Date of Hearing: April 7, 2025

ASSEMBLY COMMITTEE ON TRANSPORTATION
Lori D. Wilson, Chair
AB 978 (Hoover) – As Amended April 1, 2025

SUBJECT: Department of Transportation and local agencies: streets and highways: recycled materials

SUMMARY: Updates existing requirements for local agencies' use of recycled materials in streets and highways. Specifically, **this bill**:

1) Indefinitely requires a local government's standard specifications to allow recycled materials at a level no less than the level allowed in the Department of Transportation's (Caltrans) specifications, to the extent feasible and cost effective.

2) Requires a local agency to provide the reason for a determination, upon request, if the local agency's standard specifications do not allow for the use of recycled materials at a level that is equal to or greater than the level allowed in Caltrans' standard specifications.

3) Specifies a local agency may exceed the maximum level of Caltrans' specifications of recycled base and subbase, reclaimed asphalt concrete (RAP), and reclaimed aggregate, fly ash, and returned plastic concrete.

EXISTING LAW:

1) Requires Caltrans and a local agency that has jurisdiction over a street or highway, to the extent feasible and cost effective, to use advanced technologies and material recycling techniques that reduce the cost of maintaining and rehabilitating streets and highways and that exhibit reduced levels of greenhouse. (Public Resources Code Section (PRC) 42704.6)

2) Beginning January 1, 2024, requires local agencies who have jurisdiction over a street or highway, to the extent feasible and cost effective, to apply standard specifications that allow for the use of recycled materials in streets and highways. (PRC 42704.6)

3) Beginning January 1, 2024, and until January 1, 2027, the standard specifications required for recycled materials must be at or above the level allowed in the Caltrans' standard specifications that went into effect on October 22, 2018, for the use of recycled materials including: recycled base and subbase materials, reclaimed asphalt pavement and other materials in asphalt, reclaimed aggregate, fly ash, returned plastic concrete, and other materials in concrete. (PRC 42704.6)

4) Exempts any special district or city whose population, according to the most recent census, is equal to or less than 25,000 people, or any county whose population, according to the most recent census, is equal to or less than 100,000 people. (PRC 42704.6)

5) Establishes Caltrans and provides that it has full possession and control of all state highways and property and rights in property acquired for state highway purposes, construct all state highways. (Streets and Highways Code Section (SHC) 90)

6) Encourages Caltrans and cities and counties to use advanced technologies and material recycling techniques, where possible and cost effective when maintaining and rehabilitating the streets and highways with monies from the Road Maintenance and Rehabilitation Account (RMRA). (SHC 2030)

FISCAL EFFECT: Unknown

COMMENTS: In California, there are approximately 350,000 miles of roads, 87% of which local governments such as cities and counties operate and maintain. Extensive design, engineering, and analysis goes into determining which types of materials to use in pavement. In 2017, Caltrans projects used more than 1 million cubic yards of concrete, which involved approximately 325,000 tons of Portland cement, more than 4 million tons of hot mix asphalt, and 1 million cubic yard of aggregate.

According to Caltrans' 2015 Concrete Pavement Guide, factors that contribute to optimum pavement use and design include: climatic effects, applied traffic loads, and subgrade quality. This means temperature, precipitation, freeze-thaw cycles, accurate estimations of traffic flow, and uniform support from underlying structural layers of the road are among the pillars of reliable pavement use and design. The quality of materials determine layer thickness and capacity. Accurate characterization of each pavement structure layer's condition and structural capacity is critical to design and performance, especially when it comes to maintenance and rehabilitation strategies. Cracking, erosion, poor durability, curling, and warping can occur on pavement without the correct materials and design.

Caltrans maintains the Pavement Standard Plans and Specifications (PSPS), which are documents that implement the standards, policies, and best practices for pavements on California highways. PSPS contain the standard requirements for bidding, constructing, and administering Caltrans' contracts. Caltrans' Pavement Program also maintains non-standard plans and specifications (NSSPs) for special circumstances.

This bill requires cities and counties, as specified, and when feasible and cost effective, to adhere to certain PSPS specifications for recycled construction materials in road base, pavement, and minor concrete applications when designing and maintaining pavement. Material specifications included in this bill are as follows:

Caltrans Pavement Standard Plans and Specifications	Description
Recycled base and subbase materials (PSPS Sections 25-1.02 and 26-1.02)	Specific amounts of broken stone, crushed gravel, natural rough surfaced gravel, sand, reclaimed processed asphalt concrete. Specification includes how to properly test the material.
RAP and other materials in asphalt (PSPS Section 39-2.02B)	Includes specifications for producing and placing hot mix asphalt, including the binder methods, testing strategies, and content percentages.

Reclaimed aggregate, fly ash, returned plastic concrete, and other materials in concrete (PSPS Sections 90-1.02, 90-2.02, and 90-9)	Requires concrete for pavement to adhere to shrinkage limitations; Requires cementitious materials type and brand to be on the Authorized Material List (includes blended cement, rice hull ash, and type II or V Portland cement); authorizes use of incorporating returned plastic concrete (RPC) into concrete (excess concrete that is returned to a concrete plant in a plastic state and that has not attained initial set).

Recycled materials in pavement: According to the Department of Resources Recycling and Recovery construction and demolition materials make up approximately 29% of California's disposed waste stream, or approximately 11.6 million tons. Asphalt and concrete represent over 977,000 tons of disposal, or around 2.4%. This material, produced through road rehabilitation, maintenance, and demolition, is itself a source of recycled aggregate that can serve as new road base and subbase, the weight-bearing foundations of a road.

Aggregate consists of hard, graduated fragments of inert mineral materials, including sand, gravel, crushed stone, slag, rock dust, or powder; inert solid waste is concrete, asphalt, dirt, brick, and other rubble. Recycled aggregate is produced by crushing concrete, and sometimes asphalt, to reclaim the aggregate. Asphalt refers to the bituminous substance used to bind aggregate together to make asphalt concrete (AC). RAP is used AC pavement that has been processed. Recycled asphalt concrete is the product of mixing RAP with new aggregates, asphalt and/or recycling agent. A recycling agent is used to soften and rejuvenate the existing asphalt pavement.

According to Caltrans' Greenhouse Gas (GHG) Emissions and Mitigation Report 2020, the most promising additional GHG reduction opportunity for Caltrans for asphalt pavements appears to be a greater use of RAP. For concrete pavements, the greatest additional GHG reduction opportunity appears to be greater use of supplemental cementitious materials. However, the net effect of different pavement options is complex and often dependent on the project context. For example, RAP may not be advantageous if the recycled material is not locally sourced.

The National Asphalt Paving Association notes that use of RAP reduced carbon dioxide (CO_2) emissions by 2.4 million metric tons in 2019 nationwide. The National Center for Asphalt Technology reports that RAP at 25% of the asphalt mix reduces CO_2 emissions by 10-11%, and RAP at 40% reduces CO_2 emissions by 16-18%, compared to use of virgin materials. A U.S. EPA study on asphalt shingles in pavement found a 6-14% reduction of CO_2, when reclaimed asphalt shingles are added to an asphalt mix, depending on different proportions. A study conducted by Climate Earth on the Environmental Impacts of Recycled Plastic Concrete shows that recycling plastic concrete results in a 15.3% reduction in carbon footprint and 16.2% reduction in embodied energy.

Locals and recycled pavement: SB 1 (Beall), Chapter 5, Statutes of 2017 provides additional funding to address deferred maintenance on the state highway system and local streets and roads. Caltrans and cities and counties are encouraged to use advanced technologies and material recycling techniques where possible and cost effective when maintaining and rehabilitating the streets and highways with monies from the RMRA.

According to the 2023 California Statewide Local Streets and Roads Needs Assessment, sponsored by the League of California Cities, California State Association of Counties, Regional Transportation Planning Agencies, and the Rural Counties Task Force, the impact of sustainable paving technologies such as cold-in-place recycling have construction cost savings of 28% compared to conventional treatments and as much as 26% savings for full-depth reclamation. Since 2012, the number of agencies that employ some form of recycling has more than doubled, and this trend is expected to continue.

This bill maintains and extends existing requirements for locals to use the minimum state standards for recycled material, to the extent feasible and cost effective. If these standards cannot be met, this bill requires the local agency to provide an explanation, upon request.

*According to the author, "*As California continues to adopt sustainable and cost-saving practices, we must encourage local agencies to do the same. Technological advances with reclaimed (recycled) asphalt pavement (RAP) offer us the opportunity to produce cost-effective and reliable roads. Public and private roadwork jobs use recycled materials with notable success. AB 978 brings local agencies in line with state and national trends as we pursue progress in sustainability."

In support, Granite Construction writes, "Granite Construction is pleased to Sponsor and "support" AB 978 by Assemblymember Hoover, which builds on existing law and would require a local agency that has jurisdiction over a street or highway to allow for the use of recycled materials in road paving projects. It does not require the agency to use these recycled materials; it merely limits the agency's ability to reject a bid that proposes to use recycled materials."

Previous legislation. AB 2953 (Salas), Chapter 872, Statutes of 2022 requires local agencies to apply standard specifications for the use of recycled materials in streets and highways that are at or above the level allowed in the Department of Transportation (Caltrans) specifications, to the extent feasible and cost effective, as specified.

AB 1035 (Salas of 2021) would have required Caltrans, cities, and counties that have jurisdiction over a street or highway to apply standard specifications that allow for the use of recycled materials when feasible and cost effective. *This bill was vetoed by Governor Newsom, October 8th, 2021.*

SB 1227 (Skinner of 2020) would have required cities and counties to allow the use of recycled materials in road maintenance and rehabilitation in order to be eligible for SB 1 funds. *This bill was held by the author in Senate Transportation Committee in light of the COVID-19 pandemic.*

SB 1238 (Hueso of 2020) would have required Caltrans to conduct a study to assess the feasibility, cost effectiveness, and life-cycle environmental benefits of including recycled plastics in asphalt used as paving materials, and, depending on the findings, authorizes Caltrans to develop specifications for the use of recycled plastics in asphalt. *This bill died in Assembly Transportation Committee.*

SB 1 (Beall), Chapter 5, Statutes of 2017 increases several taxes and fees to raise the equivalent of roughly $52.4 billion over ten years in new transportation revenues and makes adjustments for inflation every year; directs the funding to be used towards deferred maintenance on the state highways and local streets and roads, and to improve the state's trade corridors, transit, and

active transportation facilities

AB 2355 (Levine), Chapter 609, Statutes of 2014 requires by January 1, 2017, local agencies to adopt Caltrans standards on the use of recycled materials or to discuss why the standards are not being adopted at a public hearing.

AB 812 (Ma), Chapter 230, Statutes of 2012 authorizes Caltrans to establish specifications for the use of up to 40% reclaimed asphalt pavement for hot asphalt mixes on or before January 1, 2014.

AB 341 (Chesbro), Chapter 476, Statutes of 2011 establishes a state policy goal that 75% of solid waste generated be diverted from landfill disposal by 2020; requires a commercial waste generator to arrange for recycling services; and, requires local governments to implement commercial solid waste recycling programs designed to divert solid waste from businesses.

SB 1016 (Wiggins), Chapter 343, Statutes of 2008 requires that state agencies track how much waste they generate, and establish a target for recycling or diverting waste.

SB 420 (Simitian), Chapter 392, Statutes of 2006 expands the application of recycled-content requirements for road paving projects to all paving construction and repair projects.

AB 338 (Levine), Chapter 709, Statutes of 2005 requires Caltrans to make use of a specific weight of crumb rubber per metric ton of the total amount of asphalt paving materials it uses each year.

AB 574 (Wolk), Chapter 693, Statutes of 2005 encourages the use of recycled concrete. Defines "recycled concrete," authorizes recycled concrete to be used if a user has been informed the concrete may contain recycled materials, and prohibits recycled concrete from being sold to Caltrans or the Department of General Services only when specifically requested by the department.

AB 939 (Sher), Chapter 1095, Statutes of 1989 mandates a reduction of waste being disposed: jurisdictions were required to meet diversion goals of 25% by 1995 and 50% by the year 2000. Establishes an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance.

REGISTERED SUPPORT / OPPOSITION:

Support

Granite Construction Company (sponsor)

Opposition

None on file

Analysis Prepared by: Julia Kingsley / TRANS. / (916) 319-2093