

# 2024 California Waste Tire Market Report

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Draft findings  
September 03, 2025



# Outline

1. The bottom line
2. Market trends by category
3. Recycling outlook

**The 2024  
bottom line:**

**Recycling  
continues amid  
Global  
influences**



# The 2024 Summary

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- Increased total amount of managed tires from previous year, 2023 570K tons increased to 598K tons or 59.8M Passenger Tire Equivalents (PTE) in 2024
- Recycling rate slightly increased from 35.1% in 2023 to 35.6% in 2024
- Continued low unemployment, real wage increases, resulting in business staffing challenges
- Tire Derived Fuel (TDF) export increased by 90k+ tons, or 9M+ PTE, from 19.6% in 2023 to 34.3% of the total managed in 2024
- Decreased landfill disposal from 38.3% in 2023 to 23.8% of total managed in 2024

# 2024 California Waste Tire Flows

Total Managed: 598,429 Tons (59.8M PTE\*)

- Recycling

- 35.6% of total
- 213,143 tons

Other Recycling 1.6%  
Crumb/Ground Rubber 16.2%  
Civil Engineering (TDA) 0.4%  
Used Tires 8.4%  
Retreads 9.1%

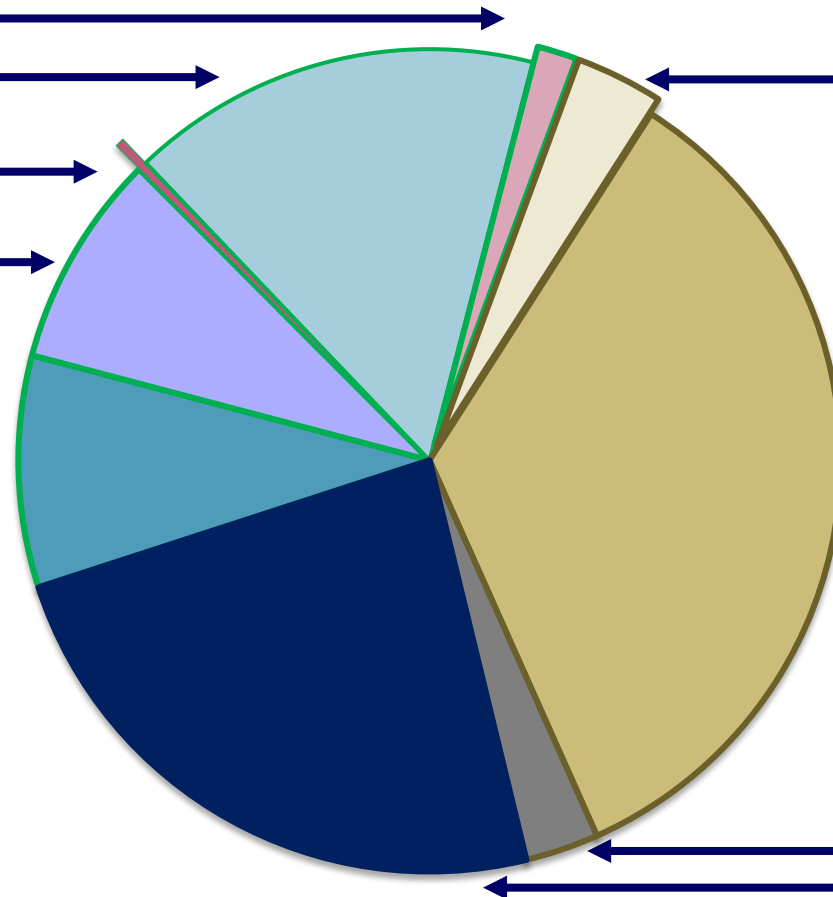
- Disposal-Related

- 40.6% of total
- 242,947 tons

TDF (In-State) 3.4%  
TDF and Bales (Export) 34.3%  
Alternative Daily Cover 2.9%

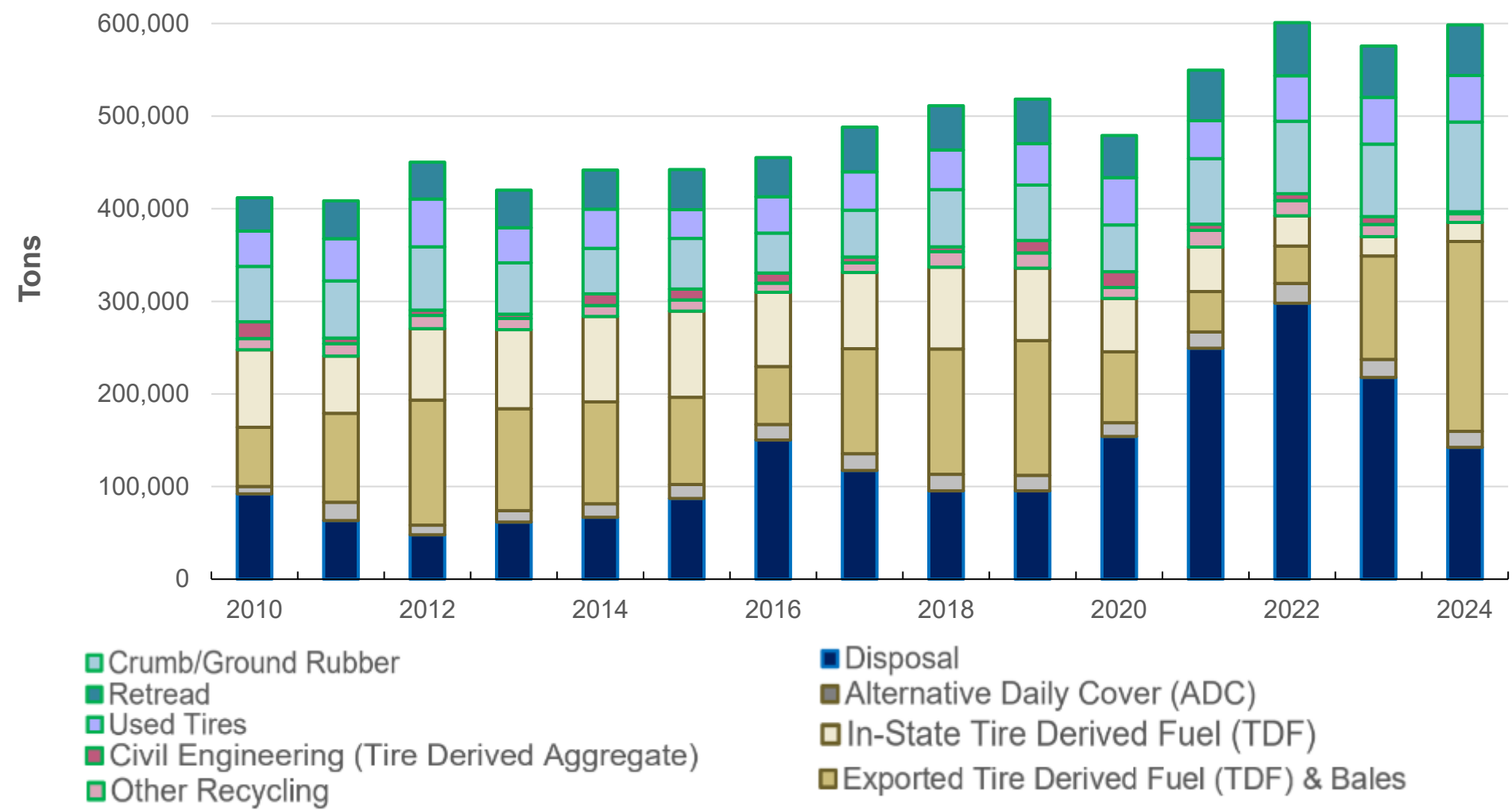
- Disposal

- 23.8% of total
- 142,339 tons



\* Passenger Tire Equivalents

# 15-Year Trend by Market Segment

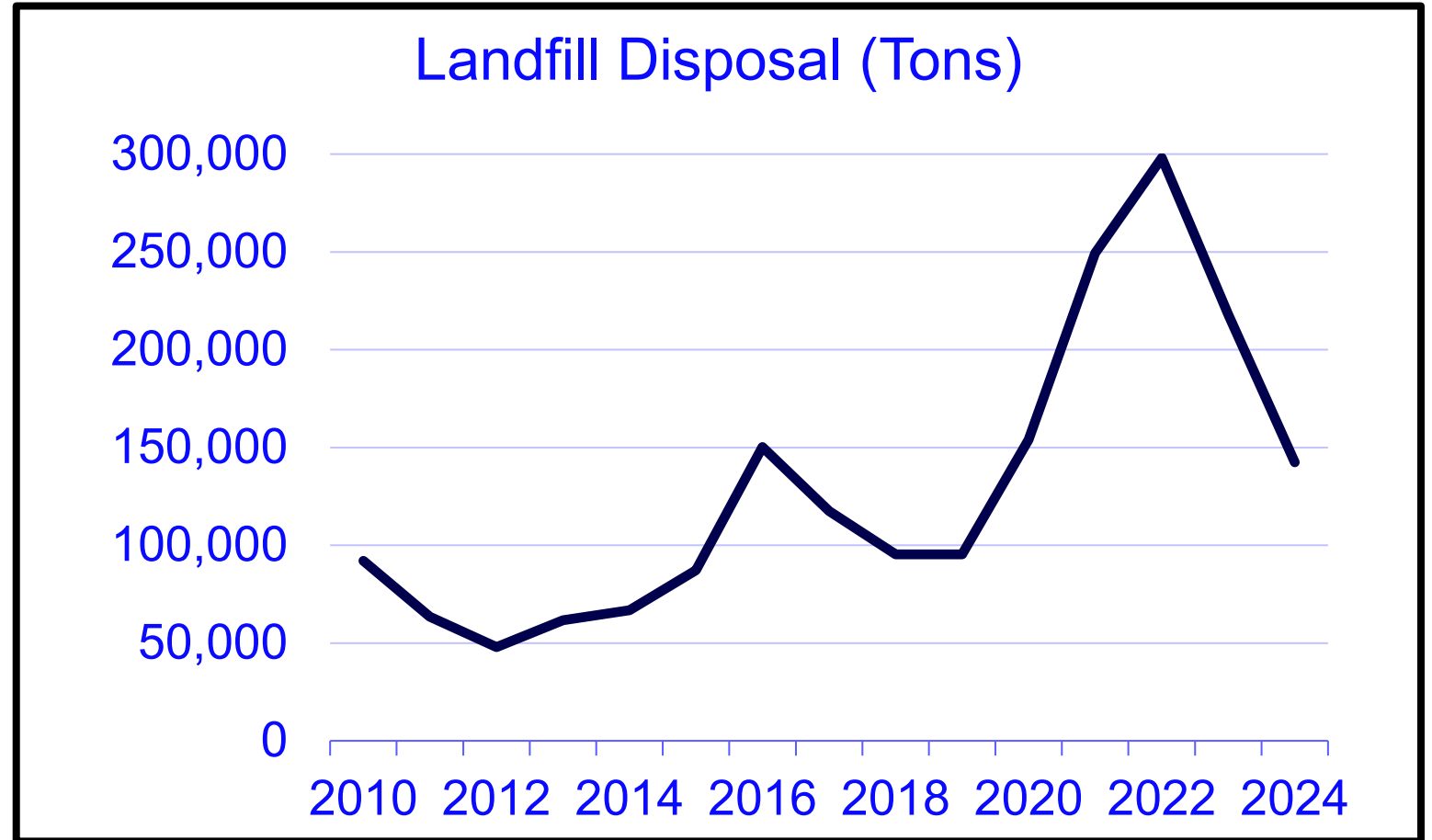


## **2. Market Trends by Category**

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# Disposal (Landfill)

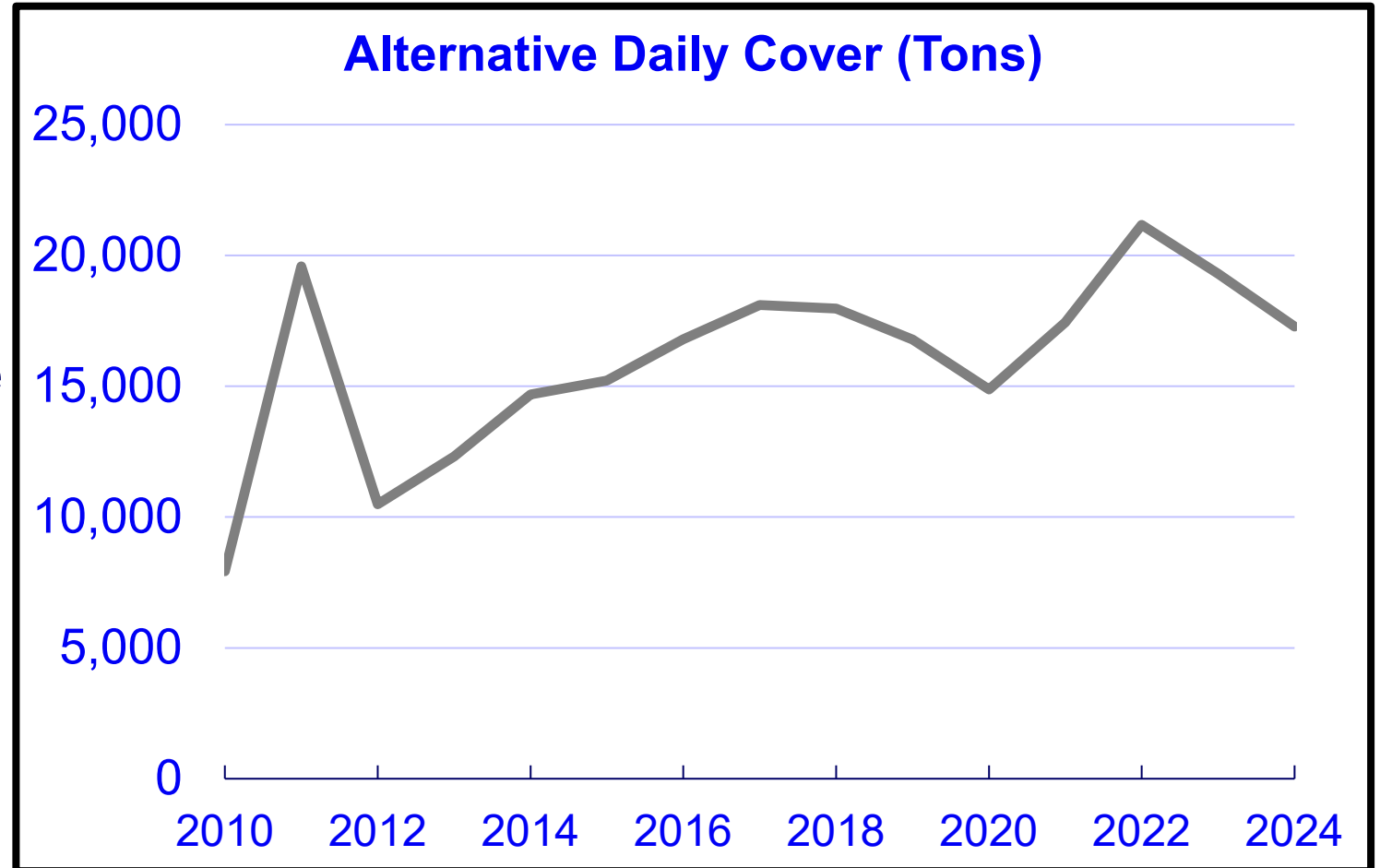
- 142,339 tons, 23.8% of total
- Decrease of 34.7% from 2023
- Disposal decrease connected to Export increase
- 2025 trend: Landfill disposal tonnage continues to decrease





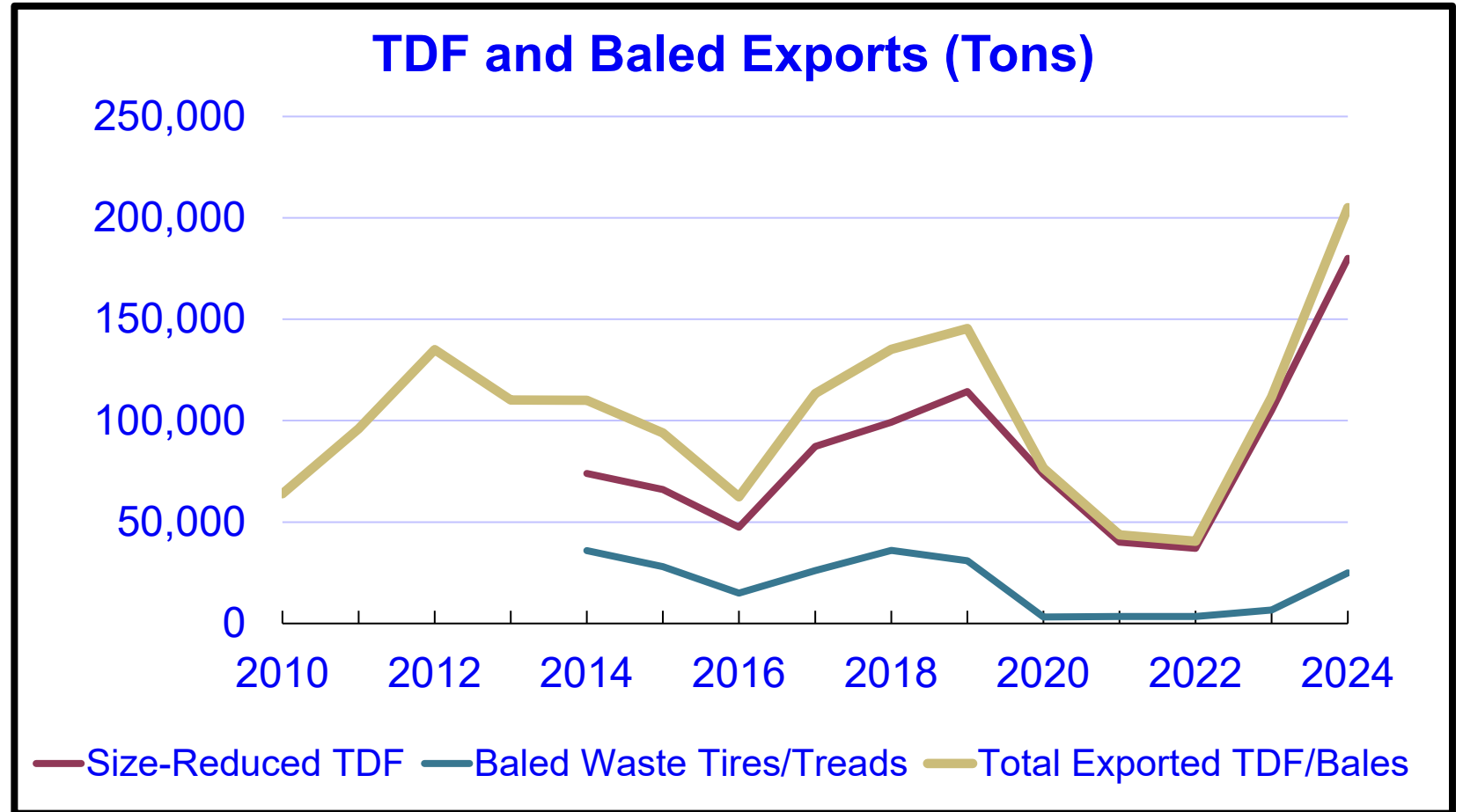
# Alternative Daily Cover (ADC)

- 17,286 Tons, 2.9% of total
- Decrease of 10.5% from 2023
- Two landfills use ADC
- 2025 trend: continued use by two landfills



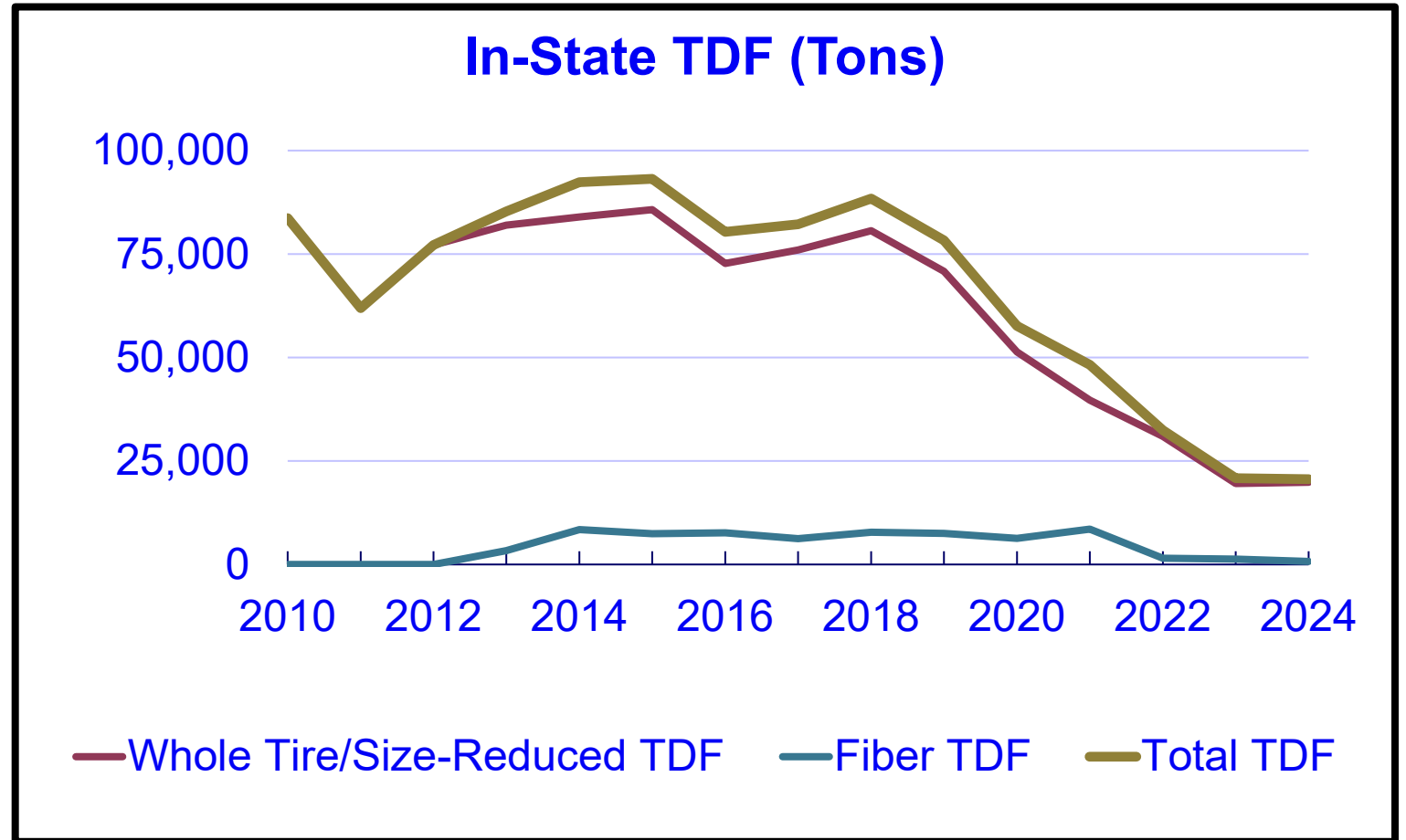
# Exported Tire Derived Fuel (TDF) & Baled Waste Tires

- 205,055 tons, 34.3% of total
- Increase of 83.5% from 2023
- Used in cement kilns, power plants, pulp and paper and chemical plants in select countries
- India demand strong
- 2025 Trend: export demand growing



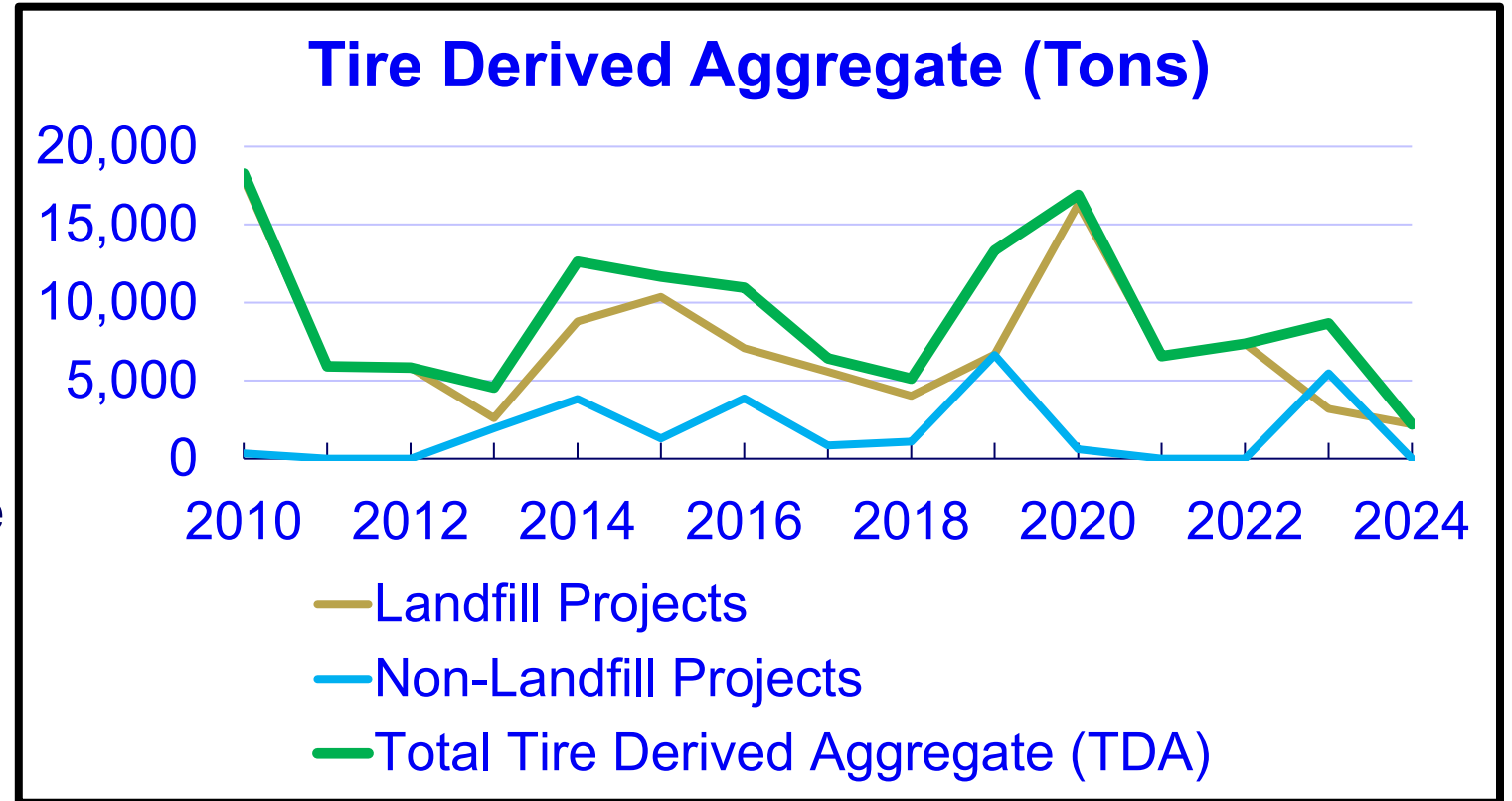
# In-State Tire Derived Fuel (TDF)

- 20,606 tons, 3.4% of total
- Decrease of 1.2% from 2023
- Reduced waste tire fiber usage to 750 tons
- Two cement kilns taking TDF
- 2025 trend: stable



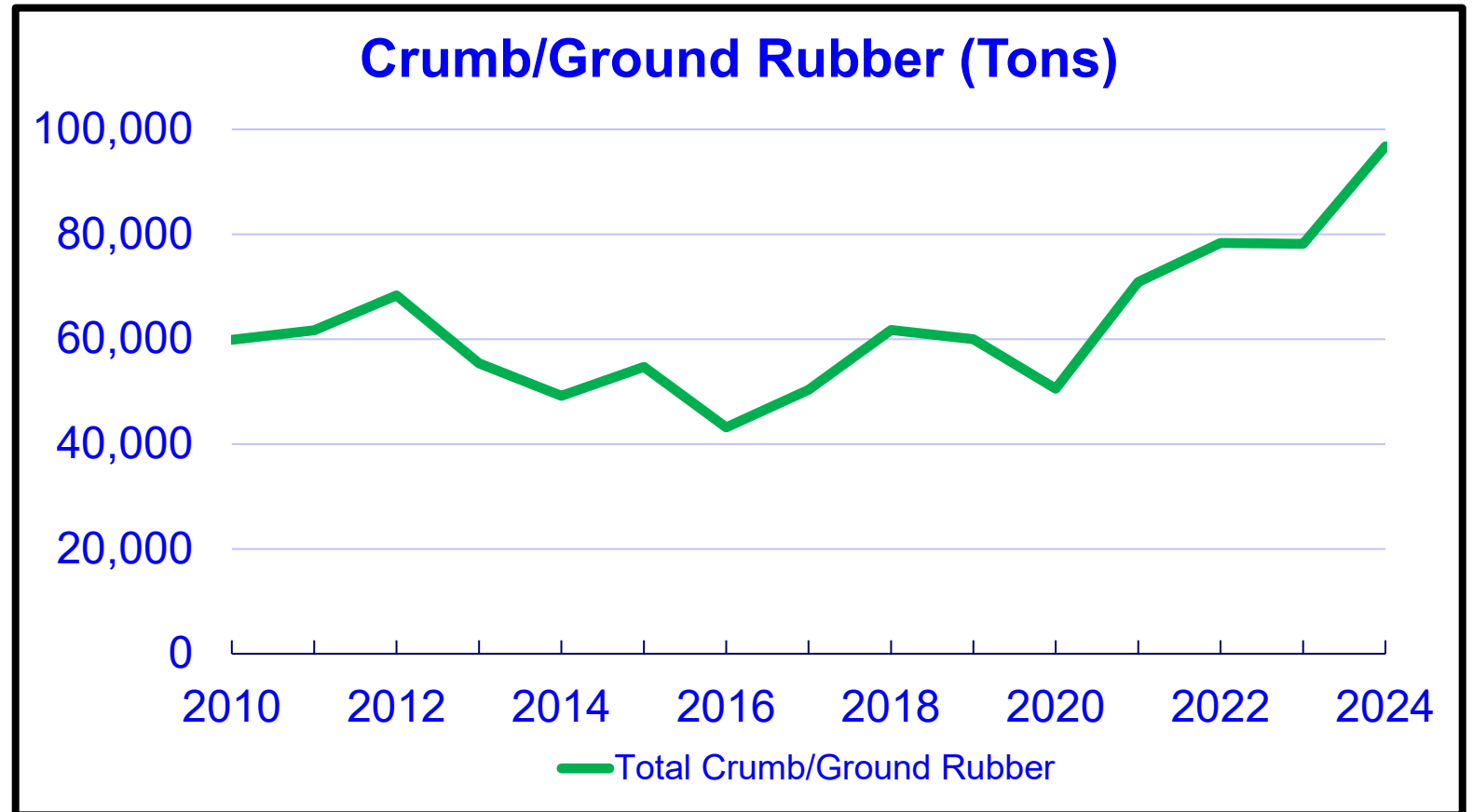
# Civil Engineering (Tire Derived Aggregate)

- 2,150 Tons, 0.4% of total
- Decrease of 75.2% from 2023
- TDA uses were all landfill projects
- Environmental concerns have stunted non landfill use
- Grant solicitation published for 2025 is \$750K/year allocated
- 2025 forecast is for low total tonnage use



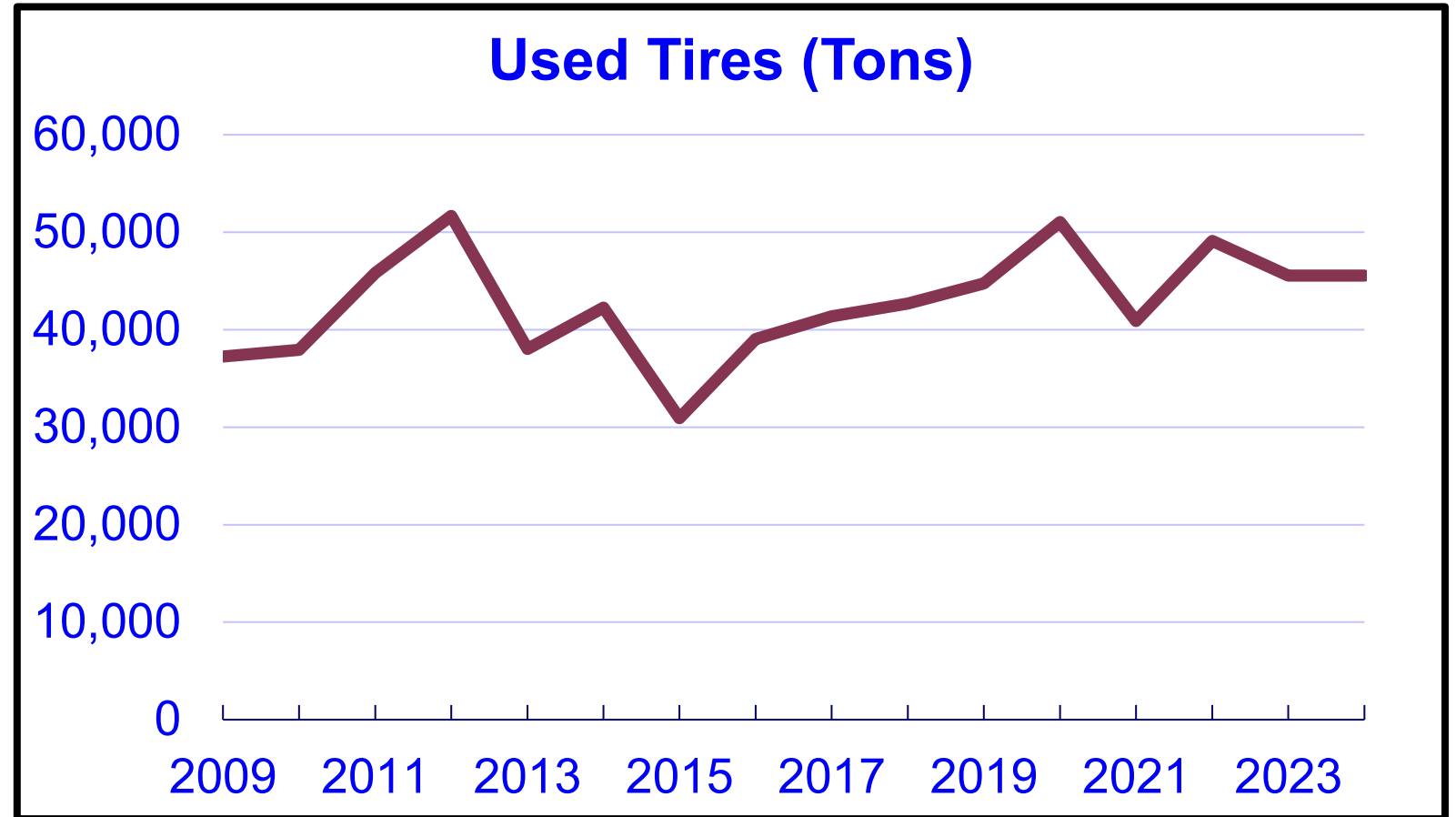
# Crumb/Ground Rubber

- 96,743 tons, 16.2% of total
- Increase of 23.8% from 2023
- Attributed to Caltrans increased use in RMA and increased TIP grant benefits
- Includes paving, molded/other, and turf infill
- 2025 trend: continued increase but with slower rate



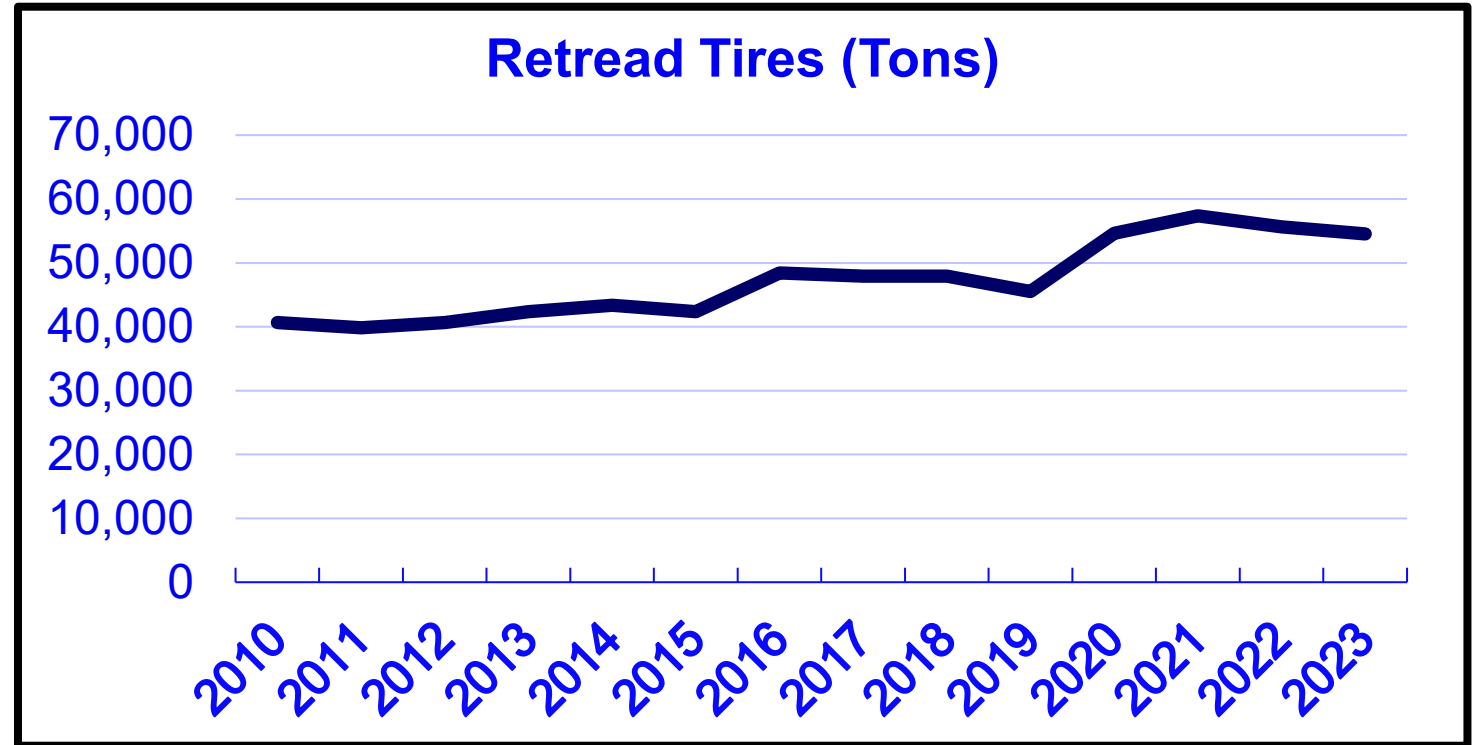
# Used Tires

- 50,319 tons or 5M PTE in 2024 , 8.4% of Total Managed
- Increased tonnage by 13.8% from 2023
- Used tires sold in CA tire shops
- Also exported to Mexico
- 2025 trend: expected slight increase towards 10% of Total Managed



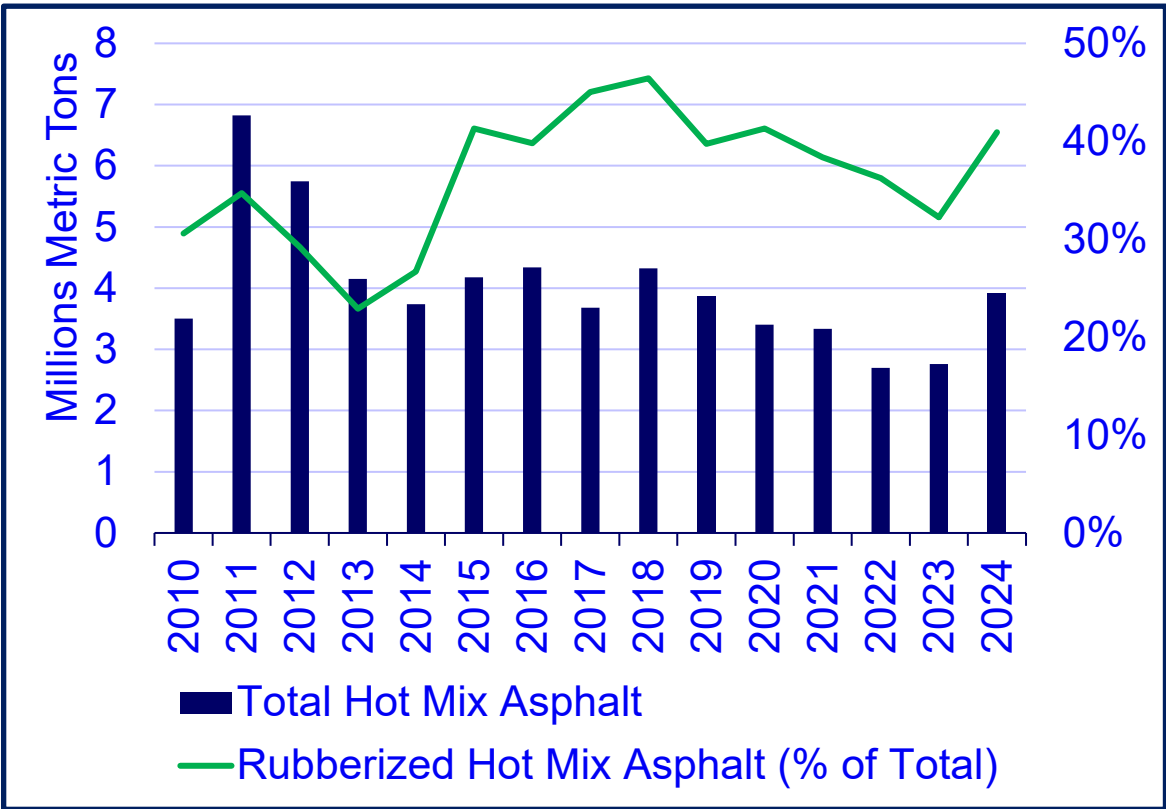
# Retreads

- 54,521 tons, 9.1% of total
- Decrease of 2.0% from 2023
- Competing with inexpensive import tires
- 2025 trend: Stable reported by Retreaders, based on trade and consumer value

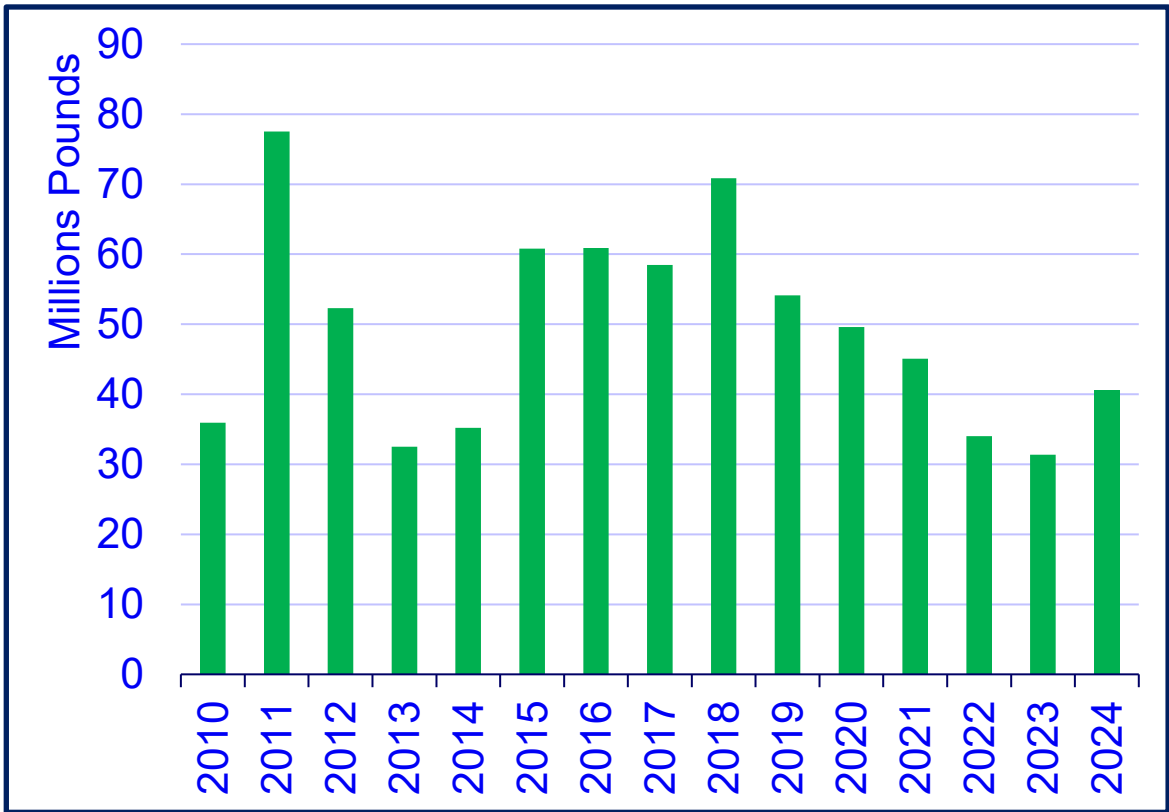


# Caltrans Rubberized Paving

Total asphalt placed and percent rubberized hot mix asphalt



Caltrans crumb rubber used



Source: Caltrans Annual Crumb Rubber Reports



# 2024 CalRecycle Support

## Rubberized Pavement Grant Program (TRP)

- TRP17 (FY 2024/25): awarded 2024, 23 grantees, estimate 12.2M pounds
- Historic Average: 8.8M pounds per year

## Tire Incentive Program (TIP)

- TIP12 (FY 2024/25): awarded 2024, 8 grantees estimate 17M pounds
- TIP participants reported purchases of 13M pounds in 2024
- Historic average: 12.9M pounds per year

## Tire Derived Aggregate (TDA) Grant Program

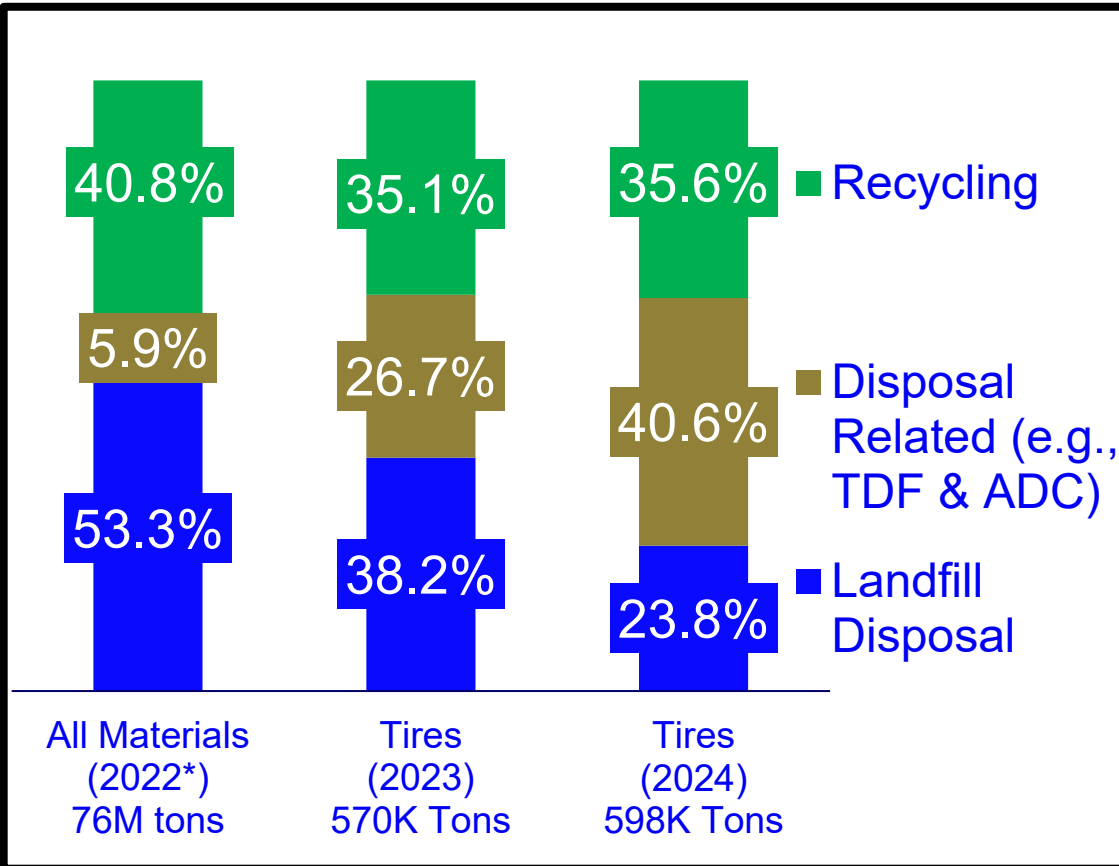
- TDA24 (FY 2024/25): awarded 2024, 1 Landfill grantee estimates using 4.2M pounds
- Historic Average: 10M pounds per year

# 3. Recycling Outlook

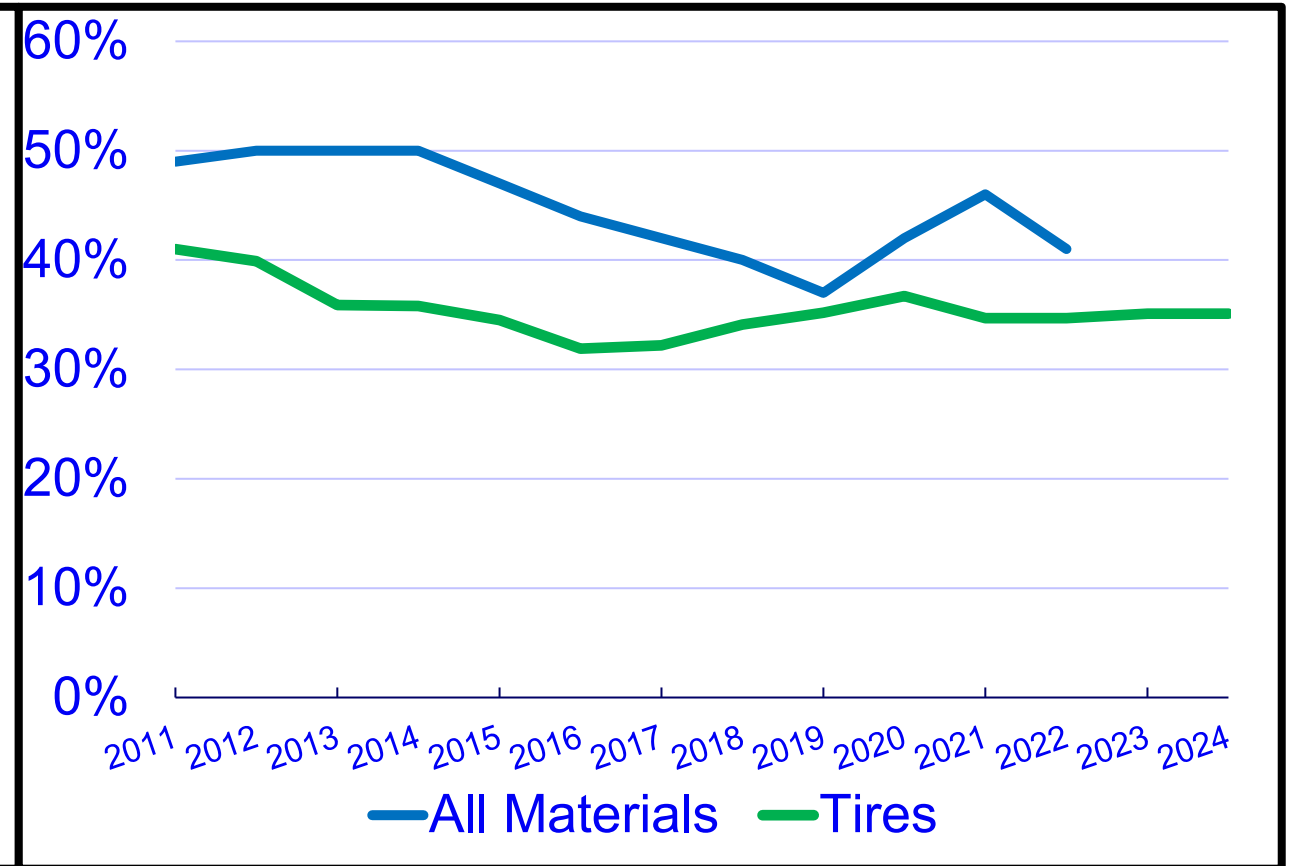
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# Waste Tire Management in the California Context

## How waste was managed

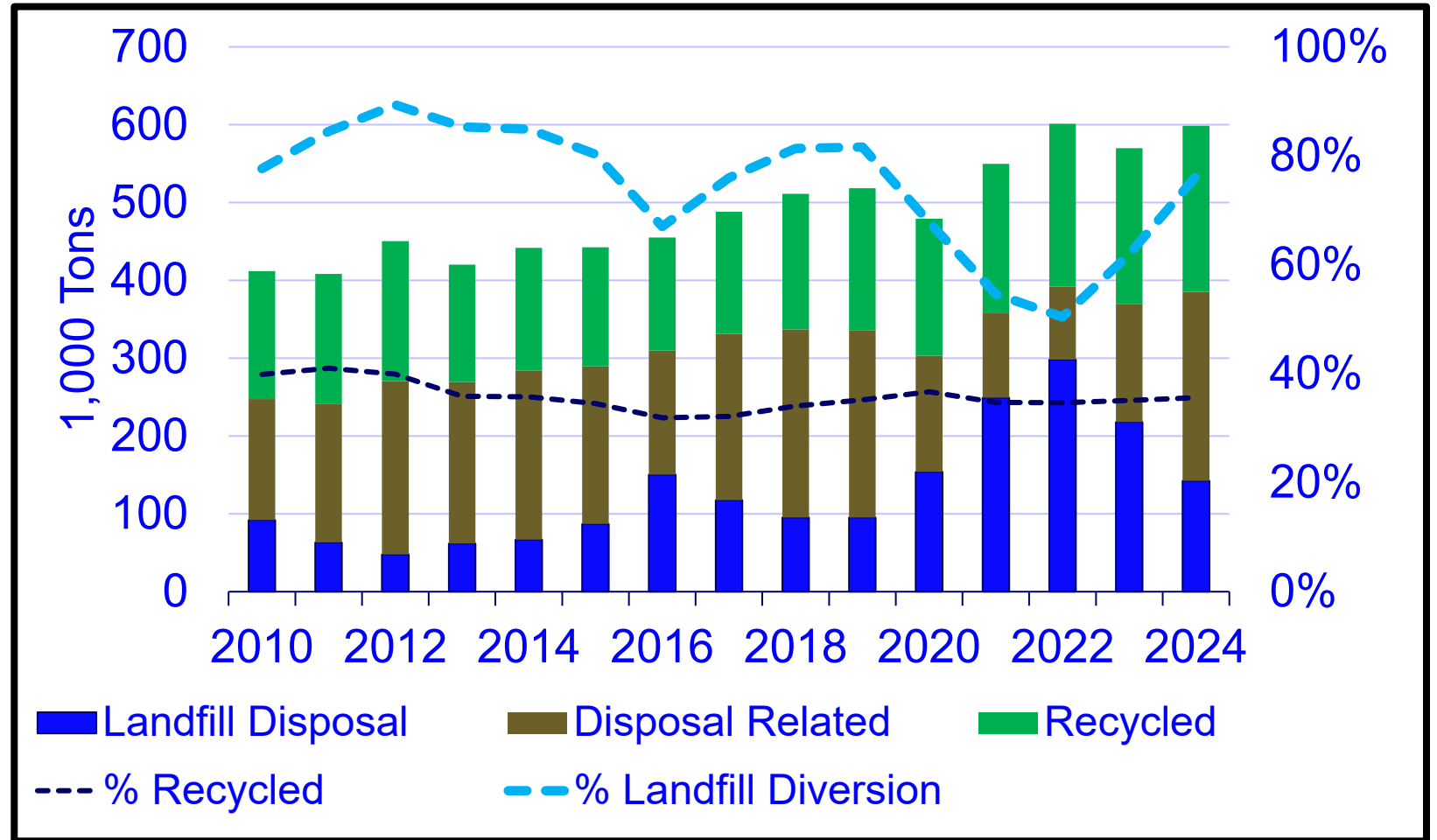


## Recycling rate trend



# Recycling Outlook

- 2024 recycling tons Increased slightly to 213,143 tons
- 2024 recycling rate increased by 0.5% reaching 35.6%
- 2025 trend considerations
  - recycling rate continues to be relatively stable
  - Crumb rubber usage increased in 2024
  - Landfill % expected to +/- based on change in Export activities



*Feedback welcomed by October 1, 2025*

# Questions?

**Joaquin Wright**

(707) 303-4850

[Joaquin.wright@ghd.com](mailto:Joaquin.wright@ghd.com)

**Mustafe Botan**

(916) 341-6367

[Mustafe.botan@calrecycle.ca.gov](mailto:Mustafe.botan@calrecycle.ca.gov)



# Appendix

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## Source Data Used for Charts

# Slide 5 Source Data: California Waste Tire Flows (2024)

Category	2024 Tons	2024 Percent
Retreads	54,521	9.1%
Used Tires	50,319	8.4%
Tire Derived Aggregate	2,150	0.4%
Crumb/Ground Rubber	96,743	16.2%
Other Recycling	9,410	1.6%
TDF (In-State)	20,606	3.4%
TDF (Export)	180,055	30.1%
Baled Waste Tires & Treads (Export)	25,000	4.2%
ADC/Beneficial Reuse	17,286	2.9%
Landfill Disposal	142,339	23.8%
<b>Total</b>	<b>598,429</b>	<b>100.0%</b>

# Slides 6, 8, 9, and 12 Source Data: 15-Year Trend by Market Segment (Tons), Part A

Category	2010	2011	2012	2013	2014	2015	2016
Disposal	92,033	63,444	47,908	61,682	66,770	87,170	150,226
ADC	7,928	19,589	10,486	12,316	14,691	15,217	16,798
Exported TDF & Bales	64,000	96,000	135,000	110,144	110,000	94,000	62,476
In-State TDF	83,675	61,911	77,209	85,295	92,352	93,165	80,380
Other Recycling	12,121	13,427	14,059	12,166	11,643	12,114	9,790
Civil Engineering (TDA)	18,274	5,915	5,844	4,557	12,632	11,668	10,961
Crumb/Ground Rubber	59,850	61,700	68,350	55,350	49,200	54,700	43,165
Used Tires	37,942	45,823	51,678	38,033	42,278	30,927	39,032
Retread	36,018	40,651	39,838	40,635	42,341	43,358	42,341
<b>Total Managed</b>	<b>411,842</b>	<b>408,459</b>	<b>450,372</b>	<b>420,177</b>	<b>441,907</b>	<b>442,318</b>	<b>455,168</b>



# Slides 6, 8, 9, and 12 Source Data: 15-Year Trend by Market Segment (Tons), Part B

Category	2017	2018	2019	2020	2021	2022	2023	2024
Disposal	117,448	95,401	95,412	154,050	249,377	298,084	217,909	142,339
ADC	18,108	17,975	16,784	14,876	17,440	21,169	19,307	17,286
Exported TDF & Bales	113,405	135,236	145,412	76,612	43,664	40,537	111,721	205,055
In-State TDF	82,194	88,386	78,307	57,611	48,243	32,457	20,858	20,606
Other Recycling	10,433	16,791	16,442	11,862	18,082	16,587	13,200	9,410
Civil Engineering (TDA)	6,431	5,127	13,330	16,911	6,575	7,371	8,682	2,150
Crumb/Ground Rubber	50,345	61,728	59,985	50,530	70,862	78,341	78,159	96,743
Used Tires	41,375	42,692	44,757	51,036	43,044	49,112	44,203	50,319
Retread	48,409	47,925	47,925	45,529	54,635	57,366	55,645	54,521
<b>Total Managed</b>	<b>488,149</b>	<b>511,262</b>	<b>518,353</b>	<b>479,017</b>	<b>551,921</b>	<b>601,024</b>	<b>569,684</b>	<b>598,429</b>

# Slide 10 Source Data: Exported California-Generated TDF and Waste Tire/Tread Bales (Tons)

Category	2009	2010	2011	2012	2013	2014
Size-Reduced TDF	NA	NA	NA	NA	NA	74,000
Baled Waste Tires & Treads	NA	NA	NA	NA	NA	36,000
<b>Total Exported TDF/Bales</b>	<b>33,000</b>	<b>64,000</b>	<b>96,000</b>	<b>135,000</b>	<b>110,144</b>	<b>110,000</b>

Category	2015	2016	2017	2018	2019	2020	2021
Size-Reduced TDF	66,000	47,476	87,317	99,197	114,427	73,412	40,148
Baled Waste Tires & Treads	28,000	15,000	26,089	36,039	30,985	3,200	3,516
<b>Total Exported TDF/Bales</b>	<b>94,000</b>	<b>62,476</b>	<b>113,405</b>	<b>135,236</b>	<b>145,412</b>	<b>76,612</b>	<b>43,664</b>

Category	2022	2023	2024
Size-Reduced TDF	37,037	105,091	180,055
Baled Waste Tires & Treads	3,500	6,630	25,000
<b>Total Exported TDF/Bales</b>	<b>40,537</b>	<b>111,721</b>	<b>205,055</b>

# Slide 11 Source Data: California Generated In-State TDF Shipments (Tons)

Category	2008	2009	2010	2011	2012	2013
In-State TDF (Whole Tires and Size-Reduced)	75,020	69,926	83,675	61,911	77,209	81,982
Fiber From Processors	NA	NA	NA	NA	NA	NA
<b>Total Exported TDF/Bales</b>	<b>75,020</b>	<b>69,926</b>	<b>83,675</b>	<b>61,911</b>	<b>77,209</b>	<b>85,295</b>

Category	2014	2015	2016	2017	2018	2019	2020
In-State TDF (Whole Tires and Size-Reduced)	83,934	85,721	72,723	75,989	80,603	70,807	57,939
Fiber From Processors	8,418	7,443	7,656	6,205	7,783	7,500	6,297
<b>Total Exported TDF/Bales</b>	<b>92,352</b>	<b>93,165</b>	<b>80,380</b>	<b>82,194</b>	<b>88,386</b>	<b>78,307</b>	<b>57,611</b>

Category	2021	2022	2023	2024
In-State TDF (Whole and Size-Reduced)	39,704	30,915	19,558	19,856
Fiber From Processors	8,539	1,542	1,300	750
<b>Total Exported TDF/Bales</b>	<b>48,243</b>	<b>32,457</b>	<b>20,858</b>	<b>20,606</b>

# Slide 12 Source Data:

## Civil Engineering (Tire Derived Aggregate) (Tons)

Category	2008	2009	2010	2011	2012	2013	2014
Landfill Projects	20,060	13,975	17,924	5,915	5,844	2,612	8,806
Non-Landfill Projects	7,300	3,535	350	0	0	1,945	3,826
<b>Total Civil Engineering</b>	<b>27,890</b>	<b>17,510</b>	<b>18,274</b>	<b>5,915</b>	<b>5,844</b>	<b>4,557</b>	<b>12,632</b>

Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Landfill Projects	10,374	7,083	5,583	4,021	6,682	16,311	6,575	7,371	3,200	2,150
Non-Landfill Projects	1,294	3,878	853	1,106	6,648	600	0	0	5,482	0
<b>Total Civil Engineering</b>	<b>11,668</b>	<b>10,961</b>	<b>6,431</b>	<b>5,127</b>	<b>13,330</b>	<b>16,911</b>	<b>6,575</b>	<b>7,371</b>	<b>8,682</b>	<b>2,150</b>

# Slide 13 Source Data: Crumb Rubber and Ground Rubber Shipments (Tons)

Category	2008	2009	2010	2011	2012	2013	2014
Paving	28,066	30,160	35,206	34,043	30,793	24,806	23,429
Turf	15,852	8,723	9,605	11,871	15,089	14,034	11,355
Molded / Other	13,903	7,733	7,308	8,357	10,076	6,583	6,719
Ground Rubber Applications	7,471	8,383	7,731	7,428	12,392	9,927	7,698
<b>Total</b>	<b>65,292</b>	<b>55,000</b>	<b>59,850</b>	<b>61,700</b>	<b>68,350</b>	<b>55,350</b>	<b>49,200</b>

Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Paving	27,808	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turf	13,415	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molded / Other	4,759	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ground Rubber Applications	8,718	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Total</b>	<b>54,700</b>	<b>43,165</b>	<b>50,345</b>	<b>61,728</b>	<b>59,985</b>	<b>50,530</b>	<b>70,862</b>	<b>78,341</b>	<b>78,159</b>	<b>96,743</b>

# Slide 16 Source Data: Caltrans Rubberized Paving, Part A

## Total Asphalt Placed and Rubber Asphalt % of Total

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Asphalt Placed (Million Metric Tons)	5.59	3.86	7.52	6.33	4.58	4.12	4.60	4.79	4.06	4.77
Rubberized Asphalt (RHMA) (% of Total)	23.6	30.6	34.7	29.2	22.9	26.7	41.3	39.8	45.0	46.3

Category	2019	2020	2021	2022	2023	2024
Total Asphalt Placed (Million Metric Tons)	3.86	3.4	3.28	2.70	2.76	2.60
Rubberized Asphalt (RHMA) (% of Total)	39.8%	41.3%	38%	36.2%	32.2%	40.9%

Source: Caltrans Annual Crumb Rubber Reports

# Slide 16 Source Data: Caltrans Rubberized Paving, Part B

## Caltrans Crumb Rubber Used and Pounds per Total Metric Ton Asphalt Placed

Category	2009	2010	2011	2012	2013	2014	2015	2016	2017
Caltrans Crumb Rubber Used (M Pounds)	40.1	35.9	77.5	52.3	32.5	35.2	60.8	60.9	58.5

Category	2018	2019	2020	2021	2022	2023	2024
Caltrans Crumb Rubber Used (M Pounds)	70.8	54.1	49.6	45.3	34.0	31.4	40.6

Source: Caltrans Annual Crumb Rubber Reports, Draft 2023 report values.

# Slide 19 Source Data: All Materials and Tires Recycling Rate Trend, Part B (Right Chart)

Year	All Materials Recycling Rate	Waste Tires Recycling Rate
2011	49.0%	41.0%
2012	50.0%	39.9%
2013	50.0%	35.9%
2014	50.0%	35.8%
2015	47.0%	34.5%
2016	44.0%	31.9%
2017	42.0%	32.2%
2018	40.0%	34.1%
2019	37.0%	35.2%
2020	42.0%	36.7%
2021	40.0%	35.0%
2022	41.0%	33.1%
2023	41.0%	35.1%
2024	NA	35.6%



# Slide 19 Source Data: How Waste Was Managed, Part A (Left Chart)

Category	All Materials (2022*) 76M Tons	Tires (2023) 570K Tons	Tires (2024) 598K Tons
Landfill Disposal	53.3%	38.2%	23.8%
Disposal-Related	5.9%	26.7%	40.6%
Recycling	40.8%	35.1%	35.6%
Total	100%	100%	100%

\* 2023 numbers are currently not available

# Slide 20 Source Data: Recycling and Diversion Trend

Category	2010	2011	2012	2013	2014	2015	2016
Landfill Disposal (Tons)	92,033	63,444	47,908	61,682	66,770	87,170	150,226
Disposal-Related (Tons)	155,603	177,500	222,695	207,754	217,043	202,382	159,654
Recycled (Tons)	164,206	167,516	179,768	150,741	158,094	152,767	145,288
% Recycled	39.9%	41.0%	39.9%	35.9%	35.8%	34.5%	31.9%
% Landfill Diversion	77.7%	84.5%	89.4%	85.3%	84.9%	80.3%	67.0%

Category	2017	2018	2019	2020	2021	2022	2023	2024
Landfill Disposal (Tons)	117,448	95,401	95,412	154,050	249,377	298,084	217,909	142,339
Disposal-Related (Tons)	213,707	241,597	240,503	149,099	109,347	94,163	151,886	242,947
Recycled (Tons)	156,994	174,264	182,438	175,868	193,197	208,777	199,889	213,143
% Recycled	32.2%	34.1%	35.2%	36.7%	35.0%	34.7%	35.1%	35.6%
% Landfill Diversion	75.9%	81.3%	81.6%	67.8%	54.8%	50.4%	61.7%	76.2%