

Bridge Analysis Technical Discussion for Permitting

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Routine Permit Loads

<u>Format</u> AN (1)	<u>Frequency</u> I	<u>Item ID</u> B.LR.08
<u>Specification</u>		<u>Commentary</u>
<p>Report whether the bridge carries routine permit loads or whether routine permit loads are restricted from the bridge using one of the following codes.</p> <p><u>Code</u> <u>Description</u></p> <p>A Bridge carries routine permit loads. Load capacity is adequate for all routine permit loads <u>approved for the route segment</u>; no routine permit loads are restricted.</p> <p>B Bridge carries routine permit loads. Load capacity is adequate for some routine permit loads <u>approved for the route segment</u>, but some routine permit loads are restricted.</p> <p>C Bridge does not carry routine permit loads. <u>Load capacity is inadequate for all routine permit loads approved for the route segment.</u> Routine permit loads are restricted from the bridge.</p> <p>N Bridge does not carry routine permit loads. <u>Routine permit loads are not approved for the route segment.</u> Agency does not issue routine permits.</p>		<p>This item is used to identify bridges where State routine permit loads must be considered in load rating and posting evaluations and to identify bridges where routine permit loads are restricted due to bridge load capacity limitations.</p> <p>Agencies have varying policies for issuing routine permits, from not issuing routine permits to issuing various routine permits when these loads exceed State legal loads. Some agencies may utilize maps that indicate highways and bridges that are restricted to routine permit loads or that allow routine permit loads.</p> <p><u>Use code A when all routine permit loads allowed to travel the route segment are also allowed to travel on the bridge.</u></p> <p><u>Use code B when not all routine permit loads allowed to travel the route segment are allowed to travel on the bridge.</u></p> <p>Use code C when <u>all routine permit loads allowed to travel the route segment are restricted from the bridge</u>the agency issues routine permits, but all routine permit loads are restricted from the bridge.</p> <p>Use code N when the agency does not issue routine permits <u>or routine permit loads are not approved for the route segment that is carried by the bridge</u>and therefore the bridge does not carry routine permit loads.</p>

SNBI B.LR.08

(March 2025)

Routine Permits

- Locally referred to as annual permits or cab cards
- Definition of Routine Permit Load:

A live load, which has a gross weight, axle weight, or distance between axles not conforming with State statutes for legally configured vehicles, authorized for unlimited trips over an extended period of time to move alongside other heavy vehicles on a regular basis. (23 CFR 650.305)

Typical Permitting Process

Hauler selects “Annual” in Oxcart and receives a disclaimer (sample):

MCL 257.725 does NOT comment on axle configuration/loads.

Provides for “annual permit for movement of construction equipment” and allows agencies to charge an administrative fee

Provisions

It is understood this Special Move Permit is being issued for vehicles with the following axle loading or overall dimensions and that exceeding these limits will void this permit. Failure to follow the Rules and Regulations will void this permit.

MAXIMUM ALLOWABLE AXLE LOADING

Spacing Between Axles (per MCL 257.725)

9 feet or over (single axle): 22,500 lbs.
9 feet or over (1 tandem assembly only): 20,000 lbs.
More than 3'-6" feet, but less than 9 feet: 16,250 lbs.
Less than 3'-6" feet: 11,250 lbs.

MAXIMUM OVERALL DIMENSIONS

(per MCL 257.725)

Width: 12'-6"
Height: 13'-6"
Length of any combination: 75'-0"

MCL 257.722 describes max axle loads

Designated Loading:

9 ft or over (single axle): 18,000 lbs
9 ft or over (1 tandem assembly only): 16,000 lbs
More than 3'-6" but less than 9ft: 13,000 lbs
Less than 3'-6": 9,000 lbs

Most counties currently allow 25% over legal when setting the max axle loads as described in the sample permit application above

What are you telling me?



Routine permits allow loads that surpass legal limits



Typical load ratings check against legal vehicles



Posting is required when load rating is less than 1.0

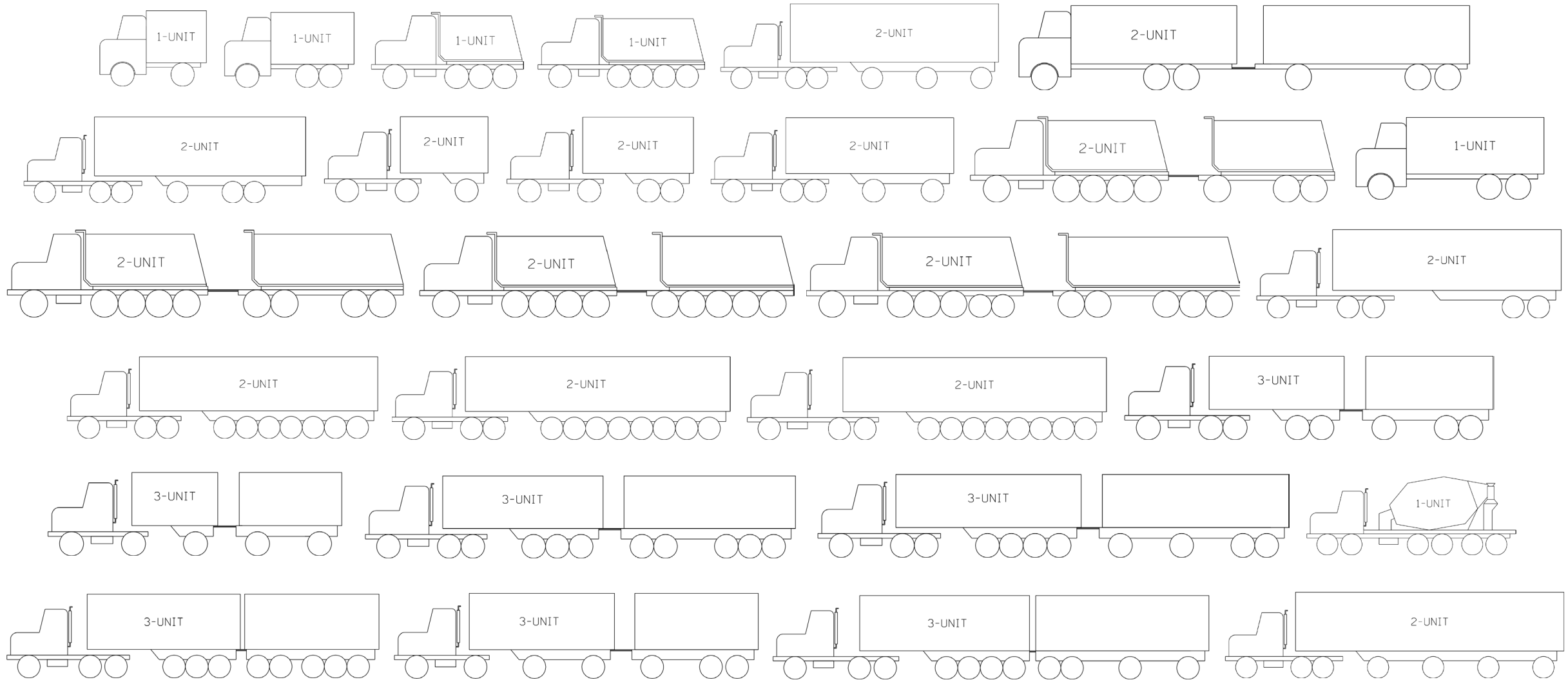
Insufficient capacity for legal vehicles

Insufficient capacity for routine permits



Still have to check bridges for permit vehicles (routine and single trip)

If a permit is requested, the vehicle is outside of the legal definition and it hasn't been checked against your bridge inventory



Michigan's 25 legal vehicles + 3 AASHTO
(used for load rating)

Significance of allowing percentage over Legal

- Allowing a percentage over legal constricts the permit vehicle to **legal configurations** allowing existing load ratings to be used to determine permit applicability
 - Load rating = 1.0 – Might not be posted but cannot exceed legal loads
 - Load Rating = 1.10 – not posted but may allow 10% over legal loads
 - Load Rating = 1.25 – not posted but may allow 25% over legal loads

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Report whether the bridge carries routine permit loads or whether routine permit loads are restricted from the bridge using one of the following codes.		This item is used to identify bridges where State routine permit loads must be considered in load rating and posting evaluations and to identify bridges where routine permit loads are restricted due to bridge load capacity limitations.
<u>Code</u>	<u>Description</u>	
A	Bridge carries routine permit loads. Load capacity is adequate for all routine permit loads <u>approved for the route segment</u> ; no routine permit loads are restricted.	Agencies have varying policies for issuing routine permits, from not issuing routine permits to issuing various routine permits when these loads exceed State legal loads.
B	Bridge carries routine permit loads. Load capacity is adequate for some routine permit loads <u>approved for the route segment</u> , but some routine permit loads are restricted.	Some agencies may utilize maps that indicate highways and bridges that are restricted to routine permit loads or that allow routine permit loads.
C	Bridge does not carry routine permit loads. <u>Load capacity is inadequate for all routine permit loads approved for the route segment</u> . Routine permit loads are restricted from the bridge.	<u>Use code A when all routine permit loads allowed to travel the route segment are also allowed to travel on the bridge.</u>
N	Bridge does not carry routine permit loads. <u>Routine permit loads are not approved for the route segment. Agency does not issue routine permits.</u>	<u>Use code B when not all routine permit loads allowed to travel the route segment are allowed to travel on the bridge.</u>
		<u>Use code C when all routine permit loads allowed to travel the route segment are restricted from the bridge the agency issues routine permits, but all routine permit loads are restricted from the bridge.</u>
		<u>Use code N when the agency does not issue routine permits or routine permit loads are not approved for the route segment that is carried by the bridge and therefore the bridge does not carry routine permit loads.</u>

RP allows 10% over & load rating ≥ 1.10

RP allows 10% over & load rating < 1.10

Modeling of Bridges in AASHTOWare BrR

Oxcart could potentially work with BrR data

Update model to maintain consistency with inspections

Model is readily available for single-trip permit requests

- Vehicles outside routine permit limits need to be individually evaluated

Questions?