

**BUILDING** *San Diego County*  
**BETTER ROADS**



**2020 Outstanding Local Streets and Roads Project Awards Nomination**

January 10, 2020

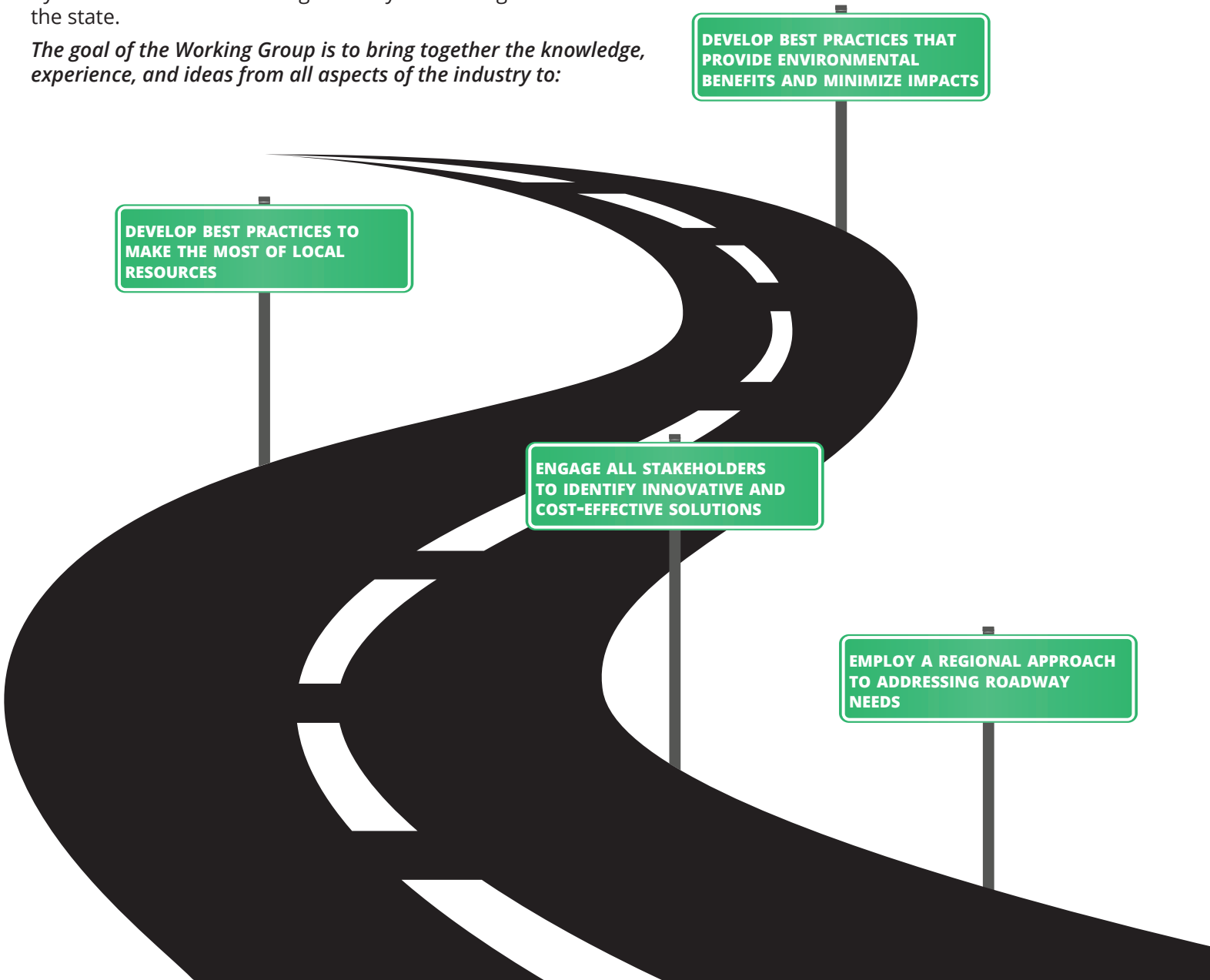


## PROJECT BACKGROUND

Funding from Senate Bill-1 (SB-1) is providing cities throughout California the opportunity to repair and replace aging roadways, freeways, and bridges. However, it is important to not only improve the condition of aging roads, but to do so by using innovative and sustainable methods to extend the overall life of each road while increasing safety and reducing the need for costly repairs. To address these long-term roadway construction and maintenance issues, the County of San Diego's Building Better Roads (BBR) program was established as a collaborative effort between local cities, agencies, private industries, and industry associations to identify innovative, cost-effective, and sustainable pavement preservation treatments and best practices that can be implemented by local cities within San Diego County and throughout the state.

*The goal of the Working Group is to bring together the knowledge, experience, and ideas from all aspects of the industry to:*

The core of the program was the creation of a Working Group comprised of local cities and agencies, private companies, industry associations, and other key stakeholders from across the San Diego region. As a result of the BBR Working Group's efforts, several innovative and sustainable solutions have been developed that will have far-reaching benefits from increased safety for travelers throughout the region to economic and environmental savings. Pilot programs are being implemented to further explore some of these solutions and others are already being put into action locally. Additionally, guidance documents are being developed, which will be made available on the internet for other agencies and cities to learn and benefit from as they evaluate solutions for their regions.



### HOW THE PROJECT DIRECTLY IMPROVES THE PRESERVATION, SAFETY, ACCESS TO, AND OVERALL QUALITY OF THE LOCAL STREET AND ROAD SYSTEM

The BBR Working Group was established to first and foremost identify innovative and sustainable pavement preservation treatments to improve the overall quality and safety of local roadways. This was accomplished by holding a kick-off meeting with all stakeholders to identify problem areas and challenges with the potential for improvements. After reviewing and organizing the Working Group findings, four specific areas were identified for further review and development: Reclaimed Asphalt Pavement (RAP), Mix Types for Asphalt, Alternative Pavement Types, and Contracting Methodology. Subcommittees were then formed to research and evaluate each area.

**RAP:** The use and storage of RAP was identified as an important focus area due to dwindling aggregate resources in the San Diego region and the need to ensure the availability of high-quality RAP. Specifically, the group identified that increasing the allowable storage times of RAP can provide greater flexibility for suppliers to meet market demand and reduce material waste in local landfills. Another innovative solution included allowing an increase of RAP in asphalt mixes, which could help preserve limited local aggregate supplies while reducing costs and environmental impacts.

**Mix Types:** The Working Group also found that establishing standard asphalt mix designs across agencies in the region would allow for more efficiencies in production and result in higher quality materials and cost savings. Additionally, using warm mix asphalt, which allows asphalt to be produced at a lower temperature, would reduce the amount of energy needed in production, provide greater flexibility when placing the material, and can improve the service life of the road.

**Alternative Pavements:** Another area the Working Group is exploring is the use of alternative pavements, such as Fiber Reinforced Asphalt and Roller Compacted Concrete, which can help to improve durability, lower maintenance costs, and extend the overall life span of the road.

**Contracting Methodology:** Finally, the Working Group identified potential changes to contracting processes that includes increasing and standardizing the use of electronic bidding, creating a regional bidding calendar, and offering flexible construction start dates. Implementing these practices would improve efficiencies and provide cost savings by increasing transparency and reducing errors in the bidding process, help the local contracting community and allow for increased competition for construction contracts, and potentially maximize the available local workforce.

As a result of the BBR Working Group's efforts, pilot programs have been implemented for several of the proposed solutions such as the ability to use increased RAP in asphalt pavement for local roads and flexible contract start dates which were both added to County construction contracts.



*Notably, the California Asphalt Pavement Association (Cal APA), recognized the Working Group in January 2019 as one of the top 10 stories to impact the industry in California in 2019 and specifically noted that, "the increased use of RAP in pavements mixes was a timely response to rapidly disappearing sources of aggregate in the county."*



### INNOVATIVE AND UNIQUE

The collaboration between industry professionals, cities, and state and local agencies is an innovative and unique aspect of the BBR program. By establishing a Working Group that includes a diverse group of stakeholders from all sides of the industry, key focus areas were able to be identified that addressed not only the materials and methods used, but also the ways in which local agencies contract for work. The ideas and solutions generated from these key areas will provide far-reaching benefits across the San Diego region for the traveling public, local agencies, the local contracting community, and local manufacturers and suppliers. The Working Group continues to provide a forum for agencies, contractors, suppliers, and industry professionals to discuss and collaborate on improving local roadways, means, and methods.



### A MODEL FOR OTHERS TO FOLLOW

The BBR program provides an excellent model for other counties and cities to follow. The Working Group shows that creating a forum for collaboration between agencies, contractors, and industry experts leads to open discussions and ideas on how to implement more sustainable, long lasting, and cost-effective pavements. The forum allows for the agencies within the region to discuss their experience with pilot projects, like full depth reclamation and using higher RAP percentages in asphalt mixes.

Working Group and subcommittee meeting agendas, minutes, and presentations are available on the BBR website for review and use by local stakeholders as well as other cities and counties. The findings of the Working Group are also being developed into technical guidance documents by the subcommittees, which are peer-reviewed by industry experts before being finally reviewed by the Working Group. These documents will be available online so that others can learn about and implement relevant solutions to improve roadways in their communities.

### CONTINUING AND SUSTAINABLE POSITIVE OUTCOMES

A key component in ensuring continuing and sustainable positive outcomes from the BBR program is providing tools and training to further educate stakeholders on current processes, programs, and future goals. For example, the Working Group has engaged with industry professional and education institutions to bring in national leaders in

research and development to present on topics such as aggregate sustainability and evaluating high RAP mixes, has facilitated site tours at local material suppliers to highlight the challenges with reclaimed asphalt management and processing, and has hosted a workshop on tack coat best practices.

Additionally, the guidance documents that are being produced will provide detailed technical information and key take-aways for each topic. These documents will be easily accessible online so that the Working Group findings can provide an ongoing benefit to regional partners and beyond. The BBR program is continuing to work with our regional partners and stakeholders to review our progress and to continue to look for cost-effective alternatives and innovative road resurfacing solutions.



### COST-EFFECTIVENESS OF THE PROGRAM/PROJECT

By taking a proactive and regional approach, the BBR program has developed several innovative solutions that will provide cost benefits well into the future. For example, implementing sustainable pavement treatments provides cost savings by increasing the overall life of the road and reducing the need for costly repairs. Using more recycled materials, such as RAP, for road reconstructions provides cost savings and environmental benefits. Allowing materials suppliers to extend RAP and recycled concrete storage times will help to facilitate the increased use of recycled materials in new pavements, provide cost benefits, and reduce material waste in local landfills.

### POSITIVE EFFECTS ON THE ENVIRONMENT

The BBR program's initiatives are focused on environmental sustainability and addressing the region's climate action plan, as well as promoting the use of more sustainable pavements within the region. Using recycled materials such as scrap tires, recycled road base, and RAP have multiple positive effects on the environment—from reducing material waste in landfills to decreasing the amount of transportation and manufacturing required for material production. Using sustainable pavement preservation treatments can extend the overall life of the roadway, produce smoother and safer roads, decrease wear and tear on vehicles, and require less maintenance in the future.

### DEMONSTRATES EFFECTIVE COLLABORATION AND PARTNERSHIPS

Collaborating with regional and statewide partners is an essential element to the BBR program. The Working Group is comprised of representatives from the County, Caltrans, San Diego Association of Governments (SANDAG), numerous local cities, contractors, materials suppliers, organizations, and industry experts. Bringing together diverse expertise, experience, and ideas has provided insight from all perspectives of roadway construction and maintenance that was used to develop key focus areas and inventive solutions to improving the quality and sustainability of regional roads.





### RESULTS AND BENEFITS ARE PUBLICLY VERIFIABLE, MEASURABLE, REPLICABLE, AND USEFUL TO OTHER CITIES AND COUNTIES

A goal of the BBR program is to provide guidance and support for all stakeholders involved in building and maintaining the San Diego regional transportation infrastructure and throughout California. Working Group and subcommittee meeting agendas, minutes, and presentations are made public on the County's website for review and use by local stakeholders as well as other cities and counties. The Working Group is also developing guidance documents that will be available online for other agencies and cities to use.

### USING INNOVATIVE TECHNOLOGY IN THE PROGRAM/PROJECT

The BBR program is exploring various ways technology can be used to support the goals of the program. Examples include pilot projects to explore expanding the use of warm mix asphalt technology, fiber reinforced asphalt, and use of high RAP in asphalt concrete and slurry seal mix designs; identifying technological solutions to improve contracting processes for more efficient and transparent procurements, which included using a web-based survey tool to gather feedback from local agencies; and developing technical guidance documents that will be posted to the BBR website for access and use by other cities and agencies.

### ADVANCING THE LEAGUE AND CSAC'S PRIORITIES AND GOALS FOR LOCAL STREET AND ROAD SYSTEM PRESERVATION

The BBR program advances the League of California Cities (League) and California State Association of Counties (CSAC) priorities and goals for the local street and road system by bringing together stakeholders from transportation agencies, local cities and counties, state organizations, and private industries to identify cost-effective, innovative, and sustainable means, measures, and methods to improve the quality and safety of regional roads. The program is focused on developing and implementing effective solutions that will provide long-term benefits for the region and providing resources that can be used by agencies to reduce costs, increase sustainability, lessen environmental impacts, and provide safer roadways for our communities.

*The January 7, 2019 edition of the 'California Asphalt Insider' newsletter had this to say about the BBR Program:*

**"A high-profile "Building Better Roads" initiative in San Diego County, intended to spur innovation and sustainability, results in a number of changes in local asphalt pavement specifications, including the utilization of higher percentages of Reclaimed Asphalt Pavement (RAP) in pavement mixes in response to rapidly disappearing sources of aggregate in the county."**

