

Date of Hearing: March 27, 2023

ASSEMBLY COMMITTEE ON TRANSPORTATION

Laura Friedman, Chair

AB 981 (Friedman) – As Amended March 20, 2023

SUBJECT: State highways: pilot highway maintenance and rehabilitation demonstration projects

SUMMARY: Requires the Department of Transportation (Caltrans) to use cold in-place recycling or partial depth recycling on at least 12 projects each year beginning in 2025 and ending in 2032 and to use full depth recycling on at least five projects each year beginning in 2027 and ending in 2032. Specifically, **this bill:**

- 1) Defines “Cold in-place recycling” as a pavement rehabilitation, reconstruction, or corrective maintenance technique that recycles asphalt pavement without the application of heat.
- 2) Defines “Full depth recycling” or “full depth reclamation” as a pavement rehabilitation or reconstruction technique in which the full thickness of the asphalt pavement and a portion of the underlying layers, along with a small percentage of added cement, are pulverized to provide a homogeneous pavement material.
- 3) Defines “Partial depth recycling” an on-grade method of pavement rehabilitation that consists of milling the existing asphalt concrete pavement to a depth between two and six inches, mixing the cold milled material with foamed asphalt or an emulsified recycling agent and other additives as needed, spreading and compacting the recycled mixture, and overlaying the recycled surface with a new layer of hot mix asphalt
- 4) Requires Caltrans to consider all highway functional classifications, as classified by the Federal Highway Administration, when choosing which project to implement cold in-place recycling methods.
- 5) Requires Caltrans to submit an annual report to the Legislature on its compliance with the above-mentioned project requirements, starting January 1, 2026, until January 1, 2034.

EXISTING LAW:

- 1) Establishes the California Air Resources Board (CARB) as the air pollution control agency in California and requires CARB, among other things, to control emissions from a wide array of mobile sources and coordinate with local air districts to control emission from stationary sources in order to implement the Federal Clean Air Act. (Health and Safety Code (HSC) 39602; HSC 39602.5)
- 2) Requires CARB, pursuant to California Global Warming Solutions Act of 2006 (AB 32 (Núñez), Chapter 488, Statutes of 2006), to adopt a statewide greenhouse gas (GHG) emissions limit equivalent to 1990 levels by 2020 and to develop a scoping plan for achieving the maximum technologically feasible and cost effective reductions in GHGs. (HSC 38500)

- 3) Requires, pursuant to SB 32 (Pavley), Chapter 249, Statutes of 2016, that CARB ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by 2030. (HSC 38566)
- 4) Provides, pursuant to the California Climate Crisis Act (AB 1279 (Muratsuchi), Chapter 337, Statutes of 2022), that it is the policy of the state to do both of the following:
 - a) Achieve net zero GHG emissions as soon as possible but no later than 2045; and,
 - b) Ensure that by 2045, GHG emissions are reduced to at least 85% below 1990 levels.
- 5) Grants Caltrans full possession and control of all state highways and all property and rights in property acquired for state highway purposes. The department is authorized and directed to lay out and construct all state highways between the termini designated by law and on the locations as determined by the commission. (Streets and Highways Code (SHC) 90)
- 6) Establishes the “California Integrated Waste Management Act (IWMA) of 1989.” Repealed the majority of Title 7.3 of the Government Code, regulating solid waste management, and codified the new Act in the Public Resources Code. Also repealed provisions of the Health and Safety Code, related to garbage and refuse disposal, and codified them in the Public Resources Code. Established an integrated waste management hierarchy to guide the Board and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. (Public Resource Code (PRC) 40000 et seq.)
- 7) Requires each city or county plan to include an implementation schedule which shows: diversion of 25% of all solid waste from landfill or transformation facilities by January 1, 1995 through source reduction, recycling, and composting activities; and, diversion of 50% of all solid waste by January 1, 2000 through source reduction, recycling, and composting activities. (PRC 41780 & 41780.1)

FISCAL EFFECT: Unknown

COMMENTS:

Traditionally, distressed roads are rehabilitated by demolishing the existing asphalt pavement structure, hauling old materials offsite, and bringing in fresh asphalt to repave the road. This removal and replacement practice requires large amounts of virgin materials and requires trucking of these materials leading to increase GHG emissions. Additionally, this strategy has lengthy construction schedules that can expose workers to unsafe conditions for an extended period of time.

“Full depth recycling” (FDR) and “Partial depth recycling” (PDR) are both in-place recycling pavement rehabilitation techniques in which the full thickness (FDR) or the top 2 to 6 inches (PDR) of the asphalt pavement layer, along with a small percentage of added cement and virgin material, are pulverized and mixed to create a homogeneous pavement material that is used to repave the road. FDR and PDR can use up to 100% reclaimed asphalt pavement (RAP) and employ a bituminous recycling agent as either an emulsified or a foamed asphalt.

FDR and PDR have advantages over more traditional rehabilitation approaches by using less virgin materials because existing materials are used. Aggregates mined for construction purposes are a finite resource, and these technologies can make use of the billions of tons of aggregate in the state's existing pavement network. In addition, approximately a fortieth of the amount of the trucking is required for the structurally equivalent remove and replace project, resulting in reduced GHGs

Caltrans piloted full-depth recycling strategies in March 2000, with partial-depth projects developing in subsequent years. Despite reports showcasing the lifecycle cost-saving benefits, the implementation of in-place recycling projects remains near zero compared to conventional rehabilitation strategies.

This bill requires Caltrans to construct at least 12 partial depth recycling rehabilitation projects annually beginning in 2025 and ending in 2032 on any functional classifications of roadways. It also requires Caltrans to construct at least five full-depth recycling projects per year beginning in 2027 and ending in 2032 on any functional classifications of roadways. Finally, Caltrans shall prepare and present a report on completed projects authorized by this bill to the legislature.

According to the author, "It is the policy of the State of California to reduce carbon emissions in our transportation infrastructure and to utilize the urban quarry to reduce the transport of construction materials and increase the safety of construction sites by mitigating the impacts of construction vehicles in our neighborhoods and communities. The increased use of partial depth recycling and or cold in-place recycled projects and full depth recycling and or full depth reclamation methods on appropriate transportation projects will reduce carbon emissions and increase safety for California's infrastructure while providing cost savings."

Cold in-place recycling technology has been successfully implemented at the local level and at the state level for other states. Los Angeles County Public Works states, "The advantages of FDR are considerable compared to remove and replace reconstruction. It provides the benefit of being equal or better in performance while also minimizing the consumption of fuel and natural resources. FDR treats all types of failures to the highest severity. It eliminates ruts, rough areas, and potholes. It also eliminates alligator, transverse, longitudinal, and reflection cracking. In addition, FDR restores the grade contours to allow for better surface drainage." The city of San Mateo also uses FDR. Additionally, the Virginia Department of Transportation has shown that a combination of cold recycling and FDR techniques exhibits sustained durability.

Caltrans policy restricts where Cold in place recycling can be used. The state has a combined 386,000 lane miles that can be broken down into seven functional classifications. These Functional Classifications are maintained by the United States Federal Highway Administration (USFHWA) and are used to determine eligibility for Federal funding programs. A 2013 memo by Caltrans has led to the restriction of FDR and PDR's use to class 3 roadways which covers only 9% of total lane miles.

Committee comments: In addition to the annual report this bill requires Caltrans to submit regarding its compliance with this bill, it would be useful for Caltrans to include in its report to the legislature information about cost savings and related environmental impacts (i.e. virgin aggregate saved, number of trucks used).

Related legislation: SB 312 (Wiener of 2019) would require Caltrans to create a two-tiered incentive scheme that pays contractors \$3 per ton or \$5 per ton if they use warm mixed asphalt state highway projects. It would require Caltrans to submit a report to the legislature on the calculated carbon dioxide reduction and the effectiveness of the incentive scheme.

Previous legislation: AB 2953 (Salas), Chapter 872, Statutes of 2021 requires Caltrans, cities, and counties with jurisdiction over a street or highway to apply standard specifications that allow for using recycled materials when feasible and cost-effective.

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.*

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 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.

REGISTERED SUPPORT / OPPOSITION:

Support

Recycling & Stabilizing Association of California (sponsor)

Opposition

None on file

Analysis Prepared by: Dirk Spencer / TRANS. / (916) 319-2093