Industry Forum: Permitting of Overweight Loads

October 2, 2013
House Enrolled Act 1481

- Set gross vehicle weights based on commodities
- Gave INDOT emergency rule making authority for:
  - Divisible load permit fees, permit issuance and enforcement
  - Extra Heavy Duty Highway permit fees
  - Overweight permit fees
- Requires a study on impact of overweight fees to the General Assembly by 12/2014
Timeline for Implementation

- Industry Forum – 10/2/2013
- Comments – 10/16/2013
- Analysis & Integration of Comments
- Rulemaking – Draft & Final Versions
- DOR Implementation – 12/31/2013
- Independent Study
Goals For Proposed Rules

- Help Indiana’s businesses and taxpayers by modernizing the freight policy to become more compatible with neighboring states.
- Be equitable to industry and taxpayers alike: Customers should only pay for the quantity of infrastructure resources they consume.
- Be customer friendly; may include multi-trip or annual permitting options.
- Have fee structures that make sense.
- Encourage business decisions that will help preserve Indiana’s infrastructure.
Why did Indiana change the permitting policies and begin to allow the permitting certain divisible loads?

- Regional Competitiveness & Consistency: Ohio, Kentucky and Michigan have special permits for various commodities.
How are other states addressing the same issues?

- Kentucky and Ohio allow 2 or 3 steel coils
- Michigan allows 164,000 lbs, 11 axles, axle weight of 13000 lbs
What types of divisible loads are eligible for these types of permits in Indiana?

- Metal Commodities
- Agriculture Commodities
- Consistent Commodities with surrounding state policies
Why not everything? Why does Indiana limit these permits to specific commodities?

- Design of Roads, Bridges and Safety Devices
- Permits for Nonconforming loads
- Permits for Regional Compatibility
What about the old permits? How will this change what can be hauled in Indiana?

- Non-Divisible 108K, 120K
- Heavy Duty Highway Michigan Train
- Agricultural
ESAL (Equivalent Single Axle Load) based; customers pay only for the quantity of infrastructure resource consumed

Loads and Pavement Life measured in ESALs
ESAL Calculation

\[
\begin{align*}
\text{ESAL}_{\text{SINGLE AXLE}} &= \left( \frac{W_{\text{SINGLE AXLE}}}{18,000 \text{ lbs.}} \right)^4 \\
\text{ESAL}_{\text{TANDEM AXLE}} &= \left( \frac{W_{\text{TANDEM AXLE}}}{32,200 \text{ lbs.}} \right)^4
\end{align*}
\]

\[
\text{ESAL} = \left( \frac{12,000}{18,000} \right)^4 + \left( \frac{12,000}{32,200} \right)^4 + \left( \frac{8,000}{33,200} \right)^4
\]

\[
\text{ESAL} = 0.198 + 0.017 + 0.003
\]

\[
\text{ESAL} = 0.218/\text{veh}
\]
Weight vs ESALs

\[
\text{ESAL} = \left( \frac{\text{Axle}}{18,000} \right)^4
\]

18-kip ESALs

100,000-lb truck = 6.33 ESALs
65,000 cars

80,000-lb truck = 2.34 ESALs
25,000 cars

Purdue University Study – I-94/I-80
3 Trucks vs 2 Trucks Annually

Same Weight: 240,000 lbs

- Each 80,000 lb truck has 5 axles
- Each 120,000 lb truck has 6 axles
- Each truck travels 150 miles per day in IN
- Operates 5 days per week for 1 year
- Diesel Fuel tax is $0.74 per gallon
- Truck operates at 7 mpg
- Cost calculated at $0.05/ESAL*Mile

3 x 80,000 lbs = 240,000 lbs
3 x 37,500 miles driven = 112,500 miles driven
3 x $3,964 fuel tax paid = $11,892
3 x $4,495 road damage caused = $13,010
Permitted annual damage (3 trucks) = $1,118

Pavement damage per truck = $372

2 x 120,000 lbs = 240,000 lbs
2 x 37,500 miles driven = 75,000 miles driven
2 x $3,964 fuel tax paid = $7,928
2 x $15,008 road damage caused = $30,016
Permitted annual damage (2 trucks) = $22,088

Pavement damage per truck = $11,004

Permit fees cover damage cost
**ESALs: Axles vs Weight**

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<th>ESAL 6 Axle</th>
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**Free Permits under 2.4 ESALs**
Permittable for fee 120K GVW
Not permittable (Over axle or Over GVW)

**6.4 ESAL (-2.4) = 4 ESAL * $.05 * miles: 100 miles ~ $20.00**

**1.94 ESAL - Free!**

More Damage, higher cost of permits

Less Damage, lower cost or free permits
The ESAL calculation will be used in establishing permit fees for divisible and non-divisible loads

- 2.4 ESAL credit
- 5-7 cents per ESAL per Mile
- Permit administration fee
Axle Spacing

- How does the system differentiate from single, tandem and tridem axles?
  - Axles within 8 ft are considered part of the group
Equipment Requirements

- Equipment requirements being considered to safeguard Indiana bridges:
  - Defined axle spacing for pre-calculated bridge compatibility
  - Minimum inner-bridge spacing: 36' (Sum of all wheel bases except the steering axle)
  - Minimum outside wheelbase: 51' (Sum of all wheelbases)
  - Minimum of 5 axles
Equipment Requirements

- Equipment requirements being considered to preserve Indiana pavement life:
  - Steering Axles - Max 15,400 lbs or 700 lbs per inch of tire
  - Non-Steering Axles - Max 20,000 lbs, 700 lbs per inch of tire
  - One Tandem Axle Group - Max 24,000 each (48,000 total tandem), 700 lbs per inch of tire
Equipment Requirements

- Equipment requirements being considered to preserve safety and mobility aspects of permitting the travel of these loads:
  - Cannot exceed manufacture’s specifications
  - Axle tags affixed and legible
Special Routes & Time Limits

- Interstate, US and State Routes
- Local routes are to be permitted separately
- Truck/Tractor power unit, per trip, per configuration, per route
Enforcement

- Policies being considered to ensure equitable enforcement and ability to apply for new permits:
  - Permit Invalidation - divide prior to further movement
  - Progressive measures for repeat offenders
This presentation and the handouts will be made available on INDOT’s Multimodal Webpage: http://www.in.gov/indot/3198.htm

INDOT respectfully requests comments by Wednesday, October 16, 2013
Thank you for your attendance.