

Use of RAP – My Perspective

Charles J. Glover

Artie McFerrin Department of Chemical Engineering

Texas A&M University

College Station, Texas

International Workshop: ISAP Technical Committee

APE: Asphalts, Pavements, and the Environment

August 8, 2009

Qingdao, China

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature
- Binders age in pavements

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature
- Binders age in pavements
- Aged binders are less ductile, more brittle

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature
- Binders age in pavements
- Aged binders are less ductile, more brittle
- RAP contains aged binder

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature
- Binders age in pavements
- Aged binders are less ductile, more brittle
- RAP contains aged binder
- Recycling RAP gives a “reconfigured” pavement, but RAP binder still is aged and brittle

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature
- Binders age in pavements
- Aged binders are less ductile, more brittle
- RAP contains aged binder
- Recycling RAP gives a “reconfigured” pavement, but RAP binder still is aged and brittle
- Blending with recycling agent **can** improve properties, but agent must be properly designed

Use of RAP – My Perspective

- Binders age in the presence of O₂ and temperature
- Binders age in pavements
- Aged binders are less ductile, more brittle
- RAP contains aged binder
- Recycling RAP gives a “reconfigured” pavement, but RAP binder still is aged and brittle
- Blending with recycling agent **can** improve properties, but agent must be properly designed
- *Initial state of pavement* constructed from RAP and its *usage* (surface, base, etc.) and *future aging* must be considered in RAP design