Freight Network Review

Working Group (1)

Sustainability in Relation to Freight

June 2002

Sustainability in Relation to Freight Project Group		
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Freight Network Review		
Name	**Role**	**Representing**
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This paper is one of a series of Papers for the Freight Network Review.
The Working Papers in the series are:

Paper No. 1	**Sustainability in Relation to Freight**
Paper No. 2	Freight Network Master Plan
Paper No. 3	Strategy to Increase the Use of Rail
Paper No. 4	The Role of Regional Ports in Reducing Metropolitan Road Freight Activity
Paper No. 5	Fremantle Inner Harbour Capacity and Limits
Paper No. 6	Hypothecation of Funds

Objectives

Freight transport impacts significantly on the economy, the environment and community in positive and negative ways. This paper proposes that transparent sustainability analysis involving economic, social and environmental criteria (termed the Triple Bottom Line) be applied to all projects and policies impacting on freight transport.

Defining Sustainability

> In 1987 the United Nation's World Commission on Environment and Development published what has become known as the Bruntland Report which included the following definition of sustainability:
>
> *"Development which meets the needs of the present without compromising the ability of future generations to meet their own needs"*

The Gallop Government has made a strong commitment to sustainability and the development of a Western Australian strategy to achieving sustainability and, with the Bruntland definition in mind adopted the following definition:

> *"Sustainability is the simultaneous achievement of environmental, economic and social goals."*

Goals

In terms of the freight industry, sustainability means that development should simultaneously hope to:

- Reduce greenhouse gases, air-emissions and in particular toxic chemical emissions,
- Assist in the transition to alternatives to oil as a fuel for transport.
- Reduce the impact of noise and vibrations on communitie,
- Lessen or overcome severance of communitie,
- Contribute to the maintenance and improvement of natural ecosystems, including biodiversity,
- Enable communities to satisfy their goods and service needs,
- Improve the economic, social and environmental returns from freight to government agencies, private sector operators and the community,
- Efficient allocation of land to service the freight industry,
- Fulfil the best international standards for health, safety and well-being for those employed in the freight sector, and
- Seek to create robust and flexible systems.

Reasons for Change

Under the definition of sustainability adopted by the Government, there are compelling reasons for directional change to our transport systems. There are a number of trade-offs within the current system. These include:

- economic and environmental inefficiencies,
- escalating congestion costs and levels of anxiety,
- lack of transparency in the pricing of transport facilities and services,
- pending resource scarcity,
- escalating greenhouse gas emissions and emissions of other pollutants,
- financial mechanisms which do not meet the capital and maintenance cost requirements of infrastructure,
- deleterious health and environmental impacts of current patterns of transport, and
- inequitably distributed benefits.

The path to sustainability is the progressive elimination of such trade-offs.

New directions

There is a need to increasingly integrate sustainability processes and procedures into transport and land use planning, investment decisions and our transport choices and options, to achieve simultaneous improvement in economic, environmental and social objectives. New directions are needed which:

- reduce the fossil-fuel intensity and pollutant emissions of the total transport task through
    - infrastructure investments,
    - mode changes,
    - demand management,
    - greater efficiencies,
    - improved technologies and
    - fuels appropriate to the task;
- reduce the total amount of, and growth in, freight transport tasks by fostering new work and business practices;
- develop work practices and infrastructure that reduce congestion and conflict with other transport users, particularly of road infrastructure; and

- improve the mechanisms and transparency of triple bottom line accounting.

These will be sought through various policies and demonstration projects, always recognising that the achievement of sustainability is a complex, demanding and creative exercise in continuous improvement.

Evaluation methodology

The recommended methodology to assess projects against the Triple Bottom Line is Multi-criteria Analysis (MCA).

MCA is a process that defines alternative solutions to an issue which are gained from input of all participants. This list of criteria allows us to differentiate between the alternatives through a list of weights that tell us how important each criteria is in relation to all the others and a set of scores on how well each alternative performs against each criteria. With this information it is possible to rank each alternative from most to least preferred.

MCA is a decision aiding tool where the government, industry and community are involved through a workshop[1] process to devise:

- options,
- criteria to be used for evaluation, and
- weightings of the various criteria and their importance relative to each other.

This is followed by

- technical analysis, and
- development of preferred options.

The criteria to be employed should, at a minimum include:

Key Result	Key Criteria
Environment	Bio-diversity
	Habitat protection
	Pollution
Social	Road safety
	Movement of dangerous goods
	Comfort/Amenity
Economic	Freight transport costs
	Resource costs
	Economic growth and regional development

[1] The application of MCA to address the issues raised by the Freight Network Review will be developed in an open and accountable forum / workshop where the views of all interested parties will be considered and included in the analysis.

The weighted criteria are then applied to each option to indicate which option is best (on those criteria, with those weights). Sensitivity to the weightings can be checked. The final decision is still made outside of the MCA process which is a decision aid not a decision making process. MCA is used to involve stakeholders, shortlist options, and highlight to politicians the critical criteria to be taken into account in their final decisions in a transparent manner.

New Policy Directions

The government should work towards defining and adopting policies at the highest level that achieve continuous improvement in the economic, social and environmental performance of freight systems by:

- minimising demand and/or maximising return on resources – economic, social and environmental,
- recognising the social need to provide best price (not measured purely in $ terms) for goods, services and employment,
- recognising the economic need for effective returns (not measured purely in $ terms),
- rewarding effective Triple Bottom Line implementation,
- instituting disincentives for non-sustainable practises,
- facilitating the development of alliances and partnerships to encourage sustainable practices, and
- developing useful and useable measurements of progress towards sustainability.

In that regard it is recommended that the State Government:

Apply the Triple Bottom Line approach (MCA) to all new and existing policies, projects and other initiatives

and to

Trial MCA and refine the process to determine best decision aiding mechanism.

This paper has provided the sustainability context for the other Working Groups.

Recommendations from this paper have been included in the Master Plan.

Attachment 1

Policy Levers

The policy levers that relate to freight are listed below along with examples of initiatives coming from the Freight Congress (note: an number of these could have been listed under a number of headings – the one selected was based upon a consensus view of the most appropriate):

- physical location / land use
  - Implement long-term integrated statewide land use planning
  - Make planning processes and procedures inclusive, accountable and acted-upon
  - Shift industry and sourcing strategies to reduce total freight movements, including promotion of regional development
  - Implement location policies that see high freight demanding industries developed on high volume traffic hubs and people centred activity centres on high volume public transport routes
- infrastructure
  - Identify and protect freight routes, while also protecting the public
  - Increase use of rail and improve efficiencies
  - Improve infrastructure and reduce impacts
- logistics and alliances
  - Plan, identify and fund integrated transport routes, considering all modes together
  - Improve efficiencies
  - Partner with industry and the community in the policy making process – exchanging information, providing education, and facilitating interaction
- performance standards and regulations
  - Use research and data to guide decision making
  - Institute regulation to achieve objectives by setting minimum standards
  - Regulate access and use, provide training and enforcement
  - Provide a more formalised, coordinated, bipartisan consultative planning process, for creating policy and acting on it
  - Use regulatory policy and enforcement to control the flow of freight, minimise its impact and improve safety
- pricing and competition
  - Use pricing and incentives to improve triple bottom line outcomes
  - Use pricing and incentives to encourage a better balance between transport nodes
  - Promote and expand alternatives to road transport which reduce the impact of freight movements
- education and information
  - Educate and market to change behaviour and reduce demand
  - Adopt long term planning taking into account the triple bottom line and including the education of industry and public in sustainable behaviour
  - Improve freight information and research
- technology

- Improve freight system efficiency, by using latest technology, and logistics management
- Research, promote, use and reward best practice eg. in fuel efficiency, reduced emissions, technological innovation
- Reduce negative environmental and community impacts
- Use technology, policy and marketing to encourage a better balance between transport modes

- funding
  - Integrate and optimise modes, and fund accordingly
  - Implement financial carrots and sticks to reduce resource use, foster regional industry and improve triple bottom line

Attachment 2

Policy measures that may make urban freight operations easier and more efficient to perform

Below is a list of policy measures that are means by which policy makers could make it easier to perform urban freight operations and that would result in greater operational efficiency. Many of these measures also have the potential to make urban freight transport operations more environmentally sustainable.

Policy initiative

- *Improving on-street loading/parking facilities for freight and service vehicles*
- *Allowing freight/service vehicles to use bus lanes*
- *Improved traffic/roadwork information*
- *Better enforcement of parking regulations for private cars*
- *Car use reduction strategies*
- *Improved road signage*
- *Strong policies and commitments to improve public transport*
- *Designing freight/service vehicle facilities into building design/planning permission*
- *Encourage relocation of freight industries to less dense areas*
- *Encourage the development of urban transshipment center/s*
- *Encourage Quality Partnerships*
- *Concentrate freight intensive industries on appropriate routes*
- *Encourage urban densification*
- *Freight vehicle emissions testing*
- *Restrictions on the sale and use of non-Euro compliant vehicles*
- *Designate and protect future freight routes*
- *Stop encroachment of residential land onto heavy freight routes*
- *Education programs that highlight the criticality of freight to our Quality of Life*
- *Freight driver training courses that are sustainability oriented*
- *Vehicle licensing costs based upon fuel usage rates, etc.*

- *Limit access to Fremantle Port to large/efficient carriers. Others to collect containers from Kewdale only that are delivered there by train (costs subsidized if necessary)*

- *Remove existing freight route restrictions on freight vehicles that increase the distance it is necessary to travel*

- *Operating restrictions on fossil fuel vehicles (either restrict by specific road/area or by time of day, or total ban)*

- *Introduce tax incentives for non-fossil fuel vehicles (eg exemption from vehicle license fee for non-fossil fuel vehicles)*

- *Land use policy measures (e.g. refuse planning permission for premises located on sensitive roads that generate large numbers of goods vehicle trips)*

- *Vehicle bans and restrictions (i.e. introduce bans on certain sized vehicles on specific roads or in specific sensitive areas)*

- *Time restrictions on vehicle operations at the premises as part of planning permission*

- *Restrictions on size, type and speeds of freight vehicles in designated areas*