

State of the Industry



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My Contact Information



State of Florida
Department of Transportation

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Florida Department of Transportation

State Highway System

- 45,112 lane miles
 - 8,712 interstate lane miles (19%)
 - 33,997 arterial lane miles (76%)
 - 2,403 Turnpike lane miles (5%)
- 97.2% of pavement is asphalt
- 2.8% of pavement is concrete



Asphalt Surfaces

- 50.4% of asphalt surfaces are dense graded (by lane mile)
- 49.6% of asphalt surfaces are open graded

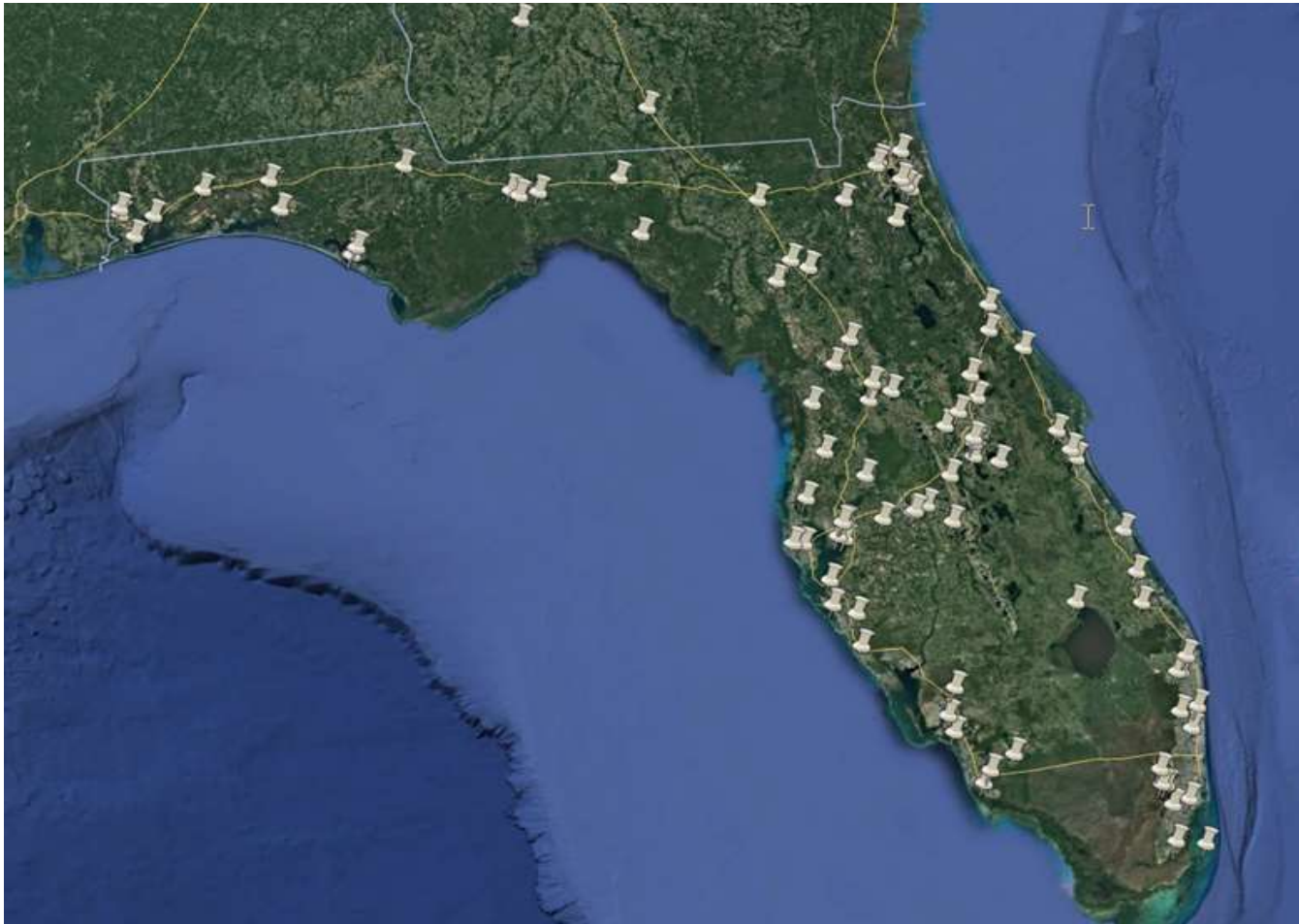


Asphalt Producers for Florida

	In-State	Out-of-State
Asphalt Plants	98	2
Asphalt Contractors	38	2
Asphalt Binder Terminals	15	10
Asphalt Emulsion Terminals	5	7

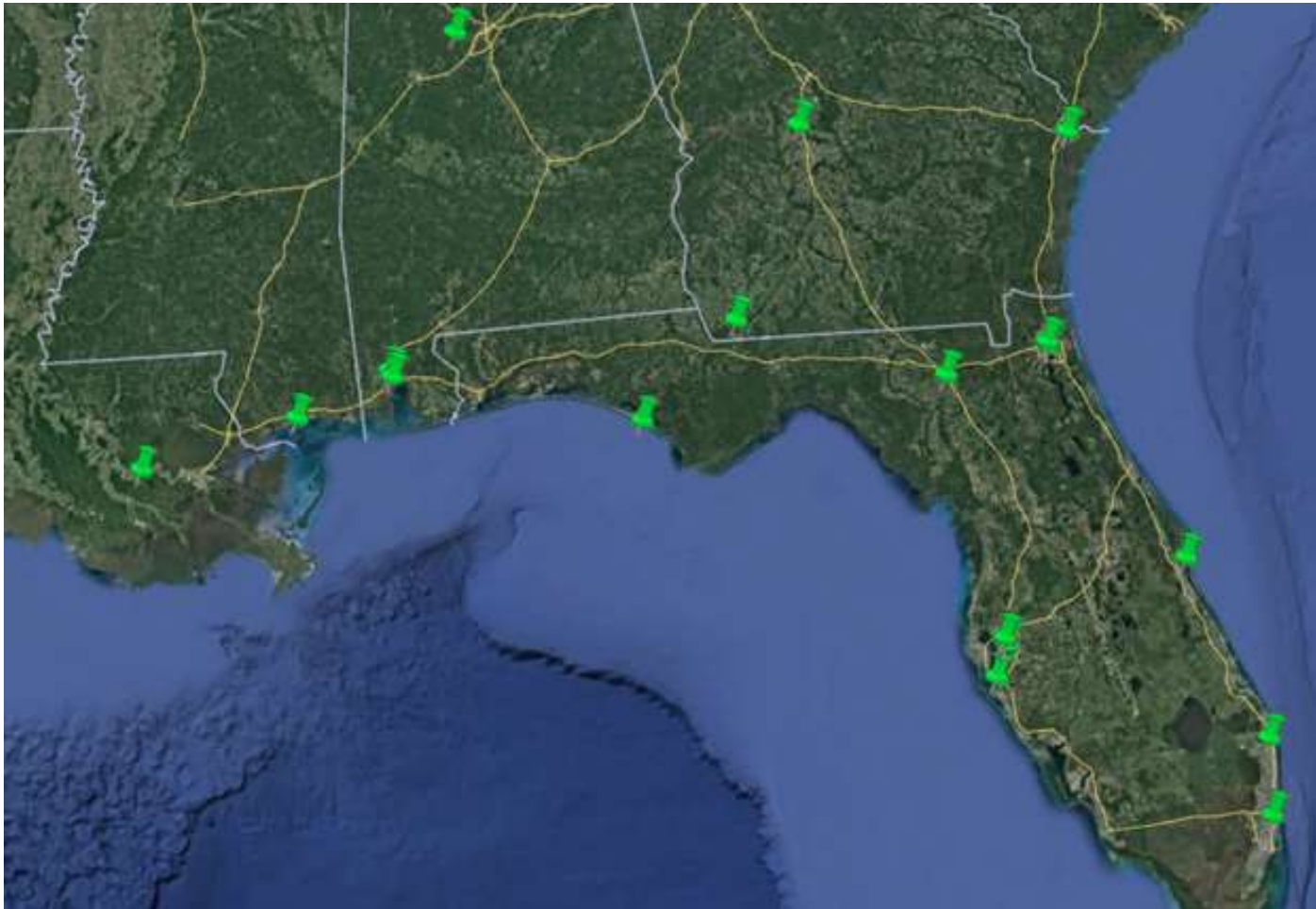


Approved Asphalt Plants



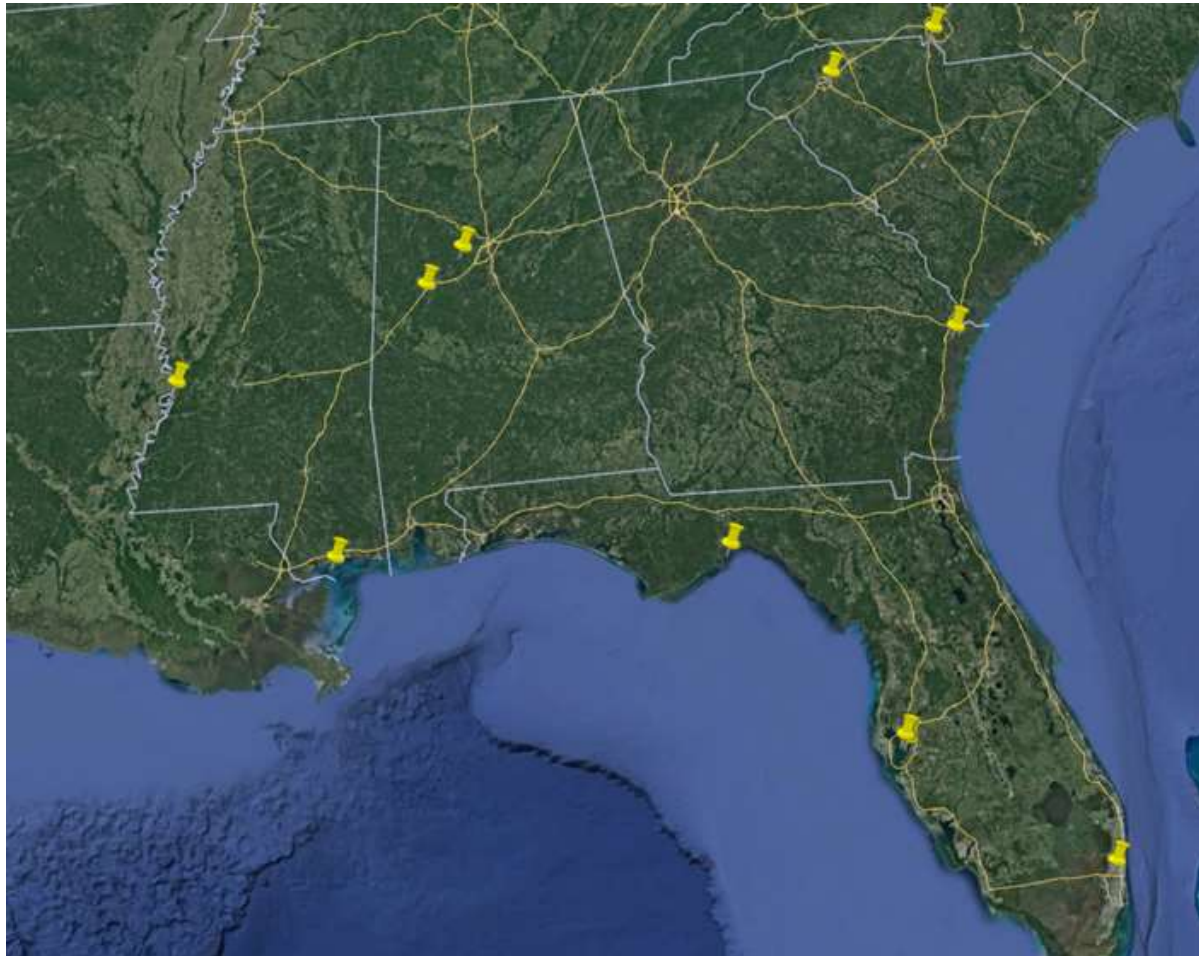
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Approved Asphalt Binder Terminals



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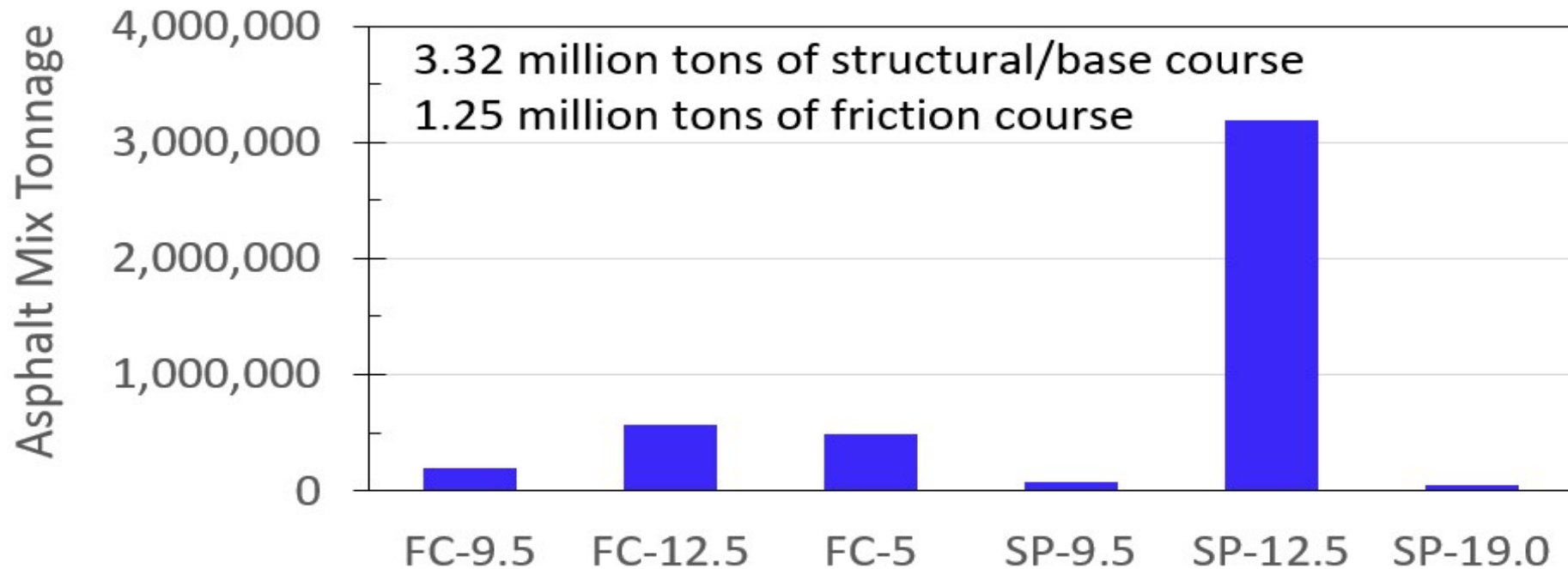
Approved Asphalt Emulsion Terminals



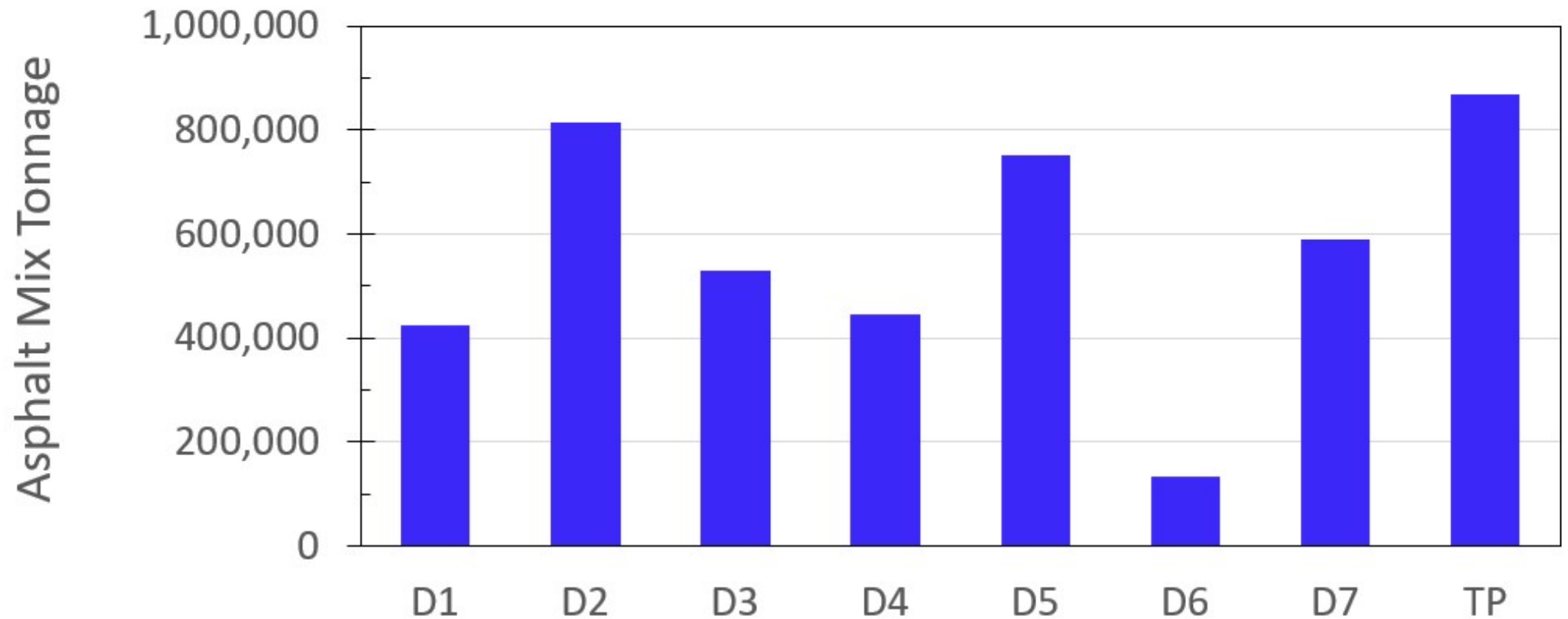
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Asphalt Mix Tonnage (FY 20/21)

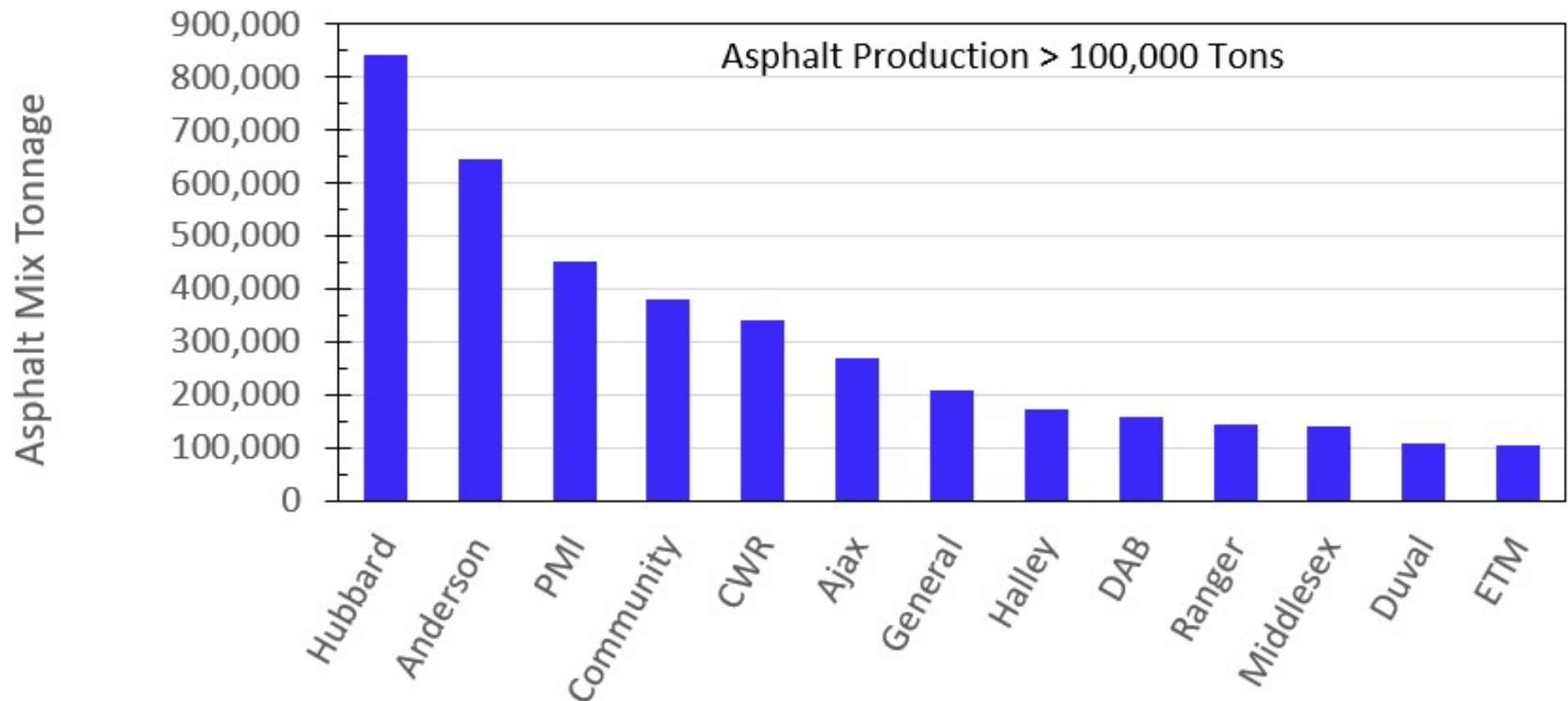
Friction			Structural			Total
FC-9.5	FC-12.5	FC-5	SP-9.5	SP-12.5	SP-19.0	
194,037	560,166	491,630	72,709	3,192,895	53,893	4,565,330



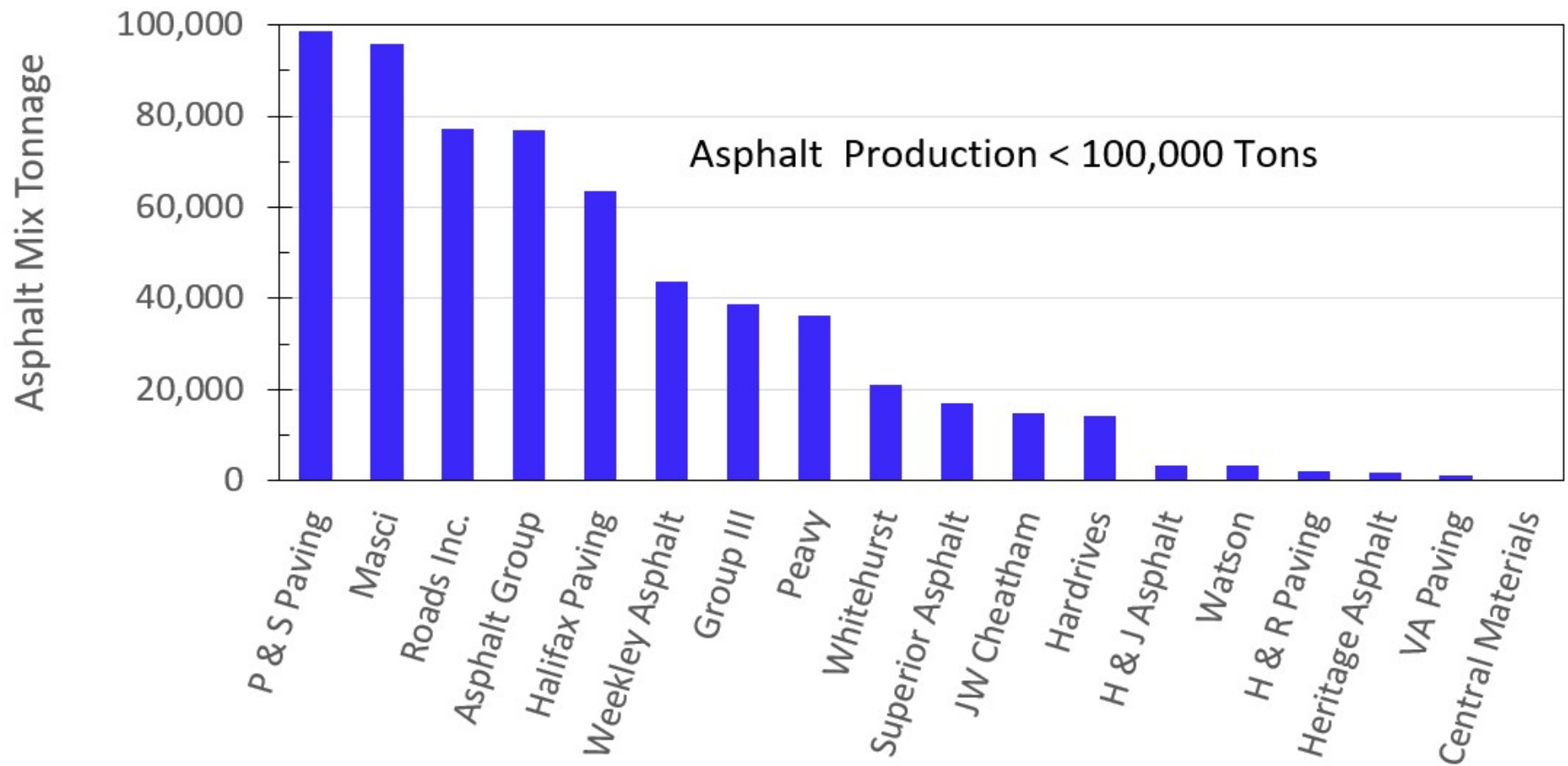
Asphalt Tonnage by District (FY 20/21)



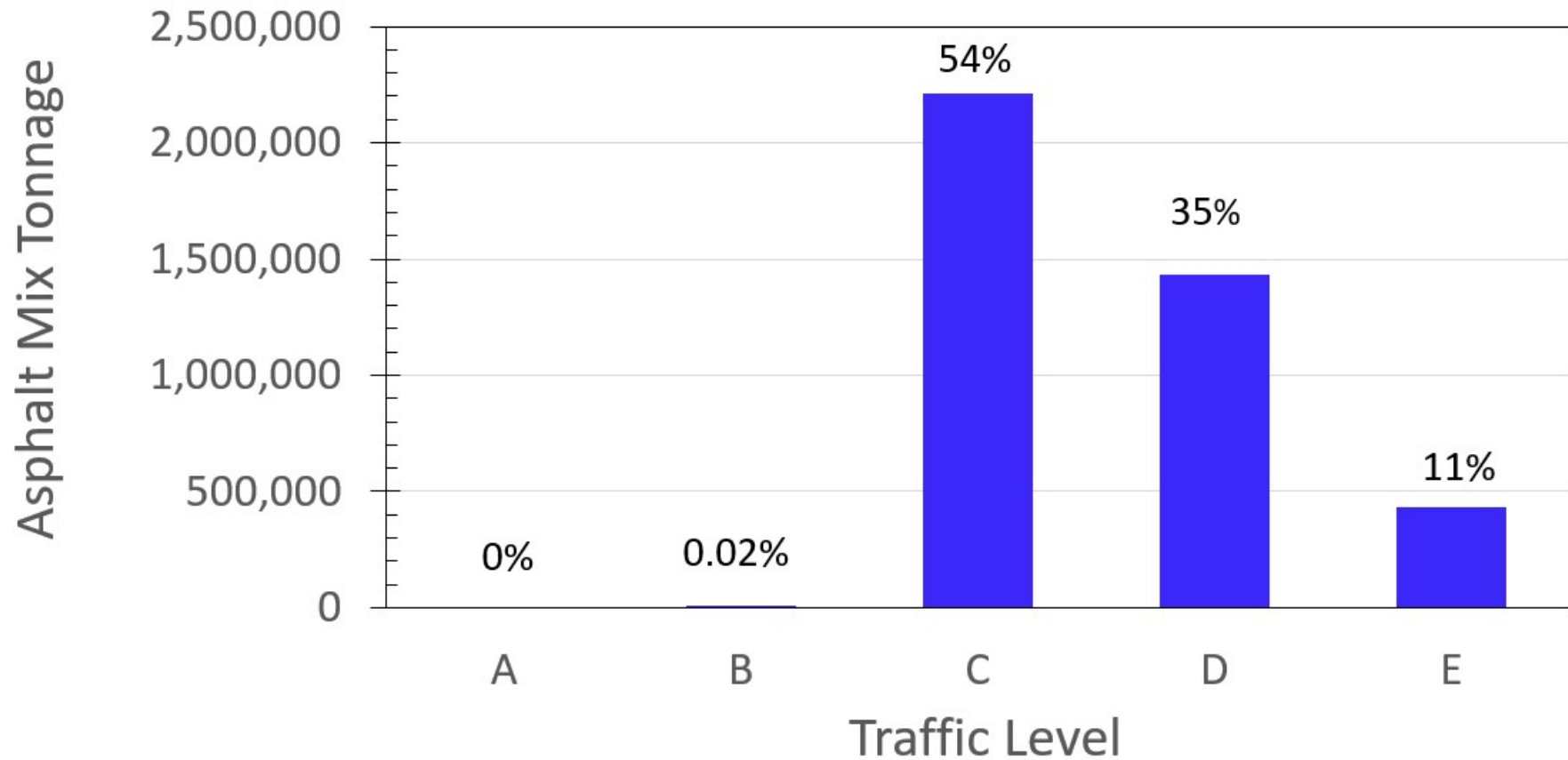
Asphalt Tonnage by Producer (FY 20/21)



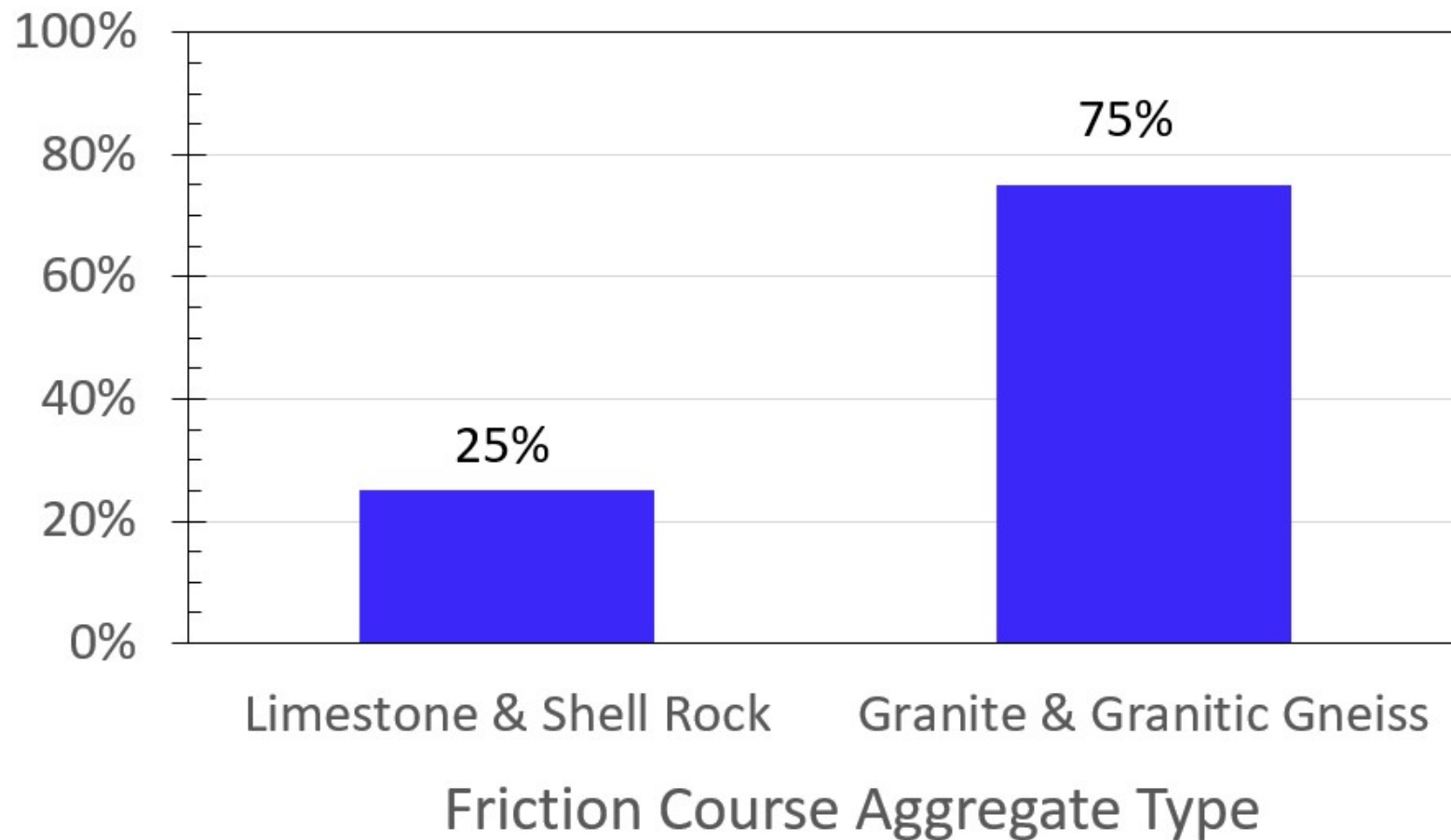
Asphalt Tonnage by Producer (FY 20/21)



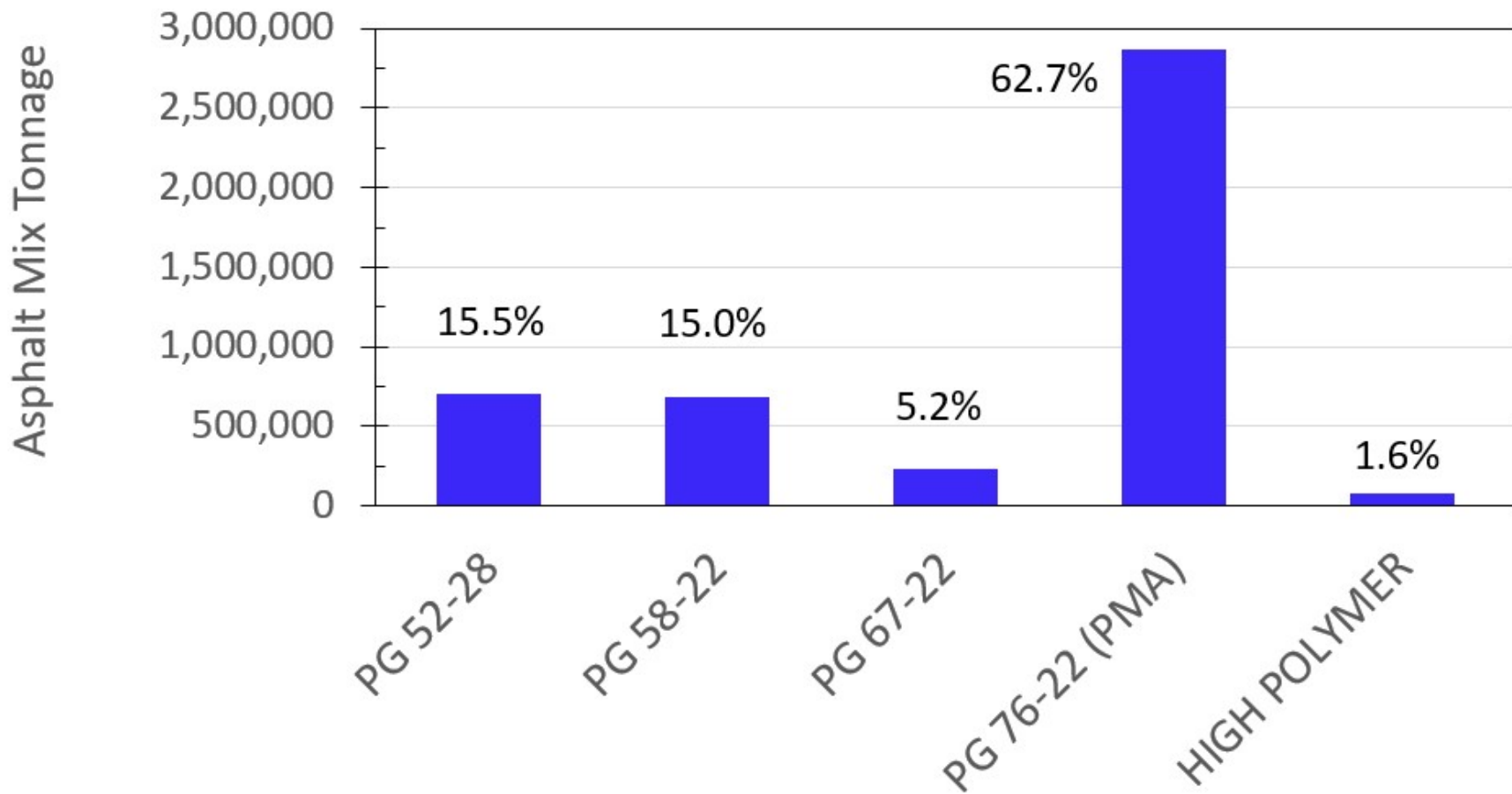
Mix Tonnage by Traffic Level (FY 20/21)



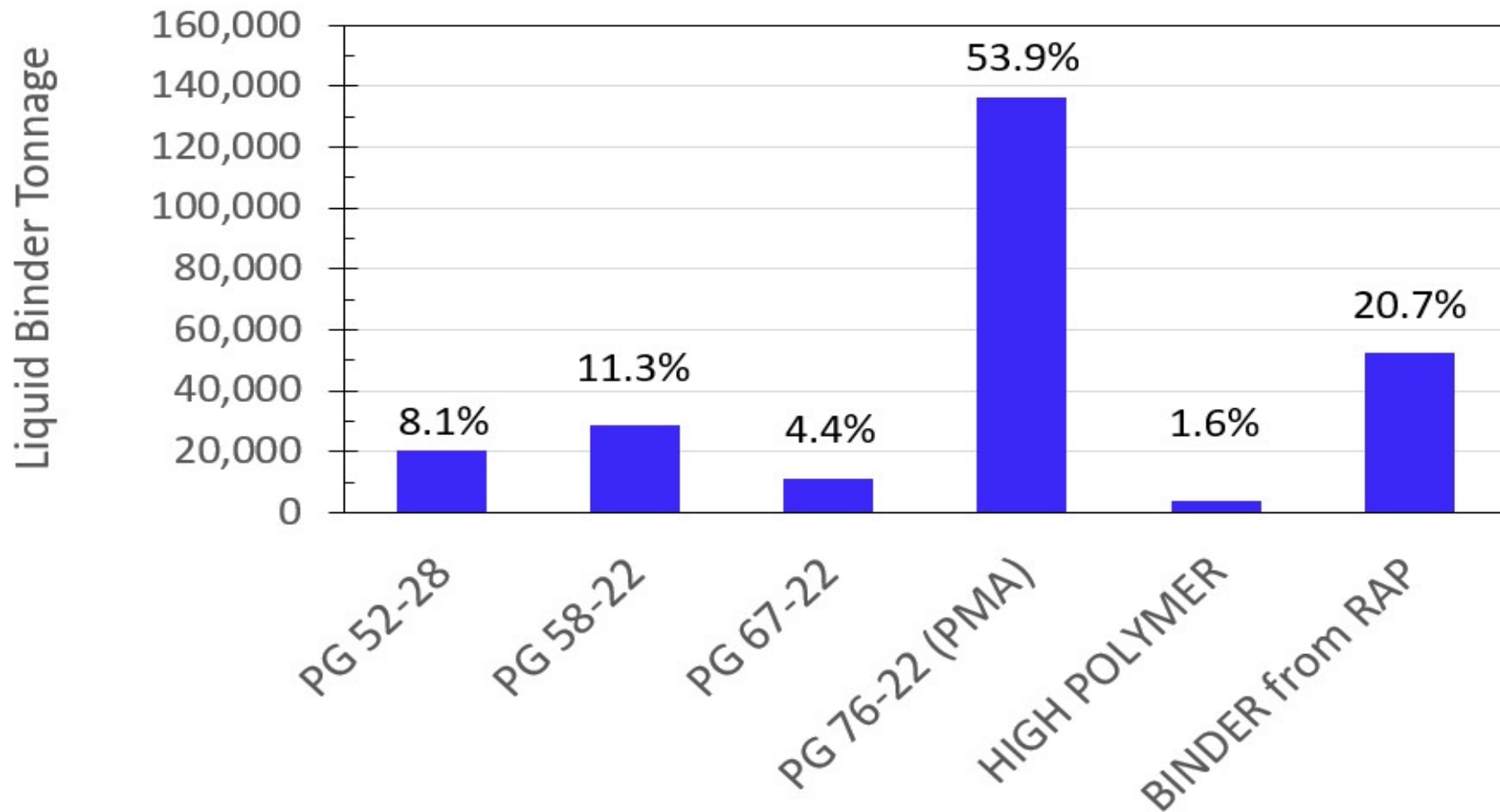
Friction Course Aggregate Type (FY 20/21)



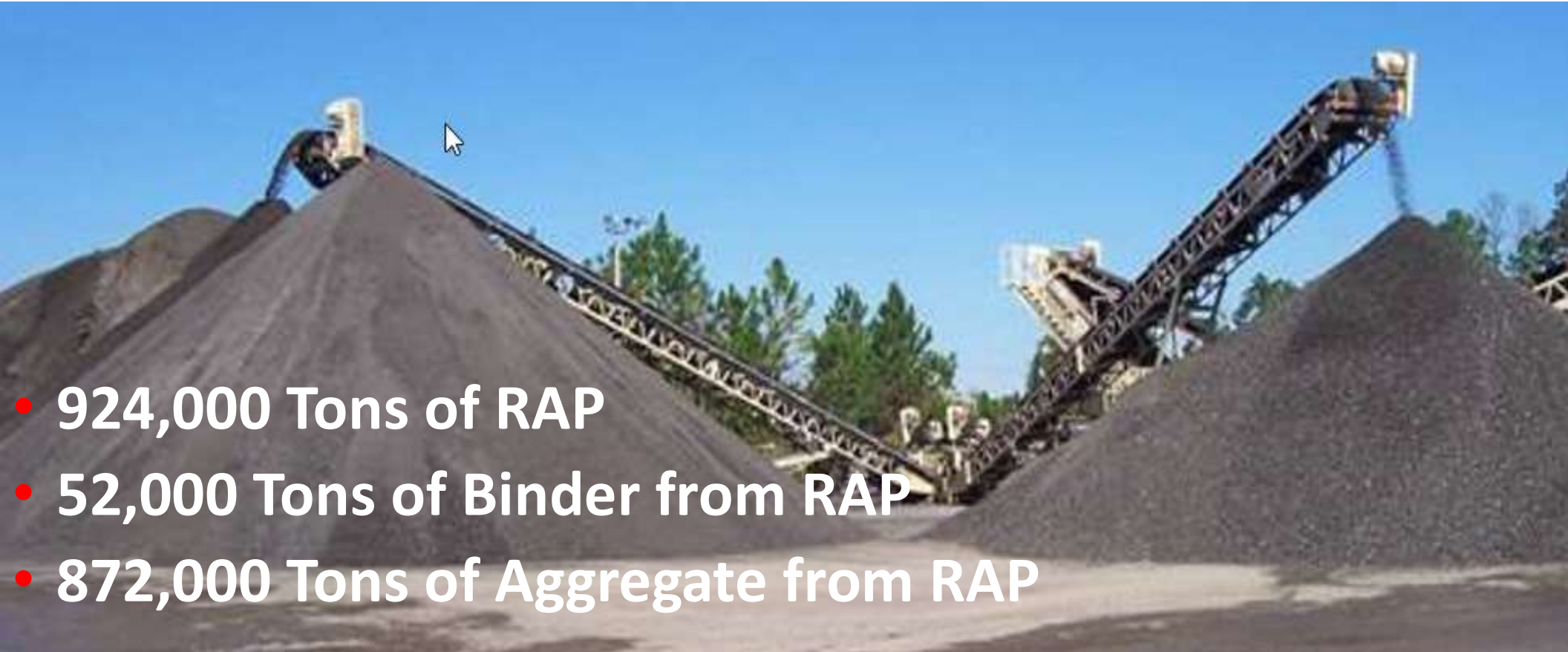
Mix Tonnage by Binder Type (FY 20/21)



Binder Tonnage (FY 20/21)



RAP Usage



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RAP Usage

Condition	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
Unrestricted (no limit)									
Average	25%	29%	24%	29%	27%	24%	25%	24%	24%
Maximum	39%	45%	50%	50%	50%	50%	50%	50%	45%
Restricted (Max 20%)									
Average	16%	19%	20%	20%	19%	19%	19%	18%	18%
Maximum	20%	20%	20%	20%	20%	20%	20%	20%	20%



Increased RAP in Mixtures with PG 76-22 Binder

- In January, the specs were revised to allow more than 20% RAP in structural course mixtures with PG 76-22 binder, based on RAP gradation and recovered RAP binder properties.
- In FY 20/21, there were seven mix designs produced with PG 76-22 binder and more than 20% RAP
- 32,500 tons of mix produced with PG 76-22 binder and more than 20% RAP

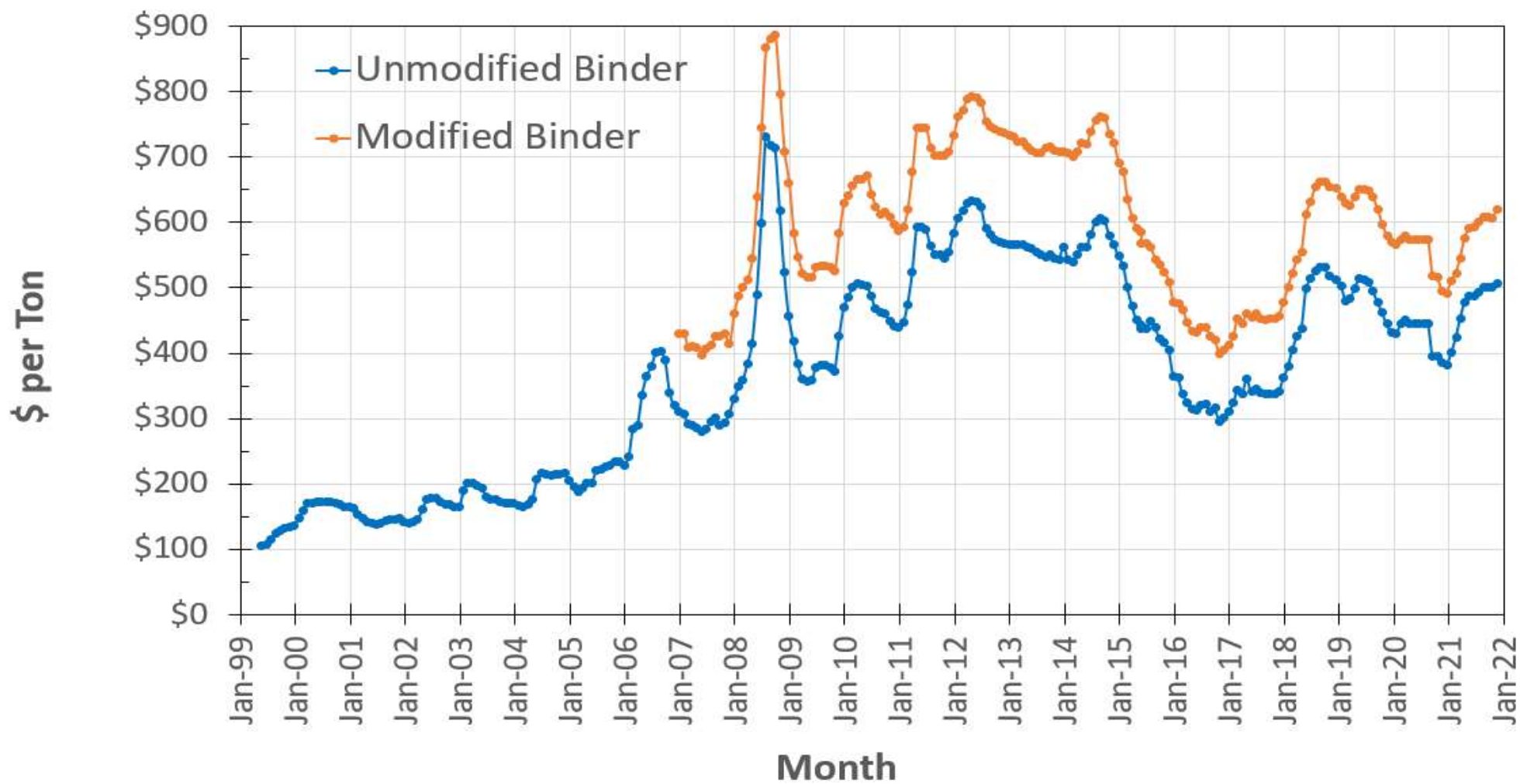
Asphalt Mix and Binder Cost Data



Asphalt Mix Average Cost (\$/ton)



Bituminous Average Price Index



2022 High Polymer Binder Forecast

District	County	FIN	Description	Let Date	Est. HP Mix Tonnage
2	Nassau	441260-1	SR200 FROM STRATTON ROAD TO GRIFFIN ROAD	1/12/22	51,081
1	Polk	445142-1	SR 35 (US 17) FROM N OF BRIDGE NO. 160233 TO SOUTH OF LUNN RD	3/30/22	9,752
4	Palm Beach	443994-1	SR-15/US-441 FROM SOUTH OF SHIRLEY DR TO EAST MAIN STREET	4/27/22	3,124
2	Duval	443420-1	I-295(SR9A) FR NEW BERLIN ROAD TO THE SOUTH END OF DAMES POINT BRIDGE	4/27/22	1,382
1	Lee	444640-1	SR 45 (US 41) FROM S OF HICKORY DR TO EMERSON SQUARE BLVD	6/15/22	4,906
2	Suwannee	445545-1	I-75(SR93) FROM COLUMBIA C/L TO HAMILTON C/L	6/15/22	8,083
1	Glades	445933-1	SR 25 (US 27) FROM SOUTH OF HENDRY COUNTY LINE TO NORTH OF OLD US 27	6/15/22	30,682
1	Polk	445470-1	SR 700 (US 98) FROM E OF MT ZION RD TO E OF OLD STOKES RD	7/21/22	TBD
2	Nassau	445341-1	SR200(A1A) FROM GRIFFIN ROAD TO I-95	6/15/22	52,221
3	Gadsden	434645-1	SR 10 (US 90) FROM W OF FLYING J TO LEON C/L	10/13/22	9,600
2	Columbia	445547-1	I-75(SR93) FROM SOUTH OF CR240 TO SR47	10/26/22	27,900
2	Columbia	446045-1	I-75(SR93) FROM I-10 TO SUWANNEE C/L	10/26/22	6,600
7	Pinellas	440254-1	SR 693/PASADENA AVE/66TH ST N FROM CENTRAL AVE TO N TYRONE BLVD	12/14/22	6,278
Total Estimated HP Mix Tonnage					205,331

Pay Factor Data



Composite Pay Factor (CPF) Data

- Statewide Average CPF
 - **FY 20/21: 1.020**
 - FY 19/20: 1.018
 - FY 18/19: 1.016
 - FY 17/18: 1.016
 - FY 16/17: 1.013
 - FY 15/16: 1.009
 - FY 14/15: 1.018
 - FY 13/14: 1.019
 - FY 12/13: 1.011



Composite Pay Factor (CPF) Data

- Dense Graded Pay Factor Data

FY	Density	AC	Air Voids	#8 Sieve	#200 Sieve	CPF
20/21	1.006	1.031	1.028	1.003	1.035	1.020
19/20	1.000	1.032	1.027	1.003	1.033	1.018
18/19	0.992	1.025	1.021	1.001	1.028	1.015
17/18	0.999	1.032	1.023	1.002	1.027	1.016
16/17	0.992	1.031	1.024	0.997	1.025	1.013
15/16	0.994	1.023	1.013	1.003	1.019	1.009
14/15	1.004	1.029	1.024	0.998	1.031	1.018

Composite Pay Factor (CPF) Data

- Open Graded Pay Factor Data

FY	AC	3/8" Sieve	#4 Sieve	#8 Sieve	CPF
20/21	1.009	1.024	1.018	1.014	1.015
19/20	1.019	1.020	1.020	1.012	1.019
18/19	1.007	1.021	1.019	1.011	1.018
17/18	1.012	1.017	1.013	1.013	1.014
16/17	1.011	1.012	1.015	1.018	1.014
15/16	1.004	1.005	1.002	1.013	1.004
14/15	1.019	1.021	1.018	1.026	1.019

FY 20/21 Top Producer CPF (>100,000 tons)

- **#1 ETM Solutions (1.0472)**
- **#2 Preferred Materials (1.0304)**
- **#3 Anderson Columbia (1.0270)**



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FY 20/21 Top Producer CPF (20,000 – 100,000 tons)

- **#1 Group III Asphalt (1.0465)**
- **#2 Whitehurst (1.0424)**
- **#3 Asphalt Group (1.0306)**



Quality Control that Adds Value

- Last Year
 - Bond strength testing to minimize slippage
 - Temperature guns & density gauges to minimize segregation

**QUALITY CONTROL
ALWAYS
COSTS LESS THAN
“REMOVE & REPLACE”**



Florida Department of Transportation

New Opportunity

- FHWA Mobile Asphalt Technology Center (MATC)
- Visiting the SMO (Gainesville) in February 2022
- There will be an open house where you can see some of the equipment they have



FHWA MATC

- Laboratory Equipment
 - AMPT (dynamic modulus, cyclic fatigue, stress sweep rutting)
 - Texas Overlay Test for reflective cracking
 - IFIT
 - IDEAL-CT
 - IDEAL-RT
 - X-Ray Fluorescence (XRF)
 - Asphalt Binder Test (ABT)



FHWA MATC

- Field Equipment
 - Paver-mounted thermal profiling
 - Pulse induction MIT-scan (pavement thickness)
 - Circular track meter (pavement texture)
 - Dielectric profiling system (DPS) (density)



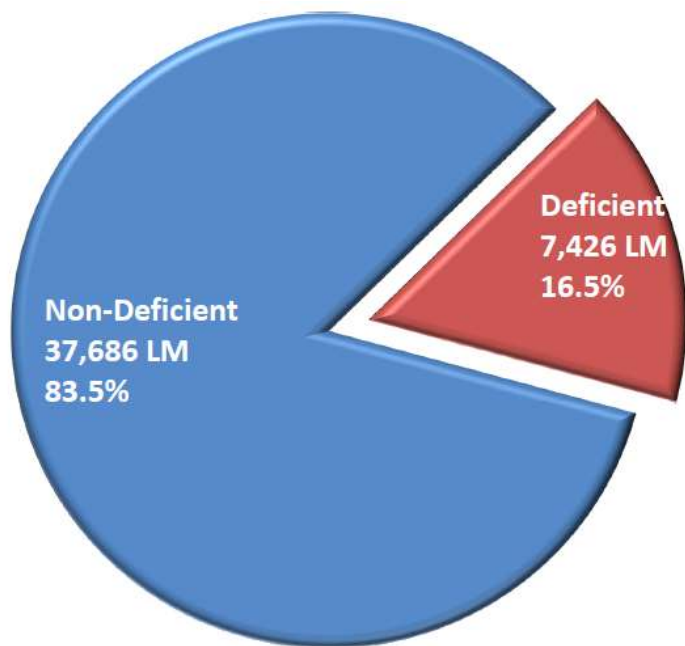
Statewide Pavement Performance

- Statutory Requirement
 - Ensure 80% of pavement on the State Highway System meets Department standards.

Deficient Pavements (%)											
Criteria	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Overall	11.1	9.4	8.4	7.3	7.7	8.5	8.2	8.7	12.6	12.5	16.5
Ride	2.6	1.9	2.1	1.7	2.0	1.3	1.2	1.1	1.4	1.3	1.4
Crack	9.7	7.9	6.8	6.0	6.4	7.3	7.1	7.7	11.4	11.4	15.3
Rut	0.6	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3

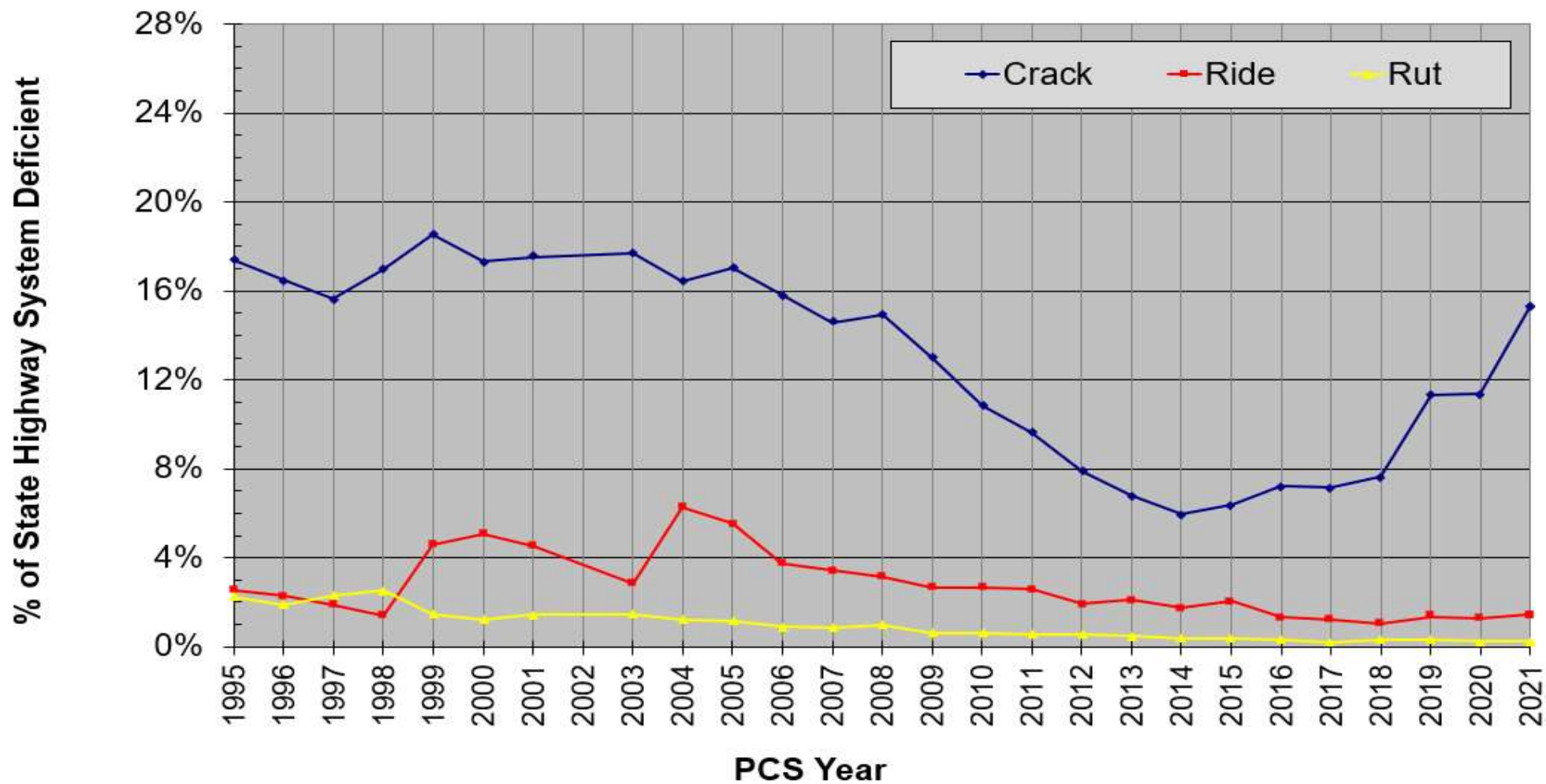
Deficient Pavements by Facility Type

Based on 2021 Pavement Condition Survey

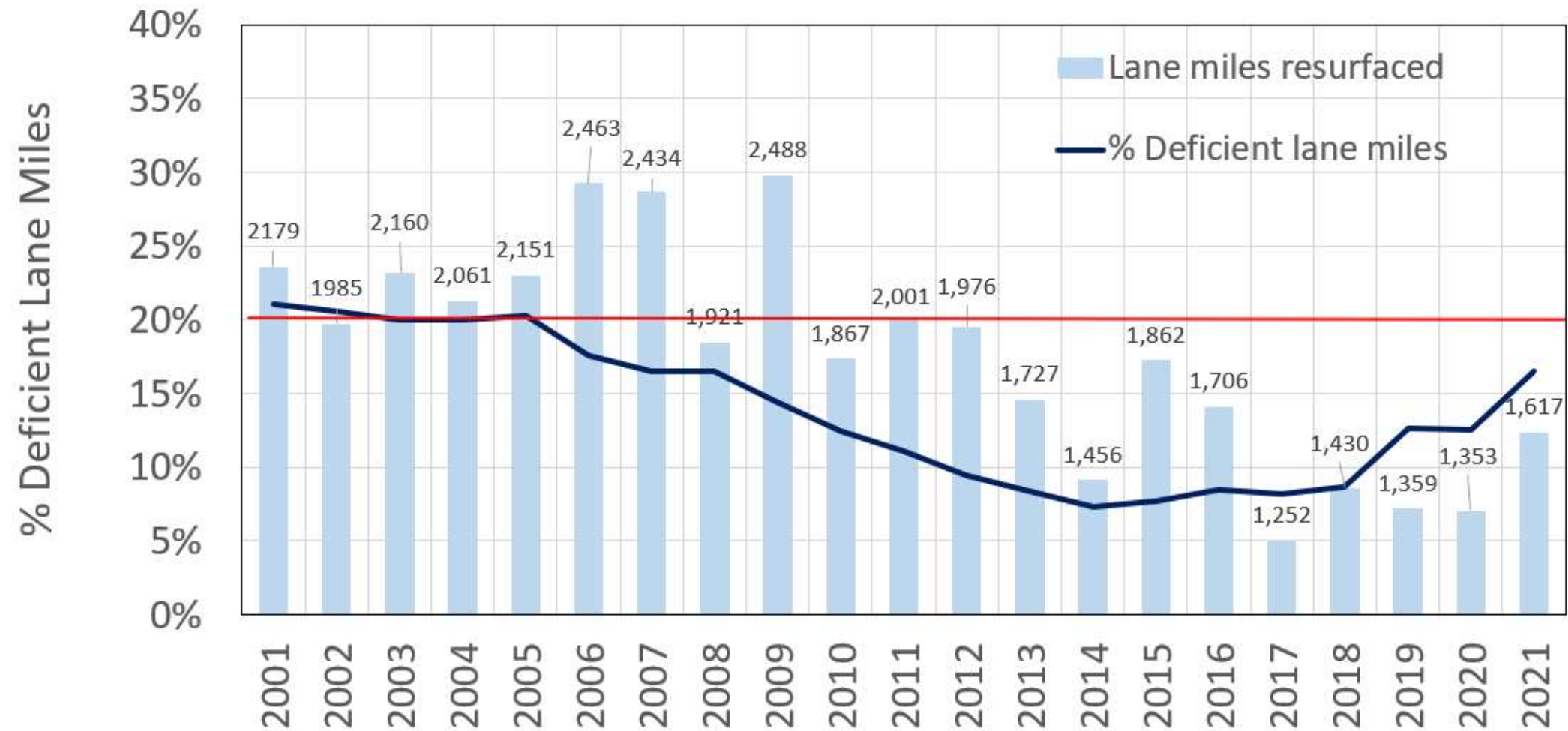


Roadway	Interstate	Arterials	Turnpike
Lane Miles	8,712	33,997	2,403
Deficient Lane Miles	835	6,390	200
% Lane Miles Deficient	9.6%	18.8%	8.3%

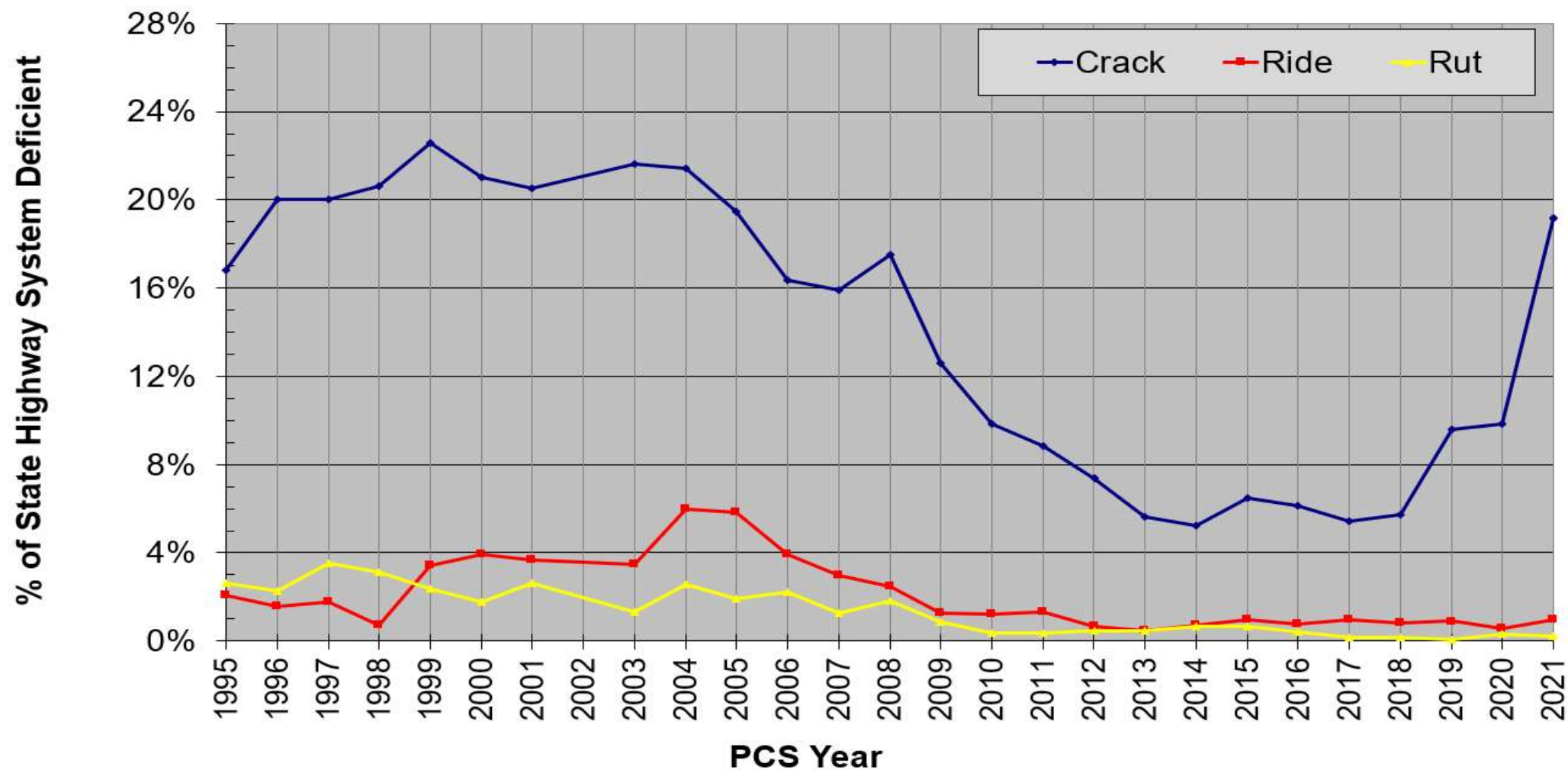
Historical Statewide Performance



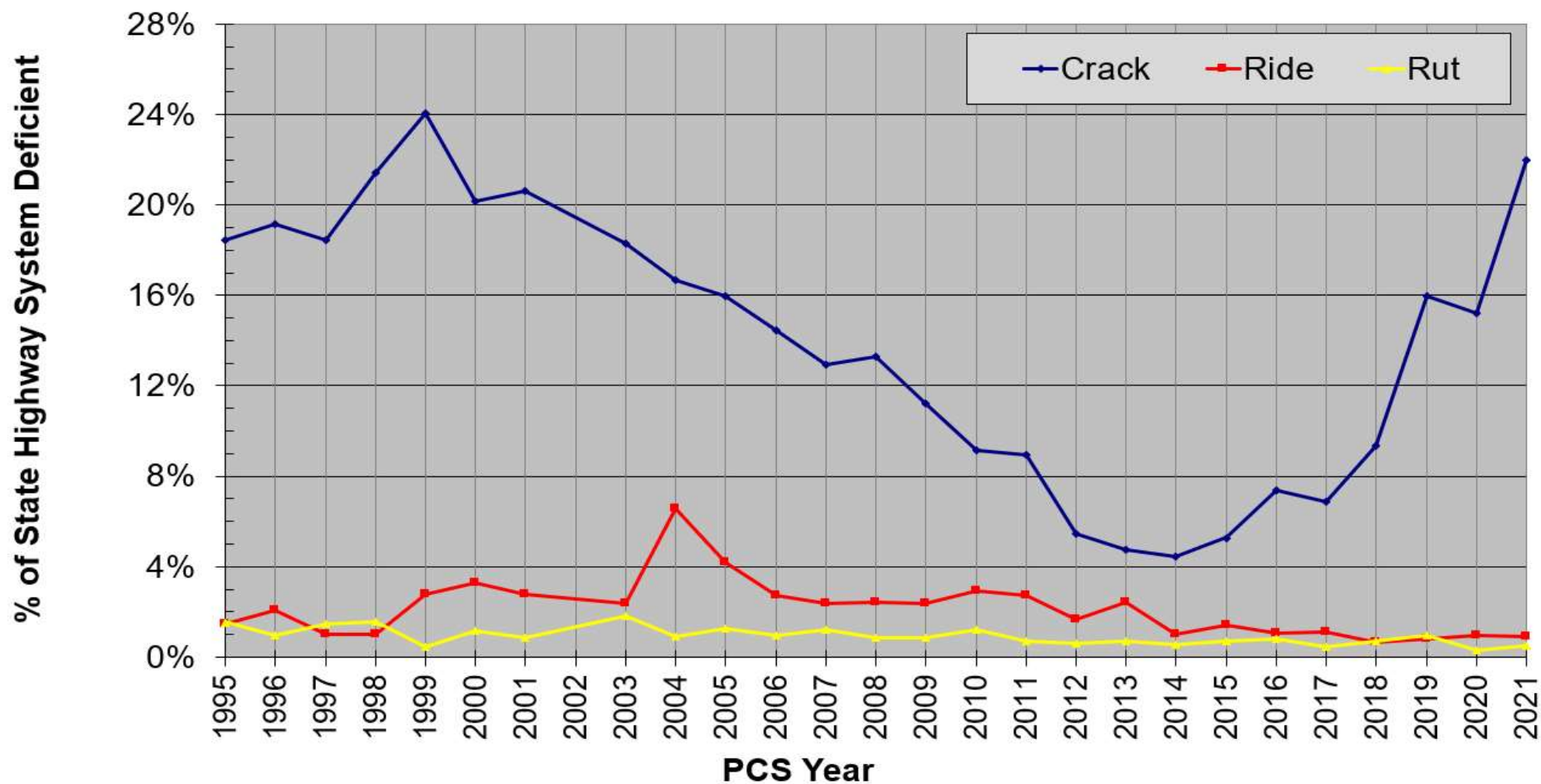
Lane Miles Resurfaced & Deficient Lane Miles



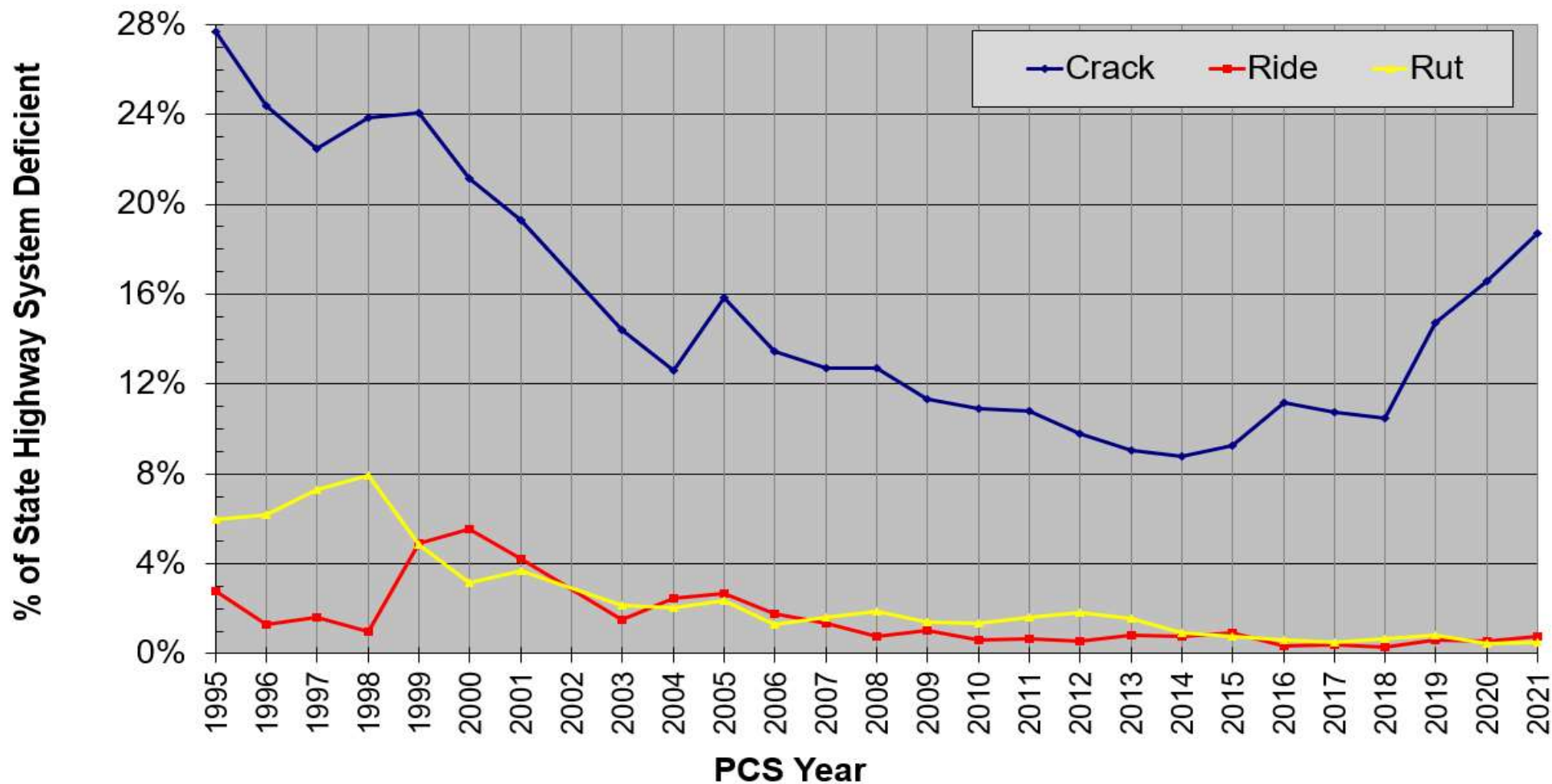
District 1 Historical Performance



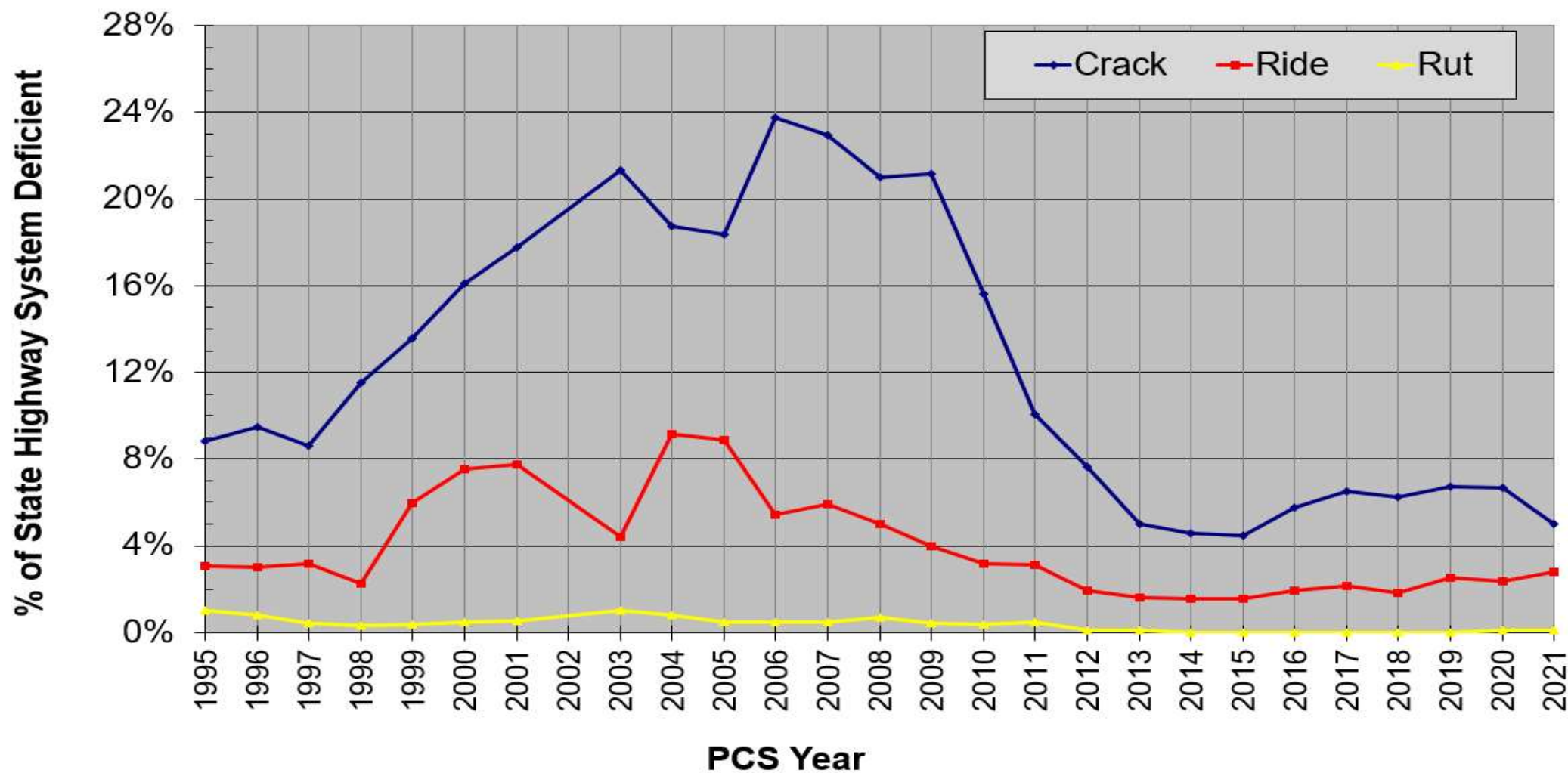
District 2 Historical Performance



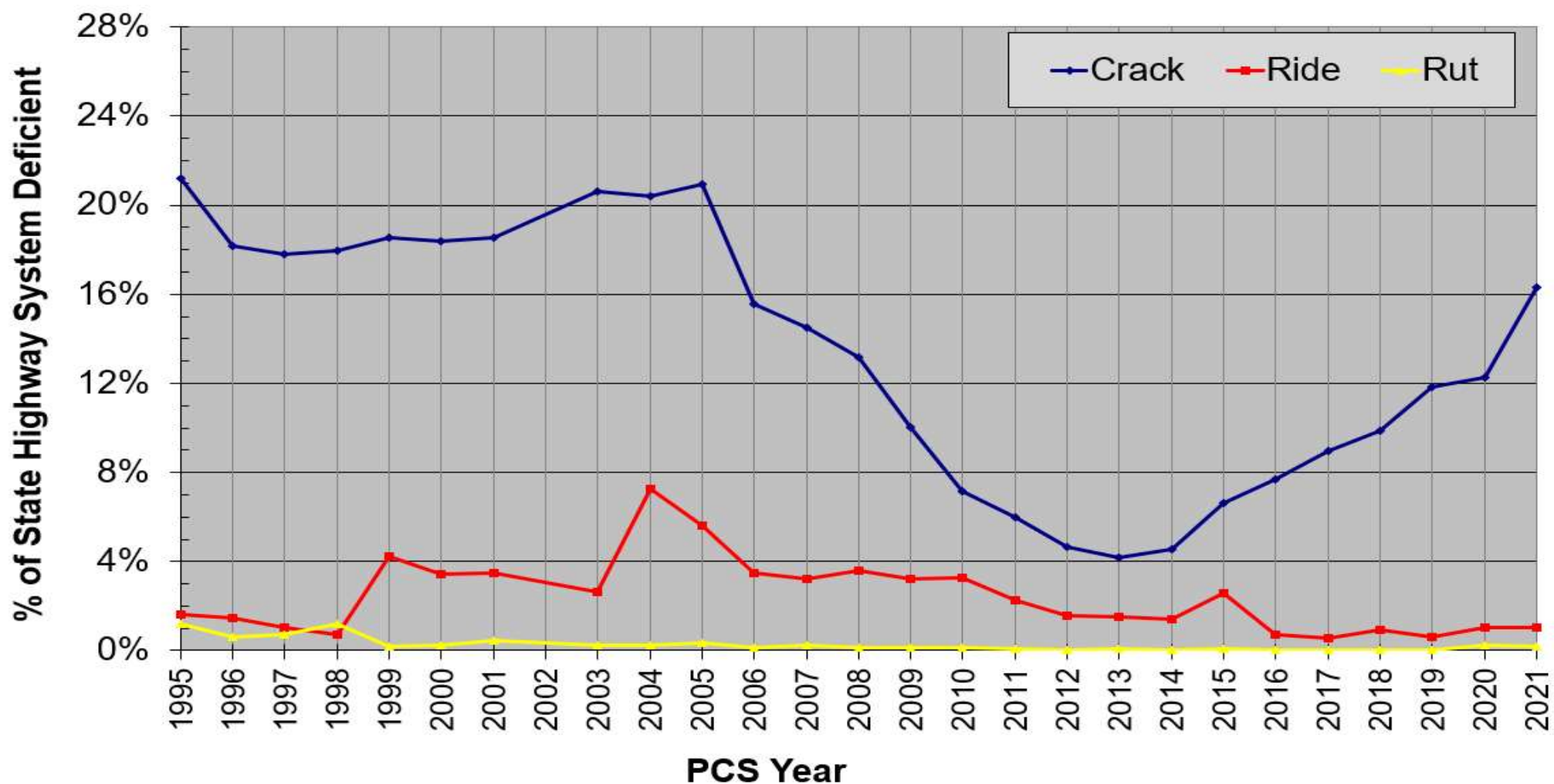
District 3 Historical Performance



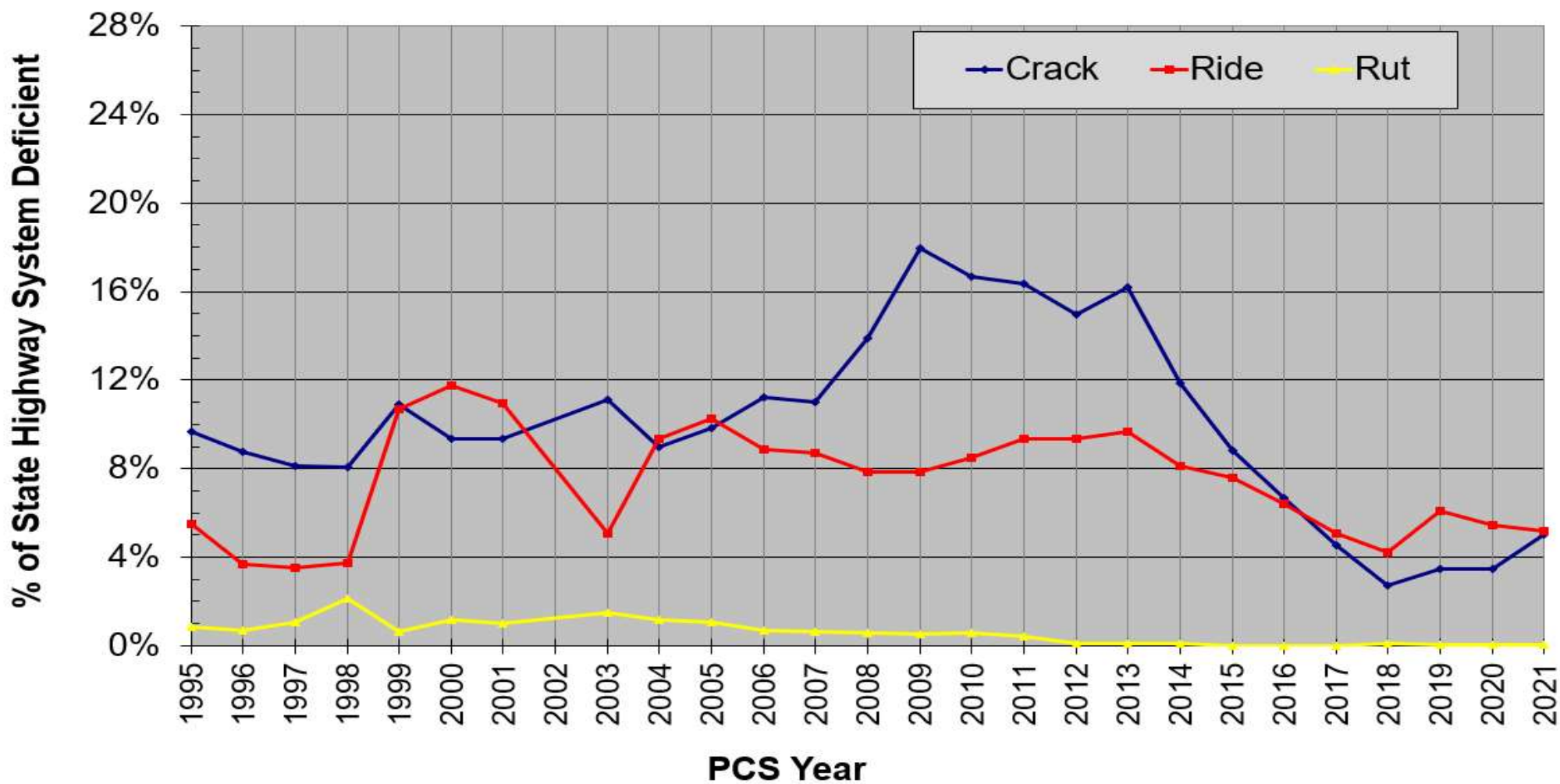
District 4 Historical Performance



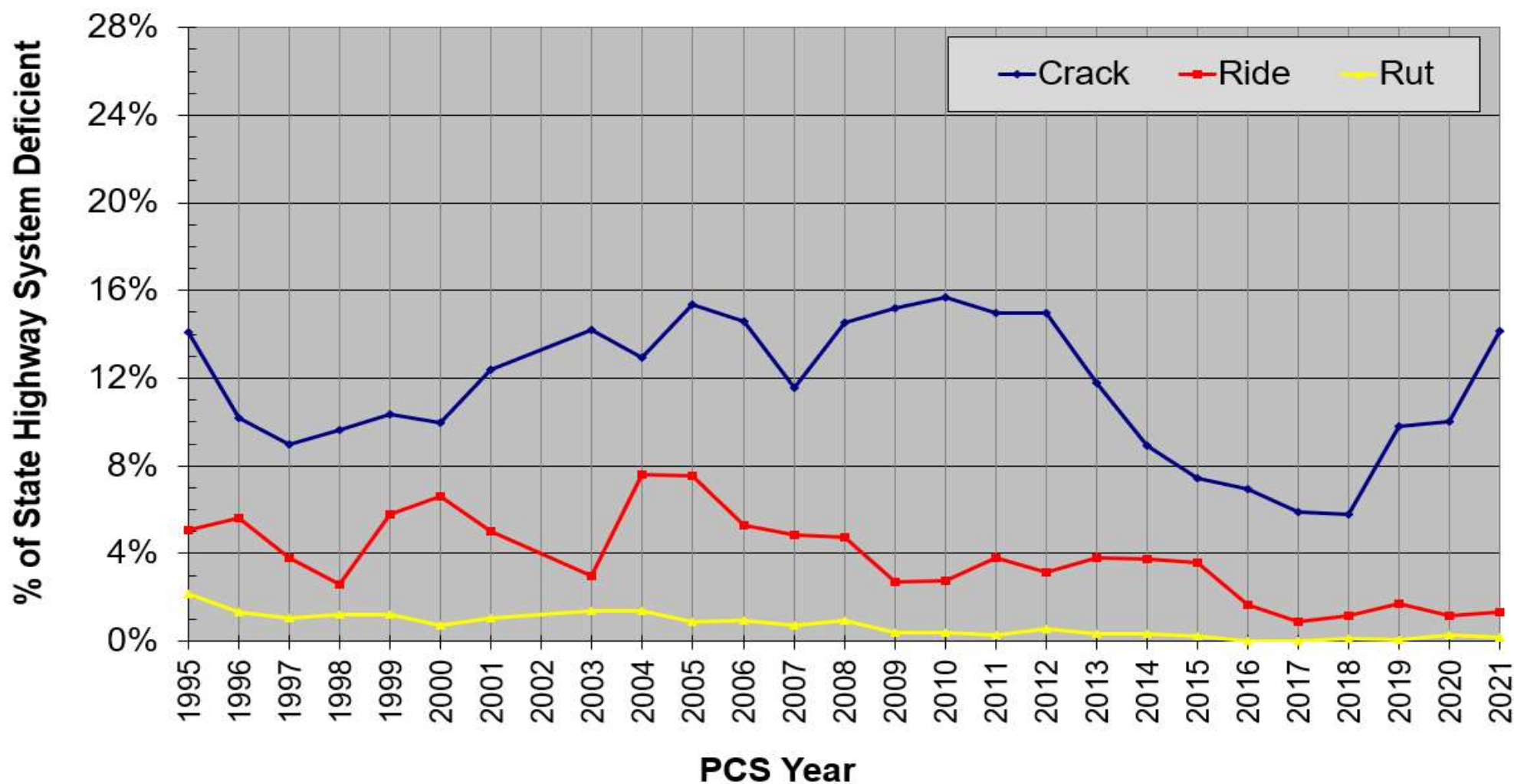
District 5 Historical Performance



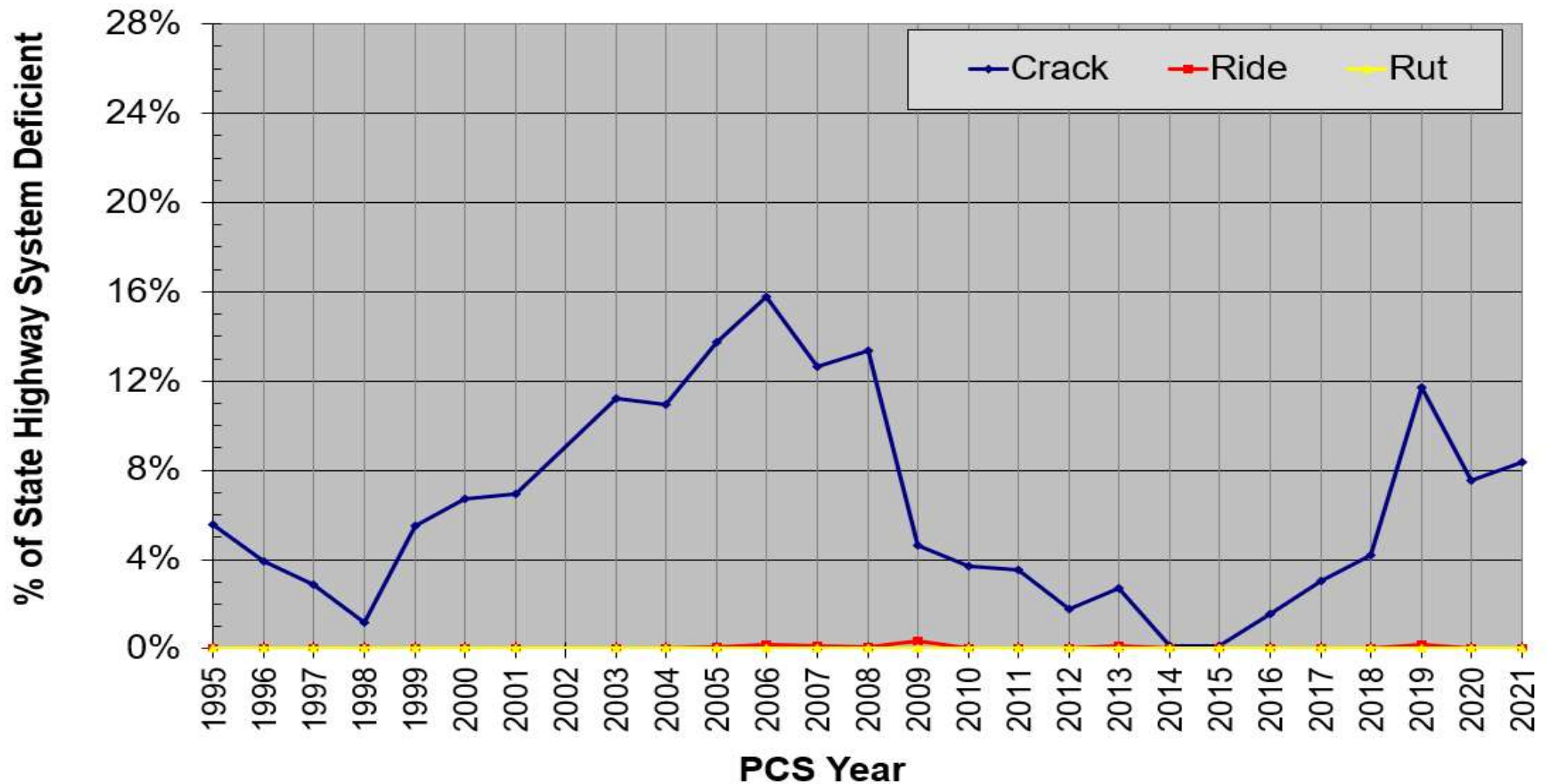
District 6 Historical Performance



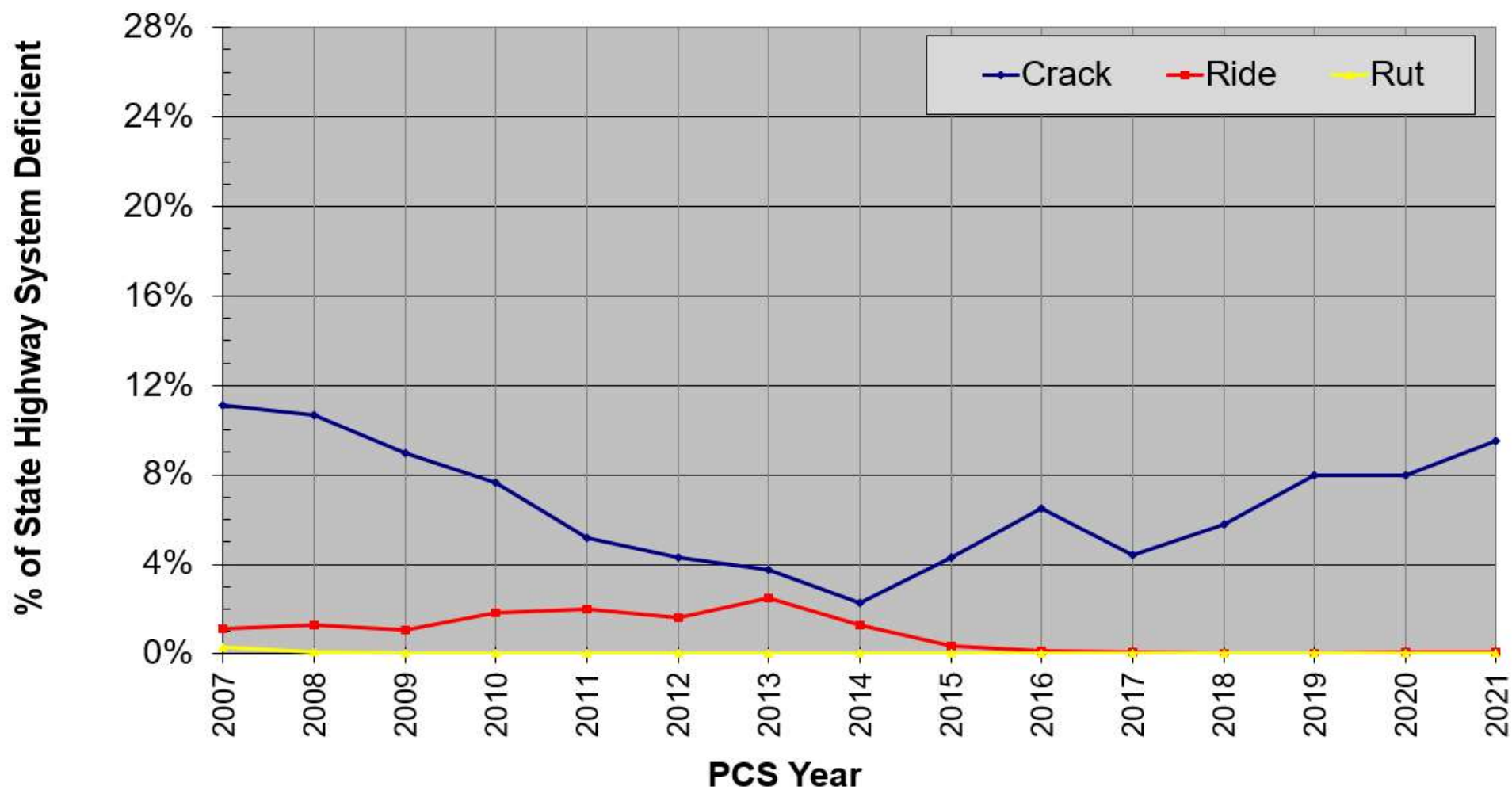
District 7 Historical Performance



Turnpike Historical Performance



Interstate Historical Performance



Which is Smoother, Asphalt or Concrete?



Smoothest Concrete Road on FDOT's System

- SR 710 in Martin County
- Four-lane Divided Concrete Highway
- Average IRI = 28



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Smoothest Asphalt Road on FDOT's System

- I-75 in Hillsborough County
- Six-lane Asphalt Interstate
- Average IRI = 24



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Thank You

Questions?