



## IAPA QC Managers Mission

- Identify opportunities to improve Illinois hot mix asphalt specification.
- Promote an appropriate balance of better safety, higher quality, and lower cost.



### IAPA QC Manger Action Items

- Reduction of Mix Designs
- ABR & % of RAP/FRAP/RAS
- Limits of Precision & Appeal Process
- Edge of Pavement
- Continuing Education
- Positive Dust Control



### What is PFP? [Risk]

- Buyer's Risk the probability that the buyer would accept material which is of unacceptable quality on the basis of the test results
- Seller's Risk the probability that good quality material would be rejected as unacceptable on the basis of the test results



The average of a set of n numbers.

 $X = \sum x_i / n$ 

X = arithmetic mean x<sub>i</sub> = individual test results n = number of tests







































#### Less is More • More streamlined. • Less mix designs. • Less chance for error. More uniformity. • More efficient. • Less yard space. • Less variability. More consistent. • More acceptability. • Less chance of supplying the wrong mixture. • Less cost. • More lane miles paved. LESS MORE





## Illinois Center for Transportation







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## Open Graded

Open-graded mixtures are:

- Coarse mixtures with little sand-sized mate-rial.
- High-void, open-textured mixture.
- Difficult to keep the asphalt on the rocks during pro-duction and construction.













Bracketed designs will not cause any undue extra expense.

#### • IL-9.5 mm (3/8") surface mixture:

- Minimum of 40% passing the #8 sieve
- Minimum of 60% passing the #4 sieve
- 3.5% Air Voids

### **Agencies and Contractors**

- Village of Cary
- Town of Streamwood
   Curran Asphalt
- Kendall County
- City of Elgin
- Village of Oak Brook
   D Construction
- Village of Evanston
- Village of Algonquin
- City of North Chicago

- Arrow Road
- Geske
- Peter Baker
- Gallagher Asphalt

#### 12/11/2013



# Case Study, Intermodal Yards

- 42% passing #4,
- 3.5% Voids,
- 30% RAP,
- N90.



NUMBERS







### **Potential Misunderstanding**

Whether you design for a coarse, fine, or medium graded HMA base, intermediate, or wearing course your optimum asphalt content will be the same when using the same materials, targeting the same VMA and Voids level, provided the asphalt  $P_{ba}$  absorptions are the same.

- (Pine, B. & Murphy, T.)

# Are They All The Same?







