

NIATT *Research Summary*

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Two-Axle Chassis in Port Operations

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Description

Intermodal containers are built stronger and tougher than standard trailer because of the stresses they must support during their life of service, and these stresses are expected to be supported by the transportation structures like bridges, roadway pavement, culverts, etc. through which they travel. In most cases, the containers are usually supported and hauled on a two-axle chassis with a limiting gross weight (the weight of the tractor, chassis, cargo, and container tare weight) of 80,000 lbs. as is the case in some states including California. Due to the limitations on the maximum load, there is an increase on the average annual daily traffic (AADT) volume of the intermodal containers to transport goods from one point to the other. To reduce the AADT which directly causes distress and damages to transportation infrastructures, an additional axle might be added to the current two-axle chassis to distribute the loads on more axles that results in less load per axle or by increasing the maximum load beyond the current 80,000 lbs.

Therefore, the primary goal of this project is to assess the potential safety and operational impacts of increasing the maximum gross weight of the two-axle chassis beyond the current State of California limit of 80,000 lbs. The study will be conducted through an in-depth finite element analysis of load distribution, safety analysis and operational performance in addition to cost benefits to users. The outcome of this study will assist policy makers on the need to increase the load capacity of intermodal containers' two-axle chassis. Project: 851709

