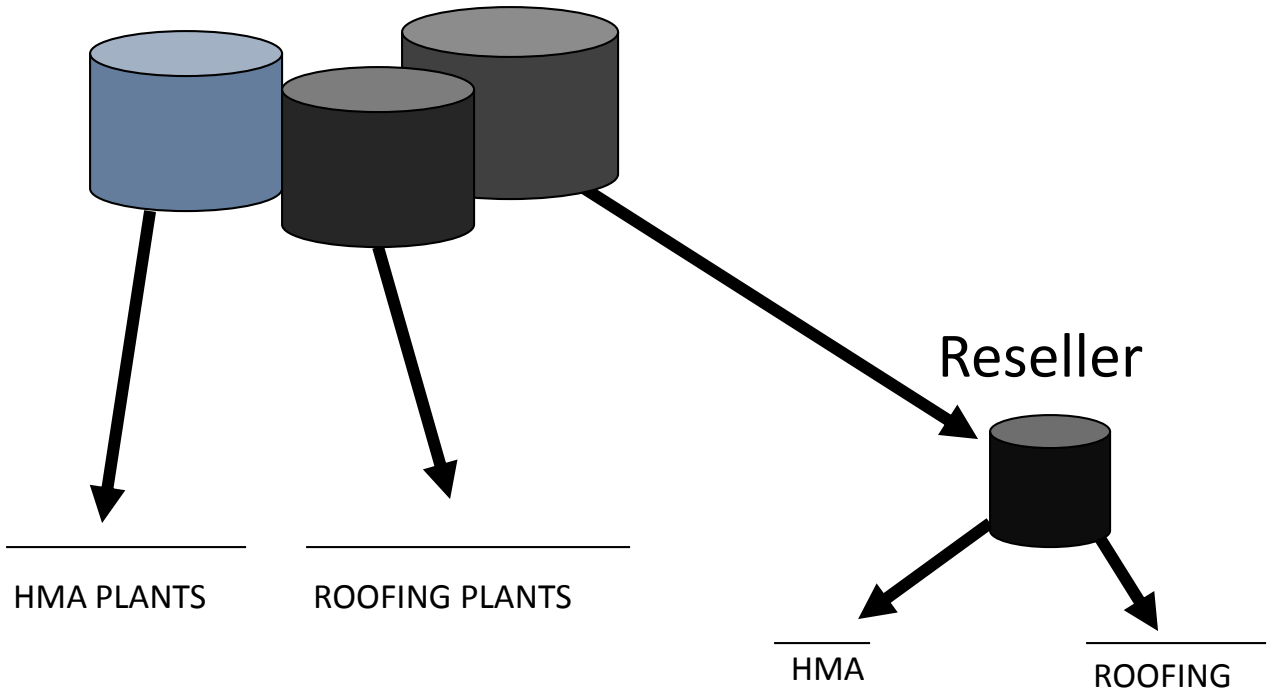
HMA PLANTS

ROOFING PLANTS

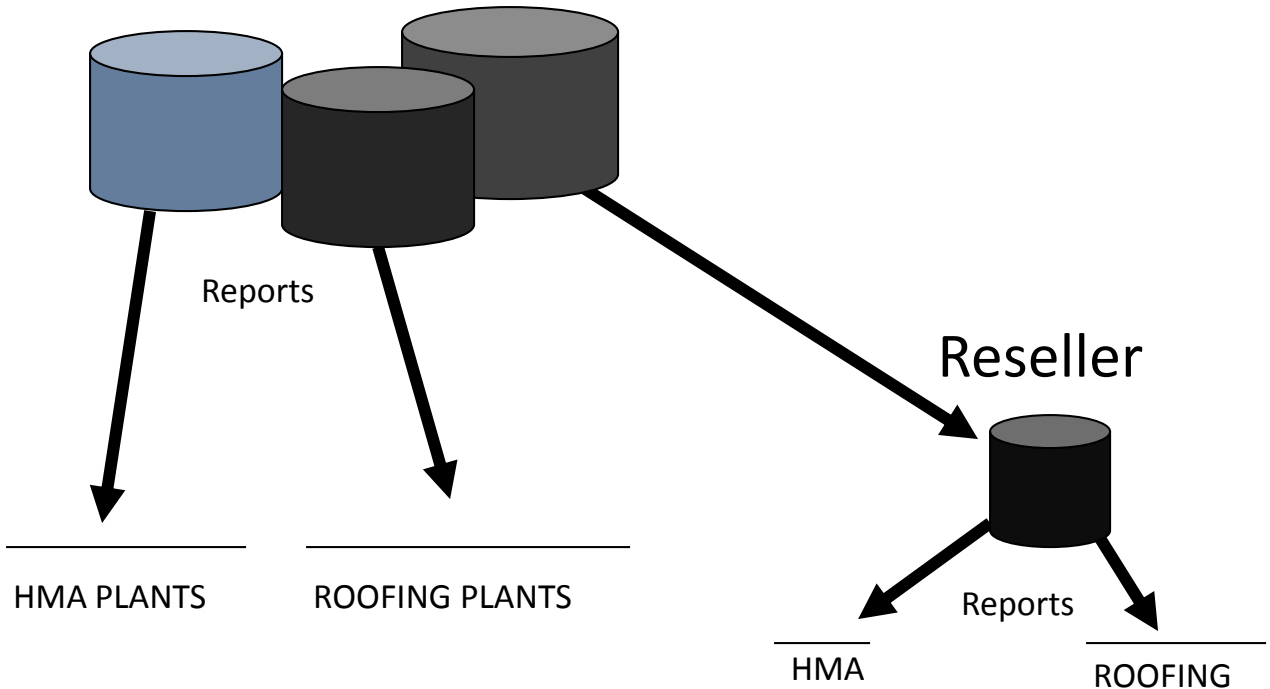
For Usage Reporting...



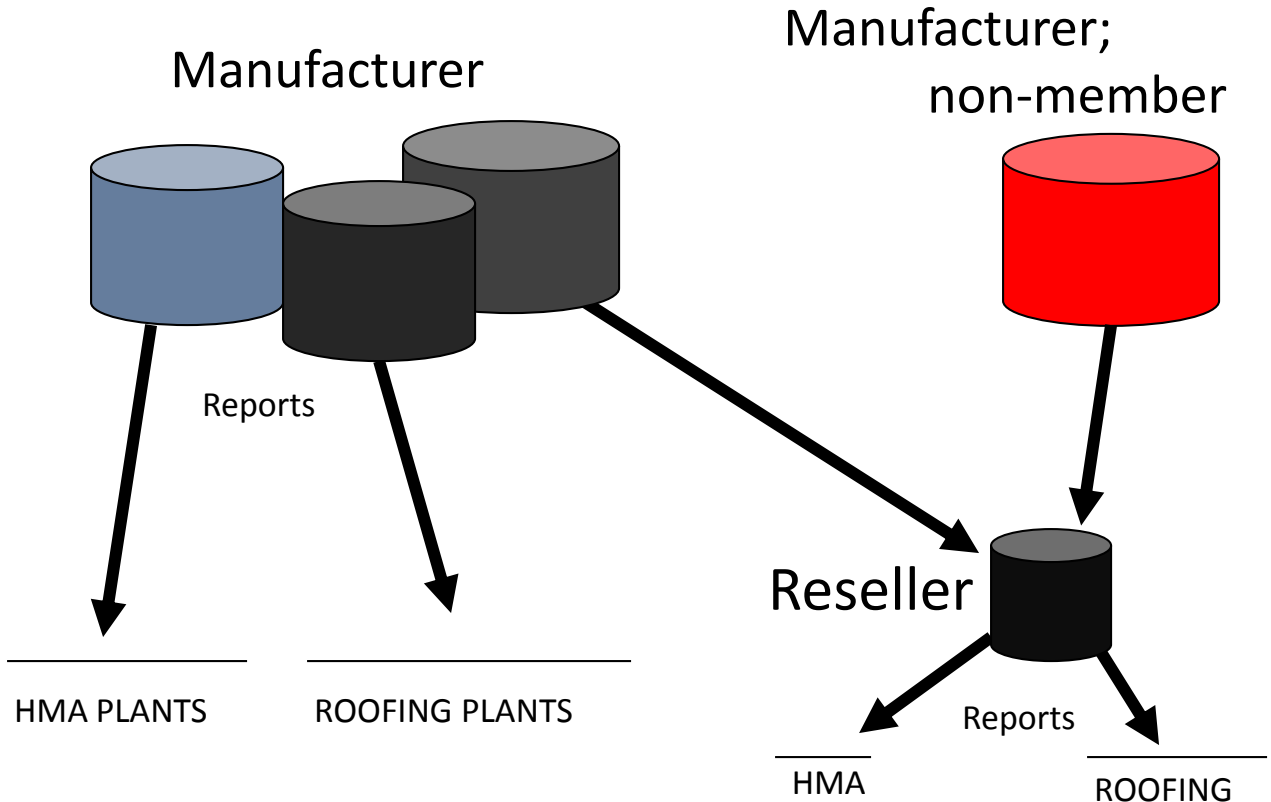
Manufacturer



Manufacturer

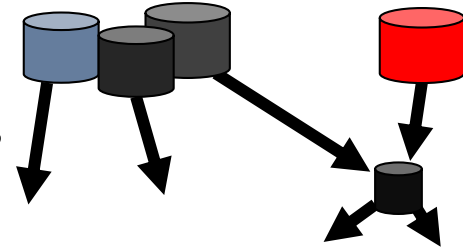


AI Usage Report methodology



Error Sources?

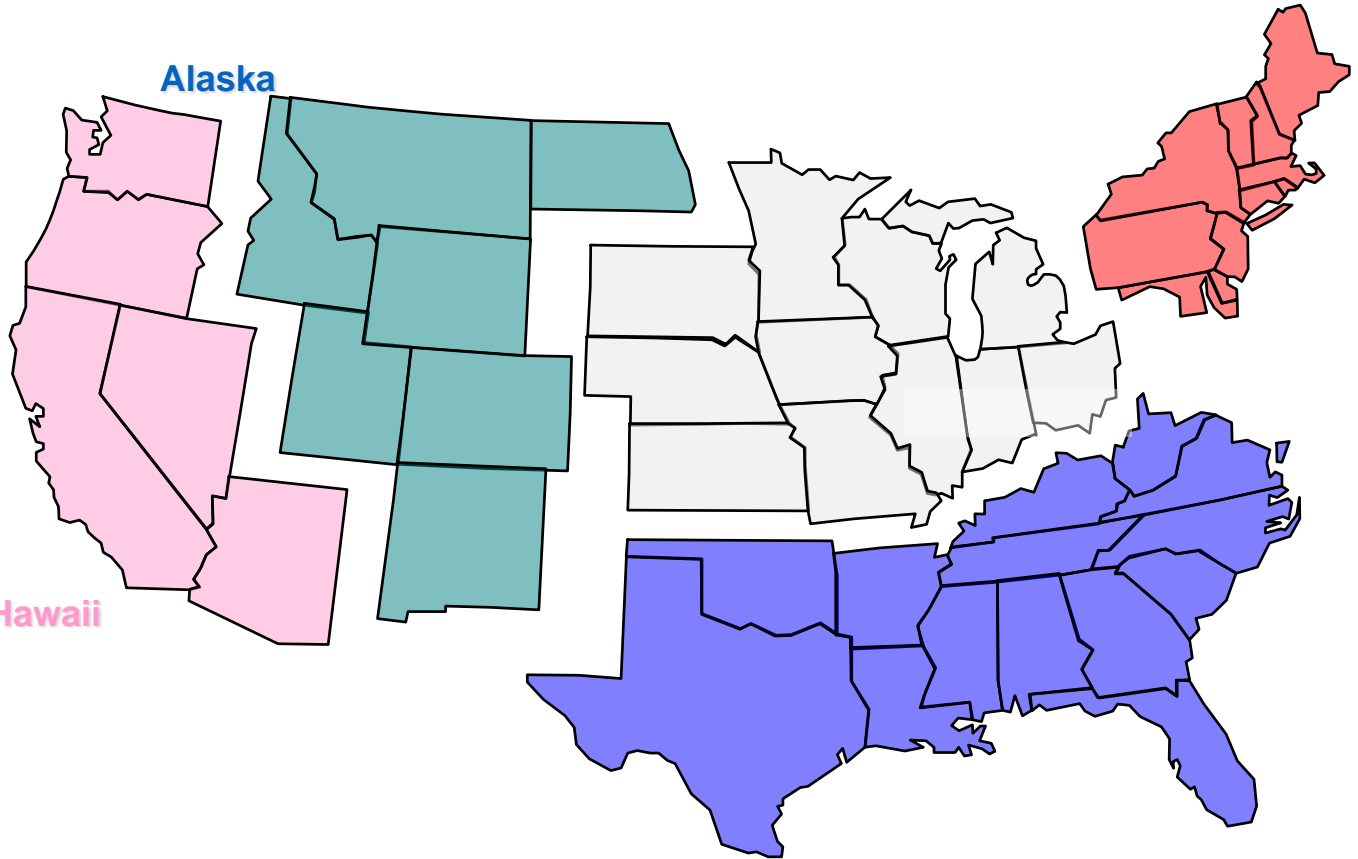
- Non-AI member production
 - ‘Trading’ between locations, entities
 - US exports, imports
 - PADD transfers
 - Partial year company ownership/production
 - Asset sales
-
- These and other sources produce “leakage” between US production and reported end-use in US markets



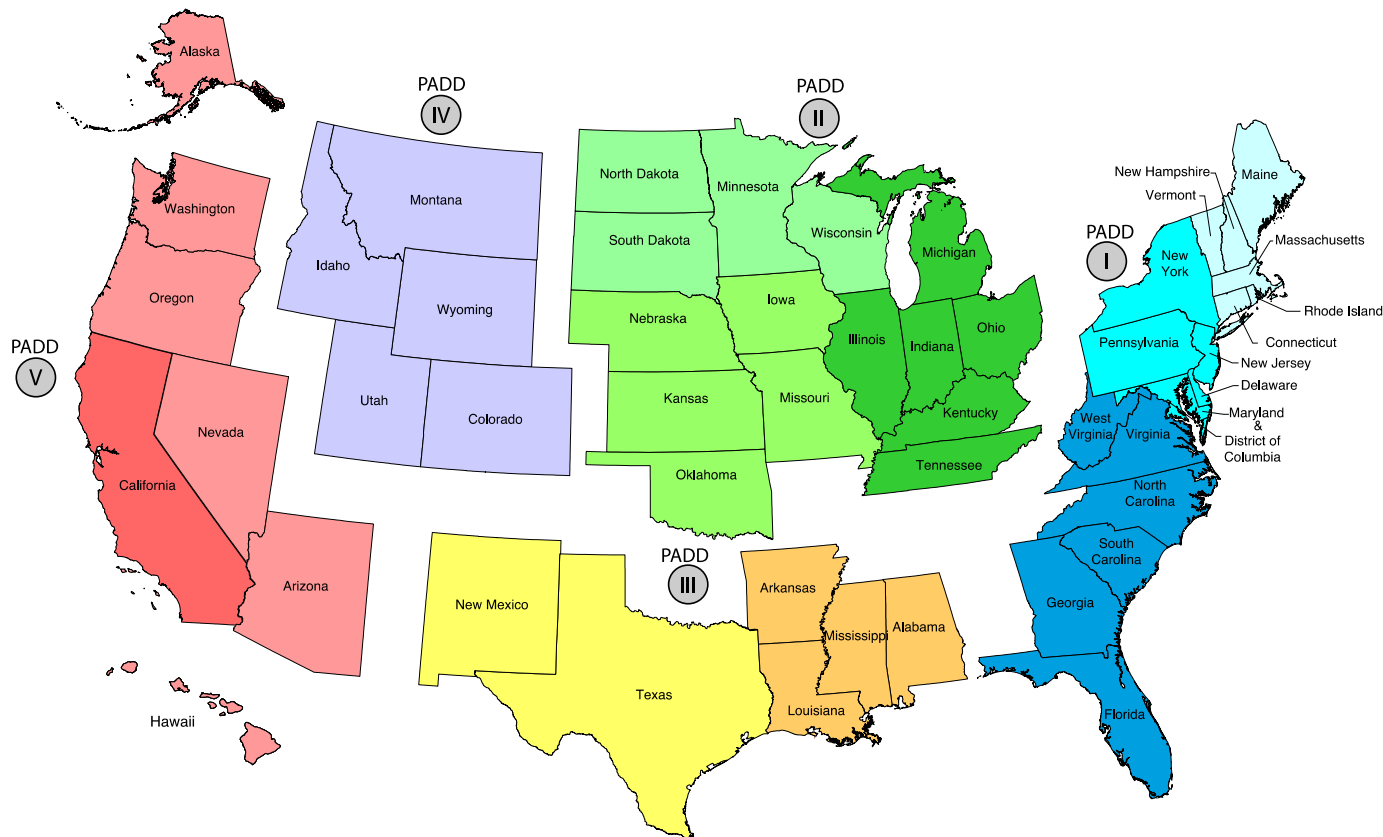
User Producer Groups

Alaska

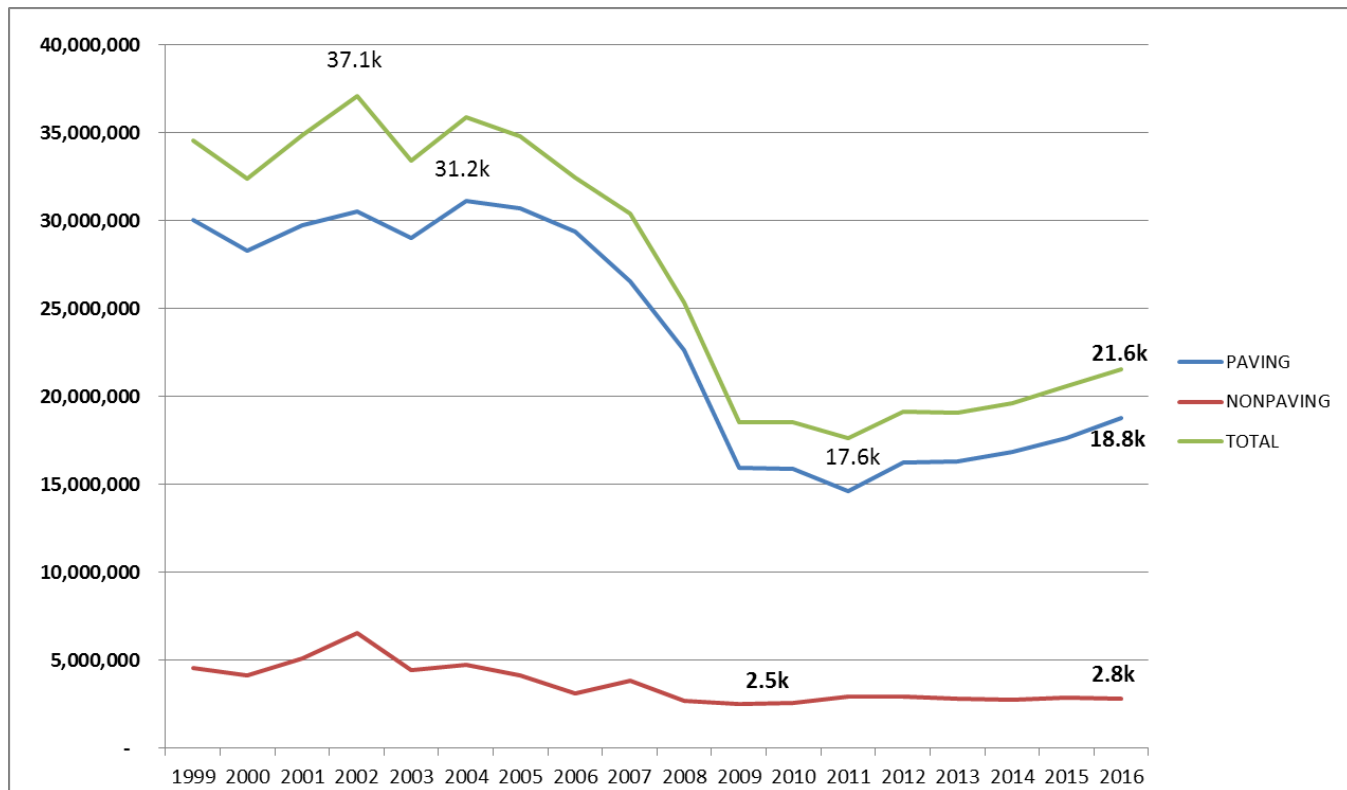
Hawaii



Useage Reporting Map

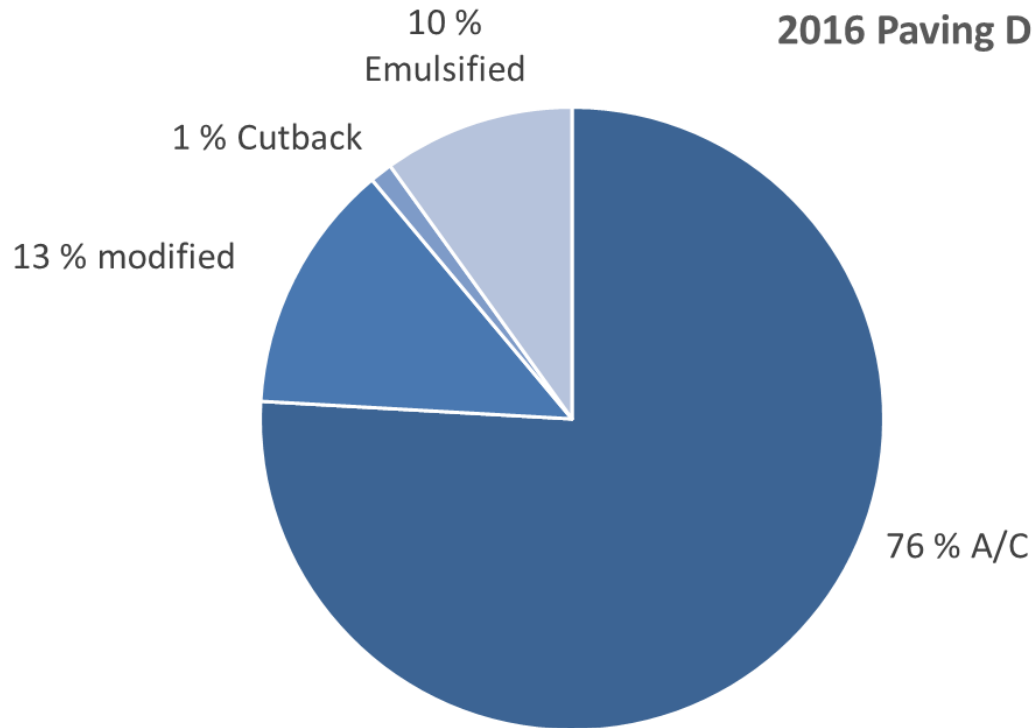


Tonnage History 1999 - 2016

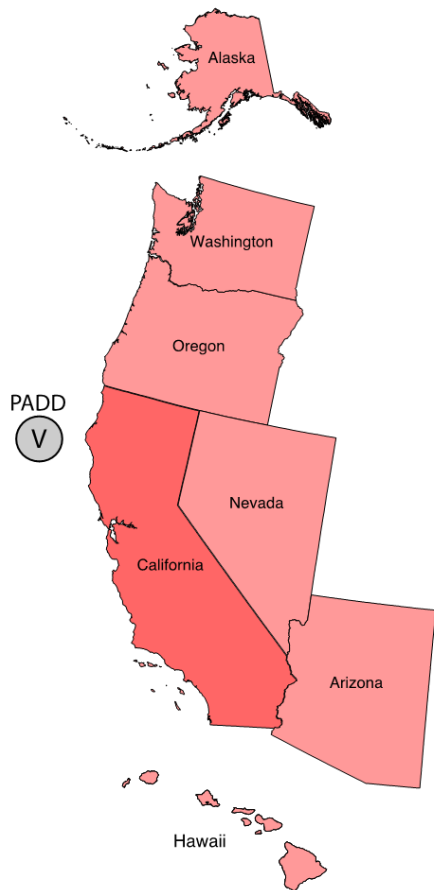


Asphalt Materials for Paving (US)

2016 Paving Demand



PADD V – 2016 Data (paving)



PADD V (less California):

- 1,097K paving tons
- 13.2% increase from 2015

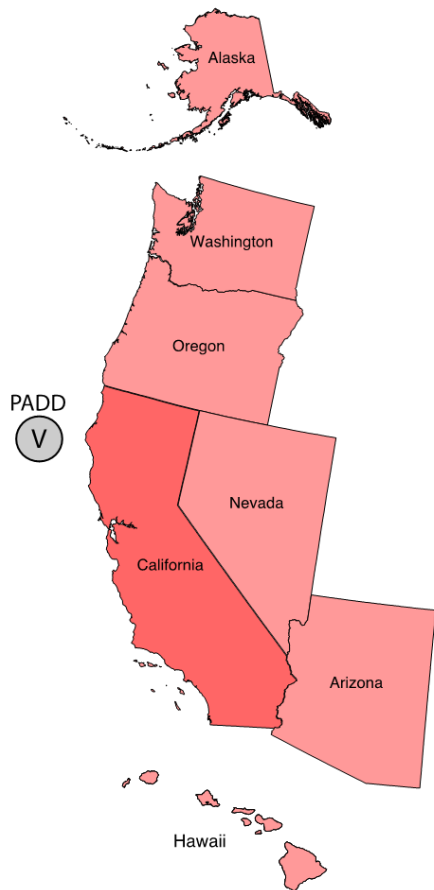
California:

- 1,521K paving tons
- 13.1% increase from 2015

Total PADD:

- 2,619K paving tons
- 13.1% increase from 2015

PADD V – 2016 Data (non-paving)



PADD V (less California):

- 180.5K tons
- 46.2% increase from 2015

California:

- 236.5k tons
- 17.4% increase from 2015

Total PADD:

- 417.1k tons
- 28.4% increase from 2015

2016 Data Highlights (U.S.)

- 38 MM Tons production capacity (US)
- 4.3 MM Tons production capacity (Canada)
- 23.4 MM Tons produced (US) (all types) (EIA)
- 21.6 MM Tons reported by AI members (US) (all types)
- 2.9 MM Tons reported by AI members (Canada) (all types)
- 3.0 MM Tons imported into US
- 87% paving, 13% non-paving uses in U.S.

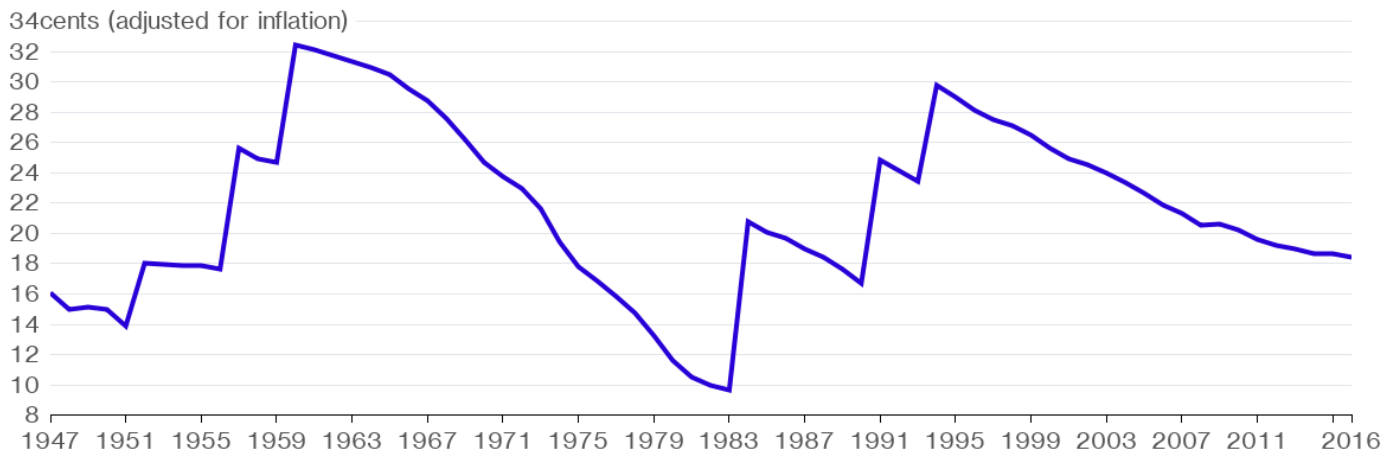
2016 Data Highlights, Con't

- Modified asphalt: 2.4 MM Tons (US), 11%
- Emulsified asphalt: 1.9 MM Tons (US), 9%
- 6.3 % increase in paving tons (2015-2016; US)
- 0.9 % increase in paving tons (2015-2016; Canada)
- 3.8% decrease in non-paving tons (2015-2016; US)
- 65.2 % increase in non-paving tons (2015-2016; Canada)

AI members receive the full report annually as part of their member benefits. It is also for sale upon request lallin@asphaltinstitute.org

Federal Gas Tax

The per-gallon tax, last raised in 1993, is declining when adjusted for inflation



Source: Tax Policy Center (joint venture of the Urban Institute and Brookings Institution)

Bloomberg 

18.4 cents/gal raised last in 1993 (24.4 cent/gal on diesel)

Erosion of 40% of purchasing power

Ave fuel economy of passenger car up 12% (2005 – 2014)

55% of Americans support an increase

- 8% of a state budget is transportation (funds 60% of infrastructure)
- 9% growth in overall state funding last year vs
- 2% decline in Federal transportation funding (funds 31% of infra.)
- Bonds fund 9% of infrastructure
- Federal spending for transportation is roughly 1.5 – 2% of total Federal program outlay (consistently so for past 40 years)
- But costs have climbed faster (asphalt and concrete)
- Use of debt to fund surface transportation varies widely
- ASCE's most recent infrastructure report card:
 - Highways = D (declining)
 - Bridges = C+ (improving)

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Trade Shows

Feb 6-8, '18 International Roofing Expo (New Orleans)

Mar 6-8, '18 World of Asphalt (Houston)

Jun 14-15, '18 E&E Event Berlin Germany



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