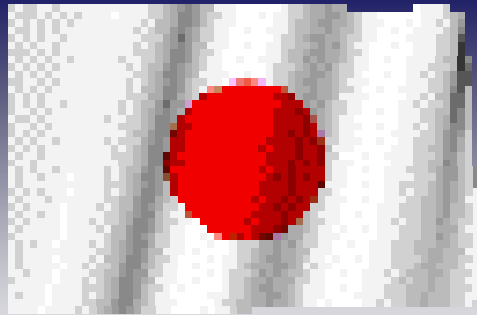


Approaches for the Establishment of Economy Driving (Commercial Vehicle)

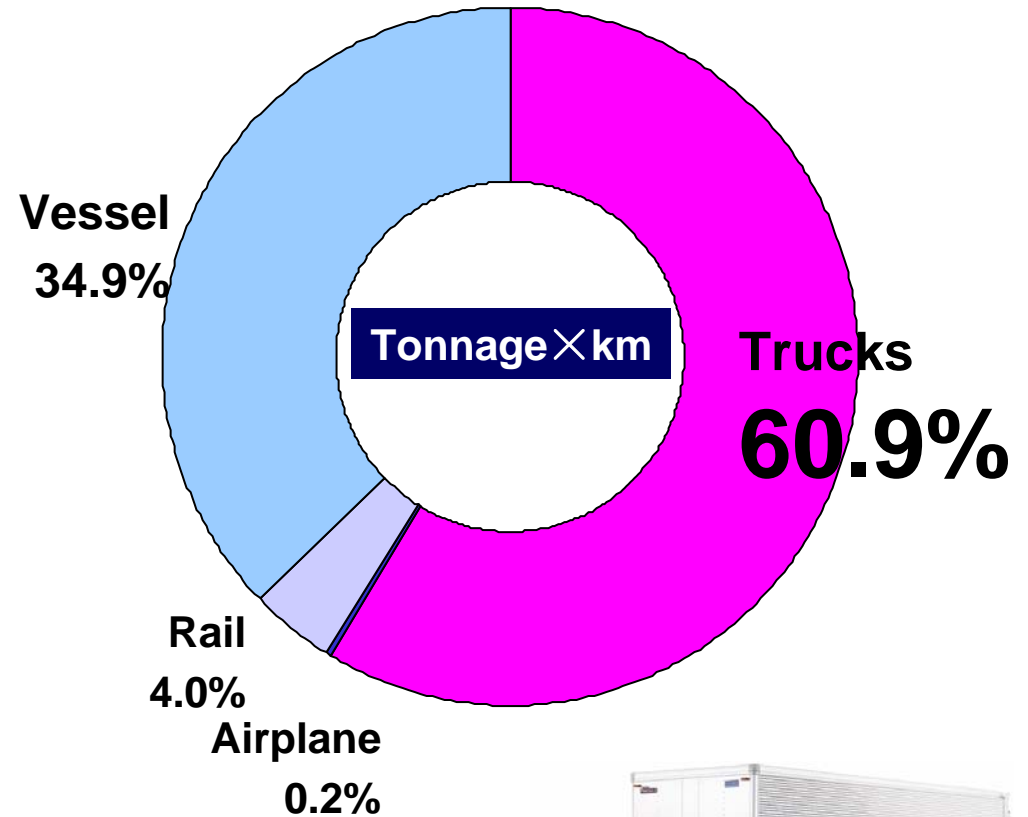
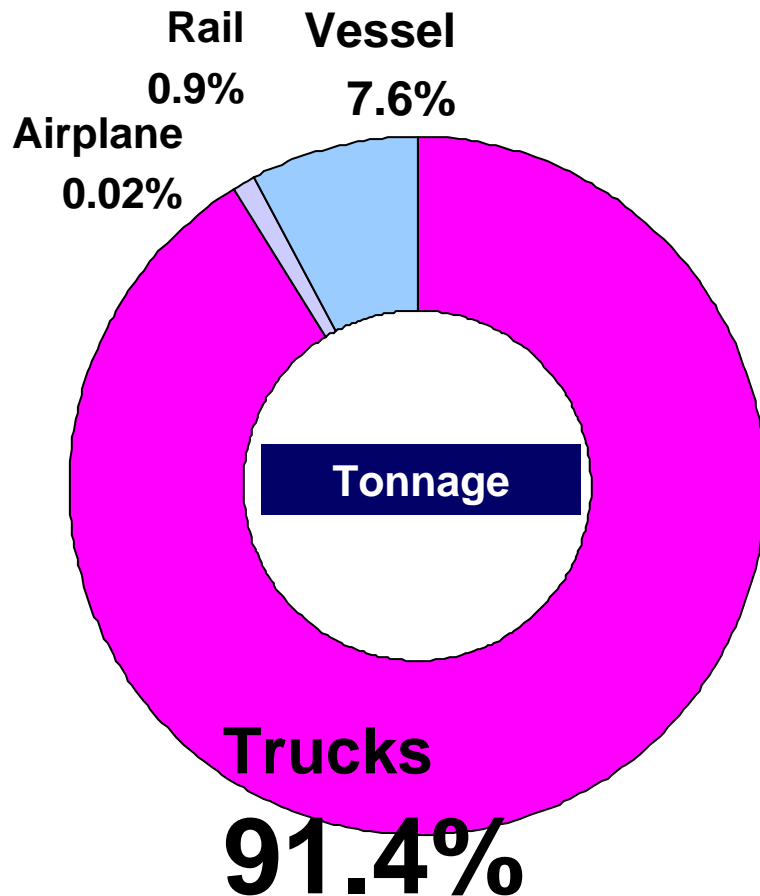


ISUZU

Sales Promotion Dept.

Hiroshi Omino

A Way of Logistics (Japan:2007)



Source from All Japan Truck Association

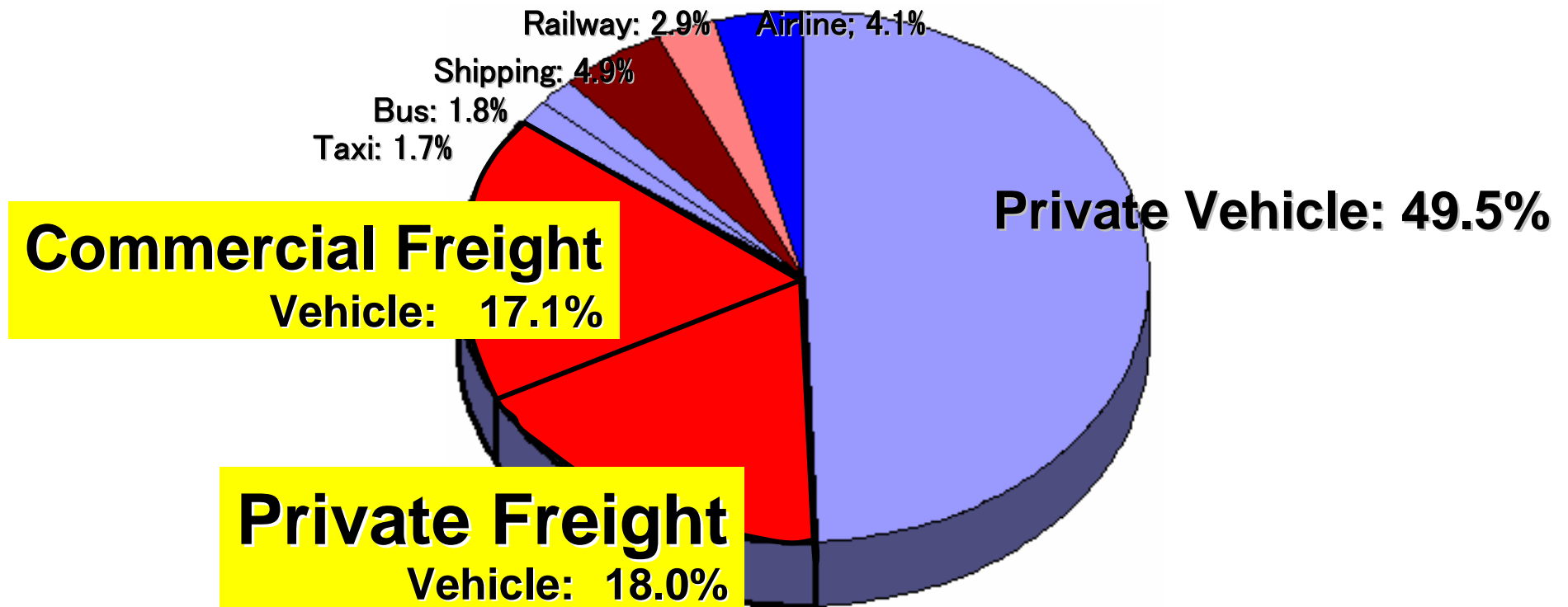
Allocation of share





**Influence of
society**

CO2 emissions that trucks account for in transportation



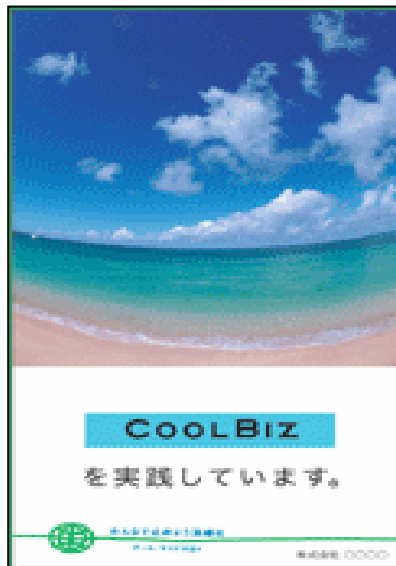
Basic Data from: Website of the Foundation for Promoting Personal Mobility and Ecological Transportation

Improving the fuel efficiency

An aerial photograph of a coral reef system, showing various shades of blue and green water. The reef is surrounded by deep blue ocean water. The text '+3°C' is overlaid in the center of the image.

+3°C

Enactment of energy saving law



All the truck operating companies must concern the environmental impact

1. 改正省エネ法	1
2. 輸送事業者	2
3. 輸送事業者の範囲	3
4. 荷主の物品	4

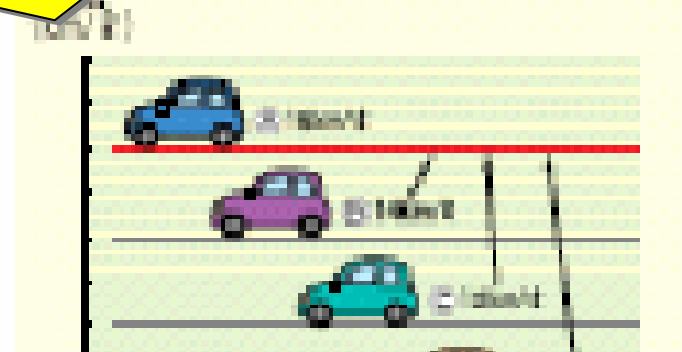
Improve Energy consumption by average 1% per year

April 2006

Identification of fuel-efficient vehicles



Leader in
GVW Class



Achieved Certification

Source: Website of The Energy Conservation Center, Japan

Certification of Green Management

平成18年4月施行
改正省エネ法

改正省エネ法の概要 (輸送に係る措置)



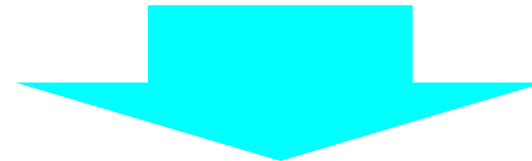
CONTENTS

目次

1. 改正省エネ法（輸送に係る措置）の概要 1
2. 輸送事業者の判断基準、特定輸送事業者の範囲 2
3. 特定輸送事業者の中長期計画、定期報告書 3
4. 荷主の判断基準、特定荷主の範囲、計画、定期報告書 4
5. 荷主のエネルギー使用量の算定方法とデータ取得について 5
6. 按分について 9
7. スケジュール、参考情報 10
8. お問い合わせ先 11

経済産業省・国土交通省

Selection of environment-friendly
cargo transportation company



ISO14000



Green Management

Isuzu Economy Driving Seminar



2009いすゞ輸送戦略セミナー

開催のご案内

拝啓 貴社益々ご清栄のこととお喜び申し上げます。
 平素はいすゞ自動車株式会社並びにいすゞ自動車販売会社に対しまして格別なるご高配を賜り、厚く御礼申し上げます。

さて、いすゞ自動車ではお客様の「輸送コスト低減と輸送品質確保」といった課題に、側面からサポートさせていただくプログラムといたしまして「2009年いすゞ輸送戦略セミナー」を弊社のテストコースがございます北海道にて開催いたします。

セミナーは2日間にわたって行いますが、初日は物流業界の動向と経営戦略について専門の講師の方をお呼びし講演をいただきます。

また、弊社からは「整備管理者制度変更」、「適正化事業」等輸送企業に係る諸法規への対応等についてもご紹介する予定です。

2日目はテストコースにおきまして、省燃費運転の講座・実車による体験講習を主体として、省燃費と安全運行に関する講習並びにデモンストレーション等を実施させていただきます。

2日間のプログラムは、いずれも私共トラックメーカー「いすゞ」だからこそ提供できる内容で構成しており、また貴社にて即導入可能なものをご提案させていただく予定です。

つきましては、ご多忙の折りと存じますが貴社には是非とも当セミナーにご参加いただきたくご案内申し上げます。

敬具

いすゞ自動車株式会社

代表取締役社長 細井 行

ISUZU「2009年 輸送戦略セミナー」プログラム (予定)

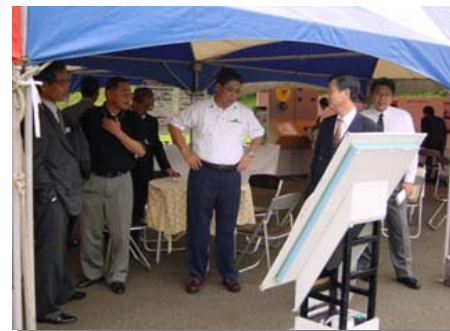
	時間		開催内容
1日目	17:00～ ～20:30	セミナー	外部講師講演 (物流関連講師による)
			輸送企業を取り巻く環境への対応
			懇親会
2日目	8:00～ ～16:30	実体験研修	省燃費運転講座及び実体験講習
			安全に関する実体験講習
			テストコース体験試乗
			輸送品質・安全のデモンストレーション見学 他

上記プログラムは予定であり、変更されることもあります。予めご了承下さいますようお願い申し上げます。

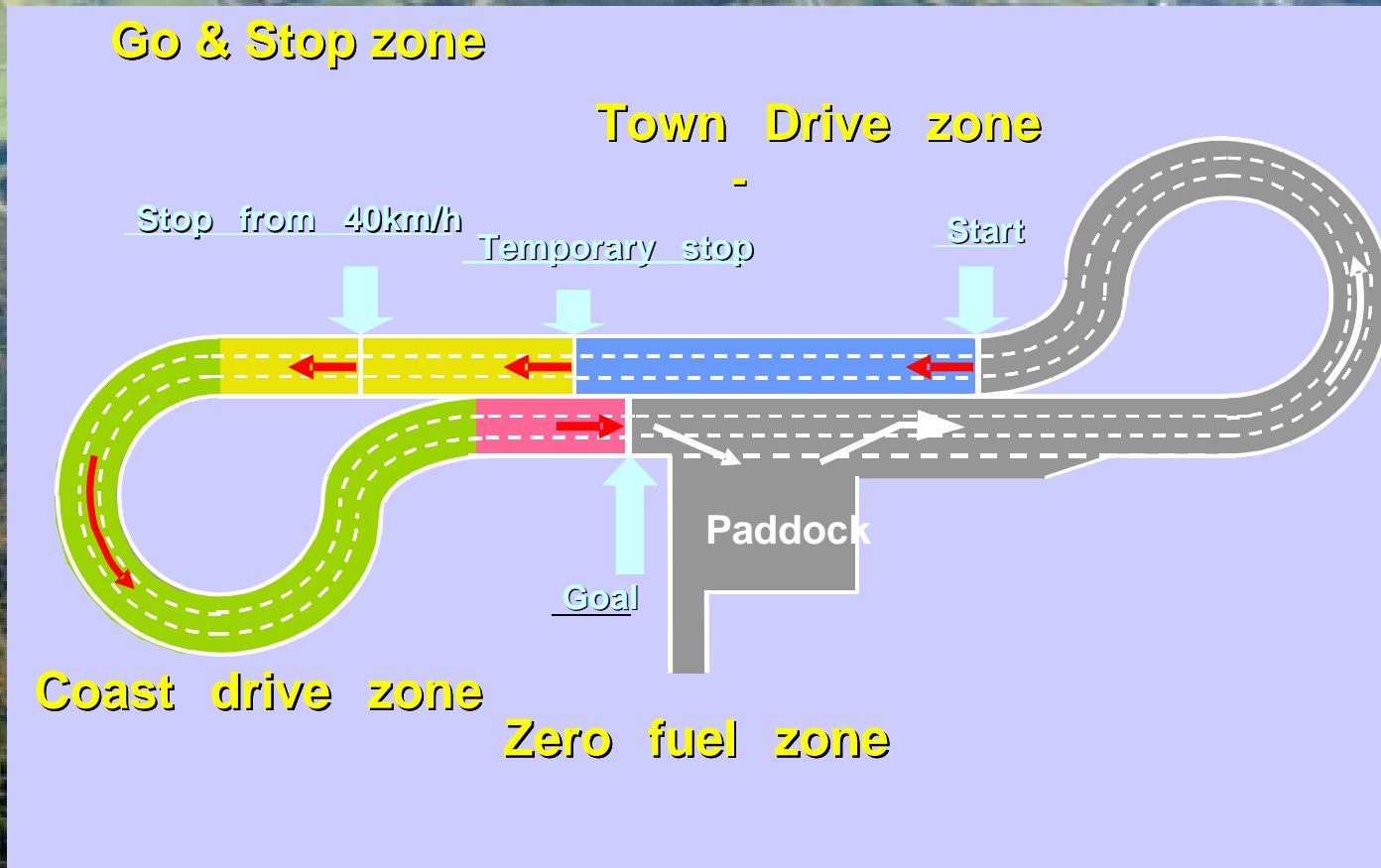


■ Since
1995

■ Participants
14,000 persons



Isuzu Economy-driving course



Fuel Economy Challenge Events

- September 2008
 - ICTA Invites US Press to Fuel Economy Challenge Event in Hokkaido, Japan
 - 15 Key US Press
 - Hands-On Driving
 - Instructional Seminars
 - Implement Learning's
 - Demonstrate Reduction of CO2 Emissions
 - Average Fuel Economy Improvement +36%



Result of Usual-Drive

Usual-Drive
Average : 6.01 mile/gal.



Lecture: Economy-Driving



Four key points

- ◆ Use more high-speed gear
- ◆ Up-shifting at low engine rpm
- ◆ Drive at constant speed
- ◆ Use engine braking

ISUZU

To : Mr. Tane San
ISUZU MOTORS LIMITED

Fuel Economy 'Mimamori' (Monitoring) Report

MIMAMORI
Digest version

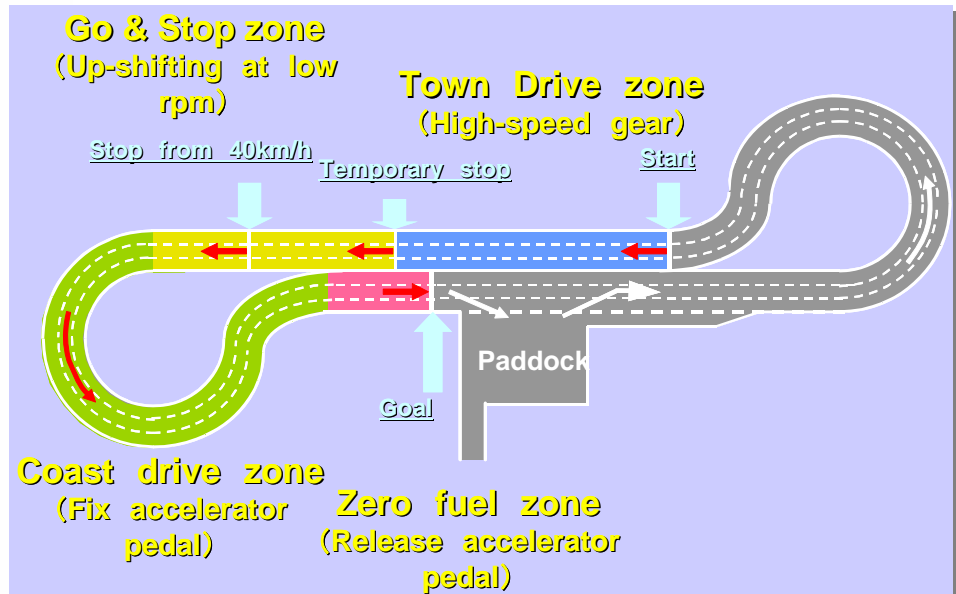
(Note) This report is the Digest of the Fuel Economy Mimamori Report and a little different in contents from the formal version.

Driving frequency 1st. 11th
 Vehicles to be surveyed 05/17th
 Date of survey 05/14/2009
 Report No. Fuel Economy 'Mimamori' (Monitoring) Report (Digest version)

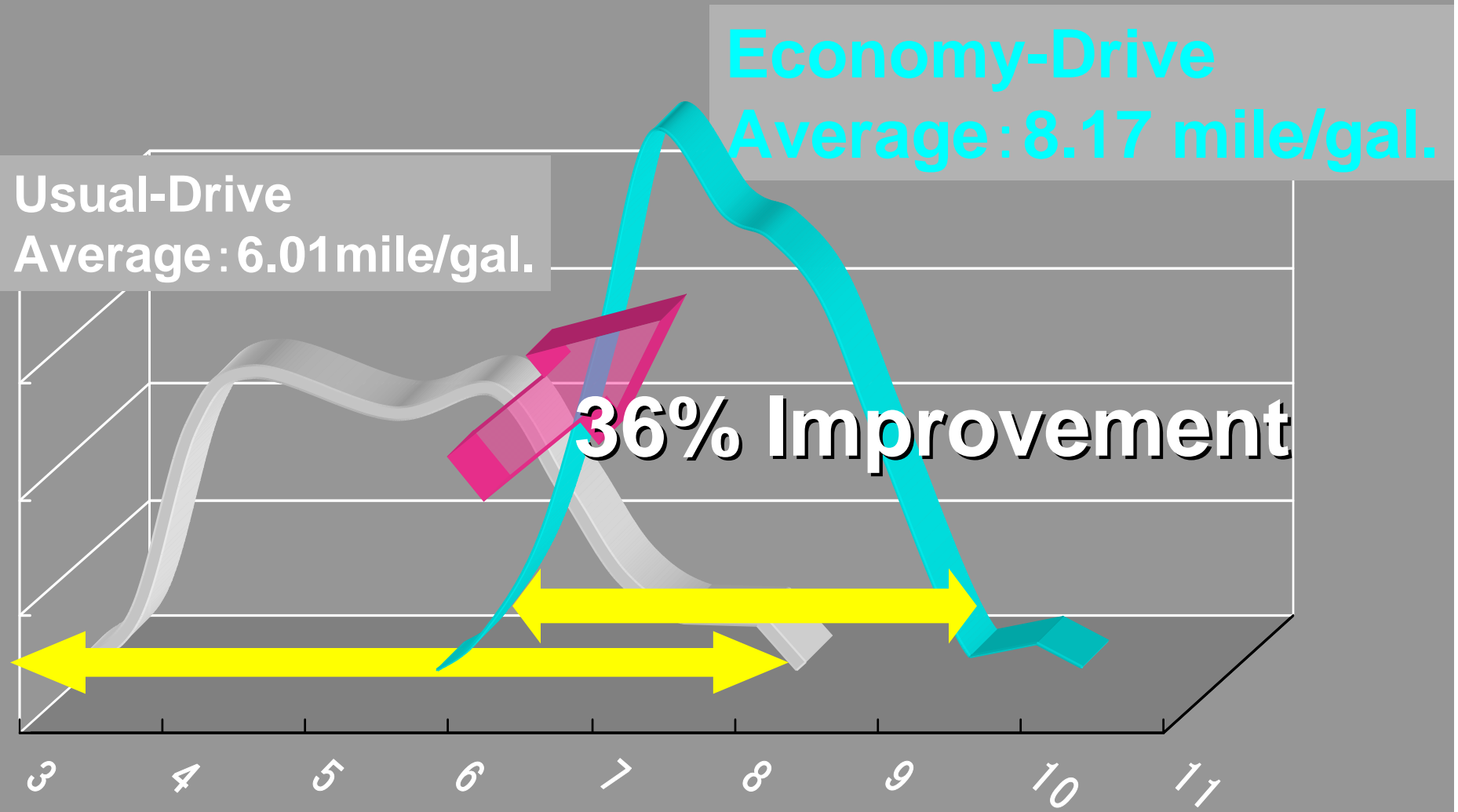
Mimamori Center
ISUZU MOTORS LIMITED
ISUZU

Mimamori Report (Digest version) 05/13/2009

Item-by-item evaluation (five stages)		Hints of driving techniques
Vehicle speed under ordinary driving	3	Ratio more than 80 km/h is approx. 40%. Speed is relatively high. Reduce speed by 10 km/h.
Engine speed in gear upshift	2	The average engine rpm after upshifting into this gear is at 1700 rpm. The ideal is at 1300 rpm and it is therefore not at a befitting state. Upshift quickly at 300 rpm first. You should feel that fuel is actually economized.
Selection of optimal cruising gear ratio	2	All 7 gears doesn't seem to be in full use. Upshift into 7 more often.
Degree of accelerator depression	2	Accelerator pedal is depressed too deeply. Drive precariously to be able to keep constant accelerator operation as well as vehicle velocity.
How to apply brake pedal	4	Hard braking is slightly observed. Aim at reducing emergency brakes to zero.
How to use engine brake	1	Doesn't exhaust brake switch remain on? If so, this will cause wavy driving. As required, turn on the auxiliary brake switch easily accessible to you. This leads to fuel efficient and safety driving.
How to use auxiliary brake	3	Rate of utilization of auxiliary brake is a little too high. The auxiliary brake is a better deceleration method than foot brake. However, use the engine brake as much as possible for greater fuel efficiency.
Idling	-	Not measured this time
Vehicle speed in high speed operation	-	Not measured this time
Overall evaluation (full mark of 100 points)	45	General comments Your driving practice needs much improvement. Possible to improve fuel economy considerably. Driving target does not properly permeate into drivers. See Hints of Driving Techniques to review driving practice.



The effect of Economy-Driving





-Report Sample-

Mr.T.



To :
ISUZU MOTORS LIMITED

Fuel Economy 'Mimamori' (Monitoring) Report



(Note) This report is the Digest of the Fuel Economy Mimamori Report and a little different in contents from the formal version.

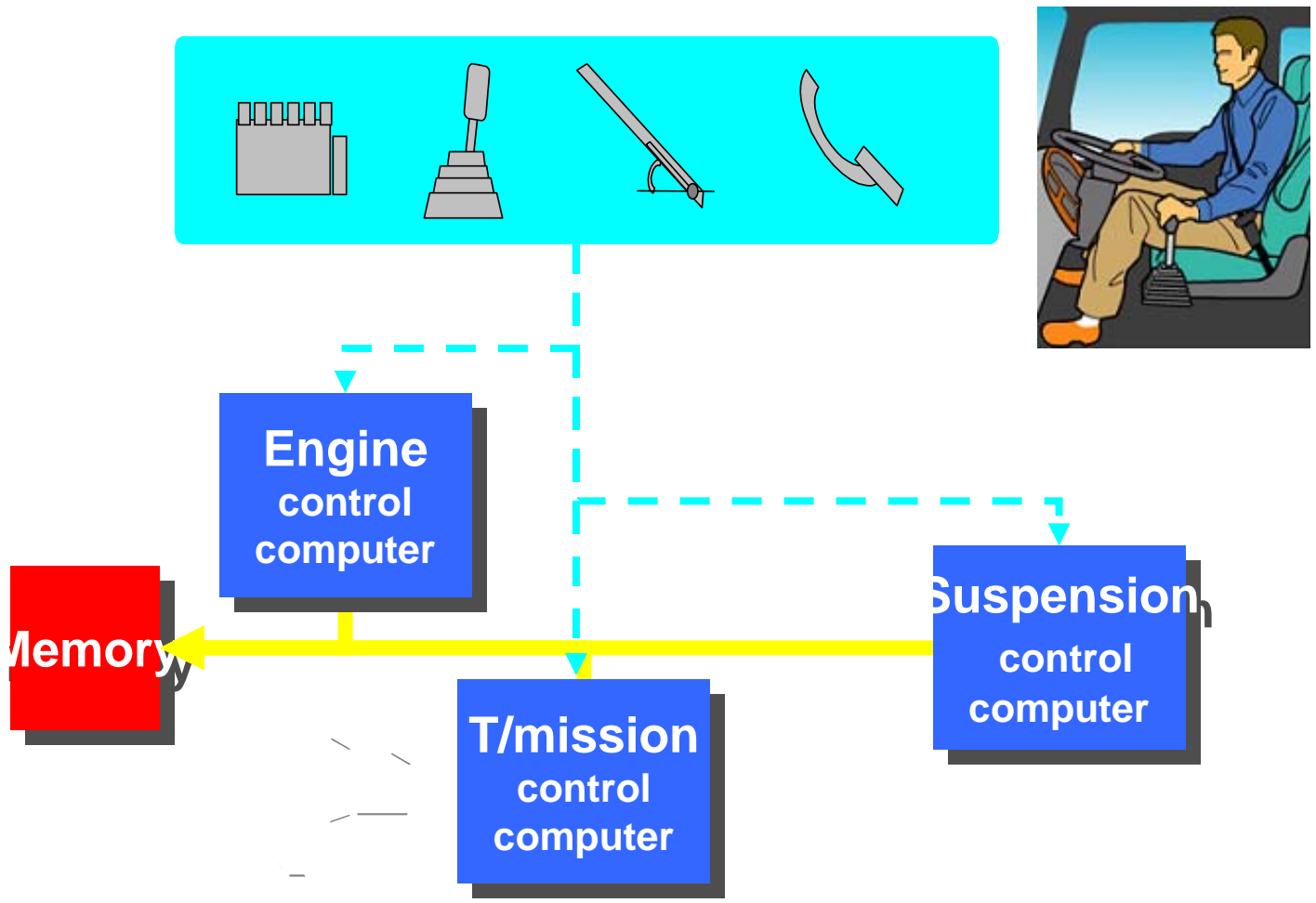
■ Driving frequency	1st time
■ Vehicles to be surveyed	CYL77V8
■ Date of survey	Oct/4/2009
■ Report No.	Fuel Economy 'Mimamori' (Monitoring) Report(Digest version)

Mimamori Center
ISUZU MOTORS LIMITED
ISUZU

Mimamori Report(Digest version)
Oct/4/2009

Advanced Diagnostic System for Transportation

MIMAMORI





-Report Sample-

Mr.T.



To : Mr. [REDACTED]
ISUZU MOTORS LIMITED

Fuel Economy 'Mimamori' (Monitoring) Report



(Note) This report is the Digest of the Fuel Economy Mimamori Report and a little different in contents from the formal version.

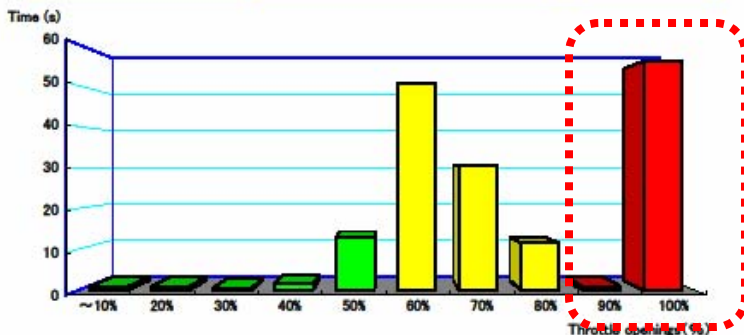
■ Driving frequency	1st time
■ Vehicles to be surveyed	CYL77V8
■ Date of survey	Oct/4/2009
■ Report No.	Fuel Economy 'Mimamori' (Monitoring) Report(Digest version)

Mimamori Center
ISUZU MOTORS LIMITED
ISUZU

Mimamori Report(Digest version)
Oct/4/2009

3. Degree of depression of accelerator pedal

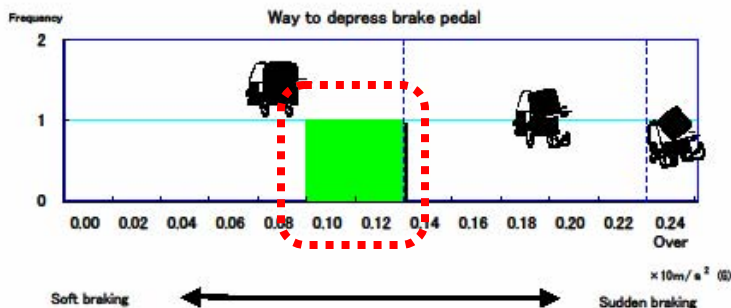
Accelerator pedal operation	Rate at which throttle openings are more than 80%	59 %
-----------------------------	---	------



Accelerator pedal is depressed too deeply. Drive cautiously to be able to keep constant accelerator operation as well as vehicle velocity.

4. Braking

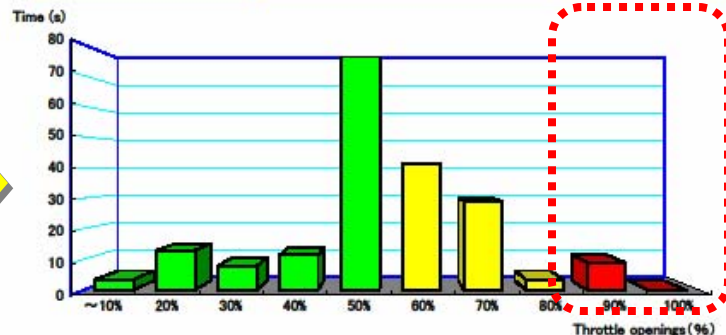
Foot brake & auxiliary brake operation	Average decelerating speed of foot brake	0.13 G
	Rate of use of engine brake	7 %



Hard braking is slightly observed. Aim at reducing emergency brakes to zero.

3. Degree of depression of accelerator pedal

Accelerator pedal operation	Rate at which throttle openings are more than 80%	21 %
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Your accelerator pedal operation is ideal. At this pace, keep on your fuel efficient driving practice.

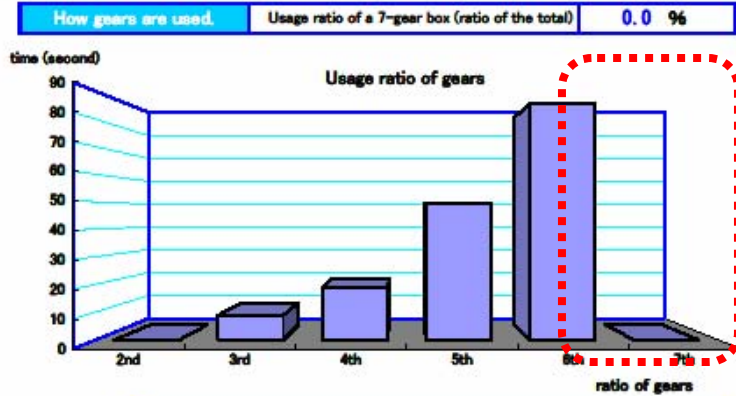
4. Braking

Foot brake & auxiliary brake operation	Average decelerating speed of foot brake	0.09 G
	Rate of use of engine brake	100 %



Your braking operation is perfect. Your braking is gentle to cargo and a vehicle following you. Your braking method is excellent. Keep on such practice.

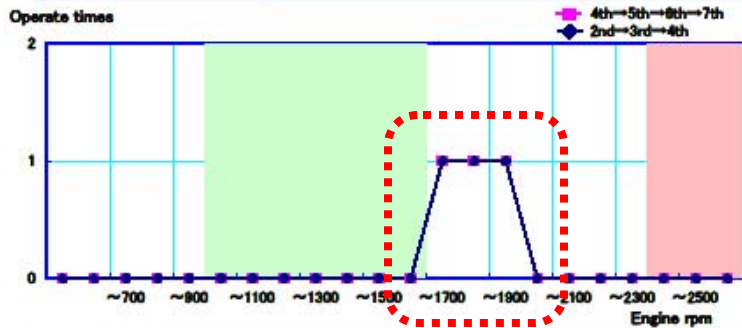
5. How gears are used.



All 7 gears doesn't seem to be in full use. Uphift into 7 more often.

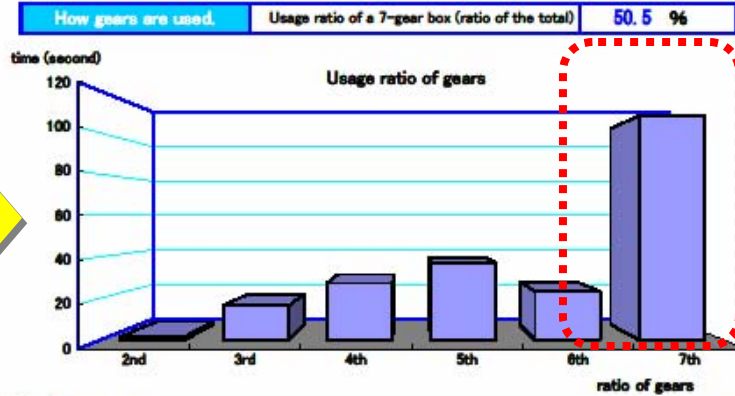
6. Engine rpm immediately preceding gear shifts.

Average engine rpm.	2nd~4th	1750 rpm
	4th~7th	1750 rpm
Target engine rpm.		1320 rpm



The average engine rpm after upshifting into this gear is at 1750 rpm. The ideal is at 1320 rpm and it is therefore not at a befitting state. Uphift quickly at 300 rpm first. You should feel that fuel is actually economized.

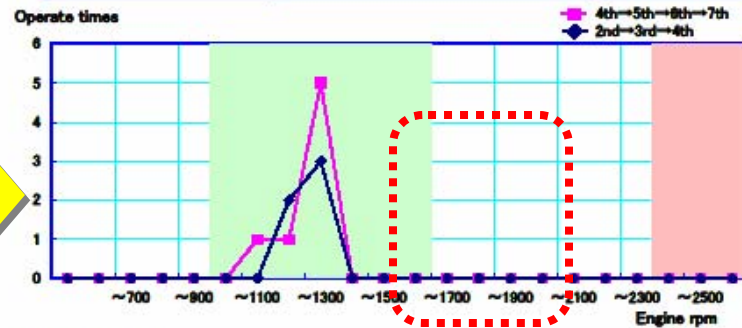
5. How gears are used.



This is the ideal gear shift combination with a high 7-gear usage ratio. Try to maintain this ideal gear-up combination.

6. Engine rpm immediately preceding gear shifts.

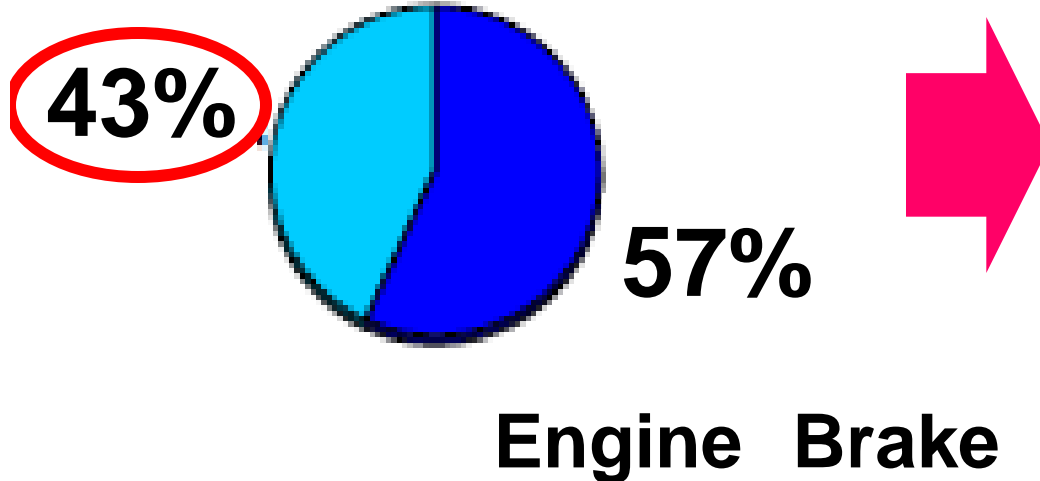
Average engine rpm.	2nd~4th	1220 rpm
	4th~7th	1230 rpm
Target engine rpm.		1200 rpm



The excellent post-upshift rpm level. Let's keep this snapping upshiftable.

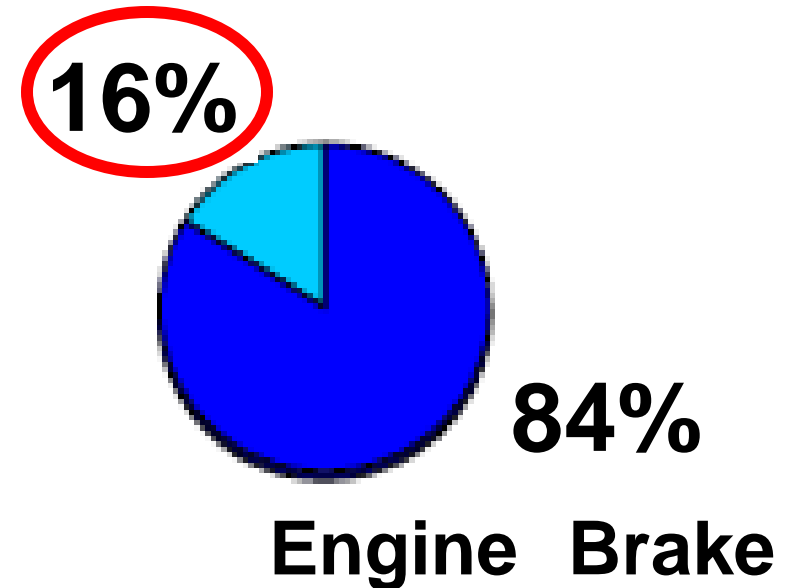
Economy Drive Report

Exhaust Brake



Before

Exhaust Brake



After

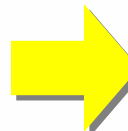
Driving Diagnosis by Mimamori Systems

Item-by-item evaluation (five stages)	Hints of driving techniques
Vehicle speed under ordinary driving 3	Ratio more than 60 km/h is approx. 40%. Speed is relatively high. Reduce speed by 10 km/h.
Selection of optimal cruising gear ratio 2	All 7 gears doesn't seem to be in full use. Upshift into 7 more often.
Degree of accelerator depression 2	Accelerator pedal is depressed too deeply. Drive precautiously to be able to keep constant accelerator operation as well as vehicle velocity.
How to apply brake pedal 4	Hard braking is slightly observed. Aim at reducing emergency brakes to zero.
How to use engine brake 1	Doesn't exhaust brake switch remain on? If so, this will cause wavy driving. As required, turn on the auxiliary brake switch easily accessible to you. This leads to fuel efficient and safety driving.
How to use auxiliary brake 3	Rate of utilization of auxiliary brake is a little too high. The auxiliary brake is a better deceleration method than foot brake. However, use the engine brake as much as possible for greater fuel efficiency.
5.97 mile/gal.	
Overall evaluation (full mark of 100 points) 45	General comments Your driving practice needs much improvement. Possible to improve fuel economy considerably. Driving target does not properly permeate into drivers. See Hints of Driving Techniques to review driving practice.

Driving Diagnosis by Mimamori Systems

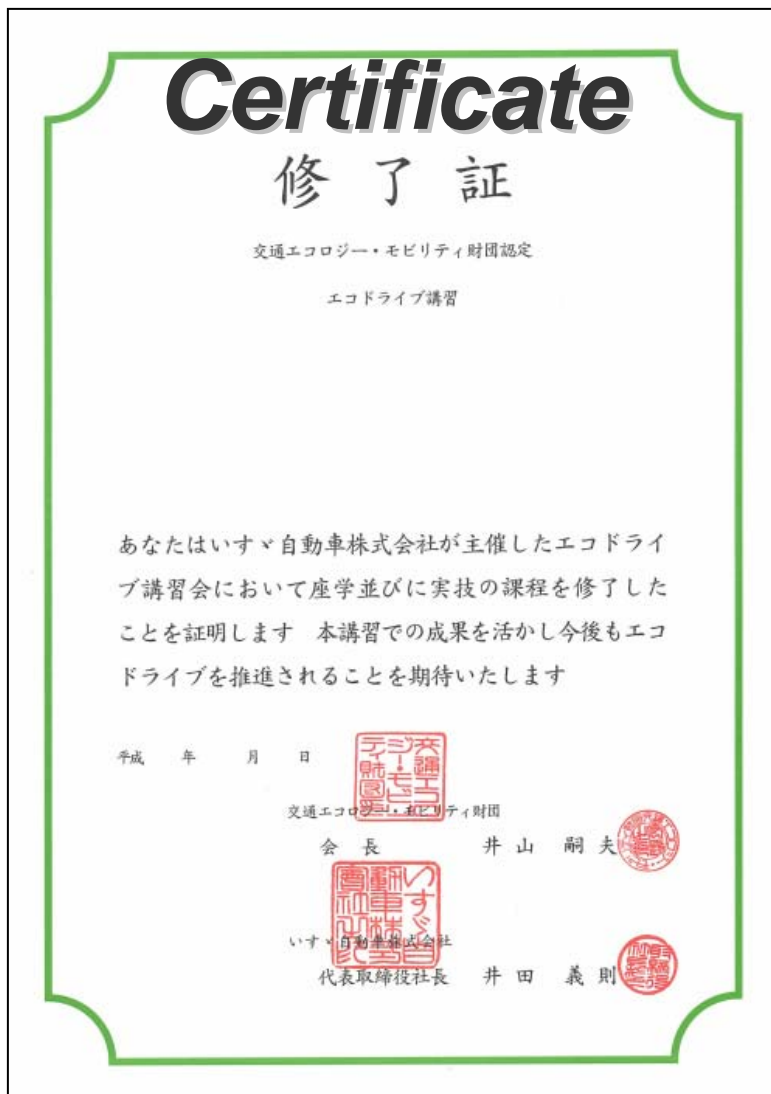
Item-by-item evaluation (five stages)	Hints of driving techniques
Vehicle speed under ordinary driving 5	Ratio more than 60 km/h is approx. 10%. Driving practice is very good. Keep on your driving practice in future, too.
Selection of optimal cruising gear ratio 5	This is the ideal gear shift combination with a high 7-gear usage ratio. Try to maintain this ideal gear-up combination.
Degree of accelerator depression 5	Your accelerator pedal operation is ideal. At this pace, keep on your fuel efficient driving practice.
How to apply brake pedal 5	Your braking operation is perfect. Your braking is gentle to cargo and a vehicle following you. Your braking method is excellent. Keep on such practice.
How to use engine brake 5	Use of engine brake is ideal. You are professional in using engine braking. Use engine brake useful for fuel efficient and safety driving. Keep on your excellent driving practice.
How to use auxiliary brake 5	Your use of auxiliary brake is ideal. In deceleration, try to use the right device at the right time.
8.80 mile/gal.	
Overall evaluation (full mark of 100 points) 100	General comments In terms of fuel economy, emission and safety, you are an exemplary driver. Keep on your driving practice.

Improvement 47%





Issuance of Certificate for Seminar Attendants



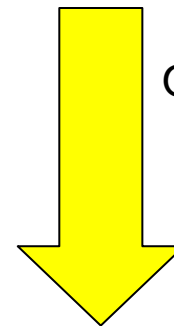
Certificate

- The Foundation for Promoting Personal Mobility and Ecological Transportation

- Isuzu Motors

Certificate will be issued in joint name.

Review Organization



Green Management

Case example

(Past participate of Isuzu Seminar)

Company : D Commercial Transport

Established : December 1981

Fleet of trucks : 128 units include Car Carrier and Trailer

Employee : 93 persons



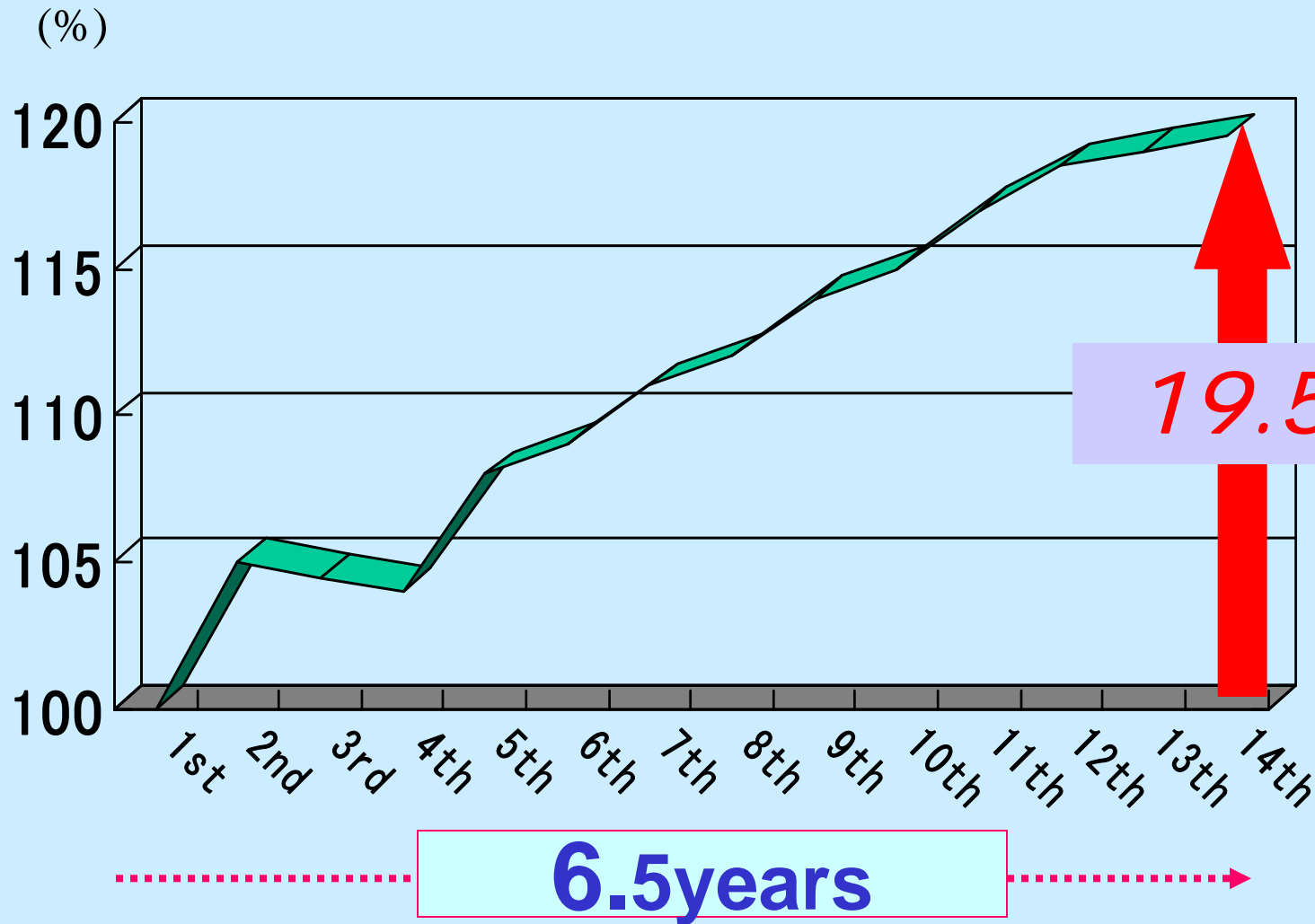
Long term positive effect from Isuzu Economy Driving Seminar

Continued promotion of Economy Driving
for 6.5 years, and made.....



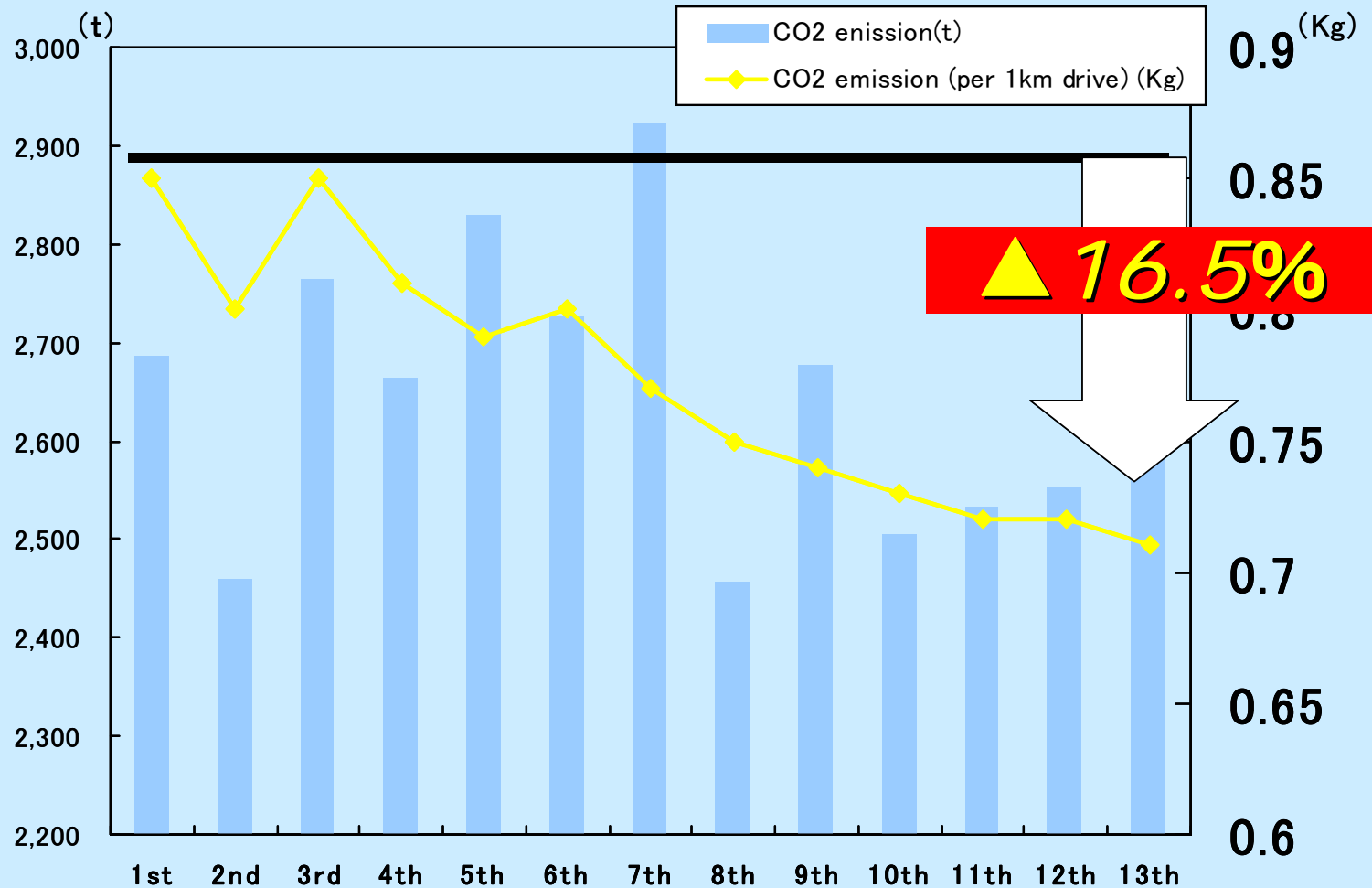
Improvement of Fuel Consumption

Fuel efficiency Improved 19.5%



CO2 Emission (per 1km drive)

CO2 emission reduced 16.5%

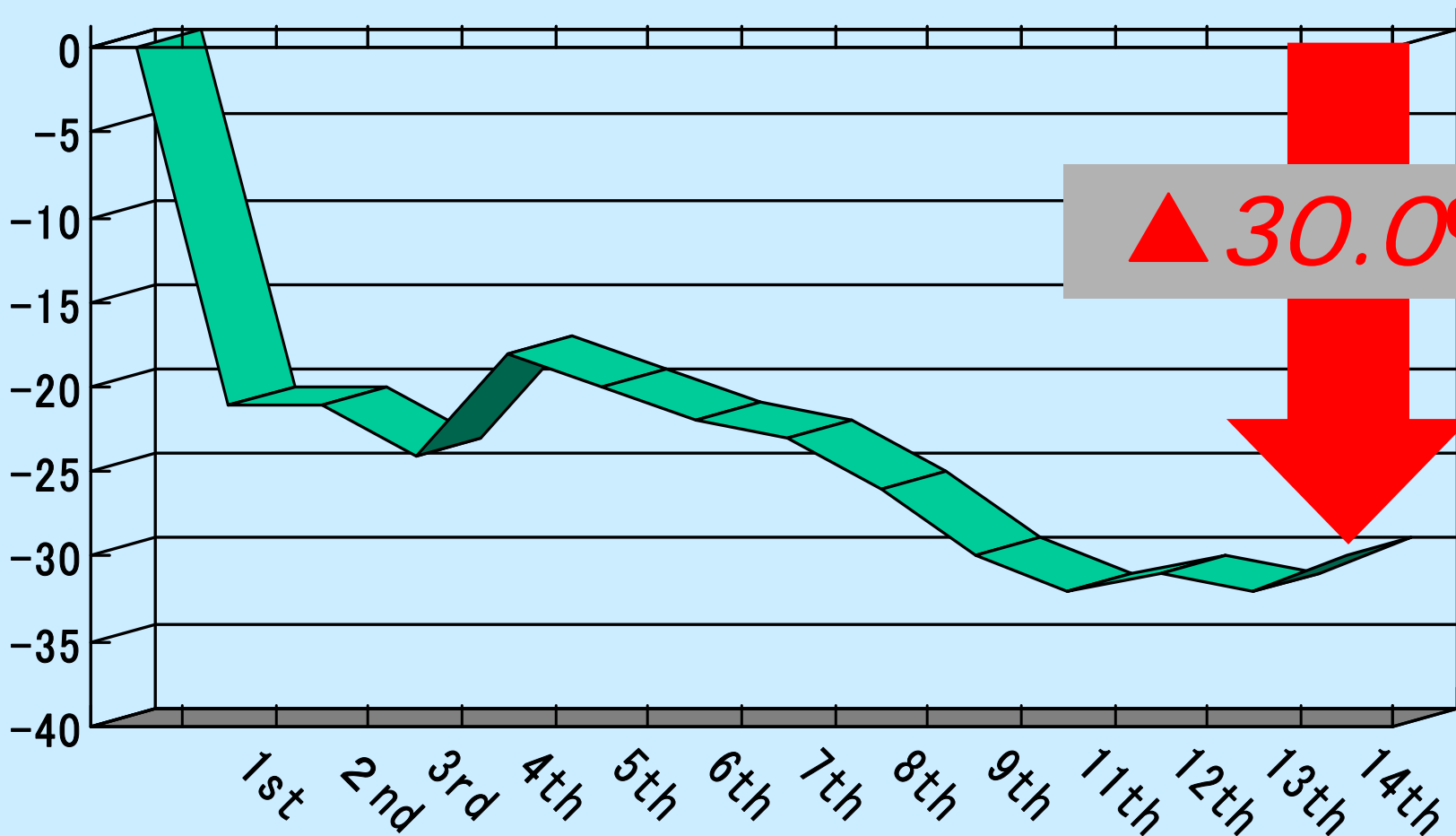


6.5 years

Transition of Maintenance Cost (year to year basis)

Maintenance cost reduced 30%

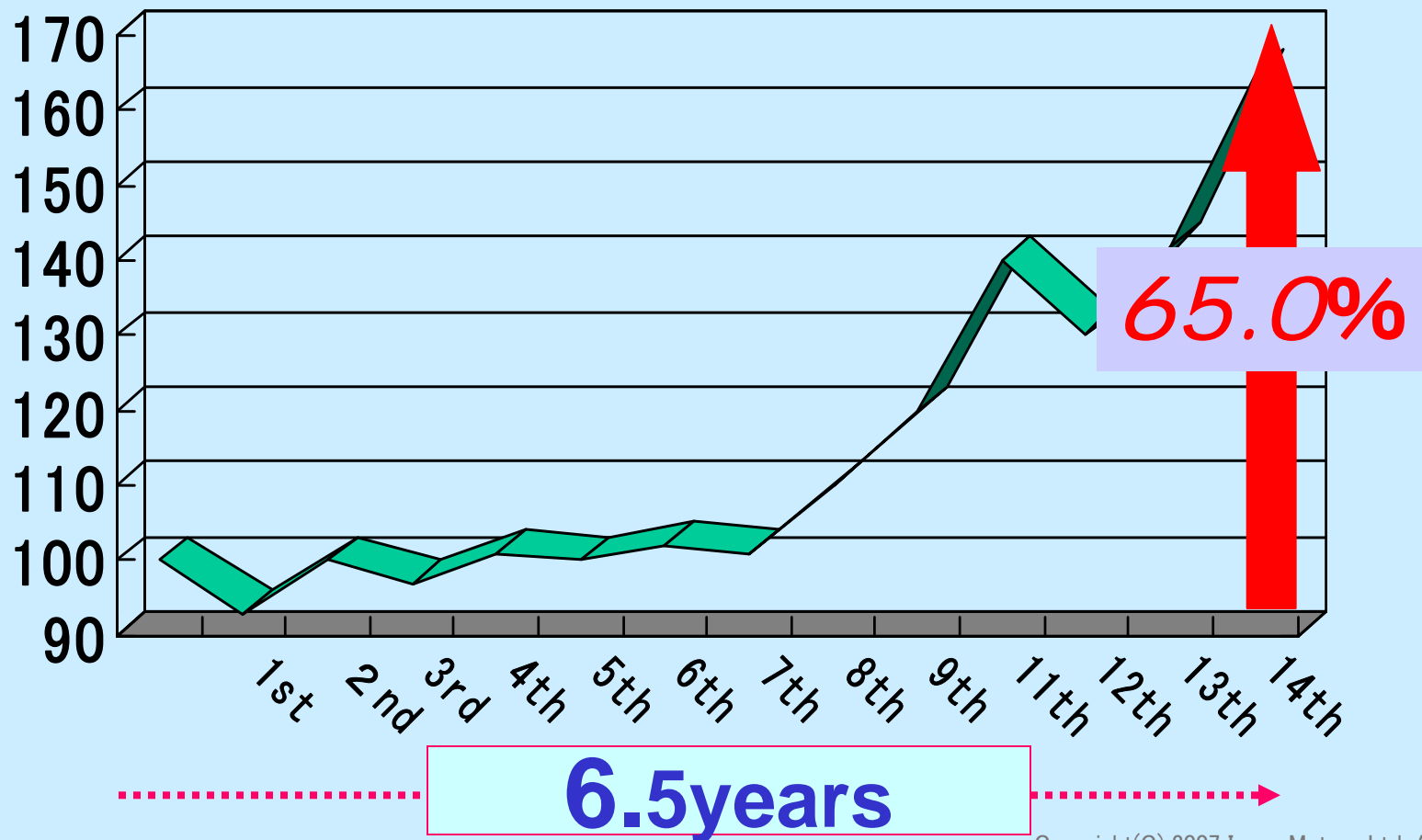
(%)



6.5 years

Transition of Sales amount (year to year basis)

Sales amount increased 65%
(Average 5% increase per half year)





In Focus



"The Innovati...

S

C

S

Awarded the Prize from Ministry of Environment





Government

Manufacturer

User

ISUZU

Professional Partner