RESEARCHER MEETING

ROUTE CHOICES OF FREIGHT DRIVERS’ PERCEPTION IN JAVA ISLAND (TOL AND NON TOL)

HERAWATI & IRAWATI
YOUNG RESEARCHER OF MULTIMODAL TRANSPORT
OUTLINE

1. BACKGROUND OF STUDY
2. PURPOSES OF STUDY
3. METHODOLOGY
4. RESULT AND DISCUSSION
5. CONCLUSION AND RECOMMENDATION
BACKGROUND

TRANSPORT JAVA TOLL ROAD

<table>
<thead>
<tr>
<th>No</th>
<th>Toll Road</th>
<th>Length (km)</th>
<th>Investor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cikopo-Palembang</td>
<td>116</td>
<td>PT Lantas Marga Sedaya</td>
</tr>
<tr>
<td>2</td>
<td>Kanci-Pejegan **</td>
<td>33</td>
<td>PT Semarang Marga Raya</td>
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<td>3</td>
<td>Pejegan-Pemalang</td>
<td>57.5</td>
<td>PT Pejegan Pemalang TOL Road</td>
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<tr>
<td>4</td>
<td>Pemalang-Botang</td>
<td>39</td>
<td>PT Pemalang Botang TOL Road</td>
</tr>
<tr>
<td>5</td>
<td>Semarang-Batuag</td>
<td>75</td>
<td>PT Marga Satupuriantama</td>
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<tr>
<td>6</td>
<td>Semarang-Solo</td>
<td>75.7</td>
<td>PT Trans Marga Jateng</td>
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<tr>
<td>7</td>
<td>Solo-Wonogiri ***</td>
<td>90.1</td>
<td>Kerjasama Pemerintah-Swasta (PPP)</td>
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<tr>
<td>8</td>
<td>Ngawi-Kertosono ***</td>
<td>87.02</td>
<td>Kerjasama Pemerintah-Swasta (PPP)</td>
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<td>9</td>
<td>Kertosono-Mojokerto</td>
<td>40.5</td>
<td>PT Marga Hanurato Inhilac</td>
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<td>10</td>
<td>Surabaya-Mojokerto</td>
<td>36.27</td>
<td>PT Marga Nijayoso Agung</td>
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** Herawati S Irawati

Toll charge Jakarta-Surabaya = Rp 1,380,000 Atau Rp 1,800/km (Source by BPJT Regulation)

**Saving travel time by 30 percent or earlier by at 5 hours than traveling time required to cover the same distance via national road**

Reducing logistic transport cost

A good transport from Jakarta-Surabaya takes an average 2 days → Travel time certainty shorter
Is there impact of toll Trans Java Development through the national Road demand

Are the driver’s characteristics influencing their route choice

What are the factors driver decision in using national or toll road?

Are The factors sensitivity??
ROUTE CHOICE OF FREIGHT DRIVERS’ PERCEPTION
HERAWATI $ IRAWATI

METHODOLOGY

RESPONDEN

PENGEMUDI TRUK

OPERASIONAL

LOADING/UNLOADING
PAYMENT METHOD

ROUTE CHOICE

FARE
TIME
WORKSHOP/ PARKING/ RESTAURANT
ACCESS
ROAD GEOMETRIC AND SURFACE

ROUTE

NATIONAL ROAD
COMBINED
TOLL ROAD
SURVEY LOCATION

REST AREA
UPPKB JEMBATAN TIMBANG
1. BALONGGADU
2. LOSARANG
3. TANJUNG
4. SUBAH
5. SERANG
6. WIDAN
7. WIDODARE

INTERVIEWING TRUCK DRIVER
100 samples (50%)
100 samples (50%)
RESULT AND DISCUSSION

Impact to The National Road

WEIGHTBRIDGE

TRAFFIC REDUCTION

SANCTION REDUCTION
RESULT AND DISCUSSION

Route Choice Factors

1.7
GEOMETRIC/ SURFACE OF ROAD

1.6
REST AREA/ RESTAURANT

1.7
WEIGHTBRIDGE

2
TRAVEL TIME

79% CONTRACT PER TRIP

RENT
MONTHLY SALARY
OTHERS

PAYMENT OPTION

INTENSIVE
THE BEST DRIVER PREFERENCES

NATIONAL ROAD
TOLL ROAD

The most factor

ROUTE CHOICE OF FREIGHT DRIVERS’ PERCEPTION
HERAWATI $ IRAWATI
RESULT AND DISCUSSION
SENSITIVITY OF THAT FACTORS

Positive mark represents that freight driver’s perception tends to make use of toll road

Negative mark indicates that high toll fare will subside probability of toll road choice

Positive mark shows that toll access will increasing toll road probability

Negative mark points that the expensive price of Restaurant/Workshop/rest area will diminish roll road user

Negative Mark illustrates that geometric’s and surface’s toll road will escalate the toll road volume

• R-square
  R-square = 0.695 or 69.5% (Cox & Snell) and 0.938 or 93.8% (Nagekerk).

• Uji chi-square
  p-signifikansi = 0.58 (>0.05) and H0 accepted.

p-value signifikansi
  Every variable> 0.05 maka terima H0.
RESULT AND DISCUSSION
SENSITIVITY OF THAT FACTORS

The curve tends to negative area

![Graph showing sensitivity of factors]

Sensitivity graphic gradually

**HIGH** Toll Fare

**EXPENSIVE** Restaurant/Rest Area/Workshop

**WORSE** Road Condition

ROUTE CHOICE OF FREIGHT DRIVERS' PERCEPTION
HERAWATI $ IRAWATI

**RESULT AND DISCUSSION**

**SENSITIVITY OF FACTORS**

<table>
<thead>
<tr>
<th>VOLUME</th>
<th>BIAYA</th>
<th>RENVENUE</th>
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<tr>
<td>325.19</td>
<td>-</td>
<td>Rp 315,71</td>
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<tr>
<td>315.71</td>
<td>17,600</td>
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<td>304.46</td>
<td>35,200</td>
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<td>291.48</td>
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<td>276.97</td>
<td>70,400</td>
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<td>88,000</td>
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<td>245.21</td>
<td>105,600</td>
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<td>229.18</td>
<td>123,200</td>
<td>Rp 28,235,398</td>
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<tr>
<td>213.91</td>
<td>140,800</td>
<td>Rp 30,119,169</td>
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<tr>
<td>199.93</td>
<td>158,400</td>
<td>Rp 31,668,764</td>
</tr>
</tbody>
</table>

**LOWER TOLL RATE = HIGHER TRAFFIC VOLUMES = HIGHER TOLL REVENUE**

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RM/BENGKEL/REST AREA

SPBU
RESULT AND DISCUSSION
SENSITIVITY OF THAT FACTORS

ROUTE CHOICE OF FREIGHT DRIVERS' PERCEPTION
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CONCLUSION

1. Java Toll Road has reduced freight volume on National Road
   Reducing Average Traffic Volume and Number of Sanctions

2. Driver Behaviour and Intensive Awarded
   Internal and External Costs and the best performance

3. Factor Effecting of Freight Drivers
   Toll fare, Toll Access, Weighbridge on Arterial Road, Toll road Facilities

4. Sensitivity
   Positive with toll road access and Weighbridge on Arterial Road
   Negative with toll road fare, Expensive price of restaurant menu/workshop services/Rest area limited

RECOMENDATION

1. Knowledge and Information Improvement
   Training and socializing toll road facilities

2. Fare Discounted
   Low Season Such as Night travelling, Weekday or off-peak hours

3. Weight Bridge on Toll Road
   Controlling overweight and Overdimension truck
THANK YOU