

## The value of rail to NZ



Source: KiwiRail Statement of Intent



This is the modelled impact of shifting existing rail trips (congetion cost if these trips were made by road) What about potential to grow rail trips in future, freight/ metro/ intercity rail?



Do we adequately reflect where air pollution is caused, relative to vulnerable populations?



What are the relative costs and benefits of electrifying rail vs road transport?



This value likely underestimates the role of rail in meeting greenhouse targets How do we value embedded carbon, and what is a basis for comparing embedded carbon across transport modes?

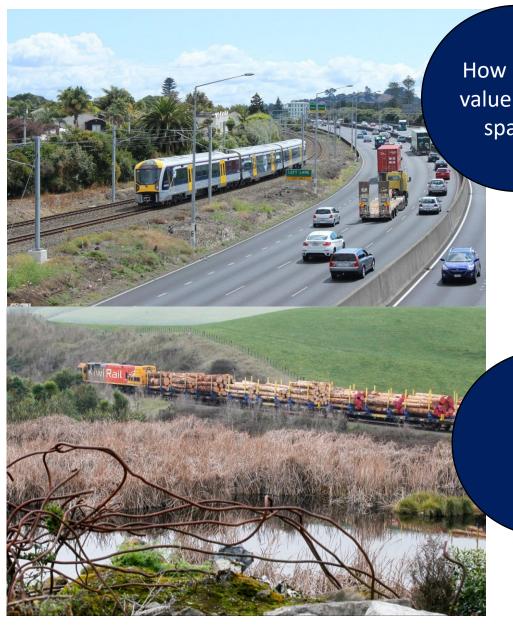


\$105m is 9% of road maintenance spend (\$2,061 billion in 2020/21). But rail already carries 16% of freight?



We need more robust deterioration models, for both rail and roads, under heavy freight loads.

Reduce road trauma by shifting people and freight away from roads



How do we value urban space?

Network vulnerability to natural hazards

Time to rebuild after a disaster?

Rural/ natural space?

Māori community outcomes?

