

## BAB VI

### KESIMPULAN DAN SARAN

#### 6.1. Kesimpulan

Setelah dilakukan pengolahan dan analisis data, maka diperoleh kesimpulan sebagai berikut:

1. Persentase pelanggaran kelebihan muatan (*overloading*) yang terjadi di Jembatan Timbang Kalitirto sebesar 39,1%, Jembatan Timbang Tamanmartani 23,1% dan Jembatan Timbang Kulwaru sebesar 35,1%. Dari data persentase masing-masing jembatan timbang tersebut diketahui bahwa total persentase pelanggaran pada jembatan timbang di Daerah Istimewa Yogyakarta dengan periode pencatatan beban dari bulan September 2015 – September 2016 adalah sebesar 32,43%.
2. Pelanggaran *overloading* yang terjadi pada jembatan timbang di Provinsi Daerah Istimewa Yogyakarta mengakibatkan penurunan umur sebesar 16,548% atau umur sisa jalan hanya sebesar 83,452% pada perkerasan Jalan Arteri Selatan
3. Beban berlebih yang terjadi juga memberikan pengaruh berupa peningkatan kebutuhan tebal perkerasan aktual (dengan beban gandar berlebih) terhadap tebal perkerasan rencana (dengan beban gandar standar) pada Jalan Arteri Selatan. Penambahan tebal perkerasan lapis permukaan berkisar 0,7 – 0,9 cm, lapis pondasi atas berkisar 1,0 – 1,8 cm, dan lapis pondasi bawah berkisar 1,0 – 2,0 cm.

## 6.2. Saran

Saran-saran yang dapat diberikan terkait penelitian ini adalah:

1. Perlu dilakukan penindakan yang lebih tegas kepada pelanggar yang dapat memberikan efek jera kepada pelanggar terutama kepada pelanggar yang tidak menaati rambu di jembatan timbang.
2. Untuk pemerintah disarankan lebih memperhatikan operasional jembatan timbang dan memberikan anggaran yang sesuai supaya operasional jembatan timbang dapat berjalan lebih baik.
3. Untuk pemerintah agar menurunkan kembali satuan polisi atau polisi militer untuk melakukan pengawasan dan penindakan kepada kendaraan angkutan barang yang melanggar rambu pada jembatan timbang.
4. Akibat beban berlebih (*overloading*) yang terjadi tebal perkerasan jalan yang dibutuhkan meningkat. Apabila perencana ingin mempertahankan umur rencana maka harus melakukan penambahan tebal perkerasan.
5. Untuk mengantisipasi kerusakan dini dan penurunan umur rencana perkerasan maka disarankan agar saat melakukan perencanaan tebal perkerasan perencana sudah memperhitungkan beban berlebih yang terjadi agar ketika terjadi beban berlebih di jalan maka jalan masih mampu menahan beban berlebih tersebut.
6. Untuk mengatasi banyaknya kendaraan muatan barang yang *overload* sebaiknya dilaksanakan kembali kerjasama antara jembatan timbang dengan Kementerian Pekerjaan Umum Bina Marga dalam operasi penegakan hukum.

7. Pada penelitian ini hanya dianalisis pengaruh beban berlebih (*overloading*) terhadap perkerasan ruas jalan raya. Diharapkan pada penelitian berikutnya dapat menghitung pengaruh beban berlebih (*overloading*) pada perkerasan jalan di jembatan.



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## Lampiran 1. Surat Ijin Penelitian

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**PEMERINTAH DAERAH DAERAH ISTIMEWA YOGYAKARTA**  
**SEKRETARIAT DAERAH**  
 Kompleks Kepatihan, Danurejan, Telepon (0274) 562811 - 562814 (Hunting)  
 YOGYAKARTA 55213

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**SURAT KETERANGAN / IJIN**  
070/REG/VI/469 B/2016

Membawa Surat	DEKAN FAKULTAS TEKNIK	Nomor	2550/XII/II/2016
Tanggal	25 AGUSTUS 2016	Perihal	IJIN STUDI PENDAHULUAN/MENCARI DATA/PRA PENELITIAN/ORIENTASI LAPANGAN/WAWANCARA

Mengingat:

1. Peraturan Pemerintah Nomor 41 Tahun 2006, tentang Perizinan bagi Perguruan Tinggi Asing, Lembaga Penelitian dan Pengabdian Masyarakat, Badan Usaha Asing dan Orang Asing dalam melakukan Kegiatan Penelitian dan Pengembangan di Indonesia;
2. Peraturan Menteri Dalam Negeri Nomor 20 Tahun 2011, tentang Pedoman Penelitian dan Pengembangan di Lingkungan Kementerian Dalam Negeri dan Pemerintah Daerah;
3. Peraturan Gubernur Daerah Istimewa Yogyakarta Nomor 37 Tahun 2008, tentang Rincian Tugas dan Fungsi Satuan Organisasi di Lingkungan Sekretariat Daerah dan Sekretariat Dewan Perwakilan Rakyat Daerah;
4. Peraturan Gubernur Daerah Istimewa Yogyakarta Nomor 18 Tahun 2009 tentang Pedoman Pelayanan Perizinan, Rekomendasi Pelaksanaan Survei, Penelitian, Pendataan, Pengembangan, Pengkajian, dan Studi Lapangan di Daerah Istimewa Yogyakarta.

**DIJUJURKAN** untuk melakukan kegiatan survei/penelitian/pendataan/pengembangan/pengkajian/studi lapangan kepada:

Nama	DYAH SARASWATI	NPM/ID	130214683
Alamat	FAKULTAS TEKNIK, TEKNIK SIPIL, UNIVERSITAS ATMA JAYA YOGYAKARTA		
Judul	-		
Lokasi	DINAS PERHUBUNGAN DIY		
Waktu	29 AGUSTUS 2016 s.d 29 SEPTEMBER 2016		

Dengan ketentuan:

1. Menyajikan surat keterangan/ijin survei/penelitian/pendataan/pengembangan/pengkajian/studi lapangan \*) dari Pemerintah Daerah DIY kepada Bupati/Walikota melalui instansi yang berwenang mengeluarkan ijin dimaksud;
2. Menyajikan soft copy hasil penelitiannya baik kepada Gubernur Daerah Istimewa Yogyakarta melalui Biro Administrasi Pembangunan Selda DIY dalam compact disk (CD) maupun mengunggah (upload) melalui website adbang jogjaprov.go.id dan menyerahkan cetakan asli yang sudah dibubuhi dan ditubuh cap institusi;
3. Ijin ini hanya dipergunakan untuk keperluan ilmiah, dan pemegang ijin wajib menaati ketentuan yang berlaku di lokasi kegiatan;
4. Ijin penelitian dapat diperpanjang maksimal 2 (dua) kali dengan menyerahkan surat ini kembali sebelum berakhir waktunya setelah mengajukan perpanjangannya melalui website adbang jogjaprov.go.id;
5. Ijin yang diberikan dapat dibatalkan sewaktu-waktu apabila pemegang ijin ini tidak memenuhi ketentuan yang berlaku.

Dikeluarkan di Yogyakarta  
 Pada tanggal **29 AGUSTUS 2016**  
 A.n Sekretaris Daerah  
 Asisten Perencanaan dan Pembangunan  
 Ut  
 Kepala Biro Administrasi Pembangunan



Dis. *[Signature]*  
 20160829 130214683

**Tembusan:**

1. GUBERNUR DAERAH ISTIMEWA YOGYAKARTA (SEBAGAI LAPORAN)
2. BUPATI SLEMAN C.Q KA. BAKESBANGLINMAS SLEMAN
3. DINAS PERHUBUNGAN DIY
4. DEKAN FAKULTAS TEKNIK, UNIVERSITAS ATMA JAYA YOGYAKARTA
5. YANG BERSANGKUTAN

Gambar Lampiran 1-1 Surat Ijin Penelitian Gubernur Provinsi Daerah Istimewa Yogyakarta

## Lampiran 2. Data Lalu Lintas Harian Rata-Rata

INFRA MARGA INTERURBAN ROAD MANAGEMENT SYSTEM CENTRAL DATABASE							TRAFFIC SUMMARY REPORT												
2015							DI Yogyakarta (26)												
Line Traffic Post	AADT		Car %	Bus %	LT1 %	HT1 %	Motor Cycle	Car	UL1 1	UL1 2	Small Bus	Large Bus	Truck 2x a)	Truck 2x b)	Truck 3x a)	Truck 3x b)	Truck 3x c)	No Mot Traf	Survey Year
	MBT	Total					Veh 1	Veh 2	Veh 3	Veh 4	Veh5a	Veh5b	Veh6a	Veh6b	Veh7a	Veh7b	Veh7c	Veh 8	
001 - KABANG NONGKO (BTL PROV. JATENG) - TOYAN							Status: N/A												
A001	11,958	20,710	80.38	8.28	8.75	2.59	8,595	2,094	6,739	779	72	817	86	950	225	38	46	157	2016
002 - TOYAN - BTL. KOTA WATES							Status: N/A												
A002	13,002	28,967	83.53	7.07	6.91	2.48	15,329	5,701	4,083	1,077	257	662	233	666	233	40	50	536	2016
00211 K - JLN. CHUDRI (WATES)							Status: N/A												
A00211	9,052	40,272	65.85	8.40	20.26	5.48	30,837	2,532	1,916	1,113	123	637	308	1,526	241	111	145	383	2016
003 - BTL. KOTA WATES - MELIR							Status: N/A												
A003	11,252	30,668	88.54	7.67	16.80	5.79	27,512	4,738	1,349	1,736	308	576	483	1,407	272	186	194	1,104	2016
00311 K - JLN. KOL. SUGIYONO (WATES)							Status: N/A												
A00311	13,443	40,597	70.88	8.32	12.58	7.12	26,355	3,512	4,971	1,059	602	651	646	1,045	500	260	197	799	2016
004 - MELIR - SENTOLO							Status: N/A												
A004	15,373	46,705	80.97	5.72	8.68	4.63	29,709	7,898	3,081	1,468	341	538	804	731	311	224	177	1,623	2016
005 - SENTOLO - BTL. KAB. ELEMAN							Status: N/A												
A005	14,343	55,330	73.85	7.28	13.34	5.53	40,106	5,590	3,582	1,441	497	547	694	1,219	267	270	166	881	2016
006 - BTL. KAN. KULON PROGO - YOGYAKARTA							Status: N/A												
A006	13,633	56,229	74.54	7.35	12.36	4.75	42,408	1,911	6,660	1,381	278	724	304	1,517	382	72	214	188	2016
00611 Y - JLN. BATAS KOTA - PELEM GURH (GAMPING) (YOGYAKARTA)							Status: N/A												
A00611	14,507	103,857	92.14	3.07	4.52	0.27	88,545	4,492	7,671	1,204	332	114	178	477	28	0	11	805	2016
00711 K - JALAN ARTERI SELATAN (YOGYAKARTA)							Status: N/A												
A00711	14,507	103,857	92.14	3.07	4.52	0.27	88,545	4,492	7,671	1,204	332	114	178	477	28	0	11	805	2016
008 - YOGYAKARTA - PINGGIRAN							Status: N/A												
A008	54,485	101,262	93.55	3.29	2.54	0.63	45,959	45,959	1,337	3,673	633	1,157	380	1,002	258	34	52	818	2016
009 - PINGGIRAN - BTL. KAB. SUKOHARJO							Status: N/A												
A009	8,148	43,742	78.81	4.85	16.65	1.60	35,143	3,568	1,189	1,510	220	175	297	1,070	92	11	27	450	2016
010 - BTL. KAB. BANTUL - GADING							Status: N/A												
A010	6,092	28,220	84.31	3.94	10.75	1.00	22,039	1,111	3,084	641	129	111	137	518	58	0	3	89	2016
011 - GADING - GLEBAG							Status: N/A												
A011	10,912	44,544	78.78	2.99	16.87	1.37	33,397	1,736	4,924	1,836	182	144	569	1,272	117	7	25	235	2016
012 - GLEBAG - WONOSARI (LINGKAR) (DURA WONOSARI)							Status: N/A												
A012	10,645	43,046	78.56	3.00	17.04	1.40	32,188	1,693	4,762	1,906	181	136	546	1,206	117	7	25	233	2016
013 - LINGKAR SELATAN WONOSARI							Status: N/A												
A013	11,227	44,973	78.03	3.36	16.78	1.85	33,483	1,782	4,873	2,005	210	167	591	1,291	155	15	38	283	2016
014 - BTL. KOTA WONOSARI - NGRETHARI - PACIJAK - BEDOYO - DUWET							Status: N/A												
A014	1,119	11,823	77.03	3.31	18.68	0.98	10,361	661	35	162	22	15	115	94	11	0	0	343	2016

A007 - Total motorized traffic (All but Veh 1 and Veh 8)

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Gambar Lampiran 2-1 Data Lalu Lintas Harian Rata-Rata P2JN Provinsi Daerah Istimewa Yogyakarta

**Lampiran 3. Perhitungan Nilai CESA Rencana dan Aktual**

**Tabel Lampiran 3-1 Perhitungan Nilai CESA Rencana Tahun 1, Tahun 2, Tahun 3, Tahun 4, dan Tahun 5**

No	Golongan Kendaraan	LHR	<i>E</i>	<i>C</i>	<i>g</i>	Tahun ke-1		Tahun ke-2		Tahun ke-3		Tahun ke-4		Tahun ke-5	
						<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL
1	Golongan 2	4.492	0,0005	0,5	6%	1,03	380,9	2,12	784,7	3,28	1.212,6	4,51	1.666,3	5,81	2.147,1
2	Golongan 3	7.671	0,0072	0,5	6%	1,03	10.407,4	2,12	21.439,2	3,28	33.132,9	4,51	45.528,3	5,81	58.667,4
4	Golongan 4	1.204	0,0176	0,5	6%	1,03	3.988,0	2,12	8.215,3	3,28	12.696,2	4,51	17.446,0	5,81	22.480,8
5	Golongan 5a	332	0,0594	0,5	6%	1,03	3.705,2	2,12	7.632,8	3,28	11.796,1	4,51	16.209,0	5,81	20.886,7
6	Golongan 5b	114	0,3006	0,5	6%	1,03	6.440,9	2,12	13.268,3	3,28	20.505,3	4,51	28.176,5	5,81	36.308,0
7	Golongan 6a	178	0,2174	0,5	6%	1,03	7.274,5	2,12	14.985,5	3,28	23.159,2	4,51	31.823,3	5,81	41.007,2
8	Golongan 6b	447	5,0264	0,5	6%	1,03	422.343,08	2,12	870.026,74	3,28	1.344.571,42	4,51	1.847.588,78	5,81	2.380.787,18
9	Golongan 7a	28	2,7416	0,5	6%	1,03	14.429,72	2,12	29.725,22	3,28	45.938,45	4,51	63.124,48	5,81	81.341,67
10	Golongan 7b	0	3,9083	0,5	6%	1,03	-	2,12	-	3,28	-	4,51	-	5,81	-
11	Golongan 7c	11	10,1829	0,5	6%	1,03	21.055,48	2,12	43.374,30	3,28	67.032,24	4,51	92.109,66	5,81	118.691,72
Total						490.025,23		1.009.451,98		1.560.044,33		2.143.672,22		2.762.317,79	



**Tabel Lampiran 3-2 Perhitungan Nilai CESA Rencana Tahun 6, Tahun 7, Tahun 8, Tahun 9, dan Tahun 10**

No	Golongan Kendaraan	LHR	<i>E</i>	<i>C</i>	<i>g</i>	Tahun ke-6		Tahun ke-7		Tahun ke-8		Tahun ke-9		Tahun ke-10	
						<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL
1	Golongan 2	4.492	0,0005	0,5	6%	7,18	2.656,9	8,65	3.197,2	10,19	3.769,9	11,84	4.377,0	13,58	5.020,5
2	Golongan 3	7.671	0,0072	0,5	6%	7,18	72.594,8	8,65	87.357,9	10,19	103.006,7	11,84	119.594,5	13,58	137.177,5
4	Golongan 4	1.204	0,0176	0,5	6%	7,18	27.817,6	8,65	33.474,7	10,19	39.471,2	11,84	45.827,5	13,58	52.565,1
5	Golongan 5a	332	0,0594	0,5	6%	7,18	25.845,2	8,65	31.101,1	10,19	36.672,4	11,84	42.578,0	13,58	48.837,9
6	Golongan 5b	114	0,3006	0,5	6%	7,18	44.927,4	8,65	54.063,9	10,19	63.748,7	11,84	74.014,5	13,58	84.896,3
7	Golongan 6a	178	0,2174	0,5	6%	7,18	50.742,1	8,65	61.061,2	10,19	71.999,4	11,84	83.593,9	13,58	95.884,0
8	Golongan 6b	447	5,0264	0,5	6%	7,18	2.945.977,5	8,65	3.545.079,2	10,19	4.180.127,0	11,84	4.853.277,7	13,58	5.566.817,5
9	Golongan 7a	28	2,7416	0,5	6%	7,18	100.651,9	8,65	121.120,7	10,19	142.817,7	11,84	165.816,5	13,58	190.195,2
10	Golongan 7b	0	3,9083	0,5	6%	7,18	-	8,65	-	10,19	-	11,84	-	13,58	-
11	Golongan 7c	11	10,1829	0,5	6%	7,18	146.868,7	8,65	176.736,3	10,19	208.396,0	11,84	241.955,2	13,58	277.528,0
Total						3.418.082,09		4.113.192,25		4.850.009,01		5.631.034,79		6.458.922,11	

**Tabel Lampiran 3-3 Perhitungan Nilai CESA Rencana Tahun 11, Tahun 12, Tahun 13, Tahun 14, dan Tahun 15**

No	Golongan Kendaraan	LHR	<i>E</i>	<i>C</i>	<i>g</i>	Tahun ke-11		Tahun ke-12		Tahun ke-13		Tahun ke-14		Tahun ke-15	
						<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL	<i>N</i>	ESAL
1	Golongan 2	4.492	0,0005	0,5	6%	15,42	5.702,7	17,38	6.425,7	19,45	7.192,2	21,65	8.004,6	23,97	8.865,8
2	Golongan 3	7.671	0,0072	0,5	6%	15,42	155.815,6	17,38	175.571,9	19,45	196.513,6	21,65	218.711,8	23,97	242.241,9
4	Golongan 4	1.204	0,0176	0,5	6%	15,42	59.707,0	17,38	67.277,5	19,45	75.302,1	21,65	83.808,2	23,97	92.824,7
5	Golongan 5a	332	0,0594	0,5	6%	15,42	55.473,4	17,38	62.507,0	19,45	69.962,7	21,65	77.865,7	23,97	86.242,9
6	Golongan 5b	114	0,3006	0,5	6%	15,42	96.431,0	17,38	108.657,8	19,45	121.618,1	21,65	135.356,1	23,97	149.918,4
7	Golongan 6a	178	0,2174	0,5	6%	15,42	108.911,6	17,38	122.720,8	19,45	137.358,6	21,65	152.874,6	23,97	169.321,6
8	Golongan 6b	447	5,0264	0,5	6%	15,42	6.323.169,6	17,38	7.124.902,9	19,45	7.974.740,1	21,65	8.875.567,6	23,97	9.830.444,7
9	Golongan 7a	28	2,7416	0,5	6%	15,42	216.036,6	17,38	243.428,5	19,45	272.463,9	21,65	303.241,5	23,97	335.865,7
10	Golongan 7b	0	3,9083	0,5	6%	15,42	-	17,38	-	19,45	-	21,65	-	23,97	-
11	Golongan 7c	11	10,1829	0,5	6%	15,42	315.235,2	17,38	355.204,8	19,45	397.572,6	21,65	442.482,4	23,97	490.086,8
Total						7.336.482,67		8.266.696,86		9.252.723,90		10.297.912,57		11.405.812,55	

**Tabel Lampiran 3-4 Perhitungan Nilai CESA Rencana Tahun 16, Tahun 17, Tahun 18, Tahun 19, dan Tahun 20**

No	Golongan Kendaraan	LHR	E	C	g	Tahun ke-16		Tahun ke-17		Tahun ke-18		Tahun ke-19		Tahun ke-20	
						N	ESAL	N	ESAL	N	ESAL	N	ESAL	N	ESAL
1	Golongan 2	4.492	0,0005	0,5	6%	26,44	9.778,6	29,06	10.746,2	31,83	11.771,9	34,77	12.859,1	37,89	14.011,6
2	Golongan 3	7.671	0,0072	0,5	6%	26,44	267.183,8	29,06	293.622,2	31,83	321.646,9	34,77	351.353,1	37,89	382.841,6
4	Golongan 4	1.204	0,0176	0,5	6%	26,44	102.382,2	29,06	112.513,2	31,83	123.252,0	34,77	134.635,1	37,89	146.701,2
5	Golongan 5a	332	0,0594	0,5	6%	26,44	95.122,7	29,06	104.535,3	31,83	114.512,6	34,77	125.088,6	37,89	136.299,1
6	Golongan 5b	114	0,3006	0,5	6%	26,44	165.354,4	29,06	181.716,6	31,83	199.060,5	34,77	217.445,0	37,89	236.932,7
7	Golongan 6a	178	0,2174	0,5	6%	26,44	186.755,5	29,06	205.235,3	31,83	224.824,0	34,77	245.587,9	37,89	267.597,7
8	Golongan 6b	447	5,0264	0,5	6%	26,44	10.842.614,5	29,06	11.915.514,4	31,83	13.052.788,4	34,77	14.258.298,8	37,89	15.536.139,8
9	Golongan 7a	28	2,7416	0,5	6%	26,44	370.447,4	29,06	407.103,9	31,83	445.959,9	34,77	487.147,2	37,89	530.805,7
10	Golongan 7b	0	3,9083	0,5	6%	26,44	-	29,06	-	31,83	-	34,77	-	37,89	-
11	Golongan 7c	11	10,1829	0,5	6%	26,44	540.547,5	29,06	594.035,8	31,83	650.733,5	34,77	710.833,0	37,89	774.538,4
Total						12.580.186,54		13.825.022,97		15.144.549,58		16.543.247,78		18.025.867,88	

**Tabel Lampiran 3-5 Perhitungan Nilai CESA Aktual Tahun 1, Tahun 2, Tahun 3, Tahun 4, dan Tahun 5**

No	Uraian	LHR	Proporsi	LHR *	E	C	g	Tahun ke-1		Tahun ke-2		Tahun ke-3		Tahun ke-4		Tahun ke-5		
								N	ESAL	N	ESAL	N	ESAL	N	ESAL	N	ESAL	
1	Golongan 2	4.492	100%	4.492	0,0005	0,5	6%	1,03	380,9	2,12	784,7	3,28	1.212,6	4,51	1.666,3	5,81	2.147,2	
2	Golongan 3	TM	7.671	78%	5.978	0,0072	0,5	6%	1,03	8.110,2	2,12	16.707,0	3,28	25.819,6	4,51	35.479,0	5,81	45.717,9
		M	7.671	22%	1.693	0,0113	0,5	6%	1,03	3.599,3	2,12	7.414,6	3,28	11.458,9	4,51	15.745,7	5,81	20.289,8
4	Golongan 4	1.204	100%	1.204	0,0176	0,5	6%	1,03	3.988,0	2,12	8.215,3	3,28	12.696,2	4,51	17.446,0	5,81	22.480,8	
5	Golongan 5a	332	100%	332	0,0594	0,5	6%	1,03	3.705,2	2,12	7.632,8	3,28	11.796,0	4,51	16.209,0	5,81	20.886,7	
6	Golongan 5b	114	100%	114	0,3006	0,5	6%	1,03	6.440,9	2,12	13.268,3	3,28	20.505,3	4,51	28.176,5	5,81	36.308,0	
7	Golongan 6a	TM	178	63%	112	0,2174	0,5	6%	1,03	4.566,0	2,12	9.406,0	3,28	14.536,4	4,51	19.974,6	5,81	25.739,1
		M	178	37%	66	0,3294	0,5	6%	1,03	4.103,7	2,12	8.453,6	3,28	13.064,5	4,51	17.952,0	5,81	23.132,9
8	Golongan 6b	TM	447	62%	276	5,0264	0,5	6%	1,03	260.540,6	2,12	536.713,6	3,28	829.457,0	4,51	1.139.765,0	5,81	1.468.691,4
		M	447	38%	171	7,8669	0,5	6%	1,03	253.237,7	2,12	521.669,6	3,28	806.207,5	4,51	1.107.817,7	5,81	1.427.524,4
9	Golongan 7a	TM	28	65%	18	2,7416	0,5	6%	1,03	9.394,7	2,12	19.353,0	3,28	29.908,9	4,51	41.098,1	5,81	52.958,7
		M	28	35%	10	3,8215	0,5	6%	1,03	7.018,3	2,12	14.457,7	3,28	22.343,5	4,51	30.702,4	5,81	39.562,8
10	Golongan 7b	TM	0	58%	0	3,9083	0,5	6%	1,03	-	2,12	-	3,28	-	4,51	-	5,81	-
		M	0	42%	0	5,4055	0,5	6%	1,03	-	2,12	-	3,28	-	4,51	-	5,81	-
11	Golongan 7c	TM	11	79%	9	10,1829	0,5	6%	1,03	16.719,5	2,12	34.442,1	3,28	53.228,1	4,51	73.141,2	5,81	94.249,1
		M	11	21%	2	12,6510	0,5	6%	1,03	5.387,0	2,12	11.097,2	3,28	17.150,0	4,51	23.566,0	5,81	30.367,0
Total								587.192,0	1.209.615,5		1.869.384,4		2.568.739,5		3.310.055,8			

**Tabel Lampiran 3-6 Perhitungan Nilai CESA Aktual Tahun 6, Tahun 7, Tahun 8, Tahun 9, dan Tahun 10**

No	Uraian	LHR	Proporsi	LHR *	E	C	g	Tahun ke-6		Tahun ke-7		Tahun ke-8		Tahun ke-9		Tahun ke-10		
								N	ESAL	N	ESAL	N	ESAL	N	ESAL	N	ESAL	
1	Golongan 2	4.492	100%	4.492	0,0005	0,5	6%	7,18	2.656,9	8,65	3.197,2	10,19	3.769,9	11,84	4.377,0	13,58	5.020,5	
2	Golongan 3	TM	7.671	78%	5.978	0,0072	0,5	6%	7,18	56.571,2	8,65	68.075,7	10,19	80.270,4	11,84	93.196,9	13,58	106.898,9
		M	7/671	22%	1.693	0,0113	0,5	6%	7,18	25.106,5	8,65	30.212,3	10,19	35.624,3	11,84	41.361,1	13,58	47.442,1
4	Golongan 4	1.204	100%	1.204	0,0176	0,5	6%	7,18	27.817,6	8,65	33.474,7	10,19	39.471,2	11,84	45.827,5	13,58	52.565,1	
5	Golongan 5a	332	100%	332	0,0594	0,5	6%	7,18	25.845,2	8,65	31.101,1	10,19	36.672,4	11,84	42.578,0	13,58	48.837,9	
6	Golongan 5b	114	100%	114	0,3006	0,5	6%	7,18	44.927,4	8,65	54.063,9	10,19	63.748,7	11,84	74.014,5	13,58	84.896,3	
7	Golongan 6a	TM	178	63%	112	0,2174	0,5	6%	7,18	31.849,5	8,65	38.326,5	10,19	45.192,1	11,84	52.469,7	13,58	60.183,9
		M	178	37%	66	0,3294	0,5	6%	7,18	28.624,5	8,65	34.445,7	10,19	40.616,1	11,84	47.156,7	13,58	54.089,8
8	Golongan 6b	TM	447	62%	276	5,0264	0,5	6%	7,18	1.817.353,5	8,65	2.186.935,3	10,19	2.578.692,0	11,84	2.993.954,1	13,58	3.434.131,9
		M	447	38%	171	7,8669	0,5	6%	7,18	1.766.413,6	8,65	2.125.636,1	10,19	2.506.411,9	11,84	2.910.034,3	13,58	3.337.874,1
9	Golongan 7a	TM	28	65%	18	2,7416	0,5	6%	7,18	65.530,9	8,65	78.857,4	10,19	92.983,5	11,84	107.957,2	13,58	123.829,3
		M	28	35%	10	3,8215	0,5	6%	7,18	48.954,9	8,65	58.910,5	10,19	69.463,4	11,84	80.649,5	13,58	92.506,8
10	Golongan 7b	TM	0	58%	0	3,9083	0,5	6%	7,18	-	8,65	-	10,19	-	11,84	-	13,58	-
		M	0	42%	0	5,4055	0,5	6%	7,18	-	8,65	-	10,19	-	11,84	-	13,58	-
11	Golongan 7c	TM	11	79%	9	10,1829	0,5	6%	7,18	116.623,5	8,65	140.340,4	10,19	165.480,3	11,84	192.128,5	13,58	220.375,7
		M	11	21%	2	12,6510	0,5	6%	7,18	37.576,0	8,65	45.217,5	10,19	53.317,6	11,84	61.903,6	13,58	71.004,8
Total								4.095.851,2		4.928.794,2		5.811.713,9		6.747.608,7		7.739.657,2		

**Tabel Lampiran 3-7 Perhitungan Nilai CESA Aktual Tahun 11, Tahun 12, Tahun 13, Tahun 14, dan Tahun 15**

No	Uraian	LHR	Proporsi	LHR*	E	C	g	Tahun ke-11		Tahun ke-12		Tahun ke-13		Tahun ke-14		Tahun ke-15		
								N	ESAL	N	ESAL	N	ESAL	N	ESAL	N	ESAL	
1	Golongan 2	4.492	100%	4.492	0,0005	0,5	6%	15,42	5.702,7	17,38	6.425,7	19,45	7.192,2	21,65	8.004,6	23,97	8.865,8	
2	Golongan 3	TM	7.671	78%	5.978	0,0072	0,5	6%	15,42	121.423,0	17,38	136.818,6	19,45	153.137,9	21,65	170.436,4	23,97	188.772,8
		M	7.671	22%	1.693	0,0113	0,5	6%	15,42	53.888,0	17,38	60.720,6	19,45	67.963,2	21,65	75.640,3	23,97	83.778,1
4	Golongan 4	1.204	100%	1.204	0,0176	0,5	6%	15,42	59.707,0	17,38	67.277,5	19,45	75.302,1	21,65	83.808,2	23,97	92.824,7	
5	Golongan 5a	332	100%	332	0,0594	0,5	6%	15,42	55.473,4	17,38	62.507,0	19,45	69.962,7	21,65	77.865,7	23,97	86.242,9	
6	Golongan 5b	114	100%	114	0,3006	0,5	6%	15,42	96.431,0	17,38	108.657,8	19,45	121.618,1	21,65	135.356,1	23,97	149.918,4	
7	Golongan 6a	TM	178	63%	112	0,2174	0,5	6%	15,42	68.360,9	17,38	77.028,6	19,45	86.216,3	21,65	95.955,4	23,97	106.278,7
		M	178	37%	66	0,3294	0,5	6%	15,42	61.438,9	17,38	69.228,9	19,45	77.486,3	21,65	86.239,2	23,97	95.517,3
8	Golongan 6b	TM	447	62%	276	5,0264	0,5	6%	15,42	3.900.720,4	17,38	4.395.304,2	19,45	4.919.563,0	21,65	5.475.277,4	23,97	6.064.334,6
		M	447	38%	171	7,8669	0,5	6%	15,42	3.791.384,2	17,38	4.272.104,9	19,45	4.781.668,9	21,65	5.321.806,8	23,97	5.894.352,9
9	Golongan 7a	TM	28	65%	18	2,7416	0,5	6%	15,42	140.653,8	17,38	158.487,7	19,45	177.391,6	21,65	197.429,8	23,97	218.670,3
		M	28	35%	10	3,8215	0,5	6%	15,42	105.075,5	17,38	118.398,3	19,45	132.520,5	21,65	147.490,1	23,97	163.357,8
10	Golongan 7b	TM	0	58%	0	3,9083	0,5	6%	15,42	-	17,38	-	19,45	-	21,65	-	23,97	-
		M	0	42%	0	5,4055	0,5	6%	15,42	-	17,38	-	19,45	-	21,65	-	23,97	-
11	Golongan 7c	TM	11	79%	9	10,1829	0,5	6%	15,42	250.317,7	17,38	282.056,2	19,45	315.699,0	21,65	351.360,4	23,97	389.161,5
		M	11	21%	2	12,6510	0,5	6%	15,42	80.652,1	17,38	90.878,2	19,45	101.717,9	21,65	113.208,0	23,97	125.387,4
Total								8.791.228,6		9.905.894,3		11.087.440,0		12.339.878,3		13.667.463,0		

**Tabel Lampiran 3-8 Perhitungan Nilai CESA Aktual Tahun 16, Tahun 17, Tahun 18, Tahun 19, dan Tahun 20**

No	Uraian	LHR	Proporsi	LHR *	E	C	g	Tahun ke-16		Tahun ke-17		Tahun ke-18		Tahun ke-19		Tahun ke-20		
								N	ESAL	N	ESAL	N	ESAL	N	ESAL	N	ESAL	
1	Golongan 2	4492	100%	4492	0,0005	0,5	6%	26,44	9.778,6	29,06	10.746,2	31,83	11.771,9	34,77	12.859,1	37,89	14.011,6	
2	Golongan 3	TM	7671	78%	5978	0,0072	0,5	6%	26,44	208.209,3	29,06	228.812,1	31,83	250.651,0	34,77	273.800,3	37,89	298.338,5
		M	7671	22%	1693	0,0113	0,5	6%	26,44	92.404,1	29,06	101.547,7	31,83	111.239,9	34,77	121.513,6	37,89	132.403,8
4	Golongan 4	1204	100%	1204	0,0176	0,5	6%	26,44	102.382,2	29,06	112.513,2	31,83	123.252,0	34,77	134.635,1	37,89	146.701,2	
5	Golongan 5a	332	100%	332	0,0594	0,5	6%	26,44	95.122,7	29,06	104.535,3	31,83	114.512,6	34,77	125.088,6	37,89	136.299,1	
6	Golongan 5b	114	100%	114	0,3006	0,5	6%	26,44	165.354,4	29,06	181.716,6	31,83	199.060,5	34,77	217.445,0	37,89	236.932,7	
7	Golongan 6a	TM	178	63%	112	0,2174	0,5	6%	26,44	117.221,5	29,06	128.820,8	31,83	141.116,0	34,77	154.149,0	37,89	167.964,0
		M	178	37%	66	0,3294	0,5	6%	26,44	105.352,0	29,06	115.776,8	31,83	126.827,1	34,77	138.540,4	37,89	150.956,5
8	Golongan 6b	TM	447	62%	276	5,0264	0,5	6%	26,44	6.688.735,2	29,06	7.350.599,9	31,83	8.052.176,5	34,77	8.795.847,7	37,89	9.584.139,1
		M	447	38%	171	7,8669	0,5	6%	26,44	6.501.251,7	29,06	7.144.564,5	31,83	7.826.476,1	34,77	8.549.302,3	37,89	9.315.498,2
9	Golongan 7a	TM	28	65%	18	2,7416	0,5	6%	26,44	241.185,2	29,06	265.051,0	31,83	290.348,7	34,77	317.164,3	37,89	345.588,8
		M	28	35%	10	3,8215	0,5	6%	26,44	180.177,5	29,06	198.006,5	31,83	216.905,2	34,77	236.937,8	37,89	258.172,4
10	Golongan 7b	TM	0	58%	0	3,9083	0,5	6%	26,44	-	29,06	-	31,83	-	34,77	-	37,89	-
		M	0	42%	0	5,4055	0,5	6%	26,44	-	29,06	-	31,83	-	34,77	-	37,89	-
11	Golongan 7c	TM	11	79%	9	10,1829	0,5	6%	26,44	429.230,7	29,06	471.704,0	31,83	516.725,7	34,77	564.448,6	37,89	615.035,0
		M	11	21%	2	12,6510	0,5	6%	26,44	138.297,7	29,06	151.982,5	31,83	166.488,4	34,77	181.864,7	37,89	198.163,6
Total								15.074.702,8		16.566.377,0		18.147.551,6		19.823.596,6		21.600.204,4		



**Lampiran 4. Rekapitulasi Beban Overloading Pada Jembatan Timbang di Daerah Istimewa Yogyakarta**

**Tabel Lampiran 4-1 Data *Overloading* Kendaraan JBI < 8000 kg**

<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$
3	3	9	65	1	65	136	3	408
4	1	4	67	1	67	137	1	137
5	1	5	69	42	2.898	140	663	92.820
6	2	12	70	954	66.780	141	2	282
7	989	6.923	72	1	72	148	1	148
8	1	8	73	1	73	150	820	123.000
10	1.019	10.190	75	1	75	151	2	302
11	3	33	77	1	77	154	1	154
12	1	12	80	1.424	113.920	155	1	155
13	3	39	81	2	162	156	2	312
14	1	14	82	1	82	157	1	157
15	6	90	84	1	84	158	2	316
17	1	17	85	2	170	159	1	159
18	2	36	86	1	86	160	620	99.200
19	1	19	88	1	88	161	1	161
20	1.475	29.500	90	1.415	127.350	162	2	324
23	1	23	92	1	92	163	1	163
24	1	24	93	2	186	165	2	330
25	1	25	94	2	188	169	1	169
30	1.781	53.430	96	2	192	174	545	94.830
33	1	33	99	2	198	175	1	175
34	1	34	101	1.199	121.099	180	701	126.180
35	2	70	102	1	102	185	3	555
36	1	36	105	1	105	190	698	132.620
39	1	39	106	1	106	193	1	193
40	1.172	46.880	110	1.213	133.430	195	1	195
41	9	369	111	3	333	197	2	394
43	2	86	112	1	112	199	4	796
44	2	88	113	2	226	204	1.150	234.600
45	5	225	114	2	228	205	2	410
47	2	94	116	3	348	208	1	208
48	7	336	117	3	351	209	2	418
49	3	147	118	1	118	210	819	171.990
50	1.522	76.100	119	2	238	211	2	422
52	2	104	120	1.190	142.800	212	2	424
53	1	53	122	1	122	213	3	639
54	2	108	125	4	500	214	1	214
57	1	57	129	1	129	215	1	215
58	4	232	130	805	104.650	218	1	218
59	1	59	131	1	131	219	1	219
60	1.333	79.980	132	2	264	220	915	201.300
63	1	63	133	1	133	223	3	669



<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
224	2	448	375	1	375	640	104	66.560
225	25	5.625	380	93	35.340	643	1	643
230	558	128.340	393	1	393	650	117	76.050
231	2	462	397	1	397	660	88	58.080
236	1	236	398	212	84.376	670	47	31.490
237	1	237	400	267	106.800	680	63	42.840
239	1	239	410	154	63.140	690	61	42.090
240	848	203.520	413	1	413	700	289	202.300
241	1	241	414	3	1.242	710	154	109.340
245	1	245	415	1	415	719	1	719
247	1	247	420	139	58.380	720	162	116.640
250	1.160	290.000	430	123	52.890	730	101	73.730
251	2	502	440	77	33.880	740	83	61.420
252	6	1.512	441	2	882	741	1	741
254	2	508	450	139	62.550	749	1	749
256	1	256	460	101	46.460	750	256	192.000
262	682	178.684	464	1	464	755	1	755
263	1	263	470	67	31.490	760	66	50.160
265	1	265	480	201	96.480	770	53	40.810
266	1	266	489	1	489	780	61	47.580
270	434	117.180	490	141	69.090	790	76	60.040
275	1	275	500	214	107.000	800	102	81.600
283	1.437	406.671	510	83	42.330	810	85	68.850
284	1	284	520	109	56.680	819	1	819
285	1	285	530	82	43.460	820	138	113.160
299	1.001	299.299	531	1	531	825	1	825
300	641	192.300	535	1	535	830	78	64.740
304	1	304	540	64	34.560	840	58	48.720
306	1	306	550	89	48.950	850	65	55.250
311	680	211.480	560	69	38.640	860	62	53.320
312	1	312	570	61	34.770	870	42	36.540
319	1	319	580	56	32.480	880	40	35.200
320	528	168.960	590	61	35.990	885	1	885
330	380	125.400	600	483	289.800	890	34	30.260
336	1	336	605	1	605	900	73	65.700
345	313	107.985	610	165	100.650	910	52	47.320
354	2	708	620	234	145.080	913	1	913
355	1	355	621	1	621	920	56	51.520
359	405	145.395	624	2	1.248	930	39	36.270
363	295	107.085	625	1	625	940	40	37.600
365	1	365	629	1	629	949	1	949
374	358	133.892	630	91	57.330	950	44	41.800

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
957	1	957	1.260	40	50.400	1.520	72	109.440
960	23	22.080	1.264	1	1.264	1.528	1	1.528
963	1	963	1.270	37	46.990	1.530	59	90.270
965	1	965	1.280	41	52.480	1.540	47	72.380
970	19	18.430	1.290	43	55.470	1.550	54	83.700
979	1	979	1.294	1	1.294	1.560	50	78.000
980	32	31.360	1.299	1	1.299	1.570	36	56.520
990	19	18.810	1.300	81	105.300	1.580	62	97.960
1.009	215	216.935	1.310	44	57.640	1.590	41	65.190
1.010	73	73.730	1.320	105	138.600	1.600	259	414.400
1.013	1	1.013	1.330	33	43.890	1.603	1	1.603
1.020	58	59.160	1.340	36	48.240	1.610	115	185.150
1.030	29	29.870	1.350	64	86.400	1.615	1	1.615
1.040	49	50.960	1.358	1	1.358	1.616	1	1.616
1.044	5	5.220	1.360	36	48.960	1.618	1	1.618
1.050	40	42.000	1.370	58	79.460	1.619	1	1.619
1.060	31	32.860	1.380	30	41.400	1.625	217	352.625
1.070	31	33.170	1.390	78	108.420	1.630	125	203.750
1.080	20	21.600	1.397	1	1.397	1.634	1	1.634
1.090	29	31.610	1.400	184	257.600	1.635	1	1.635
1.100	70	77.000	1.401	1	1.401	1.640	105	172.200
1.110	29	32.190	1.407	1	1.407	1.650	103	169.950
1.120	34	38.080	1.410	83	117.030	1.660	104	172.640
1.130	41	46.330	1.413	1	1.413	1.670	79	131.930
1.145	37	42.365	1.417	1	1.417	1.672	1	1.672
1.149	1	1.149	1.418	1	1.418	1.674	1	1.674
1.150	66	75.900	1.420	135	191.700	1.675	1	1.675
1.160	46	53.360	1.430	66	94.380	1.677	1	1.677
1.170	35	40.950	1.440	59	84.960	1.678	1	1.678
1.173	1	1.173	1.455	134	194.970	1.687	94	158.578
1.180	29	34.220	1.460	74	108.040	1.690	52	87.880
1.190	62	73.780	1.467	1	1.467	1.693	1	1.693
1.197	1	1.197	1.470	85	124.950	1.697	1	1.697
1.200	77	92.400	1.474	2	2.948	1.700	196	333.200
1.209	1	1.209	1.475	1	1.475	1.701	2	3.402
1.210	54	65.340	1.476	1	1.476	1.707	1	1.707
1.214	1	1.214	1.477	1	1.477	1.710	150	256.500
1.220	54	65.880	1.480	57	84.360	1.711	1	1.711
1.230	46	56.580	1.490	76	113.240	1.720	133	228.760
1.240	45	55.800	1.509	207	312.363	1.721	1	1.721
1.243	1	1.243	1.510	63	95.130	1.723	1	1.723
1.250	85	106.250	1.514	2	3.028	1.729	1	1.729

<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>
1.730	106	183.380	2.040	2	4.080	2.600	1	2.600
1.731	2	3.462	2.060	1	2.060	2.610	4	10.440
1.740	101	175.740	2.070	2	4.140	2.630	2	5.260
1.741	1	1.741	2.090	1	2.090	2.650	2	5.300
1.750	163	285.250	2.100	1	2.100	2.660	1	2.660
1.760	95	167.200	2.110	3	6.330	2.670	2	5.340
1.762	1	1.762	2.130	2	4.260	2.680	2	5.360
1.770	53	93.810	2.150	5	10.750	2.690	1	2.690
1.780	98	174.440	2.160	1	2.160	2.700	2	5.400
1.789	1	1.789	2.170	4	8.680	2.720	2	5.440
1.790	40	71.600	2.180	3	6.540	2.730	3	8.190
1.798	1	1.798	2.190	1	2.190	2.740	2	5.480
1.799	1	1.799	2.200	2	4.400	2.750	1	2.750
1.800	62	111.600	2.220	1	2.220	2.760	1	2.760
1.802	1	1.802	2.240	3	6.720	2.790	1	2.790
1.810	77	139.370	2.250	1	2.250	2.800	2	5.600
1.815	3	5.445	2.260	3	6.780	2.810	1	2.810
1.820	128	232.960	2.270	1	2.270	2.830	2	5.660
1.821	1	1.821	2.280	2	4.560	2.840	2	5.680
1.830	72	131.760	2.290	6	13.740	2.850	1	2.850
1.831	1	1.831	2.310	3	6.930	2.880	1	2.880
1.840	36	66.240	2.330	3	6.990	2.900	1	2.900
1.850	55	101.750	2.340	1	2.340	2.910	2	5.820
1.860	43	79.980	2.350	2	4.700	2.920	2	5.840
1.870	18	33.660	2.360	2	4.720	2.950	1	2.950
1.871	1	1.871	2.370	2	4.740	2.960	3	8.880
1.880	4	7.520	2.390	2	4.780	2.970	1	2.970
1.890	3	5.670	2.400	2	4.800	2.980	2	5.960
1.900	4	7.600	2.410	3	7.230	2.990	3	8.970
1.910	5	9.550	2.420	1	2.420	3.000	5	15.000
1.920	3	5.760	2.440	1	2.440	3.010	1	3.010
1.930	4	7.720	2.450	1	2.450	3.020	3	9.060
1.940	4	7.760	2.460	2	4.920	3.030	2	6.060
1.950	1	1.950	2.470	2	4.940	3.040	2	6.080
1.960	1	1.960	2.480	2	4.960	3.050	1	3.050
1.970	1	1.970	2.490	1	2.490	3.060	1	3.060
1.980	1	1.980	2.500	5	12.500	3.080	3	9.240
1.990	3	5.970	2.510	4	10.040	3.090	3	9.270
2.000	3	6.000	2.520	2	5.040	3.100	2	6.200
2.010	1	2.010	2.560	3	7.680	3.110	4	12.440
2.020	2	4.040	2.580	1	2.580	3.120	2	6.240
2.030	2	4.060	2.590	1	2.590	3.130	4	12.520

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
3.140	2	6.280	3.610	1	3.610	4.230	1	4.230
3.150	3	9.450	3.650	2	7.300	4.240	1	4.240
3.160	3	9.480	3.660	5	18.300	4.250	3	12.750
3.170	3	9.510	3.670	5	18.350	4.260	1	4.260
3.180	1	3.180	3.680	1	3.680	4.280	1	4.280
3.190	3	9.570	3.690	5	18.450	4.300	2	8.600
3.200	3	9.600	3.700	3	11.100	4.310	2	8.620
3.210	3	9.630	3.710	2	7.420	4.350	1	4.350
3.220	3	9.660	3.730	1	3.730	4.360	2	8.720
3.240	2	6.480	3.740	1	3.740	4.410	2	8.820
3.250	1	3.250	3.750	1	3.750	4.420	2	8.840
3.260	2	6.520	3.760	1	3.760	4.430	1	4.430
3.270	2	6.540	3.770	1	3.770	4.450	1	4.450
3.280	1	3.280	3.800	2	7.600	4.460	2	8.920
3.290	1	3.290	3.810	1	3.810	4.470	1	4.470
3.300	2	6.600	3.820	3	11.460	4.480	2	8.960
3.310	2	6.620	3.840	1	3.840	4.490	1	4.490
3.320	5	16.600	3.850	2	7.700	4.500	3	13.500
3.330	1	3.330	3.860	2	7.720	4.510	3	13.530
3.340	1	3.340	3.900	1	3.900	4.540	1	4.540
3.350	1	3.350	3.910	1	3.910	4.550	1	4.550
3.360	1	3.360	3.920	1	3.920	4.570	1	4.570
3.370	1	3.370	3.950	2	7.900	4.590	1	4.590
3.380	1	3.380	3.990	1	3.990	4.610	1	4.610
3.390	4	13.560	4.000	3	12.000	4.620	1	4.620
3.400	5	17.000	4.010	2	8.020	4.630	1	4.630
3.410	3	10.230	4.020	2	8.040	4.640	1	4.640
3.430	1	3.430	4.050	1	4.050	4.655	1	4.655
3.450	2	6.900	4.060	1	4.060	4.660	3	13.980
3.460	2	6.920	4.070	4	16.280	4.680	3	14.040
3.470	1	3.470	4.090	2	8.180	4.690	2	9.380
3.480	2	6.960	4.100	1	4.100	4.700	2	9.400
3.500	3	10.500	4.120	1	4.120	4.710	2	9.420
3.510	4	14.040	4.130	3	12.390	4.730	1	4.730
3.520	2	7.040	4.150	1	4.150	4.760	1	4.760
3.540	4	14.160	4.160	2	8.320	4.770	1	4.770
3.550	3	10.650	4.170	1	4.170	4.780	2	9.560
3.560	1	3.560	4.180	2	8.360	4.790	2	9.580
3.570	2	7.140	4.190	1	4.190	4.800	1	4.800
3.580	1	3.580	4.200	1	4.200	4.830	1	4.830
3.590	1	3.590	4.210	2	8.420	4.840	2	9.680
3.600	2	7.200	4.220	2	8.440	4.850	2	9.700

<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$
4.870	1	4.870	5.800	2	11.600	6.980	2	13.960
4.890	1	4.890	5.830	1	5.830	7.000	2	14.000
4.900	1	4.900	5.870	1	5.870	7.030	1	7.030
4.910	1	4.910	5.900	1	5.900	7.080	2	14.160
4.960	1	4.960	5.910	1	5.910	7.140	1	7.140
4.970	1	4.970	5.920	1	5.920	7.150	1	7.150
4.980	1	4.980	5.930	1	5.930	7.170	1	7.170
5.000	4	20.000	5.960	1	5.960	7.180	1	7.180
5.010	2	10.020	5.970	1	5.970	7.220	1	7.220
5.020	1	5.020	5.980	1	5.980	7.290	1	7.290
5.050	2	10.100	6.000	3	18.000	7.340	1	7.340
5.080	1	5.080	6.040	1	6.040	7.510	1	7.510
5.090	1	5.090	6.080	1	6.080	7.570	1	7.570
5.100	2	10.200	6.100	1	6.100	7.600	1	7.600
5.130	1	5.130	6.120	1	6.120	7.630	2	15.260
5.140	1	5.140	6.130	1	6.130	7.690	1	7.690
5.170	1	5.170	6.140	1	6.140	7.730	1	7.730
5.186	1	5.186	6.150	1	6.150	7.750	1	7.750
5.200	1	5.200	6.190	1	6.190	7.780	2	15.560
5.220	1	5.220	6.230	1	6.230	7.860	1	7.860
5.240	1	5.240	6.270	4	25.080	7.877	1	7.877
5.260	2	10.520	6.280	1	6.280	7.880	1	7.880
5.280	3	15.840	6.320	2	12.640	7.890	1	7.890
5.290	1	5.290	6.330	1	6.330	7.910	1	7.910
5.300	1	5.300	6.340	1	6.340	7.920	2	15.840
5.330	1	5.330	6.350	1	6.350	8.000	1	8.000
5.380	1	5.380	6.370	1	6.370	8.030	1	8.030
5.400	2	10.800	6.407	1	6.407	8.060	1	8.060
5.420	2	10.840	6.420	1	6.420	8.310	1	8.310
5.430	1	5.430	6.430	1	6.430	8.410	1	8.410
5.460	1	5.460	6.460	1	6.460	8.610	1	8.610
5.500	3	16.500	6.480	1	6.480	8.620	1	8.620
5.510	1	5.510	6.500	3	19.500	8.660	1	8.660
5.570	1	5.570	6.510	1	6.510	8.670	1	8.670
5.600	1	5.600	6.520	1	6.520	8.700	1	8.700
5.610	1	5.610	6.530	1	6.530	8.720	1	8.720
5.630	1	5.630	6.550	1	6.550	8.730	1	8.730
5.640	2	11.280	6.600	1	6.600	8.750	2	17.500
5.660	1	5.660	6.610	1	6.610	8.830	2	17.660
5.690	1	5.690	6.620	2	13.240	8.870	1	8.870
5.720	1	5.720	6.790	1	6.790	8.880	1	8.880
5.730	1	5.730	6.880	3	20.640	9.000	1	9.000

<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>
9.010	2	18.020	11.600	1	11.600	26.590	1	26.590
9.100	1	9.100	11.700	1	11.700	27.150	1	27.150
9.150	1	9.150	11.800	1	11.800	28.050	1	28.050
9.330	1	9.330	11.900	1	11.900	28.100	1	28.100
9.480	1	9.480	12.000	1	12.000	30.000	1	30.000
9.530	2	19.060	12.500	1	12.500	31.260	1	31.260
9.590	1	9.590	12.780	1	12.780	31.330	1	31.330
9.880	1	9.880	13.000	1	13.000	35.400	1	35.400
10.070	2	20.140	13.100	1	13.100	37.000	1	37.000
10.110	3	30.330	13.500	1	13.500	37.530	1	37.530
10.160	2	20.320	14.710	1	14.710	37.740	3	113.220
11.250	1	11.250	15.270	1	15.270	41.990	1	41.990
11.300	1	11.300	17.000	1	17.000	48.700	4	194.800
11.400	1	11.400	19.000	1	19.000	54.240	1	54.240
11.500	1	11.500	24.500	1	24.500	69.900	1	69.900

$\sum n$	48.289
$\sum \text{Overloading}$	22.949.087 kg
Rata-Rata	475,245 kg
	0,475 ton



**Tabel Lampiran 4-2 Data *Overloading* Kendaraan  $8000 \leq \text{JBI} \leq 14000$  kg**

<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$
1	1	1	213	352	74.976	517	1	517
10	184	1.840	220	180	39.600	520	107	55.640
11	1	11	230	166	38.180	522	1	522
15	2	30	240	162	38.880	530	88	46.640
20	170	3.400	245	1	245	540	94	50.760
23	1	23	250	251	62.750	544	1	544
26	1	26	251	1	251	545	1	545
30	184	5.520	254	1	254	547	1	547
40	157	6.280	260	173	44.980	548	1	548
44	1	44	270	173	46.710	550	92	50.600
45	1	45	280	151	42.280	557	1	557
47	202	9.494	285	1	285	560	78	43.680
49	2	98	290	118	34.220	570	81	46.170
50	289	14.450	300	174	52.200	573	1	573
60	166	9.960	310	127	39.370	580	70	40.600
63	201	12.663	320	137	43.840	590	68	40.120
66	2	132	330	146	48.180	600	159	95.400
70	190	13.300	340	128	43.520	606	1	606
80	139	11.120	350	127	44.450	610	131	79.910
85	1	85	360	125	45.000	620	189	117.180
88	1	88	370	104	38.480	623	1	623
90	158	14.220	380	111	42.180	625	1	625
96	1	96	390	103	40.170	630	84	52.920
97	1	97	400	116	46.400	640	108	69.120
100	196	19.600	410	74	30.340	641	1	641
109	1	109	412	1	412	650	236	153.400
110	179	19.690	420	75	31.500	653	1	653
112	104	11.648	430	69	29.670	654	1	654
113	113	12.769	438	1	438	660	90	59.400
120	236	28.320	440	84	36.960	663	1	663
130	180	23.400	450	83	37.350	670	150	100.500
133	189	25.137	459	2	918	680	94	63.920
140	163	22.820	460	74	34.040	685	1	685
150	239	35.850	467	1	467	687	1	687
160	228	36.480	470	95	44.650	690	91	62.790
170	1.203	204.510	479	1	479	697	1	697
180	169	30.420	480	68	32.640	700	237	165.900
190	178	33.820	484	1	484	710	165	117.150
199	1	199	490	88	43.120	711	1	711
200	340	68.000	500	295	147.500	715	2	1.430
210	202	42.420	510	91	46.410	718	1	718
211	311	65.621	512	2	1.024	720	192	138.240

<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>
724	1	724	878	1	878	1.015	3	3.045
730	97	70.810	880	303	266.640	1.017	1	1.017
731	1	731	885	1	885	1.020	181	184.620
740	132	97.680	890	252	224.280	1.027	1	1.027
742	2	1.484	897	1	897	1.029	1	1.029
743	1	743	899	1	899	1.030	192	197.760
750	426	319.500	900	380	342.000	1.040	160	166.400
760	127	96.520	901	1	901	1.044	1	1.044
761	1	761	906	1	906	1.047	3	3.141
764	1	764	910	247	224.770	1.048	1	1.048
770	133	102.410	920	241	221.720	1.049	1	1.049
771	1	771	928	1	928	1.050	324	340.200
776	1	776	929	1	929	1.051	1	1.051
778	1	778	930	173	160.890	1.052	1	1.052
780	114	88.920	940	154	144.760	1.054	1	1.054
786	2	1.572	943	1	943	1.060	194	205.640
787	1	787	946	1	946	1.061	3	3.183
790	160	126.400	950	500	475.000	1.064	1	1.064
796	1	796	951	1	951	1.065	7	7.455
800	243	194.400	960	226	216.960	1.066	1	1.066
807	1	807	961	4	3.844	1.067	1	1.067
810	134	108.540	963	1	963	1.070	293	313.510
811	1	811	967	1	967	1.071	1	1.071
820	130	106.600	968	1	968	1.073	1	1.073
822	1	822	969	3	2.907	1.080	206	222.480
830	146	121.180	970	204	197.880	1.081	1	1.081
840	133	111.720	976	1	976	1.086	1	1.086
846	2	1.692	979	1	979	1.088	2	2.176
848	1	848	980	253	247.940	1.090	133	144.970
850	433	368.050	981	1	981	1.091	1	1.091
851	1	851	983	1	983	1.100	277	304.700
855	2	1.710	986	1	986	1.107	2	2.214
857	1	857	990	157	155.430	1.108	1	1.108
860	271	233.060	994	2	1.988	1.110	215	238.650
864	3	2.592	995	2	1.990	1.112	4	4.448
868	1	868	997	1	997	1.119	1	1.119
869	1	869	998	1	998	1.120	141	157.920
870	437	380.190	1.000	703	703.000	1.121	1	1.121
871	1	871	1.006	1	1.006	1.124	2	2.248
872	1	872	1.008	1	1.008	1.126	1	1.126
874	1	874	1.010	252	254.520	1.129	2	2.258
875	1	875	1.014	1	1.014	1.130	146	164.980



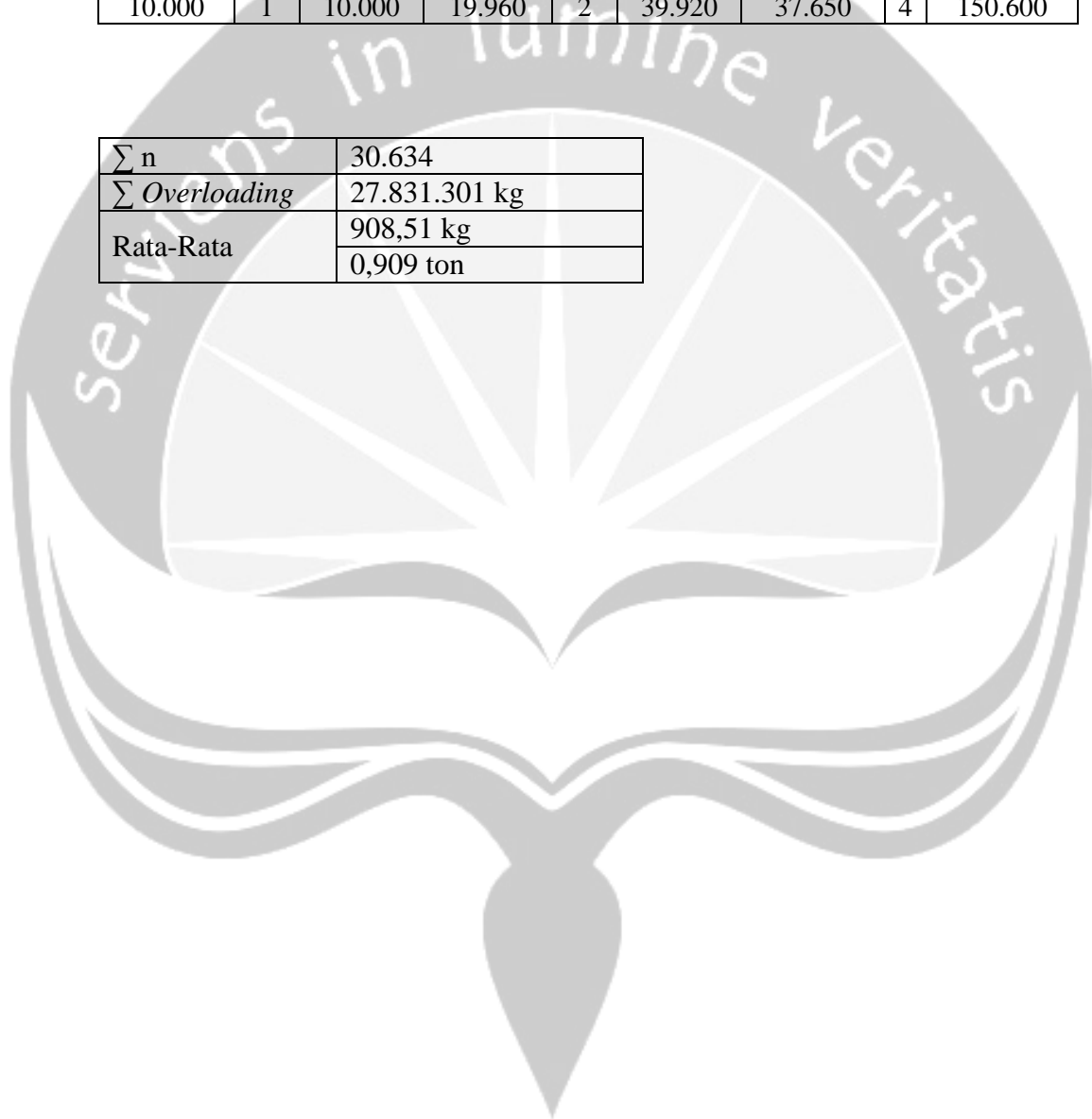
<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
1.134	1	1.134	1.361	1	1.361	1.640	30	49.200
1.140	113	128.820	1.370	36	49.320	1.650	46	75.900
1.141	1	1.141	1.371	1	1.371	1.660	28	46.480
1.145	1	1.145	1.380	45	62.100	1.670	31	51.770
1.148	1	1.148	1.385	1	1.385	1.680	36	60.480
1.150	128	147.200	1.390	28	38.920	1.688	1	1.688
1.156	1	1.156	1.400	110	154.000	1.690	39	65.910
1.157	1	1.157	1.401	1	1.401	1.694	1	1.694
1.160	129	149.640	1.410	102	143.820	1.697	1	1.697
1.170	134	156.780	1.412	1	1.412	1.700	47	79.900
1.171	1	1.171	1.420	79	112.180	1.701	1	1.701
1.178	1	1.178	1.430	41	58.630	1.710	36	61.560
1.180	100	118.000	1.440	29	41.760	1.720	22	37.840
1.181	1	1.181	1.450	104	150.800	1.730	16	27.680
1.190	100	119.000	1.451	1	1.451	1.740	20	34.800
1.200	309	370.800	1.452	1	1.452	1.750	32	56.000
1.201	1	1.201	1.457	51	74.307	1.760	328	577.280
1.210	147	177.870	1.460	34	49.640	1.770	22	38.940
1.211	1	1.211	1.470	60	88.200	1.780	26	46.280
1.214	1	1.214	1.473	1	1.473	1.790	13	23.270
1.220	81	98.820	1.479	1	1.479	1.800	56	100.800
1.229	1	1.229	1.480	52	76.960	1.810	16	28.960
1.230	113	138.990	1.490	33	49.170	1.812	1	1.812
1.240	84	104.160	1.500	148	222.000	1.820	26	47.320
1.248	1	1.248	1.502	1	1.502	1.830	18	32.940
1.250	146	182.500	1.510	33	49.830	1.840	28	51.520
1.258	1	1.258	1.520	78	118.560	1.850	39	72.150
1.260	62	78.120	1.523	1	1.523	1.860	18	33.480
1.270	43	54.610	1.530	25	38.250	1.870	22	41.140
1.280	43	55.040	1.540	87	133.980	1.880	31	58.280
1.287	1	1.287	1.549	2	3.098	1.890	18	34.020
1.290	37	47.730	1.550	56	86.800	1.897	1	1.897
1.300	125	162.500	1.560	26	40.560	1.900	40	76.000
1.303	1	1.303	1.570	32	50.240	1.910	24	45.840
1.310	46	60.260	1.580	229	361.820	1.920	36	69.120
1.320	89	117.480	1.587	1	1.587	1.930	12	23.160
1.330	51	67.830	1.590	420	667.800	1.940	26	50.440
1.340	40	53.600	1.591	1	1.591	1.950	41	79.950
1.345	1	1.345	1.600	89	142.400	1.960	23	45.080
1.350	81	109.350	1.610	27	43.470	1.970	11	21.670
1.358	1	1.358	1.620	49	79.380	1.980	19	37.620
1.360	53	72.080	1.630	40	65.200	1.990	28	55.720

<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>
2.000	41	82.000	2.380	14	33.320	2.760	9	24.840
2.010	114	229.140	2.390	14	33.460	2.770	7	19.390
2.020	12	24.240	2.400	128	307.200	2.780	9	25.020
2.030	8	16.240	2.410	18	43.380	2.790	5	13.950
2.040	7	14.280	2.420	15	36.300	2.800	31	86.800
2.043	1	2.043	2.430	8	19.440	2.810	9	25.290
2.050	15	30.750	2.440	9	21.960	2.820	17	47.940
2.060	13	26.780	2.450	9	22.050	2.830	4	11.320
2.070	4	8.280	2.460	8	19.680	2.840	8	22.720
2.080	8	16.640	2.470	10	24.700	2.850	122	347.700
2.090	6	12.540	2.475	1	2.475	2.860	5	14.300
2.100	29	60.900	2.480	4	9.920	2.870	7	20.090
2.110	12	25.320	2.490	14	34.860	2.875	1	2.875
2.120	11	23.320	2.500	78	195.000	2.876	1	2.876
2.130	5	10.650	2.510	12	30.120	2.880	8	23.040
2.140	12	25.680	2.520	22	55.440	2.890	5	14.450
2.150	10	21.500	2.530	7	17.710	2.900	20	58.000
2.160	9	19.440	2.540	21	53.340	2.910	5	14.550
2.170	10	21.700	2.550	11	28.050	2.920	9	26.280
2.180	6	13.080	2.560	10	25.600	2.930	11	32.230
2.190	6	13.140	2.570	19	48.830	2.935	1	2.935
2.200	57	125.400	2.573	1	2.573	2.940	6	17.640
2.210	18	39.780	2.580	24	61.920	2.950	6	17.700
2.220	14	31.080	2.590	13	33.670	2.960	7	20.720
2.230	25	55.750	2.600	17	44.200	2.970	4	11.880
2.240	7	15.680	2.606	1	2.606	2.974	1	2.974
2.250	27	60.750	2.610	8	20.880	2.980	11	32.780
2.259	1	2.259	2.619	1	2.619	2.990	8	23.920
2.260	9	20.340	2.620	9	23.580	3.000	37	111.000
2.270	8	18.160	2.630	5	13.150	3.010	1	3.010
2.280	11	25.080	2.640	17	44.880	3.020	3	9.060
2.290	8	18.320	2.650	10	26.500	3.030	2	6.060
2.300	24	55.200	2.660	12	31.920	3.040	6	18.240
2.310	13	30.030	2.670	5	13.350	3.050	3	9.150
2.320	26	60.320	2.680	10	26.800	3.060	3	9.180
2.325	1	2.325	2.690	9	24.210	3.080	2	6.160
2.330	15	34.950	2.700	24	64.800	3.100	7	21.700
2.340	16	37.440	2.710	7	18.970	3.110	2	6.220
2.350	14	32.900	2.720	7	19.040	3.120	6	18.720
2.356	1	2.356	2.730	3	8.190	3.130	3	9.390
2.360	11	25.960	2.740	9	24.660	3.140	4	12.560
2.370	7	16.590	2.750	13	35.750	3.150	3	9.450

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
3.160	3	9.480	3.890	1	3.890	5.550	1	5.550
3.170	1	3.170	3.910	2	7.820	5.680	1	5.680
3.178	1	3.178	3.940	1	3.940	5.720	1	5.720
3.180	4	12.720	3.960	1	3.960	5.890	1	5.890
3.190	1	3.190	3.980	1	3.980	5.900	1	5.900
3.200	51	163.200	4.000	4	16.000	5.920	1	5.920
3.210	20	64.200	4.020	1	4.020	6.060	1	6.060
3.220	3	9.660	4.030	1	4.030	6.130	1	6.130
3.240	2	6.480	4.060	1	4.060	6.290	1	6.290
3.250	3	9.750	4.080	1	4.080	6.350	1	6.350
3.252	1	3.252	4.190	1	4.190	6.450	1	6.450
3.260	1	3.260	4.200	1	4.200	6.560	1	6.560
3.270	1	3.270	4.270	1	4.270	6.610	1	6.610
3.300	4	13.200	4.290	1	4.290	6.820	1	6.820
3.315	2	6.630	4.300	2	8.600	6.900	1	6.900
3.320	2	6.640	4.310	1	4.310	7.000	2	14.000
3.325	1	3.325	4.370	1	4.370	7.070	1	7.070
3.330	3	9.990	4.410	1	4.410	7.190	1	7.190
3.350	1	3.350	4.450	1	4.450	7.200	2	14.400
3.360	2	6.720	4.500	2	9.000	7.280	1	7.280
3.365	1	3.365	4.570	1	4.570	7.500	1	7.500
3.380	2	6.760	4.600	1	4.600	7.560	1	7.560
3.390	2	6.780	4.640	1	4.640	7.620	1	7.620
3.400	9	30.600	4.660	1	4.660	7.720	1	7.720
3.410	2	6.820	4.700	1	4.700	7.780	1	7.780
3.420	5	17.100	4.767	1	4.767	7.790	1	7.790
3.440	1	3.440	4.780	1	4.780	7.860	1	7.860
3.450	3	10.350	4.790	1	4.790	7.910	1	7.910
3.460	2	6.920	4.810	1	4.810	7.970	1	7.970
3.470	1	3.470	4.870	2	9.740	7.980	1	7.980
3.480	1	3.480	4.920	1	4.920	7.990	1	7.990
3.490	2	6.980	5.000	4	20.000	8.000	1	8.000
3.500	4	14.000	5.030	1	5.030	8.170	1	8.170
3.520	2	7.040	5.040	1	5.040	8.300	1	8.300
3.530	1	3.530	5.060	1	5.060	8.330	1	8.330
3.540	1	3.540	5.070	1	5.070	8.640	1	8.640
3.590	2	7.180	5.230	1	5.230	8.670	1	8.670
3.610	1	3.610	5.280	1	5.280	8.760	1	8.760
3.660	2	7.320	5.290	1	5.290	9.000	2	18.000
3.670	2	7.340	5.410	1	5.410	9.380	1	9.380
3.720	2	7.440	5.420	1	5.420	9.500	3	28.500
3.750	1	3.750	5.490	1	5.490	9.670	1	9.670

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
9.700	1	9.700	11.650	1	11.650	23.680	1	23.680
9.720	1	9.720	11.760	1	11.760	25.670	3	77.010
9.820	1	9.820	12.780	1	12.780	29.980	5	149.900
9.830	1	9.830	12.890	1	12.890	32.670	3	98.010
9.870	1	9.870	14.680	1	14.680	34.870	5	174.350
9.910	1	9.910	15.550	2	31.100	35.580	6	213.480
10.000	1	10.000	19.960	2	39.920	37.650	4	150.600

$\sum n$	30.634
$\sum \text{Overloading}$	27.831.301 kg
Rata-Rata	908,51 kg
	0,909 ton



**Tabel Lampiran 4-3 Data *Overloading* Kendaraan  $14000 < \text{JBI} \leq 21000$  kg**

<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$
2	1	2	370	37	13.690	740	37	27.380
10	27	270	380	28	10.640	750	40	30.000
11	1	11	390	56	21.840	760	23	17.480
20	24	480	400	80	32.000	770	23	17.710
30	35	1.050	410	48	19.680	780	27	21.060
40	37	1.480	420	48	20.160	790	29	22.910
50	48	2.400	424	1	424	800	97	77.600
60	22	1.320	430	37	15.910	810	33	26.730
70	36	2.520	440	47	20.680	820	29	23.780
80	30	2.400	450	59	26.550	830	19	15.770
90	30	2.700	460	36	16.560	834	1	834
100	45	4.500	470	53	24.910	840	22	18.480
110	36	3.960	480	37	17.760	847	1	847
119	1	119	490	27	13.230	850	34	28.900
120	44	5.280	500	176	88.000	860	21	18.060
130	36	4.680	510	43	21.930	870	30	26.100
140	43	6.020	520	42	21.840	880	46	40.480
150	40	6.000	530	44	23.320	890	36	32.040
160	39	6.240	540	55	29.700	895	1	895
170	40	6.800	542	1	542	900	65	58.500
180	33	5.940	550	43	23.650	902	1	902
190	32	6.080	551	1	551	910	27	24.570
200	85	17.000	560	65	36.400	920	34	31.280
210	77	16.170	570	30	17.100	930	16	14.880
220	38	8.360	580	58	33.640	940	15	14.100
222	1	222	590	42	24.780	950	29	27.550
230	46	10.580	600	99	59.400	960	25	24.000
240	44	10.560	610	45	27.450	970	26	25.220
250	70	17.500	620	47	29.140	978	1	978
260	29	7.540	630	36	22.680	980	28	27.440
270	29	7.830	640	46	29.440	990	36	35.640
280	34	9.520	648	1	648	996	1	996
290	35	10.150	650	60	39.000	998	1	998
300	77	23.100	659	1	659	1.000	105	105.000
310	49	15.190	660	30	19.800	1.002	1	1.002
312	1	312	670	26	17.420	1.003	1	1.003
320	47	15.040	690	28	19.320	1.010	32	32.320
330	48	15.840	690	43	29.670	1.020	16	16.320
340	44	14.960	700	38	26.600	1.021	1	1.021
350	45	15.750	710	40	28.400	1.030	29	29.870
360	67	24.120	720	32	23.040	1.040	30	31.200
361	1	361	730	35	25.550	1.050	22	23.100

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
1.060	11	11.660	1.370	30	41.100	1.701	1	1.701
1.066	1	1.066	1.372	1	1.372	1.710	28	47.880
1.070	20	21.400	1.380	34	46.920	1.720	17	29.240
1.080	11	11.880	1.390	30	41.700	1.730	25	43.250
1.090	17	18.530	1.400	68	95.200	1.740	23	40.020
1.096	1	1.096	1.404	1	1.404	1.750	42	73.500
1.100	107	117.700	1.410	31	43.710	1.760	24	42.240
1.101	1	1.101	1.420	45	63.900	1.770	19	33.630
1.110	9	9.990	1.430	26	37.180	1.778	1	1.778
1.120	35	39.200	1.440	38	54.720	1.780	22	39.160
1.124	1	1.124	1.450	63	91.350	1.789	1	1.789
1.130	23	25.990	1.451	1	1.451	1.790	22	39.380
1.135	1	1.135	1.460	36	52.560	1.800	118	212.400
1.140	27	30.780	1.468	1	1.468	1.810	28	50.680
1.150	25	28.750	1.470	30	44.100	1.815	1	1.815
1.158	1	1.158	1.480	27	39.960	1.820	26	47.320
1.160	26	30.160	1.490	22	32.780	1.830	22	40.260
1.170	12	14.040	1.500	162	243.000	1.835	1	1.835
1.180	10	11.800	1.510	38	57.380	1.840	33	60.720
1.190	12	14.280	1.520	59	89.680	1.850	64	118.400
1.210	45	54.450	1.530	31	47.430	1.858	1	1.858
1.220	19	23.180	1.540	54	83.160	1.860	16	29.760
1.229	1	1.229	1.549	1	1.549	1.866	1	1.866
1.230	32	39.360	1.550	40	62.000	1.870	27	50.490
1.235	2	2.470	1.554	1	1.554	1.880	31	58.280
1.240	138	171.120	1.560	49	76.440	1.890	27	51.030
1.240	18	22.320	1.570	28	43.960	1.900	98	186.200
1.243	2	2.486	1.580	49	77.420	1.910	26	49.660
1.250	22	27.500	1.590	24	38.160	1.920	32	61.440
1.250	18	22.500	1.600	72	115.200	1.930	27	52.110
1.252	19	23.788	1.610	24	38.640	1.940	36	69.840
1.260	30	37.800	1.620	44	71.280	1.950	51	99.450
1.270	18	22.860	1.625	1	1.625	1.960	31	60.760
1.290	17	21.930	1.630	24	39.120	1.970	15	29.550
1.320	88	116.160	1.640	49	80.360	1.980	35	69.300
1.320	62	81.840	1.650	42	69.300	1.990	35	69.650
1.325	1	1.325	1.655	1	1.655	2.000	260	520.000
1.330	39	51.870	1.660	29	48.140	2.001	1	2.001
1.330	34	45.220	1.670	27	45.090	2.010	23	46.230
1.340	57	76.380	1.680	23	38.640	2.020	26	52.520
1.350	38	51.300	1.690	37	62.530	2.030	17	34.510
1.360	43	58.480	1.700	96	163.200	2.036	1	2.036



<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>
2.040	20	40.800	2.350	25	58.750	2.670	12	32.040
2.050	19	38.950	2.360	20	47.200	2.680	16	42.880
2.060	8	16.480	2.370	9	21.330	2.690	10	26.900
2.066	5	10.330	2.380	10	23.800	2.700	26	70.200
2.070	10	20.700	2.390	15	35.850	2.710	11	29.810
2.080	19	39.520	2.400	60	144.000	2.720	8	21.760
2.090	10	20.900	2.410	37	89.170	2.730	9	24.570
2.096	2	4.192	2.411	2	4.822	2.740	12	32.880
2.100	83	174.300	2.420	22	53.240	2.750	13	35.750
2.101	1	2.101	2.430	11	26.730	2.760	11	30.360
2.110	26	54.860	2.440	23	56.120	2.770	9	24.930
2.120	47	99.640	2.450	92	225.400	2.780	6	16.680
2.122	1	2.122	2.454	1	2.454	2.787	1	2.787
2.130	13	27.690	2.456	1	2.456	2.790	8	22.320
2.140	19	40.660	2.457	1	2.457	2.800	50	140.000
2.141	1	2.141	2.460	23	56.580	2.810	10	28.100
2.145	1	2.145	2.470	19	46.930	2.820	16	45.120
2.148	1	2.148	2.480	15	37.200	2.830	6	16.980
2.150	32	68.800	2.489	1	2.489	2.840	14	39.760
2.156	1	2.156	2.490	12	29.880	2.850	21	59.850
2.160	20	43.200	2.500	174	435.000	2.860	8	22.880
2.170	15	32.550	2.510	28	70.280	2.870	10	28.700
2.171	1	2.171	2.514	1	2.514	2.880	10	28.800
2.177	1	2.177	2.520	28	70.560	2.890	10	28.900
2.180	14	30.520	2.530	22	55.660	2.900	30	87.000
2.190	12	26.280	2.540	47	119.380	2.910	10	29.100
2.200	74	162.800	2.547	1	2.547	2.920	11	32.120
2.210	44	97.240	2.548	1	2.548	2.930	11	32.230
2.220	29	64.380	2.550	26	66.300	2.940	10	29.400
2.230	18	40.140	2.560	24	61.440	2.950	16	47.200
2.240	19	42.560	2.568	1	2.568	2.960	10	29.600
2.241	1	2.241	2.570	13	33.410	2.970	8	23.760
2.250	28	63.000	2.580	23	59.340	2.971	1	2.971
2.260	14	31.640	2.590	15	38.850	2.974	1	2.974
2.270	11	24.970	2.600	56	145.600	2.980	9	26.820
2.280	14	31.920	2.610	22	57.420	2.990	14	41.860
2.290	12	27.480	2.620	16	41.920	3.000	80	240.000
2.300	36	82.800	2.630	13	34.190	3.010	7	21.070
2.310	23	53.130	2.640	17	44.880	3.020	18	54.360
2.320	30	69.600	2.650	57	151.050	3.030	10	30.300
2.330	22	51.260	2.660	13	34.580	3.040	9	27.360
2.340	13	30.420	2.669	1	2.669	3.050	9	27.450

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
3.060	8	24.480	3.470	13	45.110	3.770	7	26.390
3.070	7	21.490	3.480	19	66.120	3.780	12	45.360
3.080	8	24.640	3.490	14	48.860	3.781	1	3.781
3.090	5	15.450	3.497	1	3.497	3.790	8	30.320
3.100	39	120.900	3.500	183	640.500	3.800	54	205.200
3.110	10	31.100	3.503	1	3.503	3.810	17	64.770
3.120	21	65.520	3.510	52	182.520	3.820	17	64.940
3.130	16	50.080	3.511	1	3.511	3.830	10	38.300
3.140	10	31.400	3.520	49	172.480	3.840	7	26.880
3.150	9	28.350	3.530	21	74.130	3.847	1	3.847
3.160	8	25.280	3.540	32	113.280	3.850	46	177.100
3.170	13	41.210	3.541	2	7.082	3.860	15	57.900
3.180	11	34.980	3.550	40	142.000	3.870	21	81.270
3.190	12	38.280	3.558	1	3.558	3.874	1	3.874
3.200	40	128.000	3.560	71	252.760	3.880	18	69.840
3.210	15	48.150	3.566	1	3.566	3.890	28	108.920
3.220	16	51.520	3.570	19	67.830	3.899	1	3.899
3.230	10	32.300	3.574	1	3.574	3.900	60	234.000
3.240	11	35.640	3.578	2	7.156	3.910	9	35.190
3.250	14	45.500	3.580	28	100.240	3.920	28	109.760
3.260	15	48.900	3.586	1	3.586	3.930	12	47.160
3.270	11	35.970	3.590	23	82.570	3.940	7	27.580
3.280	15	49.200	3.593	1	3.593	3.950	25	98.750
3.290	9	29.610	3.599	1	3.599	3.960	18	71.280
3.300	52	171.600	3.600	61	219.600	3.970	15	59.550
3.310	20	66.200	3.610	16	57.760	3.980	18	71.640
3.320	34	112.880	3.620	41	148.420	3.990	16	63.840
3.330	28	93.240	3.630	27	98.010	4.000	129	516.000
3.340	12	40.080	3.640	15	54.600	4.010	10	40.100
3.350	34	113.900	3.650	43	156.950	4.020	5	20.100
3.360	25	84.000	3.660	26	95.160	4.030	11	44.330
3.370	18	60.660	3.670	11	40.370	4.040	9	36.360
3.380	16	54.080	3.680	27	99.360	4.050	5	20.250
3.390	14	47.460	3.681	1	3.681	4.060	8	32.480
3.400	41	139.400	3.690	20	73.800	4.066	1	4.066
3.410	23	78.430	3.700	35	129.500	4.070	7	28.490
3.420	27	92.340	3.710	21	77.910	4.080	8	32.640
3.430	20	68.600	3.720	6	22.320	4.090	8	32.720
3.440	22	75.680	3.730	9	33.570	4.100	84	344.400
3.450	29	100.050	3.740	16	59.840	4.101	2	8.202
3.458	1	3.458	3.750	26	97.500	4.104	1	4.104
3.460	14	48.440	3.760	13	48.880	4.110	14	57.540



<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>
4.113	1	4.113	4.470	7	31.290	4.840	9	43.560
4.120	24	98.880	4.471	1	4.471	4.850	6	29.100
4.130	18	74.340	4.480	12	53.760	4.860	10	48.600
4.140	11	45.540	4.490	9	40.410	4.870	9	43.830
4.150	23	95.450	4.500	30	135.000	4.874	1	4.874
4.160	6	24.960	4.510	6	27.060	4.880	11	53.680
4.170	5	20.850	4.520	11	49.720	4.890	8	39.120
4.180	8	33.440	4.530	4	18.120	4.900	11	53.900
4.185	1	4.185	4.540	10	45.400	4.910	5	24.550
4.190	3	12.570	4.550	11	50.050	4.911	1	4.911
4.200	34	142.800	4.560	7	31.920	4.920	2	9.840
4.210	9	37.890	4.570	7	31.990	4.930	2	9.860
4.220	9	37.980	4.580	11	50.380	4.940	8	39.520
4.230	17	71.910	4.590	3	13.770	4.950	7	34.650
4.231	1	4.231	4.600	52	239.200	4.960	4	19.840
4.240	11	46.640	4.610	14	64.540	4.969	2	9.938
4.250	7	29.750	4.620	14	64.680	4.970	7	34.790
4.260	7	29.820	4.625	1	4.625	4.980	4	19.920
4.270	8	34.160	4.630	12	55.560	4.990	4	19.960
4.280	8	34.240	4.631	1	4.631	5.000	19	95.000
4.290	6	25.740	4.635	1	4.635	5.010	9	45.090
4.300	37	159.100	4.640	13	60.320	5.020	5	25.100
4.310	13	56.030	4.650	10	46.500	5.030	6	30.180
4.320	27	116.640	4.660	10	46.600	5.040	7	35.280
4.330	4	17.320	4.670	5	23.350	5.050	4	20.200
4.336	1	4.336	4.680	9	42.120	5.060	2	10.120
4.340	8	34.720	4.690	12	56.280	5.070	1	5.070
4.350	19	82.650	4.700	11	51.700	5.080	3	15.240
4.351	1	4.351	4.710	6	28.260	5.090	3	15.270
4.360	18	78.480	4.720	10	47.200	5.100	4	20.400
4.370	6	26.220	4.725	1	4.725	5.101	1	5.101
4.380	3	13.140	4.730	8	37.840	5.110	6	30.660
4.390	5	21.950	4.740	10	47.400	5.112	1	5.112
4.397	1	4.397	4.750	11	52.250	5.120	4	20.480
4.400	56	246.400	4.760	9	42.840	5.130	9	46.170
4.410	34	149.940	4.770	7	33.390	5.140	10	51.400
4.417	1	4.417	4.780	6	28.680	5.150	3	15.450
4.420	18	79.560	4.790	10	47.900	5.160	5	25.800
4.430	13	57.590	4.800	23	110.400	5.170	4	20.680
4.440	15	66.600	4.810	11	52.910	5.180	3	15.540
4.450	13	57.850	4.820	9	43.380	5.190	3	15.570
4.460	16	71.360	4.830	10	48.300	5.200	6	31.200

<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$
5.210	5	26.050	7.900	1	7.900	13.340	1	13.340
5.220	3	15.660	7.930	1	7.930	13.670	1	13.670
5.230	2	10.460	8.010	1	8.010	13.680	1	13.680
5.240	2	10.480	8.440	1	8.440	13.740	2	27.480
5.250	3	15.750	8.480	1	8.480	13.870	1	13.870
5.400	1	5.400	8.490	1	8.490	14.000	1	14.000
5.500	2	11.000	8.970	1	8.970	14.010	1	14.010
5.550	1	5.550	9.150	1	9.150	14.100	1	14.100
5.600	1	5.600	9.330	1	9.330	14.230	1	14.230
5.670	1	5.670	9.490	1	9.490	14.400	1	14.400
5.710	2	11.420	9.754	1	9.754	14.500	2	29.000
5.750	1	5.750	9.840	1	9.840	14.540	1	14.540
5.800	2	11.600	9.890	1	9.890	15.000	1	15.000
5.810	2	11.620	10.000	7	70.000	15.510	1	15.510
5.820	1	5.820	10.120	2	20.240	15.710	2	31.420
5.830	1	5.830	10.260	1	10.260	15.850	1	15.850
5.850	1	5.850	10.400	1	10.400	15.860	1	15.860
5.880	1	5.880	10.480	1	10.480	16.050	1	16.050
5.900	1	5.900	10.510	1	10.510	16.150	1	16.150
6.000	2	12.000	10.560	1	10.560	16.580	1	16.580
6.040	1	6.040	10.610	1	10.610	16.590	1	16.590
6.100	1	6.100	10.640	1	10.640	16.690	1	16.690
6.210	1	6.210	10.790	1	10.790	16.770	1	16.770
6.220	1	6.220	10.870	1	10.870	17.000	1	17.000
6.400	1	6.400	10.910	1	10.910	17.100	1	17.100
6.410	2	12.820	10.930	1	10.930	17.110	1	17.110
6.430	1	6.430	11.000	2	22.000	17.210	1	17.210
6.440	1	6.440	11.040	1	11.040	17.710	1	17.710
6.450	1	6.450	11.100	1	11.100	18.000	2	36.000
6.500	1	6.500	11.190	1	11.190	18.020	1	18.020
6.560	1	6.560	11.460	1	11.460	18.040	1	18.040
6.600	1	6.600	11.510	1	11.510	18.050	1	18.050
6.650	1	6.650	11.720	1	11.720	18.210	1	18.210
6.720	1	6.720	11.770	1	11.770	18.230	1	18.230
6.800	1	6.800	12.000	3	36.000	18.410	1	18.410
7.000	1	7.000	12.020	2	24.040	18.530	1	18.530
7.010	1	7.010	12.420	1	12.420	18.590	1	18.590
7.090	1	7.090	12.490	1	12.490	18.610	1	18.610
7.310	1	7.310	12.590	1	12.590	18.690	1	18.690
7.440	1	7.440	12.720	1	12.720	18.760	1	18.760
7.510	1	7.510	12.960	1	12.960	18.870	1	18.870
7.680	1	7.680	13.080	1	13.080	19.000	3	57.000

<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>
19.100	1	19.100	20.850	1	20.850	21.850	1	21.850
19.110	1	19.110	20.920	1	20.920	21.970	1	21.970
19.210	1	19.210	21.100	1	21.100	22.000	1	22.000
19.720	1	19.720	21.190	1	21.190	22.246	1	22.246
19.810	1	19.810	21.320	1	21.320	22.575	1	22.575
20.000	4	80.000	21.330	1	21.330	22.590	2	45.180
20.060	1	20.060	21.460	1	21.460	23.095	1	23.095
20.090	1	20.090	21.480	1	21.480	23.550	1	23.550
20.170	1	20.170	21.520	1	21.520	25.115	1	25.115
20.180	1	20.180	21.600	1	21.600	25.340	2	50.680
20.380	1	20.380	21.620	2	43.240	27.100	2	54.200
20.460	1	20.460	21.650	1	21.650	28.720	1	28.720
20.550	1	20.550	21.750	1	21.750	29.350	2	58.700
20.810	1	20.810	21.800	1	21.800			

$\sum n$	14.612
$\sum \text{Overloading}$	31.513.537 kg
Rata-Rata	2.156,69 kg
	2,157 ton

**Tabel Lampiran 4-4 Data *Overloading* Kendaraan 21000<JBI≤28000 kg**

<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>
10	42	420	270	52	14.040	560	97	54.320
12	4	48	280	51	14.280	570	67	38.190
20	39	780	290	44	12.760	577	2	1.154
26	1	26	300	101	30.300	580	58	33.640
30	41	1.230	310	89	27.590	589	1	589
40	38	1.520	315	1	315	590	48	28.320
50	36	1.800	320	147	47.040	600	161	96.600
60	51	3.060	330	756	249.480	610	55	33.550
63	1	63	340	76	25.840	620	54	33.480
64	1	64	350	149	52.150	630	44	27.720
70	46	3.220	360	71	25.560	640	35	22.400
80	45	3.600	370	63	23.310	650	83	53.950
90	33	2.970	380	68	25.840	660	38	25.080
99	1	99	390	60	23.400	670	41	27.470
100	876	87.600	400	134	53.600	680	39	26.520
102	1	102	410	137	56.170	690	52	35.880
103	21	2.163	420	121	50.820	692	1	692
109	1	109	423	34	14.382	700	64	44.800
110	57	6.270	430	91	39.130	710	49	34.790
112	1	112	440	60	26.400	720	44	31.680
120	74	8.880	450	124	55.800	730	44	32.120
130	46	5.980	454	1	454	740	50	37.000
140	54	7.560	455	1	455	750	50	37.500
150	78	11.700	458	1	458	760	30	22.800
152	1	152	460	77	35.420	769	1	769
153	1	153	470	76	35.720	770	36	27.720
154	4	616	479	1	479	780	52	40.560
160	47	7.520	480	71	34.080	786	80	62.880
170	58	9.860	488	1	488	790	2.890	2.283.100
180	39	7.020	489	1	489	793	1	793
190	40	7.600	490	58	28.420	799	1	799
196	1	196	499	2	998	800	97	77.600
199	1	199	500	294	147.000	807	1	807
200	71	14.200	510	81	41.310	810	38	30.780
210	39	8.190	520	64	33.280	820	33	27.060
220	49	10.780	529	1	529	830	34	28.220
230	48	11.040	530	60	31.800	840	37	31.080
240	48	11.520	540	57	30.780	850	50	42.500
250	43	10.750	543	1	543	860	44	37.840
259	1	259	546	1	546	870	41	35.670
260	58	15.080	550	74	40.700	879	1	879

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
880	47	41.360	1.230	10	12.300	1.590	18	28.620
890	52	46.280	1.240	11	13.640	1.600	50	80.000
892	1	892	1.250	9	11.250	1.610	4	6.440
897	1	897	1.260	8	10.080	1.613	1	1.613
900	113	101.700	1.270	10	12.700	1.620	19	30.780
910	44	40.040	1.280	6	7.680	1.630	20	32.600
916	1	916	1.290	3	3.870	1.631	1	1.631
920	35	32.200	1.300	28	36.400	1.633	1	1.633
930	32	29.760	1.310	12	15.720	1.634	1	1.634
940	37	34.780	1.320	12	15.840	1.640	10	16.400
950	51	48.450	1.330	6	7.980	1.650	27	44.550
960	40	38.400	1.340	10	13.400	1.660	14	23.240
970	34	32.980	1.350	7	9.450	1.670	10	16.700
980	46	45.080	1.360	13	17.680	1.680	14	23.520
990	51	50.490	1.370	8	10.960	1.690	18	30.420
996	3	2.988	1.380	3	4.140	1.700	19	32.300
1.000	79	79.000	1.390	6	8.340	1.710	10	17.100
1.010	12	12.120	1.400	15	21.000	1.719	1	1.719
1.020	10	10.200	1.410	11	15.510	1.720	6	10.320
1.023	1	1.023	1.420	7	9.940	1.730	5	8.650
1.030	14	14.420	1.430	9	12.870	1.740	8	13.920
1.040	16	16.640	1.440	16	23.040	1.750	13	22.750
1.050	13	13.650	1.450	18	26.100	1.760	8	14.080
1.060	8	8.480	1.458	1	1.458	1.770	5	8.850
1.070	10	10.700	1.460	9	13.140	1.780	11	19.580
1.080	16	17.280	1.470	9	13.230	1.790	10	17.900
1.090	9	9.810	1.480	6	8.880	1.800	42	75.600
1.100	45	49.500	1.490	9	13.410	1.810	11	19.910
1.110	34	37.740	1.500	69	103.500	1.820	7	12.740
1.120	25	28.000	1.510	13	19.630	1.830	10	18.300
1.123	1	1.123	1.511	1	1.511	1.840	12	22.080
1.130	14	15.820	1.520	12	18.240	1.850	25	46.250
1.140	16	18.240	1.522	2	3.044	1.855	1	1.855
1.150	16	18.400	1.530	13	19.890	1.860	8	14.880
1.160	20	23.200	1.540	6	9.240	1.870	13	24.310
1.170	9	10.530	1.549	1	1.549	1.880	21	39.480
1.180	15	17.700	1.550	14	21.700	1.890	19	35.910
1.190	13	15.470	1.560	27	42.120	1.900	33	62.700
1.200	33	39.600	1.570	14	21.980	1.910	12	22.920
1.210	13	15.730	1.580	19	30.020	1.915	1	1.915
1.220	8	9.760	1.588	1	1.588	1.920	21	40.320

overloading (a)	n	$a \times n$	overloading (a)	n	$a \times n$	overloading (a)	n	$a \times n$
1.930	6	11.580	2.314	1	2.314	2.680	15	40.200
1.940	8	15.520	2.320	39	90.480	2.690	13	34.970
1.950	30	58.500	2.322	1	2.322	2.700	28	75.600
1.960	18	35.280	2.330	19	44.270	2.710	13	35.230
1.970	11	21.670	2.340	13	30.420	2.720	5	13.600
1.980	27	53.460	2.344	1	2.344	2.730	7	19.110
1.985	1	1.985	2.350	18	42.300	2.740	15	41.100
1.990	19	37.810	2.360	10	23.600	2.741	1	2.741
2.000	138	276.000	2.370	13	30.810	2.750	13	35.750
2.010	13	26.130	2.380	12	28.560	2.760	7	19.320
2.020	14	28.280	2.381	1	2.381	2.770	8	22.160
2.030	5	10.150	2.390	14	33.460	2.780	20	55.600
2.040	13	26.520	2.400	55	132.000	2.781	1	2.781
2.050	1.180	2.419.000	2.410	36	86.760	2.790	10	27.900
2.060	8	16.480	2.420	15	36.300	2.798	1	2.798
2.070	11	22.770	2.430	10	24.300	2.800	47	131.600
2.080	9	18.720	2.440	14	34.160	2.810	7	19.670
2.090	8	16.720	2.450	25	61.250	2.820	13	36.660
2.100	102	214.200	2.460	11	27.060	2.830	7	19.810
2.110	13	27.430	2.470	19	46.930	2.840	13	36.920
2.120	47	99.640	2.479	1	2.479	2.843	1	2.843
2.130	16	34.080	2.480	22	54.560	2.850	26	74.100
2.140	14	29.960	2.490	8	19.920	2.860	17	48.620
2.150	21	45.150	2.500	2.890	7.225.000	2.870	17	48.790
2.155	1	2.155	2.510	17	42.670	2.880	13	37.440
2.160	8	17.280	2.520	18	45.360	2.890	11	31.790
2.170	16	34.720	2.530	16	40.480	2.900	20	58.000
2.180	13	28.340	2.540	20	50.800	2.910	5	14.550
2.190	15	32.850	2.550	17	43.350	2.920	11	32.120
2.200	81	178.200	2.560	9	23.040	2.930	16	46.880
2.210	27	59.670	2.570	10	25.700	2.940	16	47.040
2.220	19	42.180	2.580	44	113.520	2.950	1.243	3.666.850
2.230	19	42.370	2.587	1	2.587	2.960	17	50.320
2.240	11	24.640	2.590	10	25.900	2.963	1	2.963
2.250	21	47.250	2.600	69	179.400	2.969	1	2.969
2.260	4	9.040	2.610	8	20.880	2.970	13	38.610
2.270	10	22.700	2.620	20	52.400	2.979	1	2.979
2.280	9	20.520	2.630	10	26.300	2.980	19	56.620
2.290	4	9.160	2.640	18	47.520	2.990	8	23.920
2.300	38	87.400	2.650	17	45.050	2.996	1	2.996
2.310	19	43.890	2.660	15	39.900	3.000	42	126.000
2.311	1	2.311	2.670	12	32.040	3.010	4	12.040



<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>
3.012	1	3.012	3.370	3	10.110	3.780	2	7.560
3.020	6	18.120	3.380	6	20.280	3.790	2	7.580
3.024	1	3.024	3.390	5	16.950	3.800	3	11.400
3.030	3	9.090	3.400	16	54.400	3.810	1	3.810
3.040	6	18.240	3.410	7	23.870	3.820	4	15.280
3.050	1	3.050	3.413	1	3.413	3.830	2	7.660
3.060	4	12.240	3.420	6	20.520	3.840	2	7.680
3.070	4	12.280	3.430	5	17.150	3.850	6	23.100
3.080	3	9.240	3.440	8	27.520	3.860	1	3.860
3.090	6	18.540	3.450	10	34.500	3.870	2	7.740
3.100	11	34.100	3.458	1	3.458	3.880	5	19.400
3.110	9	27.990	3.460	4	13.840	3.890	1	3.890
3.120	13	40.560	3.480	3	10.440	3.900	7	27.300
3.124	1	3.124	3.490	2	6.980	3.910	2	7.820
3.130	9	28.170	3.500	12	42.000	3.920	1	3.920
3.135	1	3.135	3.510	3	10.530	3.950	2	7.900
3.140	10	31.400	3.520	4	14.080	3.960	1	3.960
3.148	1	3.148	3.530	1	3.530	3.970	1	3.970
3.150	9	28.350	3.540	4	14.160	3.980	2	7.960
3.154	1	3.154	3.550	5	17.750	3.990	3	11.970
3.160	5	15.800	3.560	3	10.680	4.000	17	68.000
3.170	4	12.680	3.570	2	7.140	4.020	2	8.040
3.174	1	3.174	3.580	4	14.320	4.040	1	4.040
3.180	7	22.260	3.600	3	10.800	4.050	1	4.050
3.190	2	6.380	3.610	4	14.440	4.070	1	4.070
3.200	8	25.600	3.620	2	7.240	4.090	1	4.090
3.210	6	19.260	3.630	2	7.260	4.100	3	12.300
3.220	3	9.660	3.640	2	7.280	4.120	5	20.600
3.230	9	29.070	3.650	4	14.600	4.130	3	12.390
3.240	8	25.920	3.660	3	10.980	4.140	1	4.140
3.250	15	48.750	3.670	2	7.340	4.150	3	12.450
3.260	6	19.560	3.674	1	3.674	4.170	2	8.340
3.270	9	29.430	3.680	2	7.360	4.180	1	4.180
3.280	6	19.680	3.690	2	7.380	4.200	1	4.200
3.290	5	16.450	3.700	5	18.500	4.210	2	8.420
3.300	11	36.300	3.710	1	3.710	4.220	2	8.440
3.310	4	13.240	3.720	3	11.160	4.240	1	4.240
3.320	8	26.560	3.730	3	11.190	4.260	1	4.260
3.330	5	16.650	3.740	2	7.480	4.270	2	8.540
3.340	2	6.680	3.750	1	3.750	4.290	2	8.580
3.350	4	13.400	3.760	3	11.280	4.300	3	12.900
3.360	6	20.160	3.770	2	7.540	4.320	1	4.320

<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloadin g (a)</i>	<i>n</i>	<i>a × n</i>
4.350	2	8.700	5.320	1	5.320	6.800	1	6.800
4.360	1	4.360	5.350	1	5.350	6.820	1	6.820
4.400	1	4.400	5.420	1	5.420	6.850	1	6.850
4.430	1	4.430	5.489	1	5.489	6.871	1	6.871
4.450	1	4.450	5.500	2	11.000	6.920	1	6.920
4.459	1	4.459	5.510	1	5.510	6.960	1	6.960
4.460	2	8.920	5.560	1	5.560	7.000	1	7.000
4.480	1	4.480	5.610	1	5.610	7.060	1	7.060
4.500	5	22.500	5.650	2	11.300	7.080	1	7.080
4.510	2	9.020	5.670	1	5.670	7.110	1	7.110
4.520	3	13.560	5.700	1	5.700	7.120	1	7.120
4.530	1	4.530	5.710	1	5.710	7.150	1	7.150
4.540	1	4.540	5.720	1	5.720	7.190	2	14.380
4.580	2	9.160	5.770	1	5.770	7.360	1	7.360
4.590	1	4.590	5.780	1	5.780	7.380	1	7.380
4.600	2	9.200	5.890	1	5.890	7.390	1	7.390
4.670	1	4.670	5.900	3	17.700	7.410	1	7.410
4.710	1	4.710	5.950	1	5.950	7.470	2	14.940
4.720	1	4.720	5.960	1	5.960	7.520	1	7.520
4.740	2	9.480	5.970	1	5.970	7.560	1	7.560
4.743	1	4.743	5.990	1	5.990	7.590	1	7.590
4.750	2	9.500	6.000	3	18.000	7.680	1	7.680
4.760	1	4.760	6.010	1	6.010	7.690	1	7.690
4.770	2	9.540	6.020	1	6.020	7.720	1	7.720
4.780	1	4.780	6.040	1	6.040	7.800	2	15.600
4.790	2	9.580	6.070	2	12.140	7.810	1	7.810
4.800	2	9.600	6.090	1	6.090	7.830	1	7.830
4.810	2	9.620	6.100	1	6.100	7.840	1	7.840
4.830	1	4.830	6.120	2	12.240	7.880	2	15.760
4.870	1	4.870	6.190	3	18.570	7.930	1	7.930
4.880	1	4.880	6.200	2	12.400	7.940	1	7.940
4.890	1	4.890	6.230	2	12.460	7.960	1	7.960
4.970	2	9.940	6.340	1	6.340	8.000	4	32.000
5.000	2	10.000	6.400	1	6.400	8.140	1	8.140
5.070	1	5.070	6.420	1	6.420	8.180	1	8.180
5.080	1	5.080	6.500	1	6.500	8.230	1	8.230
5.090	1	5.090	6.530	1	6.530	8.310	1	8.310
5.100	1	5.100	6.640	1	6.640	8.320	1	8.320
5.120	2	10.240	6.650	1	6.650	8.360	2	16.720
5.190	1	5.190	6.730	1	6.730	8.380	1	8.380
5.230	1	5.230	6.750	1	6.750	8.390	2	16.780
5.270	2	10.540	6.780	1	6.780	8.430	1	8.430



<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
8.480	1	8.480	9.780	1	9.780	11.190	1	11.190
8.500	1	8.500	9.790	1	9.790	11.200	1	11.200
8.510	1	8.510	9.830	1	9.830	11.210	1	11.210
8.690	1	8.690	9.860	1	9.860	11.220	2	22.440
8.700	1	8.700	9.897	1	9.897	11.250	1	11.250
8.750	1	8.750	9.980	2	19.960	11.300	1	11.300
8.810	1	8.810	9.990	1	9.990	11.310	1	11.310
8.820	1	8.820	10.000	2	20.000	11.330	1	11.330
8.830	1	8.830	10.010	1	10.010	11.340	1	11.340
8.860	1	8.860	10.070	1	10.070	11.370	2	22.740
8.880	1	8.880	10.100	1	10.100	11.420	3	34.260
8.910	1	8.910	10.150	2	20.300	11.460	1	11.460
8.980	1	8.980	10.160	3	30.480	11.470	1	11.470
8.990	1	8.990	10.250	1	10.250	11.490	1	11.490
9.000	1	9.000	10.270	1	10.270	11.510	1	11.510
9.040	1	9.040	10.280	1	10.280	11.520	1	11.520
9.050	1	9.050	10.400	1	10.400	11.530	2	23.060
9.060	2	18.120	10.410	1	10.410	11.620	1	11.620
9.090	1	9.090	10.490	1	10.490	11.670	2	23.340
9.130	1	9.130	10.500	2	21.000	11.690	1	11.690
9.140	1	9.140	10.550	2	21.100	11.720	1	11.720
9.190	1	9.190	10.630	1	10.630	11.760	1	11.760
9.200	1	9.200	10.680	1	10.680	11.820	2	23.640
9.210	1	9.210	10.710	1	10.710	11.930	1	11.930
9.240	1	9.240	10.720	1	10.720	11.940	1	11.940
9.250	1	9.250	10.750	1	10.750	11.960	1	11.960
9.260	1	9.260	10.770	1	10.770	11.970	1	11.970
9.280	1	9.280	10.840	1	10.840	11.990	10	119.900
9.350	1	9.350	10.890	3	32.670	12.000	1	12.000
9.360	1	9.360	10.900	1	10.900	12.030	2	24.060
9.420	2	18.840	10.990	1	10.990	12.070	1	12.070
9.490	1	9.490	11.000	1	11.000	12.180	1	12.180
9.500	2	19.000	11.010	2	22.020	12.190	1	12.190
9.520	1	9.520	11.020	1	11.020	12.300	1	12.300
9.530	1	9.530	11.030	1	11.030	12.410	1	12.410
9.540	1	9.540	11.060	1	11.060	12.420	1	12.420
9.550	1	9.550	11.070	1	11.070	12.430	1	12.430
9.560	1	9.560	11.080	1	11.080	12.440	1	12.440
9.660	1	9.660	11.130	1	11.130	12.500	23	287.500
9.680	1	9.680	11.150	1	11.150	12.510	1	12.510
9.750	1	9.750	11.160	1	11.160	12.530	1	12.530
9.770	1	9.770	11.170	1	11.170	12.540	1	12.540

overloading (a)	$n$	$a \times n$	overloading (a)	$n$	$a \times n$	overloading (a)	$n$	$a \times n$
12.550	61	765.550	13.640	1	13.640	14.980	1	14.980
12.560	1	12.560	13.670	1	13.670	15.000	1	15.000
12.570	1	12.570	13.715	1	13.715	15.020	1	15.020
12.590	1	12.590	13.810	1	13.810	15.030	1	15.030
12.600	2	25.200	13.850	2	27.700	15.090	2	30.180
12.610	1	12.610	13.860	1	13.860	15.100	1	15.100
12.620	2	25.240	13.980	1	13.980	15.110	1	15.110
12.630	1	12.630	14.000	3	42.000	15.120	1	15.120
12.650	1	12.650	14.010	1	14.010	15.240	1	15.240
12.660	1	12.660	14.050	1	14.050	15.250	1	15.250
12.700	1	12.700	14.070	1	14.070	15.260	4	61.040
12.750	1	12.750	14.110	1	14.110	15.330	1	15.330
12.770	1	12.770	14.120	1	14.120	15.370	1	15.370
12.780	1	12.780	14.200	2	28.400	15.390	1	15.390
12.820	2	25.640	14.230	2	28.460	15.410	1	15.410
12.870	1	12.870	14.300	1	14.300	15.420	1	15.420
12.930	2	25.860	14.340	1	14.340	15.440	1	15.440
13.000	3	39.000	14.380	1	14.380	15.470	1	15.470
13.020	1	13.020	14.390	1	14.390	15.480	2	30.960
13.070	2	26.140	14.430	1	14.430	15.490	2	30.980
13.110	2	26.220	14.440	1	14.440	15.500	1	15.500
13.120	1	13.120	14.460	1	14.460	15.520	1	15.520
13.160	2	26.320	14.480	11	159.280	15.550	1	15.550
13.240	18	238.320	14.490	1	14.490	15.560	1	15.560
13.260	2	26.520	14.510	1	14.510	15.580	1	15.580
13.270	1	13.270	14.550	1	14.550	15.620	1	15.620
13.290	1	13.290	14.570	1	14.570	15.650	1	15.650
13.310	4	53.240	14.580	1	14.580	15.660	1	15.660
13.320	1	13.320	14.620	1	14.620	15.690	1	15.690
13.340	1	13.340	14.650	3	43.950	15.700	1	15.700
13.360	1	13.360	14.690	1	14.690	15.760	1	15.760
13.380	2	26.760	14.700	1	14.700	15.770	1	15.770
13.430	3	40.290	14.780	1	14.780	15.790	1	15.790
13.450	2	26.900	14.790	2	29.580	15.850	1	15.850
13.480	1	13.480	14.800	1	14.800	15.860	1	15.860
13.490	1	13.490	14.820	2	29.640	15.900	2	31.800
13.500	2	27.000	14.830	2	29.660	15.960	2	31.920
13.530	1	13.530	14.840	4	59.360	15.970	1	15.970
13.550	2	27.100	14.870	2	29.740	15.990	2	31.980
13.560	1	13.560	14.890	1	14.890	16.000	2	32.000
13.570	1	13.570	14.920	1	14.920	16.060	1	16.060
13.600	1	13.600	14.930	1	14.930	16.090	1	16.090

overloading (a)	n	$a \times n$	overloading (a)	n	$a \times n$	overloading (a)	n	$a \times n$
16.100	1	16.100	17.220	1	17.220	18.270	2	36.540
16.110	2	32.220	17.230	1	17.230	18.310	1	18.310
16.140	1	16.140	17.250	1	17.250	18.320	1	18.320
16.190	2	32.380	17.260	1	17.260	18.340	2	36.680
16.201	1	16.201	17.300	1	17.300	18.430	1	18.430
16.220	1	16.220	17.320	1	17.320	18.450	1	18.450
16.240	2	32.480	17.340	1	17.340	18.480	1	18.480
16.250	1	16.250	17.350	2	34.700	18.490	2	36.980
16.280	2	32.560	17.430	2	34.860	18.500	1	18.500
16.400	1	16.400	17.460	2	34.920	18.530	1	18.530
16.490	1	16.490	17.480	1	17.480	18.540	1	18.540
16.520	1	16.520	17.500	1	17.500	18.550	1	18.550
16.550	1	16.550	17.550	1	17.550	18.650	1	18.650
16.570	1	16.570	17.560	1	17.560	18.720	1	18.720
16.600	2	33.200	17.580	3	52.740	18.740	1	18.740
16.660	1	16.660	17.590	1	17.590	18.790	1	18.790
16.670	1	16.670	17.600	1	17.600	18.800	1	18.800
16.690	1	16.690	17.610	1	17.610	18.820	1	18.820
16.700	1	16.700	17.620	2	35.240	18.830	1	18.830
16.720	1	16.720	17.650	1	17.650	18.870	2	37.740
16.760	1	16.760	17.670	2	35.340	18.900	1	18.900
16.770	1	16.770	17.740	1	17.740	18.930	1	18.930
16.860	1	16.860	17.760	3	53.280	18.980	1	18.980
16.890	1	16.890	17.800	1	17.800	19.020	1	19.020
16.900	1	16.900	17.870	1	17.870	19.040	3	57.120
16.920	2	33.840	17.880	1	17.880	19.050	1	19.050
16.960	1	16.960	17.900	2	35.800	19.080	1	19.080
16.970	1	16.970	17.920	1	17.920	19.120	1	19.120
16.990	4	67.960	17.940	2	35.880	19.130	1	19.130
17.000	2	34.000	18.000	1	18.000	19.170	1	19.170
17.010	1	17.010	18.050	1	18.050	19.250	1	19.250
17.030	1	17.030	18.060	2	36.120	19.270	2	38.540
17.050	1	17.050	18.080	1	18.080	19.300	1	19.300
17.080	1	17.080	18.120	1	18.120	19.320	1	19.320
17.090	1	17.090	18.140	1	18.140	19.340	1	19.340
17.100	1	17.100	18.180	3	54.540	19.400	1	19.400
17.120	2	34.240	18.190	2	36.380	19.410	1	19.410
17.130	1	17.130	18.200	2	36.400	19.510	1	19.510
17.170	1	17.170	18.210	1	18.210	19.530	1	19.530
17.180	1	17.180	18.230	1	18.230	19.560	1	19.560
17.200	3	51.600	18.240	1	18.240	19.620	1	19.620
17.210	1	17.210	18.260	1	18.260	19.650	2	39.300

<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloading (a)</i>	<i>n</i>	<i>a × n</i>	<i>overloadin g (a)</i>	<i>n</i>	<i>a × n</i>
19.670	1	19.670	21.010	1	21.010	22.720	1	22.720
19.750	1	19.750	21.030	1	21.030	22.730	1	22.730
19.770	1	19.770	21.050	1	21.050	22.750	1	22.750
19.800	1	19.800	21.060	1	21.060	22.830	1	22.830
19.830	1	19.830	21.140	1	21.140	22.890	1	22.890
19.850	2	39.700	21.240	2	42.480	22.930	1	22.930
19.870	1	19.870	21.270	1	21.270	23.000	1	23.000
19.880	1	19.880	21.360	2	42.720	23.040	1	23.040
19.890	2	39.780	21.380	1	21.380	23.080	1	23.080
19.900	1	19.900	21.400	1	21.400	23.100	1	23.100
19.930	1	19.930	21.450	1	21.450	23.180	1	23.180
19.960	1	19.960	21.480	1	21.480	23.310	1	23.310
19.980	1	19.980	21.590	1	21.590	23.390	1	23.390
19.990	2	39.980	21.600	1	21.600	23.400	1	23.400
20.030	1	20.030	21.650	1	21.650	23.550	32	753.600
20.040	1	20.040	21.660	1	21.660	23.610	1	23.610
20.130	1	20.130	21.700	1	21.700	23.760	2	47.520
20.140	1	20.140	21.710	1	21.710	23.850	3	71.550
20.180	1	20.180	21.740	1	21.740	23.980	36	863.280
20.200	3	60.600	21.750	1	21.750	24.110	2	48.220
20.210	1	20.210	21.800	1	21.800	24.390	2	48.780
20.220	1	20.220	21.870	1	21.870	24.400	2	48.800
20.250	1	20.250	21.980	1	21.980	24.410	2	48.820
20.290	2	40.580	21.990	1	21.990	24.440	2	48.880
20.300	1	20.300	22.000	2	44.000	24.470	2	48.940
20.390	1	20.390	22.040	2	44.080	24.530	2	49.060
20.400	1	20.400	22.180	1	22.180	24.560	1	24.560
20.460	1	20.460	22.210	1	22.210	24.580	12	294.960
20.470	1	20.470	22.220	3	66.660	24.680	9	222.120
20.640	2	41.280	22.240	1	22.240	24.820	1	24.820
20.650	1	20.650	22.270	1	22.270	25.000	1	25.000
20.687	1	20.687	22.330	1	22.330	25.010	1	25.010
20.710	1	20.710	22.390	5	111.950	25.110	1	25.110
20.720	1	20.720	22.410	4	89.640	25.120	14	351.680
20.730	1	20.730	22.430	1	22.430	25.290	1	25.290
20.740	1	20.740	22.450	1	22.450	25.340	1	25.340
20.765	1	20.765	22.520	1	22.520	25.350	2	50.700
20.770	1	20.770	22.530	1	22.530	25.480	3	76.440
20.860	1	20.860	22.590	1	22.590	25.750	1	25.750
20.910	1	20.910	22.630	1	22.630	25.760	1	25.760
20.950	1	20.950	22.650	1	22.650	25.840	1	25.840
20.970	1	20.970	22.660	1	22.660	25.900	1	25.900

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
25.960	1	25.960	29.010	1	29.010	32.020	3	96.060
26.790	1	26.790	29.070	1	29.070	32.190	3	96.570
26.830	1	26.830	29.520	2	59.040	32.310	4	129.240
26.980	1	26.980	29.900	2	59.800	32.430	4	129.720
27.020	1	27.020	30.050	1	30.050	32.750	4	131.000
27.400	1	27.400	30.060	2	60.120	33.120	3	99.360
27.650	1	27.650	30.240	2	60.480	34.910	3	104.730
27.680	1	27.680	30.510	2	61.020	37.440	4	149.760
27.860	2	55.720	30.740	2	61.480	38.590	5	192.950
28.120	2	56.240	31.020	2	62.040	39.140	3	117.420
28.570	1	28.570	31.130	2	62.260	40.090	4	160.360
28.670	1	28.670	31.600	3	94.800	40.810	4	163.240
28.860	1	28.860	32.000	2	64.000			

$\sum n$	21.156
$\sum \text{Overloading}$	45.786.179 kg
Rata-Rata	2.164,22 kg
	2,164 ton

**Tabel Lampiran 4-5 Data *Overloading* Kendaraan 28000<JBI≤35000 kg**

<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$
10	5	50	420	4	1.680	830	4	3.320
20	6	120	430	9	3.870	840	8	6.720
30	5	150	440	7	3.080	850	5	4.250
40	6	240	450	2	900	860	11	9.460
50	5	250	460	7	3.220	870	5	4.350
60	4	240	470	7	3.290	880	9	7.920
70	7	490	480	6	2.880	890	9	8.010
80	11	880	490	8	3.920	900	7	6.300
90	5	450	500	8	4.000	910	11	10.010
100	5	500	510	8	4.080	920	2	1.840
110	7	770	520	7	3.640	930	3	2.790
120	14	1.680	530	6	3.180	940	10	9.400
130	5	650	540	4	2.160	950	2	1.900
140	6	840	550	3	1.650	960	4	3.840
150	3	450	560	7	3.920	970	12	11.640
160	5	800	570	5	2.850	980	7	6.860
170	4	680	580	5	2.900	990	4	3.960
180	4	720	590	7	4.130	1.000	11	11.000
190	2	380	600	6	3.600	1.010	4	4.040
200	8	1.600	610	6	3.660	1.020	7	7.140
210	5	1.050	620	5	3.100	1.030	3	3.090
220	4	880	630	4	2.520	1.040	3	3.120
230	10	2.300	640	14	8.960	1.050	6	6.300
240	6	1.440	650	7	4.550	1.060	5	5.300
250	6	1.500	660	10	6.600	1.070	3	3.210
260	5	1.300	670	5	3.350	1.080	5	5.400
270	4	1.080	680	11	7.480	1.090	6	6.540
280	5	1.400	690	4	2.760	1.100	8	8.800
290	1	290	700	3	2.100	1.110	4	4.440
300	7	2.100	710	6	4.260	1.120	5	5.600
310	6	1.860	720	6	4.320	1.130	2	2.260
320	4	1.280	730	6	4.380	1.140	3	3.420
330	6	1.980	740	6	4.440	1.150	5	5.750
340	1	340	750	11	8.250	1.160	12	13.920
350	8	2.800	760	3	2.280	1.170	5	5.850
360	6	2.160	770	2	1.540	1.180	3	3.540
370	2	740	780	5	3.900	1.190	6	7.140
380	8	3.040	790	9	7.110	1.200	16	19.200
390	7	2.730	800	4	3.200	1.210	12	14.520
400	8	3.200	810	7	5.670	1.220	4	4.880
410	8	3.280	820	10	8.200	1.230	5	6.150



<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
1.240	3	3.720	1.680	1	1.680	2.160	4	8.640
1.250	5	6.250	1.710	1	1.710	2.170	2	4.340
1.260	8	10.080	1.730	1	1.730	2.180	1	2.180
1.270	5	6.350	1.740	2	3.480	2.190	3	6.570
1.280	2	2.560	1.750	2	3.500	2.200	2	4.400
1.290	5	6.450	1.760	2	3.520	2.210	3	6.630
1.300	4	5.200	1.790	3	5.370	2.214	1	2.214
1.310	6	7.860	1.800	4	7.200	2.220	2	4.440
1.320	3	3.960	1.810	3	5.430	2.230	2	4.460
1.330	1	1.330	1.820	2	3.640	2.240	3	6.720
1.340	3	4.020	1.850	1	1.850	2.250	4	9.000
1.350	2	2.700	1.860	1	1.860	2.260	2	4.520
1.360	4	5.440	1.870	1	1.870	2.280	7	15.960
1.370	4	5.480	1.880	1	1.880	2.290	6	13.740
1.380	2	2.760	1.890	2	3.780	2.300	1	2.300
1.390	4	5.560	1.910	2	3.820	2.310	2	4.620
1.400	7	9.800	1.920	3	5.760	2.320	4	9.280
1.410	5	7.050	1.930	1	1.930	2.330	1	2.330
1.420	4	5.680	1.950	1	1.950	2.340	3	7.020
1.430	3	4.290	1.970	1	1.970	2.360	2	4.720
1.440	5	7.200	1.980	1	1.980	2.370	1	2.370
1.450	2	2.900	2.000	27	54.000	2.380	1	2.380
1.460	3	4.380	2.010	5	10.050	2.390	1	2.390
1.470	3	4.410	2.024	1	2.024	2.400	5	12.000
1.480	2	2.960	2.030	3	6.090	2.410	4	9.640
1.490	1	1.490	2.050	1	2.050	2.420	2	4.840
1.500	4	6.000	2.051	1	2.051	2.430	3	7.290
1.510	3	4.530	2.060	2	4.120	2.440	1	2.440
1.520	3	4.560	2.080	1	2.080	2.450	3	7.350
1.530	2	3.060	2.090	3	6.270	2.460	2	4.920
1.540	3	4.620	2.100	5	10.500	2.470	3	7.410
1.550	3	4.650	2.110	1	2.110	2.480	4	9.920
1.560	2	3.120	2.114	1	2.114	2.490	2	4.980
1.570	2	3.140	2.120	4	8.480	2.500	7	17.500
1.590	2	3.180	2.129	1	2.129	2.510	3	7.530
1.600	2	3.200	2.130	2	4.260	2.520	2	5.040
1.610	4	6.440	2.140	1	2.140	2.530	2	5.060
1.620	2	3.240	2.147	1	2.147	2.540	2	5.080
1.630	2	3.260	2.150	1	2.150	2.550	7	17.850
1.650	2	3.300	2.154	1	2.154	2.560	2	5.120
1.660	4	6.640	2.157	1	2.157	2.570	2	5.140



<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
2.580	3	7.740	3.030	2	6.060	3.560	1	3.560
2.590	2	5.180	3.040	3	9.120	3.580	2	7.160
2.600	3	7.800	3.050	3	9.150	3.590	2	7.180
2.610	4	10.440	3.060	1	3.060	3.600	4	14.400
2.630	5	13.150	3.080	2	6.160	3.620	1	3.620
2.640	7	18.480	3.090	1	3.090	3.630	1	3.630
2.650	3	7.950	3.100	4	12.400	3.640	2	7.280
2.654	1	2.654	3.101	1	3.101	3.645	1	3.645
2.660	2	5.320	3.110	3	9.330	3.650	1	3.650
2.670	5	13.350	3.140	2	6.280	3.660	2	7.320
2.680	5	13.400	3.160	3	9.480	3.670	2	7.340
2.690	1	2.690	3.170	1	3.170	3.690	1	3.690
2.700	3	8.100	3.180	1	3.180	3.700	3	11.100
2.710	1	2.710	3.190	4	12.760	3.710	2	7.420
2.720	2	5.440	3.200	2	6.400	3.720	2	7.440
2.740	1	2.740	3.220	1	3.220	3.730	3	11.190
2.750	8	22.000	3.230	2	6.460	3.750	1	3.750
2.760	2	5.520	3.240	1	3.240	3.770	3	11.310
2.770	1	2.770	3.250	1	3.250	3.800	3	11.400
2.780	2	5.560	3.260	2	6.520	3.850	1	3.850
2.800	2	5.600	3.270	3	9.810	3.860	1	3.860
2.810	2	5.620	3.280	2	6.560	3.870	3	11.610
2.820	2	5.640	3.290	2	6.580	3.890	1	3.890
2.830	3	8.490	3.300	2	6.600	3.900	1	3.900
2.840	3	8.520	3.330	1	3.330	3.910	1	3.910
2.850	3	8.550	3.340	1	3.340	3.920	2	7.840
2.860	1	2.860	3.350	1	3.350	3.940	1	3.940
2.880	2	5.760	3.360	4	13.440	3.950	2	7.900
2.890	1	2.890	3.370	1	3.370	3.959	1	3.959
2.900	3	8.700	3.380	2	6.760	3.960	3	11.880
2.910	3	8.730	3.400	2	6.800	3.970	1	3.970
2.930	2	5.860	3.410	5	17.050	3.980	2	7.960
2.940	3	8.820	3.420	2	6.840	3.990	1	3.990
2.950	1	2.950	3.450	1	3.450	4.000	2	8.000
2.960	2	5.920	3.460	3	10.380	4.020	1	4.020
2.970	5	14.850	3.470	2	6.940	4.040	2	8.080
2.980	2	5.960	3.471	1	3.471	4.070	1	4.070
2.990	1	2.990	3.480	1	3.480	4.080	2	8.160
3.000	10	30.000	3.490	1	3.490	4.090	1	4.090
3.010	2	6.020	3.500	2	7.000	4.100	2	8.200
3.011	1	3.011	3.520	1	3.520	4.110	2	8.220
3.020	1	3.020	3.550	7	24.850	4.120	1	4.120

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
4.160	2	8.320	4.920	2	9.840	6.930	1	6.930
4.170	1	4.170	4.930	1	4.930	6.960	1	6.960
4.180	1	4.180	4.940	1	4.940	7.010	1	7.010
4.200	3	12.600	4.990	1	4.990	7.060	1	7.060
4.220	1	4.220	5.130	1	5.130	7.130	1	7.130
4.230	2	8.460	5.300	1	5.300	7.180	1	7.180
4.260	3	12.780	5.380	1	5.380	7.210	1	7.210
4.280	3	12.840	5.410	1	5.410	7.230	1	7.230
4.300	2	8.600	5.420	1	5.420	7.300	1	7.300
4.310	1	4.310	5.440	1	5.440	7.320	1	7.320
4.330	1	4.330	5.470	1	5.470	7.410	1	7.410
4.370	2	8.740	5.490	1	5.490	7.420	1	7.420
4.390	1	4.390	5.550	1	5.550	7.500	1	7.500
4.400	1	4.400	5.560	1	5.560	7.510	2	15.020
4.410	2	8.820	5.570	1	5.570	7.530	1	7.530
4.430	1	4.430	5.620	1	5.620	7.540	1	7.540
4.460	2	8.920	5.650	1	5.650	7.620	1	7.620
4.500	2	9.000	5.710	1	5.710	7.730	1	7.730
4.510	1	4.510	5.770	2	11.540	7.890	1	7.890
4.520	2	9.040	5.810	1	5.810	7.900	1	7.900
4.530	2	9.060	5.830	1	5.830	8.000	1	8.000
4.540	1	4.540	5.980	1	5.980	8.090	1	8.090
4.550	2	9.100	6.000	1	6.000	8.110	1	8.110
4.570	1	4.570	6.030	1	6.030	8.140	1	8.140
4.580	1	4.580	6.094	1	6.094	8.400	1	8.400
4.610	1	4.610	6.110	1	6.110	8.510	2	17.020
4.630	1	4.630	6.240	1	6.240	8.530	1	8.530
4.640	2	9.280	6.360	1	6.360	8.640	1	8.640
4.660	1	4.660	6.380	1	6.380	9.650	1	9.650
4.710	1	4.710	6.400	1	6.400	10.730	1	10.730
4.740	1	4.740	6.410	1	6.410	11.080	1	11.080
4.750	1	4.750	6.470	1	6.470	11.270	1	11.270
4.760	1	4.760	6.500	1	6.500	11.390	1	11.390
4.770	2	9.540	6.520	1	6.520	11.480	1	11.480
4.780	1	4.780	6.540	1	6.540	11.510	1	11.510
4.790	1	4.790	6.620	1	6.620	11.650	1	11.650
4.800	1	4.800	6.700	1	6.700	11.880	1	11.880
4.820	1	4.820	6.750	1	6.750	11.960	1	11.960
4.830	3	14.490	6.800	1	6.800	12.030	1	12.030
4.860	1	4.860	6.820	1	6.820	12.110	1	12.110
4.870	2	9.740	6.830	1	6.830	12.470	1	12.470
4.910	2	9.820	6.880	1	6.880	12.500	1	12.500

<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>
12.900	1	12.900	19.000	1	19.000	25.390	1	25.390
13.190	1	13.190	19.540	1	19.540	25.650	1	25.650
13.251	1	13.251	20.220	1	20.220	25.970	1	25.970
13.830	1	13.830	21.000	1	21.000	26.350	1	26.350
14.142	1	14.142	21.300	1	21.300	27.940	1	27.940
14.420	1	14.420	21.390	1	21.390	28.660	1	28.660
14.730	1	14.730	22.000	1	22.000	29.060	1	29.060
14.980	1	14.980	22.690	1	22.690	29.590	1	29.590
15.150	1	15.150	23.170	1	23.170	29.700	1	29.700
15.160	1	15.160	23.360	1	23.360	30.020	1	30.020
15.360	1	15.360	23.500	1	23.500	30.240	1	30.240
15.680	1	15.680	24.000	1	24.000	30.520	1	30.520
15.840	1	15.840	24.320	1	24.320	31.020	1	31.020
16.280	1	16.280	24.390	1	24.390	31.030	1	31.030
16.790	1	16.790	24.440	2	48.880	31.080	1	31.080
17.160	1	17.160	24.530	1	24.530	31.100	1	31.100
17.180	1	17.180	24.680	1	24.680	32.360	1	32.360
17.750	1	17.750	25.380	1	25.380	32.870	1	32.870

$\sum n$	1.581
$\sum \text{Overloading}$	4.192.618 kg
Rata-Rata	2.651,88 kg
	2,652 ton

**Tabel Lampiran 4-6 Data *Overloading* Kendaraan JBI > 35.000 kg**

<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$	<i>overloading</i> (a)	<i>n</i>	$a \times n$
10	6	60	460	8	3.680	910	2	1.820
20	3	60	470	2	940	920	1	920
30	7	210	480	1	480	930	3	2.790
40	1	40	490	4	1.960	940	2	1.880
50	5	250	500	4	2.000	950	2	1.900
60	4	240	510	5	2.550	960	5	4.800
70	6	420	520	8	4.160	970	2	1.940
80	7	560	530	3	1.590	980	1	980
90	6	540	540	1	540	990	2	1.980
100	2	200	550	1	550	1.000	4	4.000
110	3	330	560	4	2.240	1.010	2	2.020
120	3	360	580	2	1.160	1.020	3	3.060
130	7	910	600	1	600	1.030	5	5.150
140	2	280	610	2	1.220	1.040	2	2.080
150	4	600	620	4	2.480	1.050	5	5.250
160	3	480	630	3	1.890	1.070	1	1.070
170	4	680	640	4	2.560	1.080	1	1.080
180	6	1.080	650	2	1.300	1.100	2	2.200
190	2	380	660	4	2.640	1.120	3	3.360
200	4	800	670	5	3.350	1.140	3	3.420
210	3	630	680	2	1.360	1.150	1	1.150
220	5	1.100	690	4	2.760	1.160	2	2.320
230	4	920	700	1	700	1.170	1	1.170
240	5	1.200	710	5	3.550	1.190	1	1.190
250	2	500	720	1	720	1.200	1	1.200
260	8	2.080	730	8	5.840	1.210	2	2.420
270	3	810	750	2	1.500	1.220	4	4.880
280	2	560	760	2	1.520	1.240	4	4.960
300	3	900	770	4	3.080	1.250	4	5.000
310	3	930	780	5	3.900	1.260	1	1.260
320	6	1.920	790	4	3.160	1.280	3	3.840
340	9	3.060	800	2	1.600	1.290	2	2.580
350	4	1.400	810	4	3.240	1.300	2	2.600
360	4	1.440	820	3	2.460	1.310	1	1.310
370	2	740	830	3	2.490	1.320	2	2.640
380	3	1.140	840	2	1.680	1.330	4	5.320
390	7	2.730	850	3	2.550	1.350	4	5.400
400	6	2.400	860	1	860	1.360	3	4.080
410	1	410	870	5	4.350	1.370	1	1.370
430	2	860	880	6	5.280	1.380	1	1.380
440	2	880	890	3	2.670	1.390	5	6.950
450	2	900	900	5	4.500	1.400	3	4.200

<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$	<i>overloading</i> ( <i>a</i> )	<i>n</i>	$a \times n$
1.410	1	1.410	1.880	3	5.640	2.500	2	5.000
1.420	3	4.260	1.890	3	5.670	2.510	2	5.020
1.430	4	5.720	1.900	3	5.700	2.530	2	5.060
1.440	3	4.320	1.920	5	9.600	2.540	3	7.620
1.450	1	1.450	1.940	1	1.940	2.541	1	2.541
1.460	2	2.920	1.950	2	3.900	2.590	2	5.180
1.480	2	2.960	1.960	2	3.920	2.600	1	2.600
1.490	1	1.490	1.970	1	1.970	2.610	2	5.220
1.500	6	9.000	1.990	3	5.970	2.630	2	5.260
1.510	2	3.020	2.010	1	2.010	2.650	1	2.650
1.520	3	4.560	2.020	1	2.020	2.660	4	10.640
1.530	1	1.530	2.030	2	4.060	2.670	1	2.670
1.540	4	6.160	2.070	3	6.210	2.680	1	2.680
1.550	1	1.550	2.120	2	4.240	2.690	1	2.690
1.560	1	1.560	2.130	1	2.130	2.700	3	8.100
1.570	1	1.570	2.140	1	2.140	2.710	2	5.420
1.580	4	6.320	2.160	1	2.160	2.720	1	2.720
1.590	2	3.180	2.170	1	2.170	2.750	1	2.750
1.600	2	3.200	2.210	1	2.210	2.760	1	2.760
1.620	1	1.620	2.220	1	2.220	2.770	1	2.770
1.630	2	3.260	2.240	1	2.240	2.790	1	2.790
1.640	2	3.280	2.245	1	2.245	2.800	1	2.800
1.650	4	6.600	2.260	1	2.260	2.810	1	2.810
1.660	2	3.320	2.270	1	2.270	2.820	4	11.280
1.670	1	1.670	2.280	1	2.280	2.830	1	2.830
1.680	1	1.680	2.300	2	4.600	2.850	4	11.400
1.700	3	5.100	2.310	3	6.930	2.860	2	5.720
1.710	5	8.550	2.320	3	6.960	2.870	2	5.740
1.720	2	3.440	2.330	1	2.330	2.880	2	5.760
1.730	1	1.730	2.340	1	2.340	2.900	1	2.900
1.740	1	1.740	2.360	1	2.360	2.920	2	5.840
1.750	2	3.500	2.370	1	2.370	2.930	1	2.930
1.760	1	1.760	2.380	2	4.760	2.940	2	5.880
1.770	1	1.770	2.390	2	4.780	2.960	2	5.920
1.790	1	1.790	2.400	1	2.400	2.970	2	5.940
1.800	2	3.600	2.410	1	2.410	2.980	1	2.980
1.810	2	3.620	2.420	1	2.420	2.990	1	2.990
1.820	2	3.640	2.430	2	4.860	3.000	2	6.000
1.830	1	1.830	2.440	1	2.440	3.010	3	9.030
1.840	4	7.360	2.450	2	4.900	3.050	1	3.050
1.850	1	1.850	2.470	1	2.470	3.080	1	3.080
1.860	1	1.860	2.480	2	4.960	3.111	1	3.111

<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$	<i>overloading (a)</i>	<i>n</i>	$a \times n$
3.130	1	3.130	3.840	1	3.840	5.580	2	11.160
3.140	2	6.280	3.850	1	3.850	5.590	1	5.590
3.150	2	6.300	3.860	1	3.860	5.610	1	5.610
3.170	2	6.340	3.870	1	3.870	5.630	1	5.630
3.210	1	3.210	3.880	1	3.880	5.660	1	5.660
3.240	2	6.480	3.920	1	3.920	5.750	1	5.750
3.250	2	6.500	3.940	1	3.940	5.760	1	5.760
3.260	1	3.260	3.960	1	3.960	5.870	1	5.870
3.270	2	6.540	3.990	1	3.990	5.990	1	5.990
3.280	1	3.280	4.000	3	12.000	6.010	1	6.010
3.300	3	9.900	4.030	1	4.030	6.130	1	6.130
3.320	1	3.320	4.070	1	4.070	6.147	1	6.147
3.330	1	3.330	4.130	1	4.130	6.180	1	6.180
3.370	1	3.370	4.160	2	8.320	6.210	1	6.210
3.390	3	10.170	4.190	1	4.190	6.310	1	6.310
3.400	1	3.400	4.210	1	4.210	6.350	1	6.350
3.410	1	3.410	4.220	1	4.220	6.390	1	6.390
3.420	1	3.420	4.270	1	4.270	6.400	1	6.400
3.450	1	3.450	4.280	1	4.280	6.470	2	12.940
3.460	1	3.460	4.300	2	8.600	6.700	2	13.400
3.470	1	3.470	4.340	1	4.340	6.720	1	6.720
3.510	1	3.510	4.520	1	4.520	6.770	1	6.770
3.540	2	7.080	4.560	1	4.560	6.860	1	6.860
3.560	1	3.560	4.580	1	4.580	6.880	1	6.880
3.570	1	3.570	4.590	1	4.590	6.900	1	6.900
3.576	1	3.576	4.720	3	14.160	6.910	1	6.910
3.580	1	3.580	4.750	1	4.750	6.940	1	6.940
3.590	2	7.180	4.810	1	4.810	6.960	1	6.960
3.610	1	3.610	4.840	1	4.840	6.990	1	6.990
3.620	1	3.620	4.850	1	4.850	7.180	1	7.180
3.670	1	3.670	4.890	1	4.890	7.290	1	7.290
3.690	1	3.690	4.960	1	4.960	7.300	1	7.300
3.700	1	3.700	4.970	1	4.970	7.420	1	7.420
3.703	1	3.703	5.000	1	5.000	7.450	1	7.450
3.710	1	3.710	5.040	2	10.080	7.650	1	7.650
3.720	1	3.720	5.200	2	10.400	7.680	1	7.680
3.750	1	3.750	5.270	2	10.540	7.800	1	7.800
3.770	1	3.770	5.300	1	5.300	7.810	1	7.810
3.780	1	3.780	5.320	1	5.320	8.350	1	8.350
3.800	2	7.600	5.330	1	5.330	8.520	1	8.520
3.810	2	7.620	5.380	1	5.380	8.590	1	8.590
3.830	1	3.830	5.510	1	5.510	8.790	1	8.790

<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>	<i>overloading</i> ( <i>a</i> )	<i>n</i>	<i>a</i> × <i>n</i>
9.310	1	9.310	11.860	1	11.860	14.610	1	14.610
9.320	1	9.320	11.920	1	11.920	14.640	1	14.640
9.500	1	9.500	11.930	1	11.930	14.940	1	14.940
9.590	1	9.590	11.940	1	11.940	15.470	1	15.470
9.620	1	9.620	12.030	1	12.030	15.520	1	15.520
9.970	1	9.970	12.420	1	12.420	15.650	1	15.650
10.240	1	10.240	12.700	1	12.700	16.430	1	16.430
10.830	1	10.830	13.630	1	13.630	18.140	1	18.140
11.520	1	11.520	14.170	1	14.170	21.220	1	21.220
11.580	1	11.580	14.270	1	14.270	23.130	1	23.130
11.680	1	11.680	14.430	3	43.290	24.480	1	24.480

$\sum n$	883
$\sum \text{Overloading}$	1.950.672 kg
Rata-Rata	2.341,744 kg
	2,341 ton



**Lampiran 5. Foto-Foto di Lokasi Penelitian**



**Gambar Lampiran 5-1 Jembatan Timbang Kalitirto**



**Gambar Lampiran 5-2 Jembatan Timbang Tamanmartani**



**Gambar Lampiran 5-3 Jembatan Timbang Kulwaru**



**Gambar Lampiran 5-4 Timbangan Kalitirto**



**Gambar Lampiran 5-5 Timbangan Tamanmartani**



**Gambar Lampiran 5-6 Timbangan Kulwaru**



**Gambar Lampiran 5-7 Penimbangan Kalitirto**



**Gambar Lampiran 5-8 Penimbangan Tamanmartani**



**Gambar Lampiran 5-9 Penimbangan Kulwaru**





**Gambar Lampiran 5-10 Alat Indikator Penimbangan Kendaraan Muatan**



**Gambar Lampiran 5-11 Petugas Jembatan Timbang**



**Gambar Lampiran 5-12 Penindakan Pelanggan oleh Petugas Jembatan Timbang**



**Gambar Lampiran 5-13 Wawancara dengan Kabid  
Angkutan Barang dan Lalu Lintas Bapak Sigit Saryanto**



**Gambar Lampiran 5-14 Wawancara dengan Sopir Truk**



**Gambar Lampiran 5-15 Wawancara dengan Sopir Truk**