



# CalRecycle/CIWMB Support of Rubberized Asphalt Concrete (RAC)

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- ❑ Rubberized Asphalt Concrete (RAC) has been a tire diversion strategy used by the CIWMB/CalRecycle since the very beginning of the Tire Program.
  - ❑ The use of RAC by State and Local Government Agencies currently diverts over five million waste tires per year from landfill disposal
  - ❑ Over the past twenty years of the Tire program RAC has diverted an estimated 68 million waste tires



RAC has proven to be a cost effective, superior performing product compared to conventional AC. CalRecycle staff and management recommend its use when appropriate for the situation.

# Overview of Support

- Caltrans
- Local Government
  - Technology Centers
  - Contracted Experts
- Research Contracts

# Caltrans-CalRecycle Collaborations

## ❑ Technical Research Interagency Agreements

- 1992-Lab Test Equip & Air Monitoring
- 2003-State of the Art & Recycling

## ❑ Construction Projects

- 1993 Maintenance Project – Hwy 16
- 2002 Overlay Project – Hwy 33



# **RAC Technology Centers**

# RAC Technology Centers

- The center was created to promote the use of RAC by local governments via peer to peer training
- The center provided RAC technology transfer, maintained a website and toll-free hotline
- CIWMB partnered with Los Angeles County DPW in 1997 to create the first center
- Partnered with Sacramento County in 2000 to provide services in Northern California



# **RAC Expert Contracts**

# RAC Expert Contracts

- New way to deliver RAC technology transfer
- Direct technical support of our expanding RAC grant programs
- Engineering Evaluation and design assistance
- Increased field support of grantees
- Technical Investigations

# RAC Expert Contracts

- 2005 - MACTEC Engineering and Consulting
- 2009 –Jacobs Engineering
- 2012 – Quincy Engineering Inc.



# **RAC Research Contracts**

# Research Contracts

- Use contracts to fill in gaps in knowledge base, determine feasibility of technology, investigate new processes and materials
- Partner with entities that have a proven expertise and record of accomplishment with RAC projects and/or research.

# Research Contracts

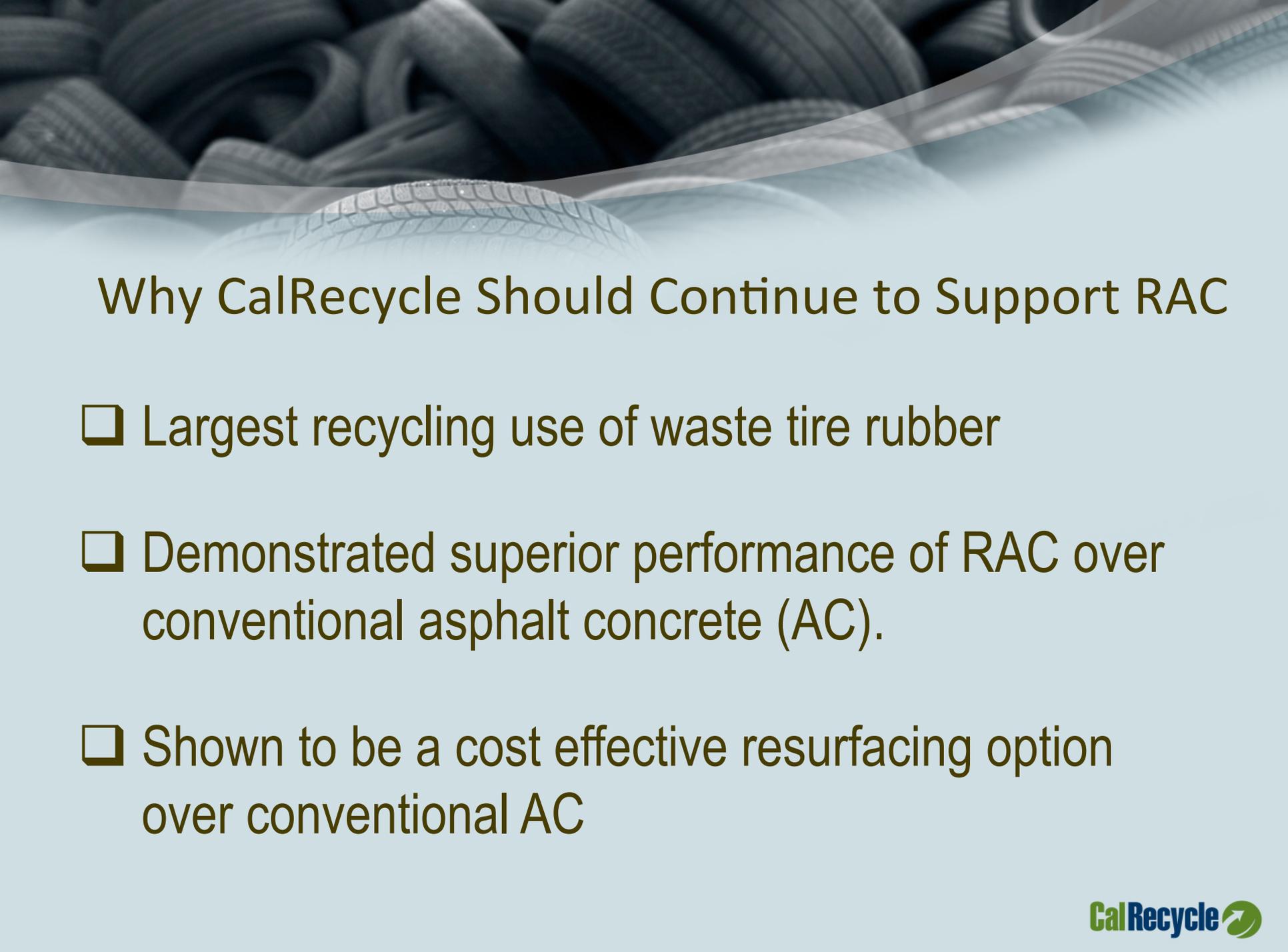
## Past Research Contracts

- Terminal Blend Chip Seal Demonstration Project
- Terminal Blend and Warm Mix Asphalt
- Life Cycle Cost Analysis (LCCA) for RAC materials
- Warm Mix Asphalt Performance Evaluation

# Research Contracts

## Current Contracts

- Reclaimed Asphalt Pavement (RAP) in Chip Seal and RAC Hot Mix Demonstration Project
- Warm Mix Asphalt Technology Evaluation
- RAC Performance Models Development



## Why CalRecycle Should Continue to Support RAC

- ❑ Largest recycling use of waste tire rubber
- ❑ Demonstrated superior performance of RAC over conventional asphalt concrete (AC).
- ❑ Shown to be a cost effective resurfacing option over conventional AC