

# Sustainability Track

## Framing

National Concrete Pavement  
Technology Center



# Objective?

- Identify the issues
- Prioritize needs
- Lay out the next steps
- Find what's needed to get started



# Context: Materials



9 - 15%  
Cements



15 - 16%  
Water



25 - 35%  
Fine aggregate



30 - 45%  
Coarse aggregate

## **Paste**

(cement + SCM+ water+admixtures)

## **Mortar**

(paste + fine aggregate)

## **Concrete**

(mortar + coarse aggregate)

## Context: The Mix

- Hydration – converts fluid to solid, that gains strength with water
- Relatively impermeable and stable
- Soluble in soft water and acids
- Durability
- Binding and containing hazardous materials



# Context: Construction

- Mixing
- Placing
- Jointing
- Curing



# Context: Environment

- Carbonation
- Leaching
- Light
- Sound
- Heat



# Context: Usage

- Vehicles
- Runoff
- Salts



# Context: Recycling

- Concrete as base
- Concrete as aggregate
- Landfill



# Context: Summary

- Most environmental impact during construction
- Little impact during use
- Some impact during recycling or disposal



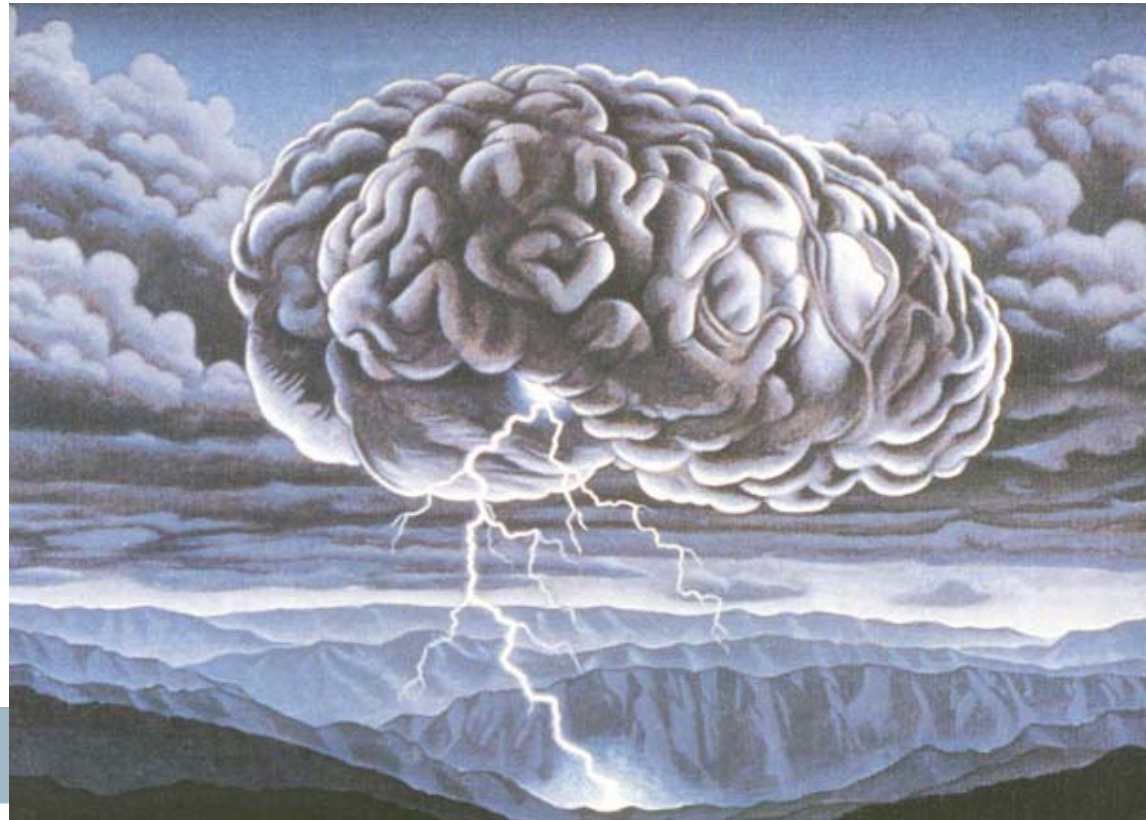
# Therefore...

- What are the issues?
- What are the parameters?



# Brainstorm

- No discussion
- No bad answers
- Ideas



# Breakouts

- Select reporter and recorder
- Review the brainstorm
- Identify short and long term objectives
- Prioritize
- Report