Consideration of G Corridor based on Crash Pulses
The peak timing of three cars crash pulse were adjusted to create the corridor
The peak timing of such three cars are different in actual crash test data. Especially of the crash pulse of Vehicle C is faster peak timing and shorter duration.
Car to car crash with different weight may be severer than Full-width crash. Its crash pulse with Vehicle A is softer due to characteristics of other side vehicle structure, so the proposal of GRSG/2016/19 is reasonable.
Vehicle A has a standard safety performance with four stars in NHTSA NCAP. However, the injury score in this Car-to-car crash is very severe.
Comparison with AECS Sled Corridor and Crash pulse with IIHS Car to car crash

Crash pulse with Vehicle A to Sedan Z is the most severe among three kind of crash tests
While Full width crash is larger in NASS CDS, it’s not large part in the actual detail analysis along this article. Its ratio is only 6%.
Conclusion

- **Duration of Crash pulse**
The reference data of AECS-08-09 (TRL) is modified to adjust the peak timing of crash pulse. If focused on the peak pulse, the required sled pulse may be simplified and shorter.

- **Peak G**
The car to car crash with different size is severer than Full-width barrier crash in the view point from occupant injury. Its peak G of crash pulse is less than Full-width barrier crash.

The corridor of sled pulse in GRSG/2016/19 is severe enough in the real world crash.