III. IMPROVEMENT OF CROSS-BORDER TRANSPORT BY ROAD

A. Review of key non-physical barriers in cross-border transport by road

Significant efforts have been made in the region to promote connectivity and improve transport infrastructure to support trade and economic growth. Much of the infrastructure in the regional network, as defined by the Intergovernmental Agreement on the Asian Highway Network signed by ESCAP member countries in 2004, has already been constructed. Significant progress has been made in terms of improving and connecting roads. However, international transport operations are still affected by a large number of unresolved institutional constraints.

Table 1 presents some of the common non-physical barriers to international road transport in the region. For a given pair of countries it is likely that a combination of barriers is relevant, with the significance of the barrier depending on local circumstances.

Table 1. Typical non-physical barriers to road transport

<table>
<thead>
<tr>
<th>Non-physical barrier</th>
<th>Explanation note</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. No permission for cross-border transport by road.</td>
<td>There are no inter-governmental agreements to allow vehicles to cross border for commercial transport in some countries.</td>
</tr>
<tr>
<td>b. Difficulties with road transport permits and traffic rights.</td>
<td>(a) Transport permits may be issued for a single trip and prolong time for transport. (b) Transport permits may be issued for a specific route by a specific vehicle only, which constrains service scope and prevents door-to-door or freight centre-to-freight centre transport in many cases. (c) Quota limit cannot allow all vehicles to provide cross-border transport services.</td>
</tr>
<tr>
<td>c. Difficulties with visas for professional drivers and crew of vehicles.</td>
<td>Visa issuance is largely subject to bilateral agreements and there are no special provisions for professional drivers. Visa may need to be applied for in embassies and consulates in major cities and are subject to delays. Visas may only be granted for single entry.</td>
</tr>
<tr>
<td>Non-physical barrier</td>
<td>Explanation note</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>d. Difficulties with temporary importation of vehicles.</td>
<td>For the vehicle of one country to enter another country, it is mostly necessary to pay a deposit or fee, or to find a local agent.</td>
</tr>
<tr>
<td>e. Difficulties with insurance of vehicles.</td>
<td>Due to absence of regional, subregional or bilateral insurance scheme, vehicles usually need double insurance in two countries. It is sometimes compulsory to purchase insurance at the border.</td>
</tr>
<tr>
<td>f. Different standards on vehicle weights and dimensions.</td>
<td>There are few unified standards on permissible weights and dimensions across border.</td>
</tr>
<tr>
<td>g. Lack of commonly recognized driving license, vehicle registration and inspection certificates.</td>
<td>Use of national languages and characters in driving license, registration plates and inspection certificates is common, causing delays in clearance at border.</td>
</tr>
<tr>
<td>h. Different side of steering wheels.</td>
<td>Some countries permit the use of only one-side steering wheel vehicles.</td>
</tr>
<tr>
<td>i. Empty return trip.</td>
<td>Many foreign trucks return empty due to lack of local network of customers and market protection.</td>
</tr>
</tbody>
</table>

The list presented is not exhaustive and other barriers may coexist with those mentioned. In long term bilateral and multilateral agreements should be pursued to resolve the existing barriers. However, in some cases all the non-physical barriers cannot be totally removed in a short time period. Also the given the time required to implement international agreements, in the short and medium term barriers must be addressed in an indirect way.

**B. Overview of the existing practices dealing with non-physical barriers**

While non-physical barriers hinder movement of people and goods, a number of approaches have been developed to deal with the restrictions. Many countries have been trying to address the issues through bilateral or multilateral agreements. Meanwhile, business sector has also developed some approaches to overcome the difficulties. Most of them involve a change of vehicle at the border, meaning that international services are run as a combination of domestic transport operations. The prevalence of each transloading approach is dependent on factors, such as the vehicles in use, rate of containerization, maturity of the transport industry and types of goods transported.
The practice of manual transloading can be found at many borders in the region. Under this option the transport of goods to the border is generally organized by the exporter. At the border the goods are either stored in a warehouse to wait for onward shipment or manually transloaded into a vehicle arranged by the importer. In some cases the transport operator can also act as the trader. Manual transloading operations can be carried out using any vehicle which makes it a flexible approach, particularly when trade volumes or infrastructure do not support the use of heavy vehicles. The process is labour intensive but does not require any equipment.

On routes with more formalized transport operations manual transloading is replaced by container swap transshipment. The containers of cargo are transported to the border on trucks, trailers or semi-trailers. Either at the border or at a designed transloading location the container is lifted off and lifted on a truck or trailer which can belong to the same operator or a cooperating operator in the destination country. The container is then carried to the final destination by a vehicle registered in that country. The lift-on/lift-off operations are carried out using transloading equipment, such as a crane, and vehicles which fit similar sized containers.

An alternative to a container swap is a trailer swap which refers to the change of prime mover at the border. In this case the cargo remains untouched on the trailer or semi-trailer, and instead of lift-off/lift-on, the trailer or semi-trailer is detached from the prime mover and attached to another prime mover. Matching trailer and semi-trailers are used but no equipment is required for the operation.

On some routes double registration of vehicles is possible which allows a foreign transport operator to run a cross-border service. In this case no transloading is required at the border. The vehicle used is registered with the authorities of both countries and pays the appropriate fees. In some cases there may be restrictions on the number of permits, the types of goods that can be transported and the routes available to the foreign operator. For example, in Malaysia such system is in place for transit of perishable goods travelling from Thailand to Singapore only.

Non-physical barriers also limit passenger road transport between countries. In cases when the existing transport agreements between countries do not allow for an international service, passengers are most often required to change vehicle at the border. In some cases
international services can be run as a cooperation of companies from both countries so that
the change of bus is arranged by the operator and the passenger is able to buy a ticket to
his/her final destination. In other cases the operations to the border run as separate services
and the arrangement of onward travel is the responsibility of the passenger.

C. Model for efficient cross-border transport of goods

Based on the existing practices in the region four operational options emerge: trailer
swap, container swap, manual transloading and no transloading. Each option has its
advantages and disadvantages. To compare the options a common set of criteria was
compiled giving consideration to institutional barriers, operational requirements,
commercial needs and threats to operations. As a consequence altogether 26 relevant typical
issues were identified. A list of solutions was also considered and each solution was rated
for difficulty and cost using a scale of 1-5 with higher number indicating increasing
difficulty and expense. For other issues the level of difficulty and cost was evaluated in
terms of their impact on business.

Each operational option was evaluated using the framework based on the overall
regional situation. By summing up the scores for the issues identified as present, a total
difficulty and cost score can be calculated for each option. When more than one solution
exists, the option with the lowest difficulty score was considered making the assumption
that the short term priority is easy implementation. In cases where the barriers were
considered to be present but to a significantly smaller degree relative to the other
operational options, half of the scores were included. The results for the overall regional
analysis are presented in Table 2.
<table>
<thead>
<tr>
<th>Issues</th>
<th>Trailer swap</th>
<th>Container swap</th>
<th>Manual transloading</th>
<th>No transloading</th>
<th>Solution/Arrangement</th>
<th>Difficulty</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport permit for motor vehicle</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Permission for foreign trailer to enter the country</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Third party liability insurance of vehicle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>For prime mover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Of trailer</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Of container</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mutual recognition of driving license</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mutual recognition of vehicle certificates/registration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Use of compatible vehicles and equipment</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>Agreement between transport operators, taking into account national regulations</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Compliance with local standards regarding weight and dimensions</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>Harmonization of regulations</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Compliance with local emission regulations</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Adjustment of fuel-burn transport equipment</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Side of steering wheel</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Visa requirement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Compliance with local laws</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Change of driver</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Requirement for transloading equipment</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>Exchange of information of laws</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Transloading labour</td>
<td>(x)</td>
<td>x</td>
<td></td>
<td></td>
<td>Operator's own facilities</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Requirement for local partner</td>
<td>x</td>
<td>x</td>
<td>(x)</td>
<td></td>
<td>Same company, different branch</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Risk of damage or loss of goods or container</td>
<td>(x)</td>
<td>x</td>
<td></td>
<td></td>
<td>Two companies</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Possible route limitations</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Guarantee for trailer and container</td>
<td>x</td>
<td>(x)</td>
<td></td>
<td></td>
<td>Addressed in cooperation contract, financial guarantee</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Local knowledge throughout route</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>Quota of permits</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Road safety</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Access to local services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total number of issues</td>
<td>8</td>
<td>7.5</td>
<td>2.5</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total difficulty points (min)</td>
<td>16</td>
<td>10</td>
<td>6</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cost points (min)</td>
<td>20</td>
<td>18.5</td>
<td>7</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: x = Issue relevant, (x) = Issue relevant to some degree
1= low cost/difficulty, 2= some cost/difficulty, 3 = reasonable cost/difficulty, 4 = high cost/difficulty 5 = considerable cost/difficulty
The table reveals the following insights:

- Manual transloading is the least costly option of operation and least demanding in terms of operational requirements and non-physical barriers. This explains its enduring popularity in the region.
- No transloading ranks the highest in terms of number of issues, difficulty and cost. The great number of barriers that need to be addressed restrict the implementation of this solution.
- There is no great difference between using a trailer swap or container swap in terms of difficulty and cost. Trailer swap is slightly easier to implement, but requires a higher cost.

In addition to difficulty and cost consideration has to be given to the reliability and efficiency of operations. Efficiency of operations has direct cost implications and impacts the profit of transport operators. Time spent for transporting cargo is time during which the equipment is not available for other tasks. This means that time saved in operations allows for more to be done with the same capital. It is, therefore, in the interest of the operator that the trucks are running for majority of the time. In addition, faster delivery of goods also encourages business.

Out of the operational options presented, manual transloading was estimated to be the most time consuming. The time required depends on the goods and vehicles in question, but is estimated to take from 30 minutes to several hours compared to 2-3 minutes required for a change of trailer or 5-10 minutes for movement of a container. Manual transloading is, therefore, given the efficiency rating of 5, indicating high level of inefficiency. The option of no transloading is considered to be the most efficient and assigned efficiency rating of 1. Trailer swap and container swap are considered to be very efficient arrangements. For container swap, a crane is required to move the container off the trailer and onto another. This equipment is often limited and there may be a queue to use it. Therefore, container swap is rated 3. No equipment is required for a trailer swap. Therefore, it is rated 1 for efficiency.
Each option was rated for reliability after an assessment of the predictability of delivery and risk of delay. Both trailer swap and no transloading are considered to be reliable, as no moving of container is involved minimizing the risk of delay. Container swap and manual transloading are rated 2 and 3 due to requirement for equipment and labour respectively.

Table 3 summarizes the total score for each option. To allow for easy and intuitive comparison, the total scores for cost and difficulty were transformed to a 1-5 scale. Points are expressed to the level of quarter point for easier differentiation.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Trailer Swap</th>
<th>Container swap</th>
<th>Manual transloading</th>
<th>No transloading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>2</td>
<td>2.25</td>
<td>1.25</td>
<td>4.5</td>
</tr>
<tr>
<td>Cost</td>
<td>2.5</td>
<td>2.5</td>
<td>1.5</td>
<td>5</td>
</tr>
<tr>
<td>Efficiency</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Reliability</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td><strong>6.5</strong></td>
<td><strong>9.75</strong></td>
<td><strong>10.75</strong></td>
<td><strong>11.5</strong></td>
</tr>
</tbody>
</table>

The table reveals that while manual transloading is the least difficult and least costly operational arrangement, it has serious shortcomings in efficiency and reliability. Therefore, when the total score is taken into account it appears much less desirable as an operational arrangement than when only cost and difficulty are considered. On the other hand, the option of no transloading is both difficult to implement and costly, but is much more desirable in efficiency and reliability than the other options.

Based on the total score, trailer swap is the most beneficial choice with only 6.5 points. In terms of difficulty and cost, it is nearly identical with container swap as discussed before. However, it is evaluated as a more reliable and efficient choice. The next section of the publication will, therefore, focus on this approach to cross-border road transport and the details of its implementation.

The rating and results presented above are based on an overall regional view of relative advantages and disadvantages of the approaches. To take into account the particular
conditions at a given corridor, a group of countries or a pair of countries, a similar exercise can be taken to evaluate the operational options. The list of issues should be reviewed to reflect the operating environment and possible consequences of each option. At a country or bilateral level it is also possible to estimate to greater degree of confidence the level of cost and difficulty for the necessary adjustments to operations and legislation. As a consequence the most suitable operational option can be identified.

Taking into account the difficulties in cross-border transport presented above, the Efficient Border Crossing Model presented in this Section aims to minimize unnecessary delays, facilitate provision of international transport services and address control concerns by eliminating the need for trucks to enter a foreign country.

The concept of international transport implies an origin and destination that are located in different countries. The model is based on the concept of trailer swap and assumes that two transport parties, one based in the origin country and the other in the destination country, have a commercial arrangement to offer international door-to-door services. These parties may be independent operators or then collectives of small and medium sized enterprises.

This Section presents the technical aspects of the model and the operational, commercial and institutional requirements for efficient and effective cross-border freight transport.

1. Technical aspect

(a) Order

The customer in origin places his order with the domestic transport company or collective through which payment is also arranged. The domestic transport service provider informs a counterpart in the destination country of the incoming consignment and the necessary arrangements for vehicles are made. In the case of a transport collective, the administration of the collective assigns the consignment to a suitable transport operator with free capacity. Each of the operators is responsible for the customs procedures in their own

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8 The details of the agreement are discussed in Section 2 (c).
country, either directly or through a clearing agent. If there is a facility to submit customs information in advance, this is done to minimize time spent at the border.

The customer benefits from the unified services in two countries. He only needs to submit information required for customs declaration once and the information is shared between the service providers. All communication is received through the domestic operator or collective who holds the contract with the client. In effect, the transporting party in the destination country acts as a subcontractor to the party in the country of origin on the consignment.

When receiving the details of the consignment, the service provider in the destination country, i.e. transport operator or collective, matches the estimated time of arrival to the border with the estimated arrival times of outgoing cargo. An appropriate prime mover is assigned as the receiving truck and the details of the receiving truck are submitted to the service provider in the origin country. For the outgoing cargo the same process is repeated but in the reverse, so that the destination country becomes the origin country.

(b) Trailer swap

Goods are transported to the border using a semi-trailer truck. Cargo goes through the standard customs procedures of the origin country and completes other border controls relevant to exit, such as immigration. The vehicle then moves to the assigned transloading facilities.

The facility is accessible to vehicles and trailers of both countries and has a secure parking lot for the trailers. The prime mover is detached from the trailer and the trailer is left in the parking lot. At this stage, the prime mover has been assigned to a return trailer by the company or collective. The details of the trailer and cargo are passed on to the driver or to a coordinating agent of the transport service provider at the border. Once identified, the appropriate trailer is attached to the prime mover and the truck can start the journey to final destination of cargo.

In the case of two cooperating companies it is likely that the prime movers effectively swap trailers at the border, so that they receive a trailer from the prime mover
they give a trailer to. In the case of a number of domestic operators providing services under a collective this may not be the case and instead the allocation is made giving consideration to factors such as destination, type of goods and size of consignment. Operations should be planned to maximize utilization efficiency, i.e. minimizing the average waiting time for prime movers.

There are several options in terms of the location of the transloading facility, depending on the design of the border.

- If there is a neutral zone, the transloading facility can be provided there. The advantage is that drivers do not need to go through immigration procedures of the destination country. However, the area is outside the control of both customs authorities and therefore does not qualify as a customs warehouse. It may not be possible to use waiting time for import clearance. Also, it may not be clear who is responsible for the operations and maintenance of the facility.
- Transloading facility can also be located immediately next to the border. The benefit is that the trailer can be placed immediately into customs controlled facilities. For one of the drivers, the route is also entirely domestic with no need to move across the border. However, the other driver will need to cross the border twice and comply with appropriate immigration procedures.
- The facility can also be provided in an alternative suitable location. For example, when allowed within bilateral border agreements, it may be preferred to carry out transloading within a few kilometres of the border to avoid congestion in the immediate border area.

2. Operational requirements

(a) General recommendations on vehicles

The model is based on the use of trailer or semi-trailer trucks, which eliminates the need for either lift-on/lift-off operations or manual transloading. The exact size and model of the vehicle depends on several factors:
- The average load per consignment determines how large the vehicle needs to be to be able to accommodate most orders. Trucks that are too large on the other hand are less fuel efficient and more costly as investments.
- The condition of the infrastructure can limit the size of the trucks used.
- The national requirements regarding weight and dimensions of vehicles.
- The type of goods generally carried – the characteristics of trade can impose additional requirements on the vehicle.\(^9\)
- The vehicles currently used on the route.

For the operation of the trailer swap, the vehicles used by operators have to be compatible. Therefore, the choice of vehicle needs to consider all points above from the perspective of the entire route, not only the domestic portion. For example, it is necessary to ensure adherence to rules and regulations of both countries, even if there are discrepancies. As the prime mover does not move beyond national borders, the inconsistencies in regulations on prime mover specifically are not a concern. However, as the trailer travels in foreign territory, and significantly contributes to the weight and dimensions of the vehicle, it is necessary to consider regulations of all countries on route. The partnership of operators needs to evaluate the regulatory demands of both countries and agree on the standards accepted for the joint operations.

Compliance with agreed limits is crucial for successful cooperation. Overloading causes not only a road safety hazard for the driver and those on the road but may also lead to penalties and delays in the delivery of goods. In this case, the benefit (more cargo transported) and cost (possible penalties) are not distributed equally as the offender is at the point of origin but the delay is experienced in the country of destination. While repeated offences can cause resentment and termination of otherwise profitable shared venture, it is recommended that the formal agreement between service providers addresses how this type of problem will be dealt with.

\(^9\) When operating as a collective, this requirement is relaxed as some operators may wish to specialize in a particular type of good.
Harmonization of national requirements through a multilateral or bilateral intergovernmental agreement can simplify international cooperation between private sector operators.

\(b\) Recommendations on facilities

Trailer swap can take place even when no specific facilities exist. It is not necessary to invest in transloading equipment and no extensive labour is required. However, for more successful operation a set of recommendations are made regarding facilities at the transloading location. This can help reduce congestion around the border and increase safety of users and staff.

There needs to be a clearly indicated space for the trailer swap to take place, away from the flow of cargo at the border to avoid congestion. The area should be secured so that trailers can be safely left to wait for prime movers. The parking lot should have adequate space for vehicles with cargo and a separate area for trailers waiting without prime movers. In case trailers need to be moved, the facilities should have a yard tractor. As demand for the trailer swap facilities increases, more elaborate services can be offered. The area can host for example offices for customs clearance agents and companies offering value-added services.

It is recommended that some facilities are provided as part of the public border facilities. This supports the international operations of small and medium sized enterprises and lowers barriers to entry. Alternatively the collective of transport operators, where applicable, or individual companies with large-scale operations can build their own facilities with similar functions. Capital may be available at a lower cost for collectives compared to individual operators making access to credit easier.

Trailer swap at the border increases driver responsibility in the form of coordination of swap and identification of correct consignment. This may cause resistance among drivers, and appropriate training should be made to reduce risk of human error.

Other border infrastructure as described in the model can also be adjusted to facilitate operations. For example, a fast lane for trucks returning empty could facilitate return to country of origin in cases of uneven trade and allow the prime mover to be used more efficiently.
(c) **Commercial arrangements**

The model relies on cooperation (directly or through a collective) by transport operators registered in their own country. This is to overcome several non-physical barriers. For the operation of the model, trailer must be allowed to access to the whole route. This can be achieved by registering the trailer in both countries. As it is the case in Malaysia, domestic regulations may prevent registration of prime movers and trailers by companies that are not registered in the country in question. Double registration is therefore not an option for foreign carriers operating alone. With cross-border cooperation of transport operators it is possible to run an international service as a combination of two domestic services without breaching these restrictions.

The model as described involves two transport operators or collectives of operators. Setting up cooperation through collectives has the advantage that barriers of entry for small and medium sized operators are reduced as cooperation between two individual companies requires large scale operations. Through cooperation, many of the advantages of large companies can be achieved. Additionally, there may be greater flexibility in terms of services provided due to the use of several operators. Diversified cooperation can also promote knowledge sharing which can benefit the domestic transport industry.

It is also possible that, as a common practice in transport between Malaysia and Thailand, two operators offering a joint service are part of the same parent company. This set-up has several benefits. Partnership can be more easily enforced when there is a common global or regional direction and shared corporate culture. Setting up cooperation can also be faster and less costly if operations already exist in both countries. As the model is intended as an interim solution to overcome non-physical barriers, cooperation of two branches of the same company offer a solid platform to further streamline operations as non-physical barriers are gradually reduced.

Regardless of the set up of the partnership it should be based on a formal commercial arrangement which clearly indicates the terms of the joint venture. Additionally when operating as a collective, an additional binding agreement should be in place between the members to indicate their individual responsibilities and rights and the responsibilities of the collective. The contracts should cover details of the following aspects:
1. Regulatory compliance

Each transport operator is responsible for regulatory compliance, including guaranteeing that the operator is fully authorized to provide transport services. The collective is responsible for the regulatory compliance of all its members to the foreign partner.

2. Cost and revenue sharing

The client should be able to place an order with a domestic representative which covers the entire route for the consignment. This implies that the agreement between transport operators, both domestic and international, covers the terms under which revenue and cost are shared. This includes cost of insurance. The trailer and its contents should have valid insurance in both countries and it should be agreed how cost of insurance will be shared. In cases where there is a considerable difference in insurance costs, it may be preferable that some cross-subsidizing takes place.

3. Conditions of use for trailers

The agreement should also clearly address the conditions of use for the shared equipment, i.e. the trailers. In addition to specifying which type of trailer will be used all participating operators have to be equally committed to the investment and maintenance of the equipment. It could be preferred that the trailers received as part of trailer swap are not used for domestic operations but rather returned at the earliest opportunity to the international partner. This should be clearly stated in the contract. Knowing that the acquired trailers will be returned encourages investment in better equipment. If seen necessary, the conditions of use can also include a financial guarantee.

Domestic regulation on temporary importation may pose restrictions on how long the trailer and container can stay in the country. This time should be built into the agreement on operations.

4. Damage to trailers

The contract should specify who is responsible for damage to the trailers, containers or cargo and specify the procedure for repaying for the damage.
5. Reliability of service

The contract can include details of expected level of timeliness of participating operators, e.g. what proportion of consignments is expected to be delivered by the time specified. It should also specify the expected communication to partner regarding the status of the delivery.

6. Method for conflict resolution

There should be a clear and enforceable procedure for resolving disagreements between the operators, both domestically and internationally.

3. Institutional requirements

The model aims to provide solutions which require minimal bilateral agreements, as the process of introducing and implementing these agreements can be lengthy and sometimes impossible. There are still some institutional requirements to allow for efficient operations.

In terms of multilateral or bilateral agreements, the following agreements facilitate the application of the model:

- Ideally, there is an intergovernmental transport agreement which allows the use of trailer in a foreign country. The agreement should address issues such as insurance and temporary importation.
- The issue of insurance can also be addressed through a regional, subregional or bilateral insurance scheme.
- Issues of temporary importation can be addressed by accession to relevant international conventions.
- A border area agreement which allows access to areas immediately next to the border, with minimal procedures for immigration, customs (temporary importation of vehicle), transport permit and insurance.
- Agreement on joint inspections, either in facilities of one country or in shared facilities in neutral land.
Occasionally, it is not feasible to introduce such agreements. In this case, there are measures which can be implemented unilaterally for the same effect:

- Facilitation of movement of trailers can be achieved by allowing double registration of trailers.
- Border area relaxation of policies can be introduced unilaterally.
- If joint inspection cannot be achieved, it is advisable to facilitate customs clearance and other border procedures through use of e-customs and other IT solutions, risk-based inspections and technical equipment such as scanners.

4. Application of the model

It is important to recognize that there are factors which influence how beneficial the implementation of the model is. A corridor-specific evaluation of the factors below needs to take place before application to determine the level of benefit that can be realized.

- **This model deals with truck-to-truck operations.** Therefore its usefulness increases as the proportion of trade by road increases compared to other modes of transport.
- **The model is also more successful when the infrastructure around the border is adequate for international transport.** Infrastructure can limit the choice of vehicle even when there are no issues in terms of weight and dimension regulations.
- **Border procedures should be as streamlined as possible.** The procedure of trailer swap can be carried out in a matter of few minutes. The impact of time saved will be perceived in the context of the total time required for border procedures. By increasing overall efficiency the significance of time gained is increased.
- **Current transloading practice is time-consuming.** One of the major benefits of the model is that it only takes a few minutes to change the prime mover for the trailer. Delay in transloading can take place because transloading is done manually, or because there is lack of equipment for lifting of containers. If this is the case, time saving can be achieved by using the described model.
• **Current transloading practice is costly.** Transloading can also be costly, either because of labour costs, or because of transloading fees paid. Trailer swap can be carried out with limited labour and equipment. The higher the cost of current practice, the more weight this benefit carries.

• **Acknowledging the mutual benefit of improved conditions for trade can significantly enhance the benefits of the model.** Most importantly, it is already a priority in many development strategies that there needs to be an equal level of development on both sides of the border. Otherwise the gains made at one side of the border will be hindered by delays once cargo reaches the second border post. However, the model can be implemented with commitment from one side of the border only.

• **There may also be some trade characteristics which contribute to the impact of the model.** For example, the most efficient use of the model arises when there can be a reduction in empty runs. This means that as frequently as possible both trailers should arrive to the border loaded with cargo and no legs of the journey are travelled empty. This can be difficult to achieve when trade is very imbalanced. However, the operators can reduce the proportion of empty runs by close cooperation in matching and timing orders, particularly when working as a collective.

• **Distance of the intended destination from border increases the benefit** as distance enhances the effect of non-physical barriers.

5. Evaluation of benefits and costs

(a) **Benefits generated by the model**

The model aims to offer a solution which facilitates a more efficient organization of international operations. This benefits:

*The transport operators*

• Less empty runs, i.e. a more efficient use of drivers and prime mover, meaning reduced costs per consignment;

• Decrease in transloading cost either due to a fall in cost of labour for manual transloading or then reduced need for costly transloading equipment;
Reduced frustration due to delays at the border;

Reduced risk of wastage due to opening of containers, in particular for perishable goods for which manual transloading of goods interrupts the cold chain and can cause goods to spoil;

Simplified procedures (e.g. customs) by removing the need for prime mover to move in foreign country;

Increased security and reduced risk caused by foreign business environment as well as easier access to local services as local knowledge is used throughout route; and

Control over domestic routes maintained by local transport industry.

The customers

Faster delivery of goods;

Wider range of services, conveniently arranged through domestic operator; and

More experienced staff in both countries.

The authorities

International operations allowed without compromising safety and control concerns caused by foreign vehicles;

Reduced congestion, increased safety and facilitated control in a more organized border area; and

Reduced concerns over road safety as local transport operators are familiar with the environment and rules of traffic.

The wider economy

More sustainable transport industry both commercially and environmentally, through reduced fuel consumption and emissions per unit of cargo; and

More trade and particularly exports with more efficient border crossing, which means increased income for the economy.

A more efficient border crossing means a reduction in the time spent at the border. The monetary value of this time takes into account the cost of driver, vehicle and the cargo
carried. Therefore, the more high-value the cargo is, the more costly delay is and greater the benefits generated by the model are.

Developing a wider range of international services through partnership is also beneficial for the transport industry, encouraging more sophisticated business models. There is scope for knowledge sharing in terms of business practices and country-specific institutional and commercial factors. Development of the industry can further lead to lowering of logistics cost, increased trade and improved employment opportunities.

(b) Costs needed by the use of the model

It is also important to consider the costs incurred if the model is implemented. The actual cost depends on current practice and the existing facilities. The closer the existing practice is to the model, the lower the cost of introducing the procedures described.

The main costs fall on the transport operators or their collective. There are costs involved with the establishment of an international business agreement, the level of which depends on the complexity of the agreement in place. The operating cost per company can be reduced by increasing participation in the scheme. Collectives may also find it easier to find a partner to cooperate with in the foreign country. Therefore, some costs of finding a partner can be reduced. These costs can also be reduced if there is already a platform for the companies to become familiar with each other, both domestically and cross-border. By providing and supporting such platforms the government can promote the development of domestic industry.

Once a partnership is agreed on, the participating operators need to agree on using compatible equipment. When the existing equipment is not suitable, there is a cost involved in switching to a new type of vehicle for individual operators. If it is decided to use containers, there is a cost involved in either buying or hiring the containers.

Trailers need to be able to move in both countries for the operation of the model. This requires increased level of insurance, so that the trailer and cargo are insured throughout the route. There is also an additional cost in acquiring double registration for the trailers, if registration fees are collected by the government.
As an alternative to double registration, non-physical barriers can be addressed by negotiating multilateral or bilateral agreements or accessing to international conventions. While these procedures impose a significant cost, the long term benefits are considerable and future costs for transport operators are reduced. In the short and medium term, the main cost for authorities is the necessary upgrade of the border facilities to allow for large scale efficient operation of the model. This can include the improvement of parking facilities to include a swap yard, creating additional lanes and facilities for operators.

The government also has a role in encouraging and supporting businesses as they make adjustments to adopt the model. Financial constraints can limit to what extent in particular small and medium sized enterprises participate in international operations, even when operating in partnership. The government can facilitate access to credit for the purpose of necessary equipment upgrades. Support can also be provided for finding international partners and in upgrading skills. As transport operations become more complex and the role of transport operators evolves, it can be beneficial to provide training in trade processes and legal aspects of cooperation. These trainings can be provided by the private sector or their associations.

D. Model for efficient cross-border transport of passengers

Solutions for passenger transport by roads should focus, as freight transport, on cost, difficulty of implementation, efficiency and reliability. Additionally passenger convenience should also play a part in determining the best practice.

Three operational options emerge for cross-border transport of people. Firstly, it is possible in some cases to run an international bus service, with the vehicle registered in one country crossing the border. At the border passengers go through border control as normal and board the same bus to final destination. Secondly, two operators can cooperate to provide a transport service, e.g., through a jointly owned international service. While the passengers are required to change buses at the border, they have the benefit of coordinated services and common ticketing. Lastly, it is possible for both operators to offer a service to the border only, with no formal cooperation. The passenger then treats the two legs of the journey as separate, with separate timetables and ticketing.
The three options were evaluated using the method described in this Section. Altogether 17 relevant typical issues were identified. Many are common with freight transport as they relate the required arrangements for allowing a commercial vehicle into the country. The analysis is presented in Table 4. Based on the challenges present and minimum level of cost and difficulty attached to tackling them, the option of two unrelated services to the border faces the least problems and is least costly to implement. This is intuitive as the option involves no coordination between the two countries. The option of providing a service jointly by two operators is considered to be nearly equally inexpensive and easy. Arranging an international service is understandably the most difficult and costly.

The table does not take into account convenience of service to passengers, efficiency and reliability. Change of vehicle inevitably causes some inconvenience for passengers as they need to disembark with all their luggage and then readjust to the new vehicle. Additionally the risk of delays and confusion increases, for example if the receiving bus is delayed or difficult to identify. Language barrier may make change of bus difficult. When the connection is run as one service, some of these problems can be reduced. Therefore this option is ranked as more convenient and reliable than the two services, but less convenient and reliable than one bus service.

Table 5 summarizes the total score for each option. To allow for easy and intuitive comparison, the total scores for cost and difficulty were transformed to a 1-5 scale. The table shows that when the total score is taken into account, the most desirable option is providing one service with two busses, based on low level of difficulty and cost, reasonable convenience, efficiency and reliability. Given the high level of difficulty and cost for providing a one bus service it does not emerge as a strong alternative. However it is relatively much more convenient, efficient and reliable and therefore need to be promoted in the longer term.
Table 4. Evaluation of passenger transport arrangements

<table>
<thead>
<tr>
<th>Issues</th>
<th>One bus</th>
<th>Two busses, one service</th>
<th>Two busses</th>
<th>Solution/Arrangement</th>
<th>Difficulty</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport permit for motor vehicle</td>
<td>x</td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Third party liability insurance of vehicle</td>
<td>x</td>
<td></td>
<td></td>
<td>Subregional or regional insurance scheme</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral insurance scheme</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Double insurance</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Temporary importation</td>
<td>x</td>
<td></td>
<td></td>
<td>International convention</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Double registration</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Mutual recognition of driving license</td>
<td>x</td>
<td></td>
<td></td>
<td>International convention</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Change of driver</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mutual recognition of vehicle certificates/registration</td>
<td>x</td>
<td></td>
<td></td>
<td>International convention</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Compliance with local standards regarding weight and dimension</td>
<td>x</td>
<td></td>
<td></td>
<td>Adjustment of fleet/transport equipment</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Compliance with local emission regulations</td>
<td>x</td>
<td></td>
<td></td>
<td>Harmonization of regulations</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Side of steering wheel</td>
<td>x</td>
<td></td>
<td></td>
<td>Adjustment of fleet/transport equipment</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Visa requirement</td>
<td>x</td>
<td></td>
<td></td>
<td>Amendment to domestic law</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Change of driver</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Compliance with local laws</td>
<td>x</td>
<td></td>
<td></td>
<td>Exchanging information of laws</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Requirement for local partner</td>
<td>x</td>
<td></td>
<td></td>
<td>Training</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Possible route limitations</td>
<td>x</td>
<td></td>
<td></td>
<td>Same company, different branch</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Two companies</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Market access</td>
<td>x</td>
<td></td>
<td></td>
<td>Multilateral agreement</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bilateral agreement</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Local knowledge throughout route</td>
<td>x</td>
<td></td>
<td></td>
<td>Quota of permits</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Road safety</td>
<td>x</td>
<td></td>
<td></td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Access to local services</td>
<td>x</td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Issuance of several tickets</td>
<td>(x)</td>
<td>x</td>
<td></td>
<td>Shared ticking</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Note:  x = Issue relevant.  (x) = Issue relevant to some degree.

1 = low cost/difficulty,  2 = some cost/difficulty,  3 = reasonable cost/difficulty,  4 = high cost/difficulty,  5 = considerable cost/difficulty.
Table 5. Comparison of passenger transport arrangements

<table>
<thead>
<tr>
<th>Factor</th>
<th>One bus</th>
<th>Two buses, one service</th>
<th>Two services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cost</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Convenience</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Efficiency</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Reliability</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

1. Technical aspect

As the cross-border operation is considered as one service, the customer can purchase a ticket for the entire journey. Travel documentation should be checked upon purchase to avoid possible issues at the border due to, e.g., expired passport or lack of visa. The name and passport number of the passenger should be noted down. The full passenger list can be provided to the cooperating operator and control authorities electronically or by fax upon departure.

After departure, appropriate border documentation, such as exit/entry forms, can be distributed to passengers to facilitate border crossing procedures. At the border passengers get off the bus and proceed to appropriate border controls. They carry luggage with them so that appropriate customs checks can be carried out.

To ease congestion at the border, bus passengers should have a lane separate from those arriving by private car for border controls. By prioritizing bus passengers the authorities can encourage the use of public transport and reduce number of cars at the border.

Once the passengers clear all border procedures, they can proceed to the receiving bus. The bus should be easily identifiable, e.g. by using unified branding for the service involving both a symbol and text and/or colour(s), and have destination marked clearly.
The driver can identify from the passenger list whether all passengers have boarded the bus. In case of problems, it is easy to establish which passenger is missing. Once all passengers are on board the bus departs for final destination.

The service described above assumes that all passengers embark the same bus once the border has been crossed. When the passenger flows are limited this may be the most appropriate arrangement. As it is assumed that both buses arrive to the border with passengers, groups of passengers are effectively swapped between the two vehicles. However if there is a large number of passenger traffic, both side of border may use scheduled services to increase efficiency and reliability. In such case, if any passenger is delayed due to border crossing formalities, other passengers are not affected. This approach makes the service more advantageous than the one-bus service.

2. Operational requirements

(a) Recommendations on vehicles

The operational arrangements pose very few restrictions on the type of vehicle that can be used. The main requirement is that the receiving vehicle can accommodate as many passengers as is the capacity of the delivering vehicle. As an alternative, several smaller buses can be used to accommodate the passengers from the larger bus. Vehicle capacities need to be coordinated by the two operation partners based on traffic forecast.

A beneficial arrangement would also be launching the service under a shared brand with distinct logo. This can greatly facilitate the identification of the bus and reduce confusion at the border. The identifier on the bus should involve a figure and colours, particularly in the case when the script of the two countries differs or rate of illiteracy is high. Identification should not be based on colour only to take into account individuals with disabilities. Destination should be provided in both local and Roman script.
A procedure must be in place to confirm that the correct number of passengers is on board and to identify the missing individuals. This is easily achieved by checking passengers against the shared passenger list as they get on the bus. As for scheduled services, head counting prior to departure may be skipped.

(b) Recommendations on facilities

The authorities may support international passenger traffic by facilitating the border crossing procedure. This includes investment in the facilities. The efficiency of the service is tightly connected with the efficiency of the border authorities. All authorities may be housed in the same building as moving between buildings can cause confusion and delay. The flow of procedures may be clearly indicated in languages of the two concerned countries and English. Numbers can be used to indicate the order of controls.

Border crossing can also be facilitated by providing the passengers arriving by bus a fast lane. As their travel documents are initially checked with advanced passenger list there should be less scope for problems at the border. Therefore, the queue could be expected to move faster than the regular queue for border checks. If possible, scanners can be used to avoid manual inspection of luggage.

Ideally the passengers should be able to clear the border controls of both countries in the same building or adjacent buildings. If such arrangements cannot be achieved and distance between the buildings of two countries is significant, delivering bus needs to be permitted to reach the control building of another country.

(c) Recommendations on commercial arrangements

Cooperation of two operators is required for the operation of the model. This implies that a formal contract needs to be in place between the service providers that lists the details of the cooperation. The contract may cover at least the following aspects:
• **Regulatory compliance:** Each party is responsible for compliance of the service with domestic regulations, including the permission to run commercial services.

• **Distribution of revenue and cost:** Shared ticketing implies that an agreement must be in place on how revenue is distributed between the two operators. In principle, revenues should be shared on the basis of costs. In cases where running the service is much more costly in one of the countries, cross-subsidization might be considered.

• **Insurance:** Each operator should be responsible for the appropriate insurance for vehicles and passengers in his country. The contract may state what the expected level of insurance is.

• **Expected quality of service:** The contract should state the expected level of service delivered to the passengers, including an expected rate of timeliness, language skills of key staff, information provided to passengers and to the partner operator, and condition of vehicles.

• **Responsibilities for passengers and luggage:** The contract should state what the procedure is in case of passenger complaints or problems and which party is responsible for responding to grievances. Liabilities of each operator should be clearly spelled out for various possible cases.

• **Method for conflict resolution:** The agreement should include details on the procedure for conflict resolution between partners.

The service can be run as a cooperation between two local partners when a willing company can be found and an agreement reached over the details of the joint service. Another alternative is a new company to be set up with the two partners as co-owners and acting as domestic branches of the venture. Separating the international service from the domestic operations of the two companies may simplify the commercial relationship between the operators. An independent service can be further strengthened by unified branding of vehicles, tickets and service points.
3. Institutional requirements

Because the model does not require for international movement of vehicles, there are no institutional requirements for operations. However, the service can be supported by introducing policies that facilitate the operations.

Border crossing can be improved for passengers by introducing joint border controls by the neighboring countries. This is particularly the case for bus passengers as the timeliness of the service is dependent on the clearance of a large group of people. Eliminating distance between the checkpoints can increase clarity and expedite the process. The necessary domestic and bilateral agreements need to be in place to allow for joint inspections either at neutral zone or then giving the border authorities of the neighboring country the power to operate on host country territory.

The passenger flow at the border can also be improved by introducing a bilateral agreement to allow passenger vehicles to enter border area. This would allow the buses from both sides to be parked next to each other, facilitating the transloading of luggage from one vehicle to another. Luggage could be checked on random basis. In this case agreement can also waive procedures for temporary importation of vehicle, insurance and visa requirements for the driver.

4. Application of the Model

The described model is relatively easy and not costly to implement in the cases where restrictions on road transport mean that no international service can be provided by a single operator. There are also factors which contribute to a greater benefit being derived from the use of the model. These factors should be considered from a corridor- or country-specific point of view to evaluate the extent of benefit that can be generated. Conditions for benefit include, inter alia:

- Infrastructure supports long distance travel by road;
- A particular route is not permitted for foreign buses;
• Current border crossing formalities are time-consuming;
• Border does not provide direct access to a major destination;
• Road conditions on two sides of border are largely different;
• Large culture differences in the two countries exist; and
• High operating costs for foreigners.

There may also be difficulties in running such service if the destinations required from border are multiple rather than a clear point-to-point route to regional hubs. This is because it becomes more challenging to create a commercially viable service. The model can be in that case adjusted so that rather than the passengers re-embarking on one vehicle after crossing the border, they re-embark several buses which are clearly marked with their final destinations.

A large neutral zone between border checkpoints can make the application of the model more difficult. It is recommended that a joint facility or adjacent facilities is built for the purpose of border controls by both countries. Alternatively, delivering buses or receiving buses should be allowed to reach the border of the neighbouring country.

5. Evaluation of benefits and costs

Implementation of the model can lead to improvements in the flow of passengers across the border and generate many benefits.

• As a direct consequence of the model, the time spent at the border crossing is reduced and operations become more efficient;
• The passenger experience is improved as a result of increased clarity and convenience;
• Better operations encourage international road travel by public transport, contributing to lower emissions; and
• Shift to public transport may lead to a reduction in private vehicles, leading to less congestion for passengers and easier monitoring of luggage.
Additionally, the following possible costs have been identified:

- The transport operators incur the cost of establishing an international cooperation, including contract and negotiation costs;
- In the case of rebranding of the service, the operators incur an additional cost. There may also be a cost involved in upgrading fleet to the requirements of the service; and
- For authorities, there may be a cost involved in upgrading facilities to support the model. This can include building joint border control facilities.

Building upgrades and rebranded vehicles are not a requirement for the use of the model though they contribute to its more effective use in the long term. Therefore they can be implemented over a longer period of time in order to distribute costs.