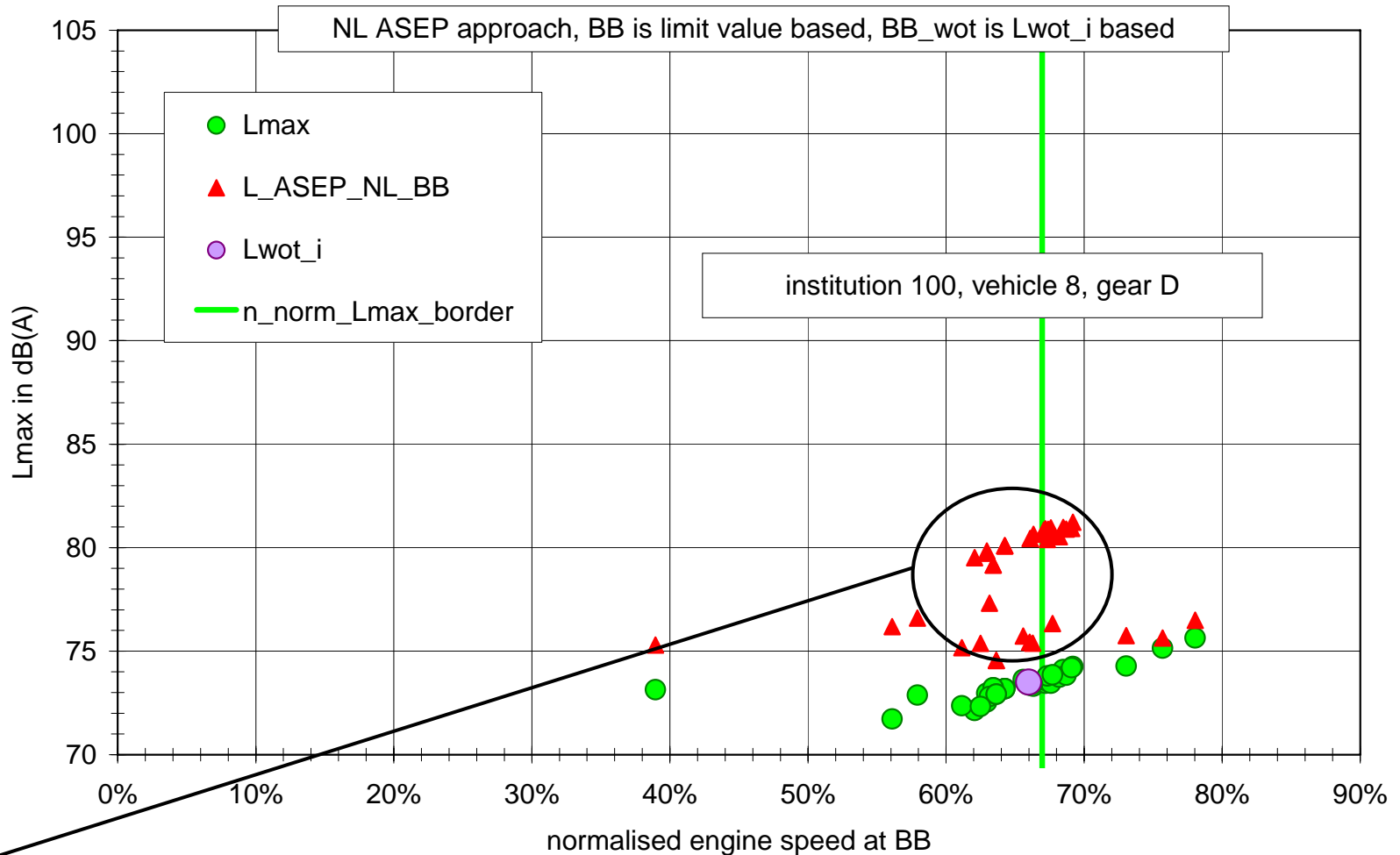


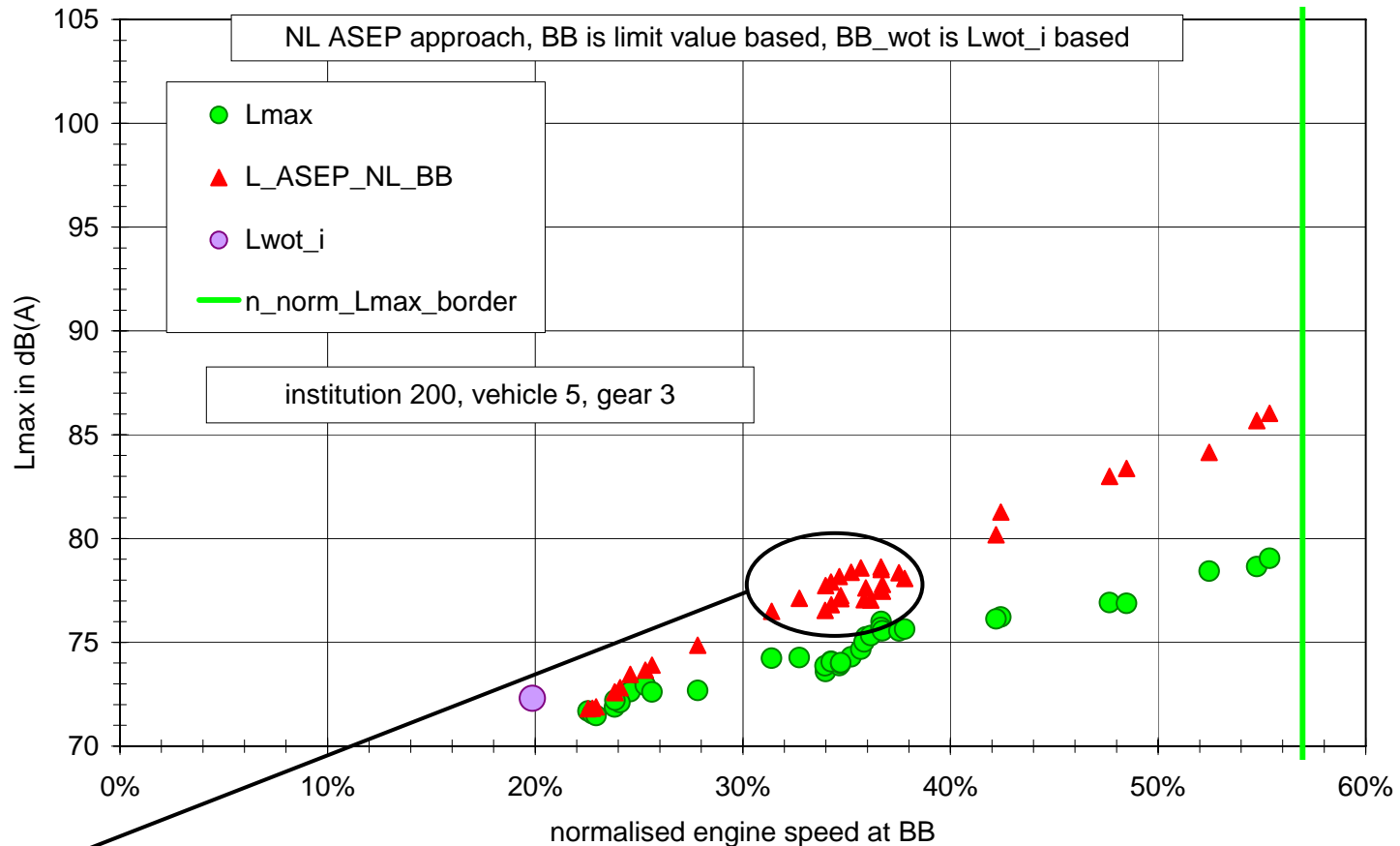
Reproducibility of NL ASEP proposal

Prepared by the Netherlands
ASEP meeting jan 2008 USA

Spread in limit values NL approach automatic gearbox



Spread in limit values NL approach manual gearbox



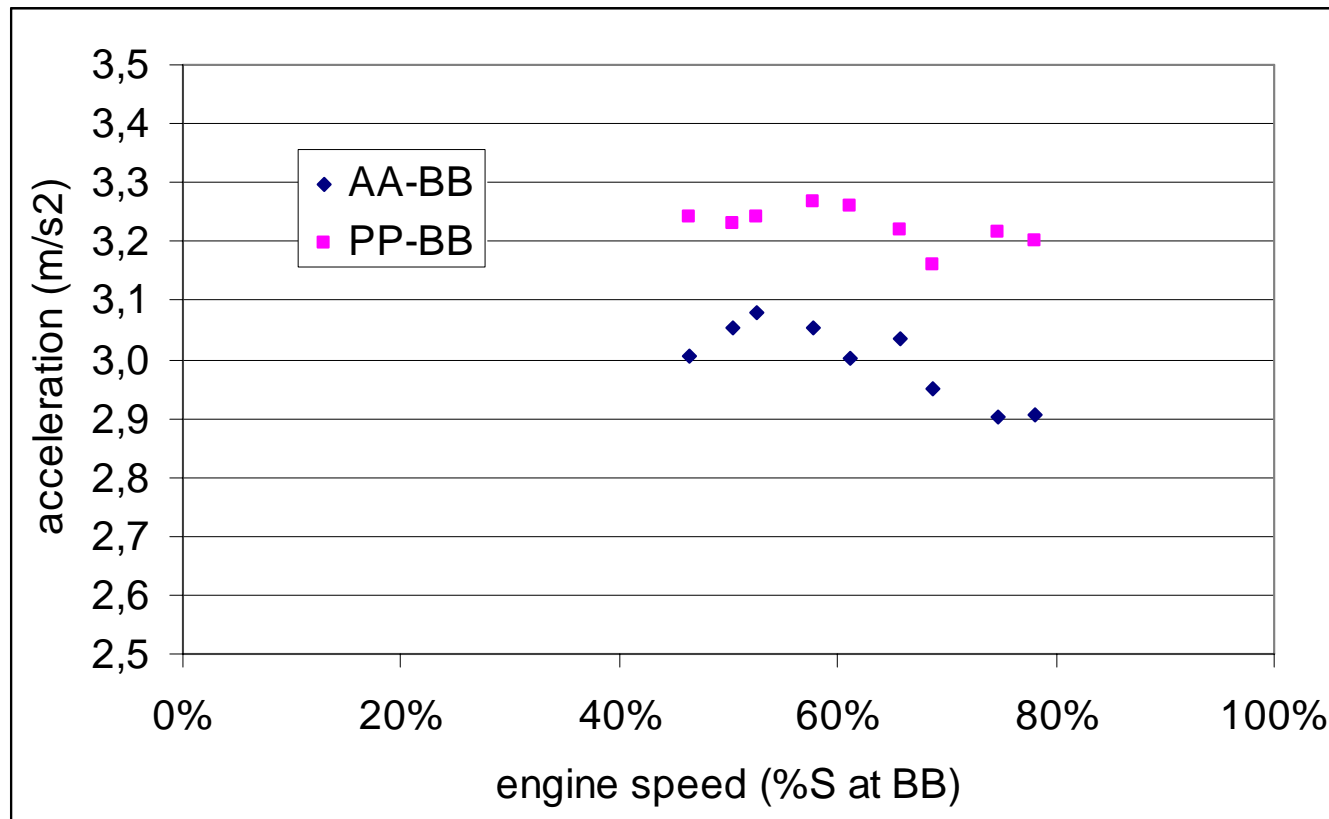
- Example 1: 2,5 dB spread in NL limit value

Reason for spread in NL limit value:

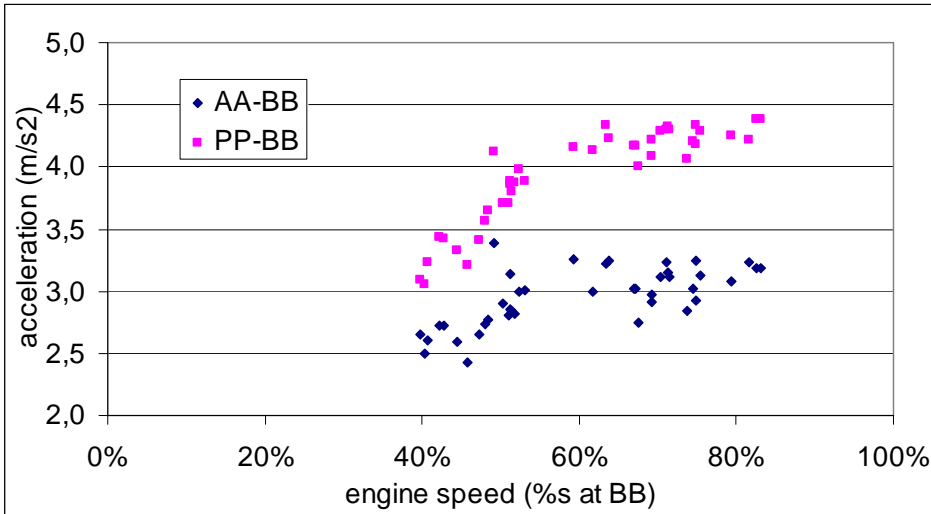
- $\text{Limit}_{\text{NL,ASEP}} = \text{Limit}_{\text{annex 3}} + 4 \cdot (a_{\text{ASEP test}} - a_{\text{urban,annex 3}}) + 0,3 \cdot (v_{\text{BB,ASEP test}} - 50)$
- spread in measured acceleration values ($a_{\text{ASEP test}}$) causes spread in limit values

Accelerations as we expected

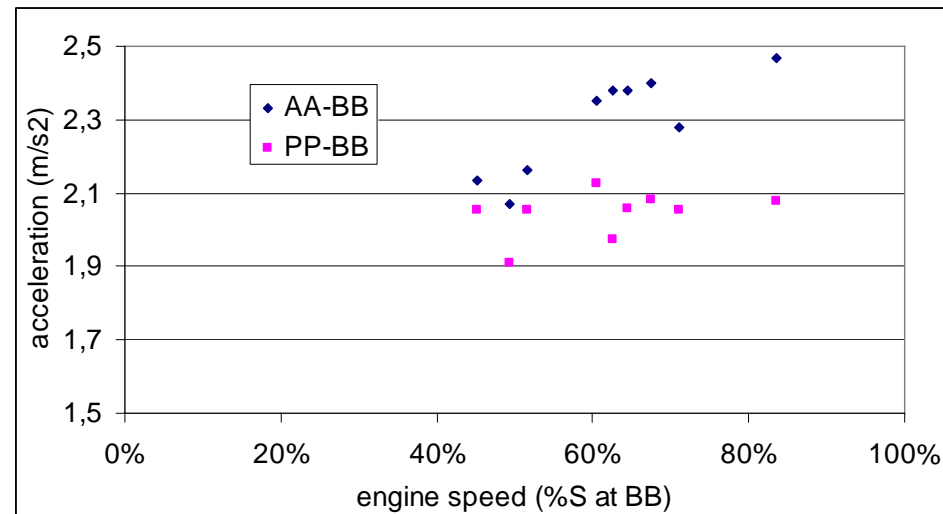
- Nearly independent from engine speed
- PP-BB max 10% higher than AA-BB
- Good reproducibility



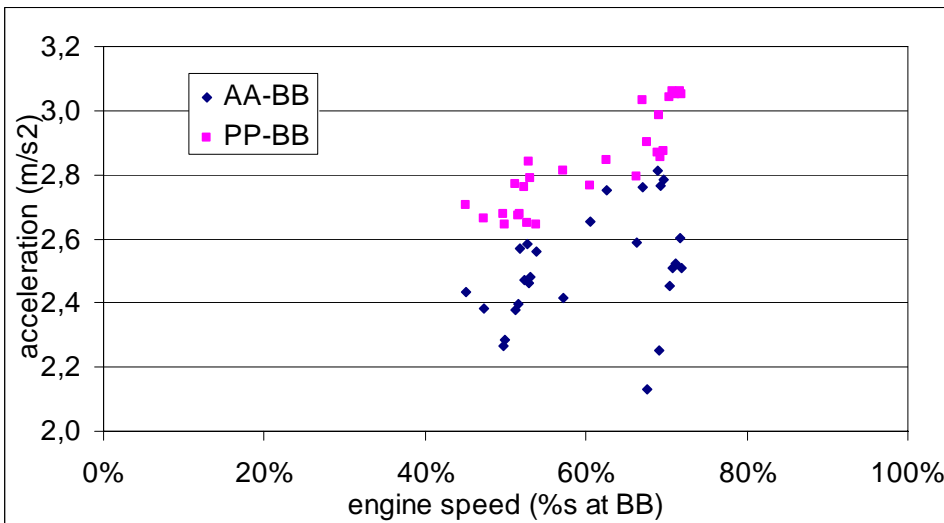
Accelerations as we see them



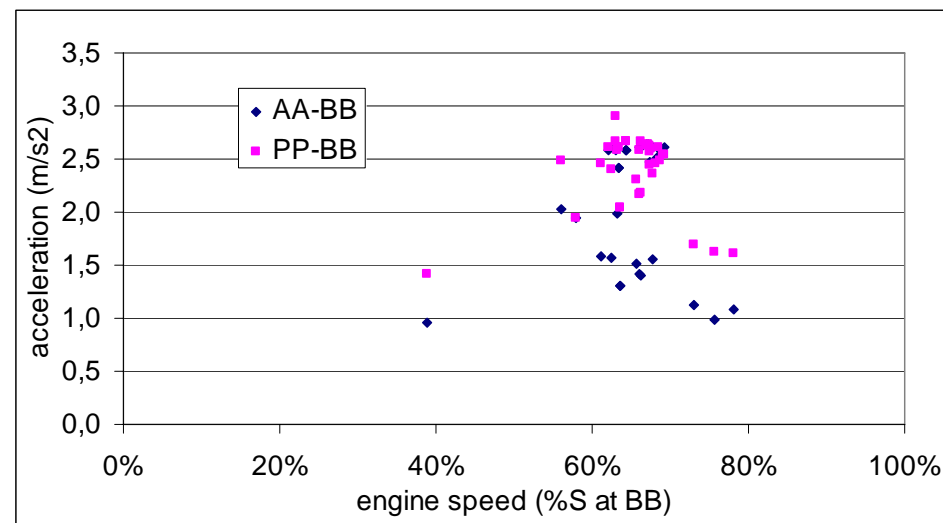
MT: AA-BB 40% lower than PP-BB



MT: PP-BB lower than AA-BB



MT: spread PP-BB 10%, spread AA-BB 30%



AT; delay and shifting behind PP

Why is there spread in acceleration?

Potential reasons:

- No flat torque curve
- Acceleration delay in track (esp Turbo and automatics)
- Shifting of automatic gearboxes
- Too little pre-acceleration
- Too late depressing of accelerator
- Too early releasing of accelerator
- Errors in alignment of lines AA', PP' and BB'
 - Place of light barriers
 - Length of vehicle

Possibilities to improve reproducibility of acceleration measurements

- Always take a_{PP-BB} instead of a_{AA-BB}
- Prescribe overdoses pre-acceleration to be sure that the vehicle indeed uses its full acceleration potential (and check)
- Set boundaries to difference $a_{PP-BB} - a_{AA-BB}$