

# Specifications & Projects

## Marshall vs. Gyrotory Perspective



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# Marshall vs. Superpave

CAPA Asphalt & Airport Pavement  
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1998 - 2018

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# FAA Modified Marshall and Superpave

- FAA specifications for Marshall and Superpave aren't 100% true to the methods
- Marshall
  - Uses PG grading system for binder
- Superpave
  - No Nominal Maximum Aggregate Size (NMAS) requirement
  - No Fine Aggregate Angularity requirement

# Positives / Negatives of Marshall

## Marshall

- + Equipment is inexpensive and portable
- + History - has a proven track record
- + Small sample size  
~1200 g pucks
- Low repeatability
- Impact compaction used in design doesn't simulate field compaction
- Stability doesn't estimate shear strength



# Positives / Negatives of Superpave

## Superpave

- + Repeatability
- + History – has a proven track record outside of FAA
- Equipment is expensive and heavy (300+ lbs.)
- Large sample size  
~ 4600 g pucks
- There are differences in compacted density between SGC manufacturers (Troloxler, Pine, etc.)
- Performance tests are not defined / available / verified



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# Asphalt Content Differences

- ASTM D 6925 – 150 mm diameter Superpave specimens
- ASTM D 6926 – 4 in diameter Marshall specimens
- 75 Gyration design will have an optimum 0 to 0.2% lower than a 75 Blow design
- 50 Gyration design will have an optimum 0 to 0.4% higher than a 50 Blow design

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# Questions

