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COMMITTEE MEMBERS HAVING CONTRIBUTED TO THE ACTIVITIES

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Rikard Engstrom, Sweden
Teresa Adams, United States
Tariq Al Falahi, United Arab Emirates
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Jonathan James, United Arab Emirates
Toril Presttun, Norway
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Mohammad Tayyaran, Canada
Ali Traore, Burkina Faso
Achil Yamen, Cameroon

The members listed above attended at least two meetings of Technical Committee 2.3, Freight Transport, and/or provided a substantial contribution to the activities of the Committee.

1. COMMITTEE WORK PROGRAMME

1.1. General

Technical Committee 2.3 was allocated two tasks under its Terms of Reference, in accordance with the Strategic Plan of the World Road Association – 2012 – 2015:

- Issue 2.3.1, Freight management.
- Issue 2.3.2, Co-modality for freight transport

In response to its Terms of Reference the Committee produced two technical reports based upon case studies:

- Framework for citywide road freight transport management
- Moving freight transport forward – Green, Smart and Efficient

The Committee also co-convened two International Seminars in the 2012 – 2015 cycle:

- Freight Transport, Montevideo, Uruguay, 28 – 30 October 2013
To facilitate the work of the Committee, eight meetings (two meetings per year) were planned, supplemented by teleconferences and Webex meetings as required.

The Committee also contributed to the World Road Association quarterly publication, Routes / Roads, especially the 2nd Quarter 2013 edition, which focused upon freight transport. It contributed to the Committee on Terminology (CTERM), and will convene a session, Freight Transport, at the World Road Congress in Seoul in November 2015.

2. COMMITTEE STRUCTURE AND KEY APPOINTMENTS

2.1. General

Technical Committee 2.3 was structured as an ‘executive’ and two Working Groups. The Chair and Secretaries were appointed by the World Road Association prior to the commencement of the 2012 – 2015 cycle, and so were in place prior to the first meeting of the Committee in Paris in March 2012. A leader for each Working Group was agreed by the Committee, and remained in place for the whole cycle.

The Committee also appointed members to the positions of Webmaster and liaison to the Committee on Terminology (CTERM).

2.2. Appointments

Chair: Don Hogben, Australia
English Speaking Secretary: Rick Barber, New Zealand
French Speaking Secretary: Bernard Jacob, France
Spanish Speaking Secretary: Carlos Santillan, Mexico

Working Group 1 Leader: Eiichi Taniguchi, Japan
Working Group 1 Leader: Rikard Engstrom, Sweden

Webmaster: Rick Barber, New Zealand
Assistant Webmaster: Achil Yamen, Cameroon
CTERM representative: Pieter DeWinne, Belgium

International Seminar (Uruguay) coordination: Carlos Santillan, Mexico
International Seminar (Cameroon) coordination: Achil Yamen

All active members and corresponding members were also members of either Working Group 1 or 2 and many also volunteered for other specific tasks, including CTERM tasks, quality control / output review, reviewing World Road Congress abstracts and papers, preparing articles for Routes / Roads, and presenting at external events.

3. COMMITTEE MEETINGS

3.1. General

Technical Committee 2.3 met on seven occasions, including the initial meeting in Paris in March 2012. The Committee will hold its final meeting at the World Road Congress in Seoul, South Korea in November 2015.
3.2. List of Meetings

The Committee held meetings as follows:

- Paris, France, 20 – 22 March 2012
- Stockholm, Sweden, 20 – 21 September 2012
- Chicago, United States, 23 – 24 May 2013
- Montevideo, Uruguay, 25 – 26 October 2013
- Basel, Switzerland, 13 – 14 May 2014
- Abu Dhabi, United Arab Emirates, 18 – 19 November 2014

The effort and generosity of members and their organisations who hosted meetings, and in some cases technical visits, is acknowledged.

3.3. Technical Visits

In conjunction with meetings, Technical Visits were convened where this was possible to maximise the opportunity to learn from international experience and share ideas and experiences with a wider group of people.

The following Technical Visits were conducted during 2012 – 2015:

- Stockholm, Sweden: Meeting timed to coincide with the 12th International Heavy Vehicle Transport Technology Symposium, held in Stockholm, so members could attend.
- Chicago, United States: Visit to the Chicago Region Environmental and Transportation Efficiency Program (CREATE) Operations Centre and nearby projects.
- Montevideo, Uruguay: Visit to the Port of Montevideo and the Montevideo Airport freight facility, in conjunction with the International Seminar.
- Basel, Switzerland: Visit to the Port of Basel, an international border vehicle checking station, and motorway traffic management centre.
- Abu Dhabi, United Arab Emirates: Visit to the Khalifa Port (fully automated)
- Paris, France: Visit to the Ports of Paris, Gennevilliers

A small number of guest speakers from host countries were also invited to join the Committee at the commencement of meetings and deliver presentations on aspects of freight transport. This provided an opportunity for members to benefit from information exchange and to network with a wider group of senior officials and experts in freight transport. Where appropriate, time was also allowed in meeting agendas for members to present their own work that might be relevant to the work of the Committee or likely to be of interest to other members.

4. REPORTS

4.1. General

Technical Committee TC 2.3 was tasked to address two issues through its Terms of Reference, as specified in Strategic Plan of the World Road Association – 2012 – 2015.
4.2. Terms of Reference

Issue 2.3.1, Freight management.

*Study the overall system of interurban / urban freight management, considering the influence of logistics strategies on: delivery models and road freight transport, dangerous goods transport, road access and guidance control, terminals and transfer stations, truck parking and security.*

*Investigate truck management strategies and measures to improve the economic and environmental efficiency of road freight (including noise reduction).*

*Report based on case studies.*

Issue 2.3.2, Co-modality for freight transport

*Investigate how the concept of co-modality is implemented with the objective of an optimal use of the different modes of transport for freight. Identify the initiatives, objectives, results and obstacles.*

*Analyse, in particular, the outcomes regarding modal shift of freight transport from roads to other modes.*

*Report on case studies and recommendations.*

4.3. Issue 2.3.1, Freight management

Working Group 1, led by Eiichi Taniguchi, produced a report, *Framework for citywide road freight transport management*, which addressed Issue 2.3.1, Freight management.

The report, *Framework for citywide road freight transport management*, describes the research and findings about the frameworks for public sector road freight transport management (RFTM). RFTM is a key contributor to the sustainable development of urban areas, since good freight transport management supports the creation of efficient and environmentally friendly freight transport systems. The framework of RFTM is characterised by legal, institutional and strategic aspects. A unique aspect of the report is the use of case studies, based on surveys of frameworks for RFTM found in several World Road Association member countries.

The report charts the decision making frameworks that support and guide national, regional and local freight planning activities expanding on the previous work of the Committee to determine the approach and general principles that underpin a successful multi-faceted, multi-stakeholder process to achieve the goal of safe, efficient and environmentally sustainable RFTM systems.

Many of the aspects of RFTM systems are ‘institutional factors’, which are the domain of either the public or private sector, that in many cases require collaboration between the stakeholders to optimise RTFM outcomes. Understanding the geographical, jurisdictional and existing land use and transport planning systems that impact RFTM systems and
strategies provides valuable context when developing freight policy and managing the range of trade-offs that invariably arise.

Chapter 1 introduces RFTM, in particular explaining the need for a defined framework for RFTM systems.

Chapter 2 categorises the institutional factors to better describe the context within which the subsequent case studies operate. The following factors provide the necessary context:

- Geographic and jurisdictional arrangements
- Land use and transport planning system
- Public and private sector collaboration arrangements

It is important to identify and understand the principles that underlie a governance framework. These factors aid the decision making process in that they provide structure and guide how knowledge is harnessed to make optimal RFTM systems and strategy planning decisions.

In chapter 3 the following principles are identified as contributing to the successful development of RFTM systems and strategies:

- Guidance from multi-jurisdictional freight planning bodies
- Understanding the regional cooperative arrangements between jurisdictions
- The use of public-private partnerships
- Having a dedicated freight planning and management function
- The benefits of effective leadership
- Performance evaluation

Chapter 4 explores the lessons learned from the various case studies, categorising the cities/areas with a freight plan or those with a mechanism to regulate or control road freight flows. It identifies their distinctive characteristics and describes their individual actions.

Chapter 5 draws together conclusions from the evidence presented throughout the report, which are summarised below.

RFTM issues are complicated and challenging, balancing economic growth and environmental impacts, reducing energy consumption and improving road safety. Added complexity comes from the multiple stakeholders involved in urban freight transport, namely shippers, freight carriers, administrators, residents and others. The different aspirations of private and public entities highlight the benefits of coordination in the process of implementing policy measures. Within the public sector the collaboration among multiple local authorities in the same region, as well as those at regional, national and international level, is required.

Institutional factors for RFTM include legal issues, organisations and functionality. In various countries, organizations in charge of RFTM, based on laws or ad-hoc arrangements, are found at the city, regional, national, and international level. The common function of these organisations are recognising the importance of RFTM, sharing ideas and perspectives on RFTM for creating visions for future social and economic development of the area, finding the appropriate approaches and measures to solve related problems, implementing policy measures, and evaluating the results.
As multi-jurisdictional freight planning can provide the policy direction and context for RFTM, regional cooperative arrangements among jurisdictions are needed for the implementation of freight management activities. Public-private partnerships also play a key role in needs identification, development of solutions, and potential sharing of benefits and costs. Nevertheless a dedicated freight planning and management function is essential within city government. Among public-private partnerships of stakeholders, leadership is important to define a common vision for RFTM and promote a strategic initiative. After implementing policy measures, ongoing evaluation of RFTM performance is required, including its benefits and the evaluation of its impacts on the transportation system and its users.

There are examples of multiple local authorities within a metropolitan area developing a collaborative relationship in their freight transport management. Public-private collaborations can be a leading group playing an important role in promoting freight transport management in the city/area. There are a variety of approaches in the freight transport management for urban areas; some focus particularly on area wide logistics, while other cities implement individual issue measures in response to specific needs. Each area judges its approach on its own situation.

Many areas have designated truck routes (either regulated or preferred routing) to focus truck traffic on the most appropriate parts of the road network. Some areas specifically design road infrastructure to achieve this by providing an arterial road network, including ring and radial roads, as part of the broader plan of the surrounding metropolitan area. The development of such arterial roads often attracts logistics centres and industrial activities to adjacent areas. Where supported by land use planning, this ‘new-highways-bring-industries’ effect results in clusters of freight related activity along the arterial road network. Some national policies emphasises all user access to public roads whereas others adopt regulatory approaches to freight vehicle traffic specific to an area or across wider areas.

The report recommends that efficient frameworks, based upon public-private partnerships for performing RFTM initiatives, be established to tackle complicated urban freight transport problems in the pursuit of more mobile, sustainable and liveable cities. The features of a framework might be different in different countries, reflecting the economic, historical and cultural development of cities. Further research through international collaboration is needed on RFTM.

4.4. Issue 2.3.2, Co-modality for freight transport

Working Group 2, led by Rikard Engstrom, produced a report, *Moving freight transport forward – Green, Smart and Efficient*, which addresses Issue 2.3.2, Co-modality for freight transport.

This study addresses the challenges associated with freight transportation efficiency, presenting and analysing a series of good practice examples that reveal efficient freight transportation systems. It should serve as a source of inspiration for making freight transportation more efficient from the perspective of economic, environmental, and social sustainability.

The concept of co-modality is central to this report and it is defined as the use of each transportation mode in its best configuration to optimise the whole transportation chain. This study focuses on the road mode and its interfaces with the other modes. Freight
transportation produces many negative consequences, from greenhouse and pollution emissions to safety issues, and impacts on amenity. However, freight transportation as a part of the supply chain is essential for the economy and our quality of life and is expected to keep growing in the coming decades. As such, optimised transportation solutions are needed to maximize freight efficiency while minimizing negative impacts. This report suggests solutions for optimizing the efficiency of the freight transportation system.

Road transportation, alone or in combination with other modes, plays a major part in freight efficiency. Thus it must also play a key role in optimizing the efficiency of freight transportation.

The work began with a definition of what can be considered as an ‘optimised’ transportation solution. Optimised transportation means solutions that considerably improve on the current freight efficiency, balancing economic social and environmental impacts. An analysis of examples of good practices according to this definition helped identify the challenges regarding the pillars of sustainability, conditions of implementation, and level of transferability of each example.

The study collected relevant material for analysis through a survey borrowing from the methodology of the European Union funded research project BESFACT, which showed examples of good freight transport practice. This project guided the survey to be divided into three parts: (1) a general description of the project, (2) economy and impacts (both negative and positive) and (3) success factors, barriers, and transferability of the project.

The study collected a total of eighteen case studies, showing a wide range of possible strategies for improving freight transportation efficiency in either a single or multimodal setting. Ten cases originated from Europe, five from North America, and the rest from Asia. For the benefit of the analysis, the strategies were then classified into five types: Policy, Technology, Infrastructure, Information and Education, and Partnerships.

The analysis of these cases showed that the environmental pillar is the primary focus of most of the identified strategies. The economic pillar follows closely in terms of interest by stakeholders, but the social pillar is largely unaddressed, except where it is identified as a tertiary concern. Aside from the focus on sustainability, the main outcome of these strategies was clearly improved logistics, mainly in conjunction with a modal shift from road to another mode.

It also appears that the lack of uniformity in the level of developments of technology (vehicle/infrastructure), policy/regulations, and behaviour/logistics hinders the progression toward an optimised freight transportation system. Improved national and international dialogue and better cooperation are important areas to develop to overcome these obstacles.

Furthermore, cooperation between the stakeholders is a critical factor, necessary for achieving success in any case. Additionally, many case examples mention behavioural aspects as a key success factor. Competitiveness and being able to achieve financial benefits are, however, central for the majority of cases.

Given the relatively high cost of technology and infrastructure investment strategies, there are barriers to transferring these case studies to other places and contexts. Transferability, particularly to developing countries, is very important in order to achieve environmental sustainability, since environmental impact is a global issue. Accordingly, it appears that
policy approaches are better suited for transferability than infrastructure investment strategies. Information and education strategies are, in many cases, easier to generalize because of the low cost relative to infrastructure investment strategies.

The analysis of the case studies led the project team to make the following recommendations, addressed to various stakeholders and settings:

- Support research on improving the three pillars of sustainability (rather than on any specific mode) and strategies with a high potential for making long-distance freight transportation more sustainable and efficient.
- Adapt freight transportation policies (and regulations) to ensure that each mode alone or in combinations with other modes is used to maximize their strengths.
- Develop freight corridors with consistent design standards to facilitate interoperability and transferability to other jurisdictions.
- Provide stable and on-going funding for projects and initiatives that make freight transportation more efficient and environmentally friendly.
- Encourage the use of public-private-partnership (P3 or PPP) funding, in particular, for high-cost infrastructure investment strategies where market conditions warrant.
- Encourage cooperation among stakeholders (e.g. policy makers, operators, and shippers, and service providers) to enhance the decision making process and to ultimately achieve a more efficient freight transportation system. This could take the form of an advisory group, for instance, to improve system efficiency. This approach is used in some places in the United States and Europe.
- Given the crucial role terminal facilities play in freight transportation, particular attention should be made to their planning, design, operation, and management from a sustainability and efficiency perspective.
- Even though economic factors are very important in the decision-making process, environmental and societal considerations must also be taken into account as these two factors ultimately have economic consequences.
- Given that the transportation sector is a major contributor to greenhouse gas (GHG) emissions, minimize these emissions and energy consumption through various means including (but not limited to): international treaties, national and/or regional regulations, voluntary initiatives, and compensatory programs.
- Develop monitoring and follow-up programs to measure and evaluate the outcome of freight transportation projects and policies, especially with respect to the societal component of sustainability (since this component seems harder to identify and measure than the economic and environmental components).

5. INTERNATIONAL SEMINARS

5.1. General
Technical Committee TC 2.3 conducted two successful International Seminars during the 2012 – 2015 cycle. Seminars were held in Montevideo, Uruguay, 28 – 30 October 2013, and in Yaounde, Cameroon, 14 – 15 May 2015.

5.2. International Seminar, Montevideo, Uruguay, 28 – 30 October 2013
Held in conjunction with the 9th Uruguayan Road Congress, the Seminar was attended by 67 delegates mainly from Uruguay, along with other countries from South America; TC 2.3 members represented countries from regions around the world.

The Seminar was divided into five plenary sessions and two round table sessions. The plenary sessions included presentations from Uruguay and other countries, covering the planning, management and operation of freight transport, logistics terminals and parks, access to ports, operations at border crossings, and ITS in freight transport. The round table sessions provided a valuable opportunity for delegates to discuss issues raised in the plenary sessions in more detail.

The Uruguayan Road Association warmly welcomed delegates and interested them with remarks about the context and growth of freight transport in Montevideo and Uruguay. A briefing of the World Road Association work regarding freight transport and the current work of TC 2.3 followed.

Challenges for Uruguay include managing the growth in the freight task, in particular related to paper and grain production and the increasing proportion of the population living in Montevideo, and the imperative to increase the use of rail for the transport of freight and increase throughput from the Port of Montevideo. Opportunities exist in providing high quality and competitively priced logistics services to South America. Delegates were briefed on initiatives to improve logistics, increase velocity through the deep sea Port, implementing ‘free trade zones’ and intermodal facilities, and implementing ITS to improve compliance checking and logistics operations.

TC 2.3 members delivered presentations describing the findings of the urban freight management and intermodal terminal projects delivered by the World Road Association in recent years, and current work on the concept of ‘co-modality’, as well as other freight transport improvement projects, including BESTFACT (Europe) and the use of high productivity trucks, and provided insights into freight transport in the US and rail freight in Mexico.

On 30 October 2013, delegates participated in a very interesting technical visit, including a tour of the freight operations at Montevideo Airport, a briefing on plans for the development of the Port of Montevideo and a tour of the Port.


The International Seminar on the Transport of Goods by Road in Africa was convened by the Cameroon National Shippers’ Council (CNSC), in partnership with Technical Committee 2.3, and under the Chairmanship of the Cameroon Minister of Public Works.

The Seminar aimed to increase the shared understanding of the economic issues in the road transport of goods in Africa, highlight the importance of road maintenance and the need to optimise the transport of goods by road, discuss the opportunity of new road infrastructure funding mechanisms, and explore the legal framework for the road transport of goods.

The Economic and Monetary Community of Central Africa (CEMAC) understands that the efficient movement of freight and improvements to road infrastructure are necessary to
support member country economies and make a meaningful contribution to the growth of coastal and landlocked countries. In Cameroon, it is estimated that approximately 60 per cent of the cost of goods is transportation, and this could be reduced to 40 per cent through improved roads.

The Seminar comprised six sessions and was attended by a number of Ministers and more than 250 delegates from around 16 countries.

In the opening ceremony, Mr Auguste Mbappe Penda, General Manager of the CNSC, welcomed delegates to the Seminar, and this was followed by an opening address from the Honourable Patrice Amba Salla, Minister for Public Works and an address from Mr Don Hogben on behalf of the World Road Association, highlighting the importance of the safe and efficient movement of goods by road. The Minister of Public Works of the Central African Republic also attended this ceremony.

During the first session, aimed at assessing the economic stakes of freight transport by road in Africa and taking stock of road transit corridors, emphasis was placed upon the share of road transport in freight transportation, overloading as a significant cause of road degradation, and on the administrative burden experienced by transporters.

To stress the importance of project planning, the second session laid special emphasis on the importance of planning in road development, on opportunities for innovative road financing, and finally on the importance of road maintenance.

The third session stressed the importance of optimisation of freight transport on corridors, based on lessons learned in Southern Africa, on themes associated with road safety, and the opportunities associated with GPS technology and on multimodal transport. This session included a presentation by Dr Rikard Engstrom on the work of Technical Committee 2.3 on co-modality.

To close the sessions, the legal framework applying to freight transport by road and international border procedures were addressed, especially with respect to Central and West Africa. The movement towards greater consistency in the legal requirements which is gradually being put in place, and its opportunities, was also discussed.

The sessions contained many good presentations and delegates were very engaged in the discussions facilitated by session moderators.

Like all countries, African countries, including Cameroon, have many challenges in the safe and efficient movement of freight. However, the substantial commitment to the Seminar and the enthusiasm of presenters, moderators and delegates to make improvements was very encouraging.

6. ROUTES / ROADS

6.1. General

Technical Committee 2.3 members contributed substantially to the 2\textsuperscript{nd} Quarter 2013 edition of Routes / Roads. This edition focused on freight transport and authors were
coordinated by TC 2.3 and TC 2.3 members contributed six articles, including the introductory article.

The common theme for articles in the 2\textsuperscript{nd} Quarter 2013 edition is the concept of sustainable freight transport. The efficient movement of freight is critical to the economies of nations and the well being of their people, but it must be managed in a way that is sustainable in terms of safety, infrastructure, the environment and liveability – especially in cities.

6.2. List of Articles Published in Routes Roads

The following articles were written by or contributed to by members of Technical Committee 2.3:

- Introductory article, Don Hogben
- Public sector governance of urban freight management, Eiichi Taniguchi
- Introducing co-modality, Rikard Engstrom
- Evolution in size and weight of commercial freight vehicles, Bernard Jacob
- Impacts from truck traffic on road infrastructure, Bernard Jacob et al
- Greenhouse gas abatement potential in the Australian transport sector, Adam Ritzinger et al

7. BIBLIOGRAPHICAL REFERENCES

Extensive bibliographical reference lists are included as part of the two Working Group reports:

- \textit{Framework for citywide road freight transport management}
- \textit{Moving freight transport forward – Green, Smart and Efficient}