

**Tread Softly -
Choosing “road
friendly” timber
trucks**



***FITG/TTG Workshop, Portlaoise
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Choosing a Configuration

- Traditionally made by haulier on basis of lowest cost tendering
- Vehicle choice is a compromise; need to factor in road damage
- A more holistic tendering approach needed



Choosing to reduce road damage

- **Edge damage:**
 - Improve articulation: Wagon and Drag vs Artic



- **Pavement and subgrade damage:**
 - Use more wheels bigger tyres

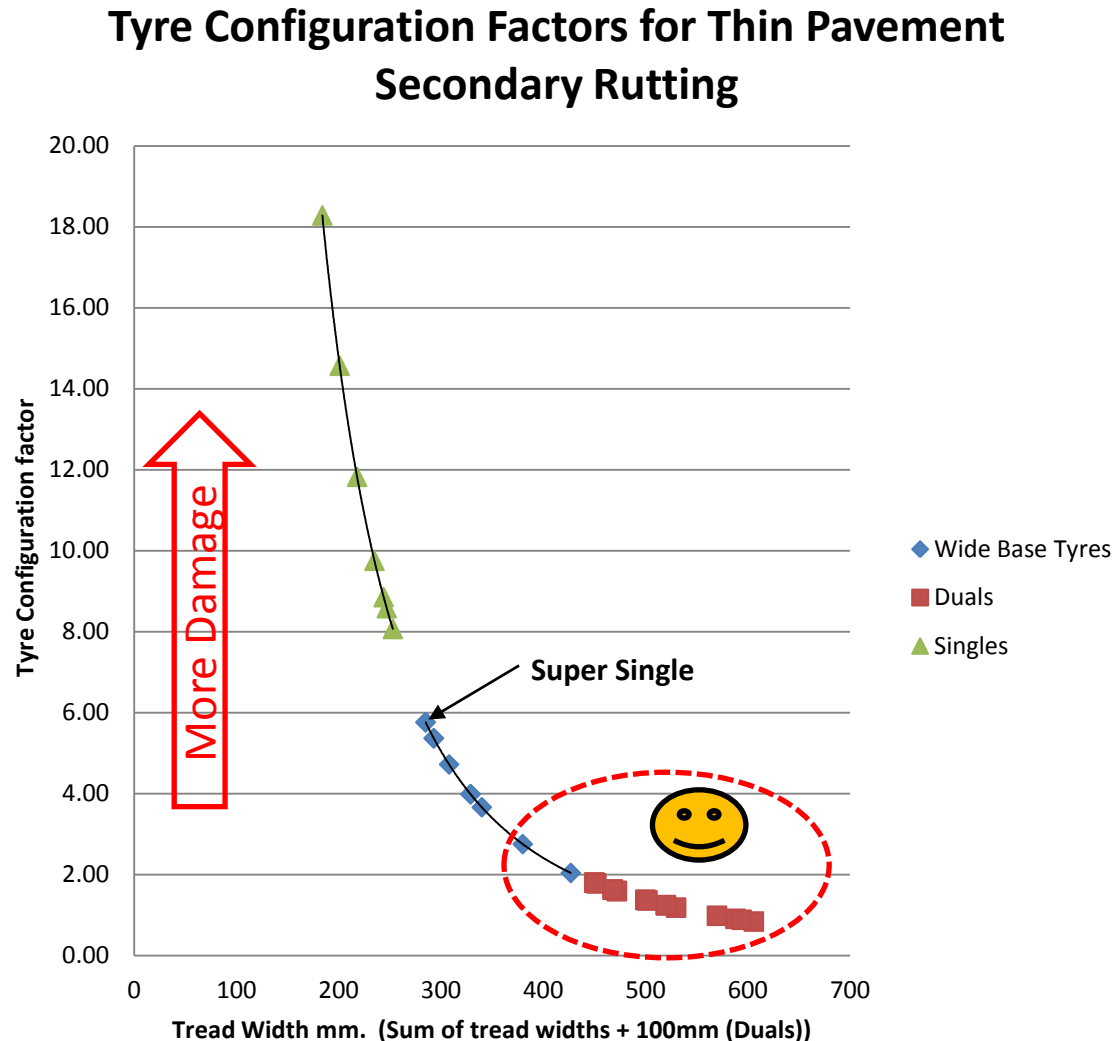
Focus: Wheels and Tyres

- 1966 Super Single tyres
- 2001 Evolution in truck design; EC COST 334 report
- Adverse impact on weak roads
- Research: ROADEX, FERIC, etc
- 2013: Tighter budgets: Need for TTF to give improved and consistent advice

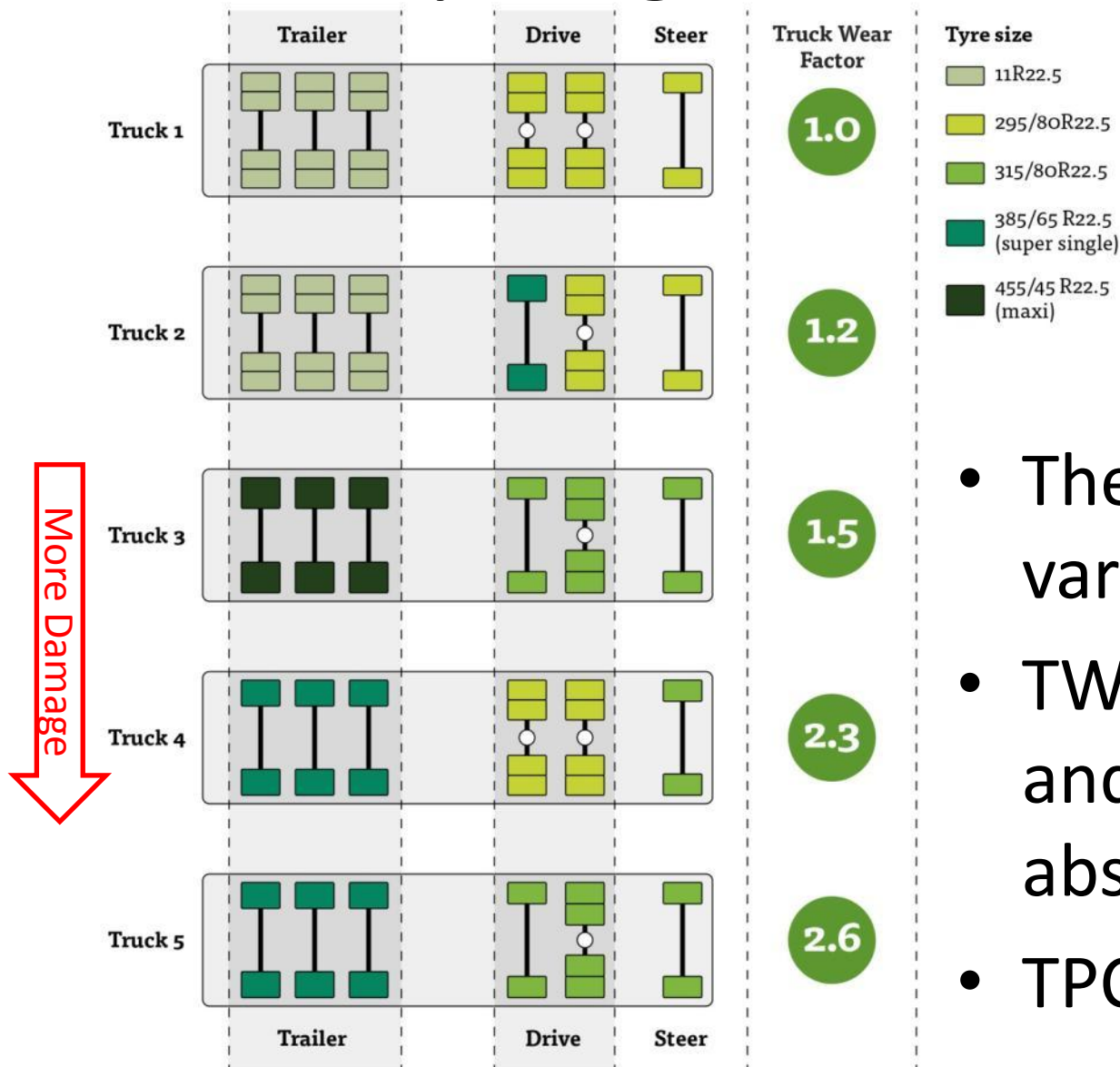


How damaging is one truck compared to another?

- Big footprint= good
- But...pavement response highly complex
- Tread Softly has used the COST 334 data to help us understand



Comparing some alternatives



- These are only some variants
- TWF is indicative and relative, not absolute
- TPC can also help

Decision Matrix

Road Type	Road Strength		
	Weak	Medium	Strong
Forest Roads	Wagon and drag or artic with: - Wider single on steer axle - Double drive axles with TPC - Twin wheels/maxis with TPC on trailer	Artic with: - Single drive axle and tag with TPC - Maxis with TPC on trailer	Artic with: - Single drive axle and tag - Super singles on trailer
Standard 2 lane public road (5.5m or more)	Wagon and drag or artic with: - Double drive axles with TPC - Twin wheels/maxis with TPC on trailer	Artic with: - Single drive axle and tag with TPC - Super singles with TPC on trailer	Artic with: - Single drive axle and tag - Super singles on trailer
Standard 3.3m single track/ narrow two lane public road	Wagon and drag or artic with: - Double drive axles with TPC - Twin wheels/maxis with TPC on trailer	Wagon and drag with: - Maxis on trailer or Artic with: - Single drive axle and tag with TPC - Maxis with TPC on trailer	Artic with: - Single drive axle and tag - Super singles on trailer
Narrow single track public road (<3.3m)	Wagon and drag with: - Double drive axles with TPC - Twin wheels with TPC on trailer	Wagon and drag with: Maxis with TPC on trailer	Wagon and drag

Notes:

1. TPC = Tyre Pressure Control. Where a trailer has TPC it is assumed the axles on the tractor unit (drive and tag axles), will be fitted with TPC
2. Where artic units are specified above, they can always be replaced by an equivalent wagon and drag
3. Super single tyres can be replaced by maxi tyres on the trailer, and either can be replaced by twin wheels.

Among the other factors to be weighed...

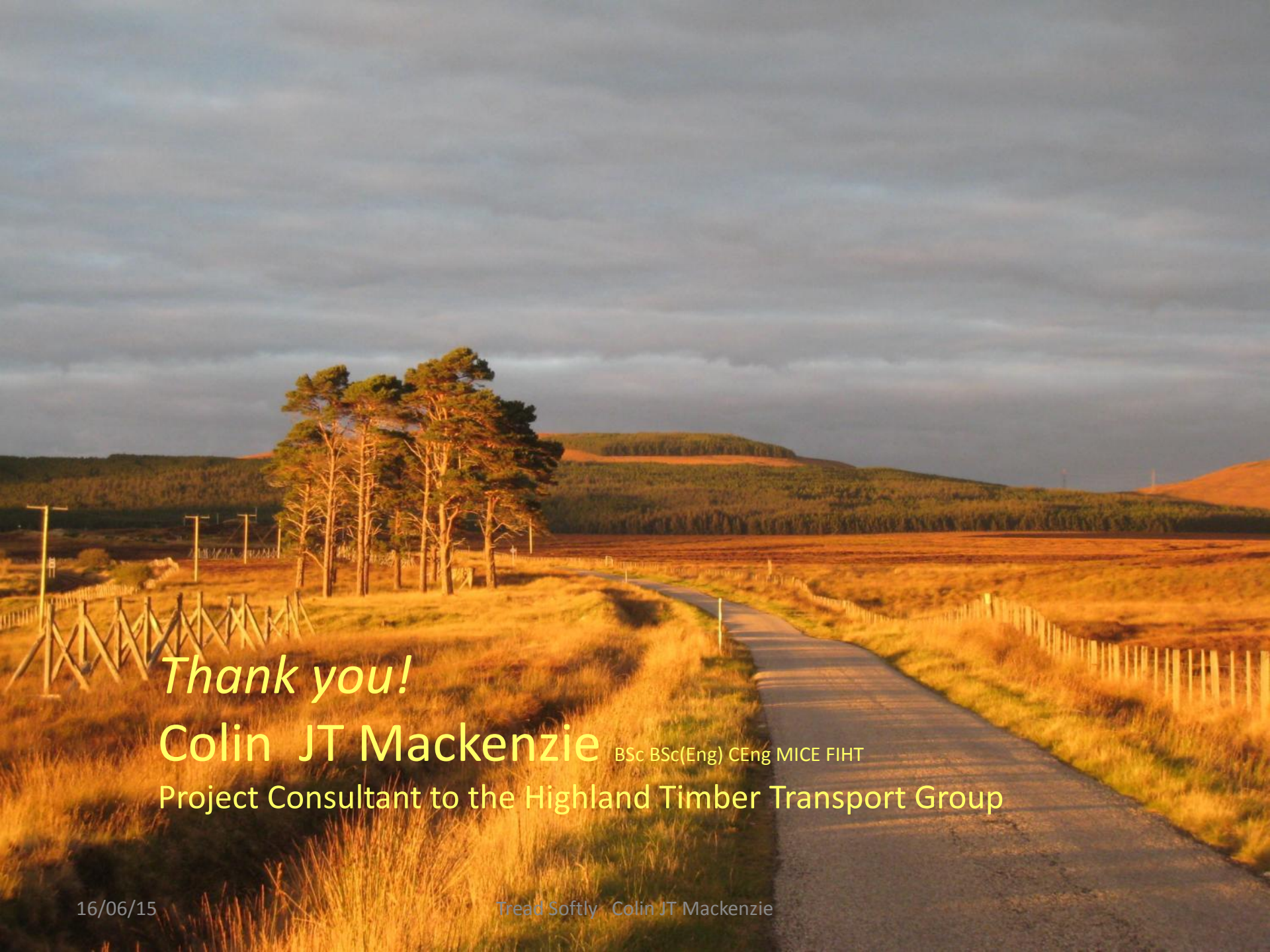
- Standard of driving and training
- Presence/absence of:
 - Fleet management systems
 - GPS location and other telematics
- Record of overloading/convoying
- Cost, availability.....etc



Applying Tread Softly principles

- Some Scottish Councils have been indicating preferred timber vehicle configurations for several years
- Timber Transport Management Plans (TTMP's) help on difficult public roads
- Working well; hauliers increasingly involved
- Low Impact trucks form only part of the fleet





Thank you!

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Tyre pressure control systems

Comparing these trucks with TPCS added, and pressures reduced by 30%

